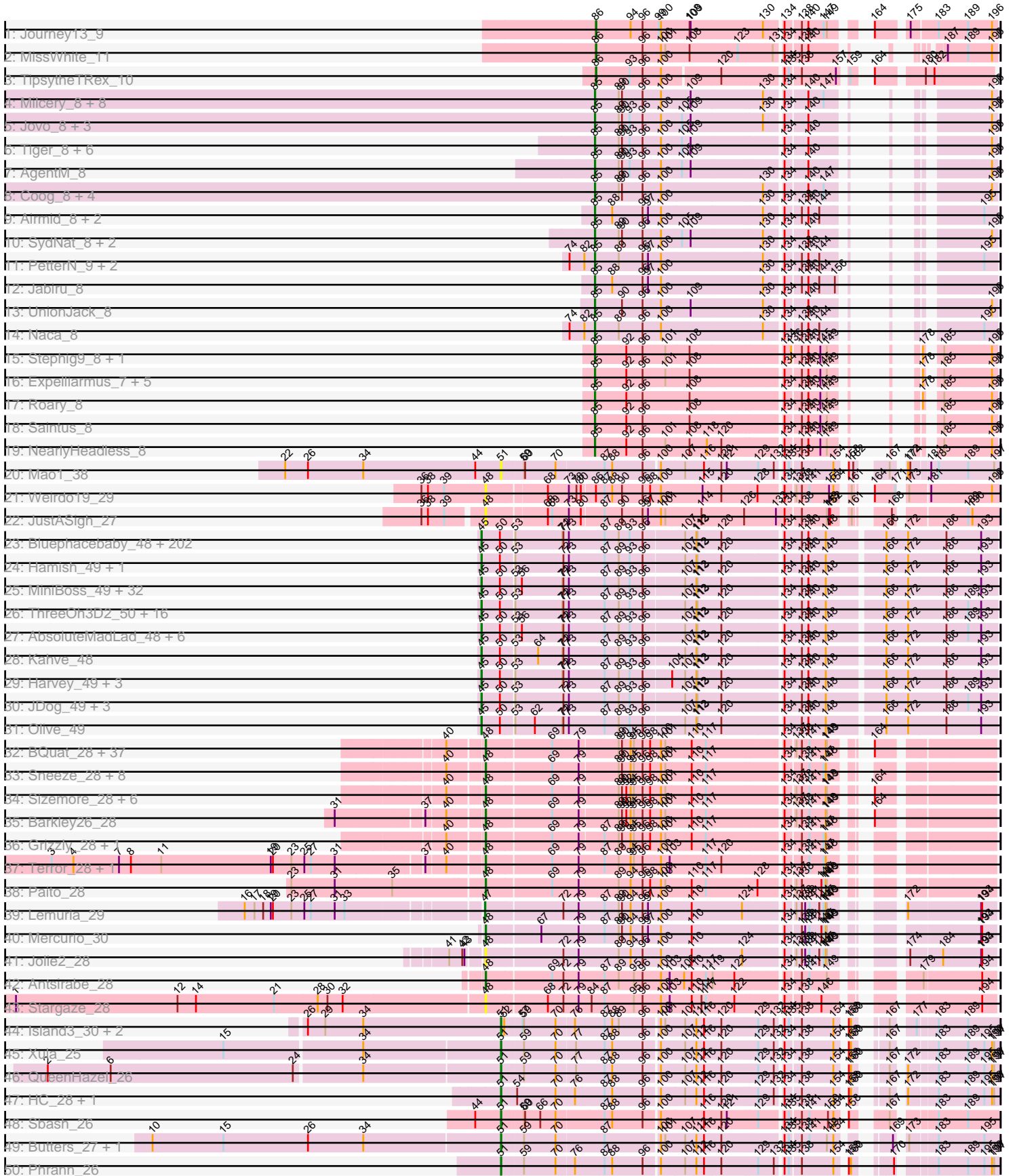
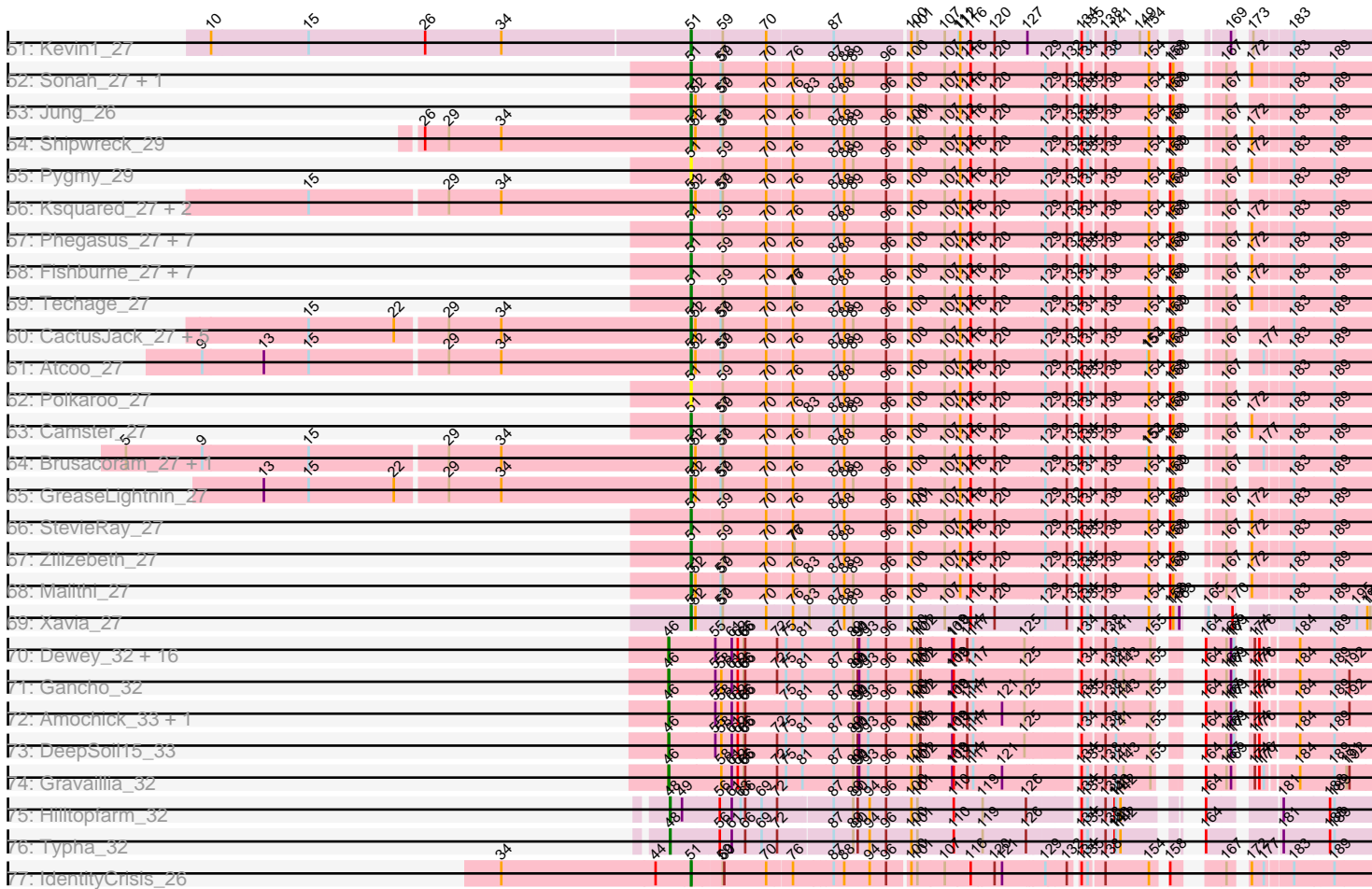


Pham 157476



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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 157476 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157476 has 470 members, 38 are drafts.

Phages represented in each track:

- Track 1 : Journey13\_9
- Track 2 : MissWhite\_11
- Track 3 : TopsytheTRex\_10
- Track 4 : Milcery\_8, Tarynearal\_7, Cuco\_8, Micasa\_7, Bonamassa\_8, HuhtaEnerson15\_8, George\_7, Swirley\_8, LittleCherry\_8
- Track 5 : Jovo\_8, Aragog\_8, Discoknowium\_8, Bluefalcon\_7
- Track 6 : Tiger\_8, Lev2\_8, PickleBack\_8, Phlorence\_8, Conspiracy\_8, ForGetIt\_8, Archetta\_8
- Track 7 : AgentM\_8
- Track 8 : Coog\_8, Midas2\_8, MarysWell\_7, Theia\_7, Dublin\_7
- Track 9 : Airmid\_8, Benedict\_8, ElTiger69\_8
- Track 10 : SydNat\_8, Zolita\_7, Ghouboy\_8
- Track 11 : PetterN\_9, Chadwick\_9, Scorpia\_9
- Track 12 : Jabiru\_8
- Track 13 : UnionJack\_8
- Track 14 : Naca\_8
- Track 15 : Stephig9\_8, Dixon\_8
- Track 16 : Expelliarmus\_7, Phillis\_8, Danforth\_7, Groundhog\_7, Smeadley\_8, Astro\_8
- Track 17 : Roary\_8
- Track 18 : Saintus\_8
- Track 19 : NearlyHeadless\_8
- Track 20 : Mao1\_38
- Track 21 : Weirdo19\_29
- Track 22 : JustASigh\_27
- Track 23 : Bluephacebaby\_48, Morgushi\_49, Spartan300\_49, Kwadwo\_48, Beaglebox\_48, PhenghisKhan\_48, DoesntMatter\_48, JangoPhett\_49, Horchata\_49, Scrick\_49, Haleema\_48, Chute\_48, Eremos\_49, Solosis\_48, True\_48, Timmi\_48, Lulumae\_48, Keitherie\_49, Charles1\_49, Telesworld\_48, Cobra\_49, Riggan\_49, UAch1\_49, Kloppinator\_50, Trypo\_50, Quisquiliae\_49, Squiggle\_49, IsaacEli\_50, Wallhey\_48, Phipps\_49, Xavier\_48, Fringe\_50, Jillium\_48, Held\_49, HenryJackson\_48, Slatt\_49, Pherdinand\_50, Vaishali24\_48, FugateOSU\_48, Orwigg\_50, Mag7\_48, Orfeu\_49, DaddyDaniels\_49, Nyala\_48, Lasso\_49, Megamind20\_49, Apizium\_49, Andre\_52, Kikipoo\_50, Ricotta\_49, Morty\_50, Roscoe\_50, DonSanchon\_48, Vivaldi\_50, ABU\_50, Gophee\_49, Mikota\_49, Vaticameos\_45, Hartsy\_49, HighStump\_49, Phunky\_49, Piglet\_0049, CamL\_49, KingTut\_40, Puhltonio\_49, Labeoufcaum\_48, Mesh1\_49, PhatLouie\_49, Rimu\_51,

ShiVal\_49, Inchworm\_50, YouGoGlencoco\_49, TomBombadil\_49, Lumine\_48, Anderson\_49, Swish\_50, Fang\_50, BlackStallion\_50, CharlieGBrown\_48, Maskar\_49, Matalotodo\_49, Placalicious\_48, BatteryCK\_48, Cosmolli16\_48, Struggle\_48, FriarPreacher\_48, Derpp\_48, Zelda\_49, Kwksand96\_48, Podrick\_49, Carthage\_47, TallGrassMM\_49, Cannibal\_49, Dione\_48, Buckeye\_49, Samaymay\_49, Sheila\_49, Selr12\_51, DuchessDung\_48, Phleuron\_48, LuckyMarjie\_48, Usavi\_49, Pipsqueak\_49, Chaelin\_49, Burr\_48, Cher\_48, Vortex\_49, Valjean\_49, Veritas\_48, MrPhizzler\_48, Murdoc\_49, Serpentine\_0049, Phamished\_50, Mulan\_49, MichaelPhcott\_48, Iridoclysis\_49, Magic8\_49, Numberten\_49, Zonia\_49, Maru\_48, CampRoach\_50, Chunky\_49, Pinkman\_48, Childish\_48, Bishoperium\_48, Mcshane\_48, Craff\_50, Durga\_50, Sigman\_50, Banjo\_48, Gareth\_48, Plmatters\_49, Oline\_48, DelRivs\_48, Tomlarah\_49, Waterdiva\_49, Nicole21\_49, PhrodoBaggins\_49, Jiminy\_48, Frankicide\_49, Freya\_48, Adriana\_50, Grand2040\_48, LasagnaCat\_50, KLucky39\_49, Altwerkus\_48, Suffolk\_49, Basato\_50, Swiphy\_51, Roy17\_49, Katniss\_50, Windsor\_48, Dice\_51, Pacifista\_51, Schadenfreude\_48, Coletti\_48, ImtiyazSitla\_49, Lopsy\_48, Skippy\_49, Orion\_50, Scoot17C\_50, Eugenia\_49, Emiris\_50, Duggie\_48, Megatron\_50, Mutante\_48, Serendipity\_49, ProfessorX\_49, Boehler\_49, UncleHowie\_49, Kailash\_49, Fozzie\_48, Phergie\_49, QueenBeane\_49, PhatCats2014\_50, Gyarad\_0049, LeeLot\_49, GeneCoco\_49, Olak\_49, Vista\_49, PhrankReynolds\_47, PinheadLarry\_49, Doddsville\_49, Lulwa\_49, Longacauda\_48, Virgeve\_48, Lego3393\_48, JacAttac\_50, TyrionL\_48, Toni\_48, FluffyNinja\_50, Virapocalypse\_49, Chah\_51, Yoshand\_50, PG1\_50, Hocus\_48, Simielle\_48, Legolas\_49, Ashraf\_49, LemonSlice\_49, Phareon\_49, Daffy\_49, Hetaeria\_49

- Track 24 : Hamish\_49, Haimas\_49
- Track 25 : MiniBoss\_49, Soile\_49, LostAndPhound\_48, LeiMonet\_50, Brilliant\_49, SassyCat97\_48, Badfish\_50, Omniscient\_49, Zaider\_50, Roliet\_49, AltPhacts\_49, KingVeVeVe\_49, Potter\_48, Nacho\_0050, BlueHusk\_49, MRabcd\_48, Kimbrough\_49, Soto\_49, EmpTee\_49, Giraffe\_49, SDcharge11\_49, JakeO\_48, Mosaic\_48, MitKao\_49, Sophia\_48, Crownjwl\_49, Schueller\_49, Mana\_48, Dingo\_49, MelsMeow\_49, Mecca\_48, Chorkpop\_49, Squid\_49
- Track 26 : ThreeOh3D2\_50, Colbert\_49, Tooj\_49, Oosterbaan\_49, Thora\_49, RedMaple\_49, OSmaximus\_50, OliverWalter\_49, DirtJuice\_49, Manad\_49, Cornobble\_48, Pops\_49, Etaye\_49, Surely\_49, CheetO\_49, Inverness\_49, Hertubise\_49
- Track 27 : AbsoluteMadLad\_48, Daka\_50, Prickles\_49, HSavage\_49, KlimbOn\_49, Gwilliam\_50, Newman\_49
- Track 28 : Kahve\_48
- Track 29 : Harvey\_49, Robyn\_48, Aelin\_48, Antonia\_48
- Track 30 : JDog\_49, Melc17\_49, Weher20\_49, Dati\_49
- Track 31 : Olive\_49
- Track 32 : BQuat\_28, Jane\_28, BPs\_28, LouisV14\_28, Mowgli\_28, PinkYoshi\_28, Phish\_28, CassieYates\_28, Remy19\_28, Camri\_28, BruceB\_28, Sweets\_28, Kareem\_28, Darionha\_28, Hope\_28, Frosty24\_28, TomBrady\_28, OctaviousRex\_28, Renaissance\_28, Gideon\_28, JorRay\_28, Phreak\_28, CLED96\_28, Coleslaw\_28, Olga\_28, DNAlll\_0028, Cedasite\_28, Plagueis\_28, Annihilator\_28, ShaboiShabazz\_28, DMoney\_28, Cherrybomb426\_28, Gomashi\_28, Crespo\_28, Zombie\_28, Marmie\_28, Avrafan\_28, ZoMa\_28
- Track 33 : Sneeze\_28, Aroostook\_28, Jonghyun\_28, Hotshotbaby7\_28, ECartman\_28, Chance64\_28, Jolene\_28, Rabbs\_28, Periodt\_28
- Track 34 : Sizemore\_28, Kasen3\_28, Peeb\_28, Halo\_28, Angel\_28, GoldenAsh\_28, Schiebel\_28
- Track 35 : Barkley26\_28

- Track 36 : Grizzly\_28, Liefie\_28
- Track 37 : Terror\_28, Taheera\_28
- Track 38 : Paito\_28
- Track 39 : Lemuria\_29
- Track 40 : Mercurio\_30
- Track 41 : Jolie2\_28
- Track 42 : Antsirabe\_28
- Track 43 : Stargaze\_28
- Track 44 : Island3\_30, Bogie\_29, Brujita\_30
- Track 45 : Xula\_25
- Track 46 : QueenHazel\_26
- Track 47 : HC\_28, Babsiella\_27
- Track 48 : Sbash\_26
- Track 49 : Butters\_27, Rubeelu\_27
- Track 50 : Phrann\_26
- Track 51 : Kevin1\_27
- Track 52 : Sonah\_27, Necropolis\_27
- Track 53 : Jung\_26
- Track 54 : Shipwreck\_29
- Track 55 : Pygmy\_29
- Track 56 : Ksquared\_27, Juniormint\_27, Bunnies\_27
- Track 57 : Phegasus\_27, Jebeks\_27, Dynamo\_27, Mangethe\_27, Majeke\_27, Phineas\_27, Donovan\_27, Arib1\_27
- Track 58 : Fishburne\_27, Kari\_27, Bartholomew\_26, Venti\_27, HUHilltop\_27, FirstPlacePfu\_27, Langerak\_27, Vidya\_27
- Track 59 : Techage\_27
- Track 60 : CactusJack\_27, StressBall\_27, Glaske\_27, Megiddo\_27, KilKor\_27, Phalm\_27
- Track 61 : Atcoo\_27
- Track 62 : Polkaroo\_27
- Track 63 : Camster\_27
- Track 64 : Brusacoram\_27, Thespis\_27
- Track 65 : GreaseLightnin\_27
- Track 66 : StevieRay\_27
- Track 67 : Zilizebeth\_27
- Track 68 : Malithi\_27
- Track 69 : Xavia\_27
- Track 70 : Dewey\_32, Forge\_32, Hail\_32, OBUpride\_33, Luna22\_32, Hadrien\_33, HH92\_32, Wishmaker\_32, Amymech\_33, Webster2\_33, Luke\_33, Giles\_32, LilHazelnut\_33, Ubuntu\_33, Kinbote\_33, Evanesce\_32, Ein37\_33
- Track 71 : Gancho\_32
- Track 72 : Amochick\_33, Daegal\_34
- Track 73 : DeepSoil15\_33
- Track 74 : Gravallia\_32
- Track 75 : Hilltopfarm\_32
- Track 76 : Typha\_32
- Track 77 : IdentityCrisis\_26

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

The start number called the most often in the published annotations is 45, it was called in 247 of the 432 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• ABU\_50, AbsoluteMadLad\_48, Adriana\_50, Aelin\_48, AltPhacts\_49, Altwerkus\_48, Anderson\_49, Andre\_52, Antonia\_48, Apizium\_49, Ashraf\_49, Badfish\_50, Banjo\_48, Basato\_50, BatteryCK\_48, Beaglebox\_48, Bishoperium\_48, BlackStallion\_50, BlueHusk\_49, Bluephacebaby\_48, Boehler\_49, Brilliant\_49, Buckeye\_49, Burr\_48, CamL\_49, CampRoach\_50, Cannibal\_49, Carthage\_47, Chaelin\_49, Chah\_51, Charles1\_49, CharlieGBrown\_48, CheetO\_49, Cher\_48, Childish\_48, Chorkpop\_49, Chunky\_49, Chute\_48, Cobra\_49, Colbert\_49, Coletti\_48, Cornobble\_48, Cosmolli16\_48, Craff\_50, Crownjwl\_49, DaddyDaniels\_49, Daffy\_49, Daka\_50, Dati\_49, DelRivs\_48, Derpp\_48, Dice\_51, Dingo\_49, Dione\_48, DirtJuice\_49, Doddsville\_49, DoesntMatter\_48, DonSanchon\_48, DuchessDung\_48, Duggie\_48, Durga\_50, Emiris\_50, EmpTee\_49, Eremos\_49, Etaye\_49, Eugenia\_49, Fang\_50, FluffyNinja\_50, Fozzie\_48, Frankicide\_49, Freya\_48, FriarPreacher\_48, Fringe\_50, FugateOSU\_48, Gareth\_48, GeneCoco\_49, Giraffe\_49, Gophee\_49, Grand2040\_48, Gwilliam\_50, Gyarad\_0049, HSavage\_49, Haimas\_49, Haleema\_48, Hamish\_49, Hartsy\_49, Harvey\_49, Held\_49, HenryJackson\_48, Hertubise\_49, Hetaeria\_49, HighStump\_49, Hocus\_48, Horchata\_49, ImtiyazSitla\_49, Inchworm\_50, Inverness\_49, Iridoclysis\_49, IsaacEli\_50, JDog\_49, JacAttac\_50, JakeO\_48, JangoPhett\_49, Jillium\_48, Jiminy\_48, KLucky39\_49, Kahve\_48, Kailash\_49, Katniss\_50, Keitherie\_49, Kikipoo\_50, Kimbrough\_49, KingTut\_40, KingVeVeVe\_49, KlimbOn\_49, Kloppinator\_50, Kwadwo\_48, Kwksand96\_48, Labeouficaum\_48, LasagnaCat\_50, Lasso\_49, LeeLot\_49, Lego3393\_48, Legolas\_49, LeiMonet\_50, LemonSlice\_49, Longacauda\_48, Lopsy\_48, LostAndPhound\_48, LuckyMarjie\_48, Lulumae\_48, Lulwa\_49, Lumine\_48, MRabcd\_48, Mag7\_48, Magic8\_49, Mana\_48, Manad\_49, Maru\_48, Maskar\_49, Matalotodo\_49, Mcshane\_48, Mecca\_48, Megamind20\_49, Megatron\_50, Melc17\_49, MelsMeow\_49, Mesh1\_49, MichaelPhcott\_48, Mikota\_49, MiniBoss\_49, MitKao\_49, Morgushi\_49, Morty\_50, Mosaic\_48, MrPhizzler\_48, Mulan\_49, Murdoc\_49, Mutante\_48, Nacho\_0050, Newman\_49, Nicole21\_49, Numberten\_49, Nyala\_48, OSmaximus\_50, Olak\_49, Oline\_48, Olive\_49, OliverWalter\_49, Omniscient\_49, Oosterbaan\_49, Orfeu\_49, Orion\_50, Orwigg\_50, PG1\_50, Pacifista\_51, Phamished\_50, Phareon\_49, PhatCats2014\_50, PhatLouie\_49, PhenghisKhan\_48, Pherdinand\_50, Phergie\_49, Phipps\_49, Phleuron\_48, PhrankReynolds\_47, PhrodoBaggins\_49, Phunky\_49, Piglet\_0049, PinheadLarry\_49, Pinkman\_48, Pipsqueak\_49, Placalicious\_48, Plmatters\_49, Podrick\_49, Pops\_49, Potter\_48, Prickles\_49, ProfessorX\_49, Puhltonio\_49, QueenBeane\_49, Quisquiliae\_49, RedMaple\_49, Ricotta\_49, Riggan\_49, Rimu\_51, Robyn\_48, Roliet\_49, Roscoe\_50, Roy17\_49, SDcharge11\_49, Samaymay\_49, SassyCat97\_48, Schadenfreude\_48, Schueller\_49, Scoot17C\_50, Scrick\_49, Selr12\_51, Serendipity\_49, Serpentine\_0049, Sheila\_49, ShiVal\_49, Sigman\_50, Simielle\_48, Skippy\_49, Slatt\_49, Soile\_49, Solosis\_48, Sophia\_48, Soto\_49, Spartan300\_49, Squid\_49, Squiggle\_49, Struggle\_48, Suffolk\_49, Surely\_49, Swiphy\_51, Swish\_50, TallGrassMM\_49, Telesworld\_48, Thora\_49, ThreeOh3D2\_50, Timmi\_48, TomBombadil\_49, Tomlarah\_49, Toni\_48, Tooj\_49, True\_48, Trypo\_50, TyrionL\_48, UAch1\_49, UncleHowie\_49, Usavi\_49, Vaishali24\_48, Valjean\_49, Vaticameos\_45, Veritas\_48, Virapocalypse\_49, Virgeve\_48, Vista\_49, Vivaldi\_50, Vortex\_49, Wallhey\_48, Waterdiva\_49, Weher20\_49, Windsor\_48, Xavier\_48, Yoshand\_50, YouGoGlencoco\_49, Zaider\_50, Zelda\_49, Zonia\_49,

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

•

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

- AgentM\_8, Airmid\_8, Amochick\_33, Amymech\_33, Angel\_28, Annihilator\_28, Antsirabe\_28, Aragog\_8, Archetta\_8, Arib1\_27, Aroostook\_28, Astro\_8, Atcoo\_27, Avrafan\_28, BPs\_28, BQuat\_28, Babsiella\_27, Barkley26\_28, Bartholomew\_26, Benedict\_8, Bluefalcon\_7, Bogie\_29, Bonamassa\_8, BruceB\_28, Brujita\_30, Brusacoram\_27, Bunnies\_27, Butters\_27, CLED96\_28, CactusJack\_27, Camri\_28, Camster\_27, CassieYates\_28, Cedasite\_28, Chadwick\_9, Chance64\_28, Cherrybomb426\_28, Coleslaw\_28, Conspiracy\_8, Coog\_8, Crespo\_28, Cuco\_8, DMoney\_28, DNAIII\_0028, Daegal\_34, Danforth\_7, Darionha\_28, DeepSoil15\_33, Dewey\_32, Discoknowium\_8, Dixon\_8, Donovan\_27, Dublin\_7, Dynamo\_27, ECartman\_28, Ein37\_33, EITiger69\_8, Evanesce\_32, Expelliarmus\_7, FirstPlacePfu\_27, Fishburne\_27, ForGetIt\_8, Forge\_32, Frosty24\_28, Gancho\_32, George\_7, Ghoulyboy\_8, Gideon\_28, Giles\_32, Glaske\_27, GoldenAsh\_28, Gomashi\_28, Gravallia\_32, GreaseLightnin\_27, Grizzly\_28, Groundhog\_7, HC\_28, HH92\_32, HUHilltop\_27, Hadrien\_33, Hail\_32, Halo\_28, Hilltopfarm\_32, Hope\_28, Hotshotbaby7\_28, HuhtaEnerson15\_8, IdentityCrisis\_26, Island3\_30, Jabiru\_8, Jane\_28, Jebeks\_27, Jolene\_28, Jolie2\_28, Jonghyun\_28, JorRay\_28, Journey13\_9, Jovo\_8, Jung\_26, Juniormint\_27, JustASigh\_27, Kareem\_28, Kari\_27, Kasen3\_28, Kevin1\_27, KilKor\_27, Kinbote\_33, Ksquared\_27, Langerak\_27, Lemuria\_29, Lev2\_8, Liefie\_28, LilHazelnut\_33, LittleCherry\_8, LouisV14\_28, Luke\_33, Luna22\_32, Majeke\_27, Malithi\_27, Mangethe\_27, Mao1\_38, Marmie\_28, MarysWell\_7, Megiddo\_27, Mercurio\_30, Micasa\_7, Midas2\_8, Milcery\_8, MissWhite\_11, Mowgli\_28, Naca\_8, NearlyHeadless\_8, Necropolis\_27, OBUpride\_33, OctaviousRex\_28, Olga\_28, Paito\_28, Peeb\_28, Periodt\_28, PetterN\_9, Phalm\_27, Phegasus\_27, Phillis\_8, Phineas\_27, Phish\_28, Phlorence\_8, Phrann\_26, Phreak\_28, PickleBack\_8, PinkYoshi\_28, Plagueis\_28, Polkaroo\_27, Pygmy\_29, QueenHazel\_26, Rabbs\_28, Remy19\_28, Renaissance\_28, Roary\_8, Rubeelu\_27, Saintus\_8, Sbash\_26, Schiebel\_28, Scorpia\_9, ShaboiShabazz\_28, Shipwreck\_29, Sizemore\_28, Smeadley\_8, Sneeze\_28, Sonah\_27, Stargaze\_28, Stephig9\_8, StevieRay\_27, StressBall\_27, Sweets\_28, Swirley\_8, SydNat\_8, Taheera\_28, Tarynearal\_7, Techage\_27, Terror\_28, Theia\_7, Thespis\_27, Tiger\_8, TipsytheTRex\_10, TomBrady\_28, Typha\_32, Ubuntu\_33, UnionJack\_8, Venti\_27, Vidya\_27, Webster2\_33, Weirdo19\_29, Wishmaker\_32, Xavia\_27, Xula\_25, Zilizabeth\_27, ZoMa\_28, Zolita\_7, Zombi\_28,

### Summary by start number:

Start 45:

- Found in 272 of 470 ( 57.9% ) of genes in pham
- Manual Annotations of this start: 247 of 432
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ABU\_50 (B1), AbsoluteMadLad\_48 (B1), Adriana\_50 (B1), Aelin\_48 (B1), AltPhacts\_49 (B1), Altwerkus\_48 (B1), Anderson\_49 (B1), Andre\_52 (B1), Antonia\_48 (B1), Apizium\_49 (B1), Ashraf\_49 (B1), Badfish\_50 (B1), Banjo\_48 (B1), Basato\_50 (B1), BatteryCK\_48 (B1), Beaglebox\_48 (B1), Bishoperium\_48 (B1), BlackStallion\_50 (B1), BlueHusk\_49 (B1), Bluephacebaby\_48 (B1), Boehler\_49 (B1), Brilliant\_49 (B1), Buckeye\_49 (B1), Burr\_48 (B1), CamL\_49 (B1), CampRoach\_50 (B1), Cannibal\_49 (B1), Carthage\_47 (B1), Chaelin\_49 (B1), Chah\_51 (B1), Charles1\_49 (B1), CharlieGBrown\_48 (B1), CheetO\_49 (B1), Cher\_48 (B1), Childish\_48 (B1), Chorkpop\_49 (B1), Chunky\_49 (B1), Chute\_48 (B1), Cobra\_49 (B1), Colbert\_49 (B1), Coletti\_48 (B1), Cornobble\_48

