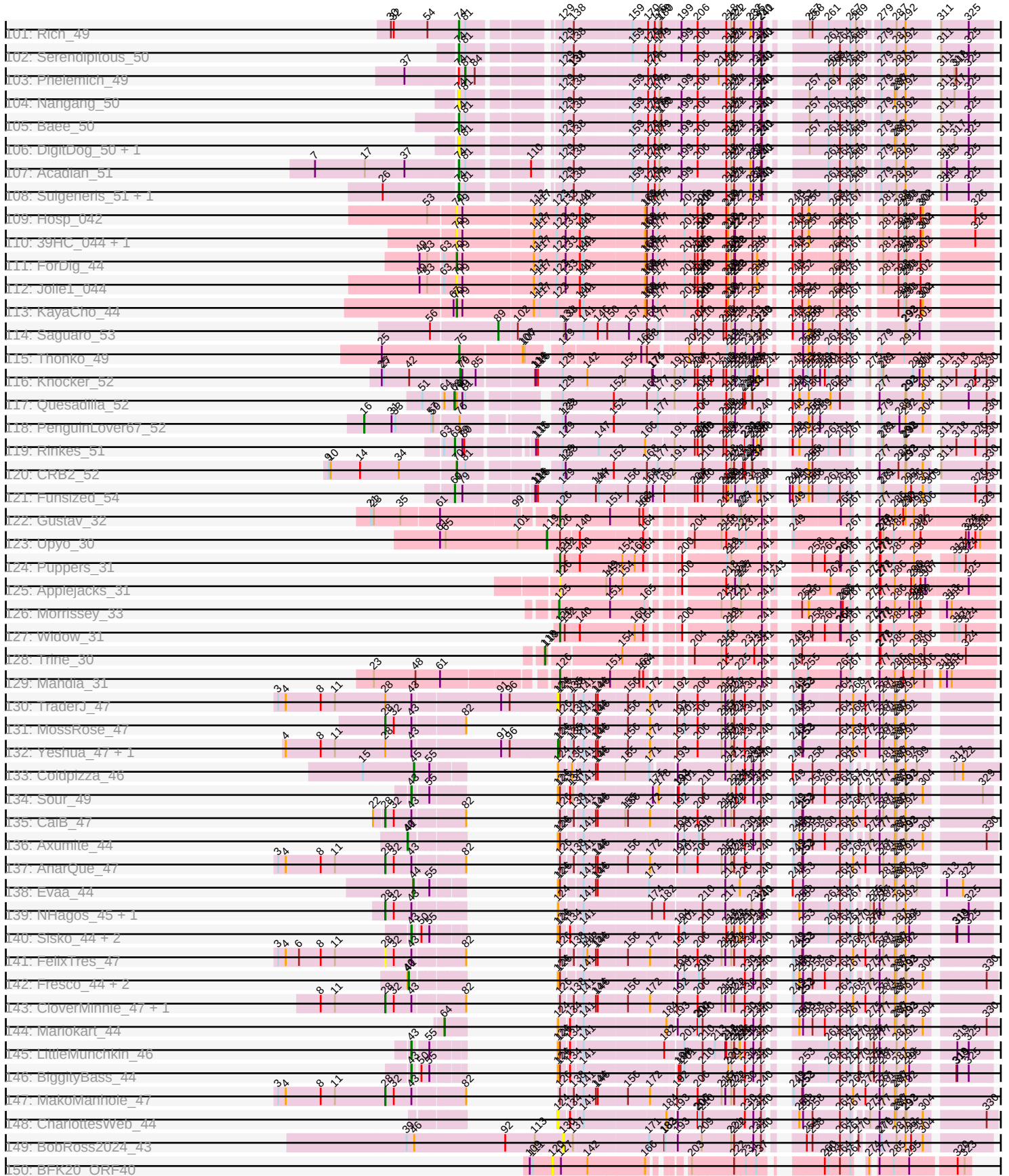


[illegible]

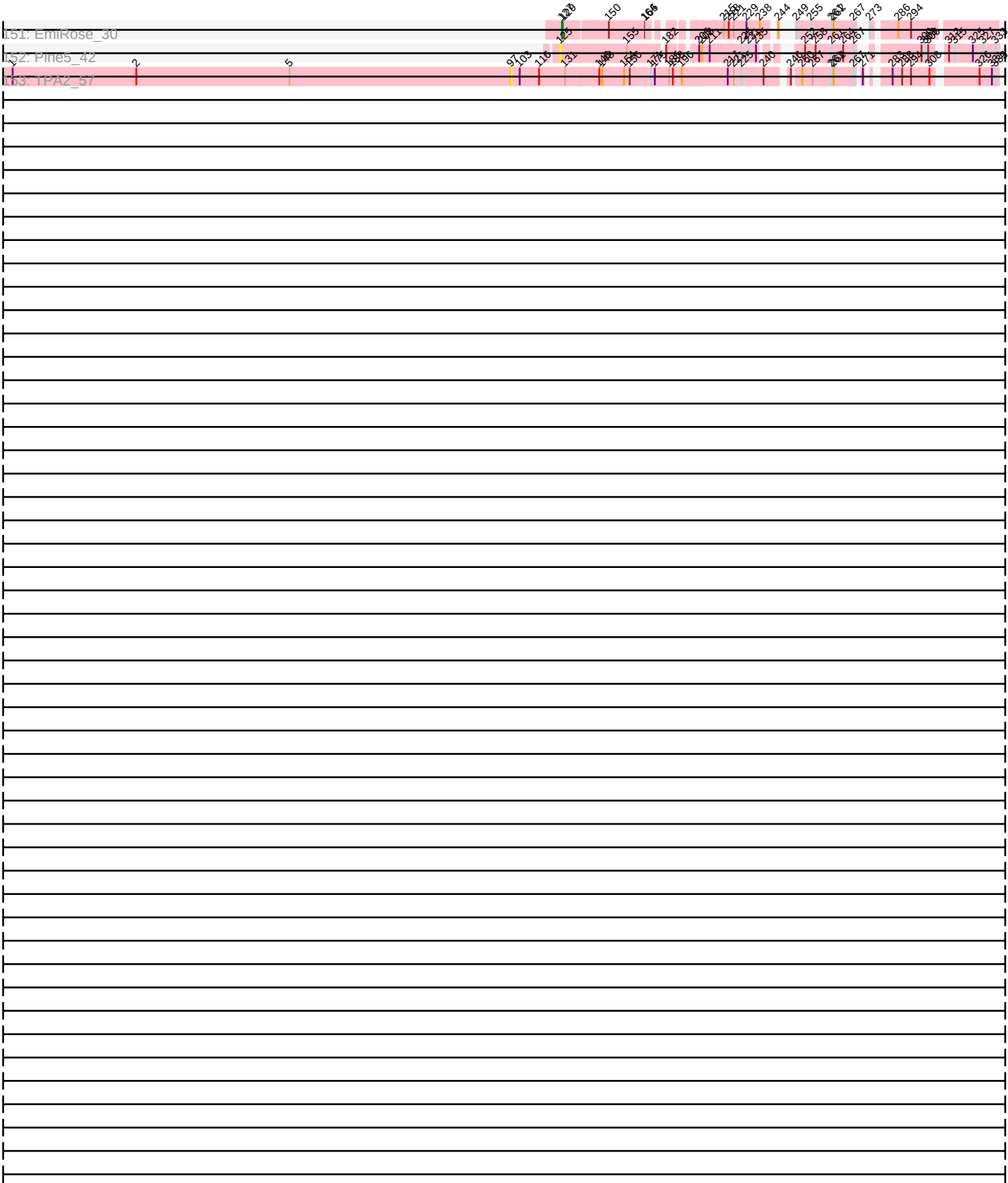
## Pham 273858

[illegible]

# Pham 273858



Pham 273858



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 273858 Report

This analysis was run 02/07/26 on database version 634.

Pham number 273858 has 523 members, 75 are drafts.

Phages represented in each track:

- Track 1 : StAugustine\_65
- Track 2 : Causa\_67
- Track 3 : Mikota\_51, Fozzie\_50, CamL\_51, Mosaic\_50, Grand2040\_50, Altwerkus\_50, BlueHusk\_51, MRabcd\_50, ThreeOh3D2\_52, Aonishiki\_52, Windsor\_50, LeiMonet\_52, True\_50, Daka\_52, ShiVal\_51, YouGoGlencoco\_51, Lehmann\_51, Serendipity\_51, Klopinator\_52, IsaacEli\_52, Fringe\_52, Mesmerelda\_50, Toni\_50, Chorkpop\_51, Pipsqueak\_51, Virapocalypse\_51, Burr\_50, Morty\_52, Vaticameos\_47, Prickles\_51, ShadowBud\_51, JangoPhett\_51, Horchata\_51, Solosis\_50, Timmi\_50, Riggan\_51, Mcshane\_50, Olive\_51, Swish\_52, BlackStallion\_52, Gareth\_50, Phipps\_51, Jillium\_50, Slatt\_51, Quisquiliae\_51, Kikipoo\_52, Robyn\_50, DaddyDaniels\_51, Lasso\_51, Tooj\_51, QueenBeane\_51, Mana\_50, Olak\_50, Dingo\_51, Roscoe\_52, Haleema\_50, Puhltonio\_51, Longacauda\_50, Khan1\_51, Lego3393\_50, FluffyNinja\_52, Sigman\_52, Badfish\_52, LemonSlice\_51, Morgushi\_51, Bluephacebaby\_50, FriarPreacher\_50, EmpTee\_51, Podrick\_51, Cannibal\_51, Beaglebox\_50, Buckeye\_51, Sheila\_51, Samaymay\_51, Scrick\_51, LostAndPhound\_50, Katniss\_52, Dice\_50, Pacifista\_50, Chaelin\_51, Spartan300\_51, Kwadwo\_50, Cher\_50, Scoot17C\_52, Held\_51, Simielle\_50, Vaishali24\_50, Roliet\_51, Phamished\_52, Nyala\_50, Chah\_53, Triad\_51, JacAttac\_52, Megatron\_52, Banjo\_50, Vortex\_51, DirtJuice\_51, TomIarah\_51
- Track 4 : Cornbread\_50, Weher20\_51, ImtiyazSitla\_51, Dati\_51, Emiris\_52, Trypo\_52, CharlieGBrown\_50, Maskar\_51, Phergie\_51, BatteryCK\_50, Phleuron\_50, Etaye\_51, Melc17\_51, MichaelPhcott\_50, PhenghisKhan\_50, KingTut\_42, PhrankReynolds\_49, Inchworm\_52, Gwennie1\_51, Carthage\_49, Mag7\_50, Ashraf\_51, Oline\_50, Gophee\_51, Kailash\_51, MelsMeow\_51, Happabalu\_51, Lumine\_50, Durga\_52, Magic8\_51, Kwksand96\_50, Cobra\_51, HogWash\_51
- Track 5 : HighStump\_51, Hartsy\_51, Piglet\_0051, Kahve\_50, Omniscient\_51, Eugenia\_51, Mutante\_50, Placalicious\_50, Zaider\_52, Frankicide\_51, Surely\_51, Childish\_50, ABU\_52, TooFast2Furius\_54, Serpentine\_0051, Soile\_51, Nacho\_0052, Vista\_51, Waterdiva\_51, UncleHowie\_51, Iridessa\_51, Mecca\_50, Kimbrough\_51, Craff\_52, Matalotodo\_51, Zelda\_51, Brilliant\_51, Charles1\_51, Usavi\_51, Murdoc\_51, Squiggle\_51, FugateOSU\_50, OliverWalter\_51, PG1\_52
- Track 6 : Apizium\_51
- Track 7 : Jiminy\_50, JakeO\_50, Struggle\_50, Hocus\_50, JDog\_50, Plata\_51
- Track 8 : KlimbOn\_51, Newman\_51, Inverness\_51
- Track 9 : SallyH\_52
- Track 10 : Suffolk\_51, Orwigg\_50, Riverton\_50, Oosterbaan\_51, Anderson\_51, Lulumae\_50, Chunky\_51

- Track 11 : Skippy\_51, Roy17\_51, HSavage\_51, Cornobble\_50, Haimas\_51, Dione\_50, Lulwa\_51, CheetO\_51, Hamish\_51, Bishoperium\_50, Nicole21\_51, Freya\_50, RedRaider89\_53, FremontTroll\_51, ElvisPhasley\_52, DoesntMatter\_50, Phareon\_51, Hertubise\_51, Caspiroi\_50, PhrodoBaggins\_51, LasagnaCat\_52, Thora\_51, LuckyMarjie\_50, Eremos\_51, Telesworld\_50, RedMaple\_51, Phunky\_51, Giraffe\_51, Iridoclysis\_51, Numberten\_51, Harvey\_51, OSmaximus\_52, Plmatters\_51
- Track 12 : Coletti\_51, BlacksBerry\_50, Flake\_53, Chuni\_50, Keitherie\_51, Larson\_53, FleetyMac\_52, PinheadLarry\_51, Thunderbird\_50, Chute\_50, Aleia\_51
- Track 13 : Sophia\_50, Hetaeria\_51, Andre\_52, UAch1\_51, Fang\_52, BoogieWoogie\_50, ProfessorX\_51, Pops\_51, Gyarad\_0051, DonSanchon\_50
- Track 14 : Basato\_52
- Track 15 : Crownjwl\_51
- Track 16 : Jiraiya\_50
- Track 17 : Boehler\_51
- Track 18 : Cosmolli16\_50, AbsoluteMadLad\_50, AltPhacts\_51, Mesh1\_51
- Track 19 : DolOn\_54, Valjean\_51, Mulan\_51, HenryJackson\_50, PhatLouie\_51, AngelCake\_51, LeeLot\_51, Swiphy\_51, Gwilliam\_51
- Track 20 : Labeouficaum\_50, Derpp\_50, Squid\_51, MitKao\_51, Zonia\_51, Wallhey\_50, Potter\_50, TyrionL\_50, TomBombadil\_51, GeneCoco\_51, SassyCat97\_50, Xavier\_50, Pinkman\_50
- Track 21 : TallGrassMM\_51, Maru\_50, Chipette\_52, MrPhizzler\_51, MiniBoss\_51, DelRivs\_50, Jesabah\_51, Rimu\_51, Selr12\_51, Ricotta\_50, Daffy\_51, Legolas\_51, SirBeauregard\_51, Adriana\_52, Orion\_52, Colbert\_51, KingVeVeVe\_51, Megamind20\_51, PhatCats2014\_52, Orfeu\_50, Yoshand\_52, SilverBell\_51
- Track 22 : Pherdinand\_52
- Track 23 : Doddsville\_51
- Track 24 : Virgeve\_50, Schueller\_50, Veritas\_50
- Track 25 : Duggie\_50
- Track 26 : Antonia\_50, Vivaldi\_52
- Track 27 : DuchessDung\_50
- Track 28 : Aelin\_50
- Track 29 : SDcharge11\_51
- Track 30 : Manad\_51, Lopsy\_50
- Track 31 : KLUcky39\_51
- Track 32 : Schadenfreude\_50
- Track 33 : PallasAthena\_52
- Track 34 : CampRoach\_52
- Track 35 : Soto\_51
- Track 36 : Nathan\_51
- Track 37 : Imvubu\_43
- Track 38 : Indlovu\_48
- Track 39 : LilMcDreamy\_48
- Track 40 : Zenteno07\_55, LittleMinkey\_56
- Track 41 : Hashim76\_53
- Track 42 : BirdsNest\_53
- Track 43 : MasterPo\_50, Bananafish\_50, Phantasmagoria\_50, Kolhan\_50, Faze9\_49, Eaglehorse\_50, Boyle\_50, Ares\_50
- Track 44 : FrenchFry\_50, Lars\_50, Glass\_50, LizLemon\_50
- Track 45 : Calamitous\_50
- Track 46 : Holeinone\_50
- Track 47 : Blocker23\_50, Lephleur\_50, LilSmirk\_50, Kheth\_50, Rhinoforte\_50
- Track 48 : Coffee\_50, Arbiter\_49, Tinciduntolum\_51, Kaleb\_50, Brownie5\_50, West99\_50, Opia\_50, Hedgerow\_50, Allegro\_50, PrinceCharming\_50, Tres\_50,

Rosebush\_49

- Track 49 : ItsyBitsy1\_50
- Track 50 : TA17A\_51, Sabella\_49
- Track 51 : Qyrzula\_47
- Track 52 : Godines\_50
- Track 53 : Vic9\_00049
- Track 54 : Laurie\_49
- Track 55 : Nozo\_49, Philly\_48, Compostia\_50, Corofin\_49, Morty007\_49, Halfpint\_48, Chandler\_49, OrangeOswald\_49, SynergyX\_49, Jackstina\_46, Kamiyu\_49, Akoma\_49, Tydolla\_49, Chentzyk\_49
- Track 56 : Gadjet\_50
- Track 57 : Yahalom\_49, LestyG\_49, Olivio\_48, RomaT\_49, Kronus\_48
- Track 58 : Pipefish\_51
- Track 59 : Phayeta\_50, Marlia\_49, SlippinJimmy\_49
- Track 60 : Rita1961\_49, Obutu\_49, Gervas\_49, Mortcellus\_48, Mulaychimus\_49, MmasiCarm\_49, Glubnar\_50, SwainyDoc\_49
- Track 61 : Phaedrus\_47
- Track 62 : Heathcliff\_49, HarveySr\_49, Devonte\_49, Deenasa\_49, Athena\_50, Briakila\_50, Chalmers\_49, RagingRooster\_49
- Track 63 : GlenHope\_50, Marley1013\_49
- Track 64 : Daisy\_49, TinyTerror\_49, Neos5\_49
- Track 65 : Abinghost\_49, Casbah\_48, Phlyer\_49
- Track 66 : Bernardo\_50
- Track 67 : Shenandoah\_49
- Track 68 : Baloo\_49, Audrey\_49
- Track 69 : YinZ\_49, ChaChing\_49, Ben11\_48
- Track 70 : Prince\_46, VioletZ\_48, Austelle\_47, Lolalove\_47, Mudslide\_46
- Track 71 : Zemanar\_47, Hangman\_46
- Track 72 : JaguarMi\_46, Xincheng\_45
- Track 73 : Lambano\_45, Epah\_45, GinPorsche\_45, Hally898\_45, Antihero\_45, Nanao\_45, Ahwei\_45, Poster\_45
- Track 74 : Apex\_47
- Track 75 : ChrisnMich\_46
- Track 76 : AlanGrant\_48
- Track 77 : Hydro\_46
- Track 78 : JAMaL\_46
- Track 79 : Heath\_45
- Track 80 : Vincenzo\_47
- Track 81 : BobbyK\_47
- Track 82 : Nigel\_45
- Track 83 : Stinger\_45
- Track 84 : JoyceMaria\_46
- Track 85 : Magpie\_45, Fortunato\_47
- Track 86 : Waleliano\_46
- Track 87 : BrownCNA\_48
- Track 88 : LittleDigger\_45, Renkei\_45
- Track 89 : RawrgerThat\_47
- Track 90 : Frederick\_47
- Track 91 : Mithril\_46
- Track 92 : Fanaw\_45
- Track 93 : QueenPie\_45
- Track 94 : Cooper\_47
- Track 95 : StinkyVeggy\_51, KarasumaRum\_51

- Track 96 : EastView9101\_49
- Track 97 : Mysterious\_49
- Track 98 : SirJeffery\_50, Reccee\_51, Rita130\_50
- Track 99 : Nehemiah\_50
- Track 100 : Reprobate\_50
- Track 101 : Rich\_49
- Track 102 : Serendipitous\_50
- Track 103 : Phelemich\_49
- Track 104 : Nangang\_50
- Track 105 : Baee\_50
- Track 106 : DigitDog\_50, Shenyu\_50
- Track 107 : Acadian\_51
- Track 108 : Suigeneris\_51, Donny\_51
- Track 109 : Hosp\_042
- Track 110 : 39HC\_044, 40BC\_044
- Track 111 : ForDig\_44
- Track 112 : Jolie1\_044
- Track 113 : KayaCho\_44
- Track 114 : Saguaro\_53
- Track 115 : Thonko\_49
- Track 116 : Knocker\_52
- Track 117 : Quesadilla\_52
- Track 118 : PenguinLover67\_52
- Track 119 : Rinkes\_51
- Track 120 : CRB2\_52
- Track 121 : Funsized\_54
- Track 122 : Gustav\_32
- Track 123 : Upyo\_30
- Track 124 : Puppies\_31
- Track 125 : Applejacks\_31
- Track 126 : Morrissey\_33
- Track 127 : Widow\_31
- Track 128 : Trine\_30
- Track 129 : Mahdia\_31
- Track 130 : TraderJ\_47
- Track 131 : MossRose\_47
- Track 132 : Yeshua\_47, Wooper\_47
- Track 133 : Coldpizza\_46
- Track 134 : Sour\_49
- Track 135 : CaiB\_47
- Track 136 : Axumite\_44
- Track 137 : AnarQue\_47
- Track 138 : Evaa\_44
- Track 139 : NHagos\_45, AksarBAT\_45
- Track 140 : Sisko\_44, AnClar\_45, Yago84\_44
- Track 141 : FelixTres\_47
- Track 142 : Fresco\_44, Ligma\_44, Shatter\_44
- Track 143 : CloverMinnie\_47, Blackpen\_47
- Track 144 : Mariokart\_44
- Track 145 : LittleMunchkin\_46
- Track 146 : BiggityBass\_44
- Track 147 : MakoManhole\_47
- Track 148 : CharlottesWeb\_44

- Track 149 : BobRoss2024\_43
- Track 150 : BFK20\_ORF40
- Track 151 : EmiRose\_30
- Track 152 : Pine5\_42
- Track 153 : TPA2\_57

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

The start number called the most often in the published annotations is 76, it was called in 218 of the 448 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU\_52, Altwerkus\_50, Andre\_52, Aonishiki\_52, Ashraf\_51, Badfish\_52, Banjo\_50, BatteryCK\_50, Beaglebox\_50, Bishoperium\_50, BlackStallion\_52, BlueHusk\_51, Bluephacebaby\_50, BoogieWoogie\_50, Brilliant\_51, Buckeye\_51, Burr\_50, CamL\_51, CampRoach\_52, Cannibal\_51, Carthage\_49, Caspiroi\_50, Chaelin\_51, Chah\_53, Charles1\_51, CharlieGBrown\_50, CheetO\_51, Cher\_50, Childish\_50, Chorkpop\_51, Cobra\_51, Cornbread\_50, Cornobble\_50, Craff\_52, DaddyDaniels\_51, Daka\_52, Dati\_51, Derpp\_50, Dice\_50, Dingo\_51, Dione\_50, DirtJuice\_51, DoesntMatter\_50, DonSanchon\_50, Durga\_52, ElvisPhasley\_52, Emiris\_52, EmpTee\_51, Eremos\_51, Etaye\_51, Eugenia\_51, Fang\_52, FluffyNinja\_52, Fozzie\_50, Frankicide\_51, FremontTroll\_51, Freya\_50, FriarPreacher\_50, Fringe\_52, FugateOSU\_50, Gareth\_50, GeneCoco\_51, Giraffe\_51, Gophee\_51, Grand2040\_50, Gwennie1\_51, Gyarad\_0051, HSavage\_51, Haimas\_51, Haleema\_50, Hamish\_51, Happabalu\_51, Hartsy\_51, Harvey\_51, Held\_51, Hertubise\_51, Hetaeria\_51, HighStump\_51, HogWash\_51, Horchata\_51, ImtiyazSitla\_51, Inchworm\_52, Indlovu\_48, Inverness\_51, Iridessa\_51, Iridoclysis\_51, IsaacEli\_52, JacAttac\_52, JangoPhett\_51, Jillium\_50, Kahve\_50, Kailash\_51, Katniss\_52, Khan1\_51, Kikipoo\_52, Kimbrough\_51, KingTut\_42, KlimbOn\_51, Kloppinator\_52, Kwadwo\_50, Kwksand96\_50, Labeouficaum\_50, LasagnaCat\_52, Lasso\_51, Lego3393\_50, Lehmann\_51, LeiMonet\_52, LemonSlice\_51, Longacauda\_50, Lopsy\_50, LostAndPhound\_50, LuckyMarjie\_50, Lulwa\_51, Lumine\_50, MRabcd\_50, Mag7\_50, Magic8\_51, Mana\_50, Manad\_51, Maskar\_51, Matalotodo\_51, Mcshane\_50, Mecca\_50, Megatron\_52, Melc17\_51, MelsMeow\_51, Mesmerelda\_50, MichaelPhcott\_50, Mikota\_51, MitKao\_51, Morgushi\_51, Morty\_52, Mosaic\_50, Murdoc\_51, Mutante\_50, Nacho\_0052, Newman\_51, Nicole21\_51, Numberten\_51, Nyala\_50, OSmaximus\_52, Olak\_50, Oline\_50, Olive\_51, OliverWalter\_51, Omniscient\_51, PG1\_52, Pacifista\_50, Phamished\_52, Phareon\_51, PhenghisKhan\_50, Pherdinand\_52, Phergie\_51, Phipps\_51, Phleuron\_50, PhrankReynolds\_49, PhrodoBaggins\_51, Phunky\_51, Piglet\_0051, Pinkman\_50, Pipsqueak\_51, Placalicious\_50, Plmatters\_51, Podrick\_51, Pops\_51, Potter\_50, Prickles\_51, ProfessorX\_51, Puhltonio\_51, QueenBeane\_51, Quisquilliae\_51, RedMaple\_51, RedRaider89\_53, Riggan\_51, Robyn\_50, Roliet\_51, Roscoe\_52, Roy17\_51, Samaymay\_51, SassyCat97\_50, Scoot17C\_52, Scrick\_51, Serendipity\_51, Serpentine\_0051, ShadowBud\_51, Sheila\_51, ShiVal\_51, Sigman\_52, Simielle\_50, Skippy\_51, Slatt\_51, Soile\_51, Solosis\_50, Sophia\_50, Soto\_51, Spartan300\_51, Squid\_51, Squiggle\_51, Surely\_51, Swish\_52, Telesworld\_50, Thora\_51, ThreeOh3D2\_52, Timmi\_50, TomBombadil\_51, Tomlarah\_51, Toni\_50, TooFast2Furius\_54, Tooj\_51, Triad\_51, True\_50, Trypo\_52, TyrionL\_50, UAch1\_51, UncleHowie\_51, Usavi\_51, Vaishali24\_50, Vaticameos\_47,

Virapocalypse\_51, Vista\_51, Vortex\_51, Wallhey\_50, Waterdiva\_51, Weher20\_51, Windsor\_50, Xavier\_50, YouGoGlencoco\_51, Zaider\_52, Zelda\_51, Zonia\_51,

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

- Adriana\_52, Anderson\_51, AngelCake\_51, Boehler\_51, Chipette\_52, Chunky\_51, Colbert\_51, Daffy\_51, DelRivs\_50, Doddsville\_51, DoIOn\_54, Gwilliam\_51, HenryJackson\_50, Jesabah\_51, KLUcky39\_51, KingVeVeVe\_51, LeeLot\_51, Legolas\_51, Lulumae\_50, Maru\_50, Megamind20\_51, MiniBoss\_51, MrPhizzler\_51, Mulan\_51, Oosterbaan\_51, Orfeu\_50, Orion\_52, Orwigg\_50, PallasAthena\_52, PenguinLover67\_52, PhatCats2014\_52, PhatLouie\_51, Ricotta\_50, Rimu\_51, Riverton\_50, SallyH\_52, Selr12\_51, SilverBell\_51, SirBeauregard\_51, Suffolk\_51, Swiphy\_51, TallGrassMM\_51, Valjean\_51, Yoshand\_52,

