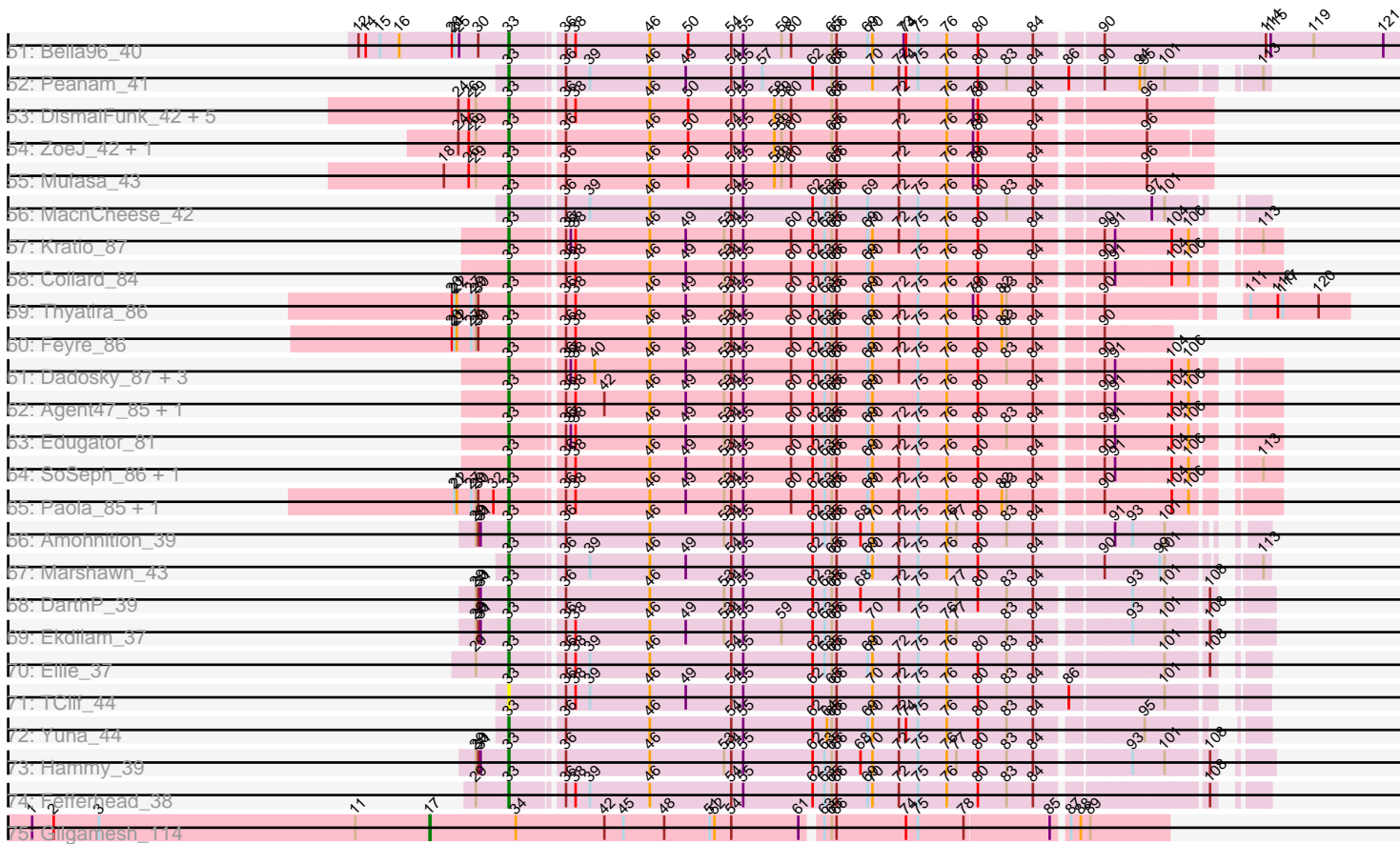




Pham 167926



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 167926 Report

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

Pham number 167926 has 341 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Settecandela\_8, Phrappuccino\_8
- Track 2 : Nergal\_36
- Track 3 : Giraffe\_20, Gareth\_19, Emiris\_20, HighStump\_19, Placalicious\_19, Bishoperium\_19, Virapocalypse\_20, AbsoluteMadLad\_19, Crownjwl\_20, Simielle\_19, Mecca\_19, Roliet\_20, Newman\_20, Harvey\_20, Kikipoo\_20, Chunky\_20, Puhltonio\_20, ProfessorX\_20, Cornobble\_19, IsaacEli\_20, Lasso\_20, Chorkpop\_20, UAch1\_20, Serpentine\_0020, Mesh1\_20, Kahve\_19, Nicole21\_20, Samaymay\_20, Hetaeria\_20, Daka\_20, QueenBeane\_20, Squiggle\_20, Nyala\_19, EmpTee\_20, Morgushi\_20, Manad\_19, Gyarad\_0020, Phipps\_20, Craff\_20, Selr12\_20, Lulumae\_19, Fozzie\_19, Soto\_20, OliverWalter\_20, Held\_20, ThreeOh3D2\_20, Murdoc\_20, Lego3393\_20, Banjo\_19, Burr\_19, Valjean\_20, UncleHowie\_20, CamL\_20, Olive\_20, DonSanchon\_19, Fang\_20, Megamind20\_20, Horchata\_20, Iridoclysis\_20, MRabcd\_19, Zelda\_20, Altwerkus\_19, Piglet\_0019, Mikota\_20, Vaticameos\_20, Prickles\_20, LostAndPhound\_19, JangoPhett\_20, Haleema\_19, LuckyMarjie\_19, Antonia\_19, FriarPreacher\_20, Childish\_19, Orion\_20, Lulwa\_20, Colbert\_20, RedMaple\_19, Roy17\_20, Phareon\_20, Mulan\_19, Spartan300\_20, Cher\_19, Thunderbird\_20, Nacho\_0020, Basato\_21, Frankicide\_20, KlimbOn\_20, Schadenfreude\_19, LeiMonet\_20, Inverness\_20, Chah\_20, Usavi\_20, Toni\_19, Freya\_19, KLucky39\_20, Waterdiva\_20, Grand2040\_19, Serendipity\_20, PinheadLarry\_20, Ricotta\_20, YouGoGlencoco\_20, Mana\_19, Bluephacebaby\_19, CheetO\_20, Pacifista\_21, Timmi\_19, True\_19, Tomlarah\_20, Mutante\_19, HSavage\_20, LemonSlice\_20, Solosis\_19, Jiraiya\_20, Vortex\_20, Aelin\_19, Eremos\_20, Potter\_19, MitKao\_20, Slatt\_20, SDcharge11\_20
- Track 4 : Labeouficaum\_19, Longacauda\_19, Phergie\_19, TyrionL\_19, CharlieGBrown\_19, Derpp\_19, BatteryCK\_19, Wallhey\_19, Kailash\_20, GeneCoco\_20, Brilliant\_20, Sheila\_20, Dati\_20, Duggie\_19, Phleuron\_19, Kwksand96\_19, Chute\_19, Jiminy\_19, Pinkman\_19, Hartsy\_20, JDog\_19, Mag7\_19, JakeO\_19, MrPhizzler\_19, Weher20\_20, Keitherie\_20, Virgeve\_19, KingVeVeVe\_20, Durga\_20, Struggle\_19, Etaye\_20, MelsMeow\_19, MichaelPhcott\_19, Chaelin\_19, PhatLouie\_20, Magic8\_20, Schueller\_19, Windsor\_19, PhenghisKhan\_19, Rimu\_19, Zonia\_20, Veritas\_19, Soile\_20, Melc17\_20, Coletti\_19, Trypo\_20, Doddsville\_20, DelRivs\_19, PhrankReynolds\_19, Swiphy\_20
- Track 5 : Dice\_20, AltPhacts\_20, LasagnaCat\_20, Mcshane\_19, JacAttac\_20, PhrodoBaggins\_19, Anderson\_20, Charles1\_20, Vaishali24\_19, DirtJuice\_20, Squid\_20, Haimas\_20, Hertubise\_20, Orfeu\_19, Omniscient\_20, Kwadwo\_19, Andre\_20, ABU\_20, TomBombadil\_20, Dione\_19, Inchworm\_20, Hamish\_20, Kloppinator\_20, Badfish\_20, PhatCats2014\_20, Scoot17C\_20, Katniss\_20, Morty\_20,

Robyn\_19, Phamished\_20, DoesntMatter\_20, Sigman\_20, MiniBoss\_20, Thora\_20, Vista\_20, PG1\_20, CampRoach\_20, SassyCat97\_19, Gwilliam\_20, Quisquiliae\_20, ShiVal\_20, Zaider\_21, Oosterbaan\_20, Megatron\_20, Cosmolli16\_19, Surely\_20, Skippy\_20, Maru\_19

- Track 6 : Maskar\_19, Ashraf\_19, ImtiyazSitla\_19
- Track 7 : Plmatters\_20, Olak\_19, Sophia\_19
- Track 8 : Fringe\_20
- Track 9 : Cobra\_20, OSmaximus\_20, TallGrassMM\_20, Pipsqueak\_20, Vivaldi\_20
- Track 10 : Buckeye\_20
- Track 11 : HenryJackson\_19
- Track 12 : FugateOSU\_19
- Track 13 : Riggan\_20, Numberten\_20, BlackStallion\_20, FluffyNinja\_20, Kimbrough\_20, Beaglebox\_19, Lopsy\_19, Phunky\_20, Matalotodo\_19, Yoshand\_20, Adriana\_20, Gophee\_20, LeeLot\_20
- Track 14 : Daffy\_20
- Track 15 : DaddyDaniels\_20
- Track 16 : Oline\_19
- Track 17 : Pherdinand\_20, Jillium\_19, Lumine\_19
- Track 18 : Boehler\_20, Roscoe\_21
- Track 19 : Swish\_20
- Track 20 : Eugenia\_20
- Track 21 : Podrick\_20
- Track 22 : Apizium\_19
- Track 23 : Orwigg\_20
- Track 24 : Mosaic\_19, Telesworld\_19, Xavier\_19
- Track 25 : Tooj\_20
- Track 26 : Dingo\_20
- Track 27 : Pops\_20
- Track 28 : Suffolk\_20
- Track 29 : Hocus\_19
- Track 30 : Cannibal\_20
- Track 31 : LindNT\_39, TreyKay\_39, Prithvi\_39
- Track 32 : Enkosi\_35, Nikao\_35
- Track 33 : Zavala\_40
- Track 34 : Murucutumbu\_40
- Track 35 : Amelie\_35, Binglebops\_35, LilPharaoh\_35, SgtBeansprout\_35, Nutello\_35
- Track 36 : Mdavu\_35
- Track 37 : Ageofdapage\_41
- Track 38 : Mynx\_40
- Track 39 : LeMond\_44, Scarlett\_44, KiSi\_44, Oscar\_44
- Track 40 : LaterM\_40
- Track 41 : Chris\_42
- Track 42 : Nibb\_42
- Track 43 : MeaningOfLife\_40
- Track 44 : Beezoo\_40
- Track 45 : Shaobing\_41, Niklas\_41
- Track 46 : Urkel\_40, SamuelLPlaqson\_40, DrHayes\_40
- Track 47 : MarkPhew\_43
- Track 48 : TiniBug\_40
- Track 49 : Validus\_43
- Track 50 : YoureAdopted\_38
- Track 51 : Bella96\_40
- Track 52 : Peanam\_41

- Track 53 : DismalFunk\_42, Findley\_42, Strobilo\_42, Milly\_42, DismalStressor\_42, Marcoliusprime\_42
- Track 54 : ZoeJ\_42, BoostSeason\_43
- Track 55 : Mufasa\_43
- Track 56 : MacnCheese\_42
- Track 57 : Kratio\_87
- Track 58 : Collard\_84
- Track 59 : Thyatira\_86
- Track 60 : Feyre\_86
- Track 61 : Dadosky\_87, Psycho\_85, Larva\_86, AlleyCat\_87
- Track 62 : Agent47\_85, InvictusManeo\_83
- Track 63 : Edugator\_81
- Track 64 : SoSeph\_86, Heftyboy\_86
- Track 65 : Paola\_85, Guillsminger\_86
- Track 66 : Amohnition\_39
- Track 67 : Marshawn\_43
- Track 68 : DarthP\_39
- Track 69 : Ekdilam\_37
- Track 70 : Ellie\_37
- Track 71 : TClif\_44
- Track 72 : Yuna\_44
- Track 73 : Hammy\_39
- Track 74 : Fefferhead\_38
- Track 75 : Gilgamesh\_114

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

The start number called the most often in the published annotations is 33, it was called in 313 of the 319 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU\_20, AbsoluteMadLad\_19, Adriana\_20, Aelin\_19, Agent47\_85, Ageofdapage\_41, AlleyCat\_87, AltPhacts\_20, Altwerkus\_19, Amelie\_35, Amohnition\_39, Anderson\_20, Andre\_20, Antonia\_19, Apizium\_19, Ashraf\_19, Badfish\_20, Banjo\_19, Basato\_21, BatteryCK\_19, Beaglebox\_19, Beezoo\_40, Bella96\_40, Binglebops\_35, Bishoperium\_19, BlackStallion\_20, Bluephacebaby\_19, BoostSeason\_43, Brilliant\_20, Buckeye\_20, Burr\_19, CamL\_20, CampRoach\_20, Cannibal\_20, Chaelin\_19, Chah\_20, Charles1\_20, CharlieGBrown\_19, CheetO\_20, Cher\_19, Childish\_19, Chorkpop\_20, Chris\_42, Chunky\_20, Chute\_19, Cobra\_20, Colbert\_20, Coletti\_19, Collard\_84, Cornobble\_19, Cosmolli16\_19, Craff\_20, Crownjwl\_20, DaddyDaniels\_20, Dadosky\_87, Daffy\_20, Daka\_20, DarthP\_39, Dati\_20, DelRivs\_19, Derpp\_19, Dice\_20, Dingo\_20, Dione\_19, DirtJuice\_20, DismalFunk\_42, DismalStressor\_42, Doddsville\_20, DoesntMatter\_20, DonSanchon\_19, DrHayes\_40, Duggie\_19, Durga\_20, Edugator\_81, Ekdilam\_37, Ellie\_37, Emiris\_20, EmpTee\_20, Enkosi\_35, Eremos\_20, Etaye\_20, Eugenia\_20, Fang\_20, Fefferhead\_38, Feyre\_86, Findley\_42, FluffyNinja\_20, Fozzie\_19, Frankicide\_20, Freya\_19, FriarPreacher\_20, Fringe\_20, FugateOSU\_19, Gareth\_19, GeneCoco\_20, Giraffe\_20, Gophee\_20, Grand2040\_19, Guillsminger\_86, Gwilliam\_20, Gyarad\_0020, HSavage\_20, Haimas\_20, Haleema\_19, Hamish\_20, Hammy\_39, Hartsy\_20, Harvey\_20, Heftyboy\_86, Held\_20, HenryJackson\_19,

Hertubise\_20, Hetaeria\_20, HighStump\_19, Hocus\_19, Horchata\_20, ImtiyazSitla\_19, Inchworm\_20, Inverness\_20, InvictusManeo\_83, Iridoclysis\_20, IsaacEli\_20, JDog\_19, JacAttac\_20, JakeO\_19, JangoPhett\_20, Jillium\_19, Jiminy\_19, Jiraiya\_20, KLucky39\_20, Kahve\_19, Kailash\_20, Katniss\_20, Keitherie\_20, KiSi\_44, Kikipoo\_20, Kimbrough\_20, KingVeVeVe\_20, KlimbOn\_20, Kloppinator\_20, Kratio\_87, Kwadwo\_19, Kwksand96\_19, Labeouficaum\_19, Larva\_86, LasagnaCat\_20, Lasso\_20, LaterM\_40, LeMond\_44, LeeLot\_20, Lego3393\_20, LeiMonet\_20, LemonSlice\_20, LilPharaoh\_35, LindNT\_39, Longacauda\_19, Lopsy\_19, LostAndPhound\_19, LuckyMarjie\_19, Lulumae\_19, Lulwa\_20, Lumine\_19, MRabcd\_19, MacnCheese\_42, Mag7\_19, Magic8\_20, Mana\_19, Manad\_19, Marcoliusprime\_42, MarkPhew\_43, Marshawn\_43, Maru\_19, Maskar\_19, Matalotodo\_19, Mcshane\_19, Mdavu\_35, MeaningOfLife\_40, Mecca\_19, Megamind20\_20, Megatron\_20, Melc17\_20, MelsMeow\_19, Mesh1\_20, MichaelPhcott\_19, Mikota\_20, Milly\_42, MiniBoss\_20, MitKao\_20, Morgushi\_20, Morty\_20, Mosaic\_19, MrPhizzler\_19, Mufasa\_43, Mulan\_19, Murdoc\_20, Murucutumbu\_40, Mutante\_19, Mynx\_40, Nacho\_0020, Newman\_20, Nibb\_42, Nicole21\_20, Nikao\_35, Niklas\_41, Numberten\_20, Nutello\_35, Nyala\_19, OSmaximus\_20, Olak\_19, Oline\_19, Olive\_20, OliverWalter\_20, Omniscient\_20, Oosterbaan\_20, Orfeu\_19, Orion\_20, Orwigg\_20, Oscar\_44, PG1\_20, Pacifista\_21, Paola\_85, Peanam\_41, Phamished\_20, Phareon\_20, PhatCats2014\_20, PhatLouie\_20, PhenghisKhan\_19, Pherdinand\_20, Phergie\_19, Phipps\_20, Phleuron\_19, PhrankReynolds\_19, PhrodoBaggins\_19, Phunky\_20, Piglet\_0019, PinheadLarry\_20, Pinkman\_19, Pipsqueak\_20, Placalicious\_19, Plmatters\_20, Podrick\_20, Pops\_20, Potter\_19, Prickles\_20, Prithvi\_39, ProfessorX\_20, Psycho\_85, Puhltonio\_20, QueenBeane\_20, Quisquilliae\_20, RedMaple\_19, Ricotta\_20, Riggan\_20, Rimu\_19, Robyn\_19, Roliet\_20, Roy17\_20, SDcharge11\_20, Samaymay\_20, SamuelLPlaqson\_40, SassyCat97\_19, Scarlett\_44, Schadenfreude\_19, Schueller\_19, Scoot17C\_20, Selr12\_20, Serendipity\_20, Serpentine\_0020, SgtBeansprout\_35, Shaobing\_41, Sheila\_20, ShiVal\_20, Sigman\_20, Simielle\_19, Skippy\_20, Slatt\_20, SoSeph\_86, Soile\_20, Solosis\_19, Sophia\_19, Soto\_20, Spartan300\_20, Squid\_20, Squiggle\_20, Strobilo\_42, Struggle\_19, Suffolk\_20, Surely\_20, Swiphy\_20, Swish\_20, TClif\_44, TallGrassMM\_20, Telesworld\_19, Thora\_20, ThreeOh3D2\_20, Thunderbird\_20, Thyatira\_86, Timmi\_19, TiniBug\_40, TomBombadil\_20, Tomlarah\_20, Toni\_19, Tooj\_20, TreyKay\_39, True\_19, Trypo\_20, TyrionL\_19, UAch1\_20, UncleHowie\_20, Urkel\_40, Usavi\_20, Vaishali24\_19, Validus\_43, Valjean\_20, Vaticameos\_20, Veritas\_19, Virapocalypse\_20, Virgeve\_19, Vista\_20, Vivaldi\_20, Vortex\_20, Wallhey\_19, Waterdiva\_20, Weher20\_20, Windsor\_19, Xavier\_19, Yoshand\_20, YouGoGlencoco\_20, YoureAdopted\_38, Yuna\_44, Zaider\_21, Zavala\_40, Zelda\_20, ZoeJ\_42, Zonia\_20,

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

- Nergal\_36, Phrappuccino\_8, Settecandela\_8,

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

- Boehler\_20, Gilgamesh\_114, Roscoe\_21,

### Summary by start number:

Start 17:

- Found in 1 of 341 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 319
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Gilgamesh\_114 (singleton),

#### Start 21:

- Found in 15 of 341 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 1 of 319
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Nergal\_36 (AG),

#### Start 28:

- Found in 2 of 341 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 2 of 319
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phrappuccino\_8 (AA), Settecandela\_8 (AA),

#### Start 33:

- Found in 338 of 341 ( 99.1% ) of genes in pham
- Manual Annotations of this start: 313 of 319
- Called 99.1% of time when present
- Phage (with cluster) where this start called: ABU\_20 (B1), AbsoluteMadLad\_19 (B1), Adriana\_20 (B1), Aelin\_19 (B1), Agent47\_85 (K5), Ageofdapage\_41 (K1), AlleyCat\_87 (K5), AltPhacts\_20 (B1), Altwerkus\_19 (B1), Amelie\_35 (K1), Amohntion\_39 (K6), Anderson\_20 (B1), Andre\_20 (B1), Antonia\_19 (B1), Apizium\_19 (B1), Ashraf\_19 (B1), Badfish\_20 (B1), Banjo\_19 (B1), Basato\_21 (B1), BatteryCK\_19 (B1), Beaglebox\_19 (B1), Beezoo\_40 (K1), Bella96\_40 (K1), Binglebops\_35 (K1), Bishoperium\_19 (B1), BlackStallion\_20 (B1), Bluephacebaby\_19 (B1), BoostSeason\_43 (K2), Brilliant\_20 (B1), Buckeye\_20 (B1), Burr\_19 (B1), CamL\_20 (B1), CampRoach\_20 (B1), Cannibal\_20 (B1), Chaelin\_19 (B1), Chah\_20 (B1), Charles1\_20 (B1), CharlieGBrown\_19 (B1), CheetO\_20 (B1), Cher\_19 (B1), Childish\_19 (B1), Chorkpop\_20 (B1), Chris\_42 (K1), Chunky\_20 (B1), Chute\_19 (B1), Cobra\_20 (B1), Colbert\_20 (B1), Coletti\_19 (B1), Collard\_84 (K5), Cornobble\_19 (B1), Cosmolli16\_19 (B1), Craff\_20 (B1), Crownjwl\_20 (B1), DaddyDaniels\_20 (B1), Dadosky\_87 (K5), Daffy\_20 (B1), Daka\_20 (B1), DarthP\_39 (K6), Dati\_20 (B1), DelRivs\_19 (B1), Derpp\_19 (B1), Dice\_20 (B1), Dingo\_20 (B1), Dione\_19 (B1), DirtJuice\_20 (B1), DismalFunk\_42 (K2), DismalStressor\_42 (K2), Doddsville\_20 (B1), DoesntMatter\_20 (B1), DonSanchon\_19 (B1), DrHayes\_40 (K1), Duggie\_19 (B1), Durga\_20 (B1), Edugator\_81 (K5), Ekdilam\_37 (K6), Ellie\_37 (K6), Emiris\_20 (B1), EmpTee\_20 (B1), Enkosi\_35 (K1), Eremos\_20 (B1), Etaye\_20 (B1), Eugenia\_20 (B1), Fang\_20 (B1), Fefferhead\_38 (K6), Feyre\_86 (K5), Findley\_42 (K2), FluffyNinja\_20 (B1), Fozzie\_19 (B1), Frankicide\_20 (B1), Freya\_19 (B1), FriarPreacher\_20 (B1), Fringe\_20 (B1), FugateOSU\_19 (B1), Gareth\_19 (B1), GeneCoco\_20 (B1), Giraffe\_20 (B1), Gophee\_20 (B1), Grand2040\_19 (B1), Guillsminger\_86 (K5), Gwilliam\_20 (B1), Gyarad\_0020 (B1), HSavage\_20 (B1), Haimas\_20 (B1), Haleema\_19 (B1), Hamish\_20 (B1), Hammy\_39 (K6), Hartsy\_20 (B1), Harvey\_20 (B1), Heftyboy\_86 (K5), Held\_20 (B1), HenryJackson\_19 (B1), Hertubise\_20 (B1), Hetaeria\_20 (B1), HighStump\_19 (B1), Hocus\_19 (B1), Horchata\_20 (B1), ImtiyazSitla\_19 (B1), Inchworm\_20 (B1), Inverness\_20 (B1), InvictusManeo\_83 (K5), Iridoclysis\_20 (B1), IsaacEli\_20 (B1), JDog\_19 (B1), JacAttac\_20 (B1), JakeO\_19 (B1), JangoPhett\_20 (B1), Jillium\_19 (B1), Jiminy\_19 (B1), Jiraiya\_20 (B1), KLucky39\_20 (B1), Kahve\_19 (B1), Kailash\_20 (B1), Katniss\_20 (B1), Keitherie\_20 (B1), KiSi\_44 (K1), Kikipoo\_20 (B1), Kimbrough\_20 (B1), KingVeVeVe\_20 (B1), KlimbOn\_20 (B1), Kloppinator\_20 (B1), Kratio\_87 (K5), Kwadwo\_19 (B1), Kwksand96\_19 (B1), Labeouficaum\_19 (B1), Larva\_86 (K5),