(B1), Cosmolli16\_48 (B1), Craff\_50 (B1), Crownjwl\_49 (B1), DaddyDaniels\_49 (B1), Daffy\_49 (B1), Daka\_50 (B1), Dati\_49 (B1), DelRivs\_48 (B1), Derpp\_48 (B1), Dice\_51 (B1), Dingo\_49 (B1), Dione\_48 (B1), DirtJuice\_49 (B1), Doddsville\_49 (B1), DoesntMatter\_48 (B1), DonSanchon\_48 (B1), DuchessDung\_48 (B1), Duggie\_48 (B1), Durga\_50 (B1), Emiris\_50 (B1), EmpTee\_49 (B1), Eremos\_49 (B1), Etaye\_49 (B1), Eugenia\_49 (B1), Fang\_50 (B1), FluffyNinja\_50 (B1), Fozzie\_48 (B1), Frankicide\_49 (B1), Freya\_48 (B1), FriarPreacher\_48 (B1), Fringe\_50 (B1), FugateOSU\_48 (B1), Gareth\_48 (B1), GeneCoco\_49 (B1), Giraffe\_49 (B1), Gophee\_49 (B1), Grand2040\_48 (B1), Gwilliam\_50 (B1), Gyarad\_0049 (B1), HSavage\_49 (B1), Haimas\_49 (B1), Haleema\_48 (B1), Hamish\_49 (B1), Hartsy\_49 (B1), Harvey\_49 (B1), Held\_49 (B1), HenryJackson\_48 (B1), Hertubise\_49 (B1), Hetaeria\_49 (B1), HighStump\_49 (B1), Hocus\_48 (B1), Horchata\_49 (B1), ImtiyazSitla\_49 (B1), Inchworm\_50 (B1), Inverness\_49 (B1), Iridoclysis\_49 (B1), IsaacEli\_50 (B1), JDog\_49 (B1), JacAttac\_50 (B1), JakeO\_48 (B1), JangoPhett\_49 (B1), Jillium\_48 (B1), Jiminy\_48 (B1), KLucky39\_49 (B1), Kahve\_48 (B1), Kailash\_49 (B1), Katniss\_50 (B1), Keitherie\_49 (B1), Kikipoo\_50 (B1), Kimbrough\_49 (B1), KingTut\_40 (B1), KingVeVeVe\_49 (B1), KlimbOn\_49 (B1), Kloppinator\_50 (B1), Kwadwo\_48 (B1), Kwksand96\_48 (B1), Labeouficaum\_48 (B1), LasagnaCat\_50 (B1), Lasso\_49 (B1), LeeLot\_49 (B1), Lego3393\_48 (B1), Legolas\_49 (B1), LeiMonet\_50 (B1), LemonSlice\_49 (B1), Longacauda\_48 (B1), Lopsy\_48 (B1), LostAndPhound\_48 (B1), LuckyMarjie\_48 (B1), Lulumae\_48 (B1), Lulwa\_49 (B1), Lumine\_48 (B1), MRabcd\_48 (B1), Mag7\_48 (B1), Magic8\_49 (B1), Mana\_48 (B1), Manad\_49 (B1), Maru\_48 (B1), Maskar\_49 (B1), Matalotodo\_49 (B1), Mcshane\_48 (B1), Mecca\_48 (B1), Megamind20\_49 (B1), Megatron\_50 (B1), Melc17\_49 (B1), MelsMeow\_49 (B1), Mesh1\_49 (B1), MichaelPhcott\_48 (B1), Mikota\_49 (B1), MiniBoss\_49 (B1), MitKao\_49 (B1), Morgushi\_49 (B1), Morty\_50 (B1), Mosaic\_48 (B1), MrPhizzler\_48 (B1), Mulan\_49 (B1), Murdoc\_49 (B1), Mutante\_48 (B1), Nacho\_0050 (B1), Newman\_49 (B1), Nicole21\_49 (B1), Numberten\_49 (B1), Nyala\_48 (B1), OSmaximus\_50 (B1), Olak\_49 (B1), Oline\_48 (B1), Olive\_49 (B1), OliverWalter\_49 (B1), Omniscient\_49 (B1), Oosterbaan\_49 (B1), Orfeu\_49 (B1), Orion\_50 (B1), Orwigg\_50 (B1), PG1\_50 (B1), Pacifista\_51 (B1), Phamished\_50 (B1), Phareon\_49 (B1), PhatCats2014\_50 (B1), PhatLouie\_49 (B1), PhenghisKhan\_48 (B1), Pherdinand\_50 (B1), Phergie\_49 (B1), Phipps\_49 (B1), Phleuron\_48 (B1), PhrankReynolds\_47 (B1), PhrodoBaggins\_49 (B1), Phunky\_49 (B1), Piglet\_0049 (B1), PinheadLarry\_49 (B1), Pinkman\_48 (B1), Pipsqueak\_49 (B1), Placalicious\_48 (B1), Plmatters\_49 (B1), Podrick\_49 (B1), Pops\_49 (B1), Potter\_48 (B1), Prickles\_49 (B1), ProfessorX\_49 (B1), Puhltonio\_49 (B1), QueenBeane\_49 (B1), Quisquillae\_49 (B1), RedMaple\_49 (B1), Ricotta\_49 (B1), Riggan\_49 (B1), Rimu\_51 (B1), Robyn\_48 (B1), Roliet\_49 (B1), Roscoe\_50 (B1), Roy17\_49 (B1), SDcharge11\_49 (B1), Samaymay\_49 (B1), SassyCat97\_48 (B1), Schadenfreude\_48 (B1), Schueller\_49 (B1), Scoot17C\_50 (B1), Scrick\_49 (B1), Selr12\_51 (B1), Serendipity\_49 (B1), Serpentine\_0049 (B1), Sheila\_49 (B1), ShiVal\_49 (B1), Sigman\_50 (B1), Simielle\_48 (B1), Skippy\_49 (B1), Slatt\_49 (B1), Soile\_49 (B1), Solosis\_48 (B1), Sophia\_48 (B1), Soto\_49 (B1), Spartan300\_49 (B1), Squid\_49 (B1), Squiggle\_49 (B1), Struggle\_48 (B1), Suffolk\_49 (B1), Surely\_49 (B1), Swiphy\_51 (B1), Swish\_50 (B1), TallGrassMM\_49 (B1), Telesworld\_48 (B1), Thora\_49 (B1), ThreeOh3D2\_50 (B1), Timmi\_48 (B1), TomBombadil\_49 (B1), Tomlarah\_49 (B1), Toni\_48 (B1), Tooj\_49 (B1), True\_48 (B1), Trypo\_50 (B1), TyrionL\_48 (B1), UAch1\_49 (B1), UncleHowie\_49 (B1), Usavi\_49 (B1), Vaishali24\_48 (B1), Valjean\_49 (B1), Vaticameos\_45 (B1), Veritas\_48 (B1), Virapocalypse\_49 (B1), Virgeve\_48 (B1), Vista\_49 (B1), Vivaldi\_50 (B1), Vortex\_49 (B1), Wallhey\_48 (B1), Waterdiva\_49 (B1), Weher20\_49 (B1), Windsor\_48 (B1), Xavier\_48 (B1), Yoshand\_50 (B1), YouGoGlencoco\_49 (B1), Zaider\_50 (B1), Zelda\_49 (B1), Zonia\_49 (B1),



Start 46:

- Found in 22 of 470 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 21 of 432
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amochick\_33 (Q), Amymech\_33 (Q), Daegal\_34 (Q), DeepSoil15\_33 (Q), Dewey\_32 (Q), Ein37\_33 (Q), Evanesce\_32 (Q), Forge\_32 (Q), Gancho\_32 (Q), Giles\_32 (Q), Gravaillia\_32 (Q), HH92\_32 (Q), Hadrien\_33 (Q), Hail\_32 (Q), Kinbote\_33 (Q), LilHazelNut\_33 (Q), Luke\_33 (Q), Luna22\_32 (Q), OBUpride\_33 (Q), Ubuntu\_33 (Q), Webster2\_33 (Q), Wishmaker\_32 (Q),

Start 47:

- Found in 1 of 470 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 432
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lemuria\_29 (G4),

Start 48:

- Found in 68 of 470 ( 14.5% ) of genes in pham
- Manual Annotations of this start: 62 of 432
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angel\_28 (G1), Annihilator\_28 (G1), Antsirabe\_28 (G5), Aroostook\_28 (G1), Avrafan\_28 (G1), BPs\_28 (G1), BQuat\_28 (G1), Barkley26\_28 (G1), BruceB\_28 (G1), CLED96\_28 (G1), Camri\_28 (G1), CassieYates\_28 (G1), Cedasite\_28 (G1), Chance64\_28 (G1), Cherrybomb426\_28 (G1), Coleslaw\_28 (G1), Crespo\_28 (G1), DMoney\_28 (G1), DNAIII\_0028 (G1), Darionha\_28 (G1), ECartman\_28 (G1), Frosty24\_28 (G1), Gideon\_28 (G1), GoldenAsh\_28 (G1), Gomashi\_28 (G1), Grizzly\_28 (G1), Halo\_28 (G1), Hilltopfarm\_32 (Y), Hope\_28 (G1), Hotshotbaby7\_28 (G1), Jane\_28 (G1), Jolene\_28 (G1), Jolie2\_28 (G4), Jonghyun\_28 (G1), JorRay\_28 (G1), JustASigh\_27 (AH), Kareem\_28 (G1), Kasen3\_28 (G1), Liefie\_28 (G1), LouisV14\_28 (G1), Marmie\_28 (G1), Mercurio\_30 (G4), Mowgli\_28 (G1), OctaviousRex\_28 (G1), Olga\_28 (G1), Paito\_28 (G1), Peeb\_28 (G1), Periodt\_28 (G1), Phish\_28 (G1), Phreak\_28 (G1), PinkYoshi\_28 (G1), Plagueis\_28 (G1), Rabbs\_28 (G1), Remy19\_28 (G1), Renaissance\_28 (G1), Schiebel\_28 (G1), ShaboiShabazz\_28 (G1), Sizemore\_28 (G1), Sneeze\_28 (G1), Stargaze\_28 (G5), Sweets\_28 (G1), Taheera\_28 (G1), Terror\_28 (G1), TomBrady\_28 (G1), Typha\_32 (Y), Weirdo19\_29 (AH), ZoMa\_28 (G1), Zombi\_28 (G1),

Start 51:

- Found in 55 of 470 ( 11.7% ) of genes in pham
- Manual Annotations of this start: 50 of 432
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1\_27 (P1), Atcoo\_27 (P1), Babsiella\_27 (I1), Bartholomew\_26 (P1), Bogie\_29 (P1), Brujita\_30 (I1), Brusacoram\_27 (P1), Bunnies\_27 (P1), Butters\_27 (N), CactusJack\_27 (P1), Camster\_27 (P1), Donovan\_27 (P1), Dynamo\_27 (P1), FirstPlacePfu\_27 (P1), Fishburne\_27 (P1), Glaske\_27 (P1), GreaseLightnin\_27 (P1), HC\_28 (I1), HUHilltop\_27 (P1), IdentityCrisis\_26 (singleton), Island3\_30 (I1), Jebeks\_27 (P1), Jung\_26 (P1), Juniormint\_27 (P1), Kari\_27 (P1), Kevin1\_27 (N), KilKor\_27 (P1), Ksquared\_27 (P1), Langerak\_27 (P1), Majeke\_27 (P1), Malithi\_27 (P1), Mangethe\_27 (P1), Mao1\_38 (AD), Megiddo\_27 (P1), Necropolis\_27 (P1), Phalm\_27

(P1), Phegasus\_27 (P1), Phineas\_27 (P1), Phrann\_26 (N), Polkaroo\_27 (P1), Pygmy\_29 (P1), QueenHazel\_26 (I1), Rubeelu\_27 (N), Sbash\_26 (I2), Shipwreck\_29 (P1), Sonah\_27 (P1), StevieRay\_27 (P1), StressBall\_27 (P1), Techage\_27 (P1), Thespis\_27 (P1), Venti\_27 (P1), Vidya\_27 (P1), Xavia\_27 (P3), Xula\_25 (I1), Zilizebeth\_27 (P1),

Start 85:

- Found in 49 of 470 ( 10.4% ) of genes in pham
- Manual Annotations of this start: 48 of 432
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AgentM\_8 (A5), Airmid\_8 (A5), Aragog\_8 (A5), Archetta\_8 (A5), Astro\_8 (A8), Benedict\_8 (A5), Bluefalcon\_7 (A5), Bonamassa\_8 (A5), Chadwick\_9 (A5), Conspiracy\_8 (A5), Coog\_8 (A5), Cuco\_8 (A5), Danforth\_7 (A8), Discoknowium\_8 (A5), Dixon\_8 (A8), Dublin\_7 (A5), EITiger69\_8 (A5), Expelliarmus\_7 (A8), ForGetIt\_8 (A5), George\_7 (A5), Ghouboy\_8 (A5), Groundhog\_7 (A8), HuhtaEnerson15\_8 (A5), Jabiru\_8 (A5), Jovo\_8 (A5), Lev2\_8 (A5), LittleCherry\_8 (A5), MarysWell\_7 (A5), Micasa\_7 (A5), Midas2\_8 (A5), Milcery\_8 (A5), Naca\_8 (A5), NearlyHeadless\_8 (A8), PetterN\_9 (A5), Phillis\_8 (A8), Phlorence\_8 (A5), PickleBack\_8 (A5), Roary\_8 (A8), Saintus\_8 (A8), Scorpia\_9 (A5), Smeadley\_8 (A8), Stephig9\_8 (A8), Swirley\_8 (A5), SydNat\_8 (A5), Tarynearal\_7 (A5), Theia\_7 (A5), Tiger\_8 (A5), UnionJack\_8 (A5), Zolita\_7 (A5),

Start 86:

- Found in 4 of 470 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 3 of 432
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Journey13\_9 (A2), MissWhite\_11 (A2), TipsytheTRex\_10 (A2),

### Summary by clusters:

There are 17 clusters represented in this pham: G4, singleton, P1, AD, G1, P3, I1, AH, I2, G5, N, Q, A2, A5, B1, Y, A8,

Info for manual annotations of cluster A2:

- Start number 86 was manually annotated 3 times for cluster A2.

Info for manual annotations of cluster A5:

- Start number 85 was manually annotated 37 times for cluster A5.

Info for manual annotations of cluster A8:

- Start number 85 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster B1:

- Start number 45 was manually annotated 247 times for cluster B1.

Info for manual annotations of cluster G1:

- Start number 48 was manually annotated 58 times for cluster G1.

Info for manual annotations of cluster G4:

- Start number 47 was manually annotated 1 time for cluster G4.

- Start number 48 was manually annotated 1 time for cluster G4.

Info for manual annotations of cluster G5:

- Start number 48 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster I1:

- Start number 51 was manually annotated 6 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 51 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster N:

- Start number 51 was manually annotated 4 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 51 was manually annotated 37 times for cluster P1.

Info for manual annotations of cluster P3:

- Start number 51 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster Q:

- Start number 46 was manually annotated 21 times for cluster Q.

Info for manual annotations of cluster Y:

- Start number 48 was manually annotated 2 times for cluster Y.

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

Gene: ABU\_50 Start: 41835, Stop: 43190, Start Num: 45

Candidate Starts for ABU\_50:

(Start: 45 @41835 has 247 MA's), (50, 41886), (53, 41919), (71, 42048), (72, 42051), (73, 42066), (87, 42162), (89, 42201), (93, 42231), (96, 42267), (107, 42378), (112, 42408), (113, 42411), (120, 42477), (134, 42636), (138, 42684), (140, 42702), (148, 42750), (166, 42894), (172, 42954), (186, 43059), (193, 43146),

Gene: AbsoluteMadLad\_48 Start: 41712, Stop: 43067, Start Num: 45

Candidate Starts for AbsoluteMadLad\_48:

(Start: 45 @41712 has 247 MA's), (50, 41763), (53, 41796), (56, 41814), (71, 41925), (72, 41928), (73, 41943), (87, 42039), (89, 42078), (93, 42108), (96, 42144), (107, 42255), (112, 42285), (113, 42288), (120, 42354), (134, 42513), (138, 42561), (140, 42579), (148, 42627), (166, 42771), (172, 42831), (186, 42936), (189, 42990), (193, 43023),

Gene: Adriana\_50 Start: 41833, Stop: 43188, Start Num: 45

Candidate Starts for Adriana\_50:

(Start: 45 @41833 has 247 MA's), (50, 41884), (53, 41917), (71, 42046), (72, 42049), (73, 42064), (87, 42160), (89, 42199), (93, 42229), (96, 42265), (107, 42376), (112, 42406), (113, 42409), (120, 42475), (134, 42634), (138, 42682), (140, 42700), (148, 42748), (166, 42892), (172, 42952), (186, 43057), (193, 43144),

Gene: Aelin\_48 Start: 41276, Stop: 42631, Start Num: 45

Candidate Starts for Aelin\_48:

(Start: 45 @41276 has 247 MA's), (50, 41327), (53, 41360), (71, 41489), (72, 41492), (73, 41507), (87, 41603), (89, 41642), (93, 41672), (96, 41708), (104, 41783), (107, 41819), (112, 41849), (113, 41852), (120, 41918), (134, 42077), (138, 42125), (140, 42143), (148, 42191), (166, 42335), (172, 42395), (186, 42500), (193, 42587),

Gene: AgentM\_8 Start: 5433, Stop: 6242, Start Num: 85

Candidate Starts for AgentM\_8:

(Start: 85 @5433 has 48 MA's), (89, 5496), (90, 5505), (93, 5526), (96, 5562), (100, 5610), (105, 5667), (109, 5691), (134, 5922), (140, 5979), (196, 6228),

Gene: Airmid\_8 Start: 5180, Stop: 5989, Start Num: 85

Candidate Starts for Airmid\_8:

(Start: 85 @5180 has 48 MA's), (88, 5225), (96, 5309), (97, 5324), (100, 5357), (130, 5627), (134, 5669), (138, 5708), (140, 5726), (144, 5756), (195, 5954),

Gene: AltPhacts\_49 Start: 41685, Stop: 43040, Start Num: 45

Candidate Starts for AltPhacts\_49:

(Start: 45 @41685 has 247 MA's), (50, 41736), (53, 41769), (56, 41787), (71, 41898), (72, 41901), (73, 41916), (87, 42012), (89, 42051), (93, 42081), (96, 42117), (107, 42228), (112, 42258), (113, 42261), (120, 42327), (134, 42486), (138, 42534), (140, 42552), (148, 42600), (166, 42744), (172, 42804), (186, 42909), (193, 42996),

Gene: Altwerkus\_48 Start: 41391, Stop: 42746, Start Num: 45

Candidate Starts for Altwerkus\_48:

(Start: 45 @41391 has 247 MA's), (50, 41442), (53, 41475), (71, 41604), (72, 41607), (73, 41622), (87, 41718), (89, 41757), (93, 41787), (96, 41823), (107, 41934), (112, 41964), (113, 41967), (120, 42033), (134, 42192), (138, 42240), (140, 42258), (148, 42306), (166, 42450), (172, 42510), (186, 42615), (193, 42702),

Gene: Amochick\_33 Start: 28345, Stop: 29580, Start Num: 46

Candidate Starts for Amochick\_33:

(Start: 46 @28345 has 21 MA's), (55, 28438), (58, 28450), (61, 28471), (62, 28483), (65, 28495), (66, 28498), (75, 28579), (81, 28612), (87, 28672), (89, 28711), (90, 28720), (91, 28723), (93, 28741), (96, 28777), (100, 28825), (101, 28837), (102, 28843), (109, 28906), (110, 28909), (114, 28936), (117, 28948), (121, 29005), (125, 29050), (134, 29137), (135, 29149), (138, 29176), (141, 29197), (143, 29212), (155, 29266), (164, 29296), (167, 29329), (169, 29338), (171, 29344), (174, 29356), (176, 29365), (184, 29428), (189, 29497), (192, 29524),

Gene: Amymech\_33 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Amymech\_33:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: Anderson\_49 Start: 41690, Stop: 43045, Start Num: 45

Candidate Starts for Anderson\_49:

(Start: 45 @41690 has 247 MA's), (50, 41741), (53, 41774), (71, 41903), (72, 41906), (73, 41921), (87, 42017), (89, 42056), (93, 42086), (96, 42122), (107, 42233), (112, 42263), (113, 42266), (120, 42332), (134, 42491), (138, 42539), (140, 42557), (148, 42605), (166, 42749), (172, 42809), (186, 42914), (193, 43001),

Gene: Andre\_52 Start: 41827, Stop: 43182, Start Num: 45

Candidate Starts for Andre\_52:

(Start: 45 @41827 has 247 MA's), (50, 41878), (53, 41911), (71, 42040), (72, 42043), (73, 42058), (87, 42154), (89, 42193), (93, 42223), (96, 42259), (107, 42370), (112, 42400), (113, 42403), (120, 42469), (134, 42628), (138, 42676), (140, 42694), (148, 42742), (166, 42886), (172, 42946), (186, 43051), (193, 43138),

Gene: Angel\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Angel\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (92, 25567), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Annihilator\_28 Start: 25192, Stop: 26400, Start Num: 48

Candidate Starts for Annihilator\_28:

(40, 25099), (Start: 48 @25192 has 62 MA's), (69, 25366), (79, 25438), (89, 25537), (90, 25546), (94, 25570), (95, 25579), (96, 25603), (98, 25624), (100, 25651), (101, 25663), (110, 25735), (117, 25774), (134, 25963), (137, 25987), (138, 26002), (141, 26023), (148, 26068), (149, 26071), (164, 26122),

Gene: Antonia\_48 Start: 41276, Stop: 42631, Start Num: 45

Candidate Starts for Antonia\_48:

(Start: 45 @41276 has 247 MA's), (50, 41327), (53, 41360), (71, 41489), (72, 41492), (73, 41507), (87, 41603), (89, 41642), (93, 41672), (96, 41708), (104, 41783), (107, 41819), (112, 41849), (113, 41852), (120, 41918), (134, 42077), (138, 42125), (140, 42143), (148, 42191), (166, 42335), (172, 42395), (186, 42500), (193, 42587),

Gene: Antsirabe\_28 Start: 26892, Stop: 28115, Start Num: 48

Candidate Starts for Antsirabe\_28:

(Start: 48 @26892 has 62 MA's), (69, 27066), (72, 27096), (79, 27138), (87, 27210), (89, 27249), (95, 27291), (96, 27315), (100, 27363), (103, 27387), (106, 27426), (110, 27447), (117, 27486), (119, 27504), (122, 27564), (134, 27675), (138, 27714), (141, 27735), (149, 27783), (179, 27927), (194, 28077),

Gene: Apizium\_49 Start: 41591, Stop: 42946, Start Num: 45

Candidate Starts for Apizium\_49:

(Start: 45 @41591 has 247 MA's), (50, 41642), (53, 41675), (71, 41804), (72, 41807), (73, 41822), (87, 41918), (89, 41957), (93, 41987), (96, 42023), (107, 42134), (112, 42164), (113, 42167), (120, 42233), (134, 42392), (138, 42440), (140, 42458), (148, 42506), (166, 42650), (172, 42710), (186, 42815), (193, 42902),

Gene: Aragog\_8 Start: 5463, Stop: 6272, Start Num: 85

Candidate Starts for Aragog\_8:

(Start: 85 @5463 has 48 MA's), (89, 5526), (90, 5535), (93, 5556), (96, 5592), (100, 5640), (105, 5697), (109, 5721), (130, 5910), (134, 5952), (140, 6009), (196, 6258),

Gene: Archetta\_8 Start: 5172, Stop: 5981, Start Num: 85

Candidate Starts for Archetta\_8:

(Start: 85 @5172 has 48 MA's), (89, 5235), (90, 5244), (93, 5265), (96, 5301), (100, 5349), (105, 5406), (109, 5430), (134, 5661), (140, 5718), (196, 5967),

Gene: Arib1\_27 Start: 24058, Stop: 25224, Start Num: 51

Candidate Starts for Arib1\_27:

(Start: 51 @24058 has 50 MA's), (59, 24115), (70, 24202), (76, 24247), (87, 24322), (88, 24343), (96, 24427), (100, 24466), (107, 24532), (112, 24562), (116, 24583), (120, 24628), (129, 24724), (132, 24763), (134, 24778), (138, 24817), (154, 24904), (158, 24922), (160, 24928), (167, 24976), (172, 24997), (183, 25069), (189, 25144),

Gene: Aroostook\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Aroostook\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (138, 26011), (141, 26032), (147, 26071), (148, 26077),

Gene: Ashraf\_49 Start: 41392, Stop: 42747, Start Num: 45

Candidate Starts for Ashraf\_49:

(Start: 45 @41392 has 247 MA's), (50, 41443), (53, 41476), (71, 41605), (72, 41608), (73, 41623), (87, 41719), (89, 41758), (93, 41788), (96, 41824), (107, 41935), (112, 41965), (113, 41968), (120, 42034), (134, 42193), (138, 42241), (140, 42259), (148, 42307), (166, 42451), (172, 42511), (186, 42616), (193, 42703),

Gene: Astro\_8 Start: 4873, Stop: 5682, Start Num: 85

Candidate Starts for Astro\_8:

(Start: 85 @4873 has 48 MA's), (92, 4957), (96, 5002), (101, 5062), (108, 5128), (134, 5362), (138, 5401), (140, 5419), (145, 5452), (149, 5470), (178, 5515), (185, 5539), (196, 5668),

Gene: Atcoo\_27 Start: 24541, Stop: 25707, Start Num: 51

Candidate Starts for Atcoo\_27:

(9, 23575), (13, 23698), (15, 23788), (29, 24055), (34, 24160), (Start: 51 @24541 has 50 MA's), (52, 24550), (57, 24595), (59, 24598), (70, 24685), (76, 24730), (87, 24805), (88, 24826), (89, 24844), (96, 24910), (100, 24949), (107, 25015), (112, 25045), (116, 25066), (120, 25111), (129, 25207), (132, 25246), (134, 25261), (138, 25300), (153, 25384), (154, 25387), (158, 25405), (160, 25411), (167, 25459), (177, 25504), (183, 25552), (189, 25627),

Gene: Avrafan\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Avrafan\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: BPs\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for BPs\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: BQuat\_28 Start: 25192, Stop: 26400, Start Num: 48

Candidate Starts for BQuat\_28:

(40, 25099), (Start: 48 @25192 has 62 MA's), (69, 25366), (79, 25438), (89, 25537), (90, 25546), (94, 25570), (95, 25579), (96, 25603), (98, 25624), (100, 25651), (101, 25663), (110, 25735), (117, 25774), (134, 25963), (137, 25987), (138, 26002), (141, 26023), (148, 26068), (149, 26071), (164, 26122),

Gene: Babsiella\_27 Start: 24108, Stop: 25286, Start Num: 51

Candidate Starts for Babsiella\_27:

(Start: 51 @24108 has 50 MA's), (54, 24150), (70, 24255), (76, 24309), (87, 24384), (88, 24405), (96, 24489), (100, 24528), (107, 24594), (112, 24624), (116, 24645), (120, 24690), (129, 24786), (132,

24825), (134, 24840), (138, 24879), (154, 24966), (158, 24984), (160, 24990), (167, 25038), (172, 25059), (183, 25131), (189, 25206), (195, 25248), (196, 25269), (197, 25275),

Gene: Badfish\_50 Start: 41858, Stop: 43213, Start Num: 45

Candidate Starts for Badfish\_50:

(Start: 45 @41858 has 247 MA's), (50, 41909), (53, 41942), (56, 41960), (71, 42071), (72, 42074), (73, 42089), (87, 42185), (89, 42224), (93, 42254), (96, 42290), (107, 42401), (112, 42431), (113, 42434), (120, 42500), (134, 42659), (138, 42707), (140, 42725), (148, 42773), (166, 42917), (172, 42977), (186, 43082), (193, 43169),

Gene: Banjo\_48 Start: 41389, Stop: 42744, Start Num: 45

Candidate Starts for Banjo\_48:

(Start: 45 @41389 has 247 MA's), (50, 41440), (53, 41473), (71, 41602), (72, 41605), (73, 41620), (87, 41716), (89, 41755), (93, 41785), (96, 41821), (107, 41932), (112, 41962), (113, 41965), (120, 42031), (134, 42190), (138, 42238), (140, 42256), (148, 42304), (166, 42448), (172, 42508), (186, 42613), (193, 42700),

Gene: Barkley26\_28 Start: 25223, Stop: 26431, Start Num: 48

Candidate Starts for Barkley26\_28:

(31, 24851), (37, 25079), (40, 25130), (Start: 48 @25223 has 62 MA's), (69, 25397), (79, 25469), (89, 25568), (90, 25577), (92, 25589), (94, 25601), (95, 25610), (96, 25634), (98, 25655), (100, 25682), (101, 25694), (110, 25766), (117, 25805), (134, 25994), (137, 26018), (138, 26033), (141, 26054), (148, 26099), (149, 26102), (164, 26153),

Gene: Bartholomew\_26 Start: 24052, Stop: 25218, Start Num: 51

Candidate Starts for Bartholomew\_26:

(Start: 51 @24052 has 50 MA's), (59, 24109), (70, 24196), (76, 24241), (87, 24316), (88, 24337), (96, 24421), (100, 24460), (107, 24526), (112, 24556), (116, 24577), (120, 24622), (129, 24718), (132, 24757), (134, 24772), (135, 24784), (138, 24811), (154, 24898), (158, 24916), (160, 24922), (167, 24970), (172, 24991), (183, 25063), (189, 25138),

Gene: Basato\_50 Start: 41974, Stop: 43329, Start Num: 45

Candidate Starts for Basato\_50:

(Start: 45 @41974 has 247 MA's), (50, 42025), (53, 42058), (71, 42187), (72, 42190), (73, 42205), (87, 42301), (89, 42340), (93, 42370), (96, 42406), (107, 42517), (112, 42547), (113, 42550), (120, 42616), (134, 42775), (138, 42823), (140, 42841), (148, 42889), (166, 43033), (172, 43093), (186, 43198), (193, 43285),

Gene: BatteryCK\_48 Start: 41332, Stop: 42687, Start Num: 45

Candidate Starts for BatteryCK\_48:

(Start: 45 @41332 has 247 MA's), (50, 41383), (53, 41416), (71, 41545), (72, 41548), (73, 41563), (87, 41659), (89, 41698), (93, 41728), (96, 41764), (107, 41875), (112, 41905), (113, 41908), (120, 41974), (134, 42133), (138, 42181), (140, 42199), (148, 42247), (166, 42391), (172, 42451), (186, 42556), (193, 42643),

Gene: Beaglebox\_48 Start: 41410, Stop: 42765, Start Num: 45

Candidate Starts for Beaglebox\_48:

(Start: 45 @41410 has 247 MA's), (50, 41461), (53, 41494), (71, 41623), (72, 41626), (73, 41641), (87, 41737), (89, 41776), (93, 41806), (96, 41842), (107, 41953), (112, 41983), (113, 41986), (120, 42052), (134, 42211), (138, 42259), (140, 42277), (148, 42325), (166, 42469), (172, 42529), (186, 42634), (193, 42721),

Gene: Benedict\_8 Start: 5182, Stop: 5991, Start Num: 85

Candidate Starts for Benedict\_8:

(Start: 85 @5182 has 48 MA's), (88, 5227), (96, 5311), (97, 5326), (100, 5359), (130, 5629), (134, 5671), (138, 5710), (140, 5728), (144, 5758), (195, 5956),

Gene: Bishoperium\_48 Start: 41404, Stop: 42759, Start Num: 45

Candidate Starts for Bishoperium\_48:

(Start: 45 @41404 has 247 MA's), (50, 41455), (53, 41488), (71, 41617), (72, 41620), (73, 41635), (87, 41731), (89, 41770), (93, 41800), (96, 41836), (107, 41947), (112, 41977), (113, 41980), (120, 42046), (134, 42205), (138, 42253), (140, 42271), (148, 42319), (166, 42463), (172, 42523), (186, 42628), (193, 42715),

Gene: BlackStallion\_50 Start: 41843, Stop: 43219, Start Num: 45

Candidate Starts for BlackStallion\_50:

(Start: 45 @41843 has 247 MA's), (50, 41894), (53, 41927), (71, 42056), (72, 42059), (73, 42074), (87, 42170), (89, 42209), (93, 42239), (96, 42275), (107, 42386), (112, 42416), (113, 42419), (120, 42485), (134, 42644), (138, 42692), (140, 42710), (148, 42758), (166, 42923), (172, 42983), (186, 43088), (193, 43175),

Gene: BlueHusk\_49 Start: 41210, Stop: 42565, Start Num: 45

Candidate Starts for BlueHusk\_49:

(Start: 45 @41210 has 247 MA's), (50, 41261), (53, 41294), (56, 41312), (71, 41423), (72, 41426), (73, 41441), (87, 41537), (89, 41576), (93, 41606), (96, 41642), (107, 41753), (112, 41783), (113, 41786), (120, 41852), (134, 42011), (138, 42059), (140, 42077), (148, 42125), (166, 42269), (172, 42329), (186, 42434), (193, 42521),

Gene: Bluefalcon\_7 Start: 5433, Stop: 6242, Start Num: 85

Candidate Starts for Bluefalcon\_7:

(Start: 85 @5433 has 48 MA's), (89, 5496), (90, 5505), (93, 5526), (96, 5562), (100, 5610), (105, 5667), (109, 5691), (130, 5880), (134, 5922), (140, 5979), (196, 6228),

Gene: Bluephacebaby\_48 Start: 41407, Stop: 42762, Start Num: 45

Candidate Starts for Bluephacebaby\_48:

(Start: 45 @41407 has 247 MA's), (50, 41458), (53, 41491), (71, 41620), (72, 41623), (73, 41638), (87, 41734), (89, 41773), (93, 41803), (96, 41839), (107, 41950), (112, 41980), (113, 41983), (120, 42049), (134, 42208), (138, 42256), (140, 42274), (148, 42322), (166, 42466), (172, 42526), (186, 42631), (193, 42718),

Gene: Boehler\_49 Start: 41713, Stop: 43068, Start Num: 45

Candidate Starts for Boehler\_49:

(Start: 45 @41713 has 247 MA's), (50, 41764), (53, 41797), (71, 41926), (72, 41929), (73, 41944), (87, 42040), (89, 42079), (93, 42109), (96, 42145), (107, 42256), (112, 42286), (113, 42289), (120, 42355), (134, 42514), (138, 42562), (140, 42580), (148, 42628), (166, 42772), (172, 42832), (186, 42937), (193, 43024),

Gene: Bogie\_29 Start: 25888, Stop: 27054, Start Num: 51

Candidate Starts for Bogie\_29:

(26, 25354), (29, 25402), (34, 25507), (Start: 51 @25888 has 50 MA's), (52, 25897), (57, 25942), (59, 25945), (70, 26032), (76, 26077), (87, 26152), (88, 26173), (89, 26191), (96, 26257), (100, 26296), (101, 26308), (107, 26362), (112, 26392), (116, 26413), (120, 26458), (129, 26554), (132, 26593), (134, 26608), (135, 26620), (138, 26647), (154, 26734), (158, 26752), (160, 26758), (167, 26806), (177, 26851), (183, 26899), (189, 26974),

Gene: Bonamassa\_8 Start: 5355, Stop: 6164, Start Num: 85



Candidate Starts for Bonamassa\_8:

(Start: 85 @5355 has 48 MA's), (89, 5418), (90, 5427), (96, 5484), (100, 5532), (109, 5613), (130, 5802), (134, 5844), (140, 5901), (147, 5943), (196, 6150),

Gene: Brilliant\_49 Start: 41406, Stop: 42761, Start Num: 45

Candidate Starts for Brilliant\_49:

(Start: 45 @41406 has 247 MA's), (50, 41457), (53, 41490), (56, 41508), (71, 41619), (72, 41622), (73, 41637), (87, 41733), (89, 41772), (93, 41802), (96, 41838), (107, 41949), (112, 41979), (113, 41982), (120, 42048), (134, 42207), (138, 42255), (140, 42273), (148, 42321), (166, 42465), (172, 42525), (186, 42630), (193, 42717),

Gene: BruceB\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for BruceB\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Brujita\_30 Start: 26243, Stop: 27409, Start Num: 51

Candidate Starts for Brujita\_30:

(26, 25709), (29, 25757), (34, 25862), (Start: 51 @26243 has 50 MA's), (52, 26252), (57, 26297), (59, 26300), (70, 26387), (76, 26432), (87, 26507), (88, 26528), (89, 26546), (96, 26612), (100, 26651), (101, 26663), (107, 26717), (112, 26747), (116, 26768), (120, 26813), (129, 26909), (132, 26948), (134, 26963), (135, 26975), (138, 27002), (154, 27089), (158, 27107), (160, 27113), (167, 27161), (177, 27206), (183, 27254), (189, 27329),

Gene: Brusacoram\_27 Start: 24047, Stop: 25213, Start Num: 51

Candidate Starts for Brusacoram\_27:

(5, 22928), (9, 23081), (15, 23294), (29, 23561), (34, 23666), (Start: 51 @24047 has 50 MA's), (52, 24056), (57, 24101), (59, 24104), (70, 24191), (76, 24236), (87, 24311), (88, 24332), (96, 24416), (100, 24455), (107, 24521), (112, 24551), (116, 24572), (120, 24617), (129, 24713), (132, 24752), (134, 24767), (135, 24779), (138, 24806), (153, 24890), (154, 24893), (158, 24911), (160, 24917), (167, 24965), (177, 25010), (183, 25058), (189, 25133),

Gene: Buckeye\_49 Start: 41727, Stop: 43082, Start Num: 45

Candidate Starts for Buckeye\_49:

(Start: 45 @41727 has 247 MA's), (50, 41778), (53, 41811), (71, 41940), (72, 41943), (73, 41958), (87, 42054), (89, 42093), (93, 42123), (96, 42159), (107, 42270), (112, 42300), (113, 42303), (120, 42369), (134, 42528), (138, 42576), (140, 42594), (148, 42642), (166, 42786), (172, 42846), (186, 42951), (193, 43038),

Gene: Bunnies\_27 Start: 24068, Stop: 25234, Start Num: 51

Candidate Starts for Bunnies\_27:

(15, 23315), (29, 23582), (34, 23687), (Start: 51 @24068 has 50 MA's), (52, 24077), (57, 24122), (59, 24125), (70, 24212), (76, 24257), (87, 24332), (88, 24353), (89, 24371), (96, 24437), (100, 24476), (107, 24542), (112, 24572), (116, 24593), (120, 24638), (129, 24734), (132, 24773), (134, 24788), (138, 24827), (154, 24914), (158, 24932), (160, 24938), (167, 24986), (183, 25079), (189, 25154),

Gene: Burr\_48 Start: 41401, Stop: 42756, Start Num: 45

Candidate Starts for Burr\_48:

(Start: 45 @41401 has 247 MA's), (50, 41452), (53, 41485), (71, 41614), (72, 41617), (73, 41632), (87, 41728), (89, 41767), (93, 41797), (96, 41833), (107, 41944), (112, 41974), (113, 41977), (120, 42043), (134, 42202), (138, 42250), (140, 42268), (148, 42316), (166, 42460), (172, 42520), (186, 42625), (193, 42712),

Gene: Butters\_27 Start: 22757, Stop: 23917, Start Num: 51

Candidate Starts for Butters\_27:

(10, 21803), (15, 21998), (26, 22232), (34, 22385), (Start: 51 @22757 has 50 MA's), (59, 22814), (70, 22901), (87, 23021), (100, 23165), (101, 23177), (107, 23231), (112, 23261), (116, 23282), (120, 23327), (134, 23477), (135, 23489), (138, 23516), (141, 23537), (149, 23585), (154, 23603), (169, 23681), (173, 23696), (183, 23762), (195, 23879),

Gene: CLED96\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for CLED96\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: CactusJack\_27 Start: 24311, Stop: 25477, Start Num: 51

Candidate Starts for CactusJack\_27:

(15, 23558), (22, 23729), (29, 23825), (34, 23930), (Start: 51 @24311 has 50 MA's), (52, 24320), (57, 24365), (59, 24368), (70, 24455), (76, 24500), (87, 24575), (88, 24596), (89, 24614), (96, 24680), (100, 24719), (107, 24785), (112, 24815), (116, 24836), (120, 24881), (129, 24977), (132, 25016), (134, 25031), (138, 25070), (154, 25157), (158, 25175), (160, 25181), (167, 25229), (183, 25322), (189, 25397),

Gene: CamL\_49 Start: 41696, Stop: 43051, Start Num: 45

Candidate Starts for CamL\_49:

(Start: 45 @41696 has 247 MA's), (50, 41747), (53, 41780), (71, 41909), (72, 41912), (73, 41927), (87, 42023), (89, 42062), (93, 42092), (96, 42128), (107, 42239), (112, 42269), (113, 42272), (120, 42338), (134, 42497), (138, 42545), (140, 42563), (148, 42611), (166, 42755), (172, 42815), (186, 42920), (193, 43007),

Gene: CampRoach\_50 Start: 41830, Stop: 43185, Start Num: 45

Candidate Starts for CampRoach\_50:

(Start: 45 @41830 has 247 MA's), (50, 41881), (53, 41914), (71, 42043), (72, 42046), (73, 42061), (87, 42157), (89, 42196), (93, 42226), (96, 42262), (107, 42373), (112, 42403), (113, 42406), (120, 42472), (134, 42631), (138, 42679), (140, 42697), (148, 42745), (166, 42889), (172, 42949), (186, 43054), (193, 43141),

Gene: Camri\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Camri\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Camster\_27 Start: 24084, Stop: 25250, Start Num: 51

Candidate Starts for Camster\_27:

(Start: 51 @24084 has 50 MA's), (57, 24138), (59, 24141), (70, 24228), (76, 24273), (83, 24306), (87, 24348), (88, 24369), (89, 24387), (96, 24453), (100, 24492), (107, 24558), (112, 24588), (116, 24609), (120, 24654), (129, 24750), (132, 24789), (134, 24804), (138, 24843), (154, 24930), (158, 24948), (160, 24954), (167, 25002), (172, 25023), (183, 25095), (189, 25170),

Gene: Cannibal\_49 Start: 41679, Stop: 43034, Start Num: 45

Candidate Starts for Cannibal\_49:

(Start: 45 @41679 has 247 MA's), (50, 41730), (53, 41763), (71, 41892), (72, 41895), (73, 41910), (87, 42006), (89, 42045), (93, 42075), (96, 42111), (107, 42222), (112, 42252), (113, 42255), (120, 42321),

(134, 42480), (138, 42528), (140, 42546), (148, 42594), (166, 42738), (172, 42798), (186, 42903), (193, 42990),

Gene: Carthage\_47 Start: 40626, Stop: 41981, Start Num: 45

Candidate Starts for Carthage\_47:

(Start: 45 @40626 has 247 MA's), (50, 40677), (53, 40710), (71, 40839), (72, 40842), (73, 40857), (87, 40953), (89, 40992), (93, 41022), (96, 41058), (107, 41169), (112, 41199), (113, 41202), (120, 41268), (134, 41427), (138, 41475), (140, 41493), (148, 41541), (166, 41685), (172, 41745), (186, 41850), (193, 41937),

Gene: CassieYates\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for CassieYates\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Cedasite\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Cedasite\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Chadwick\_9 Start: 5150, Stop: 5959, Start Num: 85

Candidate Starts for Chadwick\_9:

(74, 5087), (82, 5126), (Start: 85 @5150 has 48 MA's), (89, 5213), (96, 5279), (97, 5294), (100, 5327), (130, 5597), (134, 5639), (138, 5678), (140, 5696), (144, 5726), (195, 5924),

Gene: Chaelin\_49 Start: 41402, Stop: 42757, Start Num: 45

Candidate Starts for Chaelin\_49:

(Start: 45 @41402 has 247 MA's), (50, 41453), (53, 41486), (71, 41615), (72, 41618), (73, 41633), (87, 41729), (89, 41768), (93, 41798), (96, 41834), (107, 41945), (112, 41975), (113, 41978), (120, 42044), (134, 42203), (138, 42251), (140, 42269), (148, 42317), (166, 42461), (172, 42521), (186, 42626), (193, 42713),

Gene: Chah\_51 Start: 41857, Stop: 43212, Start Num: 45

Candidate Starts for Chah\_51:

(Start: 45 @41857 has 247 MA's), (50, 41908), (53, 41941), (71, 42070), (72, 42073), (73, 42088), (87, 42184), (89, 42223), (93, 42253), (96, 42289), (107, 42400), (112, 42430), (113, 42433), (120, 42499), (134, 42658), (138, 42706), (140, 42724), (148, 42772), (166, 42916), (172, 42976), (186, 43081), (193, 43168),

Gene: Chance64\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Chance64\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (138, 26011), (141, 26032), (147, 26071), (148, 26077),

Gene: Charles1\_49 Start: 41687, Stop: 43042, Start Num: 45

Candidate Starts for Charles1\_49:

(Start: 45 @41687 has 247 MA's), (50, 41738), (53, 41771), (71, 41900), (72, 41903), (73, 41918), (87, 42014), (89, 42053), (93, 42083), (96, 42119), (107, 42230), (112, 42260), (113, 42263), (120, 42329), (134, 42488), (138, 42536), (140, 42554), (148, 42602), (166, 42746), (172, 42806), (186, 42911), (193, 42998),

Gene: CharlieGBrown\_48 Start: 41277, Stop: 42632, Start Num: 45

Candidate Starts for CharlieGBrown\_48:

(Start: 45 @41277 has 247 MA's), (50, 41328), (53, 41361), (71, 41490), (72, 41493), (73, 41508), (87, 41604), (89, 41643), (93, 41673), (96, 41709), (107, 41820), (112, 41850), (113, 41853), (120, 41919), (134, 42078), (138, 42126), (140, 42144), (148, 42192), (166, 42336), (172, 42396), (186, 42501), (193, 42588),

Gene: CheetO\_49 Start: 41719, Stop: 43074, Start Num: 45

Candidate Starts for CheetO\_49:

(Start: 45 @41719 has 247 MA's), (50, 41770), (53, 41803), (71, 41932), (72, 41935), (73, 41950), (87, 42046), (89, 42085), (93, 42115), (96, 42151), (107, 42262), (112, 42292), (113, 42295), (120, 42361), (134, 42520), (138, 42568), (140, 42586), (148, 42634), (166, 42778), (172, 42838), (186, 42943), (189, 42997), (193, 43030),

Gene: Cher\_48 Start: 41424, Stop: 42779, Start Num: 45

Candidate Starts for Cher\_48:

(Start: 45 @41424 has 247 MA's), (50, 41475), (53, 41508), (71, 41637), (72, 41640), (73, 41655), (87, 41751), (89, 41790), (93, 41820), (96, 41856), (107, 41967), (112, 41997), (113, 42000), (120, 42066), (134, 42225), (138, 42273), (140, 42291), (148, 42339), (166, 42483), (172, 42543), (186, 42648), (193, 42735),

Gene: Cherrybomb426\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Cherrybomb426\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Childish\_48 Start: 41427, Stop: 42782, Start Num: 45

Candidate Starts for Childish\_48:

(Start: 45 @41427 has 247 MA's), (50, 41478), (53, 41511), (71, 41640), (72, 41643), (73, 41658), (87, 41754), (89, 41793), (93, 41823), (96, 41859), (107, 41970), (112, 42000), (113, 42003), (120, 42069), (134, 42228), (138, 42276), (140, 42294), (148, 42342), (166, 42486), (172, 42546), (186, 42651), (193, 42738),

Gene: Chorkpop\_49 Start: 41435, Stop: 42790, Start Num: 45

Candidate Starts for Chorkpop\_49:

(Start: 45 @41435 has 247 MA's), (50, 41486), (53, 41519), (56, 41537), (71, 41648), (72, 41651), (73, 41666), (87, 41762), (89, 41801), (93, 41831), (96, 41867), (107, 41978), (112, 42008), (113, 42011), (120, 42077), (134, 42236), (138, 42284), (140, 42302), (148, 42350), (166, 42494), (172, 42554), (186, 42659), (193, 42746),

Gene: Chunky\_49 Start: 41722, Stop: 43086, Start Num: 45

Candidate Starts for Chunky\_49:

(Start: 45 @41722 has 247 MA's), (50, 41773), (53, 41806), (71, 41935), (72, 41938), (73, 41953), (87, 42049), (89, 42088), (93, 42118), (96, 42154), (107, 42265), (112, 42295), (113, 42298), (120, 42364), (134, 42523), (138, 42571), (140, 42589), (148, 42637), (166, 42781), (172, 42841), (186, 42946), (193, 43033),

Gene: Chute\_48 Start: 41751, Stop: 43106, Start Num: 45

Candidate Starts for Chute\_48:

(Start: 45 @41751 has 247 MA's), (50, 41802), (53, 41835), (71, 41964), (72, 41967), (73, 41982), (87, 42078), (89, 42117), (93, 42147), (96, 42183), (107, 42294), (112, 42324), (113, 42327), (120, 42393),

(134, 42552), (138, 42600), (140, 42618), (148, 42666), (166, 42810), (172, 42870), (186, 42975), (193, 43062),

Gene: Cobra\_49 Start: 41708, Stop: 43063, Start Num: 45

Candidate Starts for Cobra\_49:

(Start: 45 @41708 has 247 MA's), (50, 41759), (53, 41792), (71, 41921), (72, 41924), (73, 41939), (87, 42035), (89, 42074), (93, 42104), (96, 42140), (107, 42251), (112, 42281), (113, 42284), (120, 42350), (134, 42509), (138, 42557), (140, 42575), (148, 42623), (166, 42767), (172, 42827), (186, 42932), (193, 43019),

Gene: Colbert\_49 Start: 41775, Stop: 43130, Start Num: 45

Candidate Starts for Colbert\_49:

(Start: 45 @41775 has 247 MA's), (50, 41826), (53, 41859), (71, 41988), (72, 41991), (73, 42006), (87, 42102), (89, 42141), (93, 42171), (96, 42207), (107, 42318), (112, 42348), (113, 42351), (120, 42417), (134, 42576), (138, 42624), (140, 42642), (148, 42690), (166, 42834), (172, 42894), (186, 42999), (189, 43053), (193, 43086),

Gene: Coleslaw\_28 Start: 25192, Stop: 26400, Start Num: 48

Candidate Starts for Coleslaw\_28:

(40, 25099), (Start: 48 @25192 has 62 MA's), (69, 25366), (79, 25438), (89, 25537), (90, 25546), (94, 25570), (95, 25579), (96, 25603), (98, 25624), (100, 25651), (101, 25663), (110, 25735), (117, 25774), (134, 25963), (137, 25987), (138, 26002), (141, 26023), (148, 26068), (149, 26071), (164, 26122),

Gene: Coletti\_48 Start: 41751, Stop: 43106, Start Num: 45

Candidate Starts for Coletti\_48:

(Start: 45 @41751 has 247 MA's), (50, 41802), (53, 41835), (71, 41964), (72, 41967), (73, 41982), (87, 42078), (89, 42117), (93, 42147), (96, 42183), (107, 42294), (112, 42324), (113, 42327), (120, 42393), (134, 42552), (138, 42600), (140, 42618), (148, 42666), (166, 42810), (172, 42870), (186, 42975), (193, 43062),

Gene: Conspiracy\_8 Start: 5173, Stop: 5982, Start Num: 85

Candidate Starts for Conspiracy\_8:

(Start: 85 @5173 has 48 MA's), (89, 5236), (90, 5245), (93, 5266), (96, 5302), (100, 5350), (105, 5407), (109, 5431), (134, 5662), (140, 5719), (196, 5968),

Gene: Coog\_8 Start: 5323, Stop: 6132, Start Num: 85

Candidate Starts for Coog\_8:

(Start: 85 @5323 has 48 MA's), (89, 5386), (90, 5395), (96, 5452), (100, 5500), (130, 5770), (134, 5812), (140, 5869), (147, 5911), (196, 6118),

Gene: Cornobble\_48 Start: 41265, Stop: 42620, Start Num: 45

Candidate Starts for Cornobble\_48:

(Start: 45 @41265 has 247 MA's), (50, 41316), (53, 41349), (71, 41478), (72, 41481), (73, 41496), (87, 41592), (89, 41631), (93, 41661), (96, 41697), (107, 41808), (112, 41838), (113, 41841), (120, 41907), (134, 42066), (138, 42114), (140, 42132), (148, 42180), (166, 42324), (172, 42384), (186, 42489), (189, 42543), (193, 42576),

Gene: Cosmolli16\_48 Start: 41415, Stop: 42770, Start Num: 45

Candidate Starts for Cosmolli16\_48:

(Start: 45 @41415 has 247 MA's), (50, 41466), (53, 41499), (71, 41628), (72, 41631), (73, 41646), (87, 41742), (89, 41781), (93, 41811), (96, 41847), (107, 41958), (112, 41988), (113, 41991), (120, 42057), (134, 42216), (138, 42264), (140, 42282), (148, 42330), (166, 42474), (172, 42534), (186, 42639), (193, 42726),

Gene: Craff\_50 Start: 41843, Stop: 43198, Start Num: 45

Candidate Starts for Craff\_50:

(Start: 45 @41843 has 247 MA's), (50, 41894), (53, 41927), (71, 42056), (72, 42059), (73, 42074), (87, 42170), (89, 42209), (93, 42239), (96, 42275), (107, 42386), (112, 42416), (113, 42419), (120, 42485), (134, 42644), (138, 42692), (140, 42710), (148, 42758), (166, 42902), (172, 42962), (186, 43067), (193, 43154),

Gene: Crespo\_28 Start: 25202, Stop: 26410, Start Num: 48

Candidate Starts for Crespo\_28:

(40, 25109), (Start: 48 @25202 has 62 MA's), (69, 25376), (79, 25448), (89, 25547), (90, 25556), (94, 25580), (95, 25589), (96, 25613), (98, 25634), (100, 25661), (101, 25673), (110, 25745), (117, 25784), (134, 25973), (137, 25997), (138, 26012), (141, 26033), (148, 26078), (149, 26081), (164, 26132),

Gene: Crownjwl\_49 Start: 41484, Stop: 42839, Start Num: 45

Candidate Starts for Crownjwl\_49:

(Start: 45 @41484 has 247 MA's), (50, 41535), (53, 41568), (56, 41586), (71, 41697), (72, 41700), (73, 41715), (87, 41811), (89, 41850), (93, 41880), (96, 41916), (107, 42027), (112, 42057), (113, 42060), (120, 42126), (134, 42285), (138, 42333), (140, 42351), (148, 42399), (166, 42543), (172, 42603), (186, 42708), (193, 42795),

Gene: Cuco\_8 Start: 5354, Stop: 6163, Start Num: 85

Candidate Starts for Cuco\_8:

(Start: 85 @5354 has 48 MA's), (89, 5417), (90, 5426), (96, 5483), (100, 5531), (109, 5612), (130, 5801), (134, 5843), (140, 5900), (147, 5942), (196, 6149),

Gene: DMoney\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for DMoney\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: DNAIII\_0028 Start: 24952, Stop: 26160, Start Num: 48

Candidate Starts for DNAIII\_0028:

(40, 24859), (Start: 48 @24952 has 62 MA's), (69, 25126), (79, 25198), (89, 25297), (90, 25306), (94, 25330), (95, 25339), (96, 25363), (98, 25384), (100, 25411), (101, 25423), (110, 25495), (117, 25534), (134, 25723), (137, 25747), (138, 25762), (141, 25783), (148, 25828), (149, 25831), (164, 25882),

Gene: DaddyDaniels\_49 Start: 41396, Stop: 42751, Start Num: 45

Candidate Starts for DaddyDaniels\_49:

(Start: 45 @41396 has 247 MA's), (50, 41447), (53, 41480), (71, 41609), (72, 41612), (73, 41627), (87, 41723), (89, 41762), (93, 41792), (96, 41828), (107, 41939), (112, 41969), (113, 41972), (120, 42038), (134, 42197), (138, 42245), (140, 42263), (148, 42311), (166, 42455), (172, 42515), (186, 42620), (193, 42707),

Gene: Daegal\_34 Start: 28633, Stop: 29868, Start Num: 46

Candidate Starts for Daegal\_34:

(Start: 46 @28633 has 21 MA's), (55, 28726), (58, 28738), (61, 28759), (62, 28771), (65, 28783), (66, 28786), (75, 28867), (81, 28900), (87, 28960), (89, 28999), (90, 29008), (91, 29011), (93, 29029), (96, 29065), (100, 29113), (101, 29125), (102, 29131), (109, 29194), (110, 29197), (114, 29224), (117, 29236), (121, 29293), (125, 29338), (134, 29425), (135, 29437), (138, 29464), (141, 29485), (143, 29500), (155, 29554), (164, 29584), (167, 29617), (169, 29626), (171, 29632), (174, 29644), (176, 29653), (184, 29716), (189, 29785), (192, 29812),

Gene: Daffy\_49 Start: 41421, Stop: 42776, Start Num: 45

Candidate Starts for Daffy\_49:

(Start: 45 @41421 has 247 MA's), (50, 41472), (53, 41505), (71, 41634), (72, 41637), (73, 41652), (87, 41748), (89, 41787), (93, 41817), (96, 41853), (107, 41964), (112, 41994), (113, 41997), (120, 42063), (134, 42222), (138, 42270), (140, 42288), (148, 42336), (166, 42480), (172, 42540), (186, 42645), (193, 42732),

Gene: Daka\_50 Start: 41700, Stop: 43055, Start Num: 45

Candidate Starts for Daka\_50:

(Start: 45 @41700 has 247 MA's), (50, 41751), (53, 41784), (56, 41802), (71, 41913), (72, 41916), (73, 41931), (87, 42027), (89, 42066), (93, 42096), (96, 42132), (107, 42243), (112, 42273), (113, 42276), (120, 42342), (134, 42501), (138, 42549), (140, 42567), (148, 42615), (166, 42759), (172, 42819), (186, 42924), (189, 42978), (193, 43011),

Gene: Danforth\_7 Start: 4852, Stop: 5661, Start Num: 85

Candidate Starts for Danforth\_7:

(Start: 85 @4852 has 48 MA's), (92, 4936), (96, 4981), (101, 5041), (108, 5107), (134, 5341), (138, 5380), (140, 5398), (145, 5431), (149, 5449), (178, 5494), (185, 5518), (196, 5647),

Gene: Darionha\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Darionha\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Dati\_49 Start: 41424, Stop: 42779, Start Num: 45

Candidate Starts for Dati\_49:

(Start: 45 @41424 has 247 MA's), (50, 41475), (53, 41508), (72, 41640), (73, 41655), (87, 41751), (89, 41790), (93, 41820), (96, 41856), (107, 41967), (112, 41997), (113, 42000), (120, 42066), (134, 42225), (138, 42273), (140, 42291), (148, 42339), (166, 42483), (172, 42543), (186, 42648), (189, 42702), (193, 42735),

Gene: DeepSoil15\_33 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for DeepSoil15\_33:

(Start: 46 @28339 has 21 MA's), (55, 28432), (58, 28444), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: DelRivs\_48 Start: 41428, Stop: 42783, Start Num: 45

Candidate Starts for DelRivs\_48:

(Start: 45 @41428 has 247 MA's), (50, 41479), (53, 41512), (71, 41641), (72, 41644), (73, 41659), (87, 41755), (89, 41794), (93, 41824), (96, 41860), (107, 41971), (112, 42001), (113, 42004), (120, 42070), (134, 42229), (138, 42277), (140, 42295), (148, 42343), (166, 42487), (172, 42547), (186, 42652), (193, 42739),

Gene: Derpp\_48 Start: 41266, Stop: 42621, Start Num: 45

Candidate Starts for Derpp\_48:

(Start: 45 @41266 has 247 MA's), (50, 41317), (53, 41350), (71, 41479), (72, 41482), (73, 41497), (87, 41593), (89, 41632), (93, 41662), (96, 41698), (107, 41809), (112, 41839), (113, 41842), (120, 41908),

(134, 42067), (138, 42115), (140, 42133), (148, 42181), (166, 42325), (172, 42385), (186, 42490), (193, 42577),

Gene: Dewey\_32 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Dewey\_32:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: Dice\_51 Start: 41392, Stop: 42747, Start Num: 45

Candidate Starts for Dice\_51:

(Start: 45 @41392 has 247 MA's), (50, 41443), (53, 41476), (71, 41605), (72, 41608), (73, 41623), (87, 41719), (89, 41758), (93, 41788), (96, 41824), (107, 41935), (112, 41965), (113, 41968), (120, 42034), (134, 42193), (138, 42241), (140, 42259), (148, 42307), (166, 42451), (172, 42511), (186, 42616), (193, 42703),

Gene: Dingo\_49 Start: 41691, Stop: 43046, Start Num: 45

Candidate Starts for Dingo\_49:

(Start: 45 @41691 has 247 MA's), (50, 41742), (53, 41775), (56, 41793), (71, 41904), (72, 41907), (73, 41922), (87, 42018), (89, 42057), (93, 42087), (96, 42123), (107, 42234), (112, 42264), (113, 42267), (120, 42333), (134, 42492), (138, 42540), (140, 42558), (148, 42606), (166, 42750), (172, 42810), (186, 42915), (193, 43002),

Gene: Dione\_48 Start: 41400, Stop: 42755, Start Num: 45

Candidate Starts for Dione\_48:

(Start: 45 @41400 has 247 MA's), (50, 41451), (53, 41484), (71, 41613), (72, 41616), (73, 41631), (87, 41727), (89, 41766), (93, 41796), (96, 41832), (107, 41943), (112, 41973), (113, 41976), (120, 42042), (134, 42201), (138, 42249), (140, 42267), (148, 42315), (166, 42459), (172, 42519), (186, 42624), (193, 42711),

Gene: DirtJuice\_49 Start: 41690, Stop: 43045, Start Num: 45

Candidate Starts for DirtJuice\_49:

(Start: 45 @41690 has 247 MA's), (50, 41741), (53, 41774), (71, 41903), (72, 41906), (73, 41921), (87, 42017), (89, 42056), (93, 42086), (96, 42122), (107, 42233), (112, 42263), (113, 42266), (120, 42332), (134, 42491), (138, 42539), (140, 42557), (148, 42605), (166, 42749), (172, 42809), (186, 42914), (189, 42968), (193, 43001),

Gene: Discoknowium\_8 Start: 5463, Stop: 6272, Start Num: 85

Candidate Starts for Discoknowium\_8:

(Start: 85 @5463 has 48 MA's), (89, 5526), (90, 5535), (93, 5556), (96, 5592), (100, 5640), (105, 5697), (109, 5721), (130, 5910), (134, 5952), (140, 6009), (196, 6258),

Gene: Dixon\_8 Start: 4871, Stop: 5680, Start Num: 85

Candidate Starts for Dixon\_8:

(Start: 85 @4871 has 48 MA's), (92, 4955), (96, 5000), (101, 5060), (108, 5126), (134, 5360), (136, 5378), (138, 5399), (140, 5417), (145, 5450), (149, 5468), (178, 5513), (185, 5537), (196, 5666),

Gene: Doddsville\_49 Start: 41420, Stop: 42775, Start Num: 45

Candidate Starts for Doddsville\_49:

(Start: 45 @41420 has 247 MA's), (50, 41471), (53, 41504), (71, 41633), (72, 41636), (73, 41651), (87, 41747), (89, 41786), (93, 41816), (96, 41852), (107, 41963), (112, 41993), (113, 41996), (120, 42062),



(134, 42221), (138, 42269), (140, 42287), (148, 42335), (166, 42479), (172, 42539), (186, 42644), (193, 42731),

Gene: DoesntMatter\_48 Start: 41693, Stop: 43048, Start Num: 45

Candidate Starts for DoesntMatter\_48:

(Start: 45 @41693 has 247 MA's), (50, 41744), (53, 41777), (71, 41906), (72, 41909), (73, 41924), (87, 42020), (89, 42059), (93, 42089), (96, 42125), (107, 42236), (112, 42266), (113, 42269), (120, 42335), (134, 42494), (138, 42542), (140, 42560), (148, 42608), (166, 42752), (172, 42812), (186, 42917), (193, 43004),

Gene: DonSanchon\_48 Start: 41403, Stop: 42758, Start Num: 45

Candidate Starts for DonSanchon\_48:

(Start: 45 @41403 has 247 MA's), (50, 41454), (53, 41487), (71, 41616), (72, 41619), (73, 41634), (87, 41730), (89, 41769), (93, 41799), (96, 41835), (107, 41946), (112, 41976), (113, 41979), (120, 42045), (134, 42204), (138, 42252), (140, 42270), (148, 42318), (166, 42462), (172, 42522), (186, 42627), (193, 42714),

Gene: Donovan\_27 Start: 24041, Stop: 25207, Start Num: 51

Candidate Starts for Donovan\_27:

(Start: 51 @24041 has 50 MA's), (59, 24098), (70, 24185), (76, 24230), (87, 24305), (88, 24326), (96, 24410), (100, 24449), (107, 24515), (112, 24545), (116, 24566), (120, 24611), (129, 24707), (132, 24746), (134, 24761), (138, 24800), (154, 24887), (158, 24905), (160, 24911), (167, 24959), (172, 24980), (183, 25052), (189, 25127),

Gene: Dublin\_7 Start: 5322, Stop: 6131, Start Num: 85

Candidate Starts for Dublin\_7:

(Start: 85 @5322 has 48 MA's), (89, 5385), (90, 5394), (96, 5451), (100, 5499), (130, 5769), (134, 5811), (140, 5868), (147, 5910), (196, 6117),

Gene: DuchessDung\_48 Start: 40692, Stop: 42047, Start Num: 45

Candidate Starts for DuchessDung\_48:

(Start: 45 @40692 has 247 MA's), (50, 40743), (53, 40776), (71, 40905), (72, 40908), (73, 40923), (87, 41019), (89, 41058), (93, 41088), (96, 41124), (107, 41235), (112, 41265), (113, 41268), (120, 41334), (134, 41493), (138, 41541), (140, 41559), (148, 41607), (166, 41751), (172, 41811), (186, 41916), (193, 42003),

Gene: Duggie\_48 Start: 41422, Stop: 42777, Start Num: 45

Candidate Starts for Duggie\_48:

(Start: 45 @41422 has 247 MA's), (50, 41473), (53, 41506), (71, 41635), (72, 41638), (73, 41653), (87, 41749), (89, 41788), (93, 41818), (96, 41854), (107, 41965), (112, 41995), (113, 41998), (120, 42064), (134, 42223), (138, 42271), (140, 42289), (148, 42337), (166, 42481), (172, 42541), (186, 42646), (193, 42733),

Gene: Durga\_50 Start: 41858, Stop: 43213, Start Num: 45

Candidate Starts for Durga\_50:

(Start: 45 @41858 has 247 MA's), (50, 41909), (53, 41942), (71, 42071), (72, 42074), (73, 42089), (87, 42185), (89, 42224), (93, 42254), (96, 42290), (107, 42401), (112, 42431), (113, 42434), (120, 42500), (134, 42659), (138, 42707), (140, 42725), (148, 42773), (166, 42917), (172, 42977), (186, 43082), (193, 43169),

Gene: Dynamo\_27 Start: 24463, Stop: 25629, Start Num: 51

Candidate Starts for Dynamo\_27:

(Start: 51 @24463 has 50 MA's), (59, 24520), (70, 24607), (76, 24652), (87, 24727), (88, 24748), (96, 24832), (100, 24871), (107, 24937), (112, 24967), (116, 24988), (120, 25033), (129, 25129), (132, 25168), (134, 25183), (138, 25222), (154, 25309), (158, 25327), (160, 25333), (167, 25381), (172, 25402), (183, 25474), (189, 25549),

Gene: ECartman\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for ECartman\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (138, 26011), (141, 26032), (147, 26071), (148, 26077),

Gene: Ein37\_33 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Ein37\_33:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: EITiger69\_8 Start: 5180, Stop: 5989, Start Num: 85

Candidate Starts for EITiger69\_8:

(Start: 85 @5180 has 48 MA's), (88, 5225), (96, 5309), (97, 5324), (100, 5357), (130, 5627), (134, 5669), (138, 5708), (140, 5726), (144, 5756), (195, 5954),

Gene: Emiris\_50 Start: 41826, Stop: 43181, Start Num: 45

Candidate Starts for Emiris\_50:

(Start: 45 @41826 has 247 MA's), (50, 41877), (53, 41910), (71, 42039), (72, 42042), (73, 42057), (87, 42153), (89, 42192), (93, 42222), (96, 42258), (107, 42369), (112, 42399), (113, 42402), (120, 42468), (134, 42627), (138, 42675), (140, 42693), (148, 42741), (166, 42885), (172, 42945), (186, 43050), (193, 43137),

Gene: EmpTee\_49 Start: 41706, Stop: 43061, Start Num: 45

Candidate Starts for EmpTee\_49:

(Start: 45 @41706 has 247 MA's), (50, 41757), (53, 41790), (56, 41808), (71, 41919), (72, 41922), (73, 41937), (87, 42033), (89, 42072), (93, 42102), (96, 42138), (107, 42249), (112, 42279), (113, 42282), (120, 42348), (134, 42507), (138, 42555), (140, 42573), (148, 42621), (166, 42765), (172, 42825), (186, 42930), (193, 43017),

Gene: Eremos\_49 Start: 41699, Stop: 43054, Start Num: 45

Candidate Starts for Eremos\_49:

(Start: 45 @41699 has 247 MA's), (50, 41750), (53, 41783), (71, 41912), (72, 41915), (73, 41930), (87, 42026), (89, 42065), (93, 42095), (96, 42131), (107, 42242), (112, 42272), (113, 42275), (120, 42341), (134, 42500), (138, 42548), (140, 42566), (148, 42614), (166, 42758), (172, 42818), (186, 42923), (193, 43010),

Gene: Etay\_49 Start: 41693, Stop: 43048, Start Num: 45

Candidate Starts for Etay\_49:

(Start: 45 @41693 has 247 MA's), (50, 41744), (53, 41777), (71, 41906), (72, 41909), (73, 41924), (87, 42020), (89, 42059), (93, 42089), (96, 42125), (107, 42236), (112, 42266), (113, 42269), (120, 42335), (134, 42494), (138, 42542), (140, 42560), (148, 42608), (166, 42752), (172, 42812), (186, 42917), (189, 42971), (193, 43004),

Gene: Eugenia\_49 Start: 41703, Stop: 43058, Start Num: 45

Candidate Starts for Eugenia\_49:

(Start: 45 @41703 has 247 MA's), (50, 41754), (53, 41787), (71, 41916), (72, 41919), (73, 41934), (87, 42030), (89, 42069), (93, 42099), (96, 42135), (107, 42246), (112, 42276), (113, 42279), (120, 42345), (134, 42504), (138, 42552), (140, 42570), (148, 42618), (166, 42762), (172, 42822), (186, 42927), (193, 43014),

Gene: Evanesce\_32 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Evanesce\_32:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: Expelliarmus\_7 Start: 4838, Stop: 5647, Start Num: 85

Candidate Starts for Expelliarmus\_7:

(Start: 85 @4838 has 48 MA's), (92, 4922), (96, 4967), (101, 5027), (108, 5093), (134, 5327), (138, 5366), (140, 5384), (145, 5417), (149, 5435), (178, 5480), (185, 5504), (196, 5633),

Gene: Fang\_50 Start: 41851, Stop: 43206, Start Num: 45

Candidate Starts for Fang\_50:

(Start: 45 @41851 has 247 MA's), (50, 41902), (53, 41935), (71, 42064), (72, 42067), (73, 42082), (87, 42178), (89, 42217), (93, 42247), (96, 42283), (107, 42394), (112, 42424), (113, 42427), (120, 42493), (134, 42652), (138, 42700), (140, 42718), (148, 42766), (166, 42910), (172, 42970), (186, 43075), (193, 43162),

Gene: FirstPlacePfu\_27 Start: 24052, Stop: 25218, Start Num: 51

Candidate Starts for FirstPlacePfu\_27:

(Start: 51 @24052 has 50 MA's), (59, 24109), (70, 24196), (76, 24241), (87, 24316), (88, 24337), (96, 24421), (100, 24460), (107, 24526), (112, 24556), (116, 24577), (120, 24622), (129, 24718), (132, 24757), (134, 24772), (135, 24784), (138, 24811), (154, 24898), (158, 24916), (160, 24922), (167, 24970), (172, 24991), (183, 25063), (189, 25138),

Gene: Fishburne\_27 Start: 24052, Stop: 25218, Start Num: 51

Candidate Starts for Fishburne\_27:

(Start: 51 @24052 has 50 MA's), (59, 24109), (70, 24196), (76, 24241), (87, 24316), (88, 24337), (96, 24421), (100, 24460), (107, 24526), (112, 24556), (116, 24577), (120, 24622), (129, 24718), (132, 24757), (134, 24772), (135, 24784), (138, 24811), (154, 24898), (158, 24916), (160, 24922), (167, 24970), (172, 24991), (183, 25063), (189, 25138),

Gene: FluffyNinja\_50 Start: 41844, Stop: 43220, Start Num: 45

Candidate Starts for FluffyNinja\_50:

(Start: 45 @41844 has 247 MA's), (50, 41895), (53, 41928), (71, 42057), (72, 42060), (73, 42075), (87, 42171), (89, 42210), (93, 42240), (96, 42276), (107, 42387), (112, 42417), (113, 42420), (120, 42486), (134, 42645), (138, 42693), (140, 42711), (148, 42759), (166, 42924), (172, 42984), (186, 43089), (193, 43176),

Gene: ForGetIt\_8 Start: 5199, Stop: 6008, Start Num: 85

Candidate Starts for ForGetIt\_8:

(Start: 85 @5199 has 48 MA's), (89, 5262), (90, 5271), (93, 5292), (96, 5328), (100, 5376), (105, 5433), (109, 5457), (134, 5688), (140, 5745), (196, 5994),

Gene: Forge\_32 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Forge\_32:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: Fozzie\_48 Start: 41728, Stop: 43083, Start Num: 45

Candidate Starts for Fozzie\_48:

(Start: 45 @41728 has 247 MA's), (50, 41779), (53, 41812), (71, 41941), (72, 41944), (73, 41959), (87, 42055), (89, 42094), (93, 42124), (96, 42160), (107, 42271), (112, 42301), (113, 42304), (120, 42370), (134, 42529), (138, 42577), (140, 42595), (148, 42643), (166, 42787), (172, 42847), (186, 42952), (193, 43039),

Gene: Frankicide\_49 Start: 41730, Stop: 43085, Start Num: 45

Candidate Starts for Frankicide\_49:

(Start: 45 @41730 has 247 MA's), (50, 41781), (53, 41814), (71, 41943), (72, 41946), (73, 41961), (87, 42057), (89, 42096), (93, 42126), (96, 42162), (107, 42273), (112, 42303), (113, 42306), (120, 42372), (134, 42531), (138, 42579), (140, 42597), (148, 42645), (166, 42789), (172, 42849), (186, 42954), (193, 43041),

Gene: Freya\_48 Start: 41391, Stop: 42746, Start Num: 45

Candidate Starts for Freya\_48:

(Start: 45 @41391 has 247 MA's), (50, 41442), (53, 41475), (71, 41604), (72, 41607), (73, 41622), (87, 41718), (89, 41757), (93, 41787), (96, 41823), (107, 41934), (112, 41964), (113, 41967), (120, 42033), (134, 42192), (138, 42240), (140, 42258), (148, 42306), (166, 42450), (172, 42510), (186, 42615), (193, 42702),

Gene: FriarPreacher\_48 Start: 41742, Stop: 43097, Start Num: 45

Candidate Starts for FriarPreacher\_48:

(Start: 45 @41742 has 247 MA's), (50, 41793), (53, 41826), (71, 41955), (72, 41958), (73, 41973), (87, 42069), (89, 42108), (93, 42138), (96, 42174), (107, 42285), (112, 42315), (113, 42318), (120, 42384), (134, 42543), (138, 42591), (140, 42609), (148, 42657), (166, 42801), (172, 42861), (186, 42966), (193, 43053),

Gene: Fringe\_50 Start: 41827, Stop: 43182, Start Num: 45

Candidate Starts for Fringe\_50:

(Start: 45 @41827 has 247 MA's), (50, 41878), (53, 41911), (71, 42040), (72, 42043), (73, 42058), (87, 42154), (89, 42193), (93, 42223), (96, 42259), (107, 42370), (112, 42400), (113, 42403), (120, 42469), (134, 42628), (138, 42676), (140, 42694), (148, 42742), (166, 42886), (172, 42946), (186, 43051), (193, 43138),

Gene: Frosty24\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Frosty24\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: FugateOSU\_48 Start: 41405, Stop: 42760, Start Num: 45

Candidate Starts for FugateOSU\_48:

(Start: 45 @41405 has 247 MA's), (50, 41456), (53, 41489), (71, 41618), (72, 41621), (73, 41636), (87, 41732), (89, 41771), (93, 41801), (96, 41837), (107, 41948), (112, 41978), (113, 41981), (120, 42047), (134, 42206), (138, 42254), (140, 42272), (148, 42320), (166, 42464), (172, 42524), (186, 42629),

(193, 42716),

Gene: Gancho\_32 Start: 28062, Stop: 29297, Start Num: 46

Candidate Starts for Gancho\_32:

(Start: 46 @28062 has 21 MA's), (55, 28155), (58, 28167), (61, 28188), (62, 28200), (65, 28212), (66, 28215), (72, 28278), (75, 28296), (81, 28329), (87, 28389), (89, 28428), (90, 28437), (91, 28440), (93, 28458), (96, 28494), (100, 28542), (101, 28554), (102, 28560), (109, 28623), (110, 28626), (117, 28665), (125, 28767), (134, 28854), (138, 28893), (141, 28914), (143, 28929), (155, 28983), (164, 29013), (167, 29046), (169, 29055), (171, 29061), (174, 29073), (176, 29082), (184, 29145), (189, 29214), (192, 29241),

Gene: Gareth\_48 Start: 41399, Stop: 42754, Start Num: 45

Candidate Starts for Gareth\_48:

(Start: 45 @41399 has 247 MA's), (50, 41450), (53, 41483), (71, 41612), (72, 41615), (73, 41630), (87, 41726), (89, 41765), (93, 41795), (96, 41831), (107, 41942), (112, 41972), (113, 41975), (120, 42041), (134, 42200), (138, 42248), (140, 42266), (148, 42314), (166, 42458), (172, 42518), (186, 42623), (193, 42710),

Gene: GeneCoco\_49 Start: 41714, Stop: 43069, Start Num: 45

Candidate Starts for GeneCoco\_49:

(Start: 45 @41714 has 247 MA's), (50, 41765), (53, 41798), (71, 41927), (72, 41930), (73, 41945), (87, 42041), (89, 42080), (93, 42110), (96, 42146), (107, 42257), (112, 42287), (113, 42290), (120, 42356), (134, 42515), (138, 42563), (140, 42581), (148, 42629), (166, 42773), (172, 42833), (186, 42938), (193, 43025),

Gene: George\_7 Start: 5355, Stop: 6164, Start Num: 85

Candidate Starts for George\_7:

(Start: 85 @5355 has 48 MA's), (89, 5418), (90, 5427), (96, 5484), (100, 5532), (109, 5613), (130, 5802), (134, 5844), (140, 5901), (147, 5943), (196, 6150),

Gene: Ghouboy\_8 Start: 5432, Stop: 6241, Start Num: 85

Candidate Starts for Ghouboy\_8:

(Start: 85 @5432 has 48 MA's), (89, 5495), (90, 5504), (96, 5561), (100, 5609), (105, 5666), (109, 5690), (130, 5879), (134, 5921), (140, 5978), (196, 6227),

Gene: Gideon\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Gideon\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Giles\_32 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Giles\_32:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: Giraffe\_49 Start: 41423, Stop: 42778, Start Num: 45

Candidate Starts for Giraffe\_49:

(Start: 45 @41423 has 247 MA's), (50, 41474), (53, 41507), (56, 41525), (71, 41636), (72, 41639), (73, 41654), (87, 41750), (89, 41789), (93, 41819), (96, 41855), (107, 41966), (112, 41996), (113, 41999),

(120, 42065), (134, 42224), (138, 42272), (140, 42290), (148, 42338), (166, 42482), (172, 42542), (186, 42647), (193, 42734),

Gene: Glaske\_27 Start: 24311, Stop: 25477, Start Num: 51

Candidate Starts for Glaske\_27:

(15, 23558), (22, 23729), (29, 23825), (34, 23930), (Start: 51 @24311 has 50 MA's), (52, 24320), (57, 24365), (59, 24368), (70, 24455), (76, 24500), (87, 24575), (88, 24596), (89, 24614), (96, 24680), (100, 24719), (107, 24785), (112, 24815), (116, 24836), (120, 24881), (129, 24977), (132, 25016), (134, 25031), (138, 25070), (154, 25157), (158, 25175), (160, 25181), (167, 25229), (183, 25322), (189, 25397),

Gene: GoldenAsh\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for GoldenAsh\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (92, 25567), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Gomashi\_28 Start: 25202, Stop: 26410, Start Num: 48

Candidate Starts for Gomashi\_28:

(40, 25109), (Start: 48 @25202 has 62 MA's), (69, 25376), (79, 25448), (89, 25547), (90, 25556), (94, 25580), (95, 25589), (96, 25613), (98, 25634), (100, 25661), (101, 25673), (110, 25745), (117, 25784), (134, 25973), (137, 25997), (138, 26012), (141, 26033), (148, 26078), (149, 26081), (164, 26132),

Gene: Gophee\_49 Start: 41697, Stop: 43052, Start Num: 45

Candidate Starts for Gophee\_49:

(Start: 45 @41697 has 247 MA's), (50, 41748), (53, 41781), (71, 41910), (72, 41913), (73, 41928), (87, 42024), (89, 42063), (93, 42093), (96, 42129), (107, 42240), (112, 42270), (113, 42273), (120, 42339), (134, 42498), (138, 42546), (140, 42564), (148, 42612), (166, 42756), (172, 42816), (186, 42921), (193, 43008),

Gene: Grand2040\_48 Start: 41417, Stop: 42772, Start Num: 45

Candidate Starts for Grand2040\_48:

(Start: 45 @41417 has 247 MA's), (50, 41468), (53, 41501), (71, 41630), (72, 41633), (73, 41648), (87, 41744), (89, 41783), (93, 41813), (96, 41849), (107, 41960), (112, 41990), (113, 41993), (120, 42059), (134, 42218), (138, 42266), (140, 42284), (148, 42332), (166, 42476), (172, 42536), (186, 42641), (193, 42728),

Gene: Gravaillia\_32 Start: 28068, Stop: 29303, Start Num: 46

Candidate Starts for Gravaillia\_32:

(Start: 46 @28068 has 21 MA's), (58, 28173), (61, 28194), (62, 28206), (65, 28218), (66, 28221), (72, 28284), (75, 28302), (81, 28335), (87, 28395), (89, 28434), (90, 28443), (91, 28446), (93, 28464), (96, 28500), (100, 28548), (101, 28560), (102, 28566), (109, 28629), (110, 28632), (114, 28659), (117, 28671), (121, 28728), (134, 28860), (135, 28872), (138, 28899), (141, 28920), (143, 28935), (155, 28989), (164, 29019), (167, 29052), (169, 29061), (174, 29079), (176, 29088), (177, 29097), (184, 29151), (189, 29220), (191, 29241), (192, 29247),

Gene: GreaseLightnin\_27 Start: 24303, Stop: 25469, Start Num: 51

Candidate Starts for GreaseLightnin\_27:

(13, 23460), (15, 23550), (22, 23721), (29, 23817), (34, 23922), (Start: 51 @24303 has 50 MA's), (52, 24312), (57, 24357), (59, 24360), (70, 24447), (76, 24492), (87, 24567), (88, 24588), (89, 24606), (96, 24672), (100, 24711), (107, 24777), (112, 24807), (116, 24828), (120, 24873), (129, 24969), (132, 25008), (134, 25023), (138, 25062), (154, 25149), (158, 25167), (160, 25173), (167, 25221), (183,

25314), (189, 25389),

Gene: Grizzly\_28 Start: 25205, Stop: 26413, Start Num: 48

Candidate Starts for Grizzly\_28:

(40, 25112), (Start: 48 @25205 has 62 MA's), (69, 25379), (79, 25451), (87, 25511), (89, 25550), (90, 25559), (94, 25583), (95, 25592), (96, 25616), (98, 25637), (100, 25664), (101, 25676), (110, 25748), (117, 25787), (134, 25976), (138, 26015), (141, 26036), (147, 26075), (148, 26081),

Gene: Groundhog\_7 Start: 4839, Stop: 5648, Start Num: 85

Candidate Starts for Groundhog\_7:

(Start: 85 @4839 has 48 MA's), (92, 4923), (96, 4968), (101, 5028), (108, 5094), (134, 5328), (138, 5367), (140, 5385), (145, 5418), (149, 5436), (178, 5481), (185, 5505), (196, 5634),

Gene: Gwilliam\_50 Start: 41703, Stop: 43058, Start Num: 45

Candidate Starts for Gwilliam\_50:

(Start: 45 @41703 has 247 MA's), (50, 41754), (53, 41787), (56, 41805), (71, 41916), (72, 41919), (73, 41934), (87, 42030), (89, 42069), (93, 42099), (96, 42135), (107, 42246), (112, 42276), (113, 42279), (120, 42345), (134, 42504), (138, 42552), (140, 42570), (148, 42618), (166, 42762), (172, 42822), (186, 42927), (189, 42981), (193, 43014),

Gene: Gyarad\_0049 Start: 41717, Stop: 43072, Start Num: 45

Candidate Starts for Gyarad\_0049:

(Start: 45 @41717 has 247 MA's), (50, 41768), (53, 41801), (71, 41930), (72, 41933), (73, 41948), (87, 42044), (89, 42083), (93, 42113), (96, 42149), (107, 42260), (112, 42290), (113, 42293), (120, 42359), (134, 42518), (138, 42566), (140, 42584), (148, 42632), (166, 42776), (172, 42836), (186, 42941), (193, 43028),

Gene: HC\_28 Start: 24164, Stop: 25342, Start Num: 51

Candidate Starts for HC\_28:

(Start: 51 @24164 has 50 MA's), (54, 24206), (70, 24311), (76, 24365), (87, 24440), (88, 24461), (96, 24545), (100, 24584), (107, 24650), (112, 24680), (116, 24701), (120, 24746), (129, 24842), (132, 24881), (134, 24896), (138, 24935), (154, 25022), (158, 25040), (160, 25046), (167, 25094), (172, 25115), (183, 25187), (189, 25262), (195, 25304), (196, 25325), (197, 25331),

Gene: HH92\_32 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for HH92\_32:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: HSavage\_49 Start: 41709, Stop: 43064, Start Num: 45

Candidate Starts for HSavage\_49:

(Start: 45 @41709 has 247 MA's), (50, 41760), (53, 41793), (56, 41811), (71, 41922), (72, 41925), (73, 41940), (87, 42036), (89, 42075), (93, 42105), (96, 42141), (107, 42252), (112, 42282), (113, 42285), (120, 42351), (134, 42510), (138, 42558), (140, 42576), (148, 42624), (166, 42768), (172, 42828), (186, 42933), (189, 42987), (193, 43020),

Gene: HUHilltop\_27 Start: 24052, Stop: 25218, Start Num: 51

Candidate Starts for HUHilltop\_27:

(Start: 51 @24052 has 50 MA's), (59, 24109), (70, 24196), (76, 24241), (87, 24316), (88, 24337), (96, 24421), (100, 24460), (107, 24526), (112, 24556), (116, 24577), (120, 24622), (129, 24718), (132,

24757), (134, 24772), (135, 24784), (138, 24811), (154, 24898), (158, 24916), (160, 24922), (167, 24970), (172, 24991), (183, 25063), (189, 25138),

Gene: Hadrien\_33 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Hadrien\_33:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: Hail\_32 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Hail\_32:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: Haimas\_49 Start: 41703, Stop: 43058, Start Num: 45

Candidate Starts for Haimas\_49:

(Start: 45 @41703 has 247 MA's), (50, 41754), (53, 41787), (72, 41919), (73, 41934), (87, 42030), (89, 42069), (93, 42099), (96, 42135), (107, 42246), (112, 42276), (113, 42279), (120, 42345), (134, 42504), (138, 42552), (140, 42570), (148, 42618), (166, 42762), (172, 42822), (186, 42927), (193, 43014),

Gene: Haleema\_48 Start: 41417, Stop: 42772, Start Num: 45

Candidate Starts for Haleema\_48:

(Start: 45 @41417 has 247 MA's), (50, 41468), (53, 41501), (71, 41630), (72, 41633), (73, 41648), (87, 41744), (89, 41783), (93, 41813), (96, 41849), (107, 41960), (112, 41990), (113, 41993), (120, 42059), (134, 42218), (138, 42266), (140, 42284), (148, 42332), (166, 42476), (172, 42536), (186, 42641), (193, 42728),

Gene: Halo\_28 Start: 25196, Stop: 26404, Start Num: 48

Candidate Starts for Halo\_28:

(40, 25103), (Start: 48 @25196 has 62 MA's), (69, 25370), (79, 25442), (89, 25541), (90, 25550), (92, 25562), (94, 25574), (95, 25583), (96, 25607), (98, 25628), (100, 25655), (101, 25667), (110, 25739), (117, 25778), (134, 25967), (137, 25991), (138, 26006), (141, 26027), (148, 26072), (149, 26075), (164, 26126),

Gene: Hamish\_49 Start: 41695, Stop: 43050, Start Num: 45

Candidate Starts for Hamish\_49:

(Start: 45 @41695 has 247 MA's), (50, 41746), (53, 41779), (72, 41911), (73, 41926), (87, 42022), (89, 42061), (93, 42091), (96, 42127), (107, 42238), (112, 42268), (113, 42271), (120, 42337), (134, 42496), (138, 42544), (140, 42562), (148, 42610), (166, 42754), (172, 42814), (186, 42919), (193, 43006),

Gene: Hartsy\_49 Start: 41746, Stop: 43101, Start Num: 45

Candidate Starts for Hartsy\_49:

(Start: 45 @41746 has 247 MA's), (50, 41797), (53, 41830), (71, 41959), (72, 41962), (73, 41977), (87, 42073), (89, 42112), (93, 42142), (96, 42178), (107, 42289), (112, 42319), (113, 42322), (120, 42388), (134, 42547), (138, 42595), (140, 42613), (148, 42661), (166, 42805), (172, 42865), (186, 42970), (193, 43057),



Gene: Harvey\_49 Start: 41733, Stop: 43088, Start Num: 45

Candidate Starts for Harvey\_49:

(Start: 45 @41733 has 247 MA's), (50, 41784), (53, 41817), (71, 41946), (72, 41949), (73, 41964), (87, 42060), (89, 42099), (93, 42129), (96, 42165), (104, 42240), (107, 42276), (112, 42306), (113, 42309), (120, 42375), (134, 42534), (138, 42582), (140, 42600), (148, 42648), (166, 42792), (172, 42852), (186, 42957), (193, 43044),

Gene: Held\_49 Start: 41422, Stop: 42777, Start Num: 45

Candidate Starts for Held\_49:

(Start: 45 @41422 has 247 MA's), (50, 41473), (53, 41506), (71, 41635), (72, 41638), (73, 41653), (87, 41749), (89, 41788), (93, 41818), (96, 41854), (107, 41965), (112, 41995), (113, 41998), (120, 42064), (134, 42223), (138, 42271), (140, 42289), (148, 42337), (166, 42481), (172, 42541), (186, 42646), (193, 42733),

Gene: HenryJackson\_48 Start: 41417, Stop: 42772, Start Num: 45

Candidate Starts for HenryJackson\_48:

(Start: 45 @41417 has 247 MA's), (50, 41468), (53, 41501), (71, 41630), (72, 41633), (73, 41648), (87, 41744), (89, 41783), (93, 41813), (96, 41849), (107, 41960), (112, 41990), (113, 41993), (120, 42059), (134, 42218), (138, 42266), (140, 42284), (148, 42332), (166, 42476), (172, 42536), (186, 42641), (193, 42728),

Gene: Hertubise\_49 Start: 41717, Stop: 43072, Start Num: 45

Candidate Starts for Hertubise\_49:

(Start: 45 @41717 has 247 MA's), (50, 41768), (53, 41801), (71, 41930), (72, 41933), (73, 41948), (87, 42044), (89, 42083), (93, 42113), (96, 42149), (107, 42260), (112, 42290), (113, 42293), (120, 42359), (134, 42518), (138, 42566), (140, 42584), (148, 42632), (166, 42776), (172, 42836), (186, 42941), (189, 42995), (193, 43028),

Gene: Hetaeria\_49 Start: 41734, Stop: 43089, Start Num: 45

Candidate Starts for Hetaeria\_49:

(Start: 45 @41734 has 247 MA's), (50, 41785), (53, 41818), (71, 41947), (72, 41950), (73, 41965), (87, 42061), (89, 42100), (93, 42130), (96, 42166), (107, 42277), (112, 42307), (113, 42310), (120, 42376), (134, 42535), (138, 42583), (140, 42601), (148, 42649), (166, 42793), (172, 42853), (186, 42958), (193, 43045),

Gene: HighStump\_49 Start: 41544, Stop: 42899, Start Num: 45

Candidate Starts for HighStump\_49:

(Start: 45 @41544 has 247 MA's), (50, 41595), (53, 41628), (71, 41757), (72, 41760), (73, 41775), (87, 41871), (89, 41910), (93, 41940), (96, 41976), (107, 42087), (112, 42117), (113, 42120), (120, 42186), (134, 42345), (138, 42393), (140, 42411), (148, 42459), (166, 42603), (172, 42663), (186, 42768), (193, 42855),

Gene: Hilltopfarm\_32 Start: 29119, Stop: 30342, Start Num: 48

Candidate Starts for Hilltopfarm\_32:

(Start: 48 @29119 has 62 MA's), (49, 29143), (56, 29215), (61, 29239), (63, 29257), (66, 29266), (69, 29299), (72, 29329), (87, 29434), (89, 29473), (90, 29482), (94, 29506), (96, 29539), (100, 29587), (101, 29599), (110, 29671), (119, 29728), (126, 29815), (134, 29902), (135, 29914), (138, 29941), (140, 29959), (141, 29962), (142, 29971), (164, 30061), (181, 30166), (188, 30253), (189, 30262),

Gene: Hocus\_48 Start: 41406, Stop: 42761, Start Num: 45

Candidate Starts for Hocus\_48:

(Start: 45 @41406 has 247 MA's), (50, 41457), (53, 41490), (71, 41619), (72, 41622), (73, 41637), (87, 41733), (89, 41772), (93, 41802), (96, 41838), (107, 41949), (112, 41979), (113, 41982), (120, 42048), (134, 42207), (138, 42255), (140, 42273), (148, 42321), (166, 42465), (172, 42525), (186, 42630), (193, 42717),

Gene: Hope\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Hope\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Horchata\_49 Start: 41709, Stop: 43064, Start Num: 45

Candidate Starts for Horchata\_49:

(Start: 45 @41709 has 247 MA's), (50, 41760), (53, 41793), (71, 41922), (72, 41925), (73, 41940), (87, 42036), (89, 42075), (93, 42105), (96, 42141), (107, 42252), (112, 42282), (113, 42285), (120, 42351), (134, 42510), (138, 42558), (140, 42576), (148, 42624), (166, 42768), (172, 42828), (186, 42933), (193, 43020),

Gene: Hotshotbaby7\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Hotshotbaby7\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (138, 26011), (141, 26032), (147, 26071), (148, 26077),

Gene: HuhtaEnerson15\_8 Start: 5355, Stop: 6164, Start Num: 85

Candidate Starts for HuhtaEnerson15\_8:

(Start: 85 @5355 has 48 MA's), (89, 5418), (90, 5427), (96, 5484), (100, 5532), (109, 5613), (130, 5802), (134, 5844), (140, 5901), (147, 5943), (196, 6150),

Gene: IdentityCrisis\_26 Start: 21810, Stop: 22982, Start Num: 51

Candidate Starts for IdentityCrisis\_26:

(34, 21432), (44, 21741), (Start: 51 @21810 has 50 MA's), (59, 21864), (60, 21867), (70, 21951), (76, 21996), (87, 22071), (88, 22092), (94, 22143), (96, 22176), (100, 22215), (101, 22227), (107, 22281), (116, 22332), (120, 22377), (121, 22392), (129, 22473), (132, 22512), (134, 22527), (135, 22539), (138, 22566), (154, 22653), (158, 22671), (167, 22734), (172, 22755), (177, 22779), (183, 22827), (189, 22902),

Gene: ImtiyazSitla\_49 Start: 41392, Stop: 42747, Start Num: 45

Candidate Starts for ImtiyazSitla\_49:

(Start: 45 @41392 has 247 MA's), (50, 41443), (53, 41476), (71, 41605), (72, 41608), (73, 41623), (87, 41719), (89, 41758), (93, 41788), (96, 41824), (107, 41935), (112, 41965), (113, 41968), (120, 42034), (134, 42193), (138, 42241), (140, 42259), (148, 42307), (166, 42451), (172, 42511), (186, 42616), (193, 42703),

Gene: Inchworm\_50 Start: 41830, Stop: 43185, Start Num: 45

Candidate Starts for Inchworm\_50:

(Start: 45 @41830 has 247 MA's), (50, 41881), (53, 41914), (71, 42043), (72, 42046), (73, 42061), (87, 42157), (89, 42196), (93, 42226), (96, 42262), (107, 42373), (112, 42403), (113, 42406), (120, 42472), (134, 42631), (138, 42679), (140, 42697), (148, 42745), (166, 42889), (172, 42949), (186, 43054), (193, 43141),

Gene: Inverness\_49 Start: 41718, Stop: 43073, Start Num: 45

Candidate Starts for Inverness\_49:

(Start: 45 @41718 has 247 MA's), (50, 41769), (53, 41802), (71, 41931), (72, 41934), (73, 41949), (87, 42045), (89, 42084), (93, 42114), (96, 42150), (107, 42261), (112, 42291), (113, 42294), (120, 42360), (134, 42519), (138, 42567), (140, 42585), (148, 42633), (166, 42777), (172, 42837), (186, 42942), (189, 42996), (193, 43029),

Gene: Iridoclysis\_49 Start: 41689, Stop: 43044, Start Num: 45

Candidate Starts for Iridoclysis\_49:

(Start: 45 @41689 has 247 MA's), (50, 41740), (53, 41773), (71, 41902), (72, 41905), (73, 41920), (87, 42016), (89, 42055), (93, 42085), (96, 42121), (107, 42232), (112, 42262), (113, 42265), (120, 42331), (134, 42490), (138, 42538), (140, 42556), (148, 42604), (166, 42748), (172, 42808), (186, 42913), (193, 43000),

Gene: IsaacEli\_50 Start: 41848, Stop: 43203, Start Num: 45

Candidate Starts for IsaacEli\_50:

(Start: 45 @41848 has 247 MA's), (50, 41899), (53, 41932), (71, 42061), (72, 42064), (73, 42079), (87, 42175), (89, 42214), (93, 42244), (96, 42280), (107, 42391), (112, 42421), (113, 42424), (120, 42490), (134, 42649), (138, 42697), (140, 42715), (148, 42763), (166, 42907), (172, 42967), (186, 43072), (193, 43159),

Gene: Island3\_30 Start: 26243, Stop: 27409, Start Num: 51

Candidate Starts for Island3\_30:

(26, 25709), (29, 25757), (34, 25862), (Start: 51 @26243 has 50 MA's), (52, 26252), (57, 26297), (59, 26300), (70, 26387), (76, 26432), (87, 26507), (88, 26528), (89, 26546), (96, 26612), (100, 26651), (101, 26663), (107, 26717), (112, 26747), (116, 26768), (120, 26813), (129, 26909), (132, 26948), (134, 26963), (135, 26975), (138, 27002), (154, 27089), (158, 27107), (160, 27113), (167, 27161), (177, 27206), (183, 27254), (189, 27329),

Gene: JDog\_49 Start: 41426, Stop: 42781, Start Num: 45

Candidate Starts for JDog\_49:

(Start: 45 @41426 has 247 MA's), (50, 41477), (53, 41510), (72, 41642), (73, 41657), (87, 41753), (89, 41792), (93, 41822), (96, 41858), (107, 41969), (112, 41999), (113, 42002), (120, 42068), (134, 42227), (138, 42275), (140, 42293), (148, 42341), (166, 42485), (172, 42545), (186, 42650), (189, 42704), (193, 42737),

Gene: Jabiru\_8 Start: 5180, Stop: 5989, Start Num: 85

Candidate Starts for Jabiru\_8:

(Start: 85 @5180 has 48 MA's), (88, 5225), (96, 5309), (97, 5324), (100, 5357), (130, 5627), (134, 5669), (138, 5708), (140, 5726), (144, 5756), (156, 5798),

Gene: JacAttac\_50 Start: 41830, Stop: 43185, Start Num: 45

Candidate Starts for JacAttac\_50:

(Start: 45 @41830 has 247 MA's), (50, 41881), (53, 41914), (71, 42043), (72, 42046), (73, 42061), (87, 42157), (89, 42196), (93, 42226), (96, 42262), (107, 42373), (112, 42403), (113, 42406), (120, 42472), (134, 42631), (138, 42679), (140, 42697), (148, 42745), (166, 42889), (172, 42949), (186, 43054), (193, 43141),

Gene: JakeO\_48 Start: 41425, Stop: 42780, Start Num: 45

Candidate Starts for JakeO\_48:

(Start: 45 @41425 has 247 MA's), (50, 41476), (53, 41509), (56, 41527), (71, 41638), (72, 41641), (73, 41656), (87, 41752), (89, 41791), (93, 41821), (96, 41857), (107, 41968), (112, 41998), (113, 42001), (120, 42067), (134, 42226), (138, 42274), (140, 42292), (148, 42340), (166, 42484), (172, 42544), (186, 42649), (193, 42736),

Gene: Jane\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Jane\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: JangoPhett\_49 Start: 41700, Stop: 43055, Start Num: 45

Candidate Starts for JangoPhett\_49:

(Start: 45 @41700 has 247 MA's), (50, 41751), (53, 41784), (71, 41913), (72, 41916), (73, 41931), (87, 42027), (89, 42066), (93, 42096), (96, 42132), (107, 42243), (112, 42273), (113, 42276), (120, 42342), (134, 42501), (138, 42549), (140, 42567), (148, 42615), (166, 42759), (172, 42819), (186, 42924), (193, 43011),

Gene: Jebeks\_27 Start: 24037, Stop: 25203, Start Num: 51

Candidate Starts for Jebeks\_27:

(Start: 51 @24037 has 50 MA's), (59, 24094), (70, 24181), (76, 24226), (87, 24301), (88, 24322), (96, 24406), (100, 24445), (107, 24511), (112, 24541), (116, 24562), (120, 24607), (129, 24703), (132, 24742), (134, 24757), (138, 24796), (154, 24883), (158, 24901), (160, 24907), (167, 24955), (172, 24976), (183, 25048), (189, 25123),

Gene: Jillium\_48 Start: 41419, Stop: 42774, Start Num: 45

Candidate Starts for Jillium\_48:

(Start: 45 @41419 has 247 MA's), (50, 41470), (53, 41503), (71, 41632), (72, 41635), (73, 41650), (87, 41746), (89, 41785), (93, 41815), (96, 41851), (107, 41962), (112, 41992), (113, 41995), (120, 42061), (134, 42220), (138, 42268), (140, 42286), (148, 42334), (166, 42478), (172, 42538), (186, 42643), (193, 42730),

Gene: Jiminy\_48 Start: 41260, Stop: 42615, Start Num: 45

Candidate Starts for Jiminy\_48:

(Start: 45 @41260 has 247 MA's), (50, 41311), (53, 41344), (71, 41473), (72, 41476), (73, 41491), (87, 41587), (89, 41626), (93, 41656), (96, 41692), (107, 41803), (112, 41833), (113, 41836), (120, 41902), (134, 42061), (138, 42109), (140, 42127), (148, 42175), (166, 42319), (172, 42379), (186, 42484), (193, 42571),