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

- 39HC\_044, 40BC\_044, Abinghost\_49, AbsoluteMadLad\_50, Acadian\_51, Aelin\_50, Ahwei\_45, Akoma\_49, AksarBAT\_45, AlanGrant\_48, Aleia\_51, Allegro\_50, AltPhacts\_51, AnClar\_45, AnarQue\_47, Antihero\_45, Antonia\_50, Apex\_47, Apizium\_51, Applejacks\_31, Arbiter\_49, Ares\_50, Athena\_50, Audrey\_49, Austelle\_47, Axumite\_44, BFK20\_ORF40, Bae\_50, Baloo\_49, Bananafish\_50, Basato\_52, Ben11\_48, Bernardo\_50, BiggityBass\_44, BirdsNest\_53, Blackpen\_47, BlacksBerry\_50, Blocker23\_50, BobRoss2024\_43, BobbyK\_47, Boyle\_50, Briakila\_50, BrownCNA\_48, Brownie5\_50, CRB2\_52, CaiB\_47, Calamitous\_50, Casbah\_48, Causa\_67, ChaChing\_49, Chalmers\_49, Chandler\_49, CharlottesWeb\_44, Chentzyk\_49, ChrisnMich\_46, Chuni\_50, Chute\_50, CloverMinnie\_47, Coffee\_50, Coldpizza\_46, Coletti\_51, Compostia\_50, Cooper\_47, Corofin\_49, Cosmolli16\_50, Crownjwl\_51, Daisy\_49, Deenasa\_49, Devonte\_49, DigitDog\_50, Donny\_51, DuchessDung\_50, Duggie\_50, Eaglehorse\_50, EastView9101\_49, EmiRose\_30, Epah\_45, Evaa\_44, Fanaw\_45, Faze9\_49, FelixTres\_47, Flake\_53, FleetyMac\_52, ForDig\_44, Fortunato\_47, Frederick\_47, FrenchFry\_50, Fresco\_44, Funsized\_54, Gadget\_50, Gervas\_49, GinPorsche\_45, Glass\_50, GlenHope\_50, Glubnar\_50, Godines\_50, Gustav\_32, Halfpint\_48, Hally898\_45, Hangman\_46, HarveySr\_49, Hashim76\_53, Heath\_45, Heathcliff\_49, Hedgerow\_50, Hocus\_50, Holeinone\_50, Hosp\_042, Hydro\_46, Imvubu\_43, ItsyBitsy1\_50, JAMaL\_46, JDog\_50, Jackstina\_46, JaguarMi\_46, JakeO\_50, Jiminy\_50, Jiraiya\_50, Jolie1\_044, JoyceMaria\_46, Kaleb\_50, Kamiyu\_49, KarasumaRum\_51, KayaCho\_44, Keitherie\_51, Kheth\_50, Knocker\_52, Kolhan\_50, Kronus\_48, Lambano\_45, Lars\_50, Larson\_53, Laurie\_49, Lephleur\_50, LestyG\_49, Ligma\_44, LilMcDreamy\_48, LilSmirk\_50, LittleDigger\_45, LittleMinkey\_56, LittleMunchkin\_46, LizLemon\_50, Lolalove\_47, Magpie\_45, Mahdia\_31, MakoManhole\_47, Mariokart\_44, Marley1013\_49, Marlia\_49, MasterPo\_50, Mesh1\_51, Mithril\_46, MmasiCarm\_49, Morrissey\_33, Mortcellus\_48, Morty007\_49, MossRose\_47, Mudslide\_46, Mulaychimus\_49, Mysterious\_49, NHagos\_45, Nanao\_45, Nangang\_50, Nathan\_51, Nehemiah\_50, Neos5\_49, Nigel\_45, Nozo\_49, Obutu\_49, Olivio\_48, Opia\_50, OrangeOswald\_49, Phaedrus\_47, Phantasmagoria\_50, Phayeta\_50, Phelemich\_49, Philly\_48, Phlyer\_49, Pine5\_42, PinheadLarry\_51, Pipefish\_51, Plata\_51, Poster\_45, PrinceCharming\_50, Prince\_46, Puppies\_31, QueenPie\_45, Quesadilla\_52, Qyrzula\_47, RagingRooster\_49, RawrgerThat\_47, Reccee\_51, Renkei\_45, Reprobate\_50, Rhinoforte\_50, Rich\_49, Rinkes\_51, Rita130\_50, Rita1961\_49, RomaT\_49, Rosebush\_49, SDcharge11\_51, Sabella\_49, Saguaro\_53, Schadenfreude\_50, Schueller\_50, Serendipitous\_50, Shatter\_44, Shenandoah\_49, Shenyu\_50, SirJeffery\_50, Sisko\_44, SlippinJimmy\_49, Sour\_49, StAugustine\_65, Stinger\_45, StinkyVeggy\_51, Struggle\_50, Suigeneris\_51, SwainyDoc\_49, SynergyX\_49, TA17A\_51, TPA2\_57, Thonko\_49, Thunderbird\_50,

Tincidunt\_solum\_51, TinyTerror\_49, TraderJ\_47, Tres\_50, Trine\_30, Tydolla\_49, Upyo\_30, Veritas\_50, Vic9\_00049, Vincenzo\_47, VioletZ\_48, Virgeve\_50, Vivaldi\_52, Waleliano\_46, West99\_50, Widow\_31, Wooper\_47, Xincheng\_45, Yago84\_44, Yahalom\_49, Yeshua\_47, Yinz\_49, Zemanar\_47, Zenteno07\_55,

### Summary by start number:

#### Start 16:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PenguinLover67\_52 (B9),

#### Start 28:

- Found in 12 of 523 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 6 of 448
- Called 75.0% of time when present
- Phage (with cluster) where this start called: AksarBAT\_45 (DR), AnarQue\_47 (DR), Blackpen\_47 (DR), CaiB\_47 (DR), CloverMinnie\_47 (DR), FelixTres\_47 (DR), MakoManhole\_47 (DR), MossRose\_47 (DR), NHagos\_45 (DR),

#### Start 36:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gadget\_50 (B3),

#### Start 38:

- Found in 55 of 523 ( 10.5% ) of genes in pham
- Manual Annotations of this start: 9 of 448
- Called 23.6% of time when present
- Phage (with cluster) where this start called: Audrey\_49 (B3), Baloo\_49 (B3), GlenHope\_50 (B3), Kronus\_48 (B3), LestyG\_49 (B3), Marley1013\_49 (B3), Marlia\_49 (B3), Olivio\_48 (B3), Phayeta\_50 (B3), RomaT\_49 (B3), Shenandoah\_49 (B3), SlippinJimmy\_49 (B3), Yahalom\_49 (B3),

#### Start 40:

- Found in 4 of 523 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Axumite\_44 (DR),

#### Start 41:

- Found in 59 of 523 ( 11.3% ) of genes in pham
- Manual Annotations of this start: 43 of 448
- Called 76.3% of time when present
- Phage (with cluster) where this start called: Abinghost\_49 (B3), Akoma\_49 (B3), Athena\_50 (B3), Ben11\_48 (B3), Bernardo\_50 (B3), Briakila\_50 (B3), Casbah\_48 (B3), ChaChing\_49 (B3), Chalmers\_49 (B3), Chandler\_49 (B3), Chentzyk\_49 (B3), Compostia\_50 (B3), Corofin\_49 (B3), Daisy\_49 (B3), Deenasa\_49 (B3), Devonte\_49 (B3), Fresco\_44 (DR), Gervas\_49 (B3), Glubnar\_50 (B3), Halfpint\_48 (B3), HarveySr\_49 (B3), Heathcliff\_49 (B3), Jackstina\_46 (B3), Kamiyu\_49 (B3), Ligma\_44 (DR), MmasiCarm\_49 (B3), Mortcellus\_48 (B3), Morty007\_49 (B3), Mulaychimus\_49

(B3), Neos5\_49 (B3), Nozo\_49 (B3), Obutu\_49 (B3), OrangeOswald\_49 (B3), Phaedrus\_47 (B3), Philly\_48 (B3), Phlyer\_49 (B3), Pipefish\_51 (B3), RagingRooster\_49 (B3), Rita1961\_49 (B3), Shatter\_44 (DR), SwainyDoc\_49 (B3), SynergyX\_49 (B3), TinyTerror\_49 (B3), Tydolla\_49 (B3), Yinz\_49 (B3),

Start 43:

- Found in 18 of 523 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 6 of 448
- Called 33.3% of time when present
- Phage (with cluster) where this start called: AnClar\_45 (DR), BiggityBass\_44 (DR), LittleMunchkin\_46 (DR), Sisko\_44 (DR), Sour\_49 (DR), Yago84\_44 (DR),

Start 44:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Evaa\_44 (DR),

Start 45:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Coldpizza\_46 (DR),

Start 46:

- Found in 3 of 523 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 66.7% of time when present
- Phage (with cluster) where this start called: LittleMinkey\_56 (B13), Zenteno07\_55 (B13),

Start 47:

- Found in 2 of 523 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdsNest\_53 (B13), Hashim76\_53 (B13),

Start 64:

- Found in 2 of 523 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Mariokart\_44 (DR),

Start 66:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilMcDreamy\_48 (B12),

Start 68:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 448

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Quesadilla\_52 (B9),

Start 69:

- Found in 2 of 523 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Funsized\_54 (B9), Rinkes\_51 (B9),

Start 70:

- Found in 8 of 523 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 3 of 448
- Called 87.5% of time when present
- Phage (with cluster) where this start called: 39HC\_044 (B6), 40BC\_044 (B6), CRB2\_52 (B9), ForDig\_44 (B6), Hosp\_042 (B6), Jolie1\_044 (B6), KayaCho\_44 (B6),

Start 72:

- Found in 35 of 523 ( 6.7% ) of genes in pham
- Manual Annotations of this start: 9 of 448
- Called 25.7% of time when present
- Phage (with cluster) where this start called: Apex\_47 (B4), BrownCNA\_48 (B4), ChrisnMich\_46 (B4), Fortunato\_47 (B4), Hangman\_46 (B4), JAMaL\_46 (B4), Magpie\_45 (B4), Stinger\_45 (B4), Zemanar\_47 (B4),

Start 73:

- Found in 35 of 523 ( 6.7% ) of genes in pham
- Manual Annotations of this start: 20 of 448
- Called 80.0% of time when present
- Phage (with cluster) where this start called: AbsoluteMadLad\_50 (B1), Aelin\_50 (B1), Aleia\_51 (B1), AltPhacts\_51 (B1), Apizium\_51 (B1), Basato\_52 (B1), BlacksBerry\_50 (B1), Chuni\_50 (B1), Chute\_50 (B1), Coletti\_51 (B1), Cosmolli16\_50 (B1), DuchessDung\_50 (B1), Flake\_53 (B1), FleetyMac\_52 (B1), Hocus\_50 (B1), JDog\_50 (B1), JakeO\_50 (B1), Jiminy\_50 (B1), Keitherie\_51 (B1), Larson\_53 (B1), Mesh1\_51 (B1), PinheadLarry\_51 (B1), Plata\_51 (B1), Schueller\_50 (B1), Struggle\_50 (B1), Thunderbird\_50 (B1), Veritas\_50 (B1), Virgeve\_50 (B1),

Start 74:

- Found in 19 of 523 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 9 of 448
- Called 78.9% of time when present
- Phage (with cluster) where this start called: Acadian\_51 (B5), Baee\_50 (B5), DigitDog\_50 (B5), Donny\_51 (B5), EastView9101\_49 (B5), KarasumaRum\_51 (B5), Mysterious\_49 (B5), Nangang\_50 (B5), Nehemiah\_50 (B5), Reprobate\_50 (B5), Rich\_49 (B5), Serendipitous\_50 (B5), Shenyu\_50 (B5), StinkyVeggy\_51 (B5), Suigeneris\_51 (B5),

Start 75:

- Found in 40 of 523 ( 7.6% ) of genes in pham
- Manual Annotations of this start: 15 of 448
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Ahwei\_45 (B4), Antihero\_45 (B4), Austelle\_47 (B4), BobbyK\_47 (B4), Epah\_45 (B4), Fanaw\_45 (B4), Frederick\_47 (B4), GinPorsche\_45 (B4), Hally898\_45 (B4), Heath\_45 (B4), Hydro\_46 (B4),

JaguarMi\_46 (B4), JoyceMaria\_46 (B4), Lambano\_45 (B4), LittleDigger\_45 (B4), Lolalove\_47 (B4), Mithril\_46 (B4), Mudslide\_46 (B4), Nanao\_45 (B4), Nigel\_45 (B4), Poster\_45 (B4), Prince\_46 (B4), QueenPie\_45 (B4), RawrgerThat\_47 (B4), Renkei\_45 (B4), Thonko\_49 (B8), Vincenzo\_47 (B4), VioletZ\_48 (B4), Waleliano\_46 (B4), Xincheng\_45 (B4),

Start 76:

- Found in 274 of 523 ( 52.4% ) of genes in pham
- Manual Annotations of this start: 218 of 448
- Called 83.9% of time when present
- Phage (with cluster) where this start called: ABU\_52 (B1), Altwerkus\_50 (B1), Andre\_52 (B1), Aonishiki\_52 (B1), Ashraf\_51 (B1), Badfish\_52 (B1), Banjo\_50 (B1), BatteryCK\_50 (B1), Beaglebox\_50 (B1), Bishoperium\_50 (B1), BlackStallion\_52 (B1), BlueHusk\_51 (B1), Bluephacebaby\_50 (B1), BoogieWoogie\_50 (B1), Brilliant\_51 (B1), Buckeye\_51 (B1), Burr\_50 (B1), CamL\_51 (B1), CampRoach\_52 (B1), Cannibal\_51 (B1), Carthage\_49 (B1), Caspiroi\_50 (B1), Chaelin\_51 (B1), Chah\_53 (B1), Charles1\_51 (B1), CharlieGBrown\_50 (B1), CheetO\_51 (B1), Cher\_50 (B1), Childish\_50 (B1), Chorkpop\_51 (B1), Cobra\_51 (B1), Cornbread\_50 (B1), Cornobble\_50 (B1), Craff\_52 (B1), DaddyDaniels\_51 (B1), Daka\_52 (B1), Dati\_51 (B1), Derpp\_50 (B1), Dice\_50 (B1), Dingo\_51 (B1), Dione\_50 (B1), DirtJuice\_51 (B1), DoesntMatter\_50 (B1), DonSancho\_50 (B1), Durga\_52 (B1), ElvisPhasley\_52 (B1), Emiris\_52 (B1), EmpTee\_51 (B1), Eremos\_51 (B1), Etaye\_51 (B1), Eugenia\_51 (B1), Fang\_52 (B1), FluffyNinja\_52 (B1), Fozzie\_50 (B1), Frankicide\_51 (B1), FremontTroll\_51 (B1), Freya\_50 (B1), FriarPreacher\_50 (B1), Fringe\_52 (B1), FugateOSU\_50 (B1), Gareth\_50 (B1), GeneCoco\_51 (B1), Giraffe\_51 (B1), Gophe\_51 (B1), Grand2040\_50 (B1), Gwennie1\_51 (B1), Gyarad\_0051 (B1), HSavage\_51 (B1), Haimas\_51 (B1), Haleema\_50 (B1), Hamish\_51 (B1), Happabalu\_51 (B1), Hartsy\_51 (B1), Harvey\_51 (B1), Held\_51 (B1), Hertubise\_51 (B1), Hetaeria\_51 (B1), HighStump\_51 (B1), HogWash\_51 (B1), Horchata\_51 (B1), ImtiyazSitla\_51 (B1), Inchworm\_52 (B1), Indlovu\_48 (B1), Inverness\_51 (B1), Iridessa\_51 (B1), Iridoclysis\_51 (B1), IsaacEli\_52 (B1), JacAttac\_52 (B1), JangoPhett\_51 (B1), Jilium\_50 (B1), Kahve\_50 (B1), Kailash\_51 (B1), Katniss\_52 (B1), Khan1\_51 (B1), Kikipoo\_52 (B1), Kimbrough\_51 (B1), KingTut\_42 (B1), KlimbOn\_51 (B1), Kloppinator\_52 (B1), Kwadwo\_50 (B1), Kwksand96\_50 (B1), Labeoufcaum\_50 (B1), LasagnaCat\_52 (B1), Lasso\_51 (B1), Lego3393\_50 (B1), Lehmann\_51 (B1), LeiMonet\_52 (B1), LemonSlice\_51 (B1), Longacauda\_50 (B1), Lopsy\_50 (B1), LostAndPhound\_50 (B1), LuckyMarjie\_50 (B1), Lulwa\_51 (B1), Lumine\_50 (B1), MRabcd\_50 (B1), Mag7\_50 (B1), Magic8\_51 (B1), Mana\_50 (B1), Manad\_51 (B1), Maskar\_51 (B1), Matalotodo\_51 (B1), Mcshane\_50 (B1), Mecca\_50 (B1), Megatron\_52 (B1), Melc17\_51 (B1), MelsMeow\_51 (B1), Mesmerelda\_50 (B1), MichaelPhcott\_50 (B1), Mikota\_51 (B1), MitKao\_51 (B1), Morgushi\_51 (B1), Morty\_52 (B1), Mosaic\_50 (B1), Murdoc\_51 (B1), Mutante\_50 (B1), Nacho\_0052 (B1), Newman\_51 (B1), Nicole21\_51 (B1), Numberten\_51 (B1), Nyala\_50 (B1), OSmaximus\_52 (B1), Olak\_50 (B1), Oline\_50 (B1), Olive\_51 (B1), OliverWalter\_51 (B1), Omniscient\_51 (B1), PG1\_52 (B1), Pacifista\_50 (B1), Phamished\_52 (B1), Phareon\_51 (B1), PhenghisKhan\_50 (B1), Pherdinand\_52 (B1), Phergie\_51 (B1), Phipps\_51 (B1), Phleuron\_50 (B1), PhrankReynolds\_49 (B1), PhrodoBaggins\_51 (B1), Phunky\_51 (B1), Piglet\_0051 (B1), Pinkman\_50 (B1), Pipsqueak\_51 (B1), Placalicious\_50 (B1), Plmatters\_51 (B1), Podrick\_51 (B1), Pops\_51 (B1), Potter\_50 (B1), Prickles\_51 (B1), ProfessorX\_51 (B1), Puhitonia\_51 (B1), QueenBeane\_51 (B1), Quisquillae\_51 (B1), RedMaple\_51 (B1), RedRaider89\_53 (B1), Riggan\_51 (B1), Robyn\_50 (B1), Roliet\_51 (B1), Roscoe\_52 (B1), Roy17\_51 (B1), Samaymay\_51 (B1), SassyCat97\_50 (B1), Scoot17C\_52 (B1), Scrick\_51 (B1),

Serendipity\_51 (B1), Serpentine\_0051 (B1), ShadowBud\_51 (B1), Sheila\_51 (B1), ShiVal\_51 (B1), Sigman\_52 (B1), Simielle\_50 (B1), Skippy\_51 (B1), Slatt\_51 (B1), Soile\_51 (B1), Solosis\_50 (B1), Sophia\_50 (B1), Soto\_51 (B1), Spartan300\_51 (B1), Squid\_51 (B1), Squiggle\_51 (B1), Surely\_51 (B1), Swish\_52 (B1), Telesworld\_50 (B1), Thora\_51 (B1), ThreeOh3D2\_52 (B1), Timmi\_50 (B1), TomBombadil\_51 (B1), Tomlarah\_51 (B1), Toni\_50 (B1), TooFast2Furius\_54 (B1), Tooj\_51 (B1), Triad\_51 (B1), True\_50 (B1), Trypo\_52 (B1), TyrionL\_50 (B1), UAch1\_51 (B1), UncleHowie\_51 (B1), Usavi\_51 (B1), Vaishali24\_50 (B1), Vaticameos\_47 (B1), Virapocalypse\_51 (B1), Vista\_51 (B1), Vortex\_51 (B1), Wallhey\_50 (B1), Waterdiva\_51 (B1), Weher20\_51 (B1), Windsor\_50 (B1), Xavier\_50 (B1), YouGoGlencoco\_51 (B1), Zaider\_52 (B1), Zelda\_51 (B1), Zonia\_51 (B1),

Start 77:

- Found in 3 of 523 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 2 of 448
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Imvubu\_43 (B10), Knocker\_52 (B9),

Start 78:

- Found in 345 of 523 ( 66.0% ) of genes in pham
- Manual Annotations of this start: 78 of 448
- Called 25.2% of time when present
- Phage (with cluster) where this start called: Adriana\_52 (B1), Allegro\_50 (B2), Anderson\_51 (B1), AngelCake\_51 (B1), Antonia\_50 (B1), Arbiter\_49 (B2), Ares\_50 (B2), Bananafish\_50 (B2), Blocker23\_50 (B2), Boehler\_51 (B1), Boyle\_50 (B2), Brownie5\_50 (B2), Calamitous\_50 (B2), Chipette\_52 (B1), Chunky\_51 (B1), Coffee\_50 (B2), Colbert\_51 (B1), Crownjwl\_51 (B1), Daffy\_51 (B1), DelRivs\_50 (B1), Doddsville\_51 (B1), DolOn\_54 (B1), Duggie\_50 (B1), Eaglehorse\_50 (B2), Faze9\_49 (B2), FrenchFry\_50 (B2), Glass\_50 (B2), Godines\_50 (B2), Gwilliam\_51 (B1), Hedgerow\_50 (B2), HenryJackson\_50 (B1), Holeinone\_50 (B2), ItsyBitsy1\_50 (B2), Jesabah\_51 (B1), Jiraiya\_50 (B1), KLUcky39\_51 (B1), Kaleb\_50 (B2), Kheth\_50 (B2), KingVeVeVe\_51 (B1), Kolhan\_50 (B2), Lars\_50 (B2), Laurie\_49 (B2), LeeLot\_51 (B1), Legolas\_51 (B1), Lephleur\_50 (B2), LilSmirk\_50 (B2), LizLemon\_50 (B2), Lulumae\_50 (B1), Maru\_50 (B1), MasterPo\_50 (B2), Megamind20\_51 (B1), MiniBoss\_51 (B1), MrPhizzler\_51 (B1), Mulan\_51 (B1), Nathan\_51 (B1), Oosterbaan\_51 (B1), Opia\_50 (B2), Orfeu\_50 (B1), Orion\_52 (B1), Orwigg\_50 (B1), PallasAthena\_52 (B1), Phantasmagoria\_50 (B2), PhatCats2014\_52 (B1), PhatLouie\_51 (B1), PrinceCharming\_50 (B2), Qyrzula\_47 (B2), Rhinoforte\_50 (B2), Ricotta\_50 (B1), Rimu\_51 (B1), Riverton\_50 (B1), Rosebush\_49 (B2), Sabella\_49 (B2), Schadenfreude\_50 (B1), Selr12\_51 (B1), SilverBell\_51 (B1), SirBeauregard\_51 (B1), Suffolk\_51 (B1), Swiphy\_51 (B1), TA17A\_51 (B2), TallGrassMM\_51 (B1), Tinciduntolum\_51 (B2), Tres\_50 (B2), Valjean\_51 (B1), Vic9\_00049 (B2), Vivaldi\_52 (B1), West99\_50 (B2), Yoshand\_52 (B1),

Start 79:

- Found in 329 of 523 ( 62.9% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 0.6% of time when present
- Phage (with cluster) where this start called: Cooper\_47 (B4), SallyH\_52 (B1),

Start 81:

- Found in 23 of 523 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 2 of 448

- Called 21.7% of time when present
- Phage (with cluster) where this start called: AlanGrant\_48 (B4), Phelemich\_49 (B5), Reccee\_51 (B5), Rita130\_50 (B5), SirJeffery\_50 (B5),

Start 89:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Saguaro\_53 (B7),

Start 97:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TPA2\_57 (singleton),

Start 108:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SDcharge11\_51 (B1),

Start 118:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trine\_30 (CD),

Start 119:

- Found in 2 of 523 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Upyo\_30 (CD),

Start 120:

- Found in 1 of 523 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BFK20\_ORF40 (singleton),

Start 124:

- Found in 19 of 523 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 2 of 448
- Called 21.1% of time when present
- Phage (with cluster) where this start called: CharlottesWeb\_44 (DR), TraderJ\_47 (DR), Wooper\_47 (DR), Yeshua\_47 (DR),

Start 125:

- Found in 2 of 523 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 448
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Morrissey\_33 (CD), Pine5\_42 (singleton),

Start 126:

- Found in 27 of 523 ( 5.2% ) of genes in pham
- Manual Annotations of this start: 4 of 448
- Called 18.5% of time when present
- Phage (with cluster) where this start called: Applejacks\_31 (CD), Gustav\_32 (CD), Mahdia\_31 (CD), Puppies\_31 (CD), Widow\_31 (CD),

Start 127:

- Found in 60 of 523 ( 11.5% ) of genes in pham
- Manual Annotations of this start: 3 of 448
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Causa\_67 (AI), EmiRose\_30 (singleton), StAugustine\_65 (AI),

Start 130:

- Found in 4 of 523 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: BobRoss2024\_43 (DR),

### **Summary by clusters:**

There are 17 clusters represented in this pham: singleton, B10, AI, B8, B11, CD, B4, B5, B6, B7, B12, B1, B2, B3, DR, B9, B13,

Info for manual annotations of cluster AI:

- Start number 127 was manually annotated 2 times for cluster AI.

Info for manual annotations of cluster B1:

- Start number 73 was manually annotated 20 times for cluster B1.
- Start number 76 was manually annotated 217 times for cluster B1.
- Start number 78 was manually annotated 42 times for cluster B1.
- Start number 108 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B10:

- Start number 77 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 76 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 66 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 46 was manually annotated 1 time for cluster B13.
- Start number 47 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B2:

- Start number 78 was manually annotated 36 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 36 was manually annotated 1 time for cluster B3.

- Start number 38 was manually annotated 9 times for cluster B3.
- Start number 41 was manually annotated 40 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 72 was manually annotated 9 times for cluster B4.
- Start number 75 was manually annotated 14 times for cluster B4.
- Start number 79 was manually annotated 1 time for cluster B4.
- Start number 81 was manually annotated 1 time for cluster B4.

Info for manual annotations of cluster B5:

- Start number 74 was manually annotated 9 times for cluster B5.
- Start number 81 was manually annotated 1 time for cluster B5.

Info for manual annotations of cluster B6:

- Start number 70 was manually annotated 2 times for cluster B6.

Info for manual annotations of cluster B7:

- Start number 89 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 75 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 16 was manually annotated 1 time for cluster B9.
- Start number 68 was manually annotated 1 time for cluster B9.
- Start number 69 was manually annotated 2 times for cluster B9.
- Start number 70 was manually annotated 1 time for cluster B9.
- Start number 77 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster CD:

- Start number 118 was manually annotated 1 time for cluster CD.
- Start number 119 was manually annotated 1 time for cluster CD.
- Start number 125 was manually annotated 1 time for cluster CD.
- Start number 126 was manually annotated 4 times for cluster CD.