LasagnaCat\_20 (B1), Lasso\_20 (B1), LaterM\_40 (K1), LeMond\_44 (K1), LeeLot\_20 (B1), Lego3393\_20 (B1), LeiMonet\_20 (B1), LemonSlice\_20 (B1), LilPharaoh\_35 (K1), LindNT\_39 (K1), Longacauda\_19 (B1), Lopsy\_19 (B1), LostAndPhound\_19 (B1), LuckyMarjie\_19 (B1), Lulumae\_19 (B1), Lulwa\_20 (B1), Lumine\_19 (B1), MRabcd\_19 (B1), MacnCheese\_42 (K3), Mag7\_19 (B1), Magic8\_20 (B1), Mana\_19 (B1), Manad\_19 (B1), Marcoliusprime\_42 (K2), MarkPhew\_43 (K1), Marshawn\_43 (K6), Maru\_19 (B1), Maskar\_19 (B1), Matalotodo\_19 (B1), Mcshane\_19 (B1), Mdavu\_35 (K1), MeaningOfLife\_40 (K1), Mecca\_19 (B1), Megamind20\_20 (B1), Megatron\_20 (B1), Melc17\_20 (B1), MelsMeow\_19 (B1), Mesh1\_20 (B1), MichaelPhcott\_19 (B1), Mikota\_20 (B1), Milly\_42 (K2), MiniBoss\_20 (B1), MitKao\_20 (B1), Morgushi\_20 (B1), Morty\_20 (B1), Mosaic\_19 (B1), MrPhizzler\_19 (B1), Mufasa\_43 (K2), Mulan\_19 (B1), Murdoc\_20 (B1), Murucutumbu\_40 (K1), Mutante\_19 (B1), Mynx\_40 (K1), Nacho\_0020 (B1), Newman\_20 (B1), Nibb\_42 (K1), Nicole21\_20 (B1), Nikao\_35 (K1), Niklas\_41 (K1), Numberten\_20 (B1), Nutello\_35 (K1), Nyala\_19 (B1), OSmaximus\_20 (B1), Olak\_19 (B1), Oline\_19 (B1), Olive\_20 (B1), OliverWalter\_20 (B1), Omniscient\_20 (B1), Oosterbaan\_20 (B1), Orfeu\_19 (B1), Orion\_20 (B1), Orwigg\_20 (B1), Oscar\_44 (K1), PG1\_20 (B1), Pacifista\_21 (B1), Paola\_85 (K5), Peanam\_41 (K1), Phamished\_20 (B1), Phareon\_20 (B1), PhatCats2014\_20 (B1), PhatLouie\_20 (B1), PhenghisKhan\_19 (B1), Pherdinand\_20 (B1), Phergie\_19 (B1), Phipps\_20 (B1), Phleuron\_19 (B1), PhrankReynolds\_19 (B1), PhrodoBaggins\_19 (B1), Phunky\_20 (B1), Piglet\_0019 (B1), PinheadLarry\_20 (B1), Pinkman\_19 (B1), Pipsqueak\_20 (B1), Placalicious\_19 (B1), Plmatters\_20 (B1), Podrick\_20 (B1), Pops\_20 (B1), Potter\_19 (B1), Prickles\_20 (B1), Prithvi\_39 (K1), ProfessorX\_20 (B1), Psycho\_85 (K5), Puhltonio\_20 (B1), QueenBeane\_20 (B1), Quisquiliae\_20 (B1), RedMaple\_19 (B1), Ricotta\_20 (B1), Riggan\_20 (B1), Rimu\_19 (B1), Robyn\_19 (B1), Roliet\_20 (B1), Roy17\_20 (B1), SDcharge11\_20 (B1), Samaymay\_20 (B1), SamuelPlaqson\_40 (K1), SassyCat97\_19 (B1), Scarlett\_44 (K1), Schadenfreude\_19 (B1), Schueller\_19 (B1), Scoot17C\_20 (B1), Selr12\_20 (B1), Serendipity\_20 (B1), Serpentine\_0020 (B1), SgtBeansprout\_35 (K1), Shaobing\_41 (K1), Sheila\_20 (B1), ShiVal\_20 (B1), Sigman\_20 (B1), Simielle\_19 (B1), Skippy\_20 (B1), Slatt\_20 (B1), SoSeph\_86 (K5), Soile\_20 (B1), Solosis\_19 (B1), Sophia\_19 (B1), Soto\_20 (B1), Spartan300\_20 (B1), Squid\_20 (B1), Squiggle\_20 (B1), Strobilo\_42 (K2), Struggle\_19 (B1), Suffolk\_20 (B1), Surely\_20 (B1), Swiphy\_20 (B1), Swish\_20 (B1), TClif\_44 (K6), TallGrassMM\_20 (B1), Telesworld\_19 (B1), Thora\_20 (B1), ThreeOh3D2\_20 (B1), Thunderbird\_20 (B1), Thyatira\_86 (K5), Timmi\_19 (B1), TiniBug\_40 (K1), TomBombadil\_20 (B1), Tomlarah\_20 (B1), Toni\_19 (B1), Tooj\_20 (B1), TreyKay\_39 (K1), True\_19 (B1), Trypo\_20 (B1), TyrionL\_19 (B1), UAch1\_20 (B1), UncleHowie\_20 (B1), Urkel\_40 (K1), Usavi\_20 (B1), Vaishali24\_19 (B1), Validus\_43 (K1), Valjean\_20 (B1), Vaticameos\_20 (B1), Veritas\_19 (B1), Virapocalypse\_20 (B1), Virgeve\_19 (B1), Vista\_20 (B1), Vivaldi\_20 (B1), Vortex\_20 (B1), Wallhey\_19 (B1), Waterdiva\_20 (B1), Weher20\_20 (B1), Windsor\_19 (B1), Xavier\_19 (B1), Yoshand\_20 (B1), YouGoGlencoco\_20 (B1), YoureAdopted\_38 (K1), Yuna\_44 (K6), Zaider\_21 (B1), Zavala\_40 (K1), Zelda\_20 (B1), ZoeJ\_42 (K2), Zonia\_20 (B1),

Start 36:

- Found in 327 of 341 ( 95.9% ) of genes in pham
- Manual Annotations of this start: 2 of 319
- Called 0.6% of time when present
- Phage (with cluster) where this start called: Boehler\_20 (B1), Roscoe\_21 (B1),

**Summary by clusters:**



There are 9 clusters represented in this pham: AA, singleton, AG, K3, K2, K1, K6, K5, B1,

Info for manual annotations of cluster AA:

- Start number 28 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster AG:

- Start number 21 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster B1:

- Start number 33 was manually annotated 245 times for cluster B1.
- Start number 36 was manually annotated 2 times for cluster B1.

Info for manual annotations of cluster K1:

- Start number 33 was manually annotated 35 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 33 was manually annotated 9 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 33 was manually annotated 1 time for cluster K3.

Info for manual annotations of cluster K5:

- Start number 33 was manually annotated 15 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 33 was manually annotated 8 times for cluster K6.

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

Gene: ABU\_20 Start: 16635, Stop: 15859, Start Num: 33

Candidate Starts for ABU\_20:

(Start: 33 @16635 has 313 MA's), (Start: 36 @16578 has 2 MA's), (44, 16515), (46, 16476), (54, 16374), (55, 16359), (59, 16311), (62, 16272), (65, 16248), (69, 16203), (70, 16197), (75, 16140), (84, 15996), (89, 15936), (93, 15885),

Gene: AbsoluteMadLad\_19 Start: 16637, Stop: 15861, Start Num: 33

Candidate Starts for AbsoluteMadLad\_19:

(Start: 33 @16637 has 313 MA's), (Start: 36 @16580 has 2 MA's), (44, 16517), (46, 16478), (54, 16376), (55, 16361), (59, 16313), (62, 16274), (65, 16250), (69, 16205), (70, 16199), (75, 16142), (84, 15998), (89, 15938), (93, 15887),

Gene: Adriana\_20 Start: 16637, Stop: 15861, Start Num: 33

Candidate Starts for Adriana\_20:

(8, 17009), (9, 17000), (Start: 33 @16637 has 313 MA's), (Start: 36 @16580 has 2 MA's), (44, 16517), (46, 16478), (54, 16376), (55, 16361), (59, 16313), (62, 16274), (65, 16250), (69, 16205), (70, 16199), (75, 16142), (84, 15998), (89, 15938), (93, 15887),

Gene: Aelin\_19 Start: 16202, Stop: 15426, Start Num: 33

Candidate Starts for Aelin\_19:

(Start: 33 @16202 has 313 MA's), (Start: 36 @16145 has 2 MA's), (44, 16082), (46, 16043), (54, 15941), (55, 15926), (59, 15878), (62, 15839), (65, 15815), (69, 15770), (70, 15764), (75, 15707), (84, 15563), (89, 15503), (93, 15452),

Gene: Agent47\_85 Start: 54005, Stop: 54889, Start Num: 33

Candidate Starts for Agent47\_85:

(Start: 33 @54005 has 313 MA's), (Start: 36 @54062 has 2 MA's), (38, 54074), (42, 54110), (46, 54167), (49, 54212), (53, 54260), (54, 54269), (55, 54284), (60, 54344), (62, 54371), (63, 54386), (65, 54395), (66, 54401), (69, 54440), (70, 54446), (75, 54503), (76, 54539), (80, 54578), (84, 54647), (90, 54719), (91, 54731), (104, 54794), (106, 54812),

Gene: Ageofdapage\_41 Start: 31808, Stop: 32728, Start Num: 33

Candidate Starts for Ageofdapage\_41:

(Start: 33 @31808 has 313 MA's), (Start: 36 @31865 has 2 MA's), (46, 31970), (49, 32015), (54, 32072), (55, 32087), (58, 32126), (59, 32135), (60, 32147), (62, 32174), (65, 32198), (66, 32204), (68, 32234), (69, 32243), (74, 32291), (75, 32306), (76, 32342), (80, 32381), (83, 32417), (84, 32450), (90, 32522), (92, 32552), (102, 32597), (103, 32600),

Gene: AlleyCat\_87 Start: 55143, Stop: 56027, Start Num: 33

Candidate Starts for AlleyCat\_87:

(Start: 33 @55143 has 313 MA's), (Start: 36 @55200 has 2 MA's), (37, 55206), (38, 55212), (40, 55236), (46, 55305), (49, 55350), (53, 55398), (54, 55407), (55, 55422), (60, 55482), (62, 55509), (63, 55524), (65, 55533), (66, 55539), (69, 55578), (70, 55584), (72, 55617), (75, 55641), (76, 55677), (80, 55716), (83, 55752), (84, 55785), (90, 55857), (91, 55869), (104, 55932), (106, 55950),

Gene: AltPhacts\_20 Start: 16630, Stop: 15845, Start Num: 33

Candidate Starts for AltPhacts\_20:

(Start: 33 @16630 has 313 MA's), (Start: 36 @16573 has 2 MA's), (44, 16510), (46, 16471), (54, 16369), (55, 16354), (59, 16306), (62, 16267), (65, 16243), (69, 16198), (70, 16192), (75, 16135), (84, 15991), (89, 15931), (93, 15880),

Gene: Altwerkus\_19 Start: 16331, Stop: 15555, Start Num: 33

Candidate Starts for Altwerkus\_19:

(Start: 33 @16331 has 313 MA's), (Start: 36 @16274 has 2 MA's), (44, 16211), (46, 16172), (54, 16070), (55, 16055), (59, 16007), (62, 15968), (65, 15944), (69, 15899), (70, 15893), (75, 15836), (84, 15692), (89, 15632), (93, 15581),

Gene: Amelie\_35 Start: 30629, Stop: 31519, Start Num: 33

Candidate Starts for Amelie\_35:

(Start: 33 @30629 has 313 MA's), (Start: 36 @30686 has 2 MA's), (46, 30791), (53, 30884), (54, 30893), (55, 30908), (57, 30932), (62, 30995), (65, 31019), (66, 31025), (69, 31064), (70, 31070), (71, 31088), (74, 31112), (75, 31127), (76, 31163), (80, 31202), (81, 31217), (83, 31238), (84, 31271), (86, 31316), (93, 31388), (101, 31424), (112, 31502),

Gene: Amohnition\_39 Start: 31281, Stop: 32135, Start Num: 33

Candidate Starts for Amohnition\_39:

(29, 31245), (30, 31248), (31, 31251), (Start: 33 @31281 has 313 MA's), (Start: 36 @31338 has 2 MA's), (46, 31443), (53, 31536), (54, 31545), (55, 31560), (62, 31647), (63, 31662), (65, 31671), (66, 31677), (68, 31707), (70, 31722), (72, 31755), (75, 31779), (76, 31815), (77, 31827), (80, 31854), (83, 31890), (84, 31923), (91, 32007), (93, 32028), (101, 32064),

Gene: Anderson\_20 Start: 16628, Stop: 15852, Start Num: 33

Candidate Starts for Anderson\_20:

(Start: 33 @16628 has 313 MA's), (Start: 36 @16571 has 2 MA's), (44, 16508), (46, 16469), (54, 16367), (55, 16352), (59, 16304), (62, 16265), (65, 16241), (69, 16196), (70, 16190), (75, 16133), (84, 15989), (89, 15929), (93, 15878),

Gene: Andre\_20 Start: 16626, Stop: 15850, Start Num: 33

Candidate Starts for Andre\_20:

(Start: 33 @16626 has 313 MA's), (Start: 36 @16569 has 2 MA's), (44, 16506), (46, 16467), (54, 16365), (55, 16350), (59, 16302), (62, 16263), (65, 16239), (69, 16194), (70, 16188), (75, 16131), (84, 15987), (89, 15927), (93, 15876),

Gene: Antonia\_19 Start: 16202, Stop: 15426, Start Num: 33

Candidate Starts for Antonia\_19:

(Start: 33 @16202 has 313 MA's), (Start: 36 @16145 has 2 MA's), (44, 16082), (46, 16043), (54, 15941), (55, 15926), (59, 15878), (62, 15839), (65, 15815), (69, 15770), (70, 15764), (75, 15707), (84, 15563), (89, 15503), (93, 15452),

Gene: Apizium\_19 Start: 16371, Stop: 15595, Start Num: 33

Candidate Starts for Apizium\_19:

(Start: 33 @16371 has 313 MA's), (Start: 36 @16314 has 2 MA's), (46, 16212), (54, 16110), (55, 16095), (59, 16047), (62, 16008), (65, 15984), (69, 15939), (70, 15933), (75, 15876), (80, 15801), (84, 15732), (89, 15672), (93, 15621),

Gene: Ashraf\_19 Start: 16190, Stop: 15414, Start Num: 33

Candidate Starts for Ashraf\_19:

(Start: 33 @16190 has 313 MA's), (Start: 36 @16133 has 2 MA's), (46, 16031), (54, 15929), (55, 15914), (59, 15866), (62, 15827), (65, 15803), (69, 15758), (70, 15752), (75, 15695), (80, 15620), (84, 15551), (89, 15491), (93, 15440),

Gene: Badfish\_20 Start: 16660, Stop: 15884, Start Num: 33

Candidate Starts for Badfish\_20:

(Start: 33 @16660 has 313 MA's), (Start: 36 @16603 has 2 MA's), (44, 16540), (46, 16501), (54, 16399), (55, 16384), (59, 16336), (62, 16297), (65, 16273), (69, 16228), (70, 16222), (75, 16165), (84, 16021), (89, 15961), (93, 15910),

Gene: Banjo\_19 Start: 16338, Stop: 15562, Start Num: 33

Candidate Starts for Banjo\_19:

(Start: 33 @16338 has 313 MA's), (Start: 36 @16281 has 2 MA's), (44, 16218), (46, 16179), (54, 16077), (55, 16062), (59, 16014), (62, 15975), (65, 15951), (69, 15906), (70, 15900), (75, 15843), (84, 15699), (89, 15639), (93, 15588),

Gene: Basato\_21 Start: 16863, Stop: 16087, Start Num: 33

Candidate Starts for Basato\_21:

(Start: 33 @16863 has 313 MA's), (Start: 36 @16806 has 2 MA's), (44, 16743), (46, 16704), (54, 16602), (55, 16587), (59, 16539), (62, 16500), (65, 16476), (69, 16431), (70, 16425), (75, 16368), (84, 16224), (89, 16164), (93, 16113),

Gene: BatteryCK\_19 Start: 16194, Stop: 15418, Start Num: 33

Candidate Starts for BatteryCK\_19:

(Start: 33 @16194 has 313 MA's), (Start: 36 @16137 has 2 MA's), (46, 16035), (54, 15933), (55, 15918), (59, 15870), (62, 15831), (65, 15807), (69, 15762), (70, 15756), (75, 15699), (80, 15624), (84, 15555), (87, 15519), (89, 15495), (93, 15444),

Gene: Beaglebox\_19 Start: 16356, Stop: 15580, Start Num: 33

Candidate Starts for Beaglebox\_19:

(8, 16728), (9, 16719), (Start: 33 @16356 has 313 MA's), (Start: 36 @16299 has 2 MA's), (44, 16236), (46, 16197), (54, 16095), (55, 16080), (59, 16032), (62, 15993), (65, 15969), (69, 15924), (70, 15918), (75, 15861), (84, 15717), (89, 15657), (93, 15606),

Gene: Beezoo\_40 Start: 31857, Stop: 32714, Start Num: 33

Candidate Starts for Beezoo\_40:

(23, 31797), (Start: 33 @31857 has 313 MA's), (Start: 36 @31914 has 2 MA's), (38, 31926), (46, 32019), (50, 32067), (54, 32121), (55, 32136), (59, 32184), (60, 32196), (65, 32247), (66, 32253), (69, 32292), (70, 32298), (74, 32340), (75, 32355), (76, 32391), (80, 32430), (84, 32499), (90, 32571),

Gene: Bella96\_40 Start: 31751, Stop: 32869, Start Num: 33

Candidate Starts for Bella96\_40:

(12, 31568), (14, 31577), (15, 31595), (16, 31619), (20, 31685), (Start: 21 @31688 has 1 MA's), (25, 31694), (30, 31718), (Start: 33 @31751 has 313 MA's), (Start: 36 @31808 has 2 MA's), (38, 31820), (46, 31913), (50, 31961), (54, 32015), (55, 32030), (59, 32078), (60, 32090), (65, 32141), (66, 32147), (69, 32186), (70, 32192), (73, 32231), (74, 32234), (75, 32249), (76, 32285), (80, 32324), (84, 32393), (90, 32465), (114, 32660), (115, 32666), (119, 32720), (121, 32807),

Gene: Biglebops\_35 Start: 30629, Stop: 31519, Start Num: 33

Candidate Starts for Biglebops\_35:

(Start: 33 @30629 has 313 MA's), (Start: 36 @30686 has 2 MA's), (46, 30791), (53, 30884), (54, 30893), (55, 30908), (57, 30932), (62, 30995), (65, 31019), (66, 31025), (69, 31064), (70, 31070), (71, 31088), (74, 31112), (75, 31127), (76, 31163), (80, 31202), (81, 31217), (83, 31238), (84, 31271), (86, 31316), (93, 31388), (101, 31424), (112, 31502),

Gene: Bishoperium\_19 Start: 16344, Stop: 15568, Start Num: 33

Candidate Starts for Bishoperium\_19:

(Start: 33 @16344 has 313 MA's), (Start: 36 @16287 has 2 MA's), (44, 16224), (46, 16185), (54, 16083), (55, 16068), (59, 16020), (62, 15981), (65, 15957), (69, 15912), (70, 15906), (75, 15849), (84, 15705), (89, 15645), (93, 15594),

Gene: BlackStallion\_20 Start: 16647, Stop: 15871, Start Num: 33

Candidate Starts for BlackStallion\_20:

(8, 17019), (9, 17010), (Start: 33 @16647 has 313 MA's), (Start: 36 @16590 has 2 MA's), (44, 16527), (46, 16488), (54, 16386), (55, 16371), (59, 16323), (62, 16284), (65, 16260), (69, 16215), (70, 16209), (75, 16152), (84, 16008), (89, 15948), (93, 15897),

Gene: Bluephacebaby\_19 Start: 16344, Stop: 15568, Start Num: 33

Candidate Starts for Bluephacebaby\_19:

(Start: 33 @16344 has 313 MA's), (Start: 36 @16287 has 2 MA's), (44, 16224), (46, 16185), (54, 16083), (55, 16068), (59, 16020), (62, 15981), (65, 15957), (69, 15912), (70, 15906), (75, 15849), (84, 15705), (89, 15645), (93, 15594),

Gene: Boehler\_20 Start: 16597, Stop: 15878, Start Num: 36

Candidate Starts for Boehler\_20:

(Start: 36 @16597 has 2 MA's), (44, 16534), (46, 16495), (54, 16393), (55, 16378), (59, 16330), (62, 16291), (65, 16267), (69, 16222), (70, 16216), (75, 16159), (84, 16015), (89, 15955), (93, 15904),

Gene: BoostSeason\_43 Start: 32922, Stop: 33767, Start Num: 33

Candidate Starts for BoostSeason\_43:

(24, 32865), (26, 32877), (29, 32886), (Start: 33 @32922 has 313 MA's), (Start: 36 @32979 has 2 MA's), (46, 33084), (50, 33132), (54, 33186), (55, 33201), (58, 33240), (59, 33249), (60, 33261), (65,

33312), (66, 33318), (72, 33396), (76, 33456), (79, 33489), (80, 33495), (84, 33564), (96, 33687),

Gene: Brilliant\_20 Start: 16348, Stop: 15572, Start Num: 33

Candidate Starts for Brilliant\_20:

(Start: 33 @16348 has 313 MA's), (Start: 36 @16291 has 2 MA's), (46, 16189), (54, 16087), (55, 16072), (59, 16024), (62, 15985), (65, 15961), (69, 15916), (70, 15910), (75, 15853), (80, 15778), (84, 15709), (87, 15673), (89, 15649), (93, 15598),

Gene: Buckeye\_20 Start: 16662, Stop: 15886, Start Num: 33

Candidate Starts for Buckeye\_20:

(Start: 33 @16662 has 313 MA's), (Start: 36 @16605 has 2 MA's), (44, 16542), (46, 16503), (54, 16401), (55, 16386), (59, 16338), (62, 16299), (65, 16275), (69, 16230), (70, 16224), (75, 16167), (84, 16023), (89, 15963), (93, 15912),

Gene: Burr\_19 Start: 16343, Stop: 15567, Start Num: 33

Candidate Starts for Burr\_19:

(Start: 33 @16343 has 313 MA's), (Start: 36 @16286 has 2 MA's), (44, 16223), (46, 16184), (54, 16082), (55, 16067), (59, 16019), (62, 15980), (65, 15956), (69, 15911), (70, 15905), (75, 15848), (84, 15704), (89, 15644), (93, 15593),

Gene: CamL\_20 Start: 16642, Stop: 15866, Start Num: 33

Candidate Starts for CamL\_20:

(Start: 33 @16642 has 313 MA's), (Start: 36 @16585 has 2 MA's), (44, 16522), (46, 16483), (54, 16381), (55, 16366), (59, 16318), (62, 16279), (65, 16255), (69, 16210), (70, 16204), (75, 16147), (84, 16003), (89, 15943), (93, 15892),

Gene: CampRoach\_20 Start: 16634, Stop: 15858, Start Num: 33

Candidate Starts for CampRoach\_20:

(Start: 33 @16634 has 313 MA's), (Start: 36 @16577 has 2 MA's), (44, 16514), (46, 16475), (54, 16373), (55, 16358), (59, 16310), (62, 16271), (65, 16247), (69, 16202), (70, 16196), (75, 16139), (84, 15995), (89, 15935), (93, 15884),

Gene: Cannibal\_20 Start: 16628, Stop: 15819, Start Num: 33

Candidate Starts for Cannibal\_20:

(Start: 33 @16628 has 313 MA's), (Start: 36 @16571 has 2 MA's), (44, 16508), (46, 16469), (54, 16367), (55, 16352), (59, 16304), (62, 16265), (65, 16241), (69, 16196), (70, 16190), (75, 16133), (84, 15989), (89, 15929), (93, 15878), (97, 15854),

Gene: Chaelin\_19 Start: 16310, Stop: 15534, Start Num: 33

Candidate Starts for Chaelin\_19:

(Start: 33 @16310 has 313 MA's), (Start: 36 @16253 has 2 MA's), (46, 16151), (54, 16049), (55, 16034), (59, 15986), (62, 15947), (65, 15923), (69, 15878), (70, 15872), (75, 15815), (80, 15740), (84, 15671), (87, 15635), (89, 15611), (93, 15560),

Gene: Chah\_20 Start: 16660, Stop: 15884, Start Num: 33

Candidate Starts for Chah\_20:

(Start: 33 @16660 has 313 MA's), (Start: 36 @16603 has 2 MA's), (44, 16540), (46, 16501), (54, 16399), (55, 16384), (59, 16336), (62, 16297), (65, 16273), (69, 16228), (70, 16222), (75, 16165), (84, 16021), (89, 15961), (93, 15910),

Gene: Charles1\_20 Start: 16625, Stop: 15849, Start Num: 33

Candidate Starts for Charles1\_20:

(Start: 33 @16625 has 313 MA's), (Start: 36 @16568 has 2 MA's), (44, 16505), (46, 16466), (54, 16364), (55, 16349), (59, 16301), (62, 16262), (65, 16238), (69, 16193), (70, 16187), (75, 16130), (84, 15986), (89, 15926), (93, 15875),

Gene: CharlieGBrown\_19 Start: 16212, Stop: 15436, Start Num: 33

Candidate Starts for CharlieGBrown\_19:

(Start: 33 @16212 has 313 MA's), (Start: 36 @16155 has 2 MA's), (46, 16053), (54, 15951), (55, 15936), (59, 15888), (62, 15849), (65, 15825), (69, 15780), (70, 15774), (75, 15717), (80, 15642), (84, 15573), (87, 15537), (89, 15513), (93, 15462),

Gene: CheetO\_20 Start: 16641, Stop: 15865, Start Num: 33

Candidate Starts for CheetO\_20:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (44, 16521), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (84, 16002), (89, 15942), (93, 15891),

Gene: Cher\_19 Start: 16367, Stop: 15591, Start Num: 33

Candidate Starts for Cher\_19:

(Start: 33 @16367 has 313 MA's), (Start: 36 @16310 has 2 MA's), (44, 16247), (46, 16208), (54, 16106), (55, 16091), (59, 16043), (62, 16004), (65, 15980), (69, 15935), (70, 15929), (75, 15872), (84, 15728), (89, 15668), (93, 15617),

Gene: Childish\_19 Start: 16355, Stop: 15579, Start Num: 33

Candidate Starts for Childish\_19:

(Start: 33 @16355 has 313 MA's), (Start: 36 @16298 has 2 MA's), (44, 16235), (46, 16196), (54, 16094), (55, 16079), (59, 16031), (62, 15992), (65, 15968), (69, 15923), (70, 15917), (75, 15860), (84, 15716), (89, 15656), (93, 15605),

Gene: Chorkpop\_20 Start: 16366, Stop: 15590, Start Num: 33

Candidate Starts for Chorkpop\_20:

(Start: 33 @16366 has 313 MA's), (Start: 36 @16309 has 2 MA's), (44, 16246), (46, 16207), (54, 16105), (55, 16090), (59, 16042), (62, 16003), (65, 15979), (69, 15934), (70, 15928), (75, 15871), (84, 15727), (89, 15667), (93, 15616),

Gene: Chris\_42 Start: 32063, Stop: 32935, Start Num: 33

Candidate Starts for Chris\_42:

(Start: 33 @32063 has 313 MA's), (39, 32150), (46, 32225), (49, 32270), (54, 32327), (55, 32342), (65, 32453), (66, 32459), (69, 32498), (70, 32504), (72, 32537), (75, 32561), (76, 32597), (80, 32636), (84, 32705), (101, 32849),

Gene: Chunky\_20 Start: 16654, Stop: 15878, Start Num: 33

Candidate Starts for Chunky\_20:

(Start: 33 @16654 has 313 MA's), (Start: 36 @16597 has 2 MA's), (44, 16534), (46, 16495), (54, 16393), (55, 16378), (59, 16330), (62, 16291), (65, 16267), (69, 16222), (70, 16216), (75, 16159), (84, 16015), (89, 15955), (93, 15904),

Gene: Chute\_19 Start: 16658, Stop: 15882, Start Num: 33

Candidate Starts for Chute\_19:

(Start: 33 @16658 has 313 MA's), (Start: 36 @16601 has 2 MA's), (46, 16499), (54, 16397), (55, 16382), (59, 16334), (62, 16295), (65, 16271), (69, 16226), (70, 16220), (75, 16163), (80, 16088), (84, 16019), (87, 15983), (89, 15959), (93, 15908),

Gene: Cobra\_20 Start: 16646, Stop: 15870, Start Num: 33

Candidate Starts for Cobra\_20:

(Start: 33 @16646 has 313 MA's), (Start: 36 @16589 has 2 MA's), (46, 16487), (54, 16385), (55, 16370), (59, 16322), (62, 16283), (65, 16259), (69, 16214), (70, 16208), (75, 16151), (84, 16007), (89, 15947), (93, 15896),

Gene: Colbert\_20 Start: 16644, Stop: 15868, Start Num: 33

Candidate Starts for Colbert\_20:

(Start: 33 @16644 has 313 MA's), (Start: 36 @16587 has 2 MA's), (44, 16524), (46, 16485), (54, 16383), (55, 16368), (59, 16320), (62, 16281), (65, 16257), (69, 16212), (70, 16206), (75, 16149), (84, 16005), (89, 15945), (93, 15894),

Gene: Coletti\_19 Start: 16658, Stop: 15882, Start Num: 33

Candidate Starts for Coletti\_19:

(Start: 33 @16658 has 313 MA's), (Start: 36 @16601 has 2 MA's), (46, 16499), (54, 16397), (55, 16382), (59, 16334), (62, 16295), (65, 16271), (69, 16226), (70, 16220), (75, 16163), (80, 16088), (84, 16019), (87, 15983), (89, 15959), (93, 15908),

Gene: Collard\_84 Start: 54255, Stop: 55139, Start Num: 33

Candidate Starts for Collard\_84:

(Start: 33 @54255 has 313 MA's), (Start: 36 @54312 has 2 MA's), (38, 54324), (46, 54417), (49, 54462), (53, 54510), (54, 54519), (55, 54534), (60, 54594), (62, 54621), (63, 54636), (65, 54645), (66, 54651), (69, 54690), (70, 54696), (75, 54753), (76, 54789), (80, 54828), (84, 54897), (90, 54969), (91, 54981), (104, 55044), (106, 55062),

Gene: Cornobble\_19 Start: 16202, Stop: 15426, Start Num: 33

Candidate Starts for Cornobble\_19:

(Start: 33 @16202 has 313 MA's), (Start: 36 @16145 has 2 MA's), (44, 16082), (46, 16043), (54, 15941), (55, 15926), (59, 15878), (62, 15839), (65, 15815), (69, 15770), (70, 15764), (75, 15707), (84, 15563), (89, 15503), (93, 15452),

Gene: Cosmolli16\_19 Start: 16360, Stop: 15584, Start Num: 33

Candidate Starts for Cosmolli16\_19:

(Start: 33 @16360 has 313 MA's), (Start: 36 @16303 has 2 MA's), (44, 16240), (46, 16201), (54, 16099), (55, 16084), (59, 16036), (62, 15997), (65, 15973), (69, 15928), (70, 15922), (75, 15865), (84, 15721), (89, 15661), (93, 15610),

Gene: Craff\_20 Start: 16648, Stop: 15872, Start Num: 33

Candidate Starts for Craff\_20:

(Start: 33 @16648 has 313 MA's), (Start: 36 @16591 has 2 MA's), (44, 16528), (46, 16489), (54, 16387), (55, 16372), (59, 16324), (62, 16285), (65, 16261), (69, 16216), (70, 16210), (75, 16153), (84, 16009), (89, 15949), (93, 15898),

Gene: Crownjwl\_20 Start: 16415, Stop: 15639, Start Num: 33

Candidate Starts for Crownjwl\_20:

(Start: 33 @16415 has 313 MA's), (Start: 36 @16358 has 2 MA's), (44, 16295), (46, 16256), (54, 16154), (55, 16139), (59, 16091), (62, 16052), (65, 16028), (69, 15983), (70, 15977), (75, 15920), (84, 15776), (89, 15716), (93, 15665),

Gene: DaddyDaniels\_20 Start: 16352, Stop: 15576, Start Num: 33

Candidate Starts for DaddyDaniels\_20:

(Start: 33 @16352 has 313 MA's), (Start: 36 @16295 has 2 MA's), (46, 16193), (54, 16091), (55, 16076), (59, 16028), (62, 15989), (65, 15965), (69, 15920), (70, 15914), (75, 15857), (80, 15782), (84, 15713), (87, 15677), (89, 15653), (93, 15602),

Gene: Dadosky\_87 Start: 55144, Stop: 56028, Start Num: 33

Candidate Starts for Dadosky\_87:

(Start: 33 @55144 has 313 MA's), (Start: 36 @55201 has 2 MA's), (37, 55207), (38, 55213), (40, 55237), (46, 55306), (49, 55351), (53, 55399), (54, 55408), (55, 55423), (60, 55483), (62, 55510), (63, 55525), (65, 55534), (66, 55540), (69, 55579), (70, 55585), (72, 55618), (75, 55642), (76, 55678), (80, 55717), (83, 55753), (84, 55786), (90, 55858), (91, 55870), (104, 55933), (106, 55951),

Gene: Daffy\_20 Start: 16367, Stop: 15591, Start Num: 33

Candidate Starts for Daffy\_20:

(Start: 33 @16367 has 313 MA's), (Start: 36 @16310 has 2 MA's), (44, 16247), (46, 16208), (54, 16106), (55, 16091), (59, 16043), (62, 16004), (65, 15980), (69, 15935), (70, 15929), (75, 15872), (80, 15797), (84, 15728), (89, 15668), (93, 15617),

Gene: Daka\_20 Start: 16644, Stop: 15868, Start Num: 33

Candidate Starts for Daka\_20:

(Start: 33 @16644 has 313 MA's), (Start: 36 @16587 has 2 MA's), (44, 16524), (46, 16485), (54, 16383), (55, 16368), (59, 16320), (62, 16281), (65, 16257), (69, 16212), (70, 16206), (75, 16149), (84, 16005), (89, 15945), (93, 15894),

Gene: DarthP\_39 Start: 31203, Stop: 32078, Start Num: 33

Candidate Starts for DarthP\_39:

(29, 31167), (30, 31170), (31, 31173), (Start: 33 @31203 has 313 MA's), (Start: 36 @31260 has 2 MA's), (46, 31365), (53, 31458), (54, 31467), (55, 31482), (62, 31569), (63, 31584), (65, 31593), (66, 31599), (68, 31629), (72, 31677), (75, 31701), (77, 31749), (80, 31776), (83, 31812), (84, 31845), (93, 31950), (101, 31986), (108, 32028),

Gene: Dati\_20 Start: 16356, Stop: 15580, Start Num: 33

Candidate Starts for Dati\_20:

(Start: 33 @16356 has 313 MA's), (Start: 36 @16299 has 2 MA's), (46, 16197), (54, 16095), (55, 16080), (59, 16032), (62, 15993), (65, 15969), (69, 15924), (70, 15918), (75, 15861), (80, 15786), (84, 15717), (87, 15681), (89, 15657), (93, 15606),

Gene: DelRivs\_19 Start: 16355, Stop: 15579, Start Num: 33

Candidate Starts for DelRivs\_19:

(Start: 33 @16355 has 313 MA's), (Start: 36 @16298 has 2 MA's), (46, 16196), (54, 16094), (55, 16079), (59, 16031), (62, 15992), (65, 15968), (69, 15923), (70, 15917), (75, 15860), (80, 15785), (84, 15716), (87, 15680), (89, 15656), (93, 15605),

Gene: Derpp\_19 Start: 16202, Stop: 15426, Start Num: 33

Candidate Starts for Derpp\_19:

(Start: 33 @16202 has 313 MA's), (Start: 36 @16145 has 2 MA's), (46, 16043), (54, 15941), (55, 15926), (59, 15878), (62, 15839), (65, 15815), (69, 15770), (70, 15764), (75, 15707), (80, 15632), (84, 15563), (87, 15527), (89, 15503), (93, 15452),

Gene: Dice\_20 Start: 16343, Stop: 15567, Start Num: 33

Candidate Starts for Dice\_20:

(Start: 33 @16343 has 313 MA's), (Start: 36 @16286 has 2 MA's), (44, 16223), (46, 16184), (54, 16082), (55, 16067), (59, 16019), (62, 15980), (65, 15956), (69, 15911), (70, 15905), (75, 15848), (84, 15704), (89, 15644), (93, 15593),

Gene: Dingo\_20 Start: 16627, Stop: 15851, Start Num: 33

Candidate Starts for Dingo\_20:



(Start: 33 @16627 has 313 MA's), (Start: 36 @16570 has 2 MA's), (44, 16507), (46, 16468), (54, 16366), (55, 16351), (59, 16303), (62, 16264), (65, 16240), (69, 16195), (70, 16189), (75, 16132), (80, 16057), (84, 15988), (89, 15928), (93, 15877),

Gene: Dione\_19 Start: 16344, Stop: 15568, Start Num: 33

Candidate Starts for Dione\_19:

(Start: 33 @16344 has 313 MA's), (Start: 36 @16287 has 2 MA's), (44, 16224), (46, 16185), (54, 16083), (55, 16068), (59, 16020), (62, 15981), (65, 15957), (69, 15912), (70, 15906), (75, 15849), (84, 15705), (89, 15645), (93, 15594),

Gene: DirtJuice\_20 Start: 16629, Stop: 15853, Start Num: 33

Candidate Starts for DirtJuice\_20:

(Start: 33 @16629 has 313 MA's), (Start: 36 @16572 has 2 MA's), (44, 16509), (46, 16470), (54, 16368), (55, 16353), (59, 16305), (62, 16266), (65, 16242), (69, 16197), (70, 16191), (75, 16134), (84, 15990), (89, 15930), (93, 15879),

Gene: DismalFunk\_42 Start: 33015, Stop: 33860, Start Num: 33

Candidate Starts for DismalFunk\_42:

(24, 32958), (26, 32970), (29, 32979), (Start: 33 @33015 has 313 MA's), (Start: 36 @33072 has 2 MA's), (38, 33084), (46, 33177), (50, 33225), (54, 33279), (55, 33294), (58, 33333), (59, 33342), (60, 33354), (65, 33405), (66, 33411), (72, 33489), (76, 33549), (79, 33582), (80, 33588), (84, 33657), (96, 33780),

Gene: DismalStressor\_42 Start: 33015, Stop: 33860, Start Num: 33

Candidate Starts for DismalStressor\_42:

(24, 32958), (26, 32970), (29, 32979), (Start: 33 @33015 has 313 MA's), (Start: 36 @33072 has 2 MA's), (38, 33084), (46, 33177), (50, 33225), (54, 33279), (55, 33294), (58, 33333), (59, 33342), (60, 33354), (65, 33405), (66, 33411), (72, 33489), (76, 33549), (79, 33582), (80, 33588), (84, 33657), (96, 33780),

Gene: Doddsville\_20 Start: 16356, Stop: 15580, Start Num: 33

Candidate Starts for Doddsville\_20:

(Start: 33 @16356 has 313 MA's), (Start: 36 @16299 has 2 MA's), (46, 16197), (54, 16095), (55, 16080), (59, 16032), (62, 15993), (65, 15969), (69, 15924), (70, 15918), (75, 15861), (80, 15786), (84, 15717), (87, 15681), (89, 15657), (93, 15606),

Gene: DoesntMatter\_20 Start: 16625, Stop: 15849, Start Num: 33

Candidate Starts for DoesntMatter\_20:

(Start: 33 @16625 has 313 MA's), (Start: 36 @16568 has 2 MA's), (44, 16505), (46, 16466), (54, 16364), (55, 16349), (59, 16301), (62, 16262), (65, 16238), (69, 16193), (70, 16187), (75, 16130), (84, 15986), (89, 15926), (93, 15875),

Gene: DonSanchon\_19 Start: 16343, Stop: 15567, Start Num: 33

Candidate Starts for DonSanchon\_19:

(Start: 33 @16343 has 313 MA's), (Start: 36 @16286 has 2 MA's), (44, 16223), (46, 16184), (54, 16082), (55, 16067), (59, 16019), (62, 15980), (65, 15956), (69, 15911), (70, 15905), (75, 15848), (84, 15704), (89, 15644), (93, 15593),

Gene: DrHayes\_40 Start: 31795, Stop: 32652, Start Num: 33

Candidate Starts for DrHayes\_40:

(4, 31339), (5, 31342), (6, 31345), (7, 31375), (10, 31591), (13, 31618), (20, 31729), (Start: 21 @31732 has 1 MA's), (25, 31738), (30, 31762), (Start: 33 @31795 has 313 MA's), (Start: 36 @31852 has 2 MA's), (38, 31864), (46, 31957), (49, 32002), (50, 32005), (54, 32059), (55, 32074), (59, 32122),

(60, 32134), (65, 32185), (69, 32230), (70, 32236), (73, 32275), (74, 32278), (75, 32293), (76, 32329), (80, 32368), (84, 32437), (90, 32509), (100, 32575),

Gene: Duggie\_19 Start: 16358, Stop: 15582, Start Num: 33

Candidate Starts for Duggie\_19:

(Start: 33 @16358 has 313 MA's), (Start: 36 @16301 has 2 MA's), (46, 16199), (54, 16097), (55, 16082), (59, 16034), (62, 15995), (65, 15971), (69, 15926), (70, 15920), (75, 15863), (80, 15788), (84, 15719), (87, 15683), (89, 15659), (93, 15608),

Gene: Durga\_20 Start: 16655, Stop: 15879, Start Num: 33

Candidate Starts for Durga\_20:

(Start: 33 @16655 has 313 MA's), (Start: 36 @16598 has 2 MA's), (46, 16496), (54, 16394), (55, 16379), (59, 16331), (62, 16292), (65, 16268), (69, 16223), (70, 16217), (75, 16160), (80, 16085), (84, 16016), (87, 15980), (89, 15956), (93, 15905),

Gene: Edugator\_81 Start: 56315, Stop: 57199, Start Num: 33

Candidate Starts for Edugator\_81:

(Start: 33 @56315 has 313 MA's), (Start: 36 @56372 has 2 MA's), (37, 56378), (38, 56384), (46, 56477), (49, 56522), (53, 56570), (54, 56579), (55, 56594), (60, 56654), (62, 56681), (63, 56696), (65, 56705), (66, 56711), (69, 56750), (70, 56756), (72, 56789), (75, 56813), (76, 56849), (80, 56888), (83, 56924), (84, 56957), (90, 57029), (91, 57041), (104, 57104), (106, 57122),

Gene: Ekdilam\_37 Start: 31037, Stop: 31912, Start Num: 33

Candidate Starts for Ekdilam\_37:

(29, 31001), (30, 31004), (31, 31007), (Start: 33 @31037 has 313 MA's), (Start: 36 @31094 has 2 MA's), (38, 31106), (46, 31199), (49, 31244), (53, 31292), (54, 31301), (55, 31316), (59, 31364), (62, 31403), (63, 31418), (65, 31427), (66, 31433), (70, 31478), (75, 31535), (76, 31571), (77, 31583), (83, 31646), (84, 31679), (93, 31784), (101, 31820), (108, 31862),

Gene: Ellie\_37 Start: 31026, Stop: 31892, Start Num: 33

Candidate Starts for Ellie\_37:

(29, 30990), (Start: 33 @31026 has 313 MA's), (Start: 36 @31083 has 2 MA's), (38, 31095), (39, 31113), (46, 31188), (54, 31290), (55, 31305), (62, 31392), (63, 31407), (65, 31416), (66, 31422), (69, 31461), (70, 31467), (72, 31500), (75, 31524), (76, 31560), (80, 31599), (83, 31635), (84, 31668), (101, 31809), (108, 31851),

Gene: Emiris\_20 Start: 16637, Stop: 15861, Start Num: 33

Candidate Starts for Emiris\_20:

(Start: 33 @16637 has 313 MA's), (Start: 36 @16580 has 2 MA's), (44, 16517), (46, 16478), (54, 16376), (55, 16361), (59, 16313), (62, 16274), (65, 16250), (69, 16205), (70, 16199), (75, 16142), (84, 15998), (89, 15938), (93, 15887),

Gene: EmpTee\_20 Start: 16643, Stop: 15867, Start Num: 33

Candidate Starts for EmpTee\_20:

(Start: 33 @16643 has 313 MA's), (Start: 36 @16586 has 2 MA's), (44, 16523), (46, 16484), (54, 16382), (55, 16367), (59, 16319), (62, 16280), (65, 16256), (69, 16211), (70, 16205), (75, 16148), (84, 16004), (89, 15944), (93, 15893),

Gene: Enkosi\_35 Start: 30629, Stop: 31555, Start Num: 33

Candidate Starts for Enkosi\_35:

(Start: 33 @30629 has 313 MA's), (Start: 36 @30686 has 2 MA's), (46, 30791), (53, 30884), (54, 30893), (55, 30908), (57, 30932), (62, 30995), (65, 31019), (66, 31025), (69, 31064), (70, 31070), (71, 31088), (74, 31112), (75, 31127), (76, 31163), (80, 31202), (81, 31217), (83, 31238), (84, 31271), (86,

31316), (111, 31505), (118, 31547),

Gene: Eremos\_20 Start: 16643, Stop: 15867, Start Num: 33

Candidate Starts for Eremos\_20:

(Start: 33 @16643 has 313 MA's), (Start: 36 @16586 has 2 MA's), (44, 16523), (46, 16484), (54, 16382), (55, 16367), (59, 16319), (62, 16280), (65, 16256), (69, 16211), (70, 16205), (75, 16148), (84, 16004), (89, 15944), (93, 15893),

Gene: Etaye\_20 Start: 16628, Stop: 15852, Start Num: 33

Candidate Starts for Etaye\_20:

(Start: 33 @16628 has 313 MA's), (Start: 36 @16571 has 2 MA's), (46, 16469), (54, 16367), (55, 16352), (59, 16304), (62, 16265), (65, 16241), (69, 16196), (70, 16190), (75, 16133), (80, 16058), (84, 15989), (87, 15953), (89, 15929), (93, 15878),

Gene: Eugenia\_20 Start: 16654, Stop: 15878, Start Num: 33

Candidate Starts for Eugenia\_20:

(8, 17026), (9, 17017), (Start: 33 @16654 has 313 MA's), (Start: 36 @16597 has 2 MA's), (46, 16495), (54, 16393), (55, 16378), (59, 16330), (62, 16291), (65, 16267), (69, 16222), (70, 16216), (75, 16159), (84, 16015), (89, 15955), (93, 15904),

Gene: Fang\_20 Start: 16657, Stop: 15881, Start Num: 33

Candidate Starts for Fang\_20:

(Start: 33 @16657 has 313 MA's), (Start: 36 @16600 has 2 MA's), (44, 16537), (46, 16498), (54, 16396), (55, 16381), (59, 16333), (62, 16294), (65, 16270), (69, 16225), (70, 16219), (75, 16162), (84, 16018), (89, 15958), (93, 15907),

Gene: Fefferhead\_38 Start: 30980, Stop: 31846, Start Num: 33

Candidate Starts for Fefferhead\_38:

(29, 30944), (Start: 33 @30980 has 313 MA's), (Start: 36 @31037 has 2 MA's), (38, 31049), (39, 31067), (46, 31142), (54, 31244), (55, 31259), (62, 31346), (63, 31361), (65, 31370), (66, 31376), (69, 31415), (70, 31421), (72, 31454), (75, 31478), (76, 31514), (80, 31553), (83, 31589), (84, 31622), (108, 31805),

Gene: Feyre\_86 Start: 57242, Stop: 58030, Start Num: 33

Candidate Starts for Feyre\_86:

(20, 57176), (Start: 21 @57179 has 1 MA's), (22, 57182), (27, 57200), (29, 57206), (30, 57209), (Start: 33 @57242 has 313 MA's), (Start: 36 @57299 has 2 MA's), (38, 57311), (46, 57404), (49, 57449), (53, 57497), (54, 57506), (55, 57521), (60, 57581), (62, 57608), (63, 57623), (65, 57632), (66, 57638), (69, 57677), (70, 57683), (72, 57716), (75, 57740), (76, 57776), (80, 57815), (82, 57845), (83, 57851), (84, 57884), (90, 57956),

Gene: Findley\_42 Start: 33008, Stop: 33853, Start Num: 33

Candidate Starts for Findley\_42:

(24, 32951), (26, 32963), (29, 32972), (Start: 33 @33008 has 313 MA's), (Start: 36 @33065 has 2 MA's), (38, 33077), (46, 33170), (50, 33218), (54, 33272), (55, 33287), (58, 33326), (59, 33335), (60, 33347), (65, 33398), (66, 33404), (72, 33482), (76, 33542), (79, 33575), (80, 33581), (84, 33650), (96, 33773),

Gene: FluffyNinja\_20 Start: 16647, Stop: 15871, Start Num: 33

Candidate Starts for FluffyNinja\_20:

(8, 17019), (9, 17010), (Start: 33 @16647 has 313 MA's), (Start: 36 @16590 has 2 MA's), (44, 16527), (46, 16488), (54, 16386), (55, 16371), (59, 16323), (62, 16284), (65, 16260), (69, 16215), (70, 16209), (75, 16152), (84, 16008), (89, 15948), (93, 15897),

Gene: Fozzie\_19 Start: 16652, Stop: 15876, Start Num: 33

Candidate Starts for Fozzie\_19:

(Start: 33 @16652 has 313 MA's), (Start: 36 @16595 has 2 MA's), (44, 16532), (46, 16493), (54, 16391), (55, 16376), (59, 16328), (62, 16289), (65, 16265), (69, 16220), (70, 16214), (75, 16157), (84, 16013), (89, 15953), (93, 15902),

Gene: Frankicide\_20 Start: 16643, Stop: 15867, Start Num: 33

Candidate Starts for Frankicide\_20:

(Start: 33 @16643 has 313 MA's), (Start: 36 @16586 has 2 MA's), (44, 16523), (46, 16484), (54, 16382), (55, 16367), (59, 16319), (62, 16280), (65, 16256), (69, 16211), (70, 16205), (75, 16148), (84, 16004), (89, 15944), (93, 15893),

Gene: Freya\_19 Start: 16338, Stop: 15562, Start Num: 33

Candidate Starts for Freya\_19:

(Start: 33 @16338 has 313 MA's), (Start: 36 @16281 has 2 MA's), (44, 16218), (46, 16179), (54, 16077), (55, 16062), (59, 16014), (62, 15975), (65, 15951), (69, 15906), (70, 15900), (75, 15843), (84, 15699), (89, 15639), (93, 15588),

Gene: FriarPreacher\_20 Start: 16663, Stop: 15887, Start Num: 33

Candidate Starts for FriarPreacher\_20:

(Start: 33 @16663 has 313 MA's), (Start: 36 @16606 has 2 MA's), (44, 16543), (46, 16504), (54, 16402), (55, 16387), (59, 16339), (62, 16300), (65, 16276), (69, 16231), (70, 16225), (75, 16168), (84, 16024), (89, 15964), (93, 15913),

Gene: Fringe\_20 Start: 16626, Stop: 15850, Start Num: 33

Candidate Starts for Fringe\_20:

(Start: 33 @16626 has 313 MA's), (Start: 36 @16569 has 2 MA's), (44, 16506), (46, 16467), (54, 16365), (55, 16350), (56, 16332), (59, 16302), (62, 16263), (65, 16239), (69, 16194), (70, 16188), (75, 16131), (84, 15987), (89, 15927), (93, 15876),

Gene: FugateOSU\_19 Start: 16349, Stop: 15573, Start Num: 33

Candidate Starts for FugateOSU\_19:

(Start: 33 @16349 has 313 MA's), (44, 16229), (46, 16190), (54, 16088), (55, 16073), (59, 16025), (62, 15986), (65, 15962), (69, 15917), (70, 15911), (75, 15854), (80, 15779), (84, 15710), (89, 15650), (93, 15599),

Gene: Gareth\_19 Start: 16346, Stop: 15570, Start Num: 33

Candidate Starts for Gareth\_19:

(Start: 33 @16346 has 313 MA's), (Start: 36 @16289 has 2 MA's), (44, 16226), (46, 16187), (54, 16085), (55, 16070), (59, 16022), (62, 15983), (65, 15959), (69, 15914), (70, 15908), (75, 15851), (84, 15707), (89, 15647), (93, 15596),

Gene: GeneCoco\_20 Start: 16647, Stop: 15871, Start Num: 33

Candidate Starts for GeneCoco\_20:

(Start: 33 @16647 has 313 MA's), (Start: 36 @16590 has 2 MA's), (46, 16488), (54, 16386), (55, 16371), (59, 16323), (62, 16284), (65, 16260), (69, 16215), (70, 16209), (75, 16152), (80, 16077), (84, 16008), (87, 15972), (89, 15948), (93, 15897),

Gene: Gilgamesh\_114 Start: 102391, Stop: 101504, Start Num: 17

Candidate Starts for Gilgamesh\_114:

(1, 102889), (2, 102862), (3, 102805), (11, 102484), (Start: 17 @102391 has 1 MA's), (34, 102283), (42, 102175), (45, 102151), (48, 102100), (51, 102043), (52, 102037), (54, 102016), (61, 101932), (63,

101914), (65, 101905), (66, 101899), (74, 101812), (75, 101797), (78, 101740), (85, 101638), (87, 101623), (88, 101611), (89, 101599),

Gene: Giraffe\_20 Start: 16351, Stop: 15575, Start Num: 33

Candidate Starts for Giraffe\_20:

(Start: 33 @16351 has 313 MA's), (Start: 36 @16294 has 2 MA's), (44, 16231), (46, 16192), (54, 16090), (55, 16075), (59, 16027), (62, 15988), (65, 15964), (69, 15919), (70, 15913), (75, 15856), (84, 15712), (89, 15652), (93, 15601),

Gene: Gophee\_20 Start: 16627, Stop: 15851, Start Num: 33

Candidate Starts for Gophee\_20:

(8, 16999), (9, 16990), (Start: 33 @16627 has 313 MA's), (Start: 36 @16570 has 2 MA's), (44, 16507), (46, 16468), (54, 16366), (55, 16351), (59, 16303), (62, 16264), (65, 16240), (69, 16195), (70, 16189), (75, 16132), (84, 15988), (89, 15928), (93, 15877),

Gene: Grand2040\_19 Start: 16366, Stop: 15590, Start Num: 33

Candidate Starts for Grand2040\_19:

(Start: 33 @16366 has 313 MA's), (Start: 36 @16309 has 2 MA's), (44, 16246), (46, 16207), (54, 16105), (55, 16090), (59, 16042), (62, 16003), (65, 15979), (69, 15934), (70, 15928), (75, 15871), (84, 15727), (89, 15667), (93, 15616),

Gene: Guillsminger\_86 Start: 55951, Stop: 56835, Start Num: 33

Candidate Starts for Guillsminger\_86:

(Start: 21 @55888 has 1 MA's), (22, 55891), (27, 55909), (29, 55915), (30, 55918), (32, 55936), (Start: 33 @55951 has 313 MA's), (Start: 36 @56008 has 2 MA's), (38, 56020), (46, 56113), (49, 56158), (53, 56206), (54, 56215), (55, 56230), (60, 56290), (62, 56317), (63, 56332), (65, 56341), (66, 56347), (69, 56386), (70, 56392), (72, 56425), (75, 56449), (76, 56485), (80, 56524), (82, 56554), (83, 56560), (84, 56593), (90, 56665), (104, 56740), (106, 56758),

Gene: Gwilliam\_20 Start: 16638, Stop: 15862, Start Num: 33

Candidate Starts for Gwilliam\_20:

(Start: 33 @16638 has 313 MA's), (Start: 36 @16581 has 2 MA's), (44, 16518), (46, 16479), (54, 16377), (55, 16362), (59, 16314), (62, 16275), (65, 16251), (69, 16206), (70, 16200), (75, 16143), (84, 15999), (89, 15939), (93, 15888),

Gene: Gyarad\_0020 Start: 16641, Stop: 15865, Start Num: 33

Candidate Starts for Gyarad\_0020:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (44, 16521), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (84, 16002), (89, 15942), (93, 15891),

Gene: HSavage\_20 Start: 16649, Stop: 15873, Start Num: 33

Candidate Starts for HSavage\_20:

(Start: 33 @16649 has 313 MA's), (Start: 36 @16592 has 2 MA's), (44, 16529), (46, 16490), (54, 16388), (55, 16373), (59, 16325), (62, 16286), (65, 16262), (69, 16217), (70, 16211), (75, 16154), (84, 16010), (89, 15950), (93, 15899),

Gene: Haimas\_20 Start: 16643, Stop: 15867, Start Num: 33

Candidate Starts for Haimas\_20:

(Start: 33 @16643 has 313 MA's), (Start: 36 @16586 has 2 MA's), (44, 16523), (46, 16484), (54, 16382), (55, 16367), (59, 16319), (62, 16280), (65, 16256), (69, 16211), (70, 16205), (75, 16148), (84, 16004), (89, 15944), (93, 15893),

Gene: Haleema\_19 Start: 16366, Stop: 15590, Start Num: 33

Candidate Starts for Haleema\_19:

(Start: 33 @16366 has 313 MA's), (Start: 36 @16309 has 2 MA's), (44, 16246), (46, 16207), (54, 16105), (55, 16090), (59, 16042), (62, 16003), (65, 15979), (69, 15934), (70, 15928), (75, 15871), (84, 15727), (89, 15667), (93, 15616),

Gene: Hamish\_20 Start: 16635, Stop: 15859, Start Num: 33

Candidate Starts for Hamish\_20:

(Start: 33 @16635 has 313 MA's), (Start: 36 @16578 has 2 MA's), (44, 16515), (46, 16476), (54, 16374), (55, 16359), (59, 16311), (62, 16272), (65, 16248), (69, 16203), (70, 16197), (75, 16140), (84, 15996), (89, 15936), (93, 15885),

Gene: Hammy\_39 Start: 31194, Stop: 32066, Start Num: 33

Candidate Starts for Hammy\_39:

(29, 31158), (30, 31161), (31, 31164), (Start: 33 @31194 has 313 MA's), (Start: 36 @31251 has 2 MA's), (46, 31356), (53, 31449), (54, 31458), (55, 31473), (62, 31560), (63, 31575), (65, 31584), (66, 31590), (68, 31620), (70, 31635), (72, 31668), (75, 31692), (76, 31728), (77, 31740), (80, 31767), (83, 31803), (84, 31836), (93, 31941), (101, 31977), (108, 32019),

Gene: Hartsy\_20 Start: 16638, Stop: 15862, Start Num: 33

Candidate Starts for Hartsy\_20:

(Start: 33 @16638 has 313 MA's), (Start: 36 @16581 has 2 MA's), (46, 16479), (54, 16377), (55, 16362), (59, 16314), (62, 16275), (65, 16251), (69, 16206), (70, 16200), (75, 16143), (80, 16068), (84, 15999), (87, 15963), (89, 15939), (93, 15888),

Gene: Harvey\_20 Start: 16665, Stop: 15889, Start Num: 33

Candidate Starts for Harvey\_20:

(Start: 33 @16665 has 313 MA's), (Start: 36 @16608 has 2 MA's), (44, 16545), (46, 16506), (54, 16404), (55, 16389), (59, 16341), (62, 16302), (65, 16278), (69, 16233), (70, 16227), (75, 16170), (84, 16026), (89, 15966), (93, 15915),

Gene: Heftyboy\_86 Start: 55982, Stop: 56866, Start Num: 33

Candidate Starts for Heftyboy\_86:

(Start: 33 @55982 has 313 MA's), (Start: 36 @56039 has 2 MA's), (38, 56051), (46, 56144), (49, 56189), (53, 56237), (54, 56246), (55, 56261), (60, 56321), (62, 56348), (63, 56363), (65, 56372), (66, 56378), (69, 56417), (70, 56423), (72, 56456), (75, 56480), (76, 56516), (80, 56555), (84, 56624), (90, 56696), (91, 56708), (104, 56771), (106, 56789), (113, 56843),

Gene: Held\_20 Start: 16350, Stop: 15574, Start Num: 33

Candidate Starts for Held\_20:

(Start: 33 @16350 has 313 MA's), (Start: 36 @16293 has 2 MA's), (44, 16230), (46, 16191), (54, 16089), (55, 16074), (59, 16026), (62, 15987), (65, 15963), (69, 15918), (70, 15912), (75, 15855), (84, 15711), (89, 15651), (93, 15600),

Gene: HenryJackson\_19 Start: 16364, Stop: 15588, Start Num: 33

Candidate Starts for HenryJackson\_19:

(8, 16736), (9, 16727), (Start: 33 @16364 has 313 MA's), (Start: 36 @16307 has 2 MA's), (46, 16205), (54, 16103), (55, 16088), (59, 16040), (62, 16001), (65, 15977), (69, 15932), (70, 15926), (75, 15869), (80, 15794), (84, 15725), (89, 15665), (93, 15614),

Gene: Hertubise\_20 Start: 16657, Stop: 15881, Start Num: 33

Candidate Starts for Hertubise\_20:

(Start: 33 @16657 has 313 MA's), (Start: 36 @16600 has 2 MA's), (44, 16537), (46, 16498), (54, 16396), (55, 16381), (59, 16333), (62, 16294), (65, 16270), (69, 16225), (70, 16219), (75, 16162), (84, 16018), (89, 15958), (93, 15907),

Gene: Hetaeria\_20 Start: 16659, Stop: 15883, Start Num: 33

Candidate Starts for Hetaeria\_20:

(Start: 33 @16659 has 313 MA's), (Start: 36 @16602 has 2 MA's), (44, 16539), (46, 16500), (54, 16398), (55, 16383), (59, 16335), (62, 16296), (65, 16272), (69, 16227), (70, 16221), (75, 16164), (84, 16020), (89, 15960), (93, 15909),

Gene: HighStump\_19 Start: 16349, Stop: 15573, Start Num: 33

Candidate Starts for HighStump\_19:

(Start: 33 @16349 has 313 MA's), (Start: 36 @16292 has 2 MA's), (44, 16229), (46, 16190), (54, 16088), (55, 16073), (59, 16025), (62, 15986), (65, 15962), (69, 15917), (70, 15911), (75, 15854), (84, 15710), (89, 15650), (93, 15599),

Gene: Hocus\_19 Start: 16350, Stop: 15574, Start Num: 33

Candidate Starts for Hocus\_19:

(Start: 33 @16350 has 313 MA's), (Start: 36 @16293 has 2 MA's), (46, 16191), (54, 16089), (55, 16074), (59, 16026), (62, 15987), (65, 15963), (69, 15918), (70, 15912), (75, 15855), (80, 15780), (84, 15711), (89, 15651), (93, 15600),

Gene: Horchata\_20 Start: 16628, Stop: 15852, Start Num: 33

Candidate Starts for Horchata\_20:

(Start: 33 @16628 has 313 MA's), (Start: 36 @16571 has 2 MA's), (44, 16508), (46, 16469), (54, 16367), (55, 16352), (59, 16304), (62, 16265), (65, 16241), (69, 16196), (70, 16190), (75, 16133), (84, 15989), (89, 15929), (93, 15878),

Gene: ImtiyazSitla\_19 Start: 16190, Stop: 15414, Start Num: 33

Candidate Starts for ImtiyazSitla\_19:

(Start: 33 @16190 has 313 MA's), (Start: 36 @16133 has 2 MA's), (46, 16031), (54, 15929), (55, 15914), (59, 15866), (62, 15827), (65, 15803), (69, 15758), (70, 15752), (75, 15695), (80, 15620), (84, 15551), (89, 15491), (93, 15440),

Gene: Inchworm\_20 Start: 16634, Stop: 15858, Start Num: 33

Candidate Starts for Inchworm\_20:

(Start: 33 @16634 has 313 MA's), (Start: 36 @16577 has 2 MA's), (44, 16514), (46, 16475), (54, 16373), (55, 16358), (59, 16310), (62, 16271), (65, 16247), (69, 16202), (70, 16196), (75, 16139), (84, 15995), (89, 15935), (93, 15884),

Gene: Inverness\_20 Start: 16649, Stop: 15873, Start Num: 33

Candidate Starts for Inverness\_20:

(Start: 33 @16649 has 313 MA's), (Start: 36 @16592 has 2 MA's), (44, 16529), (46, 16490), (54, 16388), (55, 16373), (59, 16325), (62, 16286), (65, 16262), (69, 16217), (70, 16211), (75, 16154), (84, 16010), (89, 15950), (93, 15899),

Gene: InvictusManeo\_83 Start: 54009, Stop: 54893, Start Num: 33

Candidate Starts for InvictusManeo\_83:

(Start: 33 @54009 has 313 MA's), (Start: 36 @54066 has 2 MA's), (38, 54078), (42, 54114), (46, 54171), (49, 54216), (53, 54264), (54, 54273), (55, 54288), (60, 54348), (62, 54375), (63, 54390), (65, 54399), (66, 54405), (69, 54444), (70, 54450), (75, 54507), (76, 54543), (80, 54582), (84, 54651), (90, 54723), (91, 54735), (104, 54798), (106, 54816),

Gene: Iridoclysis\_20 Start: 16623, Stop: 15847, Start Num: 33

Candidate Starts for Iridoclysis\_20:

(Start: 33 @16623 has 313 MA's), (Start: 36 @16566 has 2 MA's), (44, 16503), (46, 16464), (54, 16362), (55, 16347), (59, 16299), (62, 16260), (65, 16236), (69, 16191), (70, 16185), (75, 16128), (84, 15984), (89, 15924), (93, 15873),

Gene: IsaacEli\_20 Start: 16653, Stop: 15877, Start Num: 33

Candidate Starts for IsaacEli\_20:

(Start: 33 @16653 has 313 MA's), (Start: 36 @16596 has 2 MA's), (44, 16533), (46, 16494), (54, 16392), (55, 16377), (59, 16329), (62, 16290), (65, 16266), (69, 16221), (70, 16215), (75, 16158), (84, 16014), (89, 15954), (93, 15903),

Gene: JDog\_19 Start: 16358, Stop: 15582, Start Num: 33

Candidate Starts for JDog\_19:

(Start: 33 @16358 has 313 MA's), (Start: 36 @16301 has 2 MA's), (46, 16199), (54, 16097), (55, 16082), (59, 16034), (62, 15995), (65, 15971), (69, 15926), (70, 15920), (75, 15863), (80, 15788), (84, 15719), (87, 15683), (89, 15659), (93, 15608),

Gene: JacAttac\_20 Start: 16634, Stop: 15858, Start Num: 33

Candidate Starts for JacAttac\_20:

(Start: 33 @16634 has 313 MA's), (Start: 36 @16577 has 2 MA's), (44, 16514), (46, 16475), (54, 16373), (55, 16358), (59, 16310), (62, 16271), (65, 16247), (69, 16202), (70, 16196), (75, 16139), (84, 15995), (89, 15935), (93, 15884),

Gene: JakeO\_19 Start: 16358, Stop: 15582, Start Num: 33

Candidate Starts for JakeO\_19:

(Start: 33 @16358 has 313 MA's), (Start: 36 @16301 has 2 MA's), (46, 16199), (54, 16097), (55, 16082), (59, 16034), (62, 15995), (65, 15971), (69, 15926), (70, 15920), (75, 15863), (80, 15788), (84, 15719), (87, 15683), (89, 15659), (93, 15608),

Gene: JangoPhett\_20 Start: 16633, Stop: 15857, Start Num: 33

Candidate Starts for JangoPhett\_20:

(Start: 33 @16633 has 313 MA's), (Start: 36 @16576 has 2 MA's), (44, 16513), (46, 16474), (54, 16372), (55, 16357), (59, 16309), (62, 16270), (65, 16246), (69, 16201), (70, 16195), (75, 16138), (84, 15994), (89, 15934), (93, 15883),

Gene: Jillium\_19 Start: 16356, Stop: 15580, Start Num: 33

Candidate Starts for Jillium\_19:

(Start: 33 @16356 has 313 MA's), (Start: 36 @16299 has 2 MA's), (44, 16236), (46, 16197), (54, 16095), (55, 16080), (59, 16032), (62, 15993), (65, 15969), (69, 15924), (70, 15918), (75, 15861), (84, 15717), (89, 15657), (93, 15606),

Gene: Jiminy\_19 Start: 16196, Stop: 15420, Start Num: 33

Candidate Starts for Jiminy\_19:

(Start: 33 @16196 has 313 MA's), (Start: 36 @16139 has 2 MA's), (46, 16037), (54, 15935), (55, 15920), (59, 15872), (62, 15833), (65, 15809), (69, 15764), (70, 15758), (75, 15701), (80, 15626), (84, 15557), (87, 15521), (89, 15497), (93, 15446),

Gene: Jiraiya\_20 Start: 16357, Stop: 15581, Start Num: 33

Candidate Starts for Jiraiya\_20:

(Start: 33 @16357 has 313 MA's), (Start: 36 @16300 has 2 MA's), (44, 16237), (46, 16198), (54, 16096), (55, 16081), (59, 16033), (62, 15994), (65, 15970), (69, 15925), (70, 15919), (75, 15862), (84, 15718), (89, 15658), (93, 15607),



Gene: KLucky39\_20 Start: 16641, Stop: 15865, Start Num: 33

Candidate Starts for KLucky39\_20:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (44, 16521), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (84, 16002), (89, 15942), (93, 15891),

Gene: Kahve\_19 Start: 16363, Stop: 15587, Start Num: 33

Candidate Starts for Kahve\_19:

(Start: 33 @16363 has 313 MA's), (Start: 36 @16306 has 2 MA's), (44, 16243), (46, 16204), (54, 16102), (55, 16087), (59, 16039), (62, 16000), (65, 15976), (69, 15931), (70, 15925), (75, 15868), (84, 15724), (89, 15664), (93, 15613),

Gene: Kailash\_20 Start: 16650, Stop: 15874, Start Num: 33

Candidate Starts for Kailash\_20:

(Start: 33 @16650 has 313 MA's), (Start: 36 @16593 has 2 MA's), (46, 16491), (54, 16389), (55, 16374), (59, 16326), (62, 16287), (65, 16263), (69, 16218), (70, 16212), (75, 16155), (80, 16080), (84, 16011), (87, 15975), (89, 15951), (93, 15900),

Gene: Katniss\_20 Start: 16660, Stop: 15884, Start Num: 33

Candidate Starts for Katniss\_20:

(Start: 33 @16660 has 313 MA's), (Start: 36 @16603 has 2 MA's), (44, 16540), (46, 16501), (54, 16399), (55, 16384), (59, 16336), (62, 16297), (65, 16273), (69, 16228), (70, 16222), (75, 16165), (84, 16021), (89, 15961), (93, 15910),

Gene: Keitherie\_20 Start: 16663, Stop: 15887, Start Num: 33

Candidate Starts for Keitherie\_20:

(Start: 33 @16663 has 313 MA's), (Start: 36 @16606 has 2 MA's), (46, 16504), (54, 16402), (55, 16387), (59, 16339), (62, 16300), (65, 16276), (69, 16231), (70, 16225), (75, 16168), (80, 16093), (84, 16024), (87, 15988), (89, 15964), (93, 15913),