Gene: Jolene\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Jolene\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (138, 26011), (141, 26032), (147, 26071), (148, 26077),

Gene: Jolie2\_28 Start: 25718, Stop: 26938, Start Num: 48

Candidate Starts for Jolie2\_28:

(41, 25637), (42, 25673), (43, 25679), (Start: 48 @25718 has 62 MA's), (72, 25922), (79, 25964), (89, 26072), (94, 26105), (96, 26138), (100, 26186), (110, 26270), (124, 26408), (134, 26498), (137, 26522), (138, 26537), (139, 26546), (141, 26558), (144, 26585), (147, 26597), (148, 26603), (149, 26606), (174, 26717), (184, 26798), (193, 26897), (194, 26900),

Gene: Jonghyun\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Jonghyun\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (138, 26011), (141, 26032), (147, 26071), (148, 26077),

Gene: JorRay\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for JorRay\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Journey13\_9 Start: 5628, Stop: 6563, Start Num: 86

Candidate Starts for Journey13\_9:

(Start: 86 @5628 has 3 MA's), (94, 5721), (96, 5754), (99, 5796), (100, 5802), (108, 5880), (109, 5883), (130, 6072), (134, 6114), (138, 6153), (140, 6171), (147, 6213), (149, 6222), (164, 6273), (175, 6336), (183, 6405), (189, 6486), (196, 6549),

Gene: Jovo\_8 Start: 5464, Stop: 6273, Start Num: 85

Candidate Starts for Jovo\_8:

(Start: 85 @5464 has 48 MA's), (89, 5527), (90, 5536), (93, 5557), (96, 5593), (100, 5641), (105, 5698), (109, 5722), (130, 5911), (134, 5953), (140, 6010), (196, 6259),

Gene: Jung\_26 Start: 24014, Stop: 25180, Start Num: 51

Candidate Starts for Jung\_26:

(Start: 51 @24014 has 50 MA's), (52, 24023), (57, 24068), (59, 24071), (70, 24158), (76, 24203), (83, 24236), (87, 24278), (88, 24299), (96, 24383), (100, 24422), (107, 24488), (112, 24518), (116, 24539), (120, 24584), (129, 24680), (132, 24719), (134, 24734), (135, 24746), (138, 24773), (154, 24860), (158, 24878), (160, 24884), (167, 24932), (183, 25025), (189, 25100),

Gene: Juniormint\_27 Start: 24090, Stop: 25256, Start Num: 51

Candidate Starts for Juniormint\_27:

(15, 23337), (29, 23604), (34, 23709), (Start: 51 @24090 has 50 MA's), (52, 24099), (57, 24144), (59, 24147), (70, 24234), (76, 24279), (87, 24354), (88, 24375), (89, 24393), (96, 24459), (100, 24498), (107, 24564), (112, 24594), (116, 24615), (120, 24660), (129, 24756), (132, 24795), (134, 24810), (138, 24849), (154, 24936), (158, 24954), (160, 24960), (167, 25008), (183, 25101), (189, 25176),

Gene: JustASigh\_27 Start: 26068, Stop: 27300, Start Num: 48

Candidate Starts for JustASigh\_27:

(36, 25912), (38, 25930), (39, 25975), (Start: 48 @26068 has 62 MA's), (68, 26224), (69, 26236), (73, 26281), (80, 26314), (87, 26365), (90, 26413), (96, 26470), (97, 26485), (100, 26521), (101, 26533), (114, 26632), (126, 26749), (133, 26830), (134, 26854), (138, 26893), (149, 26962), (151, 26968), (152, 26971), (161, 27004), (168, 27052), (189, 27220), (190, 27232),

Gene: KLucky39\_49 Start: 41716, Stop: 43071, Start Num: 45

Candidate Starts for KLucky39\_49:

(Start: 45 @41716 has 247 MA's), (50, 41767), (53, 41800), (71, 41929), (72, 41932), (73, 41947), (87, 42043), (89, 42082), (93, 42112), (96, 42148), (107, 42259), (112, 42289), (113, 42292), (120, 42358), (134, 42517), (138, 42565), (140, 42583), (148, 42631), (166, 42775), (172, 42835), (186, 42940), (193, 43027),

Gene: Kahve\_48 Start: 41414, Stop: 42769, Start Num: 45

Candidate Starts for Kahve\_48:

(Start: 45 @41414 has 247 MA's), (50, 41465), (53, 41498), (64, 41561), (71, 41627), (72, 41630), (73, 41645), (87, 41741), (89, 41780), (93, 41810), (96, 41846), (107, 41957), (112, 41987), (113, 41990), (120, 42056), (134, 42215), (138, 42263), (140, 42281), (148, 42329), (166, 42473), (172, 42533), (186, 42638), (193, 42725),

Gene: Kailash\_49 Start: 41776, Stop: 43131, Start Num: 45

Candidate Starts for Kailash\_49:

(Start: 45 @41776 has 247 MA's), (50, 41827), (53, 41860), (71, 41989), (72, 41992), (73, 42007), (87, 42103), (89, 42142), (93, 42172), (96, 42208), (107, 42319), (112, 42349), (113, 42352), (120, 42418), (134, 42577), (138, 42625), (140, 42643), (148, 42691), (166, 42835), (172, 42895), (186, 43000), (193, 43087),

Gene: Kareem\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Kareem\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Kari\_27 Start: 24049, Stop: 25215, Start Num: 51

Candidate Starts for Kari\_27:

(Start: 51 @24049 has 50 MA's), (59, 24106), (70, 24193), (76, 24238), (87, 24313), (88, 24334), (96, 24418), (100, 24457), (107, 24523), (112, 24553), (116, 24574), (120, 24619), (129, 24715), (132, 24754), (134, 24769), (135, 24781), (138, 24808), (154, 24895), (158, 24913), (160, 24919), (167, 24967), (172, 24988), (183, 25060), (189, 25135),

Gene: Kasen3\_28 Start: 25202, Stop: 26410, Start Num: 48

Candidate Starts for Kasen3\_28:

(40, 25109), (Start: 48 @25202 has 62 MA's), (69, 25376), (79, 25448), (89, 25547), (90, 25556), (92, 25568), (94, 25580), (95, 25589), (96, 25613), (98, 25634), (100, 25661), (101, 25673), (110, 25745), (117, 25784), (134, 25973), (137, 25997), (138, 26012), (141, 26033), (148, 26078), (149, 26081), (164, 26132),

Gene: Katniss\_50 Start: 41857, Stop: 43212, Start Num: 45

Candidate Starts for Katniss\_50:

(Start: 45 @41857 has 247 MA's), (50, 41908), (53, 41941), (71, 42070), (72, 42073), (73, 42088), (87, 42184), (89, 42223), (93, 42253), (96, 42289), (107, 42400), (112, 42430), (113, 42433), (120, 42499), (134, 42658), (138, 42706), (140, 42724), (148, 42772), (166, 42916), (172, 42976), (186, 43081), (193, 43168),

Gene: Keitherie\_49 Start: 41760, Stop: 43115, Start Num: 45

Candidate Starts for Keitherie\_49:

(Start: 45 @41760 has 247 MA's), (50, 41811), (53, 41844), (71, 41973), (72, 41976), (73, 41991), (87, 42087), (89, 42126), (93, 42156), (96, 42192), (107, 42303), (112, 42333), (113, 42336), (120, 42402), (134, 42561), (138, 42609), (140, 42627), (148, 42675), (166, 42819), (172, 42879), (186, 42984), (193, 43071),

Gene: Kevin1\_27 Start: 22755, Stop: 23915, Start Num: 51

Candidate Starts for Kevin1\_27:

(10, 21801), (15, 21996), (26, 22230), (34, 22383), (Start: 51 @22755 has 50 MA's), (59, 22812), (70, 22899), (87, 23019), (100, 23163), (101, 23175), (107, 23229), (111, 23256), (112, 23259), (116, 23280), (120, 23325), (127, 23388), (134, 23475), (135, 23487), (138, 23514), (141, 23535), (149, 23583), (154, 23601), (169, 23679), (173, 23694), (183, 23760),

Gene: Kikipoo\_50 Start: 41848, Stop: 43203, Start Num: 45

Candidate Starts for Kikipoo\_50:

(Start: 45 @41848 has 247 MA's), (50, 41899), (53, 41932), (71, 42061), (72, 42064), (73, 42079), (87, 42175), (89, 42214), (93, 42244), (96, 42280), (107, 42391), (112, 42421), (113, 42424), (120, 42490), (134, 42649), (138, 42697), (140, 42715), (148, 42763), (166, 42907), (172, 42967), (186, 43072), (193, 43159),

Gene: KilKor\_27 Start: 24311, Stop: 25477, Start Num: 51

Candidate Starts for KilKor\_27:

(15, 23558), (22, 23729), (29, 23825), (34, 23930), (Start: 51 @24311 has 50 MA's), (52, 24320), (57, 24365), (59, 24368), (70, 24455), (76, 24500), (87, 24575), (88, 24596), (89, 24614), (96, 24680), (100, 24719), (107, 24785), (112, 24815), (116, 24836), (120, 24881), (129, 24977), (132, 25016), (134, 25031), (138, 25070), (154, 25157), (158, 25175), (160, 25181), (167, 25229), (183, 25322), (189, 25397),

Gene: Kimbrough\_49 Start: 41421, Stop: 42776, Start Num: 45

Candidate Starts for Kimbrough\_49:

(Start: 45 @41421 has 247 MA's), (50, 41472), (53, 41505), (56, 41523), (71, 41634), (72, 41637), (73, 41652), (87, 41748), (89, 41787), (93, 41817), (96, 41853), (107, 41964), (112, 41994), (113, 41997), (120, 42063), (134, 42222), (138, 42270), (140, 42288), (148, 42336), (166, 42480), (172, 42540), (186, 42645), (193, 42732),

Gene: Kinbote\_33 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Kinbote\_33:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: KingTut\_40 Start: 37084, Stop: 38439, Start Num: 45

Candidate Starts for KingTut\_40:

(Start: 45 @37084 has 247 MA's), (50, 37135), (53, 37168), (71, 37297), (72, 37300), (73, 37315), (87, 37411), (89, 37450), (93, 37480), (96, 37516), (107, 37627), (112, 37657), (113, 37660), (120, 37726), (134, 37885), (138, 37933), (140, 37951), (148, 37999), (166, 38143), (172, 38203), (186, 38308), (193, 38395),

Gene: KingVeVeVe\_49 Start: 41692, Stop: 43047, Start Num: 45

Candidate Starts for KingVeVeVe\_49:

(Start: 45 @41692 has 247 MA's), (50, 41743), (53, 41776), (56, 41794), (71, 41905), (72, 41908), (73, 41923), (87, 42019), (89, 42058), (93, 42088), (96, 42124), (107, 42235), (112, 42265), (113, 42268), (120, 42334), (134, 42493), (138, 42541), (140, 42559), (148, 42607), (166, 42751), (172, 42811), (186, 42916), (193, 43003),

Gene: KlimbOn\_49 Start: 41710, Stop: 43065, Start Num: 45

Candidate Starts for KlimbOn\_49:

(Start: 45 @41710 has 247 MA's), (50, 41761), (53, 41794), (56, 41812), (71, 41923), (72, 41926), (73, 41941), (87, 42037), (89, 42076), (93, 42106), (96, 42142), (107, 42253), (112, 42283), (113, 42286), (120, 42352), (134, 42511), (138, 42559), (140, 42577), (148, 42625), (166, 42769), (172, 42829), (186, 42934), (189, 42988), (193, 43021),

Gene: Kloppinator\_50 Start: 42123, Stop: 43478, Start Num: 45

Candidate Starts for Kloppinator\_50:

(Start: 45 @42123 has 247 MA's), (50, 42174), (53, 42207), (71, 42336), (72, 42339), (73, 42354), (87, 42450), (89, 42489), (93, 42519), (96, 42555), (107, 42666), (112, 42696), (113, 42699), (120, 42765), (134, 42924), (138, 42972), (140, 42990), (148, 43038), (166, 43182), (172, 43242), (186, 43347), (193, 43434),

Gene: Ksquared\_27 Start: 24068, Stop: 25234, Start Num: 51

Candidate Starts for Ksquared\_27:

(15, 23315), (29, 23582), (34, 23687), (Start: 51 @24068 has 50 MA's), (52, 24077), (57, 24122), (59, 24125), (70, 24212), (76, 24257), (87, 24332), (88, 24353), (89, 24371), (96, 24437), (100, 24476), (107, 24542), (112, 24572), (116, 24593), (120, 24638), (129, 24734), (132, 24773), (134, 24788), (138, 24827), (154, 24914), (158, 24932), (160, 24938), (167, 24986), (183, 25079), (189, 25154),

Gene: Kwadwo\_48 Start: 41396, Stop: 42751, Start Num: 45

Candidate Starts for Kwadwo\_48:

(Start: 45 @41396 has 247 MA's), (50, 41447), (53, 41480), (71, 41609), (72, 41612), (73, 41627), (87, 41723), (89, 41762), (93, 41792), (96, 41828), (107, 41939), (112, 41969), (113, 41972), (120, 42038), (134, 42197), (138, 42245), (140, 42263), (148, 42311), (166, 42455), (172, 42515), (186, 42620), (193, 42707),

Gene: Kwksand96\_48 Start: 41271, Stop: 42626, Start Num: 45

Candidate Starts for Kwksand96\_48:

(Start: 45 @41271 has 247 MA's), (50, 41322), (53, 41355), (71, 41484), (72, 41487), (73, 41502), (87, 41598), (89, 41637), (93, 41667), (96, 41703), (107, 41814), (112, 41844), (113, 41847), (120, 41913), (134, 42072), (138, 42120), (140, 42138), (148, 42186), (166, 42330), (172, 42390), (186, 42495), (193, 42582),

Gene: Labeouficaum\_48 Start: 41266, Stop: 42621, Start Num: 45

Candidate Starts for Labeouficaum\_48:

(Start: 45 @41266 has 247 MA's), (50, 41317), (53, 41350), (71, 41479), (72, 41482), (73, 41497), (87, 41593), (89, 41632), (93, 41662), (96, 41698), (107, 41809), (112, 41839), (113, 41842), (120, 41908), (134, 42067), (138, 42115), (140, 42133), (148, 42181), (166, 42325), (172, 42385), (186, 42490), (193, 42577),

Gene: Langerak\_27 Start: 24036, Stop: 25202, Start Num: 51

Candidate Starts for Langerak\_27:

(Start: 51 @24036 has 50 MA's), (59, 24093), (70, 24180), (76, 24225), (87, 24300), (88, 24321), (96, 24405), (100, 24444), (107, 24510), (112, 24540), (116, 24561), (120, 24606), (129, 24702), (132, 24741), (134, 24756), (135, 24768), (138, 24795), (154, 24882), (158, 24900), (160, 24906), (167, 24954), (172, 24975), (183, 25047), (189, 25122),

Gene: LasagnaCat\_50 Start: 41842, Stop: 43197, Start Num: 45

Candidate Starts for LasagnaCat\_50:

(Start: 45 @41842 has 247 MA's), (50, 41893), (53, 41926), (71, 42055), (72, 42058), (73, 42073), (87, 42169), (89, 42208), (93, 42238), (96, 42274), (107, 42385), (112, 42415), (113, 42418), (120, 42484), (134, 42643), (138, 42691), (140, 42709), (148, 42757), (166, 42901), (172, 42961), (186, 43066), (193, 43153),

Gene: Lasso\_49 Start: 41671, Stop: 43026, Start Num: 45

Candidate Starts for Lasso\_49:

(Start: 45 @41671 has 247 MA's), (50, 41722), (53, 41755), (71, 41884), (72, 41887), (73, 41902), (87, 41998), (89, 42037), (93, 42067), (96, 42103), (107, 42214), (112, 42244), (113, 42247), (120, 42313), (134, 42472), (138, 42520), (140, 42538), (148, 42586), (166, 42730), (172, 42790), (186, 42895), (193, 42982),

Gene: LeeLot\_49 Start: 41723, Stop: 43078, Start Num: 45

Candidate Starts for LeeLot\_49:

(Start: 45 @41723 has 247 MA's), (50, 41774), (53, 41807), (71, 41936), (72, 41939), (73, 41954), (87, 42050), (89, 42089), (93, 42119), (96, 42155), (107, 42266), (112, 42296), (113, 42299), (120, 42365), (134, 42524), (138, 42572), (140, 42590), (148, 42638), (166, 42782), (172, 42842), (186, 42947),



(193, 43034),

Gene: Lego3393\_48 Start: 41851, Stop: 43206, Start Num: 45

Candidate Starts for Lego3393\_48:

(Start: 45 @41851 has 247 MA's), (50, 41902), (53, 41935), (71, 42064), (72, 42067), (73, 42082), (87, 42178), (89, 42217), (93, 42247), (96, 42283), (107, 42394), (112, 42424), (113, 42427), (120, 42493), (134, 42652), (138, 42700), (140, 42718), (148, 42766), (166, 42910), (172, 42970), (186, 43075), (193, 43162),

Gene: Legolas\_49 Start: 41441, Stop: 42796, Start Num: 45

Candidate Starts for Legolas\_49:

(Start: 45 @41441 has 247 MA's), (50, 41492), (53, 41525), (71, 41654), (72, 41657), (73, 41672), (87, 41768), (89, 41807), (93, 41837), (96, 41873), (107, 41984), (112, 42014), (113, 42017), (120, 42083), (134, 42242), (138, 42290), (140, 42308), (148, 42356), (166, 42500), (172, 42560), (186, 42665), (193, 42752),

Gene: LeiMonet\_50 Start: 41403, Stop: 42758, Start Num: 45

Candidate Starts for LeiMonet\_50:

(Start: 45 @41403 has 247 MA's), (50, 41454), (53, 41487), (56, 41505), (71, 41616), (72, 41619), (73, 41634), (87, 41730), (89, 41769), (93, 41799), (96, 41835), (107, 41946), (112, 41976), (113, 41979), (120, 42045), (134, 42204), (138, 42252), (140, 42270), (148, 42318), (166, 42462), (172, 42522), (186, 42627), (193, 42714),

Gene: LemonSlice\_49 Start: 41408, Stop: 42763, Start Num: 45

Candidate Starts for LemonSlice\_49:

(Start: 45 @41408 has 247 MA's), (50, 41459), (53, 41492), (71, 41621), (72, 41624), (73, 41639), (87, 41735), (89, 41774), (93, 41804), (96, 41840), (107, 41951), (112, 41981), (113, 41984), (120, 42050), (134, 42209), (138, 42257), (140, 42275), (148, 42323), (166, 42467), (172, 42527), (186, 42632), (193, 42719),

Gene: Lemuria\_29 Start: 26871, Stop: 28088, Start Num: 47

Candidate Starts for Lemuria\_29:

(16, 26262), (17, 26289), (18, 26313), (19, 26334), (20, 26340), (23, 26388), (25, 26424), (27, 26442), (31, 26508), (33, 26535), (Start: 47 @26871 has 1 MA's), (72, 27075), (79, 27117), (87, 27186), (89, 27225), (90, 27234), (94, 27258), (96, 27291), (97, 27306), (100, 27339), (110, 27423), (124, 27561), (134, 27651), (137, 27675), (138, 27690), (139, 27699), (141, 27711), (144, 27738), (147, 27750), (148, 27756), (149, 27759), (172, 27864), (193, 28050), (194, 28053),

Gene: Lev2\_8 Start: 5172, Stop: 5981, Start Num: 85

Candidate Starts for Lev2\_8:

(Start: 85 @5172 has 48 MA's), (89, 5235), (90, 5244), (93, 5265), (96, 5301), (100, 5349), (105, 5406), (109, 5430), (134, 5661), (140, 5718), (196, 5967),

Gene: Liefie\_28 Start: 25200, Stop: 26408, Start Num: 48

Candidate Starts for Liefie\_28:

(40, 25107), (Start: 48 @25200 has 62 MA's), (69, 25374), (79, 25446), (87, 25506), (89, 25545), (90, 25554), (94, 25578), (95, 25587), (96, 25611), (98, 25632), (100, 25659), (101, 25671), (110, 25743), (117, 25782), (134, 25971), (138, 26010), (141, 26031), (147, 26070), (148, 26076),

Gene: LilHazelnut\_33 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for LilHazelnut\_33:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96,

28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: LittleCherry\_8 Start: 5356, Stop: 6165, Start Num: 85

Candidate Starts for LittleCherry\_8:

(Start: 85 @5356 has 48 MA's), (89, 5419), (90, 5428), (96, 5485), (100, 5533), (109, 5614), (130, 5803), (134, 5845), (140, 5902), (147, 5944), (196, 6151),

Gene: Longacauda\_48 Start: 41404, Stop: 42759, Start Num: 45

Candidate Starts for Longacauda\_48:

(Start: 45 @41404 has 247 MA's), (50, 41455), (53, 41488), (71, 41617), (72, 41620), (73, 41635), (87, 41731), (89, 41770), (93, 41800), (96, 41836), (107, 41947), (112, 41977), (113, 41980), (120, 42046), (134, 42205), (138, 42253), (140, 42271), (148, 42319), (166, 42463), (172, 42523), (186, 42628), (193, 42715),

Gene: Lopsy\_48 Start: 41269, Stop: 42624, Start Num: 45

Candidate Starts for Lopsy\_48:

(Start: 45 @41269 has 247 MA's), (50, 41320), (53, 41353), (71, 41482), (72, 41485), (73, 41500), (87, 41596), (89, 41635), (93, 41665), (96, 41701), (107, 41812), (112, 41842), (113, 41845), (120, 41911), (134, 42070), (138, 42118), (140, 42136), (148, 42184), (166, 42328), (172, 42388), (186, 42493), (193, 42580),

Gene: LostAndPhound\_48 Start: 41423, Stop: 42778, Start Num: 45

Candidate Starts for LostAndPhound\_48:

(Start: 45 @41423 has 247 MA's), (50, 41474), (53, 41507), (56, 41525), (71, 41636), (72, 41639), (73, 41654), (87, 41750), (89, 41789), (93, 41819), (96, 41855), (107, 41966), (112, 41996), (113, 41999), (120, 42065), (134, 42224), (138, 42272), (140, 42290), (148, 42338), (166, 42482), (172, 42542), (186, 42647), (193, 42734),

Gene: LouisV14\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for LouisV14\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: LuckyMarjie\_48 Start: 41411, Stop: 42766, Start Num: 45

Candidate Starts for LuckyMarjie\_48:

(Start: 45 @41411 has 247 MA's), (50, 41462), (53, 41495), (71, 41624), (72, 41627), (73, 41642), (87, 41738), (89, 41777), (93, 41807), (96, 41843), (107, 41954), (112, 41984), (113, 41987), (120, 42053), (134, 42212), (138, 42260), (140, 42278), (148, 42326), (166, 42470), (172, 42530), (186, 42635), (193, 42722),

Gene: Luke\_33 Start: 28294, Stop: 29529, Start Num: 46

Candidate Starts for Luke\_33:

(Start: 46 @28294 has 21 MA's), (55, 28387), (61, 28420), (62, 28432), (65, 28444), (66, 28447), (72, 28510), (75, 28528), (81, 28561), (87, 28621), (89, 28660), (90, 28669), (91, 28672), (93, 28690), (96, 28726), (100, 28774), (101, 28786), (102, 28792), (109, 28855), (110, 28858), (114, 28885), (117, 28897), (125, 28999), (134, 29086), (138, 29125), (141, 29146), (155, 29215), (164, 29245), (167, 29278), (169, 29287), (171, 29293), (174, 29305), (176, 29314), (184, 29377), (189, 29446),

Gene: Lulumae\_48 Start: 41396, Stop: 42751, Start Num: 45

Candidate Starts for Lulumae\_48:

(Start: 45 @41396 has 247 MA's), (50, 41447), (53, 41480), (71, 41609), (72, 41612), (73, 41627), (87, 41723), (89, 41762), (93, 41792), (96, 41828), (107, 41939), (112, 41969), (113, 41972), (120, 42038), (134, 42197), (138, 42245), (140, 42263), (148, 42311), (166, 42455), (172, 42515), (186, 42620), (193, 42707),

Gene: Lulwa\_49 Start: 41689, Stop: 43044, Start Num: 45

Candidate Starts for Lulwa\_49:

(Start: 45 @41689 has 247 MA's), (50, 41740), (53, 41773), (71, 41902), (72, 41905), (73, 41920), (87, 42016), (89, 42055), (93, 42085), (96, 42121), (107, 42232), (112, 42262), (113, 42265), (120, 42331), (134, 42490), (138, 42538), (140, 42556), (148, 42604), (166, 42748), (172, 42808), (186, 42913), (193, 43000),

Gene: Lumine\_48 Start: 41392, Stop: 42747, Start Num: 45

Candidate Starts for Lumine\_48:

(Start: 45 @41392 has 247 MA's), (50, 41443), (53, 41476), (71, 41605), (72, 41608), (73, 41623), (87, 41719), (89, 41758), (93, 41788), (96, 41824), (107, 41935), (112, 41965), (113, 41968), (120, 42034), (134, 42193), (138, 42241), (140, 42259), (148, 42307), (166, 42451), (172, 42511), (186, 42616), (193, 42703),

Gene: Luna22\_32 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Luna22\_32:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: MRabcd\_48 Start: 41402, Stop: 42757, Start Num: 45

Candidate Starts for MRabcd\_48:

(Start: 45 @41402 has 247 MA's), (50, 41453), (53, 41486), (56, 41504), (71, 41615), (72, 41618), (73, 41633), (87, 41729), (89, 41768), (93, 41798), (96, 41834), (107, 41945), (112, 41975), (113, 41978), (120, 42044), (134, 42203), (138, 42251), (140, 42269), (148, 42317), (166, 42461), (172, 42521), (186, 42626), (193, 42713),

Gene: Mag7\_48 Start: 41326, Stop: 42681, Start Num: 45

Candidate Starts for Mag7\_48:

(Start: 45 @41326 has 247 MA's), (50, 41377), (53, 41410), (71, 41539), (72, 41542), (73, 41557), (87, 41653), (89, 41692), (93, 41722), (96, 41758), (107, 41869), (112, 41899), (113, 41902), (120, 41968), (134, 42127), (138, 42175), (140, 42193), (148, 42241), (166, 42385), (172, 42445), (186, 42550), (193, 42637),

Gene: Magic8\_49 Start: 41761, Stop: 43116, Start Num: 45

Candidate Starts for Magic8\_49:

(Start: 45 @41761 has 247 MA's), (50, 41812), (53, 41845), (71, 41974), (72, 41977), (73, 41992), (87, 42088), (89, 42127), (93, 42157), (96, 42193), (107, 42304), (112, 42334), (113, 42337), (120, 42403), (134, 42562), (138, 42610), (140, 42628), (148, 42676), (166, 42820), (172, 42880), (186, 42985), (193, 43072),

Gene: Majeke\_27 Start: 24058, Stop: 25224, Start Num: 51

Candidate Starts for Majeke\_27:

(Start: 51 @24058 has 50 MA's), (59, 24115), (70, 24202), (76, 24247), (87, 24322), (88, 24343), (96, 24427), (100, 24466), (107, 24532), (112, 24562), (116, 24583), (120, 24628), (129, 24724), (132, 24763), (134, 24778), (138, 24817), (154, 24904), (158, 24922), (160, 24928), (167, 24976), (172,

24997), (183, 25069), (189, 25144),

Gene: Malithi\_27 Start: 23977, Stop: 25143, Start Num: 51

Candidate Starts for Malithi\_27:

(Start: 51 @23977 has 50 MA's), (52, 23986), (57, 24031), (59, 24034), (70, 24121), (76, 24166), (83, 24199), (87, 24241), (88, 24262), (89, 24280), (96, 24346), (100, 24385), (107, 24451), (112, 24481), (116, 24502), (120, 24547), (129, 24643), (132, 24682), (134, 24697), (135, 24709), (138, 24736), (154, 24823), (158, 24841), (160, 24847), (167, 24895), (172, 24916), (183, 24988), (189, 25063),

Gene: Mana\_48 Start: 41411, Stop: 42766, Start Num: 45

Candidate Starts for Mana\_48:

(Start: 45 @41411 has 247 MA's), (50, 41462), (53, 41495), (56, 41513), (71, 41624), (72, 41627), (73, 41642), (87, 41738), (89, 41777), (93, 41807), (96, 41843), (107, 41954), (112, 41984), (113, 41987), (120, 42053), (134, 42212), (138, 42260), (140, 42278), (148, 42326), (166, 42470), (172, 42530), (186, 42635), (193, 42722),

Gene: Manad\_49 Start: 41671, Stop: 43026, Start Num: 45

Candidate Starts for Manad\_49:

(Start: 45 @41671 has 247 MA's), (50, 41722), (53, 41755), (71, 41884), (72, 41887), (73, 41902), (87, 41998), (89, 42037), (93, 42067), (96, 42103), (107, 42214), (112, 42244), (113, 42247), (120, 42313), (134, 42472), (138, 42520), (140, 42538), (148, 42586), (166, 42730), (172, 42790), (186, 42895), (189, 42949), (193, 42982),

Gene: Mangethe\_27 Start: 24058, Stop: 25224, Start Num: 51

Candidate Starts for Mangethe\_27:

(Start: 51 @24058 has 50 MA's), (59, 24115), (70, 24202), (76, 24247), (87, 24322), (88, 24343), (96, 24427), (100, 24466), (107, 24532), (112, 24562), (116, 24583), (120, 24628), (129, 24724), (132, 24763), (134, 24778), (138, 24817), (154, 24904), (158, 24922), (160, 24928), (167, 24976), (172, 24997), (183, 25069), (189, 25144),

Gene: Mao1\_38 Start: 36347, Stop: 37516, Start Num: 51

Candidate Starts for Mao1\_38:

(22, 35753), (26, 35816), (34, 35969), (44, 36278), (Start: 51 @36347 has 50 MA's), (59, 36401), (60, 36404), (70, 36488), (87, 36608), (88, 36629), (96, 36713), (100, 36752), (107, 36818), (116, 36869), (120, 36914), (121, 36929), (129, 37010), (132, 37049), (134, 37064), (135, 37076), (138, 37103), (154, 37190), (158, 37208), (162, 37220), (167, 37268), (172, 37289), (174, 37295), (181, 37340), (183, 37361), (189, 37436), (197, 37505),

Gene: Marmie\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Marmie\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Maru\_48 Start: 41354, Stop: 42709, Start Num: 45

Candidate Starts for Maru\_48:

(Start: 45 @41354 has 247 MA's), (50, 41405), (53, 41438), (71, 41567), (72, 41570), (73, 41585), (87, 41681), (89, 41720), (93, 41750), (96, 41786), (107, 41897), (112, 41927), (113, 41930), (120, 41996), (134, 42155), (138, 42203), (140, 42221), (148, 42269), (166, 42413), (172, 42473), (186, 42578), (193, 42665),

Gene: MarysWell\_7 Start: 5323, Stop: 6132, Start Num: 85

Candidate Starts for MarysWell\_7:

(Start: 85 @5323 has 48 MA's), (89, 5386), (90, 5395), (96, 5452), (100, 5500), (130, 5770), (134, 5812), (140, 5869), (147, 5911), (196, 6118),

Gene: Maskar\_49 Start: 41392, Stop: 42747, Start Num: 45

Candidate Starts for Maskar\_49:

(Start: 45 @41392 has 247 MA's), (50, 41443), (53, 41476), (71, 41605), (72, 41608), (73, 41623), (87, 41719), (89, 41758), (93, 41788), (96, 41824), (107, 41935), (112, 41965), (113, 41968), (120, 42034), (134, 42193), (138, 42241), (140, 42259), (148, 42307), (166, 42451), (172, 42511), (186, 42616), (193, 42703),

Gene: Matalotodo\_49 Start: 41706, Stop: 43061, Start Num: 45

Candidate Starts for Matalotodo\_49:

(Start: 45 @41706 has 247 MA's), (50, 41757), (53, 41790), (71, 41919), (72, 41922), (73, 41937), (87, 42033), (89, 42072), (93, 42102), (96, 42138), (107, 42249), (112, 42279), (113, 42282), (120, 42348), (134, 42507), (138, 42555), (140, 42573), (148, 42621), (166, 42765), (172, 42825), (186, 42930), (193, 43017),

Gene: Mcshane\_48 Start: 41403, Stop: 42758, Start Num: 45

Candidate Starts for Mcshane\_48:

(Start: 45 @41403 has 247 MA's), (50, 41454), (53, 41487), (71, 41616), (72, 41619), (73, 41634), (87, 41730), (89, 41769), (93, 41799), (96, 41835), (107, 41946), (112, 41976), (113, 41979), (120, 42045), (134, 42204), (138, 42252), (140, 42270), (148, 42318), (166, 42462), (172, 42522), (186, 42627), (193, 42714),

Gene: Mecca\_48 Start: 41409, Stop: 42764, Start Num: 45

Candidate Starts for Mecca\_48:

(Start: 45 @41409 has 247 MA's), (50, 41460), (53, 41493), (56, 41511), (71, 41622), (72, 41625), (73, 41640), (87, 41736), (89, 41775), (93, 41805), (96, 41841), (107, 41952), (112, 41982), (113, 41985), (120, 42051), (134, 42210), (138, 42258), (140, 42276), (148, 42324), (166, 42468), (172, 42528), (186, 42633), (193, 42720),

Gene: Megamind20\_49 Start: 41431, Stop: 42786, Start Num: 45

Candidate Starts for Megamind20\_49:

(Start: 45 @41431 has 247 MA's), (50, 41482), (53, 41515), (71, 41644), (72, 41647), (73, 41662), (87, 41758), (89, 41797), (93, 41827), (96, 41863), (107, 41974), (112, 42004), (113, 42007), (120, 42073), (134, 42232), (138, 42280), (140, 42298), (148, 42346), (166, 42490), (172, 42550), (186, 42655), (193, 42742),