Info for manual annotations of cluster DR:

- Start number 28 was manually annotated 6 times for cluster DR.
- Start number 40 was manually annotated 1 time for cluster DR.
- Start number 41 was manually annotated 3 times for cluster DR.
- Start number 43 was manually annotated 6 times for cluster DR.
- Start number 44 was manually annotated 1 time for cluster DR.
- Start number 45 was manually annotated 1 time for cluster DR.
- Start number 64 was manually annotated 1 time for cluster DR.
- Start number 124 was manually annotated 2 times for cluster DR.

### **Gene Information:**

Gene: 39HC\_044 Start: 43561, Stop: 42131, Start Num: 70

Candidate Starts for 39HC\_044:

(Start: 70 @43561 has 3 MA's), (Start: 79 @43543 has 1 MA's), (112, 43339), (117, 43321), (123, 43267), (133, 43240), (140, 43204), (141, 43192), (166, 43012), (168, 43006), (175, 42988), (177,

42973), (201, 42907), (206, 42865), (209, 42853), (210, 42850), (218, 42778), (220, 42772), (222, 42754), (223, 42751), (234, 42697), (248, 42643), (252, 42613), (256, 42592), (263, 42520), (264, 42499), (267, 42466), (281, 42427), (288, 42382), (291, 42364), (293, 42358), (302, 42313), (304, 42310), (326, 42187),

Gene: 40BC\_044 Start: 43561, Stop: 42131, Start Num: 70

Candidate Starts for 40BC\_044:

(Start: 70 @43561 has 3 MA's), (Start: 79 @43543 has 1 MA's), (112, 43339), (117, 43321), (123, 43267), (133, 43240), (140, 43204), (141, 43192), (166, 43012), (168, 43006), (175, 42988), (177, 42973), (201, 42907), (206, 42865), (209, 42853), (210, 42850), (218, 42778), (220, 42772), (222, 42754), (223, 42751), (234, 42697), (248, 42643), (252, 42613), (256, 42592), (263, 42520), (264, 42499), (267, 42466), (281, 42427), (288, 42382), (291, 42364), (293, 42358), (302, 42313), (304, 42310), (326, 42187),

Gene: ABU\_52 Start: 45373, Stop: 43970, Start Num: 76

Candidate Starts for ABU\_52:

(37, 45538), (Start: 76 @45373 has 218 MA's), (Start: 78 @45370 has 78 MA's), (Start: 79 @45364 has 1 MA's), (85, 45322), (98, 45250), (104, 45229), (129, 45133), (141, 45082), (149, 45016), (150, 45013), (153, 44989), (155, 44962), (168, 44896), (173, 44884), (181, 44848), (195, 44803), (202, 44773), (209, 44734), (213, 44695), (217, 44662), (218, 44659), (222, 44635), (230, 44602), (233, 44581), (240, 44551), (259, 44437), (263, 44395), (264, 44374), (267, 44341), (279, 44269), (281, 44263), (289, 44215), (298, 44170), (304, 44146), (309, 44131), (313, 44107),

Gene: Abinghost\_49 Start: 44867, Stop: 43254, Start Num: 41

Candidate Starts for Abinghost\_49:

(19, 44993), (20, 44987), (24, 44972), (Start: 38 @44876 has 9 MA's), (Start: 41 @44867 has 43 MA's), (62, 44771), (83, 44693), (95, 44558), (Start: 127 @44399 has 3 MA's), (133, 44384), (135, 44372), (141, 44342), (147, 44300), (155, 44222), (186, 44090), (193, 44057), (198, 44048), (212, 43955), (218, 43907), (221, 43892), (222, 43883), (235, 43823), (240, 43799), (258, 43709), (267, 43598), (279, 43565), (280, 43562), (282, 43547), (286, 43526), (292, 43493),

Gene: AbsoluteMadLad\_50 Start: 45250, Stop: 43847, Start Num: 73

Candidate Starts for AbsoluteMadLad\_50:

(Start: 73 @45250 has 20 MA's), (Start: 78 @45247 has 78 MA's), (Start: 79 @45241 has 1 MA's), (85, 45199), (98, 45127), (104, 45106), (129, 45010), (141, 44959), (149, 44893), (150, 44890), (155, 44839), (168, 44773), (173, 44761), (181, 44725), (195, 44680), (202, 44650), (209, 44611), (213, 44572), (217, 44539), (218, 44536), (222, 44512), (230, 44479), (233, 44458), (240, 44428), (259, 44314), (263, 44272), (264, 44251), (267, 44218), (279, 44146), (281, 44140), (289, 44092), (298, 44047), (304, 44023), (309, 44008), (313, 43984),

Gene: Acadian\_51 Start: 46143, Stop: 44758, Start Num: 74

Candidate Starts for Acadian\_51:

(7, 46572), (17, 46419), (37, 46293), (Start: 74 @46143 has 9 MA's), (Start: 81 @46125 has 2 MA's), (110, 45969), (129, 45906), (138, 45876), (159, 45711), (170, 45669), (176, 45651), (179, 45636), (199, 45585), (206, 45534), (218, 45447), (221, 45432), (222, 45423), (232, 45372), (235, 45363), (240, 45339), (241, 45336), (261, 45204), (264, 45171), (267, 45138), (269, 45120), (279, 45066), (287, 45021), (292, 44994), (311, 44913), (313, 44895), (325, 44832),

Gene: Adriana\_52 Start: 45368, Stop: 43968, Start Num: 78

Candidate Starts for Adriana\_52:

(12, 45749), (13, 45704), (17, 45662), (29, 45581), (37, 45536), (Start: 76 @45371 has 218 MA's), (Start: 78 @45368 has 78 MA's), (Start: 79 @45362 has 1 MA's), (85, 45320), (98, 45248), (104, 45227), (129, 45131), (141, 45080), (149, 45014), (150, 45011), (155, 44960), (168, 44894), (173,

44882), (181, 44846), (195, 44801), (202, 44771), (209, 44732), (213, 44693), (217, 44660), (218, 44657), (222, 44633), (230, 44600), (233, 44579), (240, 44549), (259, 44435), (263, 44393), (264, 44372), (267, 44339), (279, 44267), (281, 44261), (289, 44213), (298, 44168), (304, 44144), (309, 44129), (313, 44105),

Gene: Aelin\_50 Start: 44814, Stop: 43411, Start Num: 73

Candidate Starts for Aelin\_50:

(Start: 73 @44814 has 20 MA's), (Start: 78 @44811 has 78 MA's), (Start: 79 @44805 has 1 MA's), (85, 44763), (98, 44691), (104, 44670), (129, 44574), (141, 44523), (149, 44457), (150, 44454), (155, 44403), (168, 44337), (173, 44325), (181, 44289), (195, 44244), (202, 44214), (209, 44175), (213, 44136), (217, 44103), (218, 44100), (222, 44076), (230, 44043), (233, 44022), (240, 43992), (259, 43878), (263, 43836), (264, 43815), (267, 43782), (279, 43710), (281, 43704), (298, 43611), (304, 43587), (309, 43572), (313, 43548),

Gene: Ahwei\_45 Start: 44672, Stop: 43332, Start Num: 75

Candidate Starts for Ahwei\_45:

(Start: 72 @44675 has 9 MA's), (Start: 75 @44672 has 15 MA's), (Start: 79 @44663 has 1 MA's), (80, 44657), (87, 44606), (123, 44459), (141, 44393), (143, 44369), (168, 44207), (175, 44189), (177, 44174), (178, 44171), (185, 44144), (203, 44081), (204, 44072), (216, 43985), (221, 43961), (230, 43919), (231, 43916), (233, 43898), (240, 43868), (248, 43841), (253, 43808), (257, 43787), (258, 43778), (261, 43733), (262, 43727), (263, 43718), (264, 43697), (267, 43664), (281, 43625), (292, 43559), (293, 43556), (311, 43487), (313, 43469),

Gene: Akoma\_49 Start: 44878, Stop: 43265, Start Num: 41

Candidate Starts for Akoma\_49:

(19, 45004), (20, 44998), (24, 44983), (Start: 38 @44887 has 9 MA's), (Start: 41 @44878 has 43 MA's), (62, 44782), (83, 44704), (95, 44569), (Start: 127 @44410 has 3 MA's), (133, 44395), (135, 44383), (141, 44353), (147, 44311), (155, 44233), (186, 44101), (193, 44068), (198, 44059), (212, 43966), (218, 43918), (221, 43903), (222, 43894), (230, 43861), (235, 43834), (240, 43810), (258, 43720), (267, 43609), (279, 43576), (280, 43573), (282, 43558), (286, 43537), (292, 43504),

Gene: AksarBAT\_45 Start: 38886, Stop: 37522, Start Num: 28

Candidate Starts for AksarBAT\_45:

(Start: 28 @38886 has 6 MA's), (32, 38859), (Start: 43 @38808 has 6 MA's), (Start: 124 @38664 has 2 MA's), (141, 38607), (174, 38412), (182, 38373), (210, 38271), (217, 38202), (233, 38121), (240, 38091), (241, 38088), (250, 38043), (253, 38031), (261, 37956), (264, 37923), (267, 37890), (275, 37857), (276, 37845), (277, 37830), (281, 37818), (287, 37779), (292, 37752), (325, 37596),

Gene: AlanGrant\_48 Start: 46262, Stop: 44940, Start Num: 81

Candidate Starts for AlanGrant\_48:

(Start: 75 @46277 has 15 MA's), (Start: 81 @46262 has 2 MA's), (123, 46067), (138, 46022), (141, 46001), (162, 45836), (168, 45815), (169, 45812), (175, 45797), (202, 45698), (204, 45680), (210, 45656), (218, 45584), (221, 45569), (225, 45545), (231, 45524), (233, 45506), (240, 45476), (248, 45449), (253, 45416), (256, 45398), (261, 45341), (264, 45305), (267, 45272), (281, 45233), (292, 45167), (293, 45164), (309, 45101), (311, 45095), (313, 45077),

Gene: Aleia\_51 Start: 44807, Stop: 43404, Start Num: 73

Candidate Starts for Aleia\_51:

(37, 44969), (Start: 73 @44807 has 20 MA's), (Start: 78 @44804 has 78 MA's), (85, 44756), (98, 44684), (104, 44663), (129, 44567), (141, 44516), (149, 44450), (150, 44447), (153, 44423), (155, 44396), (168, 44330), (173, 44318), (181, 44282), (195, 44237), (202, 44207), (209, 44168), (213, 44129), (217, 44096), (218, 44093), (222, 44069), (230, 44036), (233, 44015), (240, 43985), (259, 43871), (263, 43829), (264, 43808), (267, 43775), (279, 43703), (281, 43697), (289, 43649), (298,

43604), (304, 43580), (309, 43565), (313, 43541),

Gene: Allegro\_50 Start: 44855, Stop: 43488, Start Num: 78

Candidate Starts for Allegro\_50:

(Start: 78 @44855 has 78 MA's), (86, 44792), (88, 44777), (115, 44666), (128, 44615), (140, 44567), (145, 44519), (165, 44378), (168, 44369), (187, 44324), (189, 44318), (190, 44312), (195, 44300), (213, 44195), (217, 44162), (221, 44144), (222, 44135), (230, 44102), (235, 44075), (240, 44051), (245, 44024), (251, 43997), (260, 43922), (264, 43877), (267, 43844), (275, 43823), (277, 43817), (284, 43784), (285, 43775), (287, 43766), (322, 43604), (325, 43586), (330, 43529),

Gene: AltPhacts\_51 Start: 45223, Stop: 43820, Start Num: 73

Candidate Starts for AltPhacts\_51:

(Start: 73 @45223 has 20 MA's), (Start: 78 @45220 has 78 MA's), (Start: 79 @45214 has 1 MA's), (85, 45172), (98, 45100), (104, 45079), (129, 44983), (141, 44932), (149, 44866), (150, 44863), (155, 44812), (168, 44746), (173, 44734), (181, 44698), (195, 44653), (202, 44623), (209, 44584), (213, 44545), (217, 44512), (218, 44509), (222, 44485), (230, 44452), (233, 44431), (240, 44401), (259, 44287), (263, 44245), (264, 44224), (267, 44191), (279, 44119), (281, 44113), (289, 44065), (298, 44020), (304, 43996), (309, 43981), (313, 43957),

Gene: Altwerkus\_50 Start: 44929, Stop: 43526, Start Num: 76

Candidate Starts for Altwerkus\_50:

(12, 45307), (13, 45262), (17, 45220), (29, 45139), (37, 45094), (Start: 76 @44929 has 218 MA's), (Start: 78 @44926 has 78 MA's), (Start: 79 @44920 has 1 MA's), (85, 44878), (98, 44806), (104, 44785), (129, 44689), (141, 44638), (149, 44572), (150, 44569), (155, 44518), (168, 44452), (173, 44440), (181, 44404), (195, 44359), (202, 44329), (209, 44290), (213, 44251), (217, 44218), (218, 44215), (222, 44191), (230, 44158), (233, 44137), (240, 44107), (259, 43993), (263, 43951), (264, 43930), (267, 43897), (279, 43825), (281, 43819), (289, 43771), (298, 43726), (304, 43702), (309, 43687), (313, 43663),

Gene: AnClar\_45 Start: 40751, Stop: 39486, Start Num: 43

Candidate Starts for AnClar\_45:

(Start: 43 @40751 has 6 MA's), (50, 40733), (55, 40712), (Start: 124 @40625 has 2 MA's), (Start: 126 @40619 has 4 MA's), (134, 40598), (141, 40568), (194, 40310), (201, 40292), (210, 40235), (218, 40163), (221, 40148), (222, 40139), (226, 40121), (230, 40106), (235, 40079), (240, 40055), (253, 39995), (261, 39920), (264, 39887), (267, 39854), (270, 39845), (275, 39821), (276, 39809), (287, 39743), (292, 39716), (295, 39704), (318, 39596), (319, 39593), (325, 39560),

Gene: AnarQue\_47 Start: 40325, Stop: 38934, Start Num: 28

Candidate Starts for AnarQue\_47:

(3, 40664), (4, 40640), (8, 40529), (11, 40484), (Start: 28 @40325 has 6 MA's), (32, 40298), (Start: 43 @40247 has 6 MA's), (82, 40103), (Start: 126 @40097 has 4 MA's), (138, 40064), (141, 40046), (144, 40013), (146, 40007), (156, 39917), (172, 39857), (192, 39788), (201, 39767), (206, 39725), (215, 39653), (217, 39641), (221, 39623), (222, 39614), (230, 39581), (240, 39530), (249, 39500), (252, 39473), (253, 39470), (264, 39362), (268, 39320), (272, 39287), (277, 39242), (281, 39230), (286, 39197), (287, 39191), (292, 39164),

Gene: Anderson\_51 Start: 45225, Stop: 43825, Start Num: 78

Candidate Starts for Anderson\_51:

(37, 45393), (Start: 76 @45228 has 218 MA's), (Start: 78 @45225 has 78 MA's), (Start: 79 @45219 has 1 MA's), (85, 45177), (98, 45105), (104, 45084), (129, 44988), (141, 44937), (149, 44871), (150, 44868), (155, 44817), (168, 44751), (173, 44739), (181, 44703), (195, 44658), (202, 44628), (209, 44589), (213, 44550), (217, 44517), (218, 44514), (222, 44490), (230, 44457), (233, 44436), (240, 44406), (259, 44292), (263, 44250), (264, 44229), (267, 44196), (279, 44124), (281, 44118), (289,

44070), (298, 44025), (304, 44001), (309, 43986), (313, 43962),

Gene: Andre\_52 Start: 45365, Stop: 43962, Start Num: 76

Candidate Starts for Andre\_52:

(12, 45743), (13, 45698), (17, 45656), (29, 45575), (37, 45530), (Start: 76 @45365 has 218 MA's), (Start: 78 @45362 has 78 MA's), (Start: 79 @45356 has 1 MA's), (85, 45314), (98, 45242), (104, 45221), (129, 45125), (141, 45074), (149, 45008), (150, 45005), (153, 44981), (155, 44954), (168, 44888), (173, 44876), (181, 44840), (195, 44795), (202, 44765), (209, 44726), (213, 44687), (217, 44654), (218, 44651), (222, 44627), (230, 44594), (233, 44573), (240, 44543), (259, 44429), (263, 44387), (264, 44366), (267, 44333), (279, 44261), (281, 44255), (289, 44207), (298, 44162), (304, 44138), (309, 44123), (313, 44099),

Gene: AngelCake\_51 Start: 45247, Stop: 43847, Start Num: 78

Candidate Starts for AngelCake\_51:

(37, 45415), (Start: 76 @45250 has 218 MA's), (Start: 78 @45247 has 78 MA's), (Start: 79 @45241 has 1 MA's), (85, 45199), (98, 45127), (104, 45106), (129, 45010), (141, 44959), (149, 44893), (150, 44890), (153, 44866), (155, 44839), (168, 44773), (173, 44761), (181, 44725), (195, 44680), (202, 44650), (209, 44611), (213, 44572), (217, 44539), (218, 44536), (222, 44512), (230, 44479), (233, 44458), (240, 44428), (259, 44314), (263, 44272), (264, 44251), (267, 44218), (279, 44146), (281, 44140), (289, 44092), (298, 44047), (304, 44023), (309, 44008), (313, 43984),

Gene: Antihero\_45 Start: 44672, Stop: 43332, Start Num: 75

Candidate Starts for Antihero\_45:

(Start: 72 @44675 has 9 MA's), (Start: 75 @44672 has 15 MA's), (Start: 79 @44663 has 1 MA's), (80, 44657), (87, 44606), (123, 44459), (141, 44393), (143, 44369), (168, 44207), (175, 44189), (177, 44174), (178, 44171), (185, 44144), (203, 44081), (204, 44072), (216, 43985), (221, 43961), (230, 43919), (231, 43916), (233, 43898), (240, 43868), (248, 43841), (253, 43808), (257, 43787), (258, 43778), (261, 43733), (262, 43727), (263, 43718), (264, 43697), (267, 43664), (281, 43625), (292, 43559), (293, 43556), (311, 43487), (313, 43469),

Gene: Antonia\_50 Start: 44811, Stop: 43411, Start Num: 78

Candidate Starts for Antonia\_50:

(Start: 73 @44814 has 20 MA's), (Start: 78 @44811 has 78 MA's), (Start: 79 @44805 has 1 MA's), (85, 44763), (98, 44691), (104, 44670), (129, 44574), (141, 44523), (149, 44457), (150, 44454), (155, 44403), (168, 44337), (173, 44325), (181, 44289), (195, 44244), (202, 44214), (209, 44175), (213, 44136), (217, 44103), (218, 44100), (222, 44076), (230, 44043), (233, 44022), (240, 43992), (259, 43878), (263, 43836), (264, 43815), (267, 43782), (279, 43710), (281, 43704), (298, 43611), (304, 43587), (309, 43572), (313, 43548),

Gene: Aonishiki\_52 Start: 45271, Stop: 43868, Start Num: 76

Candidate Starts for Aonishiki\_52:

(12, 45649), (13, 45604), (17, 45562), (29, 45481), (37, 45436), (Start: 76 @45271 has 218 MA's), (Start: 78 @45268 has 78 MA's), (Start: 79 @45262 has 1 MA's), (85, 45220), (98, 45148), (104, 45127), (129, 45031), (141, 44980), (149, 44914), (150, 44911), (155, 44860), (168, 44794), (173, 44782), (181, 44746), (195, 44701), (202, 44671), (209, 44632), (213, 44593), (217, 44560), (218, 44557), (222, 44533), (230, 44500), (233, 44479), (240, 44449), (259, 44335), (263, 44293), (264, 44272), (267, 44239), (279, 44167), (281, 44161), (289, 44113), (298, 44068), (304, 44044), (309, 44029), (313, 44005),

Gene: Apex\_47 Start: 45919, Stop: 44576, Start Num: 72

Candidate Starts for Apex\_47:

(Start: 72 @45919 has 9 MA's), (Start: 75 @45916 has 15 MA's), (Start: 79 @45907 has 1 MA's), (80, 45901), (87, 45850), (123, 45703), (138, 45658), (141, 45637), (158, 45496), (162, 45472), (168,

45451), (169, 45448), (175, 45433), (177, 45418), (201, 45349), (202, 45334), (204, 45316), (210, 45292), (218, 45220), (222, 45196), (230, 45163), (231, 45160), (233, 45142), (240, 45112), (253, 45052), (256, 45034), (258, 45022), (261, 44977), (262, 44971), (263, 44962), (266, 44932), (267, 44908), (281, 44869), (288, 44824), (292, 44803), (293, 44800), (311, 44731), (313, 44713),

Gene: Apizium\_51 Start: 45129, Stop: 43726, Start Num: 73

Candidate Starts for Apizium\_51:

(12, 45504), (13, 45459), (17, 45417), (29, 45336), (37, 45291), (Start: 73 @45129 has 20 MA's), (Start: 78 @45126 has 78 MA's), (85, 45078), (98, 45006), (104, 44985), (129, 44889), (141, 44838), (149, 44772), (150, 44769), (155, 44718), (168, 44652), (173, 44640), (181, 44604), (195, 44559), (202, 44529), (209, 44490), (213, 44451), (217, 44418), (218, 44415), (222, 44391), (230, 44358), (233, 44337), (240, 44307), (259, 44193), (263, 44151), (264, 44130), (267, 44097), (279, 44025), (281, 44019), (289, 43971), (298, 43926), (304, 43902), (309, 43887), (313, 43863),

Gene: Applejacks\_31 Start: 24445, Stop: 23327, Start Num: 126

Candidate Starts for Applejacks\_31:

(Start: 126 @24445 has 4 MA's), (149, 24319), (151, 24307), (154, 24274), (200, 24142), (218, 24025), (223, 23998), (225, 23986), (227, 23980), (241, 23914), (243, 23890), (262, 23770), (267, 23710), (275, 23689), (277, 23683), (278, 23680), (286, 23635), (296, 23584), (298, 23575), (302, 23554), (307, 23539), (325, 23407),

Gene: Arbiter\_49 Start: 44958, Stop: 43591, Start Num: 78

Candidate Starts for Arbiter\_49:

(Start: 78 @44958 has 78 MA's), (86, 44895), (88, 44880), (115, 44769), (128, 44718), (140, 44670), (145, 44622), (165, 44481), (168, 44472), (187, 44427), (189, 44421), (190, 44415), (195, 44403), (213, 44298), (217, 44265), (221, 44247), (222, 44238), (230, 44205), (235, 44178), (240, 44154), (245, 44127), (251, 44100), (260, 44025), (264, 43980), (267, 43947), (275, 43926), (277, 43920), (284, 43887), (285, 43878), (287, 43869), (322, 43707), (325, 43689), (330, 43632),

Gene: Ares\_50 Start: 44927, Stop: 43560, Start Num: 78

Candidate Starts for Ares\_50:

(Start: 78 @44927 has 78 MA's), (86, 44864), (88, 44849), (115, 44738), (128, 44687), (140, 44639), (145, 44591), (165, 44450), (168, 44441), (187, 44396), (189, 44390), (190, 44384), (195, 44372), (213, 44267), (217, 44234), (222, 44207), (230, 44174), (235, 44147), (240, 44123), (245, 44096), (251, 44069), (260, 43994), (264, 43949), (267, 43916), (275, 43895), (277, 43889), (284, 43856), (285, 43847), (287, 43838), (322, 43676), (325, 43658), (330, 43601),

Gene: Ashraf\_51 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for Ashraf\_51:

(37, 45095), (Start: 76 @44930 has 218 MA's), (Start: 78 @44927 has 78 MA's), (Start: 79 @44921 has 1 MA's), (85, 44879), (98, 44807), (104, 44786), (129, 44690), (141, 44639), (149, 44573), (150, 44570), (155, 44519), (168, 44453), (173, 44441), (181, 44405), (195, 44360), (202, 44330), (209, 44291), (213, 44252), (217, 44219), (218, 44216), (220, 44210), (222, 44192), (230, 44159), (233, 44138), (240, 44108), (259, 43994), (263, 43952), (264, 43931), (267, 43898), (279, 43826), (281, 43820), (289, 43772), (298, 43727), (304, 43703), (309, 43688), (313, 43664),

Gene: Athena\_50 Start: 45625, Stop: 44012, Start Num: 41

Candidate Starts for Athena\_50:

(19, 45751), (20, 45745), (24, 45730), (Start: 38 @45634 has 9 MA's), (Start: 41 @45625 has 43 MA's), (62, 45529), (83, 45451), (95, 45316), (Start: 127 @45157 has 3 MA's), (133, 45142), (135, 45130), (141, 45100), (147, 45058), (155, 44980), (167, 44914), (168, 44911), (186, 44848), (193, 44815), (198, 44806), (212, 44713), (218, 44665), (219, 44662), (221, 44650), (222, 44641), (235, 44581), (240, 44557), (258, 44467), (267, 44356), (279, 44323), (280, 44320), (282, 44305), (286, 44284),

(292, 44251),

Gene: Audrey\_49 Start: 44882, Stop: 43260, Start Num: 38

Candidate Starts for Audrey\_49:

(19, 44999), (20, 44993), (24, 44978), (Start: 38 @44882 has 9 MA's), (Start: 41 @44873 has 43 MA's), (62, 44777), (83, 44699), (95, 44564), (Start: 127 @44405 has 3 MA's), (133, 44390), (135, 44378), (141, 44348), (147, 44306), (155, 44228), (167, 44162), (168, 44159), (186, 44096), (193, 44063), (198, 44054), (212, 43961), (218, 43913), (221, 43898), (222, 43889), (235, 43829), (240, 43805), (258, 43715), (267, 43604), (279, 43571), (280, 43568), (282, 43553), (286, 43532), (292, 43499),

Gene: Austelle\_47 Start: 46366, Stop: 45026, Start Num: 75

Candidate Starts for Austelle\_47:

(Start: 72 @46369 has 9 MA's), (Start: 75 @46366 has 15 MA's), (Start: 79 @46357 has 1 MA's), (80, 46351), (87, 46300), (123, 46153), (138, 46108), (141, 46087), (158, 45946), (162, 45922), (168, 45901), (169, 45898), (175, 45883), (177, 45868), (201, 45799), (202, 45784), (204, 45766), (210, 45742), (218, 45670), (222, 45646), (230, 45613), (231, 45610), (233, 45592), (240, 45562), (253, 45502), (256, 45484), (258, 45472), (261, 45427), (262, 45421), (263, 45412), (266, 45382), (267, 45358), (281, 45319), (288, 45274), (292, 45253), (293, 45250), (311, 45181), (313, 45163),

Gene: Axumite\_44 Start: 37985, Stop: 36669, Start Num: 40

Candidate Starts for Axumite\_44:

(Start: 40 @37985 has 1 MA's), (Start: 41 @37982 has 43 MA's), (Start: 124 @37823 has 2 MA's), (Start: 126 @37817 has 4 MA's), (141, 37766), (193, 37511), (201, 37490), (207, 37445), (210, 37433), (230, 37304), (235, 37277), (240, 37253), (249, 37223), (250, 37205), (253, 37193), (258, 37163), (260, 37130), (264, 37085), (267, 37052), (275, 37019), (277, 36992), (286, 36947), (287, 36941), (292, 36914), (293, 36911), (304, 36863), (330, 36701),