Gene: KiSi\_44 Start: 32387, Stop: 33259, Start Num: 33

Candidate Starts for KiSi\_44:

(Start: 33 @32387 has 313 MA's), (39, 32474), (46, 32549), (54, 32651), (55, 32666), (62, 32753), (65, 32777), (66, 32783), (69, 32822), (70, 32828), (72, 32861), (73, 32867), (74, 32870), (75, 32885), (76, 32921), (80, 32960), (84, 33029), (101, 33173),

Gene: Kikipoo\_20 Start: 16653, Stop: 15877, Start Num: 33

Candidate Starts for Kikipoo\_20:

(Start: 33 @16653 has 313 MA's), (Start: 36 @16596 has 2 MA's), (44, 16533), (46, 16494), (54, 16392), (55, 16377), (59, 16329), (62, 16290), (65, 16266), (69, 16221), (70, 16215), (75, 16158), (84, 16014), (89, 15954), (93, 15903),

Gene: Kimbrough\_20 Start: 16353, Stop: 15577, Start Num: 33

Candidate Starts for Kimbrough\_20:

(8, 16725), (9, 16716), (Start: 33 @16353 has 313 MA's), (Start: 36 @16296 has 2 MA's), (44, 16233), (46, 16194), (54, 16092), (55, 16077), (59, 16029), (62, 15990), (65, 15966), (69, 15921), (70, 15915), (75, 15858), (84, 15714), (89, 15654), (93, 15603),

Gene: KingVeVeVe\_20 Start: 16631, Stop: 15855, Start Num: 33

Candidate Starts for KingVeVeVe\_20:

(Start: 33 @16631 has 313 MA's), (Start: 36 @16574 has 2 MA's), (46, 16472), (54, 16370), (55, 16355), (59, 16307), (62, 16268), (65, 16244), (69, 16199), (70, 16193), (75, 16136), (80, 16061), (84,

15992), (87, 15956), (89, 15932), (93, 15881),

Gene: KlimbOn\_20 Start: 16641, Stop: 15865, Start Num: 33

Candidate Starts for KlimbOn\_20:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (44, 16521), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (84, 16002), (89, 15942), (93, 15891),

Gene: Kloppinator\_20 Start: 16660, Stop: 15884, Start Num: 33

Candidate Starts for Kloppinator\_20:

(Start: 33 @16660 has 313 MA's), (Start: 36 @16603 has 2 MA's), (44, 16540), (46, 16501), (54, 16399), (55, 16384), (59, 16336), (62, 16297), (65, 16273), (69, 16228), (70, 16222), (75, 16165), (84, 16021), (89, 15961), (93, 15910),

Gene: Kratio\_87 Start: 55038, Stop: 55922, Start Num: 33

Candidate Starts for Kratio\_87:

(Start: 33 @55038 has 313 MA's), (Start: 36 @55095 has 2 MA's), (37, 55101), (38, 55107), (46, 55200), (49, 55245), (53, 55293), (54, 55302), (55, 55317), (60, 55377), (62, 55404), (63, 55419), (65, 55428), (66, 55434), (69, 55473), (70, 55479), (72, 55512), (75, 55536), (76, 55572), (80, 55611), (84, 55680), (90, 55752), (91, 55764), (104, 55827), (106, 55845), (113, 55899),

Gene: Kwadwo\_19 Start: 16344, Stop: 15568, Start Num: 33

Candidate Starts for Kwadwo\_19:

(Start: 33 @16344 has 313 MA's), (Start: 36 @16287 has 2 MA's), (44, 16224), (46, 16185), (54, 16083), (55, 16068), (59, 16020), (62, 15981), (65, 15957), (69, 15912), (70, 15906), (75, 15849), (84, 15705), (89, 15645), (93, 15594),

Gene: Kwksand96\_19 Start: 16206, Stop: 15430, Start Num: 33

Candidate Starts for Kwksand96\_19:

(Start: 33 @16206 has 313 MA's), (Start: 36 @16149 has 2 MA's), (46, 16047), (54, 15945), (55, 15930), (59, 15882), (62, 15843), (65, 15819), (69, 15774), (70, 15768), (75, 15711), (80, 15636), (84, 15567), (87, 15531), (89, 15507), (93, 15456),

Gene: Labeouficaum\_19 Start: 16202, Stop: 15426, Start Num: 33

Candidate Starts for Labeouficaum\_19:

(Start: 33 @16202 has 313 MA's), (Start: 36 @16145 has 2 MA's), (46, 16043), (54, 15941), (55, 15926), (59, 15878), (62, 15839), (65, 15815), (69, 15770), (70, 15764), (75, 15707), (80, 15632), (84, 15563), (87, 15527), (89, 15503), (93, 15452),

Gene: Larva\_86 Start: 56016, Stop: 56900, Start Num: 33

Candidate Starts for Larva\_86:

(Start: 33 @56016 has 313 MA's), (Start: 36 @56073 has 2 MA's), (37, 56079), (38, 56085), (40, 56109), (46, 56178), (49, 56223), (53, 56271), (54, 56280), (55, 56295), (60, 56355), (62, 56382), (63, 56397), (65, 56406), (66, 56412), (69, 56451), (70, 56457), (72, 56490), (75, 56514), (76, 56550), (80, 56589), (83, 56625), (84, 56658), (90, 56730), (91, 56742), (104, 56805), (106, 56823),

Gene: LasagnaCat\_20 Start: 16646, Stop: 15870, Start Num: 33

Candidate Starts for LasagnaCat\_20:

(Start: 33 @16646 has 313 MA's), (Start: 36 @16589 has 2 MA's), (44, 16526), (46, 16487), (54, 16385), (55, 16370), (59, 16322), (62, 16283), (65, 16259), (69, 16214), (70, 16208), (75, 16151), (84, 16007), (89, 15947), (93, 15896),

Gene: Lasso\_20 Start: 16620, Stop: 15844, Start Num: 33

Candidate Starts for Lasso\_20:

(Start: 33 @16620 has 313 MA's), (Start: 36 @16563 has 2 MA's), (44, 16500), (46, 16461), (54, 16359), (55, 16344), (59, 16296), (62, 16257), (65, 16233), (69, 16188), (70, 16182), (75, 16125), (84, 15981), (89, 15921), (93, 15870),

Gene: LaterM\_40 Start: 31797, Stop: 32651, Start Num: 33

Candidate Starts for LaterM\_40:

(20, 31731), (Start: 21 @31734 has 1 MA's), (25, 31740), (30, 31764), (Start: 33 @31797 has 313 MA's), (Start: 36 @31854 has 2 MA's), (38, 31866), (46, 31959), (50, 32007), (54, 32061), (55, 32076), (59, 32124), (60, 32136), (65, 32187), (66, 32193), (69, 32232), (70, 32238), (73, 32277), (74, 32280), (75, 32295), (76, 32331), (80, 32370), (84, 32439),

Gene: LeMond\_44 Start: 32458, Stop: 33330, Start Num: 33

Candidate Starts for LeMond\_44:

(Start: 33 @32458 has 313 MA's), (39, 32545), (46, 32620), (54, 32722), (55, 32737), (62, 32824), (65, 32848), (66, 32854), (69, 32893), (70, 32899), (72, 32932), (73, 32938), (74, 32941), (75, 32956), (76, 32992), (80, 33031), (84, 33100), (101, 33244),

Gene: LeeLot\_20 Start: 16643, Stop: 15867, Start Num: 33

Candidate Starts for LeeLot\_20:

(8, 17015), (9, 17006), (Start: 33 @16643 has 313 MA's), (Start: 36 @16586 has 2 MA's), (44, 16523), (46, 16484), (54, 16382), (55, 16367), (59, 16319), (62, 16280), (65, 16256), (69, 16211), (70, 16205), (75, 16148), (84, 16004), (89, 15944), (93, 15893),

Gene: Lego3393\_20 Start: 16657, Stop: 15881, Start Num: 33

Candidate Starts for Lego3393\_20:

(Start: 33 @16657 has 313 MA's), (Start: 36 @16600 has 2 MA's), (44, 16537), (46, 16498), (54, 16396), (55, 16381), (59, 16333), (62, 16294), (65, 16270), (69, 16225), (70, 16219), (75, 16162), (84, 16018), (89, 15958), (93, 15907),

Gene: LeiMonet\_20 Start: 16352, Stop: 15576, Start Num: 33

Candidate Starts for LeiMonet\_20:

(Start: 33 @16352 has 313 MA's), (Start: 36 @16295 has 2 MA's), (44, 16232), (46, 16193), (54, 16091), (55, 16076), (59, 16028), (62, 15989), (65, 15965), (69, 15920), (70, 15914), (75, 15857), (84, 15713), (89, 15653), (93, 15602),

Gene: LemonSlice\_20 Start: 16352, Stop: 15576, Start Num: 33

Candidate Starts for LemonSlice\_20:

(Start: 33 @16352 has 313 MA's), (Start: 36 @16295 has 2 MA's), (44, 16232), (46, 16193), (54, 16091), (55, 16076), (59, 16028), (62, 15989), (65, 15965), (69, 15920), (70, 15914), (75, 15857), (84, 15713), (89, 15653), (93, 15602),

Gene: LilPharaoh\_35 Start: 30629, Stop: 31519, Start Num: 33

Candidate Starts for LilPharaoh\_35:

(Start: 33 @30629 has 313 MA's), (Start: 36 @30686 has 2 MA's), (46, 30791), (53, 30884), (54, 30893), (55, 30908), (57, 30932), (62, 30995), (65, 31019), (66, 31025), (69, 31064), (70, 31070), (71, 31088), (74, 31112), (75, 31127), (76, 31163), (80, 31202), (81, 31217), (83, 31238), (84, 31271), (86, 31316), (93, 31388), (101, 31424), (112, 31502),

Gene: LindNT\_39 Start: 31008, Stop: 31940, Start Num: 33

Candidate Starts for LindNT\_39:

(Start: 33 @31008 has 313 MA's), (Start: 36 @31065 has 2 MA's), (41, 31110), (46, 31170), (49, 31215), (54, 31272), (55, 31287), (59, 31335), (60, 31347), (62, 31374), (65, 31398), (66, 31404), (69,

31443), (74, 31491), (75, 31506), (76, 31542), (80, 31581), (83, 31617), (84, 31650), (93, 31755), (102, 31797), (103, 31800), (107, 31839),

Gene: Longacauda\_19 Start: 16346, Stop: 15570, Start Num: 33

Candidate Starts for Longacauda\_19:

(Start: 33 @16346 has 313 MA's), (Start: 36 @16289 has 2 MA's), (46, 16187), (54, 16085), (55, 16070), (59, 16022), (62, 15983), (65, 15959), (69, 15914), (70, 15908), (75, 15851), (80, 15776), (84, 15707), (87, 15671), (89, 15647), (93, 15596),

Gene: Lopsy\_19 Start: 16201, Stop: 15425, Start Num: 33

Candidate Starts for Lopsy\_19:

(8, 16573), (9, 16564), (Start: 33 @16201 has 313 MA's), (Start: 36 @16144 has 2 MA's), (44, 16081), (46, 16042), (54, 15940), (55, 15925), (59, 15877), (62, 15838), (65, 15814), (69, 15769), (70, 15763), (75, 15706), (84, 15562), (89, 15502), (93, 15451),

Gene: LostAndPhound\_19 Start: 16354, Stop: 15578, Start Num: 33

Candidate Starts for LostAndPhound\_19:

(Start: 33 @16354 has 313 MA's), (Start: 36 @16297 has 2 MA's), (44, 16234), (46, 16195), (54, 16093), (55, 16078), (59, 16030), (62, 15991), (65, 15967), (69, 15922), (70, 15916), (75, 15859), (84, 15715), (89, 15655), (93, 15604),

Gene: LuckyMarjie\_19 Start: 16367, Stop: 15591, Start Num: 33

Candidate Starts for LuckyMarjie\_19:

(Start: 33 @16367 has 313 MA's), (Start: 36 @16310 has 2 MA's), (44, 16247), (46, 16208), (54, 16106), (55, 16091), (59, 16043), (62, 16004), (65, 15980), (69, 15935), (70, 15929), (75, 15872), (84, 15728), (89, 15668), (93, 15617),

Gene: Lulumae\_19 Start: 16345, Stop: 15569, Start Num: 33

Candidate Starts for Lulumae\_19:

(Start: 33 @16345 has 313 MA's), (Start: 36 @16288 has 2 MA's), (44, 16225), (46, 16186), (54, 16084), (55, 16069), (59, 16021), (62, 15982), (65, 15958), (69, 15913), (70, 15907), (75, 15850), (84, 15706), (89, 15646), (93, 15595),

Gene: Lulwa\_20 Start: 16632, Stop: 15856, Start Num: 33

Candidate Starts for Lulwa\_20:

(Start: 33 @16632 has 313 MA's), (Start: 36 @16575 has 2 MA's), (44, 16512), (46, 16473), (54, 16371), (55, 16356), (59, 16308), (62, 16269), (65, 16245), (69, 16200), (70, 16194), (75, 16137), (84, 15993), (89, 15933), (93, 15882),

Gene: Lumine\_19 Start: 16338, Stop: 15562, Start Num: 33

Candidate Starts for Lumine\_19:

(Start: 33 @16338 has 313 MA's), (Start: 36 @16281 has 2 MA's), (44, 16218), (46, 16179), (54, 16077), (55, 16062), (59, 16014), (62, 15975), (65, 15951), (69, 15906), (70, 15900), (75, 15843), (84, 15699), (89, 15639), (93, 15588),

Gene: MRabcd\_19 Start: 16346, Stop: 15570, Start Num: 33

Candidate Starts for MRabcd\_19:

(Start: 33 @16346 has 313 MA's), (Start: 36 @16289 has 2 MA's), (44, 16226), (46, 16187), (54, 16085), (55, 16070), (59, 16022), (62, 15983), (65, 15959), (69, 15914), (70, 15908), (75, 15851), (84, 15707), (89, 15647), (93, 15596),

Gene: MacnCheese\_42 Start: 31958, Stop: 32809, Start Num: 33

Candidate Starts for MacnCheese\_42:

(Start: 33 @31958 has 313 MA's), (Start: 36 @32015 has 2 MA's), (39, 32045), (46, 32120), (54, 32222), (55, 32237), (62, 32324), (63, 32339), (65, 32348), (66, 32354), (69, 32393), (72, 32432), (75, 32456), (76, 32492), (80, 32531), (83, 32567), (84, 32600), (97, 32726), (101, 32741),

Gene: Mag7\_19 Start: 16200, Stop: 15424, Start Num: 33

Candidate Starts for Mag7\_19:

(Start: 33 @16200 has 313 MA's), (Start: 36 @16143 has 2 MA's), (46, 16041), (54, 15939), (55, 15924), (59, 15876), (62, 15837), (65, 15813), (69, 15768), (70, 15762), (75, 15705), (80, 15630), (84, 15561), (87, 15525), (89, 15501), (93, 15450),

Gene: Magic8\_20 Start: 16638, Stop: 15862, Start Num: 33

Candidate Starts for Magic8\_20:

(Start: 33 @16638 has 313 MA's), (Start: 36 @16581 has 2 MA's), (46, 16479), (54, 16377), (55, 16362), (59, 16314), (62, 16275), (65, 16251), (69, 16206), (70, 16200), (75, 16143), (80, 16068), (84, 15999), (87, 15963), (89, 15939), (93, 15888),

Gene: Mana\_19 Start: 16348, Stop: 15572, Start Num: 33

Candidate Starts for Mana\_19:

(Start: 33 @16348 has 313 MA's), (Start: 36 @16291 has 2 MA's), (44, 16228), (46, 16189), (54, 16087), (55, 16072), (59, 16024), (62, 15985), (65, 15961), (69, 15916), (70, 15910), (75, 15853), (84, 15709), (89, 15649), (93, 15598),

Gene: Manad\_19 Start: 16198, Stop: 15422, Start Num: 33

Candidate Starts for Manad\_19:

(Start: 33 @16198 has 313 MA's), (Start: 36 @16141 has 2 MA's), (44, 16078), (46, 16039), (54, 15937), (55, 15922), (59, 15874), (62, 15835), (65, 15811), (69, 15766), (70, 15760), (75, 15703), (84, 15559), (89, 15499), (93, 15448),

Gene: Marcoliusprime\_42 Start: 33015, Stop: 33860, Start Num: 33

Candidate Starts for Marcoliusprime\_42:

(24, 32958), (26, 32970), (29, 32979), (Start: 33 @33015 has 313 MA's), (Start: 36 @33072 has 2 MA's), (38, 33084), (46, 33177), (50, 33225), (54, 33279), (55, 33294), (58, 33333), (59, 33342), (60, 33354), (65, 33405), (66, 33411), (72, 33489), (76, 33549), (79, 33582), (80, 33588), (84, 33657), (96, 33780),

Gene: MarkPhew\_43 Start: 31900, Stop: 32772, Start Num: 33

Candidate Starts for MarkPhew\_43:

(Start: 33 @31900 has 313 MA's), (39, 31987), (46, 32062), (49, 32107), (54, 32164), (55, 32179), (65, 32290), (66, 32296), (69, 32335), (70, 32341), (72, 32374), (75, 32398), (76, 32434), (80, 32473), (84, 32542), (90, 32614), (101, 32686),

Gene: Marshawn\_43 Start: 32188, Stop: 33066, Start Num: 33

Candidate Starts for Marshawn\_43:

(Start: 33 @32188 has 313 MA's), (Start: 36 @32245 has 2 MA's), (39, 32275), (46, 32350), (49, 32395), (54, 32452), (55, 32467), (62, 32554), (65, 32578), (66, 32584), (69, 32623), (70, 32629), (72, 32662), (75, 32686), (76, 32722), (80, 32761), (84, 32830), (90, 32914), (99, 32980), (101, 32986), (113, 33058),

Gene: Maru\_19 Start: 16346, Stop: 15570, Start Num: 33

Candidate Starts for Maru\_19:

(Start: 33 @16346 has 313 MA's), (Start: 36 @16289 has 2 MA's), (44, 16226), (46, 16187), (54, 16085), (55, 16070), (59, 16022), (62, 15983), (65, 15959), (69, 15914), (70, 15908), (75, 15851), (84, 15707), (89, 15647), (93, 15596),

Gene: Maskar\_19 Start: 16190, Stop: 15414, Start Num: 33

Candidate Starts for Maskar\_19:

(Start: 33 @16190 has 313 MA's), (Start: 36 @16133 has 2 MA's), (46, 16031), (54, 15929), (55, 15914), (59, 15866), (62, 15827), (65, 15803), (69, 15758), (70, 15752), (75, 15695), (80, 15620), (84, 15551), (89, 15491), (93, 15440),

Gene: Matalotodo\_19 Start: 16638, Stop: 15862, Start Num: 33

Candidate Starts for Matalotodo\_19:

(8, 17010), (9, 17001), (Start: 33 @16638 has 313 MA's), (Start: 36 @16581 has 2 MA's), (44, 16518), (46, 16479), (54, 16377), (55, 16362), (59, 16314), (62, 16275), (65, 16251), (69, 16206), (70, 16200), (75, 16143), (84, 15999), (89, 15939), (93, 15888),

Gene: Mcshane\_19 Start: 16342, Stop: 15566, Start Num: 33

Candidate Starts for Mcshane\_19:

(Start: 33 @16342 has 313 MA's), (Start: 36 @16285 has 2 MA's), (44, 16222), (46, 16183), (54, 16081), (55, 16066), (59, 16018), (62, 15979), (65, 15955), (69, 15910), (70, 15904), (75, 15847), (84, 15703), (89, 15643), (93, 15592),

Gene: Mdavu\_35 Start: 30617, Stop: 31348, Start Num: 33

Candidate Starts for Mdavu\_35:

(Start: 33 @30617 has 313 MA's), (Start: 36 @30674 has 2 MA's), (46, 30779), (53, 30872), (54, 30881), (55, 30896), (57, 30920), (62, 30983), (65, 31007), (66, 31013), (69, 31052), (70, 31058), (71, 31076), (74, 31100), (75, 31115), (76, 31151), (80, 31190), (81, 31205), (83, 31226), (84, 31259), (86, 31304),

Gene: MeaningOfLife\_40 Start: 31828, Stop: 32682, Start Num: 33

Candidate Starts for MeaningOfLife\_40:

(Start: 21 @31765 has 1 MA's), (30, 31795), (Start: 33 @31828 has 313 MA's), (Start: 36 @31885 has 2 MA's), (38, 31897), (46, 31990), (50, 32038), (54, 32092), (55, 32107), (59, 32155), (60, 32167), (65, 32218), (66, 32224), (69, 32263), (70, 32269), (74, 32311), (75, 32326), (76, 32362), (80, 32401), (84, 32470), (90, 32542),

Gene: Mecca\_19 Start: 16340, Stop: 15564, Start Num: 33

Candidate Starts for Mecca\_19:

(Start: 33 @16340 has 313 MA's), (Start: 36 @16283 has 2 MA's), (44, 16220), (46, 16181), (54, 16079), (55, 16064), (59, 16016), (62, 15977), (65, 15953), (69, 15908), (70, 15902), (75, 15845), (84, 15701), (89, 15641), (93, 15590),

Gene: Megamind20\_20 Start: 16361, Stop: 15585, Start Num: 33

Candidate Starts for Megamind20\_20:

(Start: 33 @16361 has 313 MA's), (Start: 36 @16304 has 2 MA's), (44, 16241), (46, 16202), (54, 16100), (55, 16085), (59, 16037), (62, 15998), (65, 15974), (69, 15929), (70, 15923), (75, 15866), (84, 15722), (89, 15662), (93, 15611),

Gene: Megatron\_20 Start: 16643, Stop: 15867, Start Num: 33

Candidate Starts for Megatron\_20:

(Start: 33 @16643 has 313 MA's), (Start: 36 @16586 has 2 MA's), (44, 16523), (46, 16484), (54, 16382), (55, 16367), (59, 16319), (62, 16280), (65, 16256), (69, 16211), (70, 16205), (75, 16148), (84, 16004), (89, 15944), (93, 15893),

Gene: Melc17\_20 Start: 16634, Stop: 15858, Start Num: 33

Candidate Starts for Melc17\_20:

(Start: 33 @16634 has 313 MA's), (Start: 36 @16577 has 2 MA's), (46, 16475), (54, 16373), (55, 16358), (59, 16310), (62, 16271), (65, 16247), (69, 16202), (70, 16196), (75, 16139), (80, 16064), (84, 15995), (87, 15959), (89, 15935), (93, 15884),

Gene: MelsMeow\_19 Start: 16200, Stop: 15424, Start Num: 33

Candidate Starts for MelsMeow\_19:

(Start: 33 @16200 has 313 MA's), (Start: 36 @16143 has 2 MA's), (46, 16041), (54, 15939), (55, 15924), (59, 15876), (62, 15837), (65, 15813), (69, 15768), (70, 15762), (75, 15705), (80, 15630), (84, 15561), (87, 15525), (89, 15501), (93, 15450),

Gene: Mesh1\_20 Start: 16652, Stop: 15876, Start Num: 33

Candidate Starts for Mesh1\_20:

(Start: 33 @16652 has 313 MA's), (Start: 36 @16595 has 2 MA's), (44, 16532), (46, 16493), (54, 16391), (55, 16376), (59, 16328), (62, 16289), (65, 16265), (69, 16220), (70, 16214), (75, 16157), (84, 16013), (89, 15953), (93, 15902),

Gene: MichaelPhcott\_19 Start: 16200, Stop: 15424, Start Num: 33

Candidate Starts for MichaelPhcott\_19:

(Start: 33 @16200 has 313 MA's), (Start: 36 @16143 has 2 MA's), (46, 16041), (54, 15939), (55, 15924), (59, 15876), (62, 15837), (65, 15813), (69, 15768), (70, 15762), (75, 15705), (80, 15630), (84, 15561), (87, 15525), (89, 15501), (93, 15450),

Gene: Mikota\_20 Start: 16628, Stop: 15852, Start Num: 33

Candidate Starts for Mikota\_20:

(Start: 33 @16628 has 313 MA's), (Start: 36 @16571 has 2 MA's), (44, 16508), (46, 16469), (54, 16367), (55, 16352), (59, 16304), (62, 16265), (65, 16241), (69, 16196), (70, 16190), (75, 16133), (84, 15989), (89, 15929), (93, 15878),