Gene: Megatron\_50 Start: 41839, Stop: 43194, Start Num: 45

Candidate Starts for Megatron\_50:

(Start: 45 @41839 has 247 MA's), (50, 41890), (53, 41923), (71, 42052), (72, 42055), (73, 42070), (87, 42166), (89, 42205), (93, 42235), (96, 42271), (107, 42382), (112, 42412), (113, 42415), (120, 42481), (134, 42640), (138, 42688), (140, 42706), (148, 42754), (166, 42898), (172, 42958), (186, 43063), (193, 43150),

Gene: Megiddo\_27 Start: 24311, Stop: 25477, Start Num: 51

Candidate Starts for Megiddo\_27:

(15, 23558), (22, 23729), (29, 23825), (34, 23930), (Start: 51 @24311 has 50 MA's), (52, 24320), (57, 24365), (59, 24368), (70, 24455), (76, 24500), (87, 24575), (88, 24596), (89, 24614), (96, 24680), (100, 24719), (107, 24785), (112, 24815), (116, 24836), (120, 24881), (129, 24977), (132, 25016), (134, 25031), (138, 25070), (154, 25157), (158, 25175), (160, 25181), (167, 25229), (183, 25322), (189, 25397),

Gene: Melc17\_49 Start: 41701, Stop: 43056, Start Num: 45

Candidate Starts for Melc17\_49:

(Start: 45 @41701 has 247 MA's), (50, 41752), (53, 41785), (72, 41917), (73, 41932), (87, 42028), (89, 42067), (93, 42097), (96, 42133), (107, 42244), (112, 42274), (113, 42277), (120, 42343), (134, 42502), (138, 42550), (140, 42568), (148, 42616), (166, 42760), (172, 42820), (186, 42925), (189, 42979), (193, 43012),

Gene: MelsMeow\_49 Start: 41442, Stop: 42800, Start Num: 45

Candidate Starts for MelsMeow\_49:

(Start: 45 @41442 has 247 MA's), (50, 41493), (53, 41526), (56, 41544), (71, 41655), (72, 41658), (73, 41673), (87, 41769), (89, 41808), (93, 41838), (96, 41874), (107, 41985), (112, 42015), (113, 42018), (120, 42084), (134, 42243), (138, 42291), (140, 42309), (148, 42357), (166, 42504), (172, 42564), (186, 42669), (193, 42756),

Gene: Mercurio\_30 Start: 27399, Stop: 28616, Start Num: 48

Candidate Starts for Mercurio\_30:

(Start: 48 @27399 has 62 MA's), (67, 27543), (79, 27645), (87, 27714), (89, 27753), (90, 27762), (94, 27786), (96, 27819), (97, 27834), (100, 27867), (110, 27951), (134, 28179), (138, 28218), (139, 28227), (141, 28239), (146, 28272), (147, 28278), (148, 28284), (149, 28287), (193, 28578), (194, 28581),

Gene: Mesh1\_49 Start: 41718, Stop: 43073, Start Num: 45

Candidate Starts for Mesh1\_49:

(Start: 45 @41718 has 247 MA's), (50, 41769), (53, 41802), (71, 41931), (72, 41934), (73, 41949), (87, 42045), (89, 42084), (93, 42114), (96, 42150), (107, 42261), (112, 42291), (113, 42294), (120, 42360), (134, 42519), (138, 42567), (140, 42585), (148, 42633), (166, 42777), (172, 42837), (186, 42942), (193, 43029),

Gene: Micasa\_7 Start: 5324, Stop: 6133, Start Num: 85

Candidate Starts for Micasa\_7:

(Start: 85 @5324 has 48 MA's), (89, 5387), (90, 5396), (96, 5453), (100, 5501), (109, 5582), (130, 5771), (134, 5813), (140, 5870), (147, 5912), (196, 6119),

Gene: MichaelPhcott\_48 Start: 41323, Stop: 42678, Start Num: 45

Candidate Starts for MichaelPhcott\_48:

(Start: 45 @41323 has 247 MA's), (50, 41374), (53, 41407), (71, 41536), (72, 41539), (73, 41554), (87, 41650), (89, 41689), (93, 41719), (96, 41755), (107, 41866), (112, 41896), (113, 41899), (120, 41965), (134, 42124), (138, 42172), (140, 42190), (148, 42238), (166, 42382), (172, 42442), (186, 42547), (193, 42634),

Gene: Midas2\_8 Start: 5323, Stop: 6132, Start Num: 85

Candidate Starts for Midas2\_8:

(Start: 85 @5323 has 48 MA's), (89, 5386), (90, 5395), (96, 5452), (100, 5500), (130, 5770), (134, 5812), (140, 5869), (147, 5911), (196, 6118),

Gene: Mikota\_49 Start: 41689, Stop: 43044, Start Num: 45

Candidate Starts for Mikota\_49:

(Start: 45 @41689 has 247 MA's), (50, 41740), (53, 41773), (71, 41902), (72, 41905), (73, 41920), (87, 42016), (89, 42055), (93, 42085), (96, 42121), (107, 42232), (112, 42262), (113, 42265), (120, 42331), (134, 42490), (138, 42538), (140, 42556), (148, 42604), (166, 42748), (172, 42808), (186, 42913), (193, 43000),

Gene: Milcery\_8 Start: 5360, Stop: 6169, Start Num: 85

Candidate Starts for Milcery\_8:

(Start: 85 @5360 has 48 MA's), (89, 5423), (90, 5432), (96, 5489), (100, 5537), (109, 5618), (130, 5807), (134, 5849), (140, 5906), (147, 5948), (196, 6155),

Gene: MiniBoss\_49 Start: 41695, Stop: 43050, Start Num: 45

Candidate Starts for MiniBoss\_49:

(Start: 45 @41695 has 247 MA's), (50, 41746), (53, 41779), (56, 41797), (71, 41908), (72, 41911), (73, 41926), (87, 42022), (89, 42061), (93, 42091), (96, 42127), (107, 42238), (112, 42268), (113, 42271), (120, 42337), (134, 42496), (138, 42544), (140, 42562), (148, 42610), (166, 42754), (172, 42814), (186, 42919), (193, 43006),

Gene: MissWhite\_11 Start: 5672, Stop: 6478, Start Num: 86

Candidate Starts for MissWhite\_11:

(Start: 86 @5672 has 3 MA's), (96, 5798), (100, 5846), (101, 5858), (108, 5924), (123, 6056), (131, 6140), (134, 6158), (138, 6197), (140, 6215), (187, 6350), (189, 6401), (196, 6464),

Gene: MitKao\_49 Start: 41421, Stop: 42776, Start Num: 45

Candidate Starts for MitKao\_49:

(Start: 45 @41421 has 247 MA's), (50, 41472), (53, 41505), (56, 41523), (71, 41634), (72, 41637), (73, 41652), (87, 41748), (89, 41787), (93, 41817), (96, 41853), (107, 41964), (112, 41994), (113, 41997), (120, 42063), (134, 42222), (138, 42270), (140, 42288), (148, 42336), (166, 42480), (172, 42540), (186, 42645), (193, 42732),

Gene: Morgushi\_49 Start: 41410, Stop: 42765, Start Num: 45

Candidate Starts for Morgushi\_49:

(Start: 45 @41410 has 247 MA's), (50, 41461), (53, 41494), (71, 41623), (72, 41626), (73, 41641), (87, 41737), (89, 41776), (93, 41806), (96, 41842), (107, 41953), (112, 41983), (113, 41986), (120, 42052), (134, 42211), (138, 42259), (140, 42277), (148, 42325), (166, 42469), (172, 42529), (186, 42634), (193, 42721),

Gene: Morty\_50 Start: 41848, Stop: 43203, Start Num: 45

Candidate Starts for Morty\_50:

(Start: 45 @41848 has 247 MA's), (50, 41899), (53, 41932), (71, 42061), (72, 42064), (73, 42079), (87, 42175), (89, 42214), (93, 42244), (96, 42280), (107, 42391), (112, 42421), (113, 42424), (120, 42490), (134, 42649), (138, 42697), (140, 42715), (148, 42763), (166, 42907), (172, 42967), (186, 43072), (193, 43159),

Gene: Mosaic\_48 Start: 41415, Stop: 42770, Start Num: 45

Candidate Starts for Mosaic\_48:

(Start: 45 @41415 has 247 MA's), (50, 41466), (53, 41499), (56, 41517), (71, 41628), (72, 41631), (73, 41646), (87, 41742), (89, 41781), (93, 41811), (96, 41847), (107, 41958), (112, 41988), (113, 41991), (120, 42057), (134, 42216), (138, 42264), (140, 42282), (148, 42330), (166, 42474), (172, 42534), (186, 42639), (193, 42726),

Gene: Mowgli\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Mowgli\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: MrPhizzler\_48 Start: 41412, Stop: 42767, Start Num: 45

Candidate Starts for MrPhizzler\_48:

(Start: 45 @41412 has 247 MA's), (50, 41463), (53, 41496), (71, 41625), (72, 41628), (73, 41643), (87, 41739), (89, 41778), (93, 41808), (96, 41844), (107, 41955), (112, 41985), (113, 41988), (120, 42054), (134, 42213), (138, 42261), (140, 42279), (148, 42327), (166, 42471), (172, 42531), (186, 42636), (193, 42723),

Gene: Mulan\_49 Start: 41565, Stop: 42920, Start Num: 45

Candidate Starts for Mulan\_49:

(Start: 45 @41565 has 247 MA's), (50, 41616), (53, 41649), (71, 41778), (72, 41781), (73, 41796), (87, 41892), (89, 41931), (93, 41961), (96, 41997), (107, 42108), (112, 42138), (113, 42141), (120, 42207), (134, 42366), (138, 42414), (140, 42432), (148, 42480), (166, 42624), (172, 42684), (186, 42789), (193, 42876),

Gene: Murdoc\_49 Start: 41696, Stop: 43051, Start Num: 45

Candidate Starts for Murdoc\_49:

(Start: 45 @41696 has 247 MA's), (50, 41747), (53, 41780), (71, 41909), (72, 41912), (73, 41927), (87, 42023), (89, 42062), (93, 42092), (96, 42128), (107, 42239), (112, 42269), (113, 42272), (120, 42338), (134, 42497), (138, 42545), (140, 42563), (148, 42611), (166, 42755), (172, 42815), (186, 42920), (193, 43007),

Gene: Mutante\_48 Start: 41415, Stop: 42770, Start Num: 45

Candidate Starts for Mutante\_48:

(Start: 45 @41415 has 247 MA's), (50, 41466), (53, 41499), (71, 41628), (72, 41631), (73, 41646), (87, 41742), (89, 41781), (93, 41811), (96, 41847), (107, 41958), (112, 41988), (113, 41991), (120, 42057), (134, 42216), (138, 42264), (140, 42282), (148, 42330), (166, 42474), (172, 42534), (186, 42639), (193, 42726),

Gene: Naca\_8 Start: 5264, Stop: 6073, Start Num: 85

Candidate Starts for Naca\_8:

(74, 5201), (82, 5240), (Start: 85 @5264 has 48 MA's), (89, 5327), (96, 5393), (100, 5441), (130, 5711), (134, 5753), (138, 5792), (140, 5810), (144, 5840), (195, 6038),

Gene: Nacho\_0050 Start: 41842, Stop: 43197, Start Num: 45

Candidate Starts for Nacho\_0050:

(Start: 45 @41842 has 247 MA's), (50, 41893), (53, 41926), (56, 41944), (71, 42055), (72, 42058), (73, 42073), (87, 42169), (89, 42208), (93, 42238), (96, 42274), (107, 42385), (112, 42415), (113, 42418), (120, 42484), (134, 42643), (138, 42691), (140, 42709), (148, 42757), (166, 42901), (172, 42961), (186, 43066), (193, 43153),

Gene: NearlyHeadless\_8 Start: 4875, Stop: 5684, Start Num: 85

Candidate Starts for NearlyHeadless\_8:

(Start: 85 @4875 has 48 MA's), (92, 4959), (96, 5004), (101, 5064), (108, 5130), (118, 5178), (120, 5217), (134, 5364), (138, 5403), (140, 5421), (145, 5454), (149, 5472), (185, 5541), (196, 5670),

Gene: Necropolis\_27 Start: 24049, Stop: 25215, Start Num: 51

Candidate Starts for Necropolis\_27:

(Start: 51 @24049 has 50 MA's), (57, 24103), (59, 24106), (70, 24193), (76, 24238), (87, 24313), (88, 24334), (89, 24352), (96, 24418), (100, 24457), (107, 24523), (112, 24553), (116, 24574), (120, 24619), (129, 24715), (132, 24754), (134, 24769), (138, 24808), (154, 24895), (158, 24913), (160, 24919), (167, 24967), (172, 24988), (183, 25060), (189, 25135),

Gene: Newman\_49 Start: 41713, Stop: 43068, Start Num: 45

Candidate Starts for Newman\_49:



(Start: 45 @41713 has 247 MA's), (50, 41764), (53, 41797), (56, 41815), (71, 41926), (72, 41929), (73, 41944), (87, 42040), (89, 42079), (93, 42109), (96, 42145), (107, 42256), (112, 42286), (113, 42289), (120, 42355), (134, 42514), (138, 42562), (140, 42580), (148, 42628), (166, 42772), (172, 42832), (186, 42937), (189, 42991), (193, 43024),

Gene: Nicole21\_49 Start: 41717, Stop: 43072, Start Num: 45

Candidate Starts for Nicole21\_49:

(Start: 45 @41717 has 247 MA's), (50, 41768), (53, 41801), (71, 41930), (72, 41933), (73, 41948), (87, 42044), (89, 42083), (93, 42113), (96, 42149), (107, 42260), (112, 42290), (113, 42293), (120, 42359), (134, 42518), (138, 42566), (140, 42584), (148, 42632), (166, 42776), (172, 42836), (186, 42941), (193, 43028),

Gene: Numberten\_49 Start: 41708, Stop: 43063, Start Num: 45

Candidate Starts for Numberten\_49:

(Start: 45 @41708 has 247 MA's), (50, 41759), (53, 41792), (71, 41921), (72, 41924), (73, 41939), (87, 42035), (89, 42074), (93, 42104), (96, 42140), (107, 42251), (112, 42281), (113, 42284), (120, 42350), (134, 42509), (138, 42557), (140, 42575), (148, 42623), (166, 42767), (172, 42827), (186, 42932), (193, 43019),

Gene: Nyala\_48 Start: 41407, Stop: 42762, Start Num: 45

Candidate Starts for Nyala\_48:

(Start: 45 @41407 has 247 MA's), (50, 41458), (53, 41491), (71, 41620), (72, 41623), (73, 41638), (87, 41734), (89, 41773), (93, 41803), (96, 41839), (107, 41950), (112, 41980), (113, 41983), (120, 42049), (134, 42208), (138, 42256), (140, 42274), (148, 42322), (166, 42466), (172, 42526), (186, 42631), (193, 42718),

Gene: OBUpride\_33 Start: 28333, Stop: 29568, Start Num: 46

Candidate Starts for OBUpride\_33:

(Start: 46 @28333 has 21 MA's), (55, 28426), (61, 28459), (62, 28471), (65, 28483), (66, 28486), (72, 28549), (75, 28567), (81, 28600), (87, 28660), (89, 28699), (90, 28708), (91, 28711), (93, 28729), (96, 28765), (100, 28813), (101, 28825), (102, 28831), (109, 28894), (110, 28897), (114, 28924), (117, 28936), (125, 29038), (134, 29125), (138, 29164), (141, 29185), (155, 29254), (164, 29284), (167, 29317), (169, 29326), (171, 29332), (174, 29344), (176, 29353), (184, 29416), (189, 29485),

Gene: OSmaximus\_50 Start: 41881, Stop: 43236, Start Num: 45

Candidate Starts for OSmaximus\_50:

(Start: 45 @41881 has 247 MA's), (50, 41932), (53, 41965), (71, 42094), (72, 42097), (73, 42112), (87, 42208), (89, 42247), (93, 42277), (96, 42313), (107, 42424), (112, 42454), (113, 42457), (120, 42523), (134, 42682), (138, 42730), (140, 42748), (148, 42796), (166, 42940), (172, 43000), (186, 43105), (189, 43159), (193, 43192),

Gene: OctaviousRex\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for OctaviousRex\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Olak\_49 Start: 41410, Stop: 42765, Start Num: 45

Candidate Starts for Olak\_49:

(Start: 45 @41410 has 247 MA's), (50, 41461), (53, 41494), (71, 41623), (72, 41626), (73, 41641), (87, 41737), (89, 41776), (93, 41806), (96, 41842), (107, 41953), (112, 41983), (113, 41986), (120, 42052), (134, 42211), (138, 42259), (140, 42277), (148, 42325), (166, 42469), (172, 42529), (186, 42634), (193, 42721),

Gene: Olga\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Olga\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Oline\_48 Start: 41270, Stop: 42625, Start Num: 45

Candidate Starts for Oline\_48:

(Start: 45 @41270 has 247 MA's), (50, 41321), (53, 41354), (71, 41483), (72, 41486), (73, 41501), (87, 41597), (89, 41636), (93, 41666), (96, 41702), (107, 41813), (112, 41843), (113, 41846), (120, 41912), (134, 42071), (138, 42119), (140, 42137), (148, 42185), (166, 42329), (172, 42389), (186, 42494), (193, 42581),

Gene: Olive\_49 Start: 41697, Stop: 43052, Start Num: 45

Candidate Starts for Olive\_49:

(Start: 45 @41697 has 247 MA's), (50, 41748), (53, 41781), (62, 41835), (71, 41910), (72, 41913), (73, 41928), (87, 42024), (89, 42063), (93, 42093), (96, 42129), (107, 42240), (112, 42270), (113, 42273), (120, 42339), (134, 42498), (138, 42546), (140, 42564), (148, 42612), (166, 42756), (172, 42816), (186, 42921), (193, 43008),

Gene: OliverWalter\_49 Start: 41719, Stop: 43074, Start Num: 45

Candidate Starts for OliverWalter\_49:

(Start: 45 @41719 has 247 MA's), (50, 41770), (53, 41803), (71, 41932), (72, 41935), (73, 41950), (87, 42046), (89, 42085), (93, 42115), (96, 42151), (107, 42262), (112, 42292), (113, 42295), (120, 42361), (134, 42520), (138, 42568), (140, 42586), (148, 42634), (166, 42778), (172, 42838), (186, 42943), (189, 42997), (193, 43030),

Gene: Omniscient\_49 Start: 41716, Stop: 43071, Start Num: 45

Candidate Starts for Omniscient\_49:

(Start: 45 @41716 has 247 MA's), (50, 41767), (53, 41800), (56, 41818), (71, 41929), (72, 41932), (73, 41947), (87, 42043), (89, 42082), (93, 42112), (96, 42148), (107, 42259), (112, 42289), (113, 42292), (120, 42358), (134, 42517), (138, 42565), (140, 42583), (148, 42631), (166, 42775), (172, 42835), (186, 42940), (193, 43027),

Gene: Oosterbaan\_49 Start: 41704, Stop: 43059, Start Num: 45

Candidate Starts for Oosterbaan\_49:

(Start: 45 @41704 has 247 MA's), (50, 41755), (53, 41788), (71, 41917), (72, 41920), (73, 41935), (87, 42031), (89, 42070), (93, 42100), (96, 42136), (107, 42247), (112, 42277), (113, 42280), (120, 42346), (134, 42505), (138, 42553), (140, 42571), (148, 42619), (166, 42763), (172, 42823), (186, 42928), (189, 42982), (193, 43015),

Gene: Orfeu\_49 Start: 41403, Stop: 42758, Start Num: 45

Candidate Starts for Orfeu\_49:

(Start: 45 @41403 has 247 MA's), (50, 41454), (53, 41487), (71, 41616), (72, 41619), (73, 41634), (87, 41730), (89, 41769), (93, 41799), (96, 41835), (107, 41946), (112, 41976), (113, 41979), (120, 42045), (134, 42204), (138, 42252), (140, 42270), (148, 42318), (166, 42462), (172, 42522), (186, 42627), (193, 42714),

Gene: Orion\_50 Start: 41837, Stop: 43192, Start Num: 45

Candidate Starts for Orion\_50:

(Start: 45 @41837 has 247 MA's), (50, 41888), (53, 41921), (71, 42050), (72, 42053), (73, 42068), (87, 42164), (89, 42203), (93, 42233), (96, 42269), (107, 42380), (112, 42410), (113, 42413), (120, 42479),

(134, 42638), (138, 42686), (140, 42704), (148, 42752), (166, 42896), (172, 42956), (186, 43061), (193, 43148),

Gene: Orwigg\_50 Start: 41403, Stop: 42758, Start Num: 45

Candidate Starts for Orwigg\_50:

(Start: 45 @41403 has 247 MA's), (50, 41454), (53, 41487), (71, 41616), (72, 41619), (73, 41634), (87, 41730), (89, 41769), (93, 41799), (96, 41835), (107, 41946), (112, 41976), (113, 41979), (120, 42045), (134, 42204), (138, 42252), (140, 42270), (148, 42318), (166, 42462), (172, 42522), (186, 42627), (193, 42714),

Gene: PG1\_50 Start: 41850, Stop: 43205, Start Num: 45

Candidate Starts for PG1\_50:

(Start: 45 @41850 has 247 MA's), (50, 41901), (53, 41934), (71, 42063), (72, 42066), (73, 42081), (87, 42177), (89, 42216), (93, 42246), (96, 42282), (107, 42393), (112, 42423), (113, 42426), (120, 42492), (134, 42651), (138, 42699), (140, 42717), (148, 42765), (166, 42909), (172, 42969), (186, 43074), (193, 43161),

Gene: Pacifista\_51 Start: 41406, Stop: 42761, Start Num: 45

Candidate Starts for Pacifista\_51:

(Start: 45 @41406 has 247 MA's), (50, 41457), (53, 41490), (71, 41619), (72, 41622), (73, 41637), (87, 41733), (89, 41772), (93, 41802), (96, 41838), (107, 41949), (112, 41979), (113, 41982), (120, 42048), (134, 42207), (138, 42255), (140, 42273), (148, 42321), (166, 42465), (172, 42525), (186, 42630), (193, 42717),

Gene: Paito\_28 Start: 25437, Stop: 26654, Start Num: 48

Candidate Starts for Paito\_28:

(23, 24921), (31, 25041), (35, 25197), (Start: 48 @25437 has 62 MA's), (69, 25611), (79, 25683), (89, 25791), (94, 25824), (96, 25857), (98, 25878), (100, 25905), (101, 25917), (110, 25989), (117, 26028), (128, 26160), (134, 26217), (137, 26241), (138, 26256), (146, 26310), (147, 26316), (148, 26322), (149, 26325),

Gene: Peeb\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Peeb\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (92, 25567), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Periodt\_28 Start: 25201, Stop: 26400, Start Num: 48

Candidate Starts for Periodt\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25537), (90, 25546), (94, 25570), (95, 25579), (96, 25603), (98, 25624), (100, 25651), (101, 25663), (110, 25735), (117, 25774), (134, 25963), (138, 26002), (141, 26023), (147, 26062), (148, 26068),

Gene: PetterN\_9 Start: 5151, Stop: 5960, Start Num: 85

Candidate Starts for PetterN\_9:

(74, 5088), (82, 5127), (Start: 85 @5151 has 48 MA's), (89, 5214), (96, 5280), (97, 5295), (100, 5328), (130, 5598), (134, 5640), (138, 5679), (140, 5697), (144, 5727), (195, 5925),

Gene: Phalm\_27 Start: 24311, Stop: 25477, Start Num: 51

Candidate Starts for Phalm\_27:

(15, 23558), (22, 23729), (29, 23825), (34, 23930), (Start: 51 @24311 has 50 MA's), (52, 24320), (57, 24365), (59, 24368), (70, 24455), (76, 24500), (87, 24575), (88, 24596), (89, 24614), (96, 24680),

(100, 24719), (107, 24785), (112, 24815), (116, 24836), (120, 24881), (129, 24977), (132, 25016), (134, 25031), (138, 25070), (154, 25157), (158, 25175), (160, 25181), (167, 25229), (183, 25322), (189, 25397),

Gene: Phamished\_50 Start: 41857, Stop: 43212, Start Num: 45

Candidate Starts for Phamished\_50:

(Start: 45 @41857 has 247 MA's), (50, 41908), (53, 41941), (71, 42070), (72, 42073), (73, 42088), (87, 42184), (89, 42223), (93, 42253), (96, 42289), (107, 42400), (112, 42430), (113, 42433), (120, 42499), (134, 42658), (138, 42706), (140, 42724), (148, 42772), (166, 42916), (172, 42976), (186, 43081), (193, 43168),

Gene: Phareon\_49 Start: 41405, Stop: 42760, Start Num: 45

Candidate Starts for Phareon\_49:

(Start: 45 @41405 has 247 MA's), (50, 41456), (53, 41489), (71, 41618), (72, 41621), (73, 41636), (87, 41732), (89, 41771), (93, 41801), (96, 41837), (107, 41948), (112, 41978), (113, 41981), (120, 42047), (134, 42206), (138, 42254), (140, 42272), (148, 42320), (166, 42464), (172, 42524), (186, 42629), (193, 42716),

Gene: PhatCats2014\_50 Start: 41854, Stop: 43209, Start Num: 45

Candidate Starts for PhatCats2014\_50:

(Start: 45 @41854 has 247 MA's), (50, 41905), (53, 41938), (71, 42067), (72, 42070), (73, 42085), (87, 42181), (89, 42220), (93, 42250), (96, 42286), (107, 42397), (112, 42427), (113, 42430), (120, 42496), (134, 42655), (138, 42703), (140, 42721), (148, 42769), (166, 42913), (172, 42973), (186, 43078), (193, 43165),

Gene: PhatLouie\_49 Start: 41708, Stop: 43063, Start Num: 45

Candidate Starts for PhatLouie\_49:

(Start: 45 @41708 has 247 MA's), (50, 41759), (53, 41792), (71, 41921), (72, 41924), (73, 41939), (87, 42035), (89, 42074), (93, 42104), (96, 42140), (107, 42251), (112, 42281), (113, 42284), (120, 42350), (134, 42509), (138, 42557), (140, 42575), (148, 42623), (166, 42767), (172, 42827), (186, 42932), (193, 43019),

Gene: Phegasus\_27 Start: 24058, Stop: 25224, Start Num: 51

Candidate Starts for Phegasus\_27:

(Start: 51 @24058 has 50 MA's), (59, 24115), (70, 24202), (76, 24247), (87, 24322), (88, 24343), (96, 24427), (100, 24466), (107, 24532), (112, 24562), (116, 24583), (120, 24628), (129, 24724), (132, 24763), (134, 24778), (138, 24817), (154, 24904), (158, 24922), (160, 24928), (167, 24976), (172, 24997), (183, 25069), (189, 25144),

Gene: PhenghisKhan\_48 Start: 41329, Stop: 42684, Start Num: 45

Candidate Starts for PhenghisKhan\_48:

(Start: 45 @41329 has 247 MA's), (50, 41380), (53, 41413), (71, 41542), (72, 41545), (73, 41560), (87, 41656), (89, 41695), (93, 41725), (96, 41761), (107, 41872), (112, 41902), (113, 41905), (120, 41971), (134, 42130), (138, 42178), (140, 42196), (148, 42244), (166, 42388), (172, 42448), (186, 42553), (193, 42640),

Gene: Pherdinand\_50 Start: 41845, Stop: 43221, Start Num: 45

Candidate Starts for Pherdinand\_50:

(Start: 45 @41845 has 247 MA's), (50, 41896), (53, 41929), (71, 42058), (72, 42061), (73, 42076), (87, 42172), (89, 42211), (93, 42241), (96, 42277), (107, 42388), (112, 42418), (113, 42421), (120, 42487), (134, 42646), (138, 42694), (140, 42712), (148, 42760), (166, 42925), (172, 42985), (186, 43090), (193, 43177),

Gene: Phergie\_49 Start: 41321, Stop: 42676, Start Num: 45

Candidate Starts for Phergie\_49:

(Start: 45 @41321 has 247 MA's), (50, 41372), (53, 41405), (71, 41534), (72, 41537), (73, 41552), (87, 41648), (89, 41687), (93, 41717), (96, 41753), (107, 41864), (112, 41894), (113, 41897), (120, 41963), (134, 42122), (138, 42170), (140, 42188), (148, 42236), (166, 42380), (172, 42440), (186, 42545), (193, 42632),

Gene: Phillis\_8 Start: 4833, Stop: 5642, Start Num: 85

Candidate Starts for Phillis\_8:

(Start: 85 @4833 has 48 MA's), (92, 4917), (96, 4962), (101, 5022), (108, 5088), (134, 5322), (138, 5361), (140, 5379), (145, 5412), (149, 5430), (178, 5475), (185, 5499), (196, 5628),

Gene: Phineas\_27 Start: 24423, Stop: 25589, Start Num: 51

Candidate Starts for Phineas\_27:

(Start: 51 @24423 has 50 MA's), (59, 24480), (70, 24567), (76, 24612), (87, 24687), (88, 24708), (96, 24792), (100, 24831), (107, 24897), (112, 24927), (116, 24948), (120, 24993), (129, 25089), (132, 25128), (134, 25143), (138, 25182), (154, 25269), (158, 25287), (160, 25293), (167, 25341), (172, 25362), (183, 25434), (189, 25509),

Gene: Phipps\_49 Start: 41685, Stop: 43040, Start Num: 45

Candidate Starts for Phipps\_49:

(Start: 45 @41685 has 247 MA's), (50, 41736), (53, 41769), (71, 41898), (72, 41901), (73, 41916), (87, 42012), (89, 42051), (93, 42081), (96, 42117), (107, 42228), (112, 42258), (113, 42261), (120, 42327), (134, 42486), (138, 42534), (140, 42552), (148, 42600), (166, 42744), (172, 42804), (186, 42909), (193, 42996),

Gene: Phish\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Phish\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Phleuron\_48 Start: 41326, Stop: 42681, Start Num: 45

Candidate Starts for Phleuron\_48:

(Start: 45 @41326 has 247 MA's), (50, 41377), (53, 41410), (71, 41539), (72, 41542), (73, 41557), (87, 41653), (89, 41692), (93, 41722), (96, 41758), (107, 41869), (112, 41899), (113, 41902), (120, 41968), (134, 42127), (138, 42175), (140, 42193), (148, 42241), (166, 42385), (172, 42445), (186, 42550), (193, 42637),

Gene: Phlorence\_8 Start: 5463, Stop: 6272, Start Num: 85

Candidate Starts for Phlorence\_8:

(Start: 85 @5463 has 48 MA's), (89, 5526), (90, 5535), (93, 5556), (96, 5592), (100, 5640), (105, 5697), (109, 5721), (134, 5952), (140, 6009), (196, 6258),

Gene: PhrankReynolds\_47 Start: 41326, Stop: 42681, Start Num: 45

Candidate Starts for PhrankReynolds\_47:

(Start: 45 @41326 has 247 MA's), (50, 41377), (53, 41410), (71, 41539), (72, 41542), (73, 41557), (87, 41653), (89, 41692), (93, 41722), (96, 41758), (107, 41869), (112, 41899), (113, 41902), (120, 41968), (134, 42127), (138, 42175), (140, 42193), (148, 42241), (166, 42385), (172, 42445), (186, 42550), (193, 42637),

Gene: Phrann\_26 Start: 23199, Stop: 24365, Start Num: 51

Candidate Starts for Phrann\_26:

(Start: 51 @23199 has 50 MA's), (59, 23256), (70, 23343), (76, 23388), (87, 23463), (88, 23484), (96, 23568), (100, 23607), (107, 23673), (112, 23703), (116, 23724), (120, 23769), (129, 23865), (132, 23904), (134, 23919), (135, 23931), (138, 23958), (154, 24045), (158, 24063), (160, 24069), (170, 24129), (183, 24210), (189, 24285), (195, 24327), (196, 24348), (197, 24354),

Gene: Phreak\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Phreak\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: PhrodoBaggins\_49 Start: 41833, Stop: 43188, Start Num: 45

Candidate Starts for PhrodoBaggins\_49:

(Start: 45 @41833 has 247 MA's), (50, 41884), (53, 41917), (71, 42046), (72, 42049), (73, 42064), (87, 42160), (89, 42199), (93, 42229), (96, 42265), (107, 42376), (112, 42406), (113, 42409), (120, 42475), (134, 42634), (138, 42682), (140, 42700), (148, 42748), (166, 42892), (172, 42952), (186, 43057), (193, 43144),

Gene: Phunky\_49 Start: 41702, Stop: 43057, Start Num: 45

Candidate Starts for Phunky\_49:

(Start: 45 @41702 has 247 MA's), (50, 41753), (53, 41786), (71, 41915), (72, 41918), (73, 41933), (87, 42029), (89, 42068), (93, 42098), (96, 42134), (107, 42245), (112, 42275), (113, 42278), (120, 42344), (134, 42503), (138, 42551), (140, 42569), (148, 42617), (166, 42761), (172, 42821), (186, 42926), (193, 43013),

Gene: PickleBack\_8 Start: 5173, Stop: 5982, Start Num: 85

Candidate Starts for PickleBack\_8:

(Start: 85 @5173 has 48 MA's), (89, 5236), (90, 5245), (93, 5266), (96, 5302), (100, 5350), (105, 5407), (109, 5431), (134, 5662), (140, 5719), (196, 5968),

Gene: Piglet\_0049 Start: 41827, Stop: 43182, Start Num: 45

Candidate Starts for Piglet\_0049:

(Start: 45 @41827 has 247 MA's), (50, 41878), (53, 41911), (71, 42040), (72, 42043), (73, 42058), (87, 42154), (89, 42193), (93, 42223), (96, 42259), (107, 42370), (112, 42400), (113, 42403), (120, 42469), (134, 42628), (138, 42676), (140, 42694), (148, 42742), (166, 42886), (172, 42946), (186, 43051), (193, 43138),