Gene: BFK20\_ORF40 Start: 30567, Stop: 29512, Start Num: 120

Candidate Starts for BFK20\_ORF40:

(109, 30639), (111, 30630), (120, 30567), (Start: 127 @30540 has 3 MA's), (142, 30456), (166, 30288), (203, 30213), (222, 30084), (231, 30048), (237, 30015), (260, 29880), (261, 29868), (264, 29835), (267, 29802), (274, 29784), (277, 29775), (285, 29730), (295, 29682), (320, 29553), (323, 29532),

Gene: Badfish\_52 Start: 45396, Stop: 43993, Start Num: 76

Candidate Starts for Badfish\_52:

(12, 45774), (13, 45729), (17, 45687), (29, 45606), (37, 45561), (Start: 76 @45396 has 218 MA's), (Start: 78 @45393 has 78 MA's), (Start: 79 @45387 has 1 MA's), (85, 45345), (98, 45273), (104, 45252), (129, 45156), (141, 45105), (149, 45039), (150, 45036), (155, 44985), (168, 44919), (173, 44907), (181, 44871), (195, 44826), (202, 44796), (209, 44757), (213, 44718), (217, 44685), (218, 44682), (222, 44658), (230, 44625), (233, 44604), (240, 44574), (259, 44460), (263, 44418), (264, 44397), (267, 44364), (279, 44292), (281, 44286), (289, 44238), (298, 44193), (304, 44169), (309, 44154), (313, 44130),

Gene: Baee\_50 Start: 46015, Stop: 44636, Start Num: 74

Candidate Starts for Baee\_50:

(Start: 74 @46015 has 9 MA's), (Start: 81 @45997 has 2 MA's), (129, 45784), (138, 45754), (159, 45589), (170, 45547), (176, 45529), (179, 45514), (180, 45511), (199, 45463), (206, 45412), (218, 45325), (221, 45310), (222, 45301), (235, 45241), (240, 45217), (241, 45214), (257, 45136), (261, 45082), (264, 45049), (267, 45016), (269, 44998), (279, 44944), (287, 44899), (292, 44872), (311, 44791), (325, 44710),

Gene: Baloo\_49 Start: 44885, Stop: 43263, Start Num: 38

Candidate Starts for Baloo\_49:

(19, 45002), (20, 44996), (24, 44981), (Start: 38 @44885 has 9 MA's), (Start: 41 @44876 has 43 MA's), (62, 44780), (83, 44702), (95, 44567), (Start: 127 @44408 has 3 MA's), (133, 44393), (135, 44381), (141, 44351), (147, 44309), (155, 44231), (167, 44165), (168, 44162), (186, 44099), (193, 44066), (198, 44057), (212, 43964), (218, 43916), (221, 43901), (222, 43892), (235, 43832), (240, 43808), (258, 43718), (267, 43607), (279, 43574), (280, 43571), (282, 43556), (286, 43535), (292, 43502),

Gene: Bananafish\_50 Start: 44861, Stop: 43494, Start Num: 78

Candidate Starts for Bananafish\_50:

(Start: 78 @44861 has 78 MA's), (86, 44798), (88, 44783), (115, 44672), (128, 44621), (140, 44573), (145, 44525), (165, 44384), (168, 44375), (187, 44330), (189, 44324), (190, 44318), (195, 44306), (213, 44201), (217, 44168), (222, 44141), (230, 44108), (235, 44081), (240, 44057), (245, 44030), (251, 44003), (260, 43928), (264, 43883), (267, 43850), (275, 43829), (277, 43823), (284, 43790), (285, 43781), (287, 43772), (322, 43610), (325, 43592), (330, 43535),

Gene: Banjo\_50 Start: 44927, Stop: 43524, Start Num: 76

Candidate Starts for Banjo\_50:

(12, 45305), (13, 45260), (17, 45218), (29, 45137), (37, 45092), (Start: 76 @44927 has 218 MA's), (Start: 78 @44924 has 78 MA's), (Start: 79 @44918 has 1 MA's), (85, 44876), (98, 44804), (104, 44783), (129, 44687), (141, 44636), (149, 44570), (150, 44567), (155, 44516), (168, 44450), (173, 44438), (181, 44402), (195, 44357), (202, 44327), (209, 44288), (213, 44249), (217, 44216), (218, 44213), (222, 44189), (230, 44156), (233, 44135), (240, 44105), (259, 43991), (263, 43949), (264, 43928), (267, 43895), (279, 43823), (281, 43817), (289, 43769), (298, 43724), (304, 43700), (309, 43685), (313, 43661),

Gene: Basato\_52 Start: 45512, Stop: 44109, Start Num: 73

Candidate Starts for Basato\_52:

(37, 45674), (Start: 73 @45512 has 20 MA's), (Start: 78 @45509 has 78 MA's), (85, 45461), (98, 45389), (104, 45368), (129, 45272), (141, 45221), (149, 45155), (150, 45152), (155, 45101), (168, 45035), (173, 45023), (181, 44987), (195, 44942), (202, 44912), (209, 44873), (213, 44834), (217, 44801), (218, 44798), (222, 44774), (230, 44741), (233, 44720), (240, 44690), (259, 44576), (263, 44534), (264, 44513), (267, 44480), (279, 44408), (281, 44402), (289, 44354), (298, 44309), (304, 44285), (309, 44270), (313, 44246),

Gene: BatteryCK\_50 Start: 44870, Stop: 43467, Start Num: 76

Candidate Starts for BatteryCK\_50:

(37, 45035), (Start: 76 @44870 has 218 MA's), (Start: 78 @44867 has 78 MA's), (Start: 79 @44861 has 1 MA's), (85, 44819), (98, 44747), (104, 44726), (129, 44630), (141, 44579), (149, 44513), (150, 44510), (155, 44459), (168, 44393), (173, 44381), (181, 44345), (195, 44300), (202, 44270), (209, 44231), (213, 44192), (217, 44159), (218, 44156), (220, 44150), (222, 44132), (230, 44099), (233, 44078), (240, 44048), (259, 43934), (263, 43892), (264, 43871), (267, 43838), (279, 43766), (281, 43760), (289, 43712), (298, 43667), (304, 43643), (309, 43628), (313, 43604),

Gene: Beaglebox\_50 Start: 44948, Stop: 43545, Start Num: 76

Candidate Starts for Beaglebox\_50:

(12, 45326), (13, 45281), (17, 45239), (29, 45158), (37, 45113), (Start: 76 @44948 has 218 MA's), (Start: 78 @44945 has 78 MA's), (Start: 79 @44939 has 1 MA's), (85, 44897), (98, 44825), (104, 44804), (129, 44708), (141, 44657), (149, 44591), (150, 44588), (155, 44537), (168, 44471), (173, 44459), (181, 44423), (195, 44378), (202, 44348), (209, 44309), (213, 44270), (217, 44237), (218, 44234), (222, 44210), (230, 44177), (233, 44156), (240, 44126), (259, 44012), (263, 43970), (264, 43949), (267, 43916), (279, 43844), (281, 43838), (289, 43790), (298, 43745), (304, 43721), (309, 43706), (313, 43682),

Gene: Ben11\_48 Start: 44697, Stop: 43084, Start Num: 41

Candidate Starts for Ben11\_48:

(19, 44823), (20, 44817), (24, 44802), (Start: 38 @44706 has 9 MA's), (Start: 41 @44697 has 43 MA's), (62, 44601), (83, 44523), (95, 44388), (Start: 127 @44229 has 3 MA's), (133, 44214), (135, 44202), (141, 44172), (147, 44130), (155, 44052), (167, 43986), (168, 43983), (186, 43920), (193, 43887), (198, 43878), (212, 43785), (218, 43737), (221, 43722), (222, 43713), (235, 43653), (240, 43629), (258, 43539), (267, 43428), (279, 43395), (280, 43392), (282, 43377), (286, 43356), (292, 43323),

Gene: Bernardo\_50 Start: 45419, Stop: 43809, Start Num: 41

Candidate Starts for Bernardo\_50:

(19, 45548), (20, 45542), (24, 45527), (Start: 38 @45428 has 9 MA's), (Start: 41 @45419 has 43 MA's), (62, 45323), (83, 45245), (93, 45122), (95, 45110), (101, 45086), (105, 45071), (Start: 127 @44954 has 3 MA's), (133, 44939), (135, 44927), (141, 44897), (147, 44855), (155, 44777), (186, 44645), (193, 44612), (198, 44603), (212, 44510), (218, 44462), (221, 44447), (222, 44438), (230, 44405), (235, 44378), (240, 44354), (258, 44264), (267, 44153), (279, 44120), (280, 44117), (282, 44102), (286, 44081), (292, 44048),

Gene: BiggityBass\_44 Start: 40224, Stop: 38959, Start Num: 43

Candidate Starts for BiggityBass\_44:

(Start: 43 @40224 has 6 MA's), (50, 40206), (55, 40185), (Start: 124 @40098 has 2 MA's), (Start: 126 @40092 has 4 MA's), (134, 40071), (141, 40041), (194, 39783), (198, 39777), (201, 39765), (210, 39708), (220, 39630), (221, 39621), (230, 39579), (235, 39552), (240, 39528), (253, 39468), (261, 39393), (264, 39360), (267, 39327), (270, 39318), (275, 39294), (276, 39282), (277, 39267), (281, 39255), (287, 39216), (292, 39189), (295, 39177), (318, 39069), (319, 39066), (325, 39033),

Gene: BirdsNest\_53 Start: 44482, Stop: 43088, Start Num: 47

Candidate Starts for BirdsNest\_53:

(Start: 47 @44482 has 2 MA's), (58, 44434), (71, 44356), (131, 44215), (141, 44167), (155, 44047), (156, 44038), (168, 43981), (183, 43924), (209, 43819), (210, 43816), (218, 43744), (222, 43720), (253, 43570), (264, 43453), (267, 43420), (268, 43411), (277, 43393), (281, 43381), (295, 43303), (304, 43264), (332, 43096),

Gene: Bishoperium\_50 Start: 44942, Stop: 43539, Start Num: 76

Candidate Starts for Bishoperium\_50:

(37, 45107), (Start: 76 @44942 has 218 MA's), (Start: 78 @44939 has 78 MA's), (Start: 79 @44933 has 1 MA's), (85, 44891), (98, 44819), (104, 44798), (129, 44702), (141, 44651), (149, 44585), (150, 44582), (155, 44531), (168, 44465), (173, 44453), (181, 44417), (195, 44372), (202, 44342), (209, 44303), (213, 44264), (217, 44231), (218, 44228), (222, 44204), (230, 44171), (233, 44150), (240, 44120), (259, 44006), (263, 43964), (264, 43943), (267, 43910), (279, 43838), (281, 43832), (289, 43784), (298, 43739), (304, 43715), (309, 43700), (313, 43676),

Gene: BlackStallion\_52 Start: 45402, Stop: 43999, Start Num: 76

Candidate Starts for BlackStallion\_52:

(12, 45780), (13, 45735), (17, 45693), (29, 45612), (37, 45567), (Start: 76 @45402 has 218 MA's), (Start: 78 @45399 has 78 MA's), (Start: 79 @45393 has 1 MA's), (85, 45351), (98, 45279), (104, 45258), (129, 45162), (141, 45111), (149, 45045), (150, 45042), (155, 44991), (168, 44925), (173, 44913), (181, 44877), (195, 44832), (202, 44802), (209, 44763), (213, 44724), (217, 44691), (218, 44688), (222, 44664), (230, 44631), (233, 44610), (240, 44580), (259, 44466), (263, 44424), (264, 44403), (267, 44370), (279, 44298), (281, 44292), (289, 44244), (298, 44199), (304, 44175), (309, 44160), (313, 44136),

Gene: Blackpen\_47 Start: 39743, Stop: 38352, Start Num: 28

Candidate Starts for Blackpen\_47:

(8, 39947), (11, 39902), (Start: 28 @39743 has 6 MA's), (32, 39716), (Start: 43 @39665 has 6 MA's), (82, 39521), (Start: 126 @39515 has 4 MA's), (138, 39482), (141, 39464), (144, 39431), (146, 39425), (156, 39335), (172, 39275), (192, 39206), (206, 39143), (215, 39071), (217, 39059), (221, 39041), (222, 39032), (230, 38999), (240, 38948), (249, 38918), (252, 38891), (253, 38888), (264, 38780), (268, 38738), (272, 38705), (277, 38660), (281, 38648), (286, 38615), (287, 38609), (292, 38582),

Gene: BlackBerry\_50 Start: 44963, Stop: 43560, Start Num: 73

Candidate Starts for BlackBerry\_50:

(37, 45125), (Start: 73 @44963 has 20 MA's), (Start: 78 @44960 has 78 MA's), (85, 44912), (98, 44840), (104, 44819), (129, 44723), (141, 44672), (149, 44606), (150, 44603), (153, 44579), (155, 44552), (168, 44486), (173, 44474), (181, 44438), (195, 44393), (202, 44363), (209, 44324), (213, 44285), (217, 44252), (218, 44249), (222, 44225), (230, 44192), (233, 44171), (240, 44141), (259, 44027), (263, 43985), (264, 43964), (267, 43931), (279, 43859), (281, 43853), (289, 43805), (298, 43760), (304, 43736), (309, 43721), (313, 43697),

Gene: Blocker23\_50 Start: 44979, Stop: 43612, Start Num: 78

Candidate Starts for Blocker23\_50:

(Start: 78 @44979 has 78 MA's), (86, 44916), (88, 44901), (115, 44790), (128, 44739), (140, 44691), (145, 44643), (165, 44502), (168, 44493), (187, 44448), (189, 44442), (190, 44436), (195, 44424), (213, 44319), (217, 44286), (222, 44259), (230, 44226), (235, 44199), (240, 44175), (245, 44148), (251, 44121), (260, 44046), (264, 44001), (267, 43968), (275, 43947), (277, 43941), (284, 43908), (287, 43890), (322, 43728), (325, 43710), (330, 43653),

Gene: BlueHusk\_51 Start: 44748, Stop: 43345, Start Num: 76

Candidate Starts for BlueHusk\_51:

(12, 45126), (13, 45081), (17, 45039), (29, 44958), (37, 44913), (Start: 76 @44748 has 218 MA's), (Start: 78 @44745 has 78 MA's), (Start: 79 @44739 has 1 MA's), (85, 44697), (98, 44625), (104, 44604), (129, 44508), (141, 44457), (149, 44391), (150, 44388), (155, 44337), (168, 44271), (173, 44259), (181, 44223), (195, 44178), (202, 44148), (209, 44109), (213, 44070), (217, 44037), (218, 44034), (222, 44010), (230, 43977), (233, 43956), (240, 43926), (259, 43812), (263, 43770), (264, 43749), (267, 43716), (279, 43644), (281, 43638), (289, 43590), (298, 43545), (304, 43521), (309, 43506), (313, 43482),

Gene: Bluephacebaby\_50 Start: 44945, Stop: 43542, Start Num: 76

Candidate Starts for Bluephacebaby\_50:

(12, 45323), (13, 45278), (17, 45236), (29, 45155), (37, 45110), (Start: 76 @44945 has 218 MA's), (Start: 78 @44942 has 78 MA's), (Start: 79 @44936 has 1 MA's), (85, 44894), (98, 44822), (104, 44801), (129, 44705), (141, 44654), (149, 44588), (150, 44585), (155, 44534), (168, 44468), (173, 44456), (181, 44420), (195, 44375), (202, 44345), (209, 44306), (213, 44267), (217, 44234), (218, 44231), (222, 44207), (230, 44174), (233, 44153), (240, 44123), (259, 44009), (263, 43967), (264, 43946), (267, 43913), (279, 43841), (281, 43835), (289, 43787), (298, 43742), (304, 43718), (309, 43703), (313, 43679),

Gene: BobRoss2024\_43 Start: 37803, Stop: 36655, Start Num: 130

Candidate Starts for BobRoss2024\_43:

(39, 38298), (Start: 46 @38274 has 1 MA's), (92, 37986), (113, 37893), (130, 37803), (137, 37773), (171, 37563), (182, 37515), (183, 37512), (193, 37482), (209, 37407), (221, 37317), (222, 37308), (235, 37248), (240, 37224), (254, 37152), (258, 37134), (264, 37056), (267, 37023), (270, 37014), (277, 36963), (279, 36957), (287, 36912), (292, 36885), (296, 36867), (304, 36834),

Gene: BobbyK\_47 Start: 45708, Stop: 44368, Start Num: 75

Candidate Starts for BobbyK\_47:

(Start: 72 @45711 has 9 MA's), (Start: 75 @45708 has 15 MA's), (Start: 79 @45699 has 1 MA's), (80, 45693), (87, 45642), (123, 45495), (138, 45450), (141, 45429), (158, 45288), (162, 45264), (168, 45243), (169, 45240), (175, 45225), (177, 45210), (201, 45141), (210, 45084), (221, 44997), (222, 44988), (230, 44955), (231, 44952), (233, 44934), (240, 44904), (253, 44844), (256, 44826), (258, 44814), (261, 44769), (262, 44763), (263, 44754), (264, 44733), (266, 44724), (267, 44700), (281, 44661), (292, 44595), (293, 44592), (311, 44523), (313, 44505),

Gene: Boehler\_51 Start: 45248, Stop: 43848, Start Num: 78

Candidate Starts for Boehler\_51:

(12, 45629), (13, 45584), (17, 45542), (29, 45461), (37, 45416), (Start: 76 @45251 has 218 MA's), (Start: 78 @45248 has 78 MA's), (Start: 79 @45242 has 1 MA's), (85, 45200), (98, 45128), (104, 45107), (129, 45011), (141, 44960), (149, 44894), (150, 44891), (155, 44840), (168, 44774), (173, 44762), (181, 44726), (195, 44681), (202, 44651), (209, 44612), (213, 44573), (217, 44540), (218, 44537), (222, 44513), (230, 44480), (233, 44459), (240, 44429), (263, 44273), (264, 44252), (267, 44219), (279, 44147), (281, 44141), (289, 44093), (298, 44048), (304, 44024), (309, 44009), (313, 43985),

Gene: BoogieWoogie\_50 Start: 44932, Stop: 43529, Start Num: 76

Candidate Starts for BoogieWoogie\_50:

(12, 45310), (13, 45265), (17, 45223), (29, 45142), (37, 45097), (Start: 76 @44932 has 218 MA's), (Start: 78 @44929 has 78 MA's), (Start: 79 @44923 has 1 MA's), (85, 44881), (98, 44809), (104, 44788), (129, 44692), (141, 44641), (149, 44575), (150, 44572), (153, 44548), (155, 44521), (168, 44455), (173, 44443), (181, 44407), (195, 44362), (202, 44332), (209, 44293), (213, 44254), (217, 44221), (218, 44218), (222, 44194), (230, 44161), (233, 44140), (240, 44110), (259, 43996), (263, 43954), (264, 43933), (267, 43900), (279, 43828), (281, 43822), (289, 43774), (298, 43729), (304, 43705), (309, 43690), (313, 43666),

Gene: Boyle\_50 Start: 44994, Stop: 43627, Start Num: 78

Candidate Starts for Boyle\_50:

(Start: 78 @44994 has 78 MA's), (86, 44931), (88, 44916), (115, 44805), (128, 44754), (140, 44706), (145, 44658), (165, 44517), (168, 44508), (187, 44463), (189, 44457), (190, 44451), (195, 44439), (213, 44334), (217, 44301), (222, 44274), (230, 44241), (235, 44214), (240, 44190), (245, 44163), (251, 44136), (260, 44061), (264, 44016), (267, 43983), (275, 43962), (277, 43956), (284, 43923), (285, 43914), (287, 43905), (322, 43743), (325, 43725), (330, 43668),

Gene: Briakila\_50 Start: 45645, Stop: 44032, Start Num: 41

Candidate Starts for Briakila\_50:

(19, 45771), (20, 45765), (24, 45750), (Start: 38 @45654 has 9 MA's), (Start: 41 @45645 has 43 MA's), (62, 45549), (83, 45471), (95, 45336), (Start: 127 @45177 has 3 MA's), (133, 45162), (135, 45150), (141, 45120), (147, 45078), (155, 45000), (167, 44934), (168, 44931), (186, 44868), (193, 44835), (198, 44826), (212, 44733), (218, 44685), (219, 44682), (221, 44670), (222, 44661), (235, 44601), (240, 44577), (258, 44487), (267, 44376), (279, 44343), (280, 44340), (282, 44325), (286, 44304), (292, 44271),

Gene: Brilliant\_51 Start: 44944, Stop: 43541, Start Num: 76

Candidate Starts for Brilliant\_51:

(37, 45109), (Start: 76 @44944 has 218 MA's), (Start: 78 @44941 has 78 MA's), (Start: 79 @44935 has 1 MA's), (85, 44893), (98, 44821), (104, 44800), (129, 44704), (141, 44653), (149, 44587), (150, 44584), (153, 44560), (155, 44533), (168, 44467), (173, 44455), (181, 44419), (195, 44374), (202, 44344), (209, 44305), (213, 44266), (217, 44233), (218, 44230), (222, 44206), (230, 44173), (233, 44152), (240, 44122), (259, 44008), (263, 43966), (264, 43945), (267, 43912), (279, 43840), (281, 43834), (289, 43786), (298, 43741), (304, 43717), (309, 43702), (313, 43678),

Gene: BrownCNA\_48 Start: 45990, Stop: 44647, Start Num: 72

Candidate Starts for BrownCNA\_48:

(Start: 72 @45990 has 9 MA's), (Start: 75 @45987 has 15 MA's), (Start: 79 @45978 has 1 MA's), (80, 45972), (87, 45921), (123, 45774), (141, 45708), (158, 45567), (162, 45543), (168, 45522), (169, 45519), (175, 45504), (177, 45489), (201, 45420), (204, 45387), (210, 45363), (218, 45291), (221, 45276), (222, 45267), (230, 45234), (231, 45231), (233, 45213), (240, 45183), (253, 45123), (256, 45105), (258, 45093), (260, 45060), (261, 45048), (262, 45042), (263, 45033), (264, 45012), (266, 45003), (267, 44979), (281, 44940), (292, 44874), (293, 44871), (309, 44808), (311, 44802), (313, 44784),

Gene: Brownie5\_50 Start: 45010, Stop: 43643, Start Num: 78

Candidate Starts for Brownie5\_50:

(Start: 78 @45010 has 78 MA's), (86, 44947), (88, 44932), (115, 44821), (128, 44770), (140, 44722), (145, 44674), (165, 44533), (168, 44524), (187, 44479), (189, 44473), (190, 44467), (195, 44455), (213, 44350), (217, 44317), (221, 44299), (222, 44290), (230, 44257), (235, 44230), (240, 44206), (245, 44179), (251, 44152), (260, 44077), (264, 44032), (267, 43999), (275, 43978), (277, 43972), (284, 43939), (285, 43930), (287, 43921), (322, 43759), (325, 43741), (330, 43684),

Gene: Buckeye\_51 Start: 45265, Stop: 43862, Start Num: 76

Candidate Starts for Buckeye\_51:

(12, 45643), (13, 45598), (17, 45556), (29, 45475), (37, 45430), (Start: 76 @45265 has 218 MA's), (Start: 78 @45262 has 78 MA's), (Start: 79 @45256 has 1 MA's), (85, 45214), (98, 45142), (104, 45121), (129, 45025), (141, 44974), (149, 44908), (150, 44905), (155, 44854), (168, 44788), (173, 44776), (181, 44740), (195, 44695), (202, 44665), (209, 44626), (213, 44587), (217, 44554), (218, 44551), (222, 44527), (230, 44494), (233, 44473), (240, 44443), (259, 44329), (263, 44287), (264, 44266), (267, 44233), (279, 44161), (281, 44155), (289, 44107), (298, 44062), (304, 44038), (309, 44023), (313, 43999),

Gene: Burr\_50 Start: 44939, Stop: 43536, Start Num: 76

Candidate Starts for Burr\_50:

(12, 45317), (13, 45272), (17, 45230), (29, 45149), (37, 45104), (Start: 76 @44939 has 218 MA's), (Start: 78 @44936 has 78 MA's), (Start: 79 @44930 has 1 MA's), (85, 44888), (98, 44816), (104, 44795), (129, 44699), (141, 44648), (149, 44582), (150, 44579), (155, 44528), (168, 44462), (173, 44450), (181, 44414), (195, 44369), (202, 44339), (209, 44300), (213, 44261), (217, 44228), (218, 44225), (222, 44201), (230, 44168), (233, 44147), (240, 44117), (259, 44003), (263, 43961), (264, 43940), (267, 43907), (279, 43835), (281, 43829), (289, 43781), (298, 43736), (304, 43712), (309, 43697), (313, 43673),

Gene: CRB2\_52 Start: 48176, Stop: 46818, Start Num: 70

Candidate Starts for CRB2\_52:

(9, 48560), (10, 48554), (14, 48461), (34, 48338), (Start: 70 @48176 has 3 MA's), (Start: 81 @48149 has 2 MA's), (129, 47927), (133, 47918), (152, 47786), (168, 47690), (177, 47657), (191, 47618), (210, 47540), (218, 47468), (221, 47453), (222, 47444), (228, 47417), (230, 47411), (233, 47390), (234, 47387), (256, 47282), (258, 47270), (277, 47129), (288, 47072), (292, 47051), (293, 47048), (304, 47000), (311, 46979), (330, 46841),

Gene: CaiB\_47 Start: 40311, Stop: 38920, Start Num: 28

Candidate Starts for CaiB\_47:

(22, 40341), (Start: 28 @40311 has 6 MA's), (32, 40284), (Start: 43 @40233 has 6 MA's), (82, 40089), (Start: 126 @40083 has 4 MA's), (138, 40050), (141, 40032), (144, 39999), (146, 39993), (155, 39912), (156, 39903), (172, 39843), (192, 39774), (206, 39711), (215, 39639), (217, 39627), (221, 39609), (222, 39600), (240, 39516), (249, 39486), (252, 39459), (253, 39456), (264, 39348), (268, 39306), (272, 39273), (277, 39228), (281, 39216), (286, 39183), (287, 39177), (292, 39150),

Gene: Calamitous\_50 Start: 44860, Stop: 43493, Start Num: 78

Candidate Starts for Calamitous\_50:

(Start: 78 @44860 has 78 MA's), (86, 44797), (88, 44782), (115, 44671), (128, 44620), (140, 44572), (145, 44524), (165, 44383), (168, 44374), (187, 44329), (189, 44323), (190, 44317), (195, 44305), (213, 44200), (217, 44167), (222, 44140), (230, 44107), (235, 44080), (240, 44056), (245, 44029), (251, 44002), (260, 43927), (264, 43882), (267, 43849), (275, 43828), (277, 43822), (284, 43789), (285, 43780), (287, 43771), (311, 43672), (322, 43609), (325, 43591), (330, 43534),

Gene: CamL\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for CamL\_51:

(12, 45612), (13, 45567), (17, 45525), (29, 45444), (37, 45399), (Start: 76 @45234 has 218 MA's), (Start: 78 @45231 has 78 MA's), (Start: 79 @45225 has 1 MA's), (85, 45183), (98, 45111), (104, 45090), (129, 44994), (141, 44943), (149, 44877), (150, 44874), (155, 44823), (168, 44757), (173, 44745), (181, 44709), (195, 44664), (202, 44634), (209, 44595), (213, 44556), (217, 44523), (218, 44520), (222, 44496), (230, 44463), (233, 44442), (240, 44412), (259, 44298), (263, 44256), (264, 44235), (267, 44202), (279, 44130), (281, 44124), (289, 44076), (298, 44031), (304, 44007), (309, 43992), (313, 43968),

Gene: CampRoach\_52 Start: 45368, Stop: 43965, Start Num: 76

Candidate Starts for CampRoach\_52:

(Start: 76 @45368 has 218 MA's), (Start: 78 @45365 has 78 MA's), (Start: 79 @45359 has 1 MA's), (85, 45317), (98, 45245), (104, 45224), (129, 45128), (141, 45077), (149, 45011), (150, 45008), (155, 44957), (168, 44891), (173, 44879), (181, 44843), (195, 44798), (202, 44768), (209, 44729), (213, 44690), (217, 44657), (218, 44654), (220, 44648), (222, 44630), (230, 44597), (233, 44576), (240, 44546), (259, 44432), (263, 44390), (264, 44369), (267, 44336), (279, 44264), (281, 44258), (289, 44210), (298, 44165), (304, 44141), (309, 44126), (313, 44102),

Gene: Cannibal\_51 Start: 45217, Stop: 43814, Start Num: 76

Candidate Starts for Cannibal\_51:

(12, 45595), (13, 45550), (17, 45508), (29, 45427), (37, 45382), (Start: 76 @45217 has 218 MA's), (Start: 78 @45214 has 78 MA's), (Start: 79 @45208 has 1 MA's), (85, 45166), (98, 45094), (104, 45073), (129, 44977), (141, 44926), (149, 44860), (150, 44857), (155, 44806), (168, 44740), (173, 44728), (181, 44692), (195, 44647), (202, 44617), (209, 44578), (213, 44539), (217, 44506), (218, 44503), (222, 44479), (230, 44446), (233, 44425), (240, 44395), (259, 44281), (263, 44239), (264, 44218), (267, 44185), (279, 44113), (281, 44107), (289, 44059), (298, 44014), (304, 43990), (309, 43975), (313, 43951),

Gene: Carthage\_49 Start: 44164, Stop: 42761, Start Num: 76

Candidate Starts for Carthage\_49:

(37, 44329), (Start: 76 @44164 has 218 MA's), (Start: 78 @44161 has 78 MA's), (Start: 79 @44155 has 1 MA's), (85, 44113), (98, 44041), (104, 44020), (129, 43924), (141, 43873), (149, 43807), (150, 43804), (155, 43753), (168, 43687), (173, 43675), (181, 43639), (195, 43594), (202, 43564), (209, 43525), (213, 43486), (217, 43453), (218, 43450), (220, 43444), (222, 43426), (230, 43393), (233, 43372), (240, 43342), (259, 43228), (263, 43186), (264, 43165), (267, 43132), (279, 43060), (281, 43054), (289, 43006), (298, 42961), (304, 42937), (309, 42922), (313, 42898),

Gene: Casbah\_48 Start: 44727, Stop: 43114, Start Num: 41

Candidate Starts for Casbah\_48:

(19, 44853), (20, 44847), (24, 44832), (Start: 38 @44736 has 9 MA's), (Start: 41 @44727 has 43 MA's), (62, 44631), (83, 44553), (95, 44418), (Start: 127 @44259 has 3 MA's), (133, 44244), (135, 44232), (141, 44202), (147, 44160), (155, 44082), (186, 43950), (193, 43917), (198, 43908), (212, 43815), (218, 43767), (221, 43752), (222, 43743), (235, 43683), (240, 43659), (258, 43569), (267, 43458),

(279, 43425), (280, 43422), (282, 43407), (286, 43386), (292, 43353),

Gene: Caspiboi\_50 Start: 44943, Stop: 43540, Start Num: 76

Candidate Starts for Caspiboi\_50:

(37, 45108), (Start: 76 @44943 has 218 MA's), (Start: 78 @44940 has 78 MA's), (Start: 79 @44934 has 1 MA's), (85, 44892), (98, 44820), (104, 44799), (129, 44703), (141, 44652), (149, 44586), (150, 44583), (155, 44532), (168, 44466), (173, 44454), (181, 44418), (195, 44373), (202, 44343), (209, 44304), (213, 44265), (217, 44232), (218, 44229), (222, 44205), (230, 44172), (233, 44151), (240, 44121), (259, 44007), (263, 43965), (264, 43944), (267, 43911), (279, 43839), (281, 43833), (289, 43785), (298, 43740), (304, 43716), (309, 43701), (313, 43677),

Gene: Causa\_67 Start: 52851, Stop: 51646, Start Num: 127

Candidate Starts for Causa\_67:

(Start: 127 @52851 has 3 MA's), (131, 52842), (161, 52641), (165, 52620), (179, 52587), (196, 52530), (206, 52473), (207, 52470), (218, 52386), (227, 52341), (235, 52302), (256, 52128), (258, 52116), (264, 52032), (267, 51999), (279, 51966), (311, 51822), (314, 51801),

Gene: ChaChing\_49 Start: 44890, Stop: 43277, Start Num: 41

Candidate Starts for ChaChing\_49:

(19, 45016), (20, 45010), (24, 44995), (Start: 38 @44899 has 9 MA's), (Start: 41 @44890 has 43 MA's), (62, 44794), (83, 44716), (95, 44581), (Start: 127 @44422 has 3 MA's), (133, 44407), (135, 44395), (141, 44365), (147, 44323), (155, 44245), (167, 44179), (168, 44176), (186, 44113), (193, 44080), (198, 44071), (212, 43978), (218, 43930), (221, 43915), (222, 43906), (235, 43846), (240, 43822), (258, 43732), (267, 43621), (279, 43588), (280, 43585), (282, 43570), (286, 43549), (292, 43516),

Gene: Chaelin\_51 Start: 44940, Stop: 43537, Start Num: 76

Candidate Starts for Chaelin\_51:

(12, 45318), (13, 45273), (17, 45231), (29, 45150), (37, 45105), (Start: 76 @44940 has 218 MA's), (Start: 78 @44937 has 78 MA's), (Start: 79 @44931 has 1 MA's), (85, 44889), (98, 44817), (104, 44796), (129, 44700), (141, 44649), (149, 44583), (150, 44580), (155, 44529), (168, 44463), (173, 44451), (181, 44415), (195, 44370), (202, 44340), (209, 44301), (213, 44262), (217, 44229), (218, 44226), (222, 44202), (230, 44169), (233, 44148), (240, 44118), (259, 44004), (263, 43962), (264, 43941), (267, 43908), (279, 43836), (281, 43830), (289, 43782), (298, 43737), (304, 43713), (309, 43698), (313, 43674),

Gene: Chah\_53 Start: 45395, Stop: 43992, Start Num: 76

Candidate Starts for Chah\_53:

(12, 45773), (13, 45728), (17, 45686), (29, 45605), (37, 45560), (Start: 76 @45395 has 218 MA's), (Start: 78 @45392 has 78 MA's), (Start: 79 @45386 has 1 MA's), (85, 45344), (98, 45272), (104, 45251), (129, 45155), (141, 45104), (149, 45038), (150, 45035), (155, 44984), (168, 44918), (173, 44906), (181, 44870), (195, 44825), (202, 44795), (209, 44756), (213, 44717), (217, 44684), (218, 44681), (222, 44657), (230, 44624), (233, 44603), (240, 44573), (259, 44459), (263, 44417), (264, 44396), (267, 44363), (279, 44291), (281, 44285), (289, 44237), (298, 44192), (304, 44168), (309, 44153), (313, 44129),

Gene: Chalmers\_49 Start: 45681, Stop: 44068, Start Num: 41

Candidate Starts for Chalmers\_49:

(19, 45807), (20, 45801), (24, 45786), (Start: 38 @45690 has 9 MA's), (Start: 41 @45681 has 43 MA's), (62, 45585), (83, 45507), (95, 45372), (Start: 127 @45213 has 3 MA's), (133, 45198), (135, 45186), (141, 45156), (147, 45114), (155, 45036), (167, 44970), (168, 44967), (186, 44904), (193, 44871), (198, 44862), (212, 44769), (218, 44721), (219, 44718), (221, 44706), (222, 44697), (235, 44637), (240, 44613), (258, 44523), (267, 44412), (279, 44379), (280, 44376), (282, 44361), (286, 44340), (292, 44307),

Gene: Chandler\_49 Start: 45657, Stop: 44044, Start Num: 41

Candidate Starts for Chandler\_49:

(19, 45783), (20, 45777), (24, 45762), (Start: 38 @45666 has 9 MA's), (Start: 41 @45657 has 43 MA's), (62, 45561), (83, 45483), (95, 45348), (Start: 127 @45189 has 3 MA's), (133, 45174), (135, 45162), (141, 45132), (147, 45090), (155, 45012), (186, 44880), (193, 44847), (198, 44838), (212, 44745), (218, 44697), (221, 44682), (222, 44673), (230, 44640), (235, 44613), (240, 44589), (258, 44499), (267, 44388), (279, 44355), (280, 44352), (282, 44337), (286, 44316), (292, 44283),

Gene: Charles1\_51 Start: 45225, Stop: 43822, Start Num: 76

Candidate Starts for Charles1\_51:

(37, 45390), (Start: 76 @45225 has 218 MA's), (Start: 78 @45222 has 78 MA's), (Start: 79 @45216 has 1 MA's), (85, 45174), (98, 45102), (104, 45081), (129, 44985), (141, 44934), (149, 44868), (150, 44865), (153, 44841), (155, 44814), (168, 44748), (173, 44736), (181, 44700), (195, 44655), (202, 44625), (209, 44586), (213, 44547), (217, 44514), (218, 44511), (222, 44487), (230, 44454), (233, 44433), (240, 44403), (259, 44289), (263, 44247), (264, 44226), (267, 44193), (279, 44121), (281, 44115), (289, 44067), (298, 44022), (304, 43998), (309, 43983), (313, 43959),

Gene: CharlieGBrown\_50 Start: 44815, Stop: 43412, Start Num: 76

Candidate Starts for CharlieGBrown\_50:

(37, 44980), (Start: 76 @44815 has 218 MA's), (Start: 78 @44812 has 78 MA's), (Start: 79 @44806 has 1 MA's), (85, 44764), (98, 44692), (104, 44671), (129, 44575), (141, 44524), (149, 44458), (150, 44455), (155, 44404), (168, 44338), (173, 44326), (181, 44290), (195, 44245), (202, 44215), (209, 44176), (213, 44137), (217, 44104), (218, 44101), (220, 44095), (222, 44077), (230, 44044), (233, 44023), (240, 43993), (259, 43879), (263, 43837), (264, 43816), (267, 43783), (279, 43711), (281, 43705), (289, 43657), (298, 43612), (304, 43588), (309, 43573), (313, 43549),

Gene: CharlottesWeb\_44 Start: 37656, Stop: 36502, Start Num: 124

Candidate Starts for CharlottesWeb\_44:

(Start: 124 @37656 has 2 MA's), (134, 37629), (141, 37599), (184, 37362), (193, 37344), (206, 37281), (207, 37278), (210, 37266), (230, 37137), (235, 37110), (240, 37086), (250, 37038), (253, 37026), (258, 36996), (264, 36918), (267, 36885), (275, 36852), (277, 36825), (286, 36780), (287, 36774), (292, 36747), (293, 36744), (304, 36696), (330, 36534),

Gene: CheetO\_51 Start: 45257, Stop: 43854, Start Num: 76

Candidate Starts for CheetO\_51:

(37, 45422), (Start: 76 @45257 has 218 MA's), (Start: 78 @45254 has 78 MA's), (Start: 79 @45248 has 1 MA's), (85, 45206), (98, 45134), (104, 45113), (129, 45017), (141, 44966), (149, 44900), (150, 44897), (155, 44846), (168, 44780), (173, 44768), (181, 44732), (195, 44687), (202, 44657), (209, 44618), (213, 44579), (217, 44546), (218, 44543), (222, 44519), (230, 44486), (233, 44465), (240, 44435), (259, 44321), (263, 44279), (264, 44258), (267, 44225), (279, 44153), (281, 44147), (289, 44099), (298, 44054), (304, 44030), (309, 44015), (313, 43991),

Gene: Chentzyk\_49 Start: 45239, Stop: 43626, Start Num: 41

Candidate Starts for Chentzyk\_49:

(19, 45365), (20, 45359), (24, 45344), (Start: 38 @45248 has 9 MA's), (Start: 41 @45239 has 43 MA's), (62, 45143), (83, 45065), (95, 44930), (Start: 127 @44771 has 3 MA's), (133, 44756), (135, 44744), (141, 44714), (147, 44672), (155, 44594), (186, 44462), (193, 44429), (198, 44420), (212, 44327), (218, 44279), (221, 44264), (222, 44255), (230, 44222), (235, 44195), (240, 44171), (258, 44081), (267, 43970), (279, 43937), (280, 43934), (282, 43919), (286, 43898), (292, 43865),

Gene: Cher\_50 Start: 44962, Stop: 43559, Start Num: 76

Candidate Starts for Cher\_50:

(12, 45340), (13, 45295), (17, 45253), (29, 45172), (37, 45127), (Start: 76 @44962 has 218 MA's), (Start: 78 @44959 has 78 MA's), (Start: 79 @44953 has 1 MA's), (85, 44911), (98, 44839), (104, 44818), (129, 44722), (141, 44671), (149, 44605), (150, 44602), (155, 44551), (168, 44485), (173, 44473), (181, 44437), (195, 44392), (202, 44362), (209, 44323), (213, 44284), (217, 44251), (218, 44248), (222, 44224), (230, 44191), (233, 44170), (240, 44140), (259, 44026), (263, 43984), (264, 43963), (267, 43930), (279, 43858), (281, 43852), (289, 43804), (298, 43759), (304, 43735), (309, 43720), (313, 43696),

Gene: Childish\_50 Start: 44965, Stop: 43562, Start Num: 76

Candidate Starts for Childish\_50:

(37, 45130), (Start: 76 @44965 has 218 MA's), (Start: 78 @44962 has 78 MA's), (Start: 79 @44956 has 1 MA's), (85, 44914), (98, 44842), (104, 44821), (129, 44725), (141, 44674), (149, 44608), (150, 44605), (153, 44581), (155, 44554), (168, 44488), (173, 44476), (181, 44440), (195, 44395), (202, 44365), (209, 44326), (213, 44287), (217, 44254), (218, 44251), (222, 44227), (230, 44194), (233, 44173), (240, 44143), (259, 44029), (263, 43987), (264, 43966), (267, 43933), (279, 43861), (281, 43855), (289, 43807), (298, 43762), (304, 43738), (309, 43723), (313, 43699),

Gene: Chipette\_52 Start: 45452, Stop: 44052, Start Num: 78

Candidate Starts for Chipette\_52:

(12, 45833), (13, 45788), (17, 45746), (29, 45665), (37, 45620), (Start: 76 @45455 has 218 MA's), (Start: 78 @45452 has 78 MA's), (Start: 79 @45446 has 1 MA's), (85, 45404), (98, 45332), (104, 45311), (129, 45215), (141, 45164), (149, 45098), (150, 45095), (155, 45044), (168, 44978), (173, 44966), (181, 44930), (195, 44885), (202, 44855), (209, 44816), (213, 44777), (217, 44744), (218, 44741), (222, 44717), (230, 44684), (233, 44663), (240, 44633), (259, 44519), (263, 44477), (264, 44456), (267, 44423), (279, 44351), (281, 44345), (289, 44297), (298, 44252), (304, 44228), (309, 44213), (313, 44189),

Gene: Chorkpop\_51 Start: 44973, Stop: 43570, Start Num: 76

Candidate Starts for Chorkpop\_51:

(12, 45351), (13, 45306), (17, 45264), (29, 45183), (37, 45138), (Start: 76 @44973 has 218 MA's), (Start: 78 @44970 has 78 MA's), (Start: 79 @44964 has 1 MA's), (85, 44922), (98, 44850), (104, 44829), (129, 44733), (141, 44682), (149, 44616), (150, 44613), (155, 44562), (168, 44496), (173, 44484), (181, 44448), (195, 44403), (202, 44373), (209, 44334), (213, 44295), (217, 44262), (218, 44259), (222, 44235), (230, 44202), (233, 44181), (240, 44151), (259, 44037), (263, 43995), (264, 43974), (267, 43941), (279, 43869), (281, 43863), (289, 43815), (298, 43770), (304, 43746), (309, 43731), (313, 43707),

Gene: ChrisnMich\_46 Start: 44677, Stop: 43334, Start Num: 72

Candidate Starts for ChrisnMich\_46:

(Start: 72 @44677 has 9 MA's), (Start: 75 @44674 has 15 MA's), (Start: 79 @44665 has 1 MA's), (80, 44659), (87, 44608), (123, 44461), (141, 44395), (143, 44371), (168, 44209), (175, 44191), (177, 44176), (178, 44173), (185, 44146), (203, 44083), (204, 44074), (216, 43987), (218, 43978), (221, 43963), (230, 43921), (231, 43918), (233, 43900), (238, 43882), (240, 43870), (248, 43843), (253, 43810), (257, 43789), (258, 43780), (261, 43735), (262, 43729), (263, 43720), (264, 43699), (267, 43666), (281, 43627), (292, 43561), (293, 43558), (311, 43489), (313, 43471),

Gene: Chuni\_50 Start: 45259, Stop: 43856, Start Num: 73

Candidate Starts for Chuni\_50:

(37, 45421), (Start: 73 @45259 has 20 MA's), (Start: 78 @45256 has 78 MA's), (85, 45208), (98, 45136), (104, 45115), (129, 45019), (141, 44968), (149, 44902), (150, 44899), (153, 44875), (155, 44848), (168, 44782), (173, 44770), (181, 44734), (195, 44689), (202, 44659), (209, 44620), (213, 44581), (217, 44548), (218, 44545), (222, 44521), (230, 44488), (233, 44467), (240, 44437), (259, 44323), (263, 44281), (264, 44260), (267, 44227), (279, 44155), (281, 44149), (289, 44101), (298,

44056), (304, 44032), (309, 44017), (313, 43993),

Gene: Chunky\_51 Start: 45258, Stop: 43858, Start Num: 78

Candidate Starts for Chunky\_51:

(37, 45426), (Start: 76 @45261 has 218 MA's), (Start: 78 @45258 has 78 MA's), (Start: 79 @45252 has 1 MA's), (85, 45210), (98, 45138), (104, 45117), (129, 45021), (141, 44970), (149, 44904), (150, 44901), (155, 44850), (168, 44784), (173, 44772), (181, 44736), (195, 44691), (202, 44661), (209, 44622), (213, 44583), (217, 44550), (218, 44547), (222, 44523), (230, 44490), (233, 44469), (240, 44439), (259, 44325), (263, 44283), (264, 44262), (267, 44229), (279, 44157), (281, 44151), (289, 44103), (298, 44058), (304, 44034), (309, 44019), (313, 43995),

Gene: Chute\_50 Start: 45289, Stop: 43886, Start Num: 73

Candidate Starts for Chute\_50:

(37, 45451), (Start: 73 @45289 has 20 MA's), (Start: 78 @45286 has 78 MA's), (85, 45238), (98, 45166), (104, 45145), (129, 45049), (141, 44998), (149, 44932), (150, 44929), (153, 44905), (155, 44878), (168, 44812), (173, 44800), (181, 44764), (195, 44719), (202, 44689), (209, 44650), (213, 44611), (217, 44578), (218, 44575), (222, 44551), (230, 44518), (233, 44497), (240, 44467), (259, 44353), (263, 44311), (264, 44290), (267, 44257), (279, 44185), (281, 44179), (289, 44131), (298, 44086), (304, 44062), (309, 44047), (313, 44023),

Gene: CloverMinnie\_47 Start: 40251, Stop: 38860, Start Num: 28

Candidate Starts for CloverMinnie\_47:

(8, 40455), (11, 40410), (Start: 28 @40251 has 6 MA's), (32, 40224), (Start: 43 @40173 has 6 MA's), (82, 40029), (Start: 126 @40023 has 4 MA's), (138, 39990), (141, 39972), (144, 39939), (146, 39933), (156, 39843), (172, 39783), (192, 39714), (206, 39651), (215, 39579), (217, 39567), (221, 39549), (222, 39540), (230, 39507), (240, 39456), (249, 39426), (252, 39399), (253, 39396), (264, 39288), (268, 39246), (272, 39213), (277, 39168), (281, 39156), (286, 39123), (287, 39117), (292, 39090),

Gene: Cobra\_51 Start: 45246, Stop: 43843, Start Num: 76

Candidate Starts for Cobra\_51:

(37, 45411), (Start: 76 @45246 has 218 MA's), (Start: 78 @45243 has 78 MA's), (Start: 79 @45237 has 1 MA's), (85, 45195), (98, 45123), (104, 45102), (129, 45006), (141, 44955), (149, 44889), (150, 44886), (155, 44835), (168, 44769), (173, 44757), (181, 44721), (195, 44676), (202, 44646), (209, 44607), (213, 44568), (217, 44535), (218, 44532), (220, 44526), (222, 44508), (230, 44475), (233, 44454), (240, 44424), (259, 44310), (263, 44268), (264, 44247), (267, 44214), (279, 44142), (281, 44136), (289, 44088), (298, 44043), (304, 44019), (309, 44004), (313, 43980),

Gene: Coffee\_50 Start: 44969, Stop: 43602, Start Num: 78

Candidate Starts for Coffee\_50:

(Start: 78 @44969 has 78 MA's), (86, 44906), (88, 44891), (115, 44780), (128, 44729), (140, 44681), (145, 44633), (165, 44492), (168, 44483), (187, 44438), (189, 44432), (190, 44426), (195, 44414), (213, 44309), (217, 44276), (221, 44258), (222, 44249), (230, 44216), (235, 44189), (240, 44165), (245, 44138), (251, 44111), (260, 44036), (264, 43991), (267, 43958), (275, 43937), (277, 43931), (284, 43898), (285, 43889), (287, 43880), (322, 43718), (325, 43700), (330, 43643),

Gene: Colbert\_51 Start: 45310, Stop: 43910, Start Num: 78

Candidate Starts for Colbert\_51:

(12, 45691), (13, 45646), (17, 45604), (29, 45523), (37, 45478), (Start: 76 @45313 has 218 MA's), (Start: 78 @45310 has 78 MA's), (Start: 79 @45304 has 1 MA's), (85, 45262), (98, 45190), (104, 45169), (129, 45073), (141, 45022), (149, 44956), (150, 44953), (155, 44902), (168, 44836), (173, 44824), (181, 44788), (195, 44743), (202, 44713), (209, 44674), (213, 44635), (217, 44602), (218, 44599), (222, 44575), (230, 44542), (233, 44521), (240, 44491), (259, 44377), (263, 44335), (264, 44314), (267, 44281), (279, 44209), (281, 44203), (289, 44155), (298, 44110), (304, 44086), (309,

44071), (313, 44047),

Gene: Coldpizza\_46 Start: 41656, Stop: 40406, Start Num: 45

Candidate Starts for Coldpizza\_46:

(15, 41815), (Start: 45 @41656 has 1 MA's), (55, 41611), (Start: 124 @41527 has 2 MA's), (136, 41494), (141, 41470), (144, 41437), (146, 41431), (155, 41350), (171, 41284), (193, 41230), (217, 41083), (221, 41065), (230, 41023), (233, 41002), (235, 40996), (240, 40972), (248, 40945), (258, 40882), (264, 40804), (267, 40771), (281, 40732), (286, 40699), (287, 40693), (292, 40666), (299, 40630), (317, 40552), (322, 40528),

Gene: Coletti\_51 Start: 45289, Stop: 43886, Start Num: 73

Candidate Starts for Coletti\_51:

(37, 45451), (Start: 73 @45289 has 20 MA's), (Start: 78 @45286 has 78 MA's), (85, 45238), (98, 45166), (104, 45145), (129, 45049), (141, 44998), (149, 44932), (150, 44929), (153, 44905), (155, 44878), (168, 44812), (173, 44800), (181, 44764), (195, 44719), (202, 44689), (209, 44650), (213, 44611), (217, 44578), (218, 44575), (222, 44551), (230, 44518), (233, 44497), (240, 44467), (259, 44353), (263, 44311), (264, 44290), (267, 44257), (279, 44185), (281, 44179), (289, 44131), (298, 44086), (304, 44062), (309, 44047), (313, 44023),

Gene: Compostia\_50 Start: 45305, Stop: 43692, Start Num: 41

Candidate Starts for Compostia\_50:

(19, 45431), (20, 45425), (24, 45410), (Start: 38 @45314 has 9 MA's), (Start: 41 @45305 has 43 MA's), (62, 45209), (83, 45131), (95, 44996), (Start: 127 @44837 has 3 MA's), (133, 44822), (135, 44810), (141, 44780), (147, 44738), (155, 44660), (186, 44528), (193, 44495), (198, 44486), (212, 44393), (218, 44345), (221, 44330), (222, 44321), (230, 44288), (235, 44261), (240, 44237), (258, 44147), (267, 44036), (279, 44003), (280, 44000), (282, 43985), (286, 43964), (292, 43931),

Gene: Cooper\_47 Start: 44873, Stop: 43536, Start Num: 79

Candidate Starts for Cooper\_47:

(52, 44969), (Start: 72 @44885 has 9 MA's), (Start: 79 @44873 has 1 MA's), (122, 44672), (141, 44597), (169, 44408), (175, 44393), (177, 44378), (201, 44309), (203, 44285), (204, 44276), (210, 44252), (218, 44180), (221, 44165), (223, 44153), (230, 44123), (231, 44120), (233, 44102), (240, 44072), (248, 44045), (256, 43994), (258, 43982), (261, 43937), (262, 43931), (263, 43922), (267, 43868), (273, 43859), (281, 43829), (292, 43763), (293, 43760), (311, 43691), (313, 43673),

Gene: Cornbread\_50 Start: 44962, Stop: 43559, Start Num: 76

Candidate Starts for Cornbread\_50:

(37, 45127), (Start: 76 @44962 has 218 MA's), (Start: 78 @44959 has 78 MA's), (Start: 79 @44953 has 1 MA's), (85, 44911), (98, 44839), (104, 44818), (129, 44722), (141, 44671), (149, 44605), (150, 44602), (155, 44551), (168, 44485), (173, 44473), (181, 44437), (195, 44392), (202, 44362), (209, 44323), (213, 44284), (217, 44251), (218, 44248), (220, 44242), (222, 44224), (230, 44191), (233, 44170), (240, 44140), (259, 44026), (263, 43984), (264, 43963), (267, 43930), (279, 43858), (281, 43852), (289, 43804), (298, 43759), (304, 43735), (309, 43720), (313, 43696),

Gene: Cornobble\_50 Start: 44803, Stop: 43400, Start Num: 76

Candidate Starts for Cornobble\_50:

(37, 44968), (Start: 76 @44803 has 218 MA's), (Start: 78 @44800 has 78 MA's), (Start: 79 @44794 has 1 MA's), (85, 44752), (98, 44680), (104, 44659), (129, 44563), (141, 44512), (149, 44446), (150, 44443), (155, 44392), (168, 44326), (173, 44314), (181, 44278), (195, 44233), (202, 44203), (209, 44164), (213, 44125), (217, 44092), (218, 44089), (222, 44065), (230, 44032), (233, 44011), (240, 43981), (259, 43867), (263, 43825), (264, 43804), (267, 43771), (279, 43699), (281, 43693), (289, 43645), (298, 43600), (304, 43576), (309, 43561), (313, 43537),

Gene: Corofin\_49 Start: 44900, Stop: 43287, Start Num: 41

Candidate Starts for Corofin\_49:

(19, 45026), (20, 45020), (24, 45005), (Start: 38 @44909 has 9 MA's), (Start: 41 @44900 has 43 MA's), (62, 44804), (83, 44726), (95, 44591), (Start: 127 @44432 has 3 MA's), (133, 44417), (135, 44405), (141, 44375), (147, 44333), (155, 44255), (186, 44123), (193, 44090), (198, 44081), (212, 43988), (218, 43940), (221, 43925), (222, 43916), (230, 43883), (235, 43856), (240, 43832), (258, 43742), (267, 43631), (279, 43598), (280, 43595), (282, 43580), (286, 43559), (292, 43526),

Gene: Cosmolli16\_50 Start: 44953, Stop: 43550, Start Num: 73

Candidate Starts for Cosmolli16\_50:

(Start: 73 @44953 has 20 MA's), (Start: 78 @44950 has 78 MA's), (Start: 79 @44944 has 1 MA's), (85, 44902), (98, 44830), (104, 44809), (129, 44713), (141, 44662), (149, 44596), (150, 44593), (155, 44542), (168, 44476), (173, 44464), (181, 44428), (195, 44383), (202, 44353), (209, 44314), (213, 44275), (217, 44242), (218, 44239), (222, 44215), (230, 44182), (233, 44161), (240, 44131), (259, 44017), (263, 43975), (264, 43954), (267, 43921), (279, 43849), (281, 43843), (289, 43795), (298, 43750), (304, 43726), (309, 43711), (313, 43687),

Gene: Craff\_52 Start: 45381, Stop: 43978, Start Num: 76

Candidate Starts for Craff\_52:

(37, 45546), (Start: 76 @45381 has 218 MA's), (Start: 78 @45378 has 78 MA's), (Start: 79 @45372 has 1 MA's), (85, 45330), (98, 45258), (104, 45237), (129, 45141), (141, 45090), (149, 45024), (150, 45021), (153, 44997), (155, 44970), (168, 44904), (173, 44892), (181, 44856), (195, 44811), (202, 44781), (209, 44742), (213, 44703), (217, 44670), (218, 44667), (222, 44643), (230, 44610), (233, 44589), (240, 44559), (259, 44445), (263, 44403), (264, 44382), (267, 44349), (279, 44277), (281, 44271), (289, 44223), (298, 44178), (304, 44154), (309, 44139), (313, 44115),

Gene: Crownjwl\_51 Start: 45019, Stop: 43619, Start Num: 78

Candidate Starts for Crownjwl\_51:

(Start: 73 @45022 has 20 MA's), (Start: 78 @45019 has 78 MA's), (Start: 79 @45013 has 1 MA's), (85, 44971), (98, 44899), (104, 44878), (129, 44782), (141, 44731), (149, 44665), (150, 44662), (155, 44611), (168, 44545), (173, 44533), (181, 44497), (195, 44452), (202, 44422), (209, 44383), (213, 44344), (217, 44311), (218, 44308), (222, 44284), (230, 44251), (233, 44230), (240, 44200), (259, 44086), (263, 44044), (264, 44023), (267, 43990), (279, 43918), (281, 43912), (289, 43864), (298, 43819), (304, 43795), (309, 43780), (313, 43756),

Gene: DaddyDaniels\_51 Start: 44934, Stop: 43531, Start Num: 76

Candidate Starts for DaddyDaniels\_51:

(12, 45312), (13, 45267), (17, 45225), (29, 45144), (37, 45099), (Start: 76 @44934 has 218 MA's), (Start: 78 @44931 has 78 MA's), (Start: 79 @44925 has 1 MA's), (85, 44883), (98, 44811), (104, 44790), (129, 44694), (141, 44643), (149, 44577), (150, 44574), (155, 44523), (168, 44457), (173, 44445), (181, 44409), (195, 44364), (202, 44334), (209, 44295), (213, 44256), (217, 44223), (218, 44220), (222, 44196), (230, 44163), (233, 44142), (240, 44112), (259, 43998), (263, 43956), (264, 43935), (267, 43902), (279, 43830), (281, 43824), (289, 43776), (298, 43731), (304, 43707), (309, 43692), (313, 43668),

Gene: Daffy\_51 Start: 44956, Stop: 43556, Start Num: 78

Candidate Starts for Daffy\_51:

(12, 45337), (13, 45292), (17, 45250), (29, 45169), (37, 45124), (Start: 76 @44959 has 218 MA's), (Start: 78 @44956 has 78 MA's), (Start: 79 @44950 has 1 MA's), (85, 44908), (98, 44836), (104, 44815), (129, 44719), (141, 44668), (149, 44602), (150, 44599), (155, 44548), (168, 44482), (173, 44470), (181, 44434), (195, 44389), (202, 44359), (209, 44320), (213, 44281), (217, 44248), (218, 44245), (222, 44221), (230, 44188), (233, 44167), (240, 44137), (259, 44023), (263, 43981), (264, 43960), (267, 43927), (279, 43855), (281, 43849), (289, 43801), (298, 43756), (304, 43732), (309,

43717), (313, 43693),

Gene: Daisy\_49 Start: 44902, Stop: 43289, Start Num: 41

Candidate Starts for Daisy\_49:

(19, 45028), (20, 45022), (24, 45007), (Start: 38 @44911 has 9 MA's), (Start: 41 @44902 has 43 MA's), (62, 44806), (83, 44728), (95, 44593), (Start: 127 @44434 has 3 MA's), (133, 44419), (135, 44407), (141, 44377), (147, 44335), (155, 44257), (186, 44125), (193, 44092), (198, 44083), (212, 43990), (218, 43942), (221, 43927), (222, 43918), (235, 43858), (240, 43834), (258, 43744), (267, 43633), (279, 43600), (282, 43582), (286, 43561), (292, 43528),

Gene: Daka\_52 Start: 45238, Stop: 43835, Start Num: 76

Candidate Starts for Daka\_52:

(12, 45616), (13, 45571), (17, 45529), (29, 45448), (37, 45403), (Start: 76 @45238 has 218 MA's), (Start: 78 @45235 has 78 MA's), (Start: 79 @45229 has 1 MA's), (85, 45187), (98, 45115), (104, 45094), (129, 44998), (141, 44947), (149, 44881), (150, 44878), (155, 44827), (168, 44761), (173, 44749), (181, 44713), (195, 44668), (202, 44638), (209, 44599), (213, 44560), (217, 44527), (218, 44524), (222, 44500), (230, 44467), (233, 44446), (240, 44416), (259, 44302), (263, 44260), (264, 44239), (267, 44206), (279, 44134), (281, 44128), (289, 44080), (298, 44035), (304, 44011), (309, 43996), (313, 43972),

Gene: Dati\_51 Start: 44962, Stop: 43559, Start Num: 76

Candidate Starts for Dati\_51:

(37, 45127), (Start: 76 @44962 has 218 MA's), (Start: 78 @44959 has 78 MA's), (Start: 79 @44953 has 1 MA's), (85, 44911), (98, 44839), (104, 44818), (129, 44722), (141, 44671), (149, 44605), (150, 44602), (155, 44551), (168, 44485), (173, 44473), (181, 44437), (195, 44392), (202, 44362), (209, 44323), (213, 44284), (217, 44251), (218, 44248), (220, 44242), (222, 44224), (230, 44191), (233, 44170), (240, 44140), (259, 44026), (263, 43984), (264, 43963), (267, 43930), (279, 43858), (281, 43852), (289, 43804), (298, 43759), (304, 43735), (309, 43720), (313, 43696),

Gene: Deenasa\_49 Start: 45637, Stop: 44024, Start Num: 41

Candidate Starts for Deenasa\_49:

(19, 45763), (20, 45757), (24, 45742), (Start: 38 @45646 has 9 MA's), (Start: 41 @45637 has 43 MA's), (62, 45541), (83, 45463), (95, 45328), (Start: 127 @45169 has 3 MA's), (133, 45154), (135, 45142), (141, 45112), (147, 45070), (155, 44992), (167, 44926), (168, 44923), (186, 44860), (193, 44827), (198, 44818), (212, 44725), (218, 44677), (219, 44674), (221, 44662), (222, 44653), (235, 44593), (240, 44569), (258, 44479), (267, 44368), (279, 44335), (280, 44332), (282, 44317), (286, 44296), (292, 44263),

Gene: DelRivs\_50 Start: 44963, Stop: 43563, Start Num: 78

Candidate Starts for DelRivs\_50:

(12, 45344), (13, 45299), (17, 45257), (29, 45176), (37, 45131), (Start: 76 @44966 has 218 MA's), (Start: 78 @44963 has 78 MA's), (Start: 79 @44957 has 1 MA's), (85, 44915), (98, 44843), (104, 44822), (129, 44726), (141, 44675), (149, 44609), (150, 44606), (155, 44555), (168, 44489), (173, 44477), (181, 44441), (195, 44396), (202, 44366), (209, 44327), (213, 44288), (217, 44255), (218, 44252), (222, 44228), (230, 44195), (233, 44174), (240, 44144), (259, 44030), (263, 43988), (264, 43967), (267, 43934), (279, 43862), (281, 43856), (289, 43808), (298, 43763), (304, 43739), (309, 43724), (313, 43700),

Gene: Derpp\_50 Start: 44804, Stop: 43401, Start Num: 76

Candidate Starts for Derpp\_50:

(12, 45182), (13, 45137), (17, 45095), (29, 45014), (37, 44969), (Start: 76 @44804 has 218 MA's), (Start: 78 @44801 has 78 MA's), (Start: 79 @44795 has 1 MA's), (85, 44753), (98, 44681), (104, 44660), (129, 44564), (141, 44513), (149, 44447), (150, 44444), (155, 44393), (168, 44327), (173,

44315), (181, 44279), (195, 44234), (202, 44204), (209, 44165), (213, 44126), (217, 44093), (218, 44090), (220, 44084), (222, 44066), (230, 44033), (233, 44012), (240, 43982), (259, 43868), (263, 43826), (264, 43805), (267, 43772), (279, 43700), (281, 43694), (289, 43646), (298, 43601), (304, 43577), (309, 43562), (313, 43538),

Gene: Devonte\_49 Start: 44865, Stop: 43252, Start Num: 41

Candidate Starts for Devonte\_49:

(19, 44991), (20, 44985), (24, 44970), (Start: 38 @44874 has 9 MA's), (Start: 41 @44865 has 43 MA's), (62, 44769), (83, 44691), (95, 44556), (Start: 127 @44397 has 3 MA's), (133, 44382), (135, 44370), (141, 44340), (147, 44298), (155, 44220), (167, 44154), (168, 44151), (186, 44088), (193, 44055), (198, 44046), (212, 43953), (218, 43905), (219, 43902), (221, 43890), (222, 43881), (235, 43821), (240, 43797), (258, 43707), (267, 43596), (279, 43563), (280, 43560), (282, 43545), (286, 43524), (292, 43491),

Gene: Dice\_50 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for Dice\_50:

(12, 45308), (13, 45263), (17, 45221), (29, 45140), (37, 45095), (Start: 76 @44930 has 218 MA's), (Start: 78 @44927 has 78 MA's), (Start: 79 @44921 has 1 MA's), (85, 44879), (98, 44807), (104, 44786), (129, 44690), (141, 44639), (149, 44573), (150, 44570), (155, 44519), (168, 44453), (173, 44441), (181, 44405), (195, 44360), (202, 44330), (209, 44291), (213, 44252), (217, 44219), (218, 44216), (222, 44192), (230, 44159), (233, 44138), (240, 44108), (259, 43994), (263, 43952), (264, 43931), (267, 43898), (279, 43826), (281, 43820), (289, 43772), (298, 43727), (304, 43703), (309, 43688), (313, 43664),

Gene: DigitDog\_50 Start: 45861, Stop: 44476, Start Num: 74

Candidate Starts for DigitDog\_50:

(Start: 74 @45861 has 9 MA's), (Start: 81 @45843 has 2 MA's), (129, 45624), (138, 45594), (159, 45429), (170, 45387), (176, 45369), (179, 45354), (199, 45303), (206, 45252), (218, 45165), (221, 45150), (222, 45141), (235, 45081), (240, 45057), (241, 45054), (257, 44976), (261, 44922), (264, 44889), (267, 44856), (269, 44838), (279, 44784), (286, 44745), (287, 44739), (292, 44712), (311, 44631), (317, 44592), (325, 44550),

Gene: Dingo\_51 Start: 45229, Stop: 43826, Start Num: 76

Candidate Starts for Dingo\_51:

(12, 45607), (13, 45562), (17, 45520), (29, 45439), (37, 45394), (Start: 76 @45229 has 218 MA's), (Start: 78 @45226 has 78 MA's), (Start: 79 @45220 has 1 MA's), (85, 45178), (98, 45106), (104, 45085), (129, 44989), (141, 44938), (149, 44872), (150, 44869), (155, 44818), (168, 44752), (173, 44740), (181, 44704), (195, 44659), (202, 44629), (209, 44590), (213, 44551), (217, 44518), (218, 44515), (222, 44491), (230, 44458), (233, 44437), (240, 44407), (259, 44293), (263, 44251), (264, 44230), (267, 44197), (279, 44125), (281, 44119), (289, 44071), (298, 44026), (304, 44002), (309, 43987), (313, 43963),

Gene: Dione\_50 Start: 44938, Stop: 43535, Start Num: 76

Candidate Starts for Dione\_50:

(37, 45103), (Start: 76 @44938 has 218 MA's), (Start: 78 @44935 has 78 MA's), (Start: 79 @44929 has 1 MA's), (85, 44887), (98, 44815), (104, 44794), (129, 44698), (141, 44647), (149, 44581), (150, 44578), (155, 44527), (168, 44461), (173, 44449), (181, 44413), (195, 44368), (202, 44338), (209, 44299), (213, 44260), (217, 44227), (218, 44224), (222, 44200), (230, 44167), (233, 44146), (240, 44116), (259, 44002), (263, 43960), (264, 43939), (267, 43906), (279, 43834), (281, 43828), (289, 43780), (298, 43735), (304, 43711), (309, 43696), (313, 43672),

Gene: DirtJuice\_51 Start: 45228, Stop: 43825, Start Num: 76

Candidate Starts for DirtJuice\_51:

(12, 45606), (13, 45561), (17, 45519), (29, 45438), (37, 45393), (Start: 76 @45228 has 218 MA's), (Start: 78 @45225 has 78 MA's), (Start: 79 @45219 has 1 MA's), (85, 45177), (98, 45105), (104, 45084), (129, 44988), (141, 44937), (149, 44871), (150, 44868), (155, 44817), (168, 44751), (173, 44739), (181, 44703), (195, 44658), (202, 44628), (209, 44589), (213, 44550), (217, 44517), (218, 44514), (222, 44490), (230, 44457), (233, 44436), (240, 44406), (259, 44292), (263, 44250), (264, 44229), (267, 44196), (279, 44124), (281, 44118), (289, 44070), (298, 44025), (304, 44001), (309, 43986), (313, 43962),

Gene: Doddsville\_51 Start: 44955, Stop: 43555, Start Num: 78

Candidate Starts for Doddsville\_51:

(37, 45123), (Start: 76 @44958 has 218 MA's), (Start: 78 @44955 has 78 MA's), (Start: 79 @44949 has 1 MA's), (85, 44907), (98, 44835), (104, 44814), (129, 44718), (141, 44667), (149, 44601), (150, 44598), (153, 44574), (155, 44547), (168, 44481), (173, 44469), (181, 44433), (195, 44388), (202, 44358), (209, 44319), (213, 44280), (217, 44247), (218, 44244), (220, 44238), (222, 44220), (230, 44187), (233, 44166), (240, 44136), (259, 44022), (263, 43980), (264, 43959), (267, 43926), (279, 43854), (281, 43848), (289, 43800), (298, 43755), (304, 43731), (309, 43716), (313, 43692),

Gene: DoesntMatter\_50 Start: 45231, Stop: 43828, Start Num: 76

Candidate Starts for DoesntMatter\_50:

(37, 45396), (Start: 76 @45231 has 218 MA's), (Start: 78 @45228 has 78 MA's), (Start: 79 @45222 has 1 MA's), (85, 45180), (98, 45108), (104, 45087), (129, 44991), (141, 44940), (149, 44874), (150, 44871), (155, 44820), (168, 44754), (173, 44742), (181, 44706), (195, 44661), (202, 44631), (209, 44592), (213, 44553), (217, 44520), (218, 44517), (222, 44493), (230, 44460), (233, 44439), (240, 44409), (259, 44295), (263, 44253), (264, 44232), (267, 44199), (279, 44127), (281, 44121), (289, 44073), (298, 44028), (304, 44004), (309, 43989), (313, 43965),

Gene: DolOn\_54 Start: 45603, Stop: 44203, Start Num: 78

Candidate Starts for DolOn\_54:

(37, 45771), (Start: 76 @45606 has 218 MA's), (Start: 78 @45603 has 78 MA's), (Start: 79 @45597 has 1 MA's), (85, 45555), (98, 45483), (104, 45462), (129, 45366), (141, 45315), (149, 45249), (150, 45246), (153, 45222), (155, 45195), (168, 45129), (173, 45117), (181, 45081), (195, 45036), (202, 45006), (209, 44967), (213, 44928), (217, 44895), (218, 44892), (222, 44868), (230, 44835), (233, 44814), (240, 44784), (259, 44670), (263, 44628), (264, 44607), (267, 44574), (279, 44502), (281, 44496), (289, 44448), (298, 44403), (304, 44379), (309, 44364), (313, 44340),

Gene: DonSanchon\_50 Start: 44941, Stop: 43538, Start Num: 76

Candidate Starts for DonSanchon\_50:

(12, 45319), (13, 45274), (17, 45232), (29, 45151), (37, 45106), (Start: 76 @44941 has 218 MA's), (Start: 78 @44938 has 78 MA's), (Start: 79 @44932 has 1 MA's), (85, 44890), (98, 44818), (104, 44797), (129, 44701), (141, 44650), (149, 44584), (150, 44581), (153, 44557), (155, 44530), (168, 44464), (173, 44452), (181, 44416), (195, 44371), (202, 44341), (209, 44302), (213, 44263), (217, 44230), (218, 44227), (222, 44203), (230, 44170), (233, 44149), (240, 44119), (259, 44005), (263, 43963), (264, 43942), (267, 43909), (279, 43837), (281, 43831), (289, 43783), (298, 43738), (304, 43714), (309, 43699), (313, 43675),

Gene: Donny\_51 Start: 46147, Stop: 44765, Start Num: 74

Candidate Starts for Donny\_51:

(26, 46372), (Start: 74 @46147 has 9 MA's), (Start: 81 @46129 has 2 MA's), (129, 45913), (138, 45883), (159, 45718), (170, 45676), (176, 45658), (179, 45643), (199, 45592), (218, 45454), (221, 45439), (222, 45430), (232, 45379), (235, 45370), (240, 45346), (241, 45343), (261, 45211), (264, 45178), (267, 45145), (269, 45127), (279, 45073), (287, 45028), (292, 45001), (311, 44920), (313, 44902), (325, 44839),

Gene: DuchessDung\_50 Start: 44230, Stop: 42827, Start Num: 73

Candidate Starts for DuchessDung\_50:

(37, 44392), (Start: 73 @44230 has 20 MA's), (Start: 78 @44227 has 78 MA's), (85, 44179), (98, 44107), (104, 44086), (129, 43990), (141, 43939), (149, 43873), (150, 43870), (153, 43846), (155, 43819), (168, 43753), (173, 43741), (181, 43705), (195, 43660), (202, 43630), (209, 43591), (213, 43552), (217, 43519), (218, 43516), (222, 43492), (230, 43459), (233, 43438), (240, 43408), (263, 43252), (264, 43231), (267, 43198), (279, 43126), (281, 43120), (289, 43072), (298, 43027), (304, 43003), (309, 42988), (313, 42964),

Gene: Duggie\_50 Start: 44957, Stop: 43557, Start Num: 78

Candidate Starts for Duggie\_50:

(37, 45122), (Start: 73 @44960 has 20 MA's), (Start: 78 @44957 has 78 MA's), (85, 44909), (98, 44837), (104, 44816), (129, 44720), (141, 44669), (149, 44603), (150, 44600), (153, 44576), (155, 44549), (168, 44483), (173, 44471), (181, 44435), (195, 44390), (202, 44360), (209, 44321), (213, 44282), (217, 44249), (218, 44246), (220, 44240), (222, 44222), (230, 44189), (233, 44168), (240, 44138), (259, 44024), (263, 43982), (264, 43961), (267, 43928), (279, 43856), (281, 43850), (289, 43802), (298, 43757), (304, 43733), (309, 43718), (313, 43694),

Gene: Durga\_52 Start: 45396, Stop: 43993, Start Num: 76

Candidate Starts for Durga\_52:

(37, 45561), (Start: 76 @45396 has 218 MA's), (Start: 78 @45393 has 78 MA's), (Start: 79 @45387 has 1 MA's), (85, 45345), (98, 45273), (104, 45252), (129, 45156), (141, 45105), (149, 45039), (150, 45036), (155, 44985), (168, 44919), (173, 44907), (181, 44871), (195, 44826), (202, 44796), (209, 44757), (213, 44718), (217, 44685), (218, 44682), (220, 44676), (222, 44658), (230, 44625), (233, 44604), (240, 44574), (259, 44460), (263, 44418), (264, 44397), (267, 44364), (279, 44292), (281, 44286), (289, 44238), (298, 44193), (304, 44169), (309, 44154), (313, 44130),

Gene: Eaglehorse\_50 Start: 44895, Stop: 43528, Start Num: 78

Candidate Starts for Eaglehorse\_50:

(Start: 78 @44895 has 78 MA's), (86, 44832), (88, 44817), (115, 44706), (128, 44655), (140, 44607), (145, 44559), (165, 44418), (168, 44409), (187, 44364), (189, 44358), (190, 44352), (195, 44340), (213, 44235), (217, 44202), (222, 44175), (230, 44142), (235, 44115), (240, 44091), (245, 44064), (251, 44037), (260, 43962), (264, 43917), (267, 43884), (275, 43863), (277, 43857), (284, 43824), (285, 43815), (287, 43806), (322, 43644), (325, 43626), (330, 43569),

Gene: EastView9101\_49 Start: 45797, Stop: 44415, Start Num: 74

Candidate Starts for EastView9101\_49:

(26, 46022), (Start: 74 @45797 has 9 MA's), (Start: 81 @45779 has 2 MA's), (129, 45563), (138, 45533), (159, 45368), (170, 45326), (176, 45308), (179, 45293), (199, 45242), (218, 45104), (222, 45080), (232, 45029), (235, 45020), (240, 44996), (241, 44993), (261, 44861), (264, 44828), (267, 44795), (269, 44777), (279, 44723), (287, 44678), (292, 44651), (311, 44570), (313, 44552), (325, 44489),

Gene: ElvisPhasley\_52 Start: 45418, Stop: 44015, Start Num: 76

Candidate Starts for ElvisPhasley\_52:

(37, 45583), (Start: 76 @45418 has 218 MA's), (Start: 78 @45415 has 78 MA's), (Start: 79 @45409 has 1 MA's), (85, 45367), (98, 45295), (104, 45274), (129, 45178), (141, 45127), (149, 45061), (150, 45058), (155, 45007), (168, 44941), (173, 44929), (181, 44893), (195, 44848), (202, 44818), (209, 44779), (213, 44740), (217, 44707), (218, 44704), (222, 44680), (230, 44647), (233, 44626), (240, 44596), (259, 44482), (263, 44440), (264, 44419), (267, 44386), (279, 44314), (281, 44308), (289, 44260), (298, 44215), (304, 44191), (309, 44176), (313, 44152),

Gene: EmiRose\_30 Start: 23905, Stop: 22832, Start Num: 127

Candidate Starts for EmiRose\_30:

(Start: 127 @23905 has 3 MA's), (129, 23899), (150, 23782), (164, 23677), (165, 23674), (215, 23506), (218, 23491), (221, 23476), (229, 23437), (238, 23395), (244, 23362), (249, 23359), (255, 23317), (261, 23257), (262, 23251), (267, 23191), (273, 23182), (286, 23119), (294, 23080),

Gene: Emiris\_52 Start: 45364, Stop: 43961, Start Num: 76

Candidate Starts for Emiris\_52:

(37, 45529), (Start: 76 @45364 has 218 MA's), (Start: 78 @45361 has 78 MA's), (Start: 79 @45355 has 1 MA's), (85, 45313), (98, 45241), (104, 45220), (129, 45124), (141, 45073), (149, 45007), (150, 45004), (155, 44953), (168, 44887), (173, 44875), (181, 44839), (195, 44794), (202, 44764), (209, 44725), (213, 44686), (217, 44653), (218, 44650), (220, 44644), (222, 44626), (230, 44593), (233, 44572), (240, 44542), (259, 44428), (263, 44386), (264, 44365), (267, 44332), (279, 44260), (281, 44254), (289, 44206), (298, 44161), (304, 44137), (309, 44122), (313, 44098),

Gene: EmpTee\_51 Start: 45244, Stop: 43841, Start Num: 76

Candidate Starts for EmpTee\_51:

(12, 45622), (13, 45577), (17, 45535), (29, 45454), (37, 45409), (Start: 76 @45244 has 218 MA's), (Start: 78 @45241 has 78 MA's), (Start: 79 @45235 has 1 MA's), (85, 45193), (98, 45121), (104, 45100), (129, 45004), (141, 44953), (149, 44887), (150, 44884), (155, 44833), (168, 44767), (173, 44755), (181, 44719), (195, 44674), (202, 44644), (209, 44605), (213, 44566), (217, 44533), (218, 44530), (222, 44506), (230, 44473), (233, 44452), (240, 44422), (259, 44308), (263, 44266), (264, 44245), (267, 44212), (279, 44140), (281, 44134), (289, 44086), (298, 44041), (304, 44017), (309, 44002), (313, 43978),

Gene: Epah\_45 Start: 44672, Stop: 43332, Start Num: 75

Candidate Starts for Epah\_45:

(Start: 72 @44675 has 9 MA's), (Start: 75 @44672 has 15 MA's), (Start: 79 @44663 has 1 MA's), (80, 44657), (87, 44606), (123, 44459), (141, 44393), (143, 44369), (168, 44207), (175, 44189), (177, 44174), (178, 44171), (185, 44144), (203, 44081), (204, 44072), (216, 43985), (221, 43961), (230, 43919), (231, 43916), (233, 43898), (240, 43868), (248, 43841), (253, 43808), (257, 43787), (258, 43778), (261, 43733), (262, 43727), (263, 43718), (264, 43697), (267, 43664), (281, 43625), (292, 43559), (293, 43556), (311, 43487), (313, 43469),