Gene: Milly\_42 Start: 32988, Stop: 33833, Start Num: 33

Candidate Starts for Milly\_42:

(24, 32931), (26, 32943), (29, 32952), (Start: 33 @32988 has 313 MA's), (Start: 36 @33045 has 2 MA's), (38, 33057), (46, 33150), (50, 33198), (54, 33252), (55, 33267), (58, 33306), (59, 33315), (60, 33327), (65, 33378), (66, 33384), (72, 33462), (76, 33522), (79, 33555), (80, 33561), (84, 33630), (96, 33753),

Gene: MiniBoss\_20 Start: 16630, Stop: 15854, Start Num: 33

Candidate Starts for MiniBoss\_20:

(Start: 33 @16630 has 313 MA's), (Start: 36 @16573 has 2 MA's), (44, 16510), (46, 16471), (54, 16369), (55, 16354), (59, 16306), (62, 16267), (65, 16243), (69, 16198), (70, 16192), (75, 16135), (84, 15991), (89, 15931), (93, 15880),

Gene: MitKao\_20 Start: 16349, Stop: 15573, Start Num: 33

Candidate Starts for MitKao\_20:

(Start: 33 @16349 has 313 MA's), (Start: 36 @16292 has 2 MA's), (44, 16229), (46, 16190), (54, 16088), (55, 16073), (59, 16025), (62, 15986), (65, 15962), (69, 15917), (70, 15911), (75, 15854), (84, 15710), (89, 15650), (93, 15599),

Gene: Morgushi\_20 Start: 16354, Stop: 15578, Start Num: 33

Candidate Starts for Morgushi\_20:

(Start: 33 @16354 has 313 MA's), (Start: 36 @16297 has 2 MA's), (44, 16234), (46, 16195), (54, 16093), (55, 16078), (59, 16030), (62, 15991), (65, 15967), (69, 15922), (70, 15916), (75, 15859), (84, 15715), (89, 15655), (93, 15604),

Gene: Morty\_20 Start: 16652, Stop: 15876, Start Num: 33

Candidate Starts for Morty\_20:

(Start: 33 @16652 has 313 MA's), (Start: 36 @16595 has 2 MA's), (44, 16532), (46, 16493), (54, 16391), (55, 16376), (59, 16328), (62, 16289), (65, 16265), (69, 16220), (70, 16214), (75, 16157), (84, 16013), (89, 15953), (93, 15902),

Gene: Mosaic\_19 Start: 16356, Stop: 15580, Start Num: 33

Candidate Starts for Mosaic\_19:

(8, 16725), (9, 16716), (Start: 33 @16356 has 313 MA's), (46, 16197), (54, 16095), (55, 16080), (59, 16032), (62, 15993), (65, 15969), (69, 15924), (70, 15918), (75, 15861), (84, 15717), (89, 15657), (93, 15606),

Gene: MrPhizzler\_19 Start: 16353, Stop: 15577, Start Num: 33

Candidate Starts for MrPhizzler\_19:

(Start: 33 @16353 has 313 MA's), (Start: 36 @16296 has 2 MA's), (46, 16194), (54, 16092), (55, 16077), (59, 16029), (62, 15990), (65, 15966), (69, 15921), (70, 15915), (75, 15858), (80, 15783), (84, 15714), (87, 15678), (89, 15654), (93, 15603),

Gene: Mufasa\_43 Start: 32913, Stop: 33758, Start Num: 33

Candidate Starts for Mufasa\_43:

(18, 32838), (26, 32868), (29, 32877), (Start: 33 @32913 has 313 MA's), (Start: 36 @32970 has 2 MA's), (46, 33075), (50, 33123), (54, 33177), (55, 33192), (58, 33231), (59, 33240), (60, 33252), (65, 33303), (66, 33309), (72, 33387), (76, 33447), (79, 33480), (80, 33486), (84, 33555), (96, 33678),

Gene: Mulan\_19 Start: 16349, Stop: 15573, Start Num: 33

Candidate Starts for Mulan\_19:

(Start: 33 @16349 has 313 MA's), (Start: 36 @16292 has 2 MA's), (44, 16229), (46, 16190), (54, 16088), (55, 16073), (59, 16025), (62, 15986), (65, 15962), (69, 15917), (70, 15911), (75, 15854), (84, 15710), (89, 15650), (93, 15599),

Gene: Murdoc\_20 Start: 16642, Stop: 15866, Start Num: 33

Candidate Starts for Murdoc\_20:

(Start: 33 @16642 has 313 MA's), (Start: 36 @16585 has 2 MA's), (44, 16522), (46, 16483), (54, 16381), (55, 16366), (59, 16318), (62, 16279), (65, 16255), (69, 16210), (70, 16204), (75, 16147), (84, 16003), (89, 15943), (93, 15892),

Gene: Murucutumbu\_40 Start: 31891, Stop: 32745, Start Num: 33

Candidate Starts for Murucutumbu\_40:

(20, 31825), (Start: 21 @31828 has 1 MA's), (25, 31834), (30, 31858), (Start: 33 @31891 has 313 MA's), (Start: 36 @31948 has 2 MA's), (38, 31960), (46, 32053), (50, 32101), (54, 32155), (55, 32170), (59, 32218), (60, 32230), (65, 32281), (66, 32287), (67, 32290), (69, 32326), (70, 32332), (73, 32371), (74, 32374), (75, 32389), (76, 32425), (80, 32464), (84, 32533),

Gene: Mutante\_19 Start: 16352, Stop: 15576, Start Num: 33

Candidate Starts for Mutante\_19:

(Start: 33 @16352 has 313 MA's), (Start: 36 @16295 has 2 MA's), (44, 16232), (46, 16193), (54, 16091), (55, 16076), (59, 16028), (62, 15989), (65, 15965), (69, 15920), (70, 15914), (75, 15857), (84, 15713), (89, 15653), (93, 15602),

Gene: Mynx\_40 Start: 31214, Stop: 32071, Start Num: 33

Candidate Starts for Mynx\_40:

(10, 31010), (19, 31148), (Start: 21 @31151 has 1 MA's), (30, 31181), (Start: 33 @31214 has 313 MA's), (Start: 36 @31271 has 2 MA's), (38, 31283), (46, 31376), (50, 31424), (54, 31478), (55, 31493),



(59, 31541), (60, 31553), (65, 31604), (66, 31610), (69, 31649), (70, 31655), (74, 31697), (75, 31712), (76, 31748), (80, 31787), (84, 31856), (90, 31928),

Gene: Nacho\_0020 Start: 16641, Stop: 15865, Start Num: 33

Candidate Starts for Nacho\_0020:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (44, 16521), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (84, 16002), (89, 15942), (93, 15891),

Gene: Nergal\_36 Start: 29438, Stop: 30382, Start Num: 21

Candidate Starts for Nergal\_36:

(Start: 21 @29438 has 1 MA's), (26, 29456), (29, 29465), (Start: 33 @29501 has 313 MA's), (34, 29510), (Start: 36 @29558 has 2 MA's), (40, 29594), (46, 29663), (50, 29711), (54, 29765), (55, 29780), (58, 29819), (59, 29828), (65, 29891), (66, 29897), (69, 29936), (70, 29942), (72, 29975), (76, 30035), (80, 30074), (84, 30143), (91, 30227), (93, 30248), (109, 30347),

Gene: Newman\_20 Start: 16641, Stop: 15865, Start Num: 33

Candidate Starts for Newman\_20:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (44, 16521), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (84, 16002), (89, 15942), (93, 15891),

Gene: Nibb\_42 Start: 31619, Stop: 32491, Start Num: 33

Candidate Starts for Nibb\_42:

(Start: 33 @31619 has 313 MA's), (39, 31706), (43, 31730), (46, 31781), (49, 31826), (54, 31883), (55, 31898), (65, 32009), (66, 32015), (69, 32054), (70, 32060), (72, 32093), (75, 32117), (76, 32153), (80, 32192), (84, 32261), (101, 32405),

Gene: Nicole21\_20 Start: 16633, Stop: 15857, Start Num: 33

Candidate Starts for Nicole21\_20:

(Start: 33 @16633 has 313 MA's), (Start: 36 @16576 has 2 MA's), (44, 16513), (46, 16474), (54, 16372), (55, 16357), (59, 16309), (62, 16270), (65, 16246), (69, 16201), (70, 16195), (75, 16138), (84, 15994), (89, 15934), (93, 15883),

Gene: Nikao\_35 Start: 30629, Stop: 31555, Start Num: 33

Candidate Starts for Nikao\_35:

(Start: 33 @30629 has 313 MA's), (Start: 36 @30686 has 2 MA's), (46, 30791), (53, 30884), (54, 30893), (55, 30908), (57, 30932), (62, 30995), (65, 31019), (66, 31025), (69, 31064), (70, 31070), (71, 31088), (74, 31112), (75, 31127), (76, 31163), (80, 31202), (81, 31217), (83, 31238), (84, 31271), (86, 31316), (111, 31505), (118, 31547),

Gene: Niklas\_41 Start: 31436, Stop: 32326, Start Num: 33

Candidate Starts for Niklas\_41:

(Start: 33 @31436 has 313 MA's), (Start: 36 @31493 has 2 MA's), (39, 31523), (46, 31598), (49, 31643), (54, 31700), (55, 31715), (62, 31802), (65, 31826), (66, 31832), (70, 31877), (72, 31910), (74, 31919), (75, 31934), (76, 31970), (80, 32009), (84, 32078), (86, 32123), (90, 32162), (94, 32204), (95, 32210), (101, 32231), (113, 32318),

Gene: Numberten\_20 Start: 16644, Stop: 15868, Start Num: 33

Candidate Starts for Numberten\_20:

(8, 17016), (9, 17007), (Start: 33 @16644 has 313 MA's), (Start: 36 @16587 has 2 MA's), (44, 16524), (46, 16485), (54, 16383), (55, 16368), (59, 16320), (62, 16281), (65, 16257), (69, 16212), (70, 16206), (75, 16149), (84, 16005), (89, 15945), (93, 15894),

Gene: Nutello\_35 Start: 30629, Stop: 31519, Start Num: 33

Candidate Starts for Nutello\_35:

(Start: 33 @30629 has 313 MA's), (Start: 36 @30686 has 2 MA's), (46, 30791), (53, 30884), (54, 30893), (55, 30908), (57, 30932), (62, 30995), (65, 31019), (66, 31025), (69, 31064), (70, 31070), (71, 31088), (74, 31112), (75, 31127), (76, 31163), (80, 31202), (81, 31217), (83, 31238), (84, 31271), (86, 31316), (93, 31388), (101, 31424), (112, 31502),

Gene: Nyala\_19 Start: 16344, Stop: 15568, Start Num: 33

Candidate Starts for Nyala\_19:

(Start: 33 @16344 has 313 MA's), (Start: 36 @16287 has 2 MA's), (44, 16224), (46, 16185), (54, 16083), (55, 16068), (59, 16020), (62, 15981), (65, 15957), (69, 15912), (70, 15906), (75, 15849), (84, 15705), (89, 15645), (93, 15594),

Gene: OSmaximus\_20 Start: 16652, Stop: 15876, Start Num: 33

Candidate Starts for OSmaximus\_20:

(Start: 33 @16652 has 313 MA's), (Start: 36 @16595 has 2 MA's), (46, 16493), (54, 16391), (55, 16376), (59, 16328), (62, 16289), (65, 16265), (69, 16220), (70, 16214), (75, 16157), (84, 16013), (89, 15953), (93, 15902),

Gene: Olak\_19 Start: 16341, Stop: 15565, Start Num: 33

Candidate Starts for Olak\_19:

(Start: 33 @16341 has 313 MA's), (Start: 36 @16284 has 2 MA's), (44, 16221), (46, 16182), (54, 16080), (55, 16065), (59, 16017), (62, 15978), (65, 15954), (69, 15909), (70, 15903), (75, 15846), (84, 15702), (89, 15642), (93, 15591),

Gene: Oline\_19 Start: 16200, Stop: 15424, Start Num: 33

Candidate Starts for Oline\_19:

(Start: 33 @16200 has 313 MA's), (Start: 36 @16143 has 2 MA's), (46, 16041), (54, 15939), (55, 15924), (59, 15876), (62, 15837), (65, 15813), (69, 15768), (70, 15762), (75, 15705), (80, 15630), (84, 15561), (87, 15525), (89, 15501), (93, 15450),

Gene: Olive\_20 Start: 16634, Stop: 15858, Start Num: 33

Candidate Starts for Olive\_20:

(Start: 33 @16634 has 313 MA's), (Start: 36 @16577 has 2 MA's), (44, 16514), (46, 16475), (54, 16373), (55, 16358), (59, 16310), (62, 16271), (65, 16247), (69, 16202), (70, 16196), (75, 16139), (84, 15995), (89, 15935), (93, 15884),

Gene: OliverWalter\_20 Start: 16650, Stop: 15874, Start Num: 33

Candidate Starts for OliverWalter\_20:

(Start: 33 @16650 has 313 MA's), (Start: 36 @16593 has 2 MA's), (44, 16530), (46, 16491), (54, 16389), (55, 16374), (59, 16326), (62, 16287), (65, 16263), (69, 16218), (70, 16212), (75, 16155), (84, 16011), (89, 15951), (93, 15900),

Gene: Omniscient\_20 Start: 16652, Stop: 15876, Start Num: 33

Candidate Starts for Omniscient\_20:

(Start: 33 @16652 has 313 MA's), (Start: 36 @16595 has 2 MA's), (44, 16532), (46, 16493), (54, 16391), (55, 16376), (59, 16328), (62, 16289), (65, 16265), (69, 16220), (70, 16214), (75, 16157), (84, 16013), (89, 15953), (93, 15902),

Gene: Oosterbaan\_20 Start: 16644, Stop: 15868, Start Num: 33

Candidate Starts for Oosterbaan\_20:

(Start: 33 @16644 has 313 MA's), (Start: 36 @16587 has 2 MA's), (44, 16524), (46, 16485), (54, 16383), (55, 16368), (59, 16320), (62, 16281), (65, 16257), (69, 16212), (70, 16206), (75, 16149), (84, 16005), (89, 15945), (93, 15894),

Gene: Orfeu\_19 Start: 16342, Stop: 15566, Start Num: 33

Candidate Starts for Orfeu\_19:

(Start: 33 @16342 has 313 MA's), (Start: 36 @16285 has 2 MA's), (44, 16222), (46, 16183), (54, 16081), (55, 16066), (59, 16018), (62, 15979), (65, 15955), (69, 15910), (70, 15904), (75, 15847), (84, 15703), (89, 15643), (93, 15592),

Gene: Orion\_20 Start: 16642, Stop: 15866, Start Num: 33

Candidate Starts for Orion\_20:

(Start: 33 @16642 has 313 MA's), (Start: 36 @16585 has 2 MA's), (44, 16522), (46, 16483), (54, 16381), (55, 16366), (59, 16318), (62, 16279), (65, 16255), (69, 16210), (70, 16204), (75, 16147), (84, 16003), (89, 15943), (93, 15892),

Gene: Orwigg\_20 Start: 16334, Stop: 15558, Start Num: 33

Candidate Starts for Orwigg\_20:

(8, 16709), (9, 16700), (Start: 33 @16334 has 313 MA's), (Start: 36 @16277 has 2 MA's), (44, 16214), (46, 16175), (54, 16073), (55, 16058), (59, 16010), (62, 15971), (65, 15947), (69, 15902), (70, 15896), (75, 15839), (84, 15695), (89, 15635), (93, 15584),

Gene: Oscar\_44 Start: 32293, Stop: 33165, Start Num: 33

Candidate Starts for Oscar\_44:

(Start: 33 @32293 has 313 MA's), (39, 32380), (46, 32455), (54, 32557), (55, 32572), (62, 32659), (65, 32683), (66, 32689), (69, 32728), (70, 32734), (72, 32767), (73, 32773), (74, 32776), (75, 32791), (76, 32827), (80, 32866), (84, 32935), (101, 33079),

Gene: PG1\_20 Start: 16654, Stop: 15878, Start Num: 33

Candidate Starts for PG1\_20:

(Start: 33 @16654 has 313 MA's), (Start: 36 @16597 has 2 MA's), (44, 16534), (46, 16495), (54, 16393), (55, 16378), (59, 16330), (62, 16291), (65, 16267), (69, 16222), (70, 16216), (75, 16159), (84, 16015), (89, 15955), (93, 15904),

Gene: Pacifista\_21 Start: 16346, Stop: 15570, Start Num: 33

Candidate Starts for Pacifista\_21:

(Start: 33 @16346 has 313 MA's), (Start: 36 @16289 has 2 MA's), (44, 16226), (46, 16187), (54, 16085), (55, 16070), (59, 16022), (62, 15983), (65, 15959), (69, 15914), (70, 15908), (75, 15851), (84, 15707), (89, 15647), (93, 15596),

Gene: Paola\_85 Start: 55951, Stop: 56835, Start Num: 33

Candidate Starts for Paola\_85:

(Start: 21 @55888 has 1 MA's), (22, 55891), (27, 55909), (29, 55915), (30, 55918), (32, 55936), (Start: 33 @55951 has 313 MA's), (Start: 36 @56008 has 2 MA's), (38, 56020), (46, 56113), (49, 56158), (53, 56206), (54, 56215), (55, 56230), (60, 56290), (62, 56317), (63, 56332), (65, 56341), (66, 56347), (69, 56386), (70, 56392), (72, 56425), (75, 56449), (76, 56485), (80, 56524), (82, 56554), (83, 56560), (84, 56593), (90, 56665), (104, 56740), (106, 56758),

Gene: Peanam\_41 Start: 31431, Stop: 32309, Start Num: 33

Candidate Starts for Peanam\_41:

(Start: 33 @31431 has 313 MA's), (Start: 36 @31488 has 2 MA's), (39, 31518), (46, 31593), (49, 31638), (54, 31695), (55, 31710), (57, 31734), (62, 31797), (65, 31821), (66, 31827), (70, 31872), (72, 31905), (74, 31914), (75, 31929), (76, 31965), (80, 32004), (83, 32040), (84, 32073), (86, 32118), (90,

32157), (94, 32199), (95, 32205), (101, 32226), (113, 32301),

Gene: Phamished\_20 Start: 16649, Stop: 15873, Start Num: 33

Candidate Starts for Phamished\_20:

(Start: 33 @16649 has 313 MA's), (Start: 36 @16592 has 2 MA's), (44, 16529), (46, 16490), (54, 16388), (55, 16373), (59, 16325), (62, 16286), (65, 16262), (69, 16217), (70, 16211), (75, 16154), (84, 16010), (89, 15950), (93, 15899),

Gene: Phareon\_20 Start: 16350, Stop: 15574, Start Num: 33

Candidate Starts for Phareon\_20:

(Start: 33 @16350 has 313 MA's), (Start: 36 @16293 has 2 MA's), (44, 16230), (46, 16191), (54, 16089), (55, 16074), (59, 16026), (62, 15987), (65, 15963), (69, 15918), (70, 15912), (75, 15855), (84, 15711), (89, 15651), (93, 15600),

Gene: PhatCats2014\_20 Start: 16659, Stop: 15883, Start Num: 33

Candidate Starts for PhatCats2014\_20:

(Start: 33 @16659 has 313 MA's), (Start: 36 @16602 has 2 MA's), (44, 16539), (46, 16500), (54, 16398), (55, 16383), (59, 16335), (62, 16296), (65, 16272), (69, 16227), (70, 16221), (75, 16164), (84, 16020), (89, 15960), (93, 15909),

Gene: PhatLouie\_20 Start: 16641, Stop: 15865, Start Num: 33

Candidate Starts for PhatLouie\_20:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (80, 16071), (84, 16002), (87, 15966), (89, 15942), (93, 15891),

Gene: PhenghisKhan\_19 Start: 16200, Stop: 15424, Start Num: 33

Candidate Starts for PhenghisKhan\_19:

(Start: 33 @16200 has 313 MA's), (Start: 36 @16143 has 2 MA's), (46, 16041), (54, 15939), (55, 15924), (59, 15876), (62, 15837), (65, 15813), (69, 15768), (70, 15762), (75, 15705), (80, 15630), (84, 15561), (87, 15525), (89, 15501), (93, 15450),

Gene: Pherdinand\_20 Start: 16647, Stop: 15871, Start Num: 33

Candidate Starts for Pherdinand\_20:

(Start: 33 @16647 has 313 MA's), (Start: 36 @16590 has 2 MA's), (44, 16527), (46, 16488), (54, 16386), (55, 16371), (59, 16323), (62, 16284), (65, 16260), (69, 16215), (70, 16209), (75, 16152), (84, 16008), (89, 15948), (93, 15897),

Gene: Phergie\_19 Start: 16194, Stop: 15418, Start Num: 33

Candidate Starts for Phergie\_19:

(Start: 33 @16194 has 313 MA's), (Start: 36 @16137 has 2 MA's), (46, 16035), (54, 15933), (55, 15918), (59, 15870), (62, 15831), (65, 15807), (69, 15762), (70, 15756), (75, 15699), (80, 15624), (84, 15555), (87, 15519), (89, 15495), (93, 15444),

Gene: Phipps\_20 Start: 16620, Stop: 15844, Start Num: 33

Candidate Starts for Phipps\_20:

(Start: 33 @16620 has 313 MA's), (Start: 36 @16563 has 2 MA's), (44, 16500), (46, 16461), (54, 16359), (55, 16344), (59, 16296), (62, 16257), (65, 16233), (69, 16188), (70, 16182), (75, 16125), (84, 15981), (89, 15921), (93, 15870),

Gene: Phleuron\_19 Start: 16200, Stop: 15424, Start Num: 33

Candidate Starts for Phleuron\_19:

(Start: 33 @16200 has 313 MA's), (Start: 36 @16143 has 2 MA's), (46, 16041), (54, 15939), (55, 15924), (59, 15876), (62, 15837), (65, 15813), (69, 15768), (70, 15762), (75, 15705), (80, 15630), (84, 15561), (87, 15525), (89, 15501), (93, 15450),

Gene: PhrankReynolds\_19 Start: 16200, Stop: 15424, Start Num: 33

Candidate Starts for PhrankReynolds\_19:

(Start: 33 @16200 has 313 MA's), (Start: 36 @16143 has 2 MA's), (46, 16041), (54, 15939), (55, 15924), (59, 15876), (62, 15837), (65, 15813), (69, 15768), (70, 15762), (75, 15705), (80, 15630), (84, 15561), (87, 15525), (89, 15501), (93, 15450),

Gene: Phrappuccino\_8 Start: 7132, Stop: 8028, Start Num: 28

Candidate Starts for Phrappuccino\_8:

(Start: 28 @7132 has 2 MA's), (Start: 33 @7168 has 313 MA's), (35, 7198), (38, 7237), (46, 7327), (53, 7420), (54, 7429), (55, 7444), (65, 7555), (69, 7600), (70, 7606), (71, 7624), (75, 7663), (80, 7738), (84, 7807), (90, 7879), (93, 7912), (102, 7954), (105, 7978), (110, 8020),

Gene: PhrodoBaggins\_19 Start: 16637, Stop: 15861, Start Num: 33

Candidate Starts for PhrodoBaggins\_19:

(Start: 33 @16637 has 313 MA's), (Start: 36 @16580 has 2 MA's), (44, 16517), (46, 16478), (54, 16376), (55, 16361), (59, 16313), (62, 16274), (65, 16250), (69, 16205), (70, 16199), (75, 16142), (84, 15998), (89, 15938), (93, 15887),

Gene: Phunky\_20 Start: 16642, Stop: 15866, Start Num: 33

Candidate Starts for Phunky\_20:

(8, 17014), (9, 17005), (Start: 33 @16642 has 313 MA's), (Start: 36 @16585 has 2 MA's), (44, 16522), (46, 16483), (54, 16381), (55, 16366), (59, 16318), (62, 16279), (65, 16255), (69, 16210), (70, 16204), (75, 16147), (84, 16003), (89, 15943), (93, 15892),

Gene: Piglet\_0019 Start: 16644, Stop: 15868, Start Num: 33

Candidate Starts for Piglet\_0019:

(Start: 33 @16644 has 313 MA's), (Start: 36 @16587 has 2 MA's), (44, 16524), (46, 16485), (54, 16383), (55, 16368), (59, 16320), (62, 16281), (65, 16257), (69, 16212), (70, 16206), (75, 16149), (84, 16005), (89, 15945), (93, 15894),

Gene: PinheadLarry\_20 Start: 16361, Stop: 15585, Start Num: 33

Candidate Starts for PinheadLarry\_20:

(Start: 33 @16361 has 313 MA's), (Start: 36 @16304 has 2 MA's), (44, 16241), (46, 16202), (54, 16100), (55, 16085), (59, 16037), (62, 15998), (65, 15974), (69, 15929), (70, 15923), (75, 15866), (84, 15722), (89, 15662), (93, 15611),

Gene: Pinkman\_19 Start: 16200, Stop: 15424, Start Num: 33

Candidate Starts for Pinkman\_19:

(Start: 33 @16200 has 313 MA's), (Start: 36 @16143 has 2 MA's), (46, 16041), (54, 15939), (55, 15924), (59, 15876), (62, 15837), (65, 15813), (69, 15768), (70, 15762), (75, 15705), (80, 15630), (84, 15561), (87, 15525), (89, 15501), (93, 15450),

Gene: Pipsqueak\_20 Start: 16649, Stop: 15873, Start Num: 33

Candidate Starts for Pipsqueak\_20:

(Start: 33 @16649 has 313 MA's), (Start: 36 @16592 has 2 MA's), (46, 16490), (54, 16388), (55, 16373), (59, 16325), (62, 16286), (65, 16262), (69, 16217), (70, 16211), (75, 16154), (84, 16010), (89, 15950), (93, 15899),

Gene: Placalicious\_19 Start: 16343, Stop: 15567, Start Num: 33

Candidate Starts for Placalicious\_19:

(Start: 33 @16343 has 313 MA's), (Start: 36 @16286 has 2 MA's), (44, 16223), (46, 16184), (54, 16082), (55, 16067), (59, 16019), (62, 15980), (65, 15956), (69, 15911), (70, 15905), (75, 15848), (84, 15704), (89, 15644), (93, 15593),

Gene: Plmatters\_20 Start: 16643, Stop: 15867, Start Num: 33

Candidate Starts for Plmatters\_20:

(Start: 33 @16643 has 313 MA's), (Start: 36 @16586 has 2 MA's), (44, 16523), (46, 16484), (54, 16382), (55, 16367), (59, 16319), (62, 16280), (65, 16256), (69, 16211), (70, 16205), (75, 16148), (84, 16004), (89, 15944), (93, 15893),

Gene: Podrick\_20 Start: 16632, Stop: 15856, Start Num: 33

Candidate Starts for Podrick\_20:

(Start: 33 @16632 has 313 MA's), (Start: 36 @16575 has 2 MA's), (44, 16512), (46, 16473), (54, 16371), (55, 16356), (59, 16308), (62, 16269), (65, 16245), (69, 16200), (70, 16194), (75, 16137), (84, 15993), (89, 15933), (93, 15882),

Gene: Pops\_20 Start: 16646, Stop: 15870, Start Num: 33

Candidate Starts for Pops\_20:

(Start: 33 @16646 has 313 MA's), (Start: 36 @16589 has 2 MA's), (46, 16487), (54, 16385), (55, 16370), (59, 16322), (62, 16283), (65, 16259), (69, 16214), (70, 16208), (71, 16190), (75, 16151), (84, 16007), (89, 15947), (93, 15896),

Gene: Potter\_19 Start: 16357, Stop: 15581, Start Num: 33

Candidate Starts for Potter\_19:

(Start: 33 @16357 has 313 MA's), (Start: 36 @16300 has 2 MA's), (44, 16237), (46, 16198), (54, 16096), (55, 16081), (59, 16033), (62, 15994), (65, 15970), (69, 15925), (70, 15919), (75, 15862), (84, 15718), (89, 15658), (93, 15607),

Gene: Prickles\_20 Start: 16636, Stop: 15860, Start Num: 33

Candidate Starts for Prickles\_20:

(Start: 33 @16636 has 313 MA's), (Start: 36 @16579 has 2 MA's), (44, 16516), (46, 16477), (54, 16375), (55, 16360), (59, 16312), (62, 16273), (65, 16249), (69, 16204), (70, 16198), (75, 16141), (84, 15997), (89, 15937), (93, 15886),

Gene: Prithvi\_39 Start: 31008, Stop: 31940, Start Num: 33

Candidate Starts for Prithvi\_39:

(Start: 33 @31008 has 313 MA's), (Start: 36 @31065 has 2 MA's), (41, 31110), (46, 31170), (49, 31215), (54, 31272), (55, 31287), (59, 31335), (60, 31347), (62, 31374), (65, 31398), (66, 31404), (69, 31443), (74, 31491), (75, 31506), (76, 31542), (80, 31581), (83, 31617), (84, 31650), (93, 31755), (102, 31797), (103, 31800), (107, 31839),

Gene: ProfessorX\_20 Start: 16634, Stop: 15858, Start Num: 33

Candidate Starts for ProfessorX\_20:

(Start: 33 @16634 has 313 MA's), (Start: 36 @16577 has 2 MA's), (44, 16514), (46, 16475), (54, 16373), (55, 16358), (59, 16310), (62, 16271), (65, 16247), (69, 16202), (70, 16196), (75, 16139), (84, 15995), (89, 15935), (93, 15884),

Gene: Psycho\_85 Start: 55141, Stop: 56025, Start Num: 33

Candidate Starts for Psycho\_85:

(Start: 33 @55141 has 313 MA's), (Start: 36 @55198 has 2 MA's), (37, 55204), (38, 55210), (40, 55234), (46, 55303), (49, 55348), (53, 55396), (54, 55405), (55, 55420), (60, 55480), (62, 55507), (63, 55522), (65, 55531), (66, 55537), (69, 55576), (70, 55582), (72, 55615), (75, 55639), (76, 55675), (80,

55714), (83, 55750), (84, 55783), (90, 55855), (91, 55867), (104, 55930), (106, 55948),

Gene: Puhltonio\_20 Start: 16650, Stop: 15874, Start Num: 33

Candidate Starts for Puhltonio\_20:

(Start: 33 @16650 has 313 MA's), (Start: 36 @16593 has 2 MA's), (44, 16530), (46, 16491), (54, 16389), (55, 16374), (59, 16326), (62, 16287), (65, 16263), (69, 16218), (70, 16212), (75, 16155), (84, 16011), (89, 15951), (93, 15900),

Gene: QueenBeane\_20 Start: 16642, Stop: 15866, Start Num: 33

Candidate Starts for QueenBeane\_20:

(Start: 33 @16642 has 313 MA's), (Start: 36 @16585 has 2 MA's), (44, 16522), (46, 16483), (54, 16381), (55, 16366), (59, 16318), (62, 16279), (65, 16255), (69, 16210), (70, 16204), (75, 16147), (84, 16003), (89, 15943), (93, 15892),

Gene: Quisquilliae\_20 Start: 16656, Stop: 15880, Start Num: 33

Candidate Starts for Quisquilliae\_20:

(Start: 33 @16656 has 313 MA's), (Start: 36 @16599 has 2 MA's), (44, 16536), (46, 16497), (54, 16395), (55, 16380), (59, 16332), (62, 16293), (65, 16269), (69, 16224), (70, 16218), (75, 16161), (84, 16017), (89, 15957), (93, 15906),

Gene: RedMaple\_19 Start: 16653, Stop: 15877, Start Num: 33

Candidate Starts for RedMaple\_19:

(Start: 33 @16653 has 313 MA's), (Start: 36 @16596 has 2 MA's), (44, 16533), (46, 16494), (54, 16392), (55, 16377), (59, 16329), (62, 16290), (65, 16266), (69, 16221), (70, 16215), (75, 16158), (84, 16014), (89, 15954), (93, 15903),

Gene: Ricotta\_20 Start: 16365, Stop: 15589, Start Num: 33

Candidate Starts for Ricotta\_20:

(Start: 33 @16365 has 313 MA's), (Start: 36 @16308 has 2 MA's), (44, 16245), (46, 16206), (54, 16104), (55, 16089), (59, 16041), (62, 16002), (65, 15978), (69, 15933), (70, 15927), (75, 15870), (84, 15726), (89, 15666), (93, 15615),

Gene: Riggan\_20 Start: 16623, Stop: 15847, Start Num: 33

Candidate Starts for Riggan\_20:

(8, 16995), (9, 16986), (Start: 33 @16623 has 313 MA's), (Start: 36 @16566 has 2 MA's), (44, 16503), (46, 16464), (54, 16362), (55, 16347), (59, 16299), (62, 16260), (65, 16236), (69, 16191), (70, 16185), (75, 16128), (84, 15984), (89, 15924), (93, 15873),

Gene: Rimu\_19 Start: 16353, Stop: 15577, Start Num: 33

Candidate Starts for Rimu\_19:

(Start: 33 @16353 has 313 MA's), (Start: 36 @16296 has 2 MA's), (46, 16194), (54, 16092), (55, 16077), (59, 16029), (62, 15990), (65, 15966), (69, 15921), (70, 15915), (75, 15858), (80, 15783), (84, 15714), (87, 15678), (89, 15654), (93, 15603),

Gene: Robyn\_19 Start: 16215, Stop: 15439, Start Num: 33

Candidate Starts for Robyn\_19:

(Start: 33 @16215 has 313 MA's), (Start: 36 @16158 has 2 MA's), (44, 16095), (46, 16056), (54, 15954), (55, 15939), (59, 15891), (62, 15852), (65, 15828), (69, 15783), (70, 15777), (75, 15720), (84, 15576), (89, 15516), (93, 15465),

Gene: Roliet\_20 Start: 16641, Stop: 15865, Start Num: 33

Candidate Starts for Roliet\_20:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (44, 16521), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (84, 16002), (89, 15942), (93, 15891),

Gene: Roscoe\_21 Start: 16826, Stop: 16107, Start Num: 36

Candidate Starts for Roscoe\_21:

(Start: 36 @16826 has 2 MA's), (44, 16763), (46, 16724), (54, 16622), (55, 16607), (59, 16559), (62, 16520), (65, 16496), (69, 16451), (70, 16445), (75, 16388), (84, 16244), (89, 16184), (93, 16133),

Gene: Roy17\_20 Start: 16345, Stop: 15569, Start Num: 33

Candidate Starts for Roy17\_20:

(Start: 33 @16345 has 313 MA's), (Start: 36 @16288 has 2 MA's), (44, 16225), (46, 16186), (54, 16084), (55, 16069), (59, 16021), (62, 15982), (65, 15958), (69, 15913), (70, 15907), (75, 15850), (84, 15706), (89, 15646), (93, 15595),

Gene: SDcharge11\_20 Start: 16623, Stop: 15847, Start Num: 33

Candidate Starts for SDcharge11\_20:

(Start: 33 @16623 has 313 MA's), (Start: 36 @16566 has 2 MA's), (44, 16503), (46, 16464), (54, 16362), (55, 16347), (59, 16299), (62, 16260), (65, 16236), (69, 16191), (70, 16185), (75, 16128), (84, 15984), (89, 15924), (93, 15873),

Gene: Samaymay\_20 Start: 16642, Stop: 15866, Start Num: 33

Candidate Starts for Samaymay\_20:

(Start: 33 @16642 has 313 MA's), (Start: 36 @16585 has 2 MA's), (44, 16522), (46, 16483), (54, 16381), (55, 16366), (59, 16318), (62, 16279), (65, 16255), (69, 16210), (70, 16204), (75, 16147), (84, 16003), (89, 15943), (93, 15892),

Gene: SamuelLPlaqson\_40 Start: 31795, Stop: 32652, Start Num: 33

Candidate Starts for SamuelLPlaqson\_40:

(4, 31339), (5, 31342), (6, 31345), (7, 31375), (10, 31591), (13, 31618), (20, 31729), (Start: 21 @31732 has 1 MA's), (25, 31738), (30, 31762), (Start: 33 @31795 has 313 MA's), (Start: 36 @31852 has 2 MA's), (38, 31864), (46, 31957), (49, 32002), (50, 32005), (54, 32059), (55, 32074), (59, 32122), (60, 32134), (65, 32185), (69, 32230), (70, 32236), (73, 32275), (74, 32278), (75, 32293), (76, 32329), (80, 32368), (84, 32437), (90, 32509), (100, 32575),

Gene: SassyCat97\_19 Start: 16350, Stop: 15574, Start Num: 33

Candidate Starts for SassyCat97\_19:

(Start: 33 @16350 has 313 MA's), (Start: 36 @16293 has 2 MA's), (44, 16230), (46, 16191), (54, 16089), (55, 16074), (59, 16026), (62, 15987), (65, 15963), (69, 15918), (70, 15912), (75, 15855), (84, 15711), (89, 15651), (93, 15600),

Gene: Scarlett\_44 Start: 32285, Stop: 33157, Start Num: 33

Candidate Starts for Scarlett\_44:

(Start: 33 @32285 has 313 MA's), (39, 32372), (46, 32447), (54, 32549), (55, 32564), (62, 32651), (65, 32675), (66, 32681), (69, 32720), (70, 32726), (72, 32759), (73, 32765), (74, 32768), (75, 32783), (76, 32819), (80, 32858), (84, 32927), (101, 33071),

Gene: Schadenfreude\_19 Start: 16199, Stop: 15423, Start Num: 33

Candidate Starts for Schadenfreude\_19:

(Start: 33 @16199 has 313 MA's), (Start: 36 @16142 has 2 MA's), (44, 16079), (46, 16040), (54, 15938), (55, 15923), (59, 15875), (62, 15836), (65, 15812), (69, 15767), (70, 15761), (75, 15704), (84, 15560), (89, 15500), (93, 15449),



Gene: Schueller\_19 Start: 16341, Stop: 15565, Start Num: 33

Candidate Starts for Schueller\_19:

(Start: 33 @16341 has 313 MA's), (Start: 36 @16284 has 2 MA's), (46, 16182), (54, 16080), (55, 16065), (59, 16017), (62, 15978), (65, 15954), (69, 15909), (70, 15903), (75, 15846), (80, 15771), (84, 15702), (87, 15666), (89, 15642), (93, 15591),

Gene: Scoot17C\_20 Start: 16643, Stop: 15867, Start Num: 33

Candidate Starts for Scoot17C\_20:

(Start: 33 @16643 has 313 MA's), (Start: 36 @16586 has 2 MA's), (44, 16523), (46, 16484), (54, 16382), (55, 16367), (59, 16319), (62, 16280), (65, 16256), (69, 16211), (70, 16205), (75, 16148), (84, 16004), (89, 15944), (93, 15893),

Gene: Selr12\_20 Start: 16366, Stop: 15590, Start Num: 33

Candidate Starts for Selr12\_20:

(Start: 33 @16366 has 313 MA's), (Start: 36 @16309 has 2 MA's), (44, 16246), (46, 16207), (54, 16105), (55, 16090), (59, 16042), (62, 16003), (65, 15979), (69, 15934), (70, 15928), (75, 15871), (84, 15727), (89, 15667), (93, 15616),

Gene: Serendipity\_20 Start: 16664, Stop: 15888, Start Num: 33

Candidate Starts for Serendipity\_20:

(Start: 33 @16664 has 313 MA's), (Start: 36 @16607 has 2 MA's), (44, 16544), (46, 16505), (54, 16403), (55, 16388), (59, 16340), (62, 16301), (65, 16277), (69, 16232), (70, 16226), (75, 16169), (84, 16025), (89, 15965), (93, 15914),

Gene: Serpentine\_0020 Start: 16644, Stop: 15868, Start Num: 33

Candidate Starts for Serpentine\_0020:

(Start: 33 @16644 has 313 MA's), (Start: 36 @16587 has 2 MA's), (44, 16524), (46, 16485), (54, 16383), (55, 16368), (59, 16320), (62, 16281), (65, 16257), (69, 16212), (70, 16206), (75, 16149), (84, 16005), (89, 15945), (93, 15894),

Gene: Settecandela\_8 Start: 7132, Stop: 8028, Start Num: 28

Candidate Starts for Settecandela\_8:

(Start: 28 @7132 has 2 MA's), (Start: 33 @7168 has 313 MA's), (35, 7198), (38, 7237), (46, 7327), (53, 7420), (54, 7429), (55, 7444), (65, 7555), (69, 7600), (70, 7606), (71, 7624), (75, 7663), (80, 7738), (84, 7807), (90, 7879), (93, 7912), (102, 7954), (105, 7978), (110, 8020),

Gene: SgtBeansprout\_35 Start: 30629, Stop: 31519, Start Num: 33

Candidate Starts for SgtBeansprout\_35:

(Start: 33 @30629 has 313 MA's), (Start: 36 @30686 has 2 MA's), (46, 30791), (53, 30884), (54, 30893), (55, 30908), (57, 30932), (62, 30995), (65, 31019), (66, 31025), (69, 31064), (70, 31070), (71, 31088), (74, 31112), (75, 31127), (76, 31163), (80, 31202), (81, 31217), (83, 31238), (84, 31271), (86, 31316), (93, 31388), (101, 31424), (112, 31502),

Gene: Shaobing\_41 Start: 31433, Stop: 32323, Start Num: 33

Candidate Starts for Shaobing\_41:

(Start: 33 @31433 has 313 MA's), (Start: 36 @31490 has 2 MA's), (39, 31520), (46, 31595), (49, 31640), (54, 31697), (55, 31712), (62, 31799), (65, 31823), (66, 31829), (70, 31874), (72, 31907), (74, 31916), (75, 31931), (76, 31967), (80, 32006), (84, 32075), (86, 32120), (90, 32159), (94, 32201), (95, 32207), (101, 32228), (113, 32315),

Gene: Sheila\_20 Start: 16635, Stop: 15859, Start Num: 33

Candidate Starts for Sheila\_20:

(Start: 33 @16635 has 313 MA's), (Start: 36 @16578 has 2 MA's), (46, 16476), (54, 16374), (55, 16359), (59, 16311), (62, 16272), (65, 16248), (69, 16203), (70, 16197), (75, 16140), (80, 16065), (84, 15996), (87, 15960), (89, 15936), (93, 15885),

Gene: ShiVal\_20 Start: 16635, Stop: 15859, Start Num: 33

Candidate Starts for ShiVal\_20:

(Start: 33 @16635 has 313 MA's), (Start: 36 @16578 has 2 MA's), (44, 16515), (46, 16476), (54, 16374), (55, 16359), (59, 16311), (62, 16272), (65, 16248), (69, 16203), (70, 16197), (75, 16140), (84, 15996), (89, 15936), (93, 15885),

Gene: Sigman\_20 Start: 16634, Stop: 15858, Start Num: 33

Candidate Starts for Sigman\_20:

(Start: 33 @16634 has 313 MA's), (Start: 36 @16577 has 2 MA's), (44, 16514), (46, 16475), (54, 16373), (55, 16358), (59, 16310), (62, 16271), (65, 16247), (69, 16202), (70, 16196), (75, 16139), (84, 15995), (89, 15935), (93, 15884),

Gene: Simielle\_19 Start: 16334, Stop: 15558, Start Num: 33

Candidate Starts for Simielle\_19:

(Start: 33 @16334 has 313 MA's), (Start: 36 @16277 has 2 MA's), (44, 16214), (46, 16175), (54, 16073), (55, 16058), (59, 16010), (62, 15971), (65, 15947), (69, 15902), (70, 15896), (75, 15839), (84, 15695), (89, 15635), (93, 15584),

Gene: Skippy\_20 Start: 16628, Stop: 15852, Start Num: 33

Candidate Starts for Skippy\_20:

(Start: 33 @16628 has 313 MA's), (Start: 36 @16571 has 2 MA's), (44, 16508), (46, 16469), (54, 16367), (55, 16352), (59, 16304), (62, 16265), (65, 16241), (69, 16196), (70, 16190), (75, 16133), (84, 15989), (89, 15929), (93, 15878),

Gene: Slatt\_20 Start: 16658, Stop: 15882, Start Num: 33

Candidate Starts for Slatt\_20:

(Start: 33 @16658 has 313 MA's), (Start: 36 @16601 has 2 MA's), (44, 16538), (46, 16499), (54, 16397), (55, 16382), (59, 16334), (62, 16295), (65, 16271), (69, 16226), (70, 16220), (75, 16163), (84, 16019), (89, 15959), (93, 15908),

Gene: SoSeph\_86 Start: 55982, Stop: 56866, Start Num: 33

Candidate Starts for SoSeph\_86:

(Start: 33 @55982 has 313 MA's), (Start: 36 @56039 has 2 MA's), (38, 56051), (46, 56144), (49, 56189), (53, 56237), (54, 56246), (55, 56261), (60, 56321), (62, 56348), (63, 56363), (65, 56372), (66, 56378), (69, 56417), (70, 56423), (72, 56456), (75, 56480), (76, 56516), (80, 56555), (84, 56624), (90, 56696), (91, 56708), (104, 56771), (106, 56789), (113, 56843),

Gene: Soile\_20 Start: 16355, Stop: 15579, Start Num: 33

Candidate Starts for Soile\_20:

(Start: 33 @16355 has 313 MA's), (Start: 36 @16298 has 2 MA's), (46, 16196), (54, 16094), (55, 16079), (59, 16031), (62, 15992), (65, 15968), (69, 15923), (70, 15917), (75, 15860), (80, 15785), (84, 15716), (87, 15680), (89, 15656), (93, 15605),

Gene: Solosis\_19 Start: 16361, Stop: 15585, Start Num: 33

Candidate Starts for Solosis\_19:

(Start: 33 @16361 has 313 MA's), (Start: 36 @16304 has 2 MA's), (44, 16241), (46, 16202), (54, 16100), (55, 16085), (59, 16037), (62, 15998), (65, 15974), (69, 15929), (70, 15923), (75, 15866), (84, 15722), (89, 15662), (93, 15611),

Gene: Sophia\_19 Start: 16350, Stop: 15574, Start Num: 33

Candidate Starts for Sophia\_19:

(Start: 33 @16350 has 313 MA's), (Start: 36 @16293 has 2 MA's), (44, 16230), (46, 16191), (54, 16089), (55, 16074), (59, 16026), (62, 15987), (65, 15963), (69, 15918), (70, 15912), (75, 15855), (84, 15711), (89, 15651), (93, 15600),

Gene: Soto\_20 Start: 16638, Stop: 15862, Start Num: 33

Candidate Starts for Soto\_20:

(Start: 33 @16638 has 313 MA's), (Start: 36 @16581 has 2 MA's), (44, 16518), (46, 16479), (54, 16377), (55, 16362), (59, 16314), (62, 16275), (65, 16251), (69, 16206), (70, 16200), (75, 16143), (84, 15999), (89, 15939), (93, 15888),

Gene: Spartan300\_20 Start: 16639, Stop: 15863, Start Num: 33

Candidate Starts for Spartan300\_20:

(Start: 33 @16639 has 313 MA's), (Start: 36 @16582 has 2 MA's), (44, 16519), (46, 16480), (54, 16378), (55, 16363), (59, 16315), (62, 16276), (65, 16252), (69, 16207), (70, 16201), (75, 16144), (84, 16000), (89, 15940), (93, 15889),

Gene: Squid\_20 Start: 16350, Stop: 15574, Start Num: 33

Candidate Starts for Squid\_20:

(Start: 33 @16350 has 313 MA's), (Start: 36 @16293 has 2 MA's), (44, 16230), (46, 16191), (54, 16089), (55, 16074), (59, 16026), (62, 15987), (65, 15963), (69, 15918), (70, 15912), (75, 15855), (84, 15711), (89, 15651), (93, 15600),

Gene: Squiggle\_20 Start: 16348, Stop: 15572, Start Num: 33

Candidate Starts for Squiggle\_20:

(Start: 33 @16348 has 313 MA's), (Start: 36 @16291 has 2 MA's), (44, 16228), (46, 16189), (54, 16087), (55, 16072), (59, 16024), (62, 15985), (65, 15961), (69, 15916), (70, 15910), (75, 15853), (84, 15709), (89, 15649), (93, 15598),

Gene: Strobilo\_42 Start: 32989, Stop: 33834, Start Num: 33

Candidate Starts for Strobilo\_42:

(24, 32932), (26, 32944), (29, 32953), (Start: 33 @32989 has 313 MA's), (Start: 36 @33046 has 2 MA's), (38, 33058), (46, 33151), (50, 33199), (54, 33253), (55, 33268), (58, 33307), (59, 33316), (60, 33328), (65, 33379), (66, 33385), (72, 33463), (76, 33523), (79, 33556), (80, 33562), (84, 33631), (96, 33754),

Gene: Struggle\_19 Start: 16194, Stop: 15418, Start Num: 33

Candidate Starts for Struggle\_19:

(Start: 33 @16194 has 313 MA's), (Start: 36 @16137 has 2 MA's), (46, 16035), (54, 15933), (55, 15918), (59, 15870), (62, 15831), (65, 15807), (69, 15762), (70, 15756), (75, 15699), (80, 15624), (84, 15555), (87, 15519), (89, 15495), (93, 15444),

Gene: Suffolk\_20 Start: 16641, Stop: 15841, Start Num: 33

Candidate Starts for Suffolk\_20:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (44, 16521), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (84, 16002), (89, 15942), (97, 15867), (98, 15858),

Gene: Surely\_20 Start: 16652, Stop: 15876, Start Num: 33

Candidate Starts for Surely\_20:

(Start: 33 @16652 has 313 MA's), (Start: 36 @16595 has 2 MA's), (44, 16532), (46, 16493), (54, 16391), (55, 16376), (59, 16328), (62, 16289), (65, 16265), (69, 16220), (70, 16214), (75, 16157), (84,

16013), (89, 15953), (93, 15902),

Gene: Swiphy\_20 Start: 16641, Stop: 15865, Start Num: 33

Candidate Starts for Swiphy\_20:

(Start: 33 @16641 has 313 MA's), (Start: 36 @16584 has 2 MA's), (46, 16482), (54, 16380), (55, 16365), (59, 16317), (62, 16278), (65, 16254), (69, 16209), (70, 16203), (75, 16146), (80, 16071), (84, 16002), (87, 15966), (89, 15942), (93, 15891),

Gene: Swish\_20 Start: 16636, Stop: 15860, Start Num: 33

Candidate Starts for Swish\_20:

(Start: 33 @16636 has 313 MA's), (Start: 36 @16579 has 2 MA's), (44, 16516), (46, 16477), (47, 16474), (54, 16375), (55, 16360), (59, 16312), (62, 16273), (65, 16249), (69, 16204), (70, 16198), (75, 16141), (84, 15997), (89, 15937), (93, 15886),

Gene: TClif\_44 Start: 31920, Stop: 32798, Start Num: 33

Candidate Starts for TClif\_44:

(Start: 33 @31920 has 313 MA's), (Start: 36 @31977 has 2 MA's), (38, 31989), (39, 32007), (46, 32082), (49, 32127), (54, 32184), (55, 32199), (62, 32286), (65, 32310), (66, 32316), (70, 32361), (72, 32394), (75, 32418), (76, 32454), (80, 32493), (83, 32529), (84, 32562), (86, 32607), (101, 32715),

Gene: TallGrassMM\_20 Start: 16367, Stop: 15591, Start Num: 33

Candidate Starts for TallGrassMM\_20:

(Start: 33 @16367 has 313 MA's), (Start: 36 @16310 has 2 MA's), (46, 16208), (54, 16106), (55, 16091), (59, 16043), (62, 16004), (65, 15980), (69, 15935), (70, 15929), (75, 15872), (84, 15728), (89, 15668), (93, 15617),

Gene: Telesworld\_19 Start: 16348, Stop: 15572, Start Num: 33

Candidate Starts for Telesworld\_19:

(8, 16717), (9, 16708), (Start: 33 @16348 has 313 MA's), (46, 16189), (54, 16087), (55, 16072), (59, 16024), (62, 15985), (65, 15961), (69, 15916), (70, 15910), (75, 15853), (84, 15709), (89, 15649), (93, 15598),

Gene: Thora\_20 Start: 16651, Stop: 15875, Start Num: 33

Candidate Starts for Thora\_20:

(Start: 33 @16651 has 313 MA's), (Start: 36 @16594 has 2 MA's), (44, 16531), (46, 16492), (54, 16390), (55, 16375), (59, 16327), (62, 16288), (65, 16264), (69, 16219), (70, 16213), (75, 16156), (84, 16012), (89, 15952), (93, 15901),

Gene: ThreeOh3D2\_20 Start: 16651, Stop: 15875, Start Num: 33

Candidate Starts for ThreeOh3D2\_20:

(Start: 33 @16651 has 313 MA's), (Start: 36 @16594 has 2 MA's), (44, 16531), (46, 16492), (54, 16390), (55, 16375), (59, 16327), (62, 16288), (65, 16264), (69, 16219), (70, 16213), (75, 16156), (84, 16012), (89, 15952), (93, 15901),

Gene: Thunderbird\_20 Start: 16351, Stop: 15575, Start Num: 33

Candidate Starts for Thunderbird\_20:

(Start: 33 @16351 has 313 MA's), (Start: 36 @16294 has 2 MA's), (44, 16231), (46, 16192), (54, 16090), (55, 16075), (59, 16027), (62, 15988), (65, 15964), (69, 15919), (70, 15913), (75, 15856), (84, 15712), (89, 15652), (93, 15601),

Gene: Thyatira\_86 Start: 57660, Stop: 58622, Start Num: 33

Candidate Starts for Thyatira\_86:

(20, 57594), (Start: 21 @57597 has 1 MA's), (22, 57600), (27, 57618), (29, 57624), (30, 57627), (Start: 33 @57660 has 313 MA's), (Start: 36 @57717 has 2 MA's), (38, 57729), (46, 57822), (49, 57867), (53, 57915), (54, 57924), (55, 57939), (60, 57999), (62, 58026), (63, 58041), (65, 58050), (66, 58056), (69, 58095), (70, 58101), (72, 58134), (75, 58158), (76, 58194), (79, 58227), (80, 58233), (82, 58263), (83, 58269), (84, 58302), (90, 58374), (111, 58500), (116, 58533), (117, 58539), (120, 58584),

Gene: Timmi\_19 Start: 16362, Stop: 15586, Start Num: 33

Candidate Starts for Timmi\_19:

(Start: 33 @16362 has 313 MA's), (Start: 36 @16305 has 2 MA's), (44, 16242), (46, 16203), (54, 16101), (55, 16086), (59, 16038), (62, 15999), (65, 15975), (69, 15930), (70, 15924), (75, 15867), (84, 15723), (89, 15663), (93, 15612),

Gene: TiniBug\_40 Start: 31791, Stop: 32648, Start Num: 33

Candidate Starts for TiniBug\_40:

(20, 31725), (Start: 21 @31728 has 1 MA's), (25, 31734), (30, 31758), (Start: 33 @31791 has 313 MA's), (Start: 36 @31848 has 2 MA's), (38, 31860), (46, 31953), (50, 32001), (54, 32055), (55, 32070), (59, 32118), (60, 32130), (66, 32187), (69, 32226), (70, 32232), (73, 32271), (74, 32274), (75, 32289), (76, 32325), (80, 32364), (84, 32433), (90, 32505),

Gene: TomBombadil\_20 Start: 16646, Stop: 15870, Start Num: 33

Candidate Starts for TomBombadil\_20:

(Start: 33 @16646 has 313 MA's), (Start: 36 @16589 has 2 MA's), (44, 16526), (46, 16487), (54, 16385), (55, 16370), (59, 16322), (62, 16283), (65, 16259), (69, 16214), (70, 16208), (75, 16151), (84, 16007), (89, 15947), (93, 15896),

Gene: Tomlarah\_20 Start: 16637, Stop: 15861, Start Num: 33

Candidate Starts for Tomlarah\_20:

(Start: 33 @16637 has 313 MA's), (Start: 36 @16580 has 2 MA's), (44, 16517), (46, 16478), (54, 16376), (55, 16361), (59, 16313), (62, 16274), (65, 16250), (69, 16205), (70, 16199), (75, 16142), (84, 15998), (89, 15938), (93, 15887),

Gene: Toni\_19 Start: 16346, Stop: 15570, Start Num: 33

Candidate Starts for Toni\_19:

(Start: 33 @16346 has 313 MA's), (Start: 36 @16289 has 2 MA's), (44, 16226), (46, 16187), (54, 16085), (55, 16070), (59, 16022), (62, 15983), (65, 15959), (69, 15914), (70, 15908), (75, 15851), (84, 15707), (89, 15647), (93, 15596),

Gene: Tooj\_20 Start: 16649, Stop: 15873, Start Num: 33

Candidate Starts for Tooj\_20:

(8, 17018), (9, 17009), (Start: 33 @16649 has 313 MA's), (Start: 36 @16592 has 2 MA's), (44, 16529), (46, 16490), (54, 16388), (55, 16373), (59, 16325), (62, 16286), (65, 16262), (69, 16217), (70, 16211), (75, 16154), (84, 16010), (89, 15950), (93, 15899),

Gene: TreyKay\_39 Start: 31008, Stop: 31940, Start Num: 33

Candidate Starts for TreyKay\_39:

(Start: 33 @31008 has 313 MA's), (Start: 36 @31065 has 2 MA's), (41, 31110), (46, 31170), (49, 31215), (54, 31272), (55, 31287), (59, 31335), (60, 31347), (62, 31374), (65, 31398), (66, 31404), (69, 31443), (74, 31491), (75, 31506), (76, 31542), (80, 31581), (83, 31617), (84, 31650), (93, 31755), (102, 31797), (103, 31800), (107, 31839),

Gene: True\_19 Start: 16350, Stop: 15574, Start Num: 33

Candidate Starts for True\_19:

(Start: 33 @16350 has 313 MA's), (Start: 36 @16293 has 2 MA's), (44, 16230), (46, 16191), (54, 16089), (55, 16074), (59, 16026), (62, 15987), (65, 15963), (69, 15918), (70, 15912), (75, 15855), (84, 15711), (89, 15651), (93, 15600),

Gene: Trypo\_20 Start: 16638, Stop: 15862, Start Num: 33

Candidate Starts for Trypo\_20:

(Start: 33 @16638 has 313 MA's), (Start: 36 @16581 has 2 MA's), (46, 16479), (54, 16377), (55, 16362), (59, 16314), (62, 16275), (65, 16251), (69, 16206), (70, 16200), (75, 16143), (80, 16068), (84, 15999), (87, 15963), (89, 15939), (93, 15888),

Gene: TyrionL\_19 Start: 16202, Stop: 15426, Start Num: 33

Candidate Starts for TyrionL\_19:

(Start: 33 @16202 has 313 MA's), (Start: 36 @16145 has 2 MA's), (46, 16043), (54, 15941), (55, 15926), (59, 15878), (62, 15839), (65, 15815), (69, 15770), (70, 15764), (75, 15707), (80, 15632), (84, 15563), (87, 15527), (89, 15503), (93, 15452),

Gene: UAch1\_20 Start: 16659, Stop: 15883, Start Num: 33

Candidate Starts for UAch1\_20:

(Start: 33 @16659 has 313 MA's), (Start: 36 @16602 has 2 MA's), (44, 16539), (46, 16500), (54, 16398), (55, 16383), (59, 16335), (62, 16296), (65, 16272), (69, 16227), (70, 16221), (75, 16164), (84, 16020), (89, 15960), (93, 15909),

Gene: UncleHowie\_20 Start: 16349, Stop: 15573, Start Num: 33

Candidate Starts for UncleHowie\_20:

(Start: 33 @16349 has 313 MA's), (Start: 36 @16292 has 2 MA's), (44, 16229), (46, 16190), (54, 16088), (55, 16073), (59, 16025), (62, 15986), (65, 15962), (69, 15917), (70, 15911), (75, 15854), (84, 15710), (89, 15650), (93, 15599),

Gene: Urkel\_40 Start: 31795, Stop: 32652, Start Num: 33

Candidate Starts for Urkel\_40:

(4, 31339), (5, 31342), (6, 31345), (7, 31375), (10, 31591), (13, 31618), (20, 31729), (Start: 21 @31732 has 1 MA's), (25, 31738), (30, 31762), (Start: 33 @31795 has 313 MA's), (Start: 36 @31852 has 2 MA's), (38, 31864), (46, 31957), (49, 32002), (50, 32005), (54, 32059), (55, 32074), (59, 32122), (60, 32134), (65, 32185), (69, 32230), (70, 32236), (73, 32275), (74, 32278), (75, 32293), (76, 32329), (80, 32368), (84, 32437), (90, 32509), (100, 32575),

Gene: Usavi\_20 Start: 16650, Stop: 15874, Start Num: 33

Candidate Starts for Usavi\_20:

(Start: 33 @16650 has 313 MA's), (Start: 36 @16593 has 2 MA's), (44, 16530), (46, 16491), (54, 16389), (55, 16374), (59, 16326), (62, 16287), (65, 16263), (69, 16218), (70, 16212), (75, 16155), (84, 16011), (89, 15951), (93, 15900),

Gene: Vaishali24\_19 Start: 16302, Stop: 15526, Start Num: 33

Candidate Starts for Vaishali24\_19:

(Start: 33 @16302 has 313 MA's), (Start: 36 @16245 has 2 MA's), (44, 16182), (46, 16143), (54, 16041), (55, 16026), (59, 15978), (62, 15939), (65, 15915), (69, 15870), (70, 15864), (75, 15807), (84, 15663), (89, 15603), (93, 15552),

Gene: Validus\_43 Start: 31502, Stop: 32383, Start Num: 33

Candidate Starts for Validus\_43:

(Start: 33 @31502 has 313 MA's), (Start: 36 @31559 has 2 MA's), (39, 31589), (46, 31664), (49, 31709), (54, 31766), (55, 31781), (57, 31805), (62, 31868), (65, 31892), (66, 31898), (69, 31937), (70, 31943), (72, 31976), (74, 31985), (75, 32000), (76, 32036), (80, 32075), (83, 32111), (84, 32144), (86,

32189), (94, 32270), (101, 32297), (113, 32375),

Gene: Valjean\_20 Start: 16642, Stop: 15866, Start Num: 33

Candidate Starts for Valjean\_20:

(Start: 33 @16642 has 313 MA's), (Start: 36 @16585 has 2 MA's), (44, 16522), (46, 16483), (54, 16381), (55, 16366), (59, 16318), (62, 16279), (65, 16255), (69, 16210), (70, 16204), (75, 16147), (84, 16003), (89, 15943), (93, 15892),

Gene: Vaticameos\_20 Start: 16340, Stop: 15564, Start Num: 33

Candidate Starts for Vaticameos\_20:

(Start: 33 @16340 has 313 MA's), (Start: 36 @16283 has 2 MA's), (44, 16220), (46, 16181), (54, 16079), (55, 16064), (59, 16016), (62, 15977), (65, 15953), (69, 15908), (70, 15902), (75, 15845), (84, 15701), (89, 15641), (93, 15590),

Gene: Veritas\_19 Start: 16188, Stop: 15412, Start Num: 33

Candidate Starts for Veritas\_19:

(Start: 33 @16188 has 313 MA's), (Start: 36 @16131 has 2 MA's), (46, 16029), (54, 15927), (55, 15912), (59, 15864), (62, 15825), (65, 15801), (69, 15756), (70, 15750), (75, 15693), (80, 15618), (84, 15549), (87, 15513), (89, 15489), (93, 15438),

Gene: Virapocalypse\_20 Start: 16633, Stop: 15857, Start Num: 33

Candidate Starts for Virapocalypse\_20:

(Start: 33 @16633 has 313 MA's), (Start: 36 @16576 has 2 MA's), (44, 16513), (46, 16474), (54, 16372), (55, 16357), (59, 16309), (62, 16270), (65, 16246), (69, 16201), (70, 16195), (75, 16138), (84, 15994), (89, 15934), (93, 15883),

Gene: Virgeve\_19 Start: 16354, Stop: 15578, Start Num: 33

Candidate Starts for Virgeve\_19:

(Start: 33 @16354 has 313 MA's), (Start: 36 @16297 has 2 MA's), (46, 16195), (54, 16093), (55, 16078), (59, 16030), (62, 15991), (65, 15967), (69, 15922), (70, 15916), (75, 15859), (80, 15784), (84, 15715), (87, 15679), (89, 15655), (93, 15604),

Gene: Vista\_20 Start: 16646, Stop: 15870, Start Num: 33

Candidate Starts for Vista\_20:

(Start: 33 @16646 has 313 MA's), (Start: 36 @16589 has 2 MA's), (44, 16526), (46, 16487), (54, 16385), (55, 16370), (59, 16322), (62, 16283), (65, 16259), (69, 16214), (70, 16208), (75, 16151), (84, 16007), (89, 15947), (93, 15896),

Gene: Vivaldi\_20 Start: 16676, Stop: 15900, Start Num: 33

Candidate Starts for Vivaldi\_20:

(Start: 33 @16676 has 313 MA's), (Start: 36 @16619 has 2 MA's), (46, 16517), (54, 16415), (55, 16400), (59, 16352), (62, 16313), (65, 16289), (69, 16244), (70, 16238), (75, 16181), (84, 16037), (89, 15977), (93, 15926),

Gene: Vortex\_20 Start: 16357, Stop: 15581, Start Num: 33

Candidate Starts for Vortex\_20:

(Start: 33 @16357 has 313 MA's), (Start: 36 @16300 has 2 MA's), (44, 16237), (46, 16198), (54, 16096), (55, 16081), (59, 16033), (62, 15994), (65, 15970), (69, 15925), (70, 15919), (75, 15862), (84, 15718), (89, 15658), (93, 15607),

Gene: Wallhey\_19 Start: 16206, Stop: 15430, Start Num: 33

Candidate Starts for Wallhey\_19:

(Start: 33 @16206 has 313 MA's), (Start: 36 @16149 has 2 MA's), (46, 16047), (54, 15945), (55, 15930), (59, 15882), (62, 15843), (65, 15819), (69, 15774), (70, 15768), (75, 15711), (80, 15636), (84, 15567), (87, 15531), (89, 15507), (93, 15456),

Gene: Waterdiva\_20 Start: 16642, Stop: 15866, Start Num: 33

Candidate Starts for Waterdiva\_20:

(Start: 33 @16642 has 313 MA's), (Start: 36 @16585 has 2 MA's), (44, 16522), (46, 16483), (54, 16381), (55, 16366), (59, 16318), (62, 16279), (65, 16255), (69, 16210), (70, 16204), (75, 16147), (84, 16003), (89, 15943), (93, 15892),

Gene: Weher20\_20 Start: 16634, Stop: 15858, Start Num: 33

Candidate Starts for Weher20\_20:

(Start: 33 @16634 has 313 MA's), (Start: 36 @16577 has 2 MA's), (46, 16475), (54, 16373), (55, 16358), (59, 16310), (62, 16271), (65, 16247), (69, 16202), (70, 16196), (75, 16139), (80, 16064), (84, 15995), (87, 15959), (89, 15935), (93, 15884),

Gene: Windsor\_19 Start: 16309, Stop: 15533, Start Num: 33

Candidate Starts for Windsor\_19:

(Start: 33 @16309 has 313 MA's), (Start: 36 @16252 has 2 MA's), (46, 16150), (54, 16048), (55, 16033), (59, 15985), (62, 15946), (65, 15922), (69, 15877), (70, 15871), (75, 15814), (80, 15739), (84, 15670), (87, 15634), (89, 15610), (93, 15559),

Gene: Xavier\_19 Start: 16361, Stop: 15585, Start Num: 33

Candidate Starts for Xavier\_19:

(8, 16730), (9, 16721), (Start: 33 @16361 has 313 MA's), (46, 16202), (54, 16100), (55, 16085), (59, 16037), (62, 15998), (65, 15974), (69, 15929), (70, 15923), (75, 15866), (84, 15722), (89, 15662), (93, 15611),

Gene: Yoshand\_20 Start: 16647, Stop: 15871, Start Num: 33

Candidate Starts for Yoshand\_20:

(8, 17019), (9, 17010), (Start: 33 @16647 has 313 MA's), (Start: 36 @16590 has 2 MA's), (44, 16527), (46, 16488), (54, 16386), (55, 16371), (59, 16323), (62, 16284), (65, 16260), (69, 16215), (70, 16209), (75, 16152), (84, 16008), (89, 15948), (93, 15897),

Gene: YouGoGlencoco\_20 Start: 16638, Stop: 15862, Start Num: 33

Candidate Starts for YouGoGlencoco\_20:

(Start: 33 @16638 has 313 MA's), (Start: 36 @16581 has 2 MA's), (44, 16518), (46, 16479), (54, 16377), (55, 16362), (59, 16314), (62, 16275), (65, 16251), (69, 16206), (70, 16200), (75, 16143), (84, 15999), (89, 15939), (93, 15888),

Gene: YoureAdopted\_38 Start: 31097, Stop: 31954, Start Num: 33

Candidate Starts for YoureAdopted\_38:

(Start: 33 @31097 has 313 MA's), (Start: 36 @31154 has 2 MA's), (38, 31166), (46, 31259), (50, 31307), (54, 31361), (55, 31376), (59, 31424), (60, 31436), (65, 31487), (66, 31493), (69, 31532), (70, 31538), (74, 31580), (75, 31595), (76, 31631), (80, 31670), (84, 31739), (90, 31811),

Gene: Yuna\_44 Start: 32404, Stop: 33252, Start Num: 33

Candidate Starts for Yuna\_44:

(Start: 33 @32404 has 313 MA's), (Start: 36 @32461 has 2 MA's), (46, 32566), (54, 32668), (55, 32683), (62, 32770), (64, 32788), (65, 32794), (66, 32800), (69, 32839), (70, 32845), (72, 32878), (74, 32887), (75, 32902), (76, 32938), (80, 32977), (83, 33013), (84, 33046), (95, 33166),

Gene: Zaider\_21 Start: 16873, Stop: 16097, Start Num: 33



Candidate Starts for Zaider\_21:

(Start: 33 @16873 has 313 MA's), (Start: 36 @16816 has 2 MA's), (44, 16753), (46, 16714), (54, 16612), (55, 16597), (59, 16549), (62, 16510), (65, 16486), (69, 16441), (70, 16435), (75, 16378), (84, 16234), (89, 16174), (93, 16123),

Gene: Zavala\_40 Start: 31174, Stop: 32031, Start Num: 33

Candidate Starts for Zavala\_40:

(10, 30970), (19, 31108), (Start: 21 @31111 has 1 MA's), (30, 31141), (Start: 33 @31174 has 313 MA's), (Start: 36 @31231 has 2 MA's), (38, 31243), (46, 31336), (50, 31384), (54, 31438), (55, 31453), (59, 31501), (65, 31564), (66, 31570), (69, 31609), (70, 31615), (74, 31657), (75, 31672), (76, 31708), (80, 31747), (84, 31816), (90, 31888),

Gene: Zelda\_20 Start: 16643, Stop: 15867, Start Num: 33

Candidate Starts for Zelda\_20:

(Start: 33 @16643 has 313 MA's), (Start: 36 @16586 has 2 MA's), (44, 16523), (46, 16484), (54, 16382), (55, 16367), (59, 16319), (62, 16280), (65, 16256), (69, 16211), (70, 16205), (75, 16148), (84, 16004), (89, 15944), (93, 15893),

Gene: ZoeJ\_42 Start: 32676, Stop: 33515, Start Num: 33

Candidate Starts for ZoeJ\_42:

(24, 32619), (26, 32631), (29, 32640), (Start: 33 @32676 has 313 MA's), (Start: 36 @32733 has 2 MA's), (46, 32838), (50, 32886), (54, 32940), (55, 32955), (58, 32994), (59, 33003), (60, 33015), (65, 33066), (66, 33072), (72, 33150), (76, 33210), (79, 33243), (80, 33249), (84, 33318), (96, 33441),

Gene: Zonia\_20 Start: 16655, Stop: 15879, Start Num: 33

Candidate Starts for Zonia\_20:

(Start: 33 @16655 has 313 MA's), (Start: 36 @16598 has 2 MA's), (46, 16496), (54, 16394), (55, 16379), (59, 16331), (62, 16292), (65, 16268), (69, 16223), (70, 16217), (75, 16160), (80, 16085), (84, 16016), (87, 15980), (89, 15956), (93, 15905),