Gene: PinheadLarry\_49 Start: 41415, Stop: 42770, Start Num: 45

Candidate Starts for PinheadLarry\_49:

(Start: 45 @41415 has 247 MA's), (50, 41466), (53, 41499), (71, 41628), (72, 41631), (73, 41646), (87, 41742), (89, 41781), (93, 41811), (96, 41847), (107, 41958), (112, 41988), (113, 41991), (120, 42057), (134, 42216), (138, 42264), (140, 42282), (148, 42330), (166, 42474), (172, 42534), (186, 42639), (193, 42726),

Gene: PinkYoshi\_28 Start: 25192, Stop: 26400, Start Num: 48

Candidate Starts for PinkYoshi\_28:

(40, 25099), (Start: 48 @25192 has 62 MA's), (69, 25366), (79, 25438), (89, 25537), (90, 25546), (94, 25570), (95, 25579), (96, 25603), (98, 25624), (100, 25651), (101, 25663), (110, 25735), (117, 25774), (134, 25963), (137, 25987), (138, 26002), (141, 26023), (148, 26068), (149, 26071), (164, 26122),

Gene: Pinkman\_48 Start: 41264, Stop: 42619, Start Num: 45

Candidate Starts for Pinkman\_48:

(Start: 45 @41264 has 247 MA's), (50, 41315), (53, 41348), (71, 41477), (72, 41480), (73, 41495), (87, 41591), (89, 41630), (93, 41660), (96, 41696), (107, 41807), (112, 41837), (113, 41840), (120, 41906), (134, 42065), (138, 42113), (140, 42131), (148, 42179), (166, 42323), (172, 42383), (186, 42488), (193, 42575),

Gene: Pipsqueak\_49 Start: 41709, Stop: 43064, Start Num: 45

Candidate Starts for Pipsqueak\_49:

(Start: 45 @41709 has 247 MA's), (50, 41760), (53, 41793), (71, 41922), (72, 41925), (73, 41940), (87, 42036), (89, 42075), (93, 42105), (96, 42141), (107, 42252), (112, 42282), (113, 42285), (120, 42351), (134, 42510), (138, 42558), (140, 42576), (148, 42624), (166, 42768), (172, 42828), (186, 42933), (193, 43020),

Gene: Placalicious\_48 Start: 41402, Stop: 42757, Start Num: 45

Candidate Starts for Placalicious\_48:

(Start: 45 @41402 has 247 MA's), (50, 41453), (53, 41486), (71, 41615), (72, 41618), (73, 41633), (87, 41729), (89, 41768), (93, 41798), (96, 41834), (107, 41945), (112, 41975), (113, 41978), (120, 42044), (134, 42203), (138, 42251), (140, 42269), (148, 42317), (166, 42461), (172, 42521), (186, 42626), (193, 42713),

Gene: Plagueis\_28 Start: 25036, Stop: 26244, Start Num: 48

Candidate Starts for Plagueis\_28:

(40, 24943), (Start: 48 @25036 has 62 MA's), (69, 25210), (79, 25282), (89, 25381), (90, 25390), (94, 25414), (95, 25423), (96, 25447), (98, 25468), (100, 25495), (101, 25507), (110, 25579), (117, 25618), (134, 25807), (137, 25831), (138, 25846), (141, 25867), (148, 25912), (149, 25915), (164, 25966),

Gene: Plmatters\_49 Start: 41705, Stop: 43060, Start Num: 45

Candidate Starts for Plmatters\_49:

(Start: 45 @41705 has 247 MA's), (50, 41756), (53, 41789), (71, 41918), (72, 41921), (73, 41936), (87, 42032), (89, 42071), (93, 42101), (96, 42137), (107, 42248), (112, 42278), (113, 42281), (120, 42347), (134, 42506), (138, 42554), (140, 42572), (148, 42620), (166, 42764), (172, 42824), (186, 42929), (193, 43016),

Gene: Podrick\_49 Start: 41696, Stop: 43051, Start Num: 45

Candidate Starts for Podrick\_49:

(Start: 45 @41696 has 247 MA's), (50, 41747), (53, 41780), (71, 41909), (72, 41912), (73, 41927), (87, 42023), (89, 42062), (93, 42092), (96, 42128), (107, 42239), (112, 42269), (113, 42272), (120, 42338), (134, 42497), (138, 42545), (140, 42563), (148, 42611), (166, 42755), (172, 42815), (186, 42920), (193, 43007),

Gene: Polkaroo\_27 Start: 24068, Stop: 25234, Start Num: 51

Candidate Starts for Polkaroo\_27:

(Start: 51 @24068 has 50 MA's), (59, 24125), (70, 24212), (76, 24257), (87, 24332), (88, 24353), (96, 24437), (100, 24476), (107, 24542), (112, 24572), (116, 24593), (120, 24638), (129, 24734), (132, 24773), (134, 24788), (135, 24800), (138, 24827), (154, 24914), (158, 24932), (160, 24938), (167, 24986), (183, 25079), (189, 25154),

Gene: Pops\_49 Start: 41720, Stop: 43075, Start Num: 45

Candidate Starts for Pops\_49:

(Start: 45 @41720 has 247 MA's), (50, 41771), (53, 41804), (71, 41933), (72, 41936), (73, 41951), (87, 42047), (89, 42086), (93, 42116), (96, 42152), (107, 42263), (112, 42293), (113, 42296), (120, 42362), (134, 42521), (138, 42569), (140, 42587), (148, 42635), (166, 42779), (172, 42839), (186, 42944), (189, 42998), (193, 43031),

Gene: Potter\_48 Start: 41432, Stop: 42787, Start Num: 45

Candidate Starts for Potter\_48:

(Start: 45 @41432 has 247 MA's), (50, 41483), (53, 41516), (56, 41534), (71, 41645), (72, 41648), (73, 41663), (87, 41759), (89, 41798), (93, 41828), (96, 41864), (107, 41975), (112, 42005), (113, 42008), (120, 42074), (134, 42233), (138, 42281), (140, 42299), (148, 42347), (166, 42491), (172, 42551), (186, 42656), (193, 42743),

Gene: Prickles\_49 Start: 41696, Stop: 43051, Start Num: 45

Candidate Starts for Prickles\_49:

(Start: 45 @41696 has 247 MA's), (50, 41747), (53, 41780), (56, 41798), (71, 41909), (72, 41912), (73, 41927), (87, 42023), (89, 42062), (93, 42092), (96, 42128), (107, 42239), (112, 42269), (113, 42272), (120, 42338), (134, 42497), (138, 42545), (140, 42563), (148, 42611), (166, 42755), (172, 42815), (186, 42920), (189, 42974), (193, 43007),

Gene: ProfessorX\_49 Start: 41697, Stop: 43052, Start Num: 45

Candidate Starts for ProfessorX\_49:

(Start: 45 @41697 has 247 MA's), (50, 41748), (53, 41781), (71, 41910), (72, 41913), (73, 41928), (87, 42024), (89, 42063), (93, 42093), (96, 42129), (107, 42240), (112, 42270), (113, 42273), (120, 42339), (134, 42498), (138, 42546), (140, 42564), (148, 42612), (166, 42756), (172, 42816), (186, 42921), (193, 43008),

Gene: Puhltonio\_49 Start: 41706, Stop: 43061, Start Num: 45

Candidate Starts for Puhltonio\_49:

(Start: 45 @41706 has 247 MA's), (50, 41757), (53, 41790), (71, 41919), (72, 41922), (73, 41937), (87, 42033), (89, 42072), (93, 42102), (96, 42138), (107, 42249), (112, 42279), (113, 42282), (120, 42348), (134, 42507), (138, 42555), (140, 42573), (148, 42621), (166, 42765), (172, 42825), (186, 42930), (193, 43017),

Gene: Pygmy\_29 Start: 25891, Stop: 27057, Start Num: 51

Candidate Starts for Pygmy\_29:

(Start: 51 @25891 has 50 MA's), (59, 25948), (70, 26035), (76, 26080), (87, 26155), (88, 26176), (89, 26194), (96, 26260), (100, 26299), (107, 26365), (112, 26395), (116, 26416), (120, 26461), (129, 26557), (132, 26596), (134, 26611), (135, 26623), (138, 26650), (154, 26737), (158, 26755), (160, 26761), (167, 26809), (172, 26830), (183, 26902), (189, 26977),

Gene: QueenBeane\_49 Start: 41696, Stop: 43051, Start Num: 45

Candidate Starts for QueenBeane\_49:

(Start: 45 @41696 has 247 MA's), (50, 41747), (53, 41780), (71, 41909), (72, 41912), (73, 41927), (87, 42023), (89, 42062), (93, 42092), (96, 42128), (107, 42239), (112, 42269), (113, 42272), (120, 42338), (134, 42497), (138, 42545), (140, 42563), (148, 42611), (166, 42755), (172, 42815), (186, 42920), (193, 43007),

Gene: QueenHazel\_26 Start: 24219, Stop: 25385, Start Num: 51

Candidate Starts for QueenHazel\_26:

(2, 22992), (6, 23166), (24, 23667), (34, 23847), (Start: 51 @24219 has 50 MA's), (59, 24276), (70, 24363), (77, 24411), (87, 24483), (88, 24504), (96, 24588), (100, 24627), (107, 24693), (112, 24723), (116, 24744), (120, 24789), (129, 24885), (132, 24924), (134, 24939), (138, 24978), (154, 25065), (158, 25083), (160, 25089), (167, 25137), (172, 25158), (183, 25230), (189, 25305), (195, 25347), (196, 25368), (197, 25374),

Gene: Quisquilliae\_49 Start: 41733, Stop: 43088, Start Num: 45

Candidate Starts for Quisquilliae\_49:



(Start: 45 @41733 has 247 MA's), (50, 41784), (53, 41817), (71, 41946), (72, 41949), (73, 41964), (87, 42060), (89, 42099), (93, 42129), (96, 42165), (107, 42276), (112, 42306), (113, 42309), (120, 42375), (134, 42534), (138, 42582), (140, 42600), (148, 42648), (166, 42792), (172, 42852), (186, 42957), (193, 43044),

Gene: Rabbs\_28 Start: 25284, Stop: 26492, Start Num: 48

Candidate Starts for Rabbs\_28:

(40, 25191), (Start: 48 @25284 has 62 MA's), (69, 25458), (79, 25530), (89, 25629), (90, 25638), (94, 25662), (95, 25671), (96, 25695), (98, 25716), (100, 25743), (101, 25755), (110, 25827), (117, 25866), (134, 26055), (138, 26094), (141, 26115), (147, 26154), (148, 26160),

Gene: RedMaple\_49 Start: 41847, Stop: 43202, Start Num: 45

Candidate Starts for RedMaple\_49:

(Start: 45 @41847 has 247 MA's), (50, 41898), (53, 41931), (71, 42060), (72, 42063), (73, 42078), (87, 42174), (89, 42213), (93, 42243), (96, 42279), (107, 42390), (112, 42420), (113, 42423), (120, 42489), (134, 42648), (138, 42696), (140, 42714), (148, 42762), (166, 42906), (172, 42966), (186, 43071), (189, 43125), (193, 43158),

Gene: Remy19\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Remy19\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Renaissance\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Renaissance\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Ricotta\_49 Start: 41419, Stop: 42774, Start Num: 45

Candidate Starts for Ricotta\_49:

(Start: 45 @41419 has 247 MA's), (50, 41470), (53, 41503), (71, 41632), (72, 41635), (73, 41650), (87, 41746), (89, 41785), (93, 41815), (96, 41851), (107, 41962), (112, 41992), (113, 41995), (120, 42061), (134, 42220), (138, 42268), (140, 42286), (148, 42334), (166, 42478), (172, 42538), (186, 42643), (193, 42730),

Gene: Riggan\_49 Start: 41692, Stop: 43047, Start Num: 45

Candidate Starts for Riggan\_49:

(Start: 45 @41692 has 247 MA's), (50, 41743), (53, 41776), (71, 41905), (72, 41908), (73, 41923), (87, 42019), (89, 42058), (93, 42088), (96, 42124), (107, 42235), (112, 42265), (113, 42268), (120, 42334), (134, 42493), (138, 42541), (140, 42559), (148, 42607), (166, 42751), (172, 42811), (186, 42916), (193, 43003),

Gene: Rimu\_51 Start: 41432, Stop: 42787, Start Num: 45

Candidate Starts for Rimu\_51:

(Start: 45 @41432 has 247 MA's), (50, 41483), (53, 41516), (71, 41645), (72, 41648), (73, 41663), (87, 41759), (89, 41798), (93, 41828), (96, 41864), (107, 41975), (112, 42005), (113, 42008), (120, 42074), (134, 42233), (138, 42281), (140, 42299), (148, 42347), (166, 42491), (172, 42551), (186, 42656), (193, 42743),

Gene: Roary\_8 Start: 4837, Stop: 5646, Start Num: 85

Candidate Starts for Roary\_8:

(Start: 85 @4837 has 48 MA's), (92, 4921), (96, 4966), (108, 5092), (134, 5326), (138, 5365), (140, 5383), (145, 5416), (149, 5434), (178, 5479), (185, 5503), (196, 5632),

Gene: Robyn\_48 Start: 41288, Stop: 42643, Start Num: 45

Candidate Starts for Robyn\_48:

(Start: 45 @41288 has 247 MA's), (50, 41339), (53, 41372), (71, 41501), (72, 41504), (73, 41519), (87, 41615), (89, 41654), (93, 41684), (96, 41720), (104, 41795), (107, 41831), (112, 41861), (113, 41864), (120, 41930), (134, 42089), (138, 42137), (140, 42155), (148, 42203), (166, 42347), (172, 42407), (186, 42512), (193, 42599),

Gene: Roliet\_49 Start: 41705, Stop: 43060, Start Num: 45

Candidate Starts for Roliet\_49:

(Start: 45 @41705 has 247 MA's), (50, 41756), (53, 41789), (56, 41807), (71, 41918), (72, 41921), (73, 41936), (87, 42032), (89, 42071), (93, 42101), (96, 42137), (107, 42248), (112, 42278), (113, 42281), (120, 42347), (134, 42506), (138, 42554), (140, 42572), (148, 42620), (166, 42764), (172, 42824), (186, 42929), (193, 43016),

Gene: Roscoe\_50 Start: 41942, Stop: 43297, Start Num: 45

Candidate Starts for Roscoe\_50:

(Start: 45 @41942 has 247 MA's), (50, 41993), (53, 42026), (71, 42155), (72, 42158), (73, 42173), (87, 42269), (89, 42308), (93, 42338), (96, 42374), (107, 42485), (112, 42515), (113, 42518), (120, 42584), (134, 42743), (138, 42791), (140, 42809), (148, 42857), (166, 43001), (172, 43061), (186, 43166), (193, 43253),

Gene: Roy17\_49 Start: 41396, Stop: 42751, Start Num: 45

Candidate Starts for Roy17\_49:

(Start: 45 @41396 has 247 MA's), (50, 41447), (53, 41480), (71, 41609), (72, 41612), (73, 41627), (87, 41723), (89, 41762), (93, 41792), (96, 41828), (107, 41939), (112, 41969), (113, 41972), (120, 42038), (134, 42197), (138, 42245), (140, 42263), (148, 42311), (166, 42455), (172, 42515), (186, 42620), (193, 42707),

Gene: Rubeelu\_27 Start: 22757, Stop: 23917, Start Num: 51

Candidate Starts for Rubeelu\_27:

(10, 21803), (15, 21998), (26, 22232), (34, 22385), (Start: 51 @22757 has 50 MA's), (59, 22814), (70, 22901), (87, 23021), (100, 23165), (101, 23177), (107, 23231), (112, 23261), (116, 23282), (120, 23327), (134, 23477), (135, 23489), (138, 23516), (141, 23537), (149, 23585), (154, 23603), (169, 23681), (173, 23696), (183, 23762), (195, 23879),

Gene: SDcharge11\_49 Start: 41683, Stop: 43038, Start Num: 45

Candidate Starts for SDcharge11\_49:

(Start: 45 @41683 has 247 MA's), (50, 41734), (53, 41767), (56, 41785), (71, 41896), (72, 41899), (73, 41914), (87, 42010), (89, 42049), (93, 42079), (96, 42115), (107, 42226), (112, 42256), (113, 42259), (120, 42325), (134, 42484), (138, 42532), (140, 42550), (148, 42598), (166, 42742), (172, 42802), (186, 42907), (193, 42994),

Gene: Saintus\_8 Start: 4850, Stop: 5659, Start Num: 85

Candidate Starts for Saintus\_8:

(Start: 85 @4850 has 48 MA's), (92, 4934), (96, 4979), (108, 5105), (134, 5339), (138, 5378), (140, 5396), (145, 5429), (149, 5447), (185, 5516), (196, 5645),

Gene: Samaymay\_49 Start: 41696, Stop: 43051, Start Num: 45

Candidate Starts for Samaymay\_49:

(Start: 45 @41696 has 247 MA's), (50, 41747), (53, 41780), (71, 41909), (72, 41912), (73, 41927), (87, 42023), (89, 42062), (93, 42092), (96, 42128), (107, 42239), (112, 42269), (113, 42272), (120, 42338), (134, 42497), (138, 42545), (140, 42563), (148, 42611), (166, 42755), (172, 42815), (186, 42920), (193, 43007),

Gene: SassyCat97\_48 Start: 41423, Stop: 42778, Start Num: 45

Candidate Starts for SassyCat97\_48:

(Start: 45 @41423 has 247 MA's), (50, 41474), (53, 41507), (56, 41525), (71, 41636), (72, 41639), (73, 41654), (87, 41750), (89, 41789), (93, 41819), (96, 41855), (107, 41966), (112, 41996), (113, 41999), (120, 42065), (134, 42224), (138, 42272), (140, 42290), (148, 42338), (166, 42482), (172, 42542), (186, 42647), (193, 42734),

Gene: Sbash\_26 Start: 24238, Stop: 25410, Start Num: 51

Candidate Starts for Sbash\_26:

(44, 24169), (Start: 51 @24238 has 50 MA's), (59, 24292), (60, 24295), (66, 24337), (70, 24379), (87, 24502), (88, 24523), (96, 24607), (100, 24646), (116, 24763), (120, 24808), (121, 24823), (129, 24904), (134, 24958), (135, 24970), (138, 24997), (141, 25018), (150, 25069), (154, 25084), (158, 25102), (167, 25162), (183, 25255), (189, 25330),

Gene: Schadenfreude\_48 Start: 41262, Stop: 42617, Start Num: 45

Candidate Starts for Schadenfreude\_48:

(Start: 45 @41262 has 247 MA's), (50, 41313), (53, 41346), (71, 41475), (72, 41478), (73, 41493), (87, 41589), (89, 41628), (93, 41658), (96, 41694), (107, 41805), (112, 41835), (113, 41838), (120, 41904), (134, 42063), (138, 42111), (140, 42129), (148, 42177), (166, 42321), (172, 42381), (186, 42486), (193, 42573),

Gene: Schiebel\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Schiebel\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (92, 25567), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Schueller\_49 Start: 41421, Stop: 42776, Start Num: 45

Candidate Starts for Schueller\_49:

(Start: 45 @41421 has 247 MA's), (50, 41472), (53, 41505), (56, 41523), (71, 41634), (72, 41637), (73, 41652), (87, 41748), (89, 41787), (93, 41817), (96, 41853), (107, 41964), (112, 41994), (113, 41997), (120, 42063), (134, 42222), (138, 42270), (140, 42288), (148, 42336), (166, 42480), (172, 42540), (186, 42645), (193, 42732),

Gene: Scoot17C\_50 Start: 41839, Stop: 43194, Start Num: 45

Candidate Starts for Scoot17C\_50:

(Start: 45 @41839 has 247 MA's), (50, 41890), (53, 41923), (71, 42052), (72, 42055), (73, 42070), (87, 42166), (89, 42205), (93, 42235), (96, 42271), (107, 42382), (112, 42412), (113, 42415), (120, 42481), (134, 42640), (138, 42688), (140, 42706), (148, 42754), (166, 42898), (172, 42958), (186, 43063), (193, 43150),

Gene: Scorpia\_9 Start: 5152, Stop: 5961, Start Num: 85

Candidate Starts for Scorpia\_9:

(74, 5089), (82, 5128), (Start: 85 @5152 has 48 MA's), (89, 5215), (96, 5281), (97, 5296), (100, 5329), (130, 5599), (134, 5641), (138, 5680), (140, 5698), (144, 5728), (195, 5926),

Gene: Scrick\_49 Start: 41432, Stop: 42787, Start Num: 45

Candidate Starts for Scrick\_49:

(Start: 45 @41432 has 247 MA's), (50, 41483), (53, 41516), (71, 41645), (72, 41648), (73, 41663), (87, 41759), (89, 41798), (93, 41828), (96, 41864), (107, 41975), (112, 42005), (113, 42008), (120, 42074), (134, 42233), (138, 42281), (140, 42299), (148, 42347), (166, 42491), (172, 42551), (186, 42656), (193, 42743),

Gene: Selr12\_51 Start: 41435, Stop: 42790, Start Num: 45

Candidate Starts for Selr12\_51:

(Start: 45 @41435 has 247 MA's), (50, 41486), (53, 41519), (71, 41648), (72, 41651), (73, 41666), (87, 41762), (89, 41801), (93, 41831), (96, 41867), (107, 41978), (112, 42008), (113, 42011), (120, 42077), (134, 42236), (138, 42284), (140, 42302), (148, 42350), (166, 42494), (172, 42554), (186, 42659), (193, 42746),

Gene: Serendipity\_49 Start: 41720, Stop: 43075, Start Num: 45

Candidate Starts for Serendipity\_49:

(Start: 45 @41720 has 247 MA's), (50, 41771), (53, 41804), (71, 41933), (72, 41936), (73, 41951), (87, 42047), (89, 42086), (93, 42116), (96, 42152), (107, 42263), (112, 42293), (113, 42296), (120, 42362), (134, 42521), (138, 42569), (140, 42587), (148, 42635), (166, 42779), (172, 42839), (186, 42944), (193, 43031),

Gene: Serpentine\_0049 Start: 41719, Stop: 43074, Start Num: 45

Candidate Starts for Serpentine\_0049:

(Start: 45 @41719 has 247 MA's), (50, 41770), (53, 41803), (71, 41932), (72, 41935), (73, 41950), (87, 42046), (89, 42085), (93, 42115), (96, 42151), (107, 42262), (112, 42292), (113, 42295), (120, 42361), (134, 42520), (138, 42568), (140, 42586), (148, 42634), (166, 42778), (172, 42838), (186, 42943), (193, 43030),

Gene: ShaboiShabazz\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for ShaboiShabazz\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Sheila\_49 Start: 41745, Stop: 43100, Start Num: 45

Candidate Starts for Sheila\_49:

(Start: 45 @41745 has 247 MA's), (50, 41796), (53, 41829), (71, 41958), (72, 41961), (73, 41976), (87, 42072), (89, 42111), (93, 42141), (96, 42177), (107, 42288), (112, 42318), (113, 42321), (120, 42387), (134, 42546), (138, 42594), (140, 42612), (148, 42660), (166, 42804), (172, 42864), (186, 42969), (193, 43056),

Gene: ShiVal\_49 Start: 41706, Stop: 43058, Start Num: 45

Candidate Starts for ShiVal\_49:

(Start: 45 @41706 has 247 MA's), (50, 41757), (53, 41790), (71, 41919), (72, 41922), (73, 41937), (87, 42033), (89, 42072), (93, 42102), (96, 42138), (107, 42249), (112, 42279), (113, 42282), (120, 42348), (134, 42507), (138, 42555), (140, 42573), (148, 42621), (166, 42762), (172, 42822), (186, 42927), (193, 43014),

Gene: Shipwreck\_29 Start: 25866, Stop: 27032, Start Num: 51

Candidate Starts for Shipwreck\_29:

(26, 25332), (29, 25380), (34, 25485), (Start: 51 @25866 has 50 MA's), (52, 25875), (57, 25920), (59, 25923), (70, 26010), (76, 26055), (87, 26130), (88, 26151), (89, 26169), (96, 26235), (100, 26274), (101, 26286), (107, 26340), (112, 26370), (116, 26391), (120, 26436), (129, 26532), (132, 26571), (134, 26586), (135, 26598), (138, 26625), (154, 26712), (158, 26730), (160, 26736), (167, 26784),

(172, 26805), (183, 26877), (189, 26952),

Gene: Sigman\_50 Start: 41830, Stop: 43185, Start Num: 45

Candidate Starts for Sigman\_50:

(Start: 45 @41830 has 247 MA's), (50, 41881), (53, 41914), (71, 42043), (72, 42046), (73, 42061), (87, 42157), (89, 42196), (93, 42226), (96, 42262), (107, 42373), (112, 42403), (113, 42406), (120, 42472), (134, 42631), (138, 42679), (140, 42697), (148, 42745), (166, 42889), (172, 42949), (186, 43054), (193, 43141),

Gene: Simielle\_48 Start: 41389, Stop: 42744, Start Num: 45

Candidate Starts for Simielle\_48:

(Start: 45 @41389 has 247 MA's), (50, 41440), (53, 41473), (71, 41602), (72, 41605), (73, 41620), (87, 41716), (89, 41755), (93, 41785), (96, 41821), (107, 41932), (112, 41962), (113, 41965), (120, 42031), (134, 42190), (138, 42238), (140, 42256), (148, 42304), (166, 42448), (172, 42508), (186, 42613), (193, 42700),

Gene: Sizemore\_28 Start: 25202, Stop: 26410, Start Num: 48

Candidate Starts for Sizemore\_28:

(40, 25109), (Start: 48 @25202 has 62 MA's), (69, 25376), (79, 25448), (89, 25547), (90, 25556), (92, 25568), (94, 25580), (95, 25589), (96, 25613), (98, 25634), (100, 25661), (101, 25673), (110, 25745), (117, 25784), (134, 25973), (137, 25997), (138, 26012), (141, 26033), (148, 26078), (149, 26081), (164, 26132),

Gene: Skippy\_49 Start: 41690, Stop: 43045, Start Num: 45

Candidate Starts for Skippy\_49:

(Start: 45 @41690 has 247 MA's), (50, 41741), (53, 41774), (71, 41903), (72, 41906), (73, 41921), (87, 42017), (89, 42056), (93, 42086), (96, 42122), (107, 42233), (112, 42263), (113, 42266), (120, 42332), (134, 42491), (138, 42539), (140, 42557), (148, 42605), (166, 42749), (172, 42809), (186, 42914), (193, 43001),

Gene: Slatt\_49 Start: 41716, Stop: 43071, Start Num: 45

Candidate Starts for Slatt\_49:

(Start: 45 @41716 has 247 MA's), (50, 41767), (53, 41800), (71, 41929), (72, 41932), (73, 41947), (87, 42043), (89, 42082), (93, 42112), (96, 42148), (107, 42259), (112, 42289), (113, 42292), (120, 42358), (134, 42517), (138, 42565), (140, 42583), (148, 42631), (166, 42775), (172, 42835), (186, 42940), (193, 43027),

Gene: Smeadley\_8 Start: 4870, Stop: 5679, Start Num: 85

Candidate Starts for Smeadley\_8:

(Start: 85 @4870 has 48 MA's), (92, 4954), (96, 4999), (101, 5059), (108, 5125), (134, 5359), (138, 5398), (140, 5416), (145, 5449), (149, 5467), (178, 5512), (185, 5536), (196, 5665),

Gene: Sneeze\_28 Start: 25283, Stop: 26491, Start Num: 48

Candidate Starts for Sneeze\_28:

(40, 25190), (Start: 48 @25283 has 62 MA's), (69, 25457), (79, 25529), (89, 25628), (90, 25637), (94, 25661), (95, 25670), (96, 25694), (98, 25715), (100, 25742), (101, 25754), (110, 25826), (117, 25865), (134, 26054), (138, 26093), (141, 26114), (147, 26153), (148, 26159),

Gene: Soile\_49 Start: 41419, Stop: 42774, Start Num: 45

Candidate Starts for Soile\_49:

(Start: 45 @41419 has 247 MA's), (50, 41470), (53, 41503), (56, 41521), (71, 41632), (72, 41635), (73, 41650), (87, 41746), (89, 41785), (93, 41815), (96, 41851), (107, 41962), (112, 41992), (113, 41995), (120, 42061), (134, 42220), (138, 42268), (140, 42286), (148, 42334), (166, 42478), (172, 42538),

(186, 42643), (193, 42730),

Gene: Solosis\_48 Start: 41417, Stop: 42772, Start Num: 45

Candidate Starts for Solosis\_48:

(Start: 45 @41417 has 247 MA's), (50, 41468), (53, 41501), (71, 41630), (72, 41633), (73, 41648), (87, 41744), (89, 41783), (93, 41813), (96, 41849), (107, 41960), (112, 41990), (113, 41993), (120, 42059), (134, 42218), (138, 42266), (140, 42284), (148, 42332), (166, 42476), (172, 42536), (186, 42641), (193, 42728),

Gene: Sonah\_27 Start: 24039, Stop: 25205, Start Num: 51

Candidate Starts for Sonah\_27:

(Start: 51 @24039 has 50 MA's), (57, 24093), (59, 24096), (70, 24183), (76, 24228), (87, 24303), (88, 24324), (89, 24342), (96, 24408), (100, 24447), (107, 24513), (112, 24543), (116, 24564), (120, 24609), (129, 24705), (132, 24744), (134, 24759), (138, 24798), (154, 24885), (158, 24903), (160, 24909), (167, 24957), (172, 24978), (183, 25050), (189, 25125),

Gene: Sophia\_48 Start: 41411, Stop: 42766, Start Num: 45

Candidate Starts for Sophia\_48:

(Start: 45 @41411 has 247 MA's), (50, 41462), (53, 41495), (56, 41513), (71, 41624), (72, 41627), (73, 41642), (87, 41738), (89, 41777), (93, 41807), (96, 41843), (107, 41954), (112, 41984), (113, 41987), (120, 42053), (134, 42212), (138, 42260), (140, 42278), (148, 42326), (166, 42470), (172, 42530), (186, 42635), (193, 42722),

Gene: Soto\_49 Start: 41717, Stop: 43072, Start Num: 45

Candidate Starts for Soto\_49:

(Start: 45 @41717 has 247 MA's), (50, 41768), (53, 41801), (56, 41819), (71, 41930), (72, 41933), (73, 41948), (87, 42044), (89, 42083), (93, 42113), (96, 42149), (107, 42260), (112, 42290), (113, 42293), (120, 42359), (134, 42518), (138, 42566), (140, 42584), (148, 42632), (166, 42776), (172, 42836), (186, 42941), (193, 43028),

Gene: Spartan300\_49 Start: 41702, Stop: 43057, Start Num: 45

Candidate Starts for Spartan300\_49:

(Start: 45 @41702 has 247 MA's), (50, 41753), (53, 41786), (71, 41915), (72, 41918), (73, 41933), (87, 42029), (89, 42068), (93, 42098), (96, 42134), (107, 42245), (112, 42275), (113, 42278), (120, 42344), (134, 42503), (138, 42551), (140, 42569), (148, 42617), (166, 42761), (172, 42821), (186, 42926), (193, 43013),

Gene: Squid\_49 Start: 41423, Stop: 42778, Start Num: 45

Candidate Starts for Squid\_49:

(Start: 45 @41423 has 247 MA's), (50, 41474), (53, 41507), (56, 41525), (71, 41636), (72, 41639), (73, 41654), (87, 41750), (89, 41789), (93, 41819), (96, 41855), (107, 41966), (112, 41996), (113, 41999), (120, 42065), (134, 42224), (138, 42272), (140, 42290), (148, 42338), (166, 42482), (172, 42542), (186, 42647), (193, 42734),

Gene: Squiggle\_49 Start: 41426, Stop: 42781, Start Num: 45

Candidate Starts for Squiggle\_49:

(Start: 45 @41426 has 247 MA's), (50, 41477), (53, 41510), (71, 41639), (72, 41642), (73, 41657), (87, 41753), (89, 41792), (93, 41822), (96, 41858), (107, 41969), (112, 41999), (113, 42002), (120, 42068), (134, 42227), (138, 42275), (140, 42293), (148, 42341), (166, 42485), (172, 42545), (186, 42650), (193, 42737),

Gene: Stargaze\_28 Start: 26950, Stop: 28173, Start Num: 48

Candidate Starts for Stargaze\_28:

(1, 25669), (12, 26116), (14, 26167), (21, 26383), (28, 26503), (30, 26530), (32, 26572), (Start: 48 @26950 has 62 MA's), (68, 27112), (72, 27154), (79, 27196), (84, 27232), (87, 27268), (95, 27349), (96, 27373), (100, 27421), (103, 27445), (110, 27505), (114, 27532), (117, 27544), (122, 27622), (134, 27733), (138, 27772), (146, 27826), (194, 28135),

Gene: Stephig9\_8 Start: 4838, Stop: 5647, Start Num: 85

Candidate Starts for Stephig9\_8:

(Start: 85 @4838 has 48 MA's), (92, 4922), (96, 4967), (101, 5027), (108, 5093), (134, 5327), (136, 5345), (138, 5366), (140, 5384), (145, 5417), (149, 5435), (178, 5480), (185, 5504), (196, 5633),

Gene: StevieRay\_27 Start: 24031, Stop: 25197, Start Num: 51

Candidate Starts for StevieRay\_27:

(Start: 51 @24031 has 50 MA's), (59, 24088), (70, 24175), (76, 24220), (87, 24295), (88, 24316), (96, 24400), (100, 24439), (101, 24451), (107, 24505), (112, 24535), (116, 24556), (120, 24601), (129, 24697), (132, 24736), (134, 24751), (138, 24790), (154, 24877), (158, 24895), (160, 24901), (167, 24949), (172, 24970), (183, 25042), (189, 25117),