Gene: Eremos\_51 Start: 45237, Stop: 43834, Start Num: 76

Candidate Starts for Eremos\_51:

(37, 45402), (Start: 76 @45237 has 218 MA's), (Start: 78 @45234 has 78 MA's), (Start: 79 @45228 has 1 MA's), (85, 45186), (98, 45114), (104, 45093), (129, 44997), (141, 44946), (149, 44880), (150, 44877), (155, 44826), (168, 44760), (173, 44748), (181, 44712), (195, 44667), (202, 44637), (209, 44598), (213, 44559), (217, 44526), (218, 44523), (222, 44499), (230, 44466), (233, 44445), (240, 44415), (259, 44301), (263, 44259), (264, 44238), (267, 44205), (279, 44133), (281, 44127), (289, 44079), (298, 44034), (304, 44010), (309, 43995), (313, 43971),

Gene: Etaye\_51 Start: 45231, Stop: 43828, Start Num: 76

Candidate Starts for Etaye\_51:

(37, 45396), (Start: 76 @45231 has 218 MA's), (Start: 78 @45228 has 78 MA's), (Start: 79 @45222 has 1 MA's), (85, 45180), (98, 45108), (104, 45087), (129, 44991), (141, 44940), (149, 44874), (150, 44871), (155, 44820), (168, 44754), (173, 44742), (181, 44706), (195, 44661), (202, 44631), (209, 44592), (213, 44553), (217, 44520), (218, 44517), (220, 44511), (222, 44493), (230, 44460), (233, 44439), (240, 44409), (259, 44295), (263, 44253), (264, 44232), (267, 44199), (279, 44127), (281, 44121), (289, 44073), (298, 44028), (304, 44004), (309, 43989), (313, 43965),

Gene: Eugenia\_51 Start: 45241, Stop: 43838, Start Num: 76

Candidate Starts for Eugenia\_51:

(37, 45406), (Start: 76 @45241 has 218 MA's), (Start: 78 @45238 has 78 MA's), (Start: 79 @45232 has 1 MA's), (85, 45190), (98, 45118), (104, 45097), (129, 45001), (141, 44950), (149, 44884), (150, 44881), (153, 44857), (155, 44830), (168, 44764), (173, 44752), (181, 44716), (195, 44671), (202, 44641), (209, 44602), (213, 44563), (217, 44530), (218, 44527), (222, 44503), (230, 44470), (233, 44449), (240, 44419), (259, 44305), (263, 44263), (264, 44242), (267, 44209), (279, 44137), (281, 44131), (289, 44083), (298, 44038), (304, 44014), (309, 43999), (313, 43975),

Gene: Evaa\_44 Start: 38752, Stop: 37496, Start Num: 44

Candidate Starts for Evaa\_44:

(Start: 44 @38752 has 1 MA's), (55, 38713), (Start: 124 @38626 has 2 MA's), (Start: 126 @38620 has 4 MA's), (141, 38569), (144, 38536), (146, 38530), (171, 38383), (217, 38167), (226, 38122), (240, 38056), (248, 38029), (253, 37996), (264, 37888), (267, 37855), (281, 37816), (286, 37783), (287, 37777), (292, 37750), (299, 37714), (313, 37657), (322, 37612),

Gene: Fanaw\_45 Start: 45368, Stop: 44028, Start Num: 75

Candidate Starts for Fanaw\_45:

(Start: 72 @45371 has 9 MA's), (Start: 75 @45368 has 15 MA's), (Start: 79 @45359 has 1 MA's), (80, 45353), (87, 45302), (123, 45155), (138, 45110), (141, 45089), (158, 44948), (162, 44924), (168, 44903), (169, 44900), (175, 44885), (177, 44870), (201, 44801), (202, 44786), (204, 44768), (210, 44744), (218, 44672), (221, 44657), (222, 44648), (230, 44615), (231, 44612), (233, 44594), (240, 44564), (253, 44504), (256, 44486), (258, 44474), (261, 44429), (262, 44423), (263, 44414), (266, 44384), (267, 44360), (281, 44321), (288, 44276), (292, 44255), (293, 44252), (311, 44183), (313, 44165),

Gene: Fang\_52 Start: 45389, Stop: 43986, Start Num: 76

Candidate Starts for Fang\_52:

(12, 45767), (13, 45722), (17, 45680), (29, 45599), (37, 45554), (Start: 76 @45389 has 218 MA's), (Start: 78 @45386 has 78 MA's), (Start: 79 @45380 has 1 MA's), (85, 45338), (98, 45266), (104, 45245), (129, 45149), (141, 45098), (149, 45032), (150, 45029), (153, 45005), (155, 44978), (168, 44912), (173, 44900), (181, 44864), (195, 44819), (202, 44789), (209, 44750), (213, 44711), (217, 44678), (218, 44675), (222, 44651), (230, 44618), (233, 44597), (240, 44567), (259, 44453), (263, 44411), (264, 44390), (267, 44357), (279, 44285), (281, 44279), (289, 44231), (298, 44186), (304, 44162), (309, 44147), (313, 44123),

Gene: Faze9\_49 Start: 44989, Stop: 43622, Start Num: 78

Candidate Starts for Faze9\_49:

(Start: 78 @44989 has 78 MA's), (86, 44926), (88, 44911), (115, 44800), (128, 44749), (140, 44701), (145, 44653), (165, 44512), (168, 44503), (187, 44458), (189, 44452), (190, 44446), (195, 44434), (213, 44329), (217, 44296), (222, 44269), (230, 44236), (235, 44209), (240, 44185), (245, 44158), (251, 44131), (260, 44056), (264, 44011), (267, 43978), (275, 43957), (277, 43951), (284, 43918), (285, 43909), (287, 43900), (322, 43738), (325, 43720), (330, 43663),

Gene: FelixTres\_47 Start: 40314, Stop: 38923, Start Num: 28

Candidate Starts for FelixTres\_47:

(3, 40653), (4, 40629), (6, 40587), (8, 40518), (11, 40473), (Start: 28 @40314 has 6 MA's), (32, 40287), (Start: 43 @40236 has 6 MA's), (82, 40092), (Start: 126 @40086 has 4 MA's), (138, 40053), (141, 40035), (142, 40023), (144, 40002), (146, 39996), (156, 39906), (172, 39846), (192, 39777), (206, 39714), (215, 39642), (217, 39630), (221, 39612), (222, 39603), (230, 39570), (240, 39519), (249, 39489), (252, 39462), (253, 39459), (264, 39351), (268, 39309), (272, 39276), (277, 39231), (281, 39219), (286, 39186), (287, 39180), (292, 39153),

Gene: Flake\_53 Start: 45296, Stop: 43893, Start Num: 73

Candidate Starts for Flake\_53:

(37, 45458), (Start: 73 @45296 has 20 MA's), (Start: 78 @45293 has 78 MA's), (85, 45245), (98, 45173), (104, 45152), (129, 45056), (141, 45005), (149, 44939), (150, 44936), (153, 44912), (155, 44885), (168, 44819), (173, 44807), (181, 44771), (195, 44726), (202, 44696), (209, 44657), (213, 44618), (217, 44585), (218, 44582), (222, 44558), (230, 44525), (233, 44504), (240, 44474), (259, 44360), (263, 44318), (264, 44297), (267, 44264), (279, 44192), (281, 44186), (289, 44138), (298, 44093), (304, 44069), (309, 44054), (313, 44030),

Gene: FleetyMac\_52 Start: 45249, Stop: 43846, Start Num: 73

Candidate Starts for FleetyMac\_52:

(37, 45411), (Start: 73 @45249 has 20 MA's), (Start: 78 @45246 has 78 MA's), (85, 45198), (98, 45126), (104, 45105), (129, 45009), (141, 44958), (149, 44892), (150, 44889), (153, 44865), (155, 44838), (168, 44772), (173, 44760), (181, 44724), (195, 44679), (202, 44649), (209, 44610), (213, 44571), (217, 44538), (218, 44535), (222, 44511), (230, 44478), (233, 44457), (240, 44427), (259, 44313), (263, 44271), (264, 44250), (267, 44217), (279, 44145), (281, 44139), (289, 44091), (298, 44046), (304, 44022), (309, 44007), (313, 43983),

Gene: FluffyNinja\_52 Start: 45403, Stop: 44000, Start Num: 76

Candidate Starts for FluffyNinja\_52:

(12, 45781), (13, 45736), (17, 45694), (29, 45613), (37, 45568), (Start: 76 @45403 has 218 MA's), (Start: 78 @45400 has 78 MA's), (Start: 79 @45394 has 1 MA's), (85, 45352), (98, 45280), (104, 45259), (129, 45163), (141, 45112), (149, 45046), (150, 45043), (155, 44992), (168, 44926), (173, 44914), (181, 44878), (195, 44833), (202, 44803), (209, 44764), (213, 44725), (217, 44692), (218, 44689), (222, 44665), (230, 44632), (233, 44611), (240, 44581), (259, 44467), (263, 44425), (264, 44404), (267, 44371), (279, 44299), (281, 44293), (289, 44245), (298, 44200), (304, 44176), (309, 44161), (313, 44137),

Gene: ForDig\_44 Start: 43545, Stop: 42115, Start Num: 70

Candidate Starts for ForDig\_44:

(49, 43635), (53, 43611), (63, 43575), (Start: 70 @43545 has 3 MA's), (Start: 79 @43527 has 1 MA's), (112, 43323), (117, 43305), (123, 43251), (133, 43224), (140, 43188), (141, 43176), (166, 42996), (168, 42990), (175, 42972), (177, 42957), (201, 42891), (204, 42858), (206, 42849), (209, 42837), (210, 42834), (218, 42762), (220, 42756), (221, 42747), (222, 42738), (223, 42735), (234, 42681), (238, 42666), (248, 42627), (252, 42597), (263, 42504), (264, 42483), (267, 42450), (281, 42411), (288, 42366), (291, 42348), (293, 42342), (302, 42297),

Gene: Fortunato\_47 Start: 45732, Stop: 44389, Start Num: 72

Candidate Starts for Fortunato\_47:

(Start: 72 @45732 has 9 MA's), (Start: 75 @45729 has 15 MA's), (Start: 79 @45720 has 1 MA's), (80, 45714), (87, 45663), (123, 45516), (138, 45471), (141, 45450), (158, 45309), (162, 45285), (168, 45264), (169, 45261), (175, 45246), (177, 45231), (201, 45162), (202, 45147), (210, 45105), (218, 45033), (221, 45018), (222, 45009), (230, 44976), (231, 44973), (233, 44955), (240, 44925), (253, 44865), (256, 44847), (258, 44835), (261, 44790), (262, 44784), (263, 44775), (266, 44745), (267, 44721), (281, 44682), (288, 44637), (292, 44616), (293, 44613), (311, 44544), (313, 44526),

Gene: Fozzie\_50 Start: 45266, Stop: 43863, Start Num: 76

Candidate Starts for Fozzie\_50:

(12, 45644), (13, 45599), (17, 45557), (29, 45476), (37, 45431), (Start: 76 @45266 has 218 MA's), (Start: 78 @45263 has 78 MA's), (Start: 79 @45257 has 1 MA's), (85, 45215), (98, 45143), (104, 45122), (129, 45026), (141, 44975), (149, 44909), (150, 44906), (155, 44855), (168, 44789), (173, 44777), (181, 44741), (195, 44696), (202, 44666), (209, 44627), (213, 44588), (217, 44555), (218, 44552), (222, 44528), (230, 44495), (233, 44474), (240, 44444), (259, 44330), (263, 44288), (264, 44267), (267, 44234), (279, 44162), (281, 44156), (289, 44108), (298, 44063), (304, 44039), (309, 44024), (313, 44000),

Gene: Frankicide\_51 Start: 45268, Stop: 43865, Start Num: 76

Candidate Starts for Frankicide\_51:

(37, 45433), (Start: 76 @45268 has 218 MA's), (Start: 78 @45265 has 78 MA's), (Start: 79 @45259 has 1 MA's), (85, 45217), (98, 45145), (104, 45124), (129, 45028), (141, 44977), (149, 44911), (150, 44908), (153, 44884), (155, 44857), (168, 44791), (173, 44779), (181, 44743), (195, 44698), (202, 44668), (209, 44629), (213, 44590), (217, 44557), (218, 44554), (222, 44530), (230, 44497), (233, 44476), (240, 44446), (259, 44332), (263, 44290), (264, 44269), (267, 44236), (279, 44164), (281, 44158), (289, 44110), (298, 44065), (304, 44041), (309, 44026), (313, 44002),

Gene: Frederick\_47 Start: 45702, Stop: 44362, Start Num: 75

Candidate Starts for Frederick\_47:

(Start: 72 @45705 has 9 MA's), (Start: 75 @45702 has 15 MA's), (Start: 79 @45693 has 1 MA's), (80, 45687), (87, 45636), (123, 45489), (138, 45444), (141, 45423), (158, 45282), (162, 45258), (168, 45237), (169, 45234), (175, 45219), (177, 45204), (201, 45135), (210, 45078), (221, 44991), (222, 44982), (230, 44949), (231, 44946), (233, 44928), (240, 44898), (253, 44838), (256, 44820), (258, 44808), (261, 44763), (262, 44757), (263, 44748), (264, 44727), (266, 44718), (267, 44694), (281, 44655), (292, 44589), (293, 44586), (309, 44523), (311, 44517), (313, 44499),

Gene: FremontTroll\_51 Start: 45004, Stop: 43601, Start Num: 76

Candidate Starts for FremontTroll\_51:

(37, 45169), (Start: 76 @45004 has 218 MA's), (Start: 78 @45001 has 78 MA's), (Start: 79 @44995 has 1 MA's), (85, 44953), (98, 44881), (104, 44860), (129, 44764), (141, 44713), (149, 44647), (150, 44644), (155, 44593), (168, 44527), (173, 44515), (181, 44479), (195, 44434), (202, 44404), (209, 44365), (213, 44326), (217, 44293), (218, 44290), (222, 44266), (230, 44233), (233, 44212), (240, 44182), (259, 44068), (263, 44026), (264, 44005), (267, 43972), (279, 43900), (281, 43894), (289, 43846), (298, 43801), (304, 43777), (309, 43762), (313, 43738),

Gene: FrenchFry\_50 Start: 44968, Stop: 43601, Start Num: 78

Candidate Starts for FrenchFry\_50:

(Start: 78 @44968 has 78 MA's), (86, 44905), (88, 44890), (115, 44779), (128, 44728), (140, 44680), (145, 44632), (165, 44491), (168, 44482), (187, 44437), (189, 44431), (190, 44425), (195, 44413), (213, 44308), (217, 44275), (221, 44257), (222, 44248), (230, 44215), (235, 44188), (240, 44164), (245, 44137), (251, 44110), (260, 44035), (264, 43990), (267, 43957), (275, 43936), (277, 43930), (284, 43897), (287, 43879), (322, 43717), (325, 43699), (330, 43642),

Gene: Fresco\_44 Start: 37982, Stop: 36669, Start Num: 41

Candidate Starts for Fresco\_44:

(Start: 40 @37985 has 1 MA's), (Start: 41 @37982 has 43 MA's), (Start: 124 @37823 has 2 MA's), (Start: 126 @37817 has 4 MA's), (141, 37766), (193, 37511), (201, 37490), (207, 37445), (210, 37433), (230, 37304), (235, 37277), (240, 37253), (249, 37223), (250, 37205), (253, 37193), (258, 37163), (260, 37130), (264, 37085), (267, 37052), (275, 37019), (277, 36992), (286, 36947), (287, 36941), (292, 36914), (293, 36911), (304, 36863), (330, 36701),

Gene: Freya\_50 Start: 44929, Stop: 43526, Start Num: 76

Candidate Starts for Freya\_50:

(37, 45094), (Start: 76 @44929 has 218 MA's), (Start: 78 @44926 has 78 MA's), (Start: 79 @44920 has 1 MA's), (85, 44878), (98, 44806), (104, 44785), (129, 44689), (141, 44638), (149, 44572), (150, 44569), (155, 44518), (168, 44452), (173, 44440), (181, 44404), (195, 44359), (202, 44329), (209, 44290), (213, 44251), (217, 44218), (218, 44215), (222, 44191), (230, 44158), (233, 44137), (240, 44107), (259, 43993), (263, 43951), (264, 43930), (267, 43897), (279, 43825), (281, 43819), (289, 43771), (298, 43726), (304, 43702), (309, 43687), (313, 43663),

Gene: FriarPreacher\_50 Start: 45280, Stop: 43877, Start Num: 76

Candidate Starts for FriarPreacher\_50:

(12, 45658), (13, 45613), (17, 45571), (29, 45490), (37, 45445), (Start: 76 @45280 has 218 MA's), (Start: 78 @45277 has 78 MA's), (Start: 79 @45271 has 1 MA's), (85, 45229), (98, 45157), (104, 45136), (129, 45040), (141, 44989), (149, 44923), (150, 44920), (155, 44869), (168, 44803), (173, 44791), (181, 44755), (195, 44710), (202, 44680), (209, 44641), (213, 44602), (217, 44569), (218, 44566), (222, 44542), (230, 44509), (233, 44488), (240, 44458), (259, 44344), (263, 44302), (264, 44281), (267, 44248), (279, 44176), (281, 44170), (289, 44122), (298, 44077), (304, 44053), (309, 44038), (313, 44014),

Gene: Fringe\_52 Start: 45365, Stop: 43962, Start Num: 76

Candidate Starts for Fringe\_52:

(12, 45743), (13, 45698), (17, 45656), (29, 45575), (37, 45530), (Start: 76 @45365 has 218 MA's), (Start: 78 @45362 has 78 MA's), (Start: 79 @45356 has 1 MA's), (85, 45314), (98, 45242), (104, 45221), (129, 45125), (141, 45074), (149, 45008), (150, 45005), (155, 44954), (168, 44888), (173, 44876), (181, 44840), (195, 44795), (202, 44765), (209, 44726), (213, 44687), (217, 44654), (218, 44651), (222, 44627), (230, 44594), (233, 44573), (240, 44543), (259, 44429), (263, 44387), (264, 44366), (267, 44333), (279, 44261), (281, 44255), (289, 44207), (298, 44162), (304, 44138), (309, 44123), (313, 44099),

Gene: FugateOSU\_50 Start: 44943, Stop: 43540, Start Num: 76

Candidate Starts for FugateOSU\_50:

(37, 45108), (Start: 76 @44943 has 218 MA's), (Start: 78 @44940 has 78 MA's), (Start: 79 @44934 has 1 MA's), (85, 44892), (98, 44820), (104, 44799), (129, 44703), (141, 44652), (149, 44586), (150, 44583), (153, 44559), (155, 44532), (168, 44466), (173, 44454), (181, 44418), (195, 44373), (202, 44343), (209, 44304), (213, 44265), (217, 44232), (218, 44229), (222, 44205), (230, 44172), (233, 44151), (240, 44121), (259, 44007), (263, 43965), (264, 43944), (267, 43911), (279, 43839), (281, 43833), (289, 43785), (298, 43740), (304, 43716), (309, 43701), (313, 43677),

Gene: Funsized\_54 Start: 48470, Stop: 47079, Start Num: 69

Candidate Starts for Funsized\_54:

(Start: 69 @48470 has 2 MA's), (Start: 79 @48449 has 1 MA's), (114, 48281), (115, 48278), (116, 48272), (129, 48197), (144, 48113), (147, 48104), (156, 48017), (168, 47960), (175, 47942), (182, 47915), (204, 47834), (206, 47825), (210, 47810), (216, 47747), (218, 47738), (220, 47732), (221, 47723), (223, 47711), (231, 47678), (238, 47642), (240, 47630), (247, 47600), (248, 47594), (250, 47573), (256, 47543), (258, 47531), (261, 47486), (264, 47450), (267, 47417), (279, 47384), (281, 47378), (292, 47312), (296, 47294), (304, 47261), (309, 47246), (326, 47138), (330, 47102),

Gene: Gadjet\_50 Start: 44888, Stop: 43275, Start Num: 36

Candidate Starts for Gadjet\_50:

(18, 44993), (Start: 36 @44888 has 1 MA's), (62, 44789), (Start: 77 @44732 has 2 MA's), (83, 44711), (93, 44588), (95, 44576), (101, 44552), (105, 44537), (Start: 127 @44420 has 3 MA's), (133, 44405), (135, 44393), (141, 44363), (147, 44321), (155, 44243), (167, 44177), (168, 44174), (186, 44111), (193, 44078), (198, 44069), (212, 43976), (218, 43928), (219, 43925), (221, 43913), (222, 43904), (235, 43844), (240, 43820), (258, 43730), (267, 43619), (279, 43586), (280, 43583), (282, 43568), (286, 43547), (292, 43514),

Gene: Gareth\_50 Start: 44937, Stop: 43534, Start Num: 76

Candidate Starts for Gareth\_50:

(12, 45315), (13, 45270), (17, 45228), (29, 45147), (37, 45102), (Start: 76 @44937 has 218 MA's), (Start: 78 @44934 has 78 MA's), (Start: 79 @44928 has 1 MA's), (85, 44886), (98, 44814), (104, 44793), (129, 44697), (141, 44646), (149, 44580), (150, 44577), (155, 44526), (168, 44460), (173, 44448), (181, 44412), (195, 44367), (202, 44337), (209, 44298), (213, 44259), (217, 44226), (218,

44223), (222, 44199), (230, 44166), (233, 44145), (240, 44115), (259, 44001), (263, 43959), (264, 43938), (267, 43905), (279, 43833), (281, 43827), (289, 43779), (298, 43734), (304, 43710), (309, 43695), (313, 43671),

Gene: GeneCoco\_51 Start: 45252, Stop: 43849, Start Num: 76

Candidate Starts for GeneCoco\_51:

(12, 45630), (13, 45585), (17, 45543), (29, 45462), (37, 45417), (Start: 76 @45252 has 218 MA's), (Start: 78 @45249 has 78 MA's), (Start: 79 @45243 has 1 MA's), (85, 45201), (98, 45129), (104, 45108), (129, 45012), (141, 44961), (149, 44895), (150, 44892), (155, 44841), (168, 44775), (173, 44763), (181, 44727), (195, 44682), (202, 44652), (209, 44613), (213, 44574), (217, 44541), (218, 44538), (220, 44532), (222, 44514), (230, 44481), (233, 44460), (240, 44430), (259, 44316), (263, 44274), (264, 44253), (267, 44220), (279, 44148), (281, 44142), (289, 44094), (298, 44049), (304, 44025), (309, 44010), (313, 43986),

Gene: Gervas\_49 Start: 44856, Stop: 43243, Start Num: 41

Candidate Starts for Gervas\_49:

(19, 44982), (20, 44976), (24, 44961), (Start: 38 @44865 has 9 MA's), (Start: 41 @44856 has 43 MA's), (62, 44760), (83, 44682), (95, 44547), (Start: 127 @44388 has 3 MA's), (133, 44373), (135, 44361), (141, 44331), (147, 44289), (155, 44211), (186, 44079), (193, 44046), (198, 44037), (212, 43944), (218, 43896), (221, 43881), (222, 43872), (230, 43839), (235, 43812), (240, 43788), (258, 43698), (267, 43587), (279, 43554), (282, 43536), (286, 43515), (292, 43482),

Gene: GinPorsche\_45 Start: 44672, Stop: 43332, Start Num: 75

Candidate Starts for GinPorsche\_45:

(Start: 72 @44675 has 9 MA's), (Start: 75 @44672 has 15 MA's), (Start: 79 @44663 has 1 MA's), (80, 44657), (87, 44606), (123, 44459), (141, 44393), (143, 44369), (168, 44207), (175, 44189), (177, 44174), (178, 44171), (185, 44144), (203, 44081), (204, 44072), (216, 43985), (221, 43961), (230, 43919), (231, 43916), (233, 43898), (240, 43868), (248, 43841), (253, 43808), (257, 43787), (258, 43778), (261, 43733), (262, 43727), (263, 43718), (264, 43697), (267, 43664), (281, 43625), (292, 43559), (293, 43556), (311, 43487), (313, 43469),

Gene: Giraffe\_51 Start: 44961, Stop: 43558, Start Num: 76

Candidate Starts for Giraffe\_51:

(37, 45126), (Start: 76 @44961 has 218 MA's), (Start: 78 @44958 has 78 MA's), (Start: 79 @44952 has 1 MA's), (85, 44910), (98, 44838), (104, 44817), (129, 44721), (141, 44670), (149, 44604), (150, 44601), (155, 44550), (168, 44484), (173, 44472), (181, 44436), (195, 44391), (202, 44361), (209, 44322), (213, 44283), (217, 44250), (218, 44247), (222, 44223), (230, 44190), (233, 44169), (240, 44139), (259, 44025), (263, 43983), (264, 43962), (267, 43929), (279, 43857), (281, 43851), (289, 43803), (298, 43758), (304, 43734), (309, 43719), (313, 43695),

Gene: Glass\_50 Start: 44973, Stop: 43606, Start Num: 78

Candidate Starts for Glass\_50:

(Start: 78 @44973 has 78 MA's), (86, 44910), (88, 44895), (115, 44784), (128, 44733), (140, 44685), (145, 44637), (165, 44496), (168, 44487), (187, 44442), (189, 44436), (190, 44430), (195, 44418), (213, 44313), (217, 44280), (221, 44262), (222, 44253), (230, 44220), (235, 44193), (240, 44169), (245, 44142), (251, 44115), (260, 44040), (264, 43995), (267, 43962), (275, 43941), (277, 43935), (284, 43902), (287, 43884), (322, 43722), (325, 43704), (330, 43647),

Gene: GlenHope\_50 Start: 44877, Stop: 43255, Start Num: 38

Candidate Starts for GlenHope\_50:

(19, 44994), (20, 44988), (24, 44973), (Start: 38 @44877 has 9 MA's), (Start: 41 @44868 has 43 MA's), (62, 44772), (83, 44694), (95, 44559), (Start: 127 @44400 has 3 MA's), (133, 44385), (135, 44373), (141, 44343), (147, 44301), (155, 44223), (186, 44091), (193, 44058), (198, 44049), (212, 43956),

(218, 43908), (221, 43893), (222, 43884), (230, 43851), (235, 43824), (240, 43800), (258, 43710), (267, 43599), (279, 43566), (280, 43563), (282, 43548), (286, 43527), (292, 43494),

Gene: Glubnar\_50 Start: 44868, Stop: 43255, Start Num: 41

Candidate Starts for Glubnar\_50:

(19, 44994), (20, 44988), (24, 44973), (Start: 38 @44877 has 9 MA's), (Start: 41 @44868 has 43 MA's), (62, 44772), (83, 44694), (95, 44559), (Start: 127 @44400 has 3 MA's), (133, 44385), (135, 44373), (141, 44343), (147, 44301), (155, 44223), (186, 44091), (193, 44058), (198, 44049), (212, 43956), (218, 43908), (221, 43893), (222, 43884), (230, 43851), (235, 43824), (240, 43800), (258, 43710), (267, 43599), (279, 43566), (282, 43548), (286, 43527), (292, 43494),