Gene: StressBall\_27 Start: 24311, Stop: 25477, Start Num: 51

Candidate Starts for StressBall\_27:

(15, 23558), (22, 23729), (29, 23825), (34, 23930), (Start: 51 @24311 has 50 MA's), (52, 24320), (57, 24365), (59, 24368), (70, 24455), (76, 24500), (87, 24575), (88, 24596), (89, 24614), (96, 24680), (100, 24719), (107, 24785), (112, 24815), (116, 24836), (120, 24881), (129, 24977), (132, 25016), (134, 25031), (138, 25070), (154, 25157), (158, 25175), (160, 25181), (167, 25229), (183, 25322), (189, 25397),

Gene: Struggle\_48 Start: 41258, Stop: 42613, Start Num: 45

Candidate Starts for Struggle\_48:

(Start: 45 @41258 has 247 MA's), (50, 41309), (53, 41342), (71, 41471), (72, 41474), (73, 41489), (87, 41585), (89, 41624), (93, 41654), (96, 41690), (107, 41801), (112, 41831), (113, 41834), (120, 41900), (134, 42059), (138, 42107), (140, 42125), (148, 42173), (166, 42317), (172, 42377), (186, 42482), (193, 42569),

Gene: Suffolk\_49 Start: 41707, Stop: 43062, Start Num: 45

Candidate Starts for Suffolk\_49:

(Start: 45 @41707 has 247 MA's), (50, 41758), (53, 41791), (71, 41920), (72, 41923), (73, 41938), (87, 42034), (89, 42073), (93, 42103), (96, 42139), (107, 42250), (112, 42280), (113, 42283), (120, 42349), (134, 42508), (138, 42556), (140, 42574), (148, 42622), (166, 42766), (172, 42826), (186, 42931), (193, 43018),

Gene: Surely\_49 Start: 41713, Stop: 43068, Start Num: 45

Candidate Starts for Surely\_49:

(Start: 45 @41713 has 247 MA's), (50, 41764), (53, 41797), (71, 41926), (72, 41929), (73, 41944), (87, 42040), (89, 42079), (93, 42109), (96, 42145), (107, 42256), (112, 42286), (113, 42289), (120, 42355), (134, 42514), (138, 42562), (140, 42580), (148, 42628), (166, 42772), (172, 42832), (186, 42937), (189, 42991), (193, 43024),

Gene: Sweets\_28 Start: 25196, Stop: 26404, Start Num: 48

Candidate Starts for Sweets\_28:

(40, 25103), (Start: 48 @25196 has 62 MA's), (69, 25370), (79, 25442), (89, 25541), (90, 25550), (94, 25574), (95, 25583), (96, 25607), (98, 25628), (100, 25655), (101, 25667), (110, 25739), (117, 25778), (134, 25967), (137, 25991), (138, 26006), (141, 26027), (148, 26072), (149, 26075), (164, 26126),

Gene: Swiphy\_51 Start: 41708, Stop: 43063, Start Num: 45

Candidate Starts for Swiphy\_51:

(Start: 45 @41708 has 247 MA's), (50, 41759), (53, 41792), (71, 41921), (72, 41924), (73, 41939), (87, 42035), (89, 42074), (93, 42104), (96, 42140), (107, 42251), (112, 42281), (113, 42284), (120, 42350), (134, 42509), (138, 42557), (140, 42575), (148, 42623), (166, 42767), (172, 42827), (186, 42932), (193, 43019),

Gene: Swirley\_8 Start: 5325, Stop: 6134, Start Num: 85

Candidate Starts for Swirley\_8:

(Start: 85 @5325 has 48 MA's), (89, 5388), (90, 5397), (96, 5454), (100, 5502), (109, 5583), (130, 5772), (134, 5814), (140, 5871), (147, 5913), (196, 6120),

Gene: Swish\_50 Start: 41831, Stop: 43207, Start Num: 45

Candidate Starts for Swish\_50:

(Start: 45 @41831 has 247 MA's), (50, 41882), (53, 41915), (71, 42044), (72, 42047), (73, 42062), (87, 42158), (89, 42197), (93, 42227), (96, 42263), (107, 42374), (112, 42404), (113, 42407), (120, 42473), (134, 42632), (138, 42680), (140, 42698), (148, 42746), (166, 42911), (172, 42971), (186, 43076), (193, 43163),

Gene: SydNat\_8 Start: 5432, Stop: 6241, Start Num: 85

Candidate Starts for SydNat\_8:

(Start: 85 @5432 has 48 MA's), (89, 5495), (90, 5504), (96, 5561), (100, 5609), (105, 5666), (109, 5690), (130, 5879), (134, 5921), (140, 5978), (196, 6227),

Gene: Taheera\_28 Start: 25310, Stop: 26527, Start Num: 48

Candidate Starts for Taheera\_28:

(3, 24155), (4, 24215), (7, 24341), (8, 24374), (11, 24458), (19, 24761), (20, 24767), (23, 24818), (25, 24854), (27, 24872), (31, 24938), (37, 25166), (40, 25217), (Start: 48 @25310 has 62 MA's), (69, 25484), (79, 25556), (87, 25625), (89, 25664), (94, 25697), (95, 25706), (96, 25730), (100, 25778), (103, 25802), (117, 25901), (120, 25943), (134, 26090), (138, 26129), (141, 26150), (147, 26189), (148, 26195),

Gene: TallGrassMM\_49 Start: 41326, Stop: 42681, Start Num: 45

Candidate Starts for TallGrassMM\_49:

(Start: 45 @41326 has 247 MA's), (50, 41377), (53, 41410), (71, 41539), (72, 41542), (73, 41557), (87, 41653), (89, 41692), (93, 41722), (96, 41758), (107, 41869), (112, 41899), (113, 41902), (120, 41968), (134, 42127), (138, 42175), (140, 42193), (148, 42241), (166, 42385), (172, 42445), (186, 42550), (193, 42637),

Gene: Tarynearal\_7 Start: 5352, Stop: 6161, Start Num: 85

Candidate Starts for Tarynearal\_7:

(Start: 85 @5352 has 48 MA's), (89, 5415), (90, 5424), (96, 5481), (100, 5529), (109, 5610), (130, 5799), (134, 5841), (140, 5898), (147, 5940), (196, 6147),

Gene: Techage\_27 Start: 24043, Stop: 25209, Start Num: 51

Candidate Starts for Techage\_27:

(Start: 51 @24043 has 50 MA's), (59, 24100), (70, 24187), (76, 24232), (77, 24235), (87, 24307), (88, 24328), (96, 24412), (100, 24451), (107, 24517), (112, 24547), (116, 24568), (120, 24613), (129, 24709), (132, 24748), (134, 24763), (138, 24802), (154, 24889), (158, 24907), (160, 24913), (167, 24961), (172, 24982), (183, 25054), (189, 25129),

Gene: Telesworld\_48 Start: 41405, Stop: 42760, Start Num: 45

Candidate Starts for Telesworld\_48:



(Start: 45 @41405 has 247 MA's), (50, 41456), (53, 41489), (71, 41618), (72, 41621), (73, 41636), (87, 41732), (89, 41771), (93, 41801), (96, 41837), (107, 41948), (112, 41978), (113, 41981), (120, 42047), (134, 42206), (138, 42254), (140, 42272), (148, 42320), (166, 42464), (172, 42524), (186, 42629), (193, 42716),

Gene: Terror\_28 Start: 25310, Stop: 26527, Start Num: 48

Candidate Starts for Terror\_28:

(3, 24155), (4, 24215), (7, 24341), (8, 24374), (11, 24458), (19, 24761), (20, 24767), (23, 24818), (25, 24854), (27, 24872), (31, 24938), (37, 25166), (40, 25217), (Start: 48 @25310 has 62 MA's), (69, 25484), (79, 25556), (87, 25625), (89, 25664), (94, 25697), (95, 25706), (96, 25730), (100, 25778), (103, 25802), (117, 25901), (120, 25943), (134, 26090), (138, 26129), (141, 26150), (147, 26189), (148, 26195),

Gene: Theia\_7 Start: 5291, Stop: 6100, Start Num: 85

Candidate Starts for Theia\_7:

(Start: 85 @5291 has 48 MA's), (89, 5354), (90, 5363), (96, 5420), (100, 5468), (130, 5738), (134, 5780), (140, 5837), (147, 5879), (196, 6086),

Gene: Thespis\_27 Start: 24047, Stop: 25213, Start Num: 51

Candidate Starts for Thespis\_27:

(5, 22928), (9, 23081), (15, 23294), (29, 23561), (34, 23666), (Start: 51 @24047 has 50 MA's), (52, 24056), (57, 24101), (59, 24104), (70, 24191), (76, 24236), (87, 24311), (88, 24332), (96, 24416), (100, 24455), (107, 24521), (112, 24551), (116, 24572), (120, 24617), (129, 24713), (132, 24752), (134, 24767), (135, 24779), (138, 24806), (153, 24890), (154, 24893), (158, 24911), (160, 24917), (167, 24965), (177, 25010), (183, 25058), (189, 25133),

Gene: Thora\_49 Start: 41712, Stop: 43067, Start Num: 45

Candidate Starts for Thora\_49:

(Start: 45 @41712 has 247 MA's), (50, 41763), (53, 41796), (71, 41925), (72, 41928), (73, 41943), (87, 42039), (89, 42078), (93, 42108), (96, 42144), (107, 42255), (112, 42285), (113, 42288), (120, 42354), (134, 42513), (138, 42561), (140, 42579), (148, 42627), (166, 42771), (172, 42831), (186, 42936), (189, 42990), (193, 43023),

Gene: ThreeOh3D2\_50 Start: 41845, Stop: 43200, Start Num: 45

Candidate Starts for ThreeOh3D2\_50:

(Start: 45 @41845 has 247 MA's), (50, 41896), (53, 41929), (71, 42058), (72, 42061), (73, 42076), (87, 42172), (89, 42211), (93, 42241), (96, 42277), (107, 42388), (112, 42418), (113, 42421), (120, 42487), (134, 42646), (138, 42694), (140, 42712), (148, 42760), (166, 42904), (172, 42964), (186, 43069), (189, 43123), (193, 43156),

Gene: Tiger\_8 Start: 5172, Stop: 5981, Start Num: 85

Candidate Starts for Tiger\_8:

(Start: 85 @5172 has 48 MA's), (89, 5235), (90, 5244), (93, 5265), (96, 5301), (100, 5349), (105, 5406), (109, 5430), (134, 5661), (140, 5718), (196, 5967),

Gene: Timmi\_48 Start: 41412, Stop: 42767, Start Num: 45

Candidate Starts for Timmi\_48:

(Start: 45 @41412 has 247 MA's), (50, 41463), (53, 41496), (71, 41625), (72, 41628), (73, 41643), (87, 41739), (89, 41778), (93, 41808), (96, 41844), (107, 41955), (112, 41985), (113, 41988), (120, 42054), (134, 42213), (138, 42261), (140, 42279), (148, 42327), (166, 42471), (172, 42531), (186, 42636), (193, 42723),

Gene: TipsytheTRex\_10 Start: 5561, Stop: 6493, Start Num: 86

Candidate Starts for TopsytheTRex\_10:

(Start: 86 @5561 has 3 MA's), (93, 5651), (96, 5687), (100, 5735), (120, 5888), (134, 6035), (135, 6047), (138, 6074), (157, 6167), (159, 6182), (164, 6203), (180, 6308), (182, 6332),

Gene: TomBombadil\_49 Start: 41697, Stop: 43052, Start Num: 45

Candidate Starts for TomBombadil\_49:

(Start: 45 @41697 has 247 MA's), (50, 41748), (53, 41781), (71, 41910), (72, 41913), (73, 41928), (87, 42024), (89, 42063), (93, 42093), (96, 42129), (107, 42240), (112, 42270), (113, 42273), (120, 42339), (134, 42498), (138, 42546), (140, 42564), (148, 42612), (166, 42756), (172, 42816), (186, 42921), (193, 43008),

Gene: TomBrady\_28 Start: 25202, Stop: 26410, Start Num: 48

Candidate Starts for TomBrady\_28:

(40, 25109), (Start: 48 @25202 has 62 MA's), (69, 25376), (79, 25448), (89, 25547), (90, 25556), (94, 25580), (95, 25589), (96, 25613), (98, 25634), (100, 25661), (101, 25673), (110, 25745), (117, 25784), (134, 25973), (137, 25997), (138, 26012), (141, 26033), (148, 26078), (149, 26081), (164, 26132),

Gene: Tomlarah\_49 Start: 41700, Stop: 43055, Start Num: 45

Candidate Starts for Tomlarah\_49:

(Start: 45 @41700 has 247 MA's), (50, 41751), (53, 41784), (71, 41913), (72, 41916), (73, 41931), (87, 42027), (89, 42066), (93, 42096), (96, 42132), (107, 42243), (112, 42273), (113, 42276), (120, 42342), (134, 42501), (138, 42549), (140, 42567), (148, 42615), (166, 42759), (172, 42819), (186, 42924), (193, 43011),

Gene: Toni\_48 Start: 41404, Stop: 42759, Start Num: 45

Candidate Starts for Toni\_48:

(Start: 45 @41404 has 247 MA's), (50, 41455), (53, 41488), (71, 41617), (72, 41620), (73, 41635), (87, 41731), (89, 41770), (93, 41800), (96, 41836), (107, 41947), (112, 41977), (113, 41980), (120, 42046), (134, 42205), (138, 42253), (140, 42271), (148, 42319), (166, 42463), (172, 42523), (186, 42628), (193, 42715),

Gene: Tooj\_49 Start: 41779, Stop: 43134, Start Num: 45

Candidate Starts for Tooj\_49:

(Start: 45 @41779 has 247 MA's), (50, 41830), (53, 41863), (71, 41992), (72, 41995), (73, 42010), (87, 42106), (89, 42145), (93, 42175), (96, 42211), (107, 42322), (112, 42352), (113, 42355), (120, 42421), (134, 42580), (138, 42628), (140, 42646), (148, 42694), (166, 42838), (172, 42898), (186, 43003), (189, 43057), (193, 43090),

Gene: True\_48 Start: 41410, Stop: 42765, Start Num: 45

Candidate Starts for True\_48:

(Start: 45 @41410 has 247 MA's), (50, 41461), (53, 41494), (71, 41623), (72, 41626), (73, 41641), (87, 41737), (89, 41776), (93, 41806), (96, 41842), (107, 41953), (112, 41983), (113, 41986), (120, 42052), (134, 42211), (138, 42259), (140, 42277), (148, 42325), (166, 42469), (172, 42529), (186, 42634), (193, 42721),

Gene: Trypo\_50 Start: 41841, Stop: 43196, Start Num: 45

Candidate Starts for Trypo\_50:

(Start: 45 @41841 has 247 MA's), (50, 41892), (53, 41925), (71, 42054), (72, 42057), (73, 42072), (87, 42168), (89, 42207), (93, 42237), (96, 42273), (107, 42384), (112, 42414), (113, 42417), (120, 42483), (134, 42642), (138, 42690), (140, 42708), (148, 42756), (166, 42900), (172, 42960), (186, 43065), (193, 43152),

Gene: Typha\_32 Start: 29089, Stop: 30312, Start Num: 48

Candidate Starts for Typha\_32:

(Start: 48 @29089 has 62 MA's), (56, 29185), (61, 29209), (66, 29236), (69, 29269), (72, 29299), (87, 29404), (89, 29443), (90, 29452), (94, 29476), (96, 29509), (100, 29557), (101, 29569), (110, 29641), (119, 29698), (126, 29785), (134, 29872), (135, 29884), (138, 29911), (140, 29929), (141, 29932), (142, 29941), (164, 30031), (181, 30136), (188, 30223), (189, 30232),

Gene: TyrionL\_48 Start: 41266, Stop: 42621, Start Num: 45

Candidate Starts for TyrionL\_48:

(Start: 45 @41266 has 247 MA's), (50, 41317), (53, 41350), (71, 41479), (72, 41482), (73, 41497), (87, 41593), (89, 41632), (93, 41662), (96, 41698), (107, 41809), (112, 41839), (113, 41842), (120, 41908), (134, 42067), (138, 42115), (140, 42133), (148, 42181), (166, 42325), (172, 42385), (186, 42490), (193, 42577),

Gene: UAch1\_49 Start: 41734, Stop: 43089, Start Num: 45

Candidate Starts for UAch1\_49:

(Start: 45 @41734 has 247 MA's), (50, 41785), (53, 41818), (71, 41947), (72, 41950), (73, 41965), (87, 42061), (89, 42100), (93, 42130), (96, 42166), (107, 42277), (112, 42307), (113, 42310), (120, 42376), (134, 42535), (138, 42583), (140, 42601), (148, 42649), (166, 42793), (172, 42853), (186, 42958), (193, 43045),

Gene: Ubuntu\_33 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Ubuntu\_33:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: UncleHowie\_49 Start: 41409, Stop: 42764, Start Num: 45

Candidate Starts for UncleHowie\_49:

(Start: 45 @41409 has 247 MA's), (50, 41460), (53, 41493), (71, 41622), (72, 41625), (73, 41640), (87, 41736), (89, 41775), (93, 41805), (96, 41841), (107, 41952), (112, 41982), (113, 41985), (120, 42051), (134, 42210), (138, 42258), (140, 42276), (148, 42324), (166, 42468), (172, 42528), (186, 42633), (193, 42720),

Gene: UnionJack\_8 Start: 4891, Stop: 5700, Start Num: 85

Candidate Starts for UnionJack\_8:

(Start: 85 @4891 has 48 MA's), (90, 4963), (96, 5020), (100, 5068), (109, 5149), (130, 5338), (134, 5380), (140, 5437), (196, 5686),

Gene: Usavi\_49 Start: 41708, Stop: 43063, Start Num: 45

Candidate Starts for Usavi\_49:

(Start: 45 @41708 has 247 MA's), (50, 41759), (53, 41792), (71, 41921), (72, 41924), (73, 41939), (87, 42035), (89, 42074), (93, 42104), (96, 42140), (107, 42251), (112, 42281), (113, 42284), (120, 42350), (134, 42509), (138, 42557), (140, 42575), (148, 42623), (166, 42767), (172, 42827), (186, 42932), (193, 43019),

Gene: Vaishali24\_48 Start: 41380, Stop: 42735, Start Num: 45

Candidate Starts for Vaishali24\_48:

(Start: 45 @41380 has 247 MA's), (50, 41431), (53, 41464), (71, 41593), (72, 41596), (73, 41611), (87, 41707), (89, 41746), (93, 41776), (96, 41812), (107, 41923), (112, 41953), (113, 41956), (120, 42022), (134, 42181), (138, 42229), (140, 42247), (148, 42295), (166, 42439), (172, 42499), (186, 42604), (193, 42691),

Gene: Valjean\_49 Start: 41705, Stop: 43060, Start Num: 45

Candidate Starts for Valjean\_49:

(Start: 45 @41705 has 247 MA's), (50, 41756), (53, 41789), (71, 41918), (72, 41921), (73, 41936), (87, 42032), (89, 42071), (93, 42101), (96, 42137), (107, 42248), (112, 42278), (113, 42281), (120, 42347), (134, 42506), (138, 42554), (140, 42572), (148, 42620), (166, 42764), (172, 42824), (186, 42929), (193, 43016),

Gene: Vaticameos\_45 Start: 39391, Stop: 40746, Start Num: 45

Candidate Starts for Vaticameos\_45:

(Start: 45 @39391 has 247 MA's), (50, 39442), (53, 39475), (71, 39604), (72, 39607), (73, 39622), (87, 39718), (89, 39757), (93, 39787), (96, 39823), (107, 39934), (112, 39964), (113, 39967), (120, 40033), (134, 40192), (138, 40240), (140, 40258), (148, 40306), (166, 40450), (172, 40510), (186, 40615), (193, 40702),

Gene: Venti\_27 Start: 24052, Stop: 25218, Start Num: 51

Candidate Starts for Venti\_27:

(Start: 51 @24052 has 50 MA's), (59, 24109), (70, 24196), (76, 24241), (87, 24316), (88, 24337), (96, 24421), (100, 24460), (107, 24526), (112, 24556), (116, 24577), (120, 24622), (129, 24718), (132, 24757), (134, 24772), (135, 24784), (138, 24811), (154, 24898), (158, 24916), (160, 24922), (167, 24970), (172, 24991), (183, 25063), (189, 25138),

Gene: Veritas\_48 Start: 41287, Stop: 42642, Start Num: 45

Candidate Starts for Veritas\_48:

(Start: 45 @41287 has 247 MA's), (50, 41338), (53, 41371), (71, 41500), (72, 41503), (73, 41518), (87, 41614), (89, 41653), (93, 41683), (96, 41719), (107, 41830), (112, 41860), (113, 41863), (120, 41929), (134, 42088), (138, 42136), (140, 42154), (148, 42202), (166, 42346), (172, 42406), (186, 42511), (193, 42598),

Gene: Vidya\_27 Start: 24052, Stop: 25218, Start Num: 51

Candidate Starts for Vidya\_27:

(Start: 51 @24052 has 50 MA's), (59, 24109), (70, 24196), (76, 24241), (87, 24316), (88, 24337), (96, 24421), (100, 24460), (107, 24526), (112, 24556), (116, 24577), (120, 24622), (129, 24718), (132, 24757), (134, 24772), (135, 24784), (138, 24811), (154, 24898), (158, 24916), (160, 24922), (167, 24970), (172, 24991), (183, 25063), (189, 25138),

Gene: Virapocalypse\_49 Start: 41700, Stop: 43055, Start Num: 45

Candidate Starts for Virapocalypse\_49:

(Start: 45 @41700 has 247 MA's), (50, 41751), (53, 41784), (71, 41913), (72, 41916), (73, 41931), (87, 42027), (89, 42066), (93, 42096), (96, 42132), (107, 42243), (112, 42273), (113, 42276), (120, 42342), (134, 42501), (138, 42549), (140, 42567), (148, 42615), (166, 42759), (172, 42819), (186, 42924), (193, 43011),

Gene: Virgeve\_48 Start: 41477, Stop: 42832, Start Num: 45

Candidate Starts for Virgeve\_48:

(Start: 45 @41477 has 247 MA's), (50, 41528), (53, 41561), (71, 41690), (72, 41693), (73, 41708), (87, 41804), (89, 41843), (93, 41873), (96, 41909), (107, 42020), (112, 42050), (113, 42053), (120, 42119), (134, 42278), (138, 42326), (140, 42344), (148, 42392), (166, 42536), (172, 42596), (186, 42701), (193, 42788),

Gene: Vista\_49 Start: 41710, Stop: 43065, Start Num: 45

Candidate Starts for Vista\_49:

(Start: 45 @41710 has 247 MA's), (50, 41761), (53, 41794), (71, 41923), (72, 41926), (73, 41941), (87, 42037), (89, 42076), (93, 42106), (96, 42142), (107, 42253), (112, 42283), (113, 42286), (120, 42352), (134, 42511), (138, 42559), (140, 42577), (148, 42625), (166, 42769), (172, 42829), (186, 42934), (193, 43021),

Gene: Vivaldi\_50 Start: 42145, Stop: 43500, Start Num: 45

Candidate Starts for Vivaldi\_50:

(Start: 45 @42145 has 247 MA's), (50, 42196), (53, 42229), (71, 42358), (72, 42361), (73, 42376), (87, 42472), (89, 42511), (93, 42541), (96, 42577), (107, 42688), (112, 42718), (113, 42721), (120, 42787), (134, 42946), (138, 42994), (140, 43012), (148, 43060), (166, 43204), (172, 43264), (186, 43369), (193, 43456),

Gene: Vortex\_49 Start: 41407, Stop: 42762, Start Num: 45

Candidate Starts for Vortex\_49:

(Start: 45 @41407 has 247 MA's), (50, 41458), (53, 41491), (71, 41620), (72, 41623), (73, 41638), (87, 41734), (89, 41773), (93, 41803), (96, 41839), (107, 41950), (112, 41980), (113, 41983), (120, 42049), (134, 42208), (138, 42256), (140, 42274), (148, 42322), (166, 42466), (172, 42526), (186, 42631), (193, 42718),

Gene: Wallhey\_48 Start: 41270, Stop: 42625, Start Num: 45

Candidate Starts for Wallhey\_48:

(Start: 45 @41270 has 247 MA's), (50, 41321), (53, 41354), (71, 41483), (72, 41486), (73, 41501), (87, 41597), (89, 41636), (93, 41666), (96, 41702), (107, 41813), (112, 41843), (113, 41846), (120, 41912), (134, 42071), (138, 42119), (140, 42137), (148, 42185), (166, 42329), (172, 42389), (186, 42494), (193, 42581),

Gene: Waterdiva\_49 Start: 41702, Stop: 43057, Start Num: 45

Candidate Starts for Waterdiva\_49:

(Start: 45 @41702 has 247 MA's), (50, 41753), (53, 41786), (71, 41915), (72, 41918), (73, 41933), (87, 42029), (89, 42068), (93, 42098), (96, 42134), (107, 42245), (112, 42275), (113, 42278), (120, 42344), (134, 42503), (138, 42551), (140, 42569), (148, 42617), (166, 42761), (172, 42821), (186, 42926), (193, 43013),

Gene: Webster2\_33 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Webster2\_33:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: Weher20\_49 Start: 41701, Stop: 43056, Start Num: 45

Candidate Starts for Weher20\_49:

(Start: 45 @41701 has 247 MA's), (50, 41752), (53, 41785), (72, 41917), (73, 41932), (87, 42028), (89, 42067), (93, 42097), (96, 42133), (107, 42244), (112, 42274), (113, 42277), (120, 42343), (134, 42502), (138, 42550), (140, 42568), (148, 42616), (166, 42760), (172, 42820), (186, 42925), (189, 42979), (193, 43012),

Gene: Weirido19\_29 Start: 26675, Stop: 27889, Start Num: 48

Candidate Starts for Weirido19\_29:

(36, 26498), (38, 26516), (39, 26561), (Start: 48 @26675 has 62 MA's), (68, 26831), (73, 26888), (78, 26909), (80, 26921), (Start: 86 @26954 has 3 MA's), (87, 26978), (88, 26999), (90, 27026), (96, 27083), (98, 27104), (100, 27131), (115, 27245), (120, 27296), (128, 27386), (134, 27443), (137,

27467), (138, 27482), (141, 27503), (151, 27557), (154, 27569), (161, 27593), (164, 27602), (171, 27650), (173, 27659), (181, 27710), (196, 27872),

Gene: Windsor\_48 Start: 41406, Stop: 42761, Start Num: 45

Candidate Starts for Windsor\_48:

(Start: 45 @41406 has 247 MA's), (50, 41457), (53, 41490), (71, 41619), (72, 41622), (73, 41637), (87, 41733), (89, 41772), (93, 41802), (96, 41838), (107, 41949), (112, 41979), (113, 41982), (120, 42048), (134, 42207), (138, 42255), (140, 42273), (148, 42321), (166, 42465), (172, 42525), (186, 42630), (193, 42717),

Gene: Wishmaker\_32 Start: 28339, Stop: 29574, Start Num: 46

Candidate Starts for Wishmaker\_32:

(Start: 46 @28339 has 21 MA's), (55, 28432), (61, 28465), (62, 28477), (65, 28489), (66, 28492), (72, 28555), (75, 28573), (81, 28606), (87, 28666), (89, 28705), (90, 28714), (91, 28717), (93, 28735), (96, 28771), (100, 28819), (101, 28831), (102, 28837), (109, 28900), (110, 28903), (114, 28930), (117, 28942), (125, 29044), (134, 29131), (138, 29170), (141, 29191), (155, 29260), (164, 29290), (167, 29323), (169, 29332), (171, 29338), (174, 29350), (176, 29359), (184, 29422), (189, 29491),

Gene: Xavia\_27 Start: 24676, Stop: 25842, Start Num: 51

Candidate Starts for Xavia\_27:

(Start: 51 @24676 has 50 MA's), (52, 24685), (57, 24730), (59, 24733), (70, 24820), (76, 24865), (83, 24898), (87, 24940), (88, 24961), (89, 24979), (96, 25045), (100, 25084), (107, 25150), (116, 25201), (120, 25246), (129, 25342), (132, 25381), (134, 25396), (135, 25408), (138, 25435), (154, 25522), (158, 25540), (160, 25546), (163, 25558), (165, 25570), (170, 25606), (183, 25687), (189, 25762), (195, 25804), (196, 25825), (197, 25831),

Gene: Xavier\_48 Start: 41414, Stop: 42769, Start Num: 45

Candidate Starts for Xavier\_48:

(Start: 45 @41414 has 247 MA's), (50, 41465), (53, 41498), (71, 41627), (72, 41630), (73, 41645), (87, 41741), (89, 41780), (93, 41810), (96, 41846), (107, 41957), (112, 41987), (113, 41990), (120, 42056), (134, 42215), (138, 42263), (140, 42281), (148, 42329), (166, 42473), (172, 42533), (186, 42638), (193, 42725),

Gene: Xula\_25 Start: 23743, Stop: 24909, Start Num: 51

Candidate Starts for Xula\_25:

(15, 22999), (34, 23371), (Start: 51 @23743 has 50 MA's), (59, 23800), (70, 23887), (77, 23935), (87, 24007), (88, 24028), (96, 24112), (100, 24151), (107, 24217), (112, 24247), (116, 24268), (120, 24313), (129, 24409), (132, 24448), (134, 24463), (138, 24502), (154, 24589), (158, 24607), (160, 24613), (167, 24661), (183, 24754), (189, 24829), (195, 24871), (196, 24892), (197, 24898),

Gene: Yoshand\_50 Start: 41844, Stop: 43220, Start Num: 45

Candidate Starts for Yoshand\_50:

(Start: 45 @41844 has 247 MA's), (50, 41895), (53, 41928), (71, 42057), (72, 42060), (73, 42075), (87, 42171), (89, 42210), (93, 42240), (96, 42276), (107, 42387), (112, 42417), (113, 42420), (120, 42486), (134, 42645), (138, 42693), (140, 42711), (148, 42759), (166, 42924), (172, 42984), (186, 43089), (193, 43176),

Gene: YouGoGlencoco\_49 Start: 41704, Stop: 43059, Start Num: 45

Candidate Starts for YouGoGlencoco\_49:

(Start: 45 @41704 has 247 MA's), (50, 41755), (53, 41788), (71, 41917), (72, 41920), (73, 41935), (87, 42031), (89, 42070), (93, 42100), (96, 42136), (107, 42247), (112, 42277), (113, 42280), (120, 42346), (134, 42505), (138, 42553), (140, 42571), (148, 42619), (166, 42763), (172, 42823), (186, 42928), (193, 43015),

Gene: Zaider\_50 Start: 41934, Stop: 43289, Start Num: 45

Candidate Starts for Zaider\_50:

(Start: 45 @41934 has 247 MA's), (50, 41985), (53, 42018), (56, 42036), (71, 42147), (72, 42150), (73, 42165), (87, 42261), (89, 42300), (93, 42330), (96, 42366), (107, 42477), (112, 42507), (113, 42510), (120, 42576), (134, 42735), (138, 42783), (140, 42801), (148, 42849), (166, 42993), (172, 43053), (186, 43158), (193, 43245),

Gene: Zelda\_49 Start: 41751, Stop: 43106, Start Num: 45

Candidate Starts for Zelda\_49:

(Start: 45 @41751 has 247 MA's), (50, 41802), (53, 41835), (71, 41964), (72, 41967), (73, 41982), (87, 42078), (89, 42117), (93, 42147), (96, 42183), (107, 42294), (112, 42324), (113, 42327), (120, 42393), (134, 42552), (138, 42600), (140, 42618), (148, 42666), (166, 42810), (172, 42870), (186, 42975), (193, 43062),

Gene: Zilizebeth\_27 Start: 24052, Stop: 25218, Start Num: 51

Candidate Starts for Zilizebeth\_27:

(Start: 51 @24052 has 50 MA's), (59, 24109), (70, 24196), (76, 24241), (77, 24244), (87, 24316), (88, 24337), (96, 24421), (100, 24460), (107, 24526), (112, 24556), (116, 24577), (120, 24622), (129, 24718), (132, 24757), (134, 24772), (135, 24784), (138, 24811), (154, 24898), (158, 24916), (160, 24922), (167, 24970), (172, 24991), (183, 25063), (189, 25138),

Gene: ZoMa\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for ZoMa\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Zolita\_7 Start: 5433, Stop: 6242, Start Num: 85

Candidate Starts for Zolita\_7:

(Start: 85 @5433 has 48 MA's), (89, 5496), (90, 5505), (96, 5562), (100, 5610), (105, 5667), (109, 5691), (130, 5880), (134, 5922), (140, 5979), (196, 6228),

Gene: Zombie\_28 Start: 25201, Stop: 26409, Start Num: 48

Candidate Starts for Zombie\_28:

(40, 25108), (Start: 48 @25201 has 62 MA's), (69, 25375), (79, 25447), (89, 25546), (90, 25555), (94, 25579), (95, 25588), (96, 25612), (98, 25633), (100, 25660), (101, 25672), (110, 25744), (117, 25783), (134, 25972), (137, 25996), (138, 26011), (141, 26032), (148, 26077), (149, 26080), (164, 26131),

Gene: Zonia\_49 Start: 41721, Stop: 43076, Start Num: 45

Candidate Starts for Zonia\_49:

(Start: 45 @41721 has 247 MA's), (50, 41772), (53, 41805), (71, 41934), (72, 41937), (73, 41952), (87, 42048), (89, 42087), (93, 42117), (96, 42153), (107, 42264), (112, 42294), (113, 42297), (120, 42363), (134, 42522), (138, 42570), (140, 42588), (148, 42636), (166, 42780), (172, 42840), (186, 42945), (193, 43032),