Gene: Godines\_50 Start: 44925, Stop: 43558, Start Num: 78

Candidate Starts for Godines\_50:

(Start: 78 @44925 has 78 MA's), (86, 44862), (88, 44847), (115, 44736), (128, 44685), (140, 44637), (145, 44589), (163, 44454), (165, 44448), (168, 44439), (187, 44394), (189, 44388), (190, 44382), (195, 44370), (213, 44265), (217, 44232), (221, 44214), (222, 44205), (230, 44172), (235, 44145), (240, 44121), (245, 44094), (251, 44067), (260, 43992), (264, 43947), (267, 43914), (275, 43893), (277, 43887), (284, 43854), (287, 43836), (322, 43674), (325, 43656), (330, 43599),

Gene: Gophee\_51 Start: 45235, Stop: 43832, Start Num: 76

Candidate Starts for Gophee\_51:

(37, 45400), (Start: 76 @45235 has 218 MA's), (Start: 78 @45232 has 78 MA's), (Start: 79 @45226 has 1 MA's), (85, 45184), (98, 45112), (104, 45091), (129, 44995), (141, 44944), (149, 44878), (150, 44875), (155, 44824), (168, 44758), (173, 44746), (181, 44710), (195, 44665), (202, 44635), (209, 44596), (213, 44557), (217, 44524), (218, 44521), (220, 44515), (222, 44497), (230, 44464), (233, 44443), (240, 44413), (259, 44299), (263, 44257), (264, 44236), (267, 44203), (279, 44131), (281, 44125), (289, 44077), (298, 44032), (304, 44008), (309, 43993), (313, 43969),

Gene: Grand2040\_50 Start: 44955, Stop: 43552, Start Num: 76

Candidate Starts for Grand2040\_50:

(12, 45333), (13, 45288), (17, 45246), (29, 45165), (37, 45120), (Start: 76 @44955 has 218 MA's), (Start: 78 @44952 has 78 MA's), (Start: 79 @44946 has 1 MA's), (85, 44904), (98, 44832), (104, 44811), (129, 44715), (141, 44664), (149, 44598), (150, 44595), (155, 44544), (168, 44478), (173, 44466), (181, 44430), (195, 44385), (202, 44355), (209, 44316), (213, 44277), (217, 44244), (218, 44241), (222, 44217), (230, 44184), (233, 44163), (240, 44133), (259, 44019), (263, 43977), (264, 43956), (267, 43923), (279, 43851), (281, 43845), (289, 43797), (298, 43752), (304, 43728), (309, 43713), (313, 43689),

Gene: Gustav\_32 Start: 25299, Stop: 24172, Start Num: 126

Candidate Starts for Gustav\_32:

(21, 25836), (23, 25827), (35, 25743), (61, 25629), (99, 25392), (Start: 126 @25299 has 4 MA's), (151, 25158), (162, 25065), (164, 25056), (215, 24885), (225, 24831), (227, 24825), (241, 24759), (249, 24723), (265, 24585), (267, 24555), (277, 24528), (286, 24480), (290, 24453), (292, 24447), (298, 24420), (306, 24387), (329, 24207),

Gene: Gwennie1\_51 Start: 45301, Stop: 43898, Start Num: 76

Candidate Starts for Gwennie1\_51:

(37, 45466), (Start: 76 @45301 has 218 MA's), (Start: 78 @45298 has 78 MA's), (Start: 79 @45292 has 1 MA's), (85, 45250), (98, 45178), (104, 45157), (129, 45061), (141, 45010), (149, 44944), (150, 44941), (155, 44890), (168, 44824), (173, 44812), (181, 44776), (195, 44731), (202, 44701), (209, 44662), (213, 44623), (217, 44590), (218, 44587), (220, 44581), (222, 44563), (230, 44530), (233, 44509), (240, 44479), (259, 44365), (263, 44323), (264, 44302), (267, 44269), (279, 44197), (281, 44191), (289, 44143), (298, 44098), (304, 44074), (309, 44059), (313, 44035),

Gene: Gwilliam\_51 Start: 45238, Stop: 43838, Start Num: 78

Candidate Starts for Gwilliam\_51:

(37, 45406), (Start: 76 @45241 has 218 MA's), (Start: 78 @45238 has 78 MA's), (Start: 79 @45232 has 1 MA's), (85, 45190), (98, 45118), (104, 45097), (129, 45001), (141, 44950), (149, 44884), (150, 44881), (153, 44857), (155, 44830), (168, 44764), (173, 44752), (181, 44716), (195, 44671), (202, 44641), (209, 44602), (213, 44563), (217, 44530), (218, 44527), (222, 44503), (230, 44470), (233, 44449), (240, 44419), (259, 44305), (263, 44263), (264, 44242), (267, 44209), (279, 44137), (281, 44131), (289, 44083), (298, 44038), (304, 44014), (309, 43999), (313, 43975),

Gene: Gyarad\_0051 Start: 45255, Stop: 43852, Start Num: 76

Candidate Starts for Gyarad\_0051:

(12, 45633), (13, 45588), (17, 45546), (29, 45465), (37, 45420), (Start: 76 @45255 has 218 MA's), (Start: 78 @45252 has 78 MA's), (Start: 79 @45246 has 1 MA's), (85, 45204), (98, 45132), (104, 45111), (129, 45015), (141, 44964), (149, 44898), (150, 44895), (153, 44871), (155, 44844), (168, 44778), (173, 44766), (181, 44730), (195, 44685), (202, 44655), (209, 44616), (213, 44577), (217, 44544), (218, 44541), (222, 44517), (230, 44484), (233, 44463), (240, 44433), (259, 44319), (263, 44277), (264, 44256), (267, 44223), (279, 44151), (281, 44145), (289, 44097), (298, 44052), (304, 44028), (309, 44013), (313, 43989),

Gene: HSavage\_51 Start: 45247, Stop: 43844, Start Num: 76

Candidate Starts for HSavage\_51:

(37, 45412), (Start: 76 @45247 has 218 MA's), (Start: 78 @45244 has 78 MA's), (Start: 79 @45238 has 1 MA's), (85, 45196), (98, 45124), (104, 45103), (129, 45007), (141, 44956), (149, 44890), (150, 44887), (155, 44836), (168, 44770), (173, 44758), (181, 44722), (195, 44677), (202, 44647), (209, 44608), (213, 44569), (217, 44536), (218, 44533), (222, 44509), (230, 44476), (233, 44455), (240, 44425), (259, 44311), (263, 44269), (264, 44248), (267, 44215), (279, 44143), (281, 44137), (289, 44089), (298, 44044), (304, 44020), (309, 44005), (313, 43981),

Gene: Haimas\_51 Start: 45241, Stop: 43838, Start Num: 76

Candidate Starts for Haimas\_51:

(37, 45406), (Start: 76 @45241 has 218 MA's), (Start: 78 @45238 has 78 MA's), (Start: 79 @45232 has 1 MA's), (85, 45190), (98, 45118), (104, 45097), (129, 45001), (141, 44950), (149, 44884), (150, 44881), (155, 44830), (168, 44764), (173, 44752), (181, 44716), (195, 44671), (202, 44641), (209, 44602), (213, 44563), (217, 44530), (218, 44527), (222, 44503), (230, 44470), (233, 44449), (240, 44419), (259, 44305), (263, 44263), (264, 44242), (267, 44209), (279, 44137), (281, 44131), (289, 44083), (298, 44038), (304, 44014), (309, 43999), (313, 43975),

Gene: Haleema\_50 Start: 44955, Stop: 43552, Start Num: 76

Candidate Starts for Haleema\_50:

(12, 45333), (13, 45288), (17, 45246), (29, 45165), (37, 45120), (Start: 76 @44955 has 218 MA's), (Start: 78 @44952 has 78 MA's), (Start: 79 @44946 has 1 MA's), (85, 44904), (98, 44832), (104, 44811), (129, 44715), (141, 44664), (149, 44598), (150, 44595), (155, 44544), (168, 44478), (173, 44466), (181, 44430), (195, 44385), (202, 44355), (209, 44316), (213, 44277), (217, 44244), (218, 44241), (222, 44217), (230, 44184), (233, 44163), (240, 44133), (259, 44019), (263, 43977), (264, 43956), (267, 43923), (279, 43851), (281, 43845), (289, 43797), (298, 43752), (304, 43728), (309, 43713), (313, 43689),

Gene: Halfpint\_48 Start: 44693, Stop: 43080, Start Num: 41

Candidate Starts for Halfpint\_48:

(19, 44819), (20, 44813), (24, 44798), (Start: 38 @44702 has 9 MA's), (Start: 41 @44693 has 43 MA's), (62, 44597), (83, 44519), (95, 44384), (Start: 127 @44225 has 3 MA's), (133, 44210), (135, 44198), (141, 44168), (147, 44126), (155, 44048), (186, 43916), (193, 43883), (198, 43874), (212, 43781),

(218, 43733), (221, 43718), (222, 43709), (230, 43676), (235, 43649), (240, 43625), (258, 43535), (267, 43424), (279, 43391), (280, 43388), (282, 43373), (286, 43352), (292, 43319),

Gene: Hally898\_45 Start: 44684, Stop: 43344, Start Num: 75

Candidate Starts for Hally898\_45:

(Start: 72 @44687 has 9 MA's), (Start: 75 @44684 has 15 MA's), (Start: 79 @44675 has 1 MA's), (80, 44669), (87, 44618), (123, 44471), (141, 44405), (143, 44381), (168, 44219), (175, 44201), (177, 44186), (178, 44183), (185, 44156), (203, 44093), (204, 44084), (216, 43997), (221, 43973), (230, 43931), (231, 43928), (233, 43910), (240, 43880), (248, 43853), (253, 43820), (257, 43799), (258, 43790), (261, 43745), (262, 43739), (263, 43730), (264, 43709), (267, 43676), (281, 43637), (292, 43571), (293, 43568), (311, 43499), (313, 43481),

Gene: Hamish\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Hamish\_51:

(37, 45399), (Start: 76 @45234 has 218 MA's), (Start: 78 @45231 has 78 MA's), (Start: 79 @45225 has 1 MA's), (85, 45183), (98, 45111), (104, 45090), (129, 44994), (141, 44943), (149, 44877), (150, 44874), (155, 44823), (168, 44757), (173, 44745), (181, 44709), (195, 44664), (202, 44634), (209, 44595), (213, 44556), (217, 44523), (218, 44520), (222, 44496), (230, 44463), (233, 44442), (240, 44412), (259, 44298), (263, 44256), (264, 44235), (267, 44202), (279, 44130), (281, 44124), (289, 44076), (298, 44031), (304, 44007), (309, 43992), (313, 43968),

Gene: Hangman\_46 Start: 45811, Stop: 44468, Start Num: 72

Candidate Starts for Hangman\_46:

(Start: 72 @45811 has 9 MA's), (Start: 75 @45808 has 15 MA's), (Start: 79 @45799 has 1 MA's), (80, 45793), (87, 45742), (123, 45595), (138, 45550), (141, 45529), (158, 45388), (162, 45364), (168, 45343), (169, 45340), (175, 45325), (177, 45310), (201, 45241), (204, 45208), (210, 45184), (221, 45097), (222, 45088), (230, 45055), (231, 45052), (233, 45034), (240, 45004), (253, 44944), (256, 44926), (258, 44914), (261, 44869), (262, 44863), (263, 44854), (264, 44833), (266, 44824), (267, 44800), (281, 44761), (292, 44695), (293, 44692), (311, 44623), (313, 44605),

Gene: Happabalu\_51 Start: 44962, Stop: 43559, Start Num: 76

Candidate Starts for Happabalu\_51:

(37, 45127), (Start: 76 @44962 has 218 MA's), (Start: 78 @44959 has 78 MA's), (Start: 79 @44953 has 1 MA's), (85, 44911), (98, 44839), (104, 44818), (129, 44722), (141, 44671), (149, 44605), (150, 44602), (155, 44551), (168, 44485), (173, 44473), (181, 44437), (195, 44392), (202, 44362), (209, 44323), (213, 44284), (217, 44251), (218, 44248), (220, 44242), (222, 44224), (230, 44191), (233, 44170), (240, 44140), (259, 44026), (263, 43984), (264, 43963), (267, 43930), (279, 43858), (281, 43852), (289, 43804), (298, 43759), (304, 43735), (309, 43720), (313, 43696),

Gene: Hartsy\_51 Start: 45284, Stop: 43881, Start Num: 76

Candidate Starts for Hartsy\_51:

(37, 45449), (Start: 76 @45284 has 218 MA's), (Start: 78 @45281 has 78 MA's), (Start: 79 @45275 has 1 MA's), (85, 45233), (98, 45161), (104, 45140), (129, 45044), (141, 44993), (149, 44927), (150, 44924), (153, 44900), (155, 44873), (168, 44807), (173, 44795), (181, 44759), (195, 44714), (202, 44684), (209, 44645), (213, 44606), (217, 44573), (218, 44570), (222, 44546), (230, 44513), (233, 44492), (240, 44462), (259, 44348), (263, 44306), (264, 44285), (267, 44252), (279, 44180), (281, 44174), (289, 44126), (298, 44081), (304, 44057), (309, 44042), (313, 44018),

Gene: Harvey\_51 Start: 45271, Stop: 43868, Start Num: 76

Candidate Starts for Harvey\_51:

(37, 45436), (Start: 76 @45271 has 218 MA's), (Start: 78 @45268 has 78 MA's), (Start: 79 @45262 has 1 MA's), (85, 45220), (98, 45148), (104, 45127), (129, 45031), (141, 44980), (149, 44914), (150, 44911), (155, 44860), (168, 44794), (173, 44782), (181, 44746), (195, 44701), (202, 44671), (209,

44632), (213, 44593), (217, 44560), (218, 44557), (222, 44533), (230, 44500), (233, 44479), (240, 44449), (259, 44335), (263, 44293), (264, 44272), (267, 44239), (279, 44167), (281, 44161), (289, 44113), (298, 44068), (304, 44044), (309, 44029), (313, 44005),

Gene: HarveySr\_49 Start: 44861, Stop: 43248, Start Num: 41

Candidate Starts for HarveySr\_49:

(19, 44987), (20, 44981), (24, 44966), (Start: 38 @44870 has 9 MA's), (Start: 41 @44861 has 43 MA's), (62, 44765), (83, 44687), (95, 44552), (Start: 127 @44393 has 3 MA's), (133, 44378), (135, 44366), (141, 44336), (147, 44294), (155, 44216), (167, 44150), (168, 44147), (186, 44084), (193, 44051), (198, 44042), (212, 43949), (218, 43901), (219, 43898), (221, 43886), (222, 43877), (235, 43817), (240, 43793), (258, 43703), (267, 43592), (279, 43559), (280, 43556), (282, 43541), (286, 43520), (292, 43487),

Gene: Hashim76\_53 Start: 45064, Stop: 43547, Start Num: 47

Candidate Starts for Hashim76\_53:

(Start: 47 @45064 has 2 MA's), (71, 44938), (90, 44836), (94, 44812), (130, 44674), (141, 44626), (155, 44506), (156, 44497), (168, 44440), (182, 44386), (183, 44383), (209, 44278), (210, 44275), (218, 44203), (221, 44188), (222, 44179), (234, 44122), (253, 44029), (264, 43912), (267, 43879), (268, 43870), (277, 43852), (281, 43840), (295, 43762), (304, 43723), (332, 43555),

Gene: Heath\_45 Start: 45316, Stop: 43976, Start Num: 75

Candidate Starts for Heath\_45:

(Start: 72 @45319 has 9 MA's), (Start: 75 @45316 has 15 MA's), (Start: 79 @45307 has 1 MA's), (80, 45301), (87, 45250), (123, 45103), (138, 45058), (141, 45037), (158, 44896), (162, 44872), (168, 44851), (169, 44848), (175, 44833), (177, 44818), (201, 44749), (204, 44716), (210, 44692), (218, 44620), (221, 44605), (222, 44596), (230, 44563), (231, 44560), (233, 44542), (240, 44512), (253, 44452), (256, 44434), (258, 44422), (260, 44389), (261, 44377), (262, 44371), (263, 44362), (264, 44341), (266, 44332), (267, 44308), (281, 44269), (288, 44224), (292, 44203), (293, 44200), (311, 44131), (313, 44113),

Gene: Heathcliff\_49 Start: 44839, Stop: 43226, Start Num: 41

Candidate Starts for Heathcliff\_49:

(19, 44965), (20, 44959), (24, 44944), (Start: 38 @44848 has 9 MA's), (Start: 41 @44839 has 43 MA's), (62, 44743), (83, 44665), (95, 44530), (Start: 127 @44371 has 3 MA's), (133, 44356), (135, 44344), (141, 44314), (147, 44272), (155, 44194), (167, 44128), (168, 44125), (186, 44062), (193, 44029), (198, 44020), (212, 43927), (218, 43879), (219, 43876), (221, 43864), (222, 43855), (235, 43795), (240, 43771), (258, 43681), (267, 43570), (279, 43537), (280, 43534), (282, 43519), (286, 43498), (292, 43465),

Gene: Hedgerow\_50 Start: 44982, Stop: 43615, Start Num: 78

Candidate Starts for Hedgerow\_50:

(Start: 78 @44982 has 78 MA's), (86, 44919), (88, 44904), (115, 44793), (128, 44742), (140, 44694), (145, 44646), (165, 44505), (168, 44496), (187, 44451), (189, 44445), (190, 44439), (195, 44427), (213, 44322), (217, 44289), (221, 44271), (222, 44262), (230, 44229), (235, 44202), (240, 44178), (245, 44151), (251, 44124), (260, 44049), (264, 44004), (267, 43971), (275, 43950), (277, 43944), (284, 43911), (285, 43902), (287, 43893), (322, 43731), (325, 43713), (330, 43656),

Gene: Held\_51 Start: 44960, Stop: 43557, Start Num: 76

Candidate Starts for Held\_51:

(12, 45338), (13, 45293), (17, 45251), (29, 45170), (37, 45125), (Start: 76 @44960 has 218 MA's), (Start: 78 @44957 has 78 MA's), (Start: 79 @44951 has 1 MA's), (85, 44909), (98, 44837), (104, 44816), (129, 44720), (141, 44669), (149, 44603), (150, 44600), (155, 44549), (168, 44483), (173, 44471), (181, 44435), (195, 44390), (202, 44360), (209, 44321), (213, 44282), (217, 44249), (218,

44246), (222, 44222), (230, 44189), (233, 44168), (240, 44138), (259, 44024), (263, 43982), (264, 43961), (267, 43928), (279, 43856), (281, 43850), (289, 43802), (298, 43757), (304, 43733), (309, 43718), (313, 43694),

Gene: HenryJackson\_50 Start: 44952, Stop: 43552, Start Num: 78

Candidate Starts for HenryJackson\_50:

(37, 45120), (Start: 76 @44955 has 218 MA's), (Start: 78 @44952 has 78 MA's), (Start: 79 @44946 has 1 MA's), (85, 44904), (98, 44832), (104, 44811), (129, 44715), (141, 44664), (149, 44598), (150, 44595), (153, 44571), (155, 44544), (168, 44478), (173, 44466), (181, 44430), (195, 44385), (202, 44355), (209, 44316), (213, 44277), (217, 44244), (218, 44241), (222, 44217), (230, 44184), (233, 44163), (240, 44133), (259, 44019), (263, 43977), (264, 43956), (267, 43923), (279, 43851), (281, 43845), (289, 43797), (298, 43752), (304, 43728), (309, 43713), (313, 43689),

Gene: Hertubise\_51 Start: 45255, Stop: 43852, Start Num: 76

Candidate Starts for Hertubise\_51:

(37, 45420), (Start: 76 @45255 has 218 MA's), (Start: 78 @45252 has 78 MA's), (Start: 79 @45246 has 1 MA's), (85, 45204), (98, 45132), (104, 45111), (129, 45015), (141, 44964), (149, 44898), (150, 44895), (155, 44844), (168, 44778), (173, 44766), (181, 44730), (195, 44685), (202, 44655), (209, 44616), (213, 44577), (217, 44544), (218, 44541), (222, 44517), (230, 44484), (233, 44463), (240, 44433), (259, 44319), (263, 44277), (264, 44256), (267, 44223), (279, 44151), (281, 44145), (289, 44097), (298, 44052), (304, 44028), (309, 44013), (313, 43989),

Gene: Hetaeria\_51 Start: 45272, Stop: 43869, Start Num: 76

Candidate Starts for Hetaeria\_51:

(12, 45650), (13, 45605), (17, 45563), (29, 45482), (37, 45437), (Start: 76 @45272 has 218 MA's), (Start: 78 @45269 has 78 MA's), (Start: 79 @45263 has 1 MA's), (85, 45221), (98, 45149), (104, 45128), (129, 45032), (141, 44981), (149, 44915), (150, 44912), (153, 44888), (155, 44861), (168, 44795), (173, 44783), (181, 44747), (195, 44702), (202, 44672), (209, 44633), (213, 44594), (217, 44561), (218, 44558), (222, 44534), (230, 44501), (233, 44480), (240, 44450), (259, 44336), (263, 44294), (264, 44273), (267, 44240), (279, 44168), (281, 44162), (289, 44114), (298, 44069), (304, 44045), (309, 44030), (313, 44006),

Gene: HighStump\_51 Start: 45082, Stop: 43679, Start Num: 76

Candidate Starts for HighStump\_51:

(37, 45247), (Start: 76 @45082 has 218 MA's), (Start: 78 @45079 has 78 MA's), (Start: 79 @45073 has 1 MA's), (85, 45031), (98, 44959), (104, 44938), (129, 44842), (141, 44791), (149, 44725), (150, 44722), (153, 44698), (155, 44671), (168, 44605), (173, 44593), (181, 44557), (195, 44512), (202, 44482), (209, 44443), (213, 44404), (217, 44371), (218, 44368), (222, 44344), (230, 44311), (233, 44290), (240, 44260), (259, 44146), (263, 44104), (264, 44083), (267, 44050), (279, 43978), (281, 43972), (289, 43924), (298, 43879), (304, 43855), (309, 43840), (313, 43816),

Gene: Hocus\_50 Start: 44944, Stop: 43541, Start Num: 73

Candidate Starts for Hocus\_50:

(37, 45106), (Start: 73 @44944 has 20 MA's), (Start: 78 @44941 has 78 MA's), (85, 44893), (98, 44821), (104, 44800), (129, 44704), (141, 44653), (149, 44587), (150, 44584), (153, 44560), (155, 44533), (168, 44467), (173, 44455), (181, 44419), (195, 44374), (202, 44344), (209, 44305), (213, 44266), (217, 44233), (218, 44230), (220, 44224), (222, 44206), (230, 44173), (233, 44152), (240, 44122), (259, 44008), (263, 43966), (264, 43945), (267, 43912), (279, 43840), (281, 43834), (289, 43786), (298, 43741), (304, 43717), (309, 43702), (313, 43678),

Gene: HogWash\_51 Start: 45253, Stop: 43850, Start Num: 76

Candidate Starts for HogWash\_51:

(37, 45418), (Start: 76 @45253 has 218 MA's), (Start: 78 @45250 has 78 MA's), (Start: 79 @45244 has 1 MA's), (85, 45202), (98, 45130), (104, 45109), (129, 45013), (141, 44962), (149, 44896), (150, 44893), (155, 44842), (168, 44776), (173, 44764), (181, 44728), (195, 44683), (202, 44653), (209, 44614), (213, 44575), (217, 44542), (218, 44539), (220, 44533), (222, 44515), (230, 44482), (233, 44461), (240, 44431), (259, 44317), (263, 44275), (264, 44254), (267, 44221), (279, 44149), (281, 44143), (289, 44095), (298, 44050), (304, 44026), (309, 44011), (313, 43987),

Gene: Holeinone\_50 Start: 44833, Stop: 43466, Start Num: 78

Candidate Starts for Holeinone\_50:

(Start: 78 @44833 has 78 MA's), (86, 44770), (88, 44755), (115, 44644), (128, 44593), (140, 44545), (145, 44497), (155, 44413), (163, 44362), (165, 44356), (168, 44347), (187, 44302), (189, 44296), (190, 44290), (195, 44278), (213, 44173), (217, 44140), (221, 44122), (222, 44113), (230, 44080), (235, 44053), (240, 44029), (245, 44002), (251, 43975), (260, 43900), (264, 43855), (267, 43822), (275, 43801), (277, 43795), (284, 43762), (287, 43744), (322, 43582), (325, 43564), (330, 43507),

Gene: Horchata\_51 Start: 45247, Stop: 43844, Start Num: 76

Candidate Starts for Horchata\_51:

(12, 45625), (13, 45580), (17, 45538), (29, 45457), (37, 45412), (Start: 76 @45247 has 218 MA's), (Start: 78 @45244 has 78 MA's), (Start: 79 @45238 has 1 MA's), (85, 45196), (98, 45124), (104, 45103), (129, 45007), (141, 44956), (149, 44890), (150, 44887), (155, 44836), (168, 44770), (173, 44758), (181, 44722), (195, 44677), (202, 44647), (209, 44608), (213, 44569), (217, 44536), (218, 44533), (222, 44509), (230, 44476), (233, 44455), (240, 44425), (259, 44311), (263, 44269), (264, 44248), (267, 44215), (279, 44143), (281, 44137), (289, 44089), (298, 44044), (304, 44020), (309, 44005), (313, 43981),

Gene: Hosp\_042 Start: 41753, Stop: 40323, Start Num: 70

Candidate Starts for Hosp\_042:

(53, 41819), (Start: 70 @41753 has 3 MA's), (Start: 79 @41735 has 1 MA's), (112, 41531), (117, 41513), (123, 41459), (133, 41432), (140, 41396), (141, 41384), (166, 41204), (168, 41198), (175, 41180), (177, 41165), (201, 41099), (206, 41057), (209, 41045), (210, 41042), (218, 40970), (220, 40964), (222, 40946), (234, 40889), (248, 40835), (252, 40805), (256, 40784), (263, 40712), (264, 40691), (267, 40658), (281, 40619), (288, 40574), (291, 40556), (293, 40550), (302, 40505), (304, 40502), (326, 40379),

Gene: Hydro\_46 Start: 45744, Stop: 44404, Start Num: 75

Candidate Starts for Hydro\_46:

(Start: 72 @45747 has 9 MA's), (Start: 75 @45744 has 15 MA's), (Start: 79 @45735 has 1 MA's), (80, 45729), (87, 45678), (123, 45531), (138, 45486), (141, 45465), (158, 45324), (162, 45300), (168, 45279), (169, 45276), (175, 45261), (177, 45246), (201, 45177), (202, 45162), (204, 45144), (210, 45120), (218, 45048), (221, 45033), (222, 45024), (230, 44991), (231, 44988), (233, 44970), (240, 44940), (253, 44880), (256, 44862), (258, 44850), (261, 44805), (262, 44799), (263, 44790), (266, 44760), (267, 44736), (281, 44697), (292, 44631), (293, 44628), (311, 44559), (313, 44541),

Gene: ImtiyazSitla\_51 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for ImtiyazSitla\_51:

(37, 45095), (Start: 76 @44930 has 218 MA's), (Start: 78 @44927 has 78 MA's), (Start: 79 @44921 has 1 MA's), (85, 44879), (98, 44807), (104, 44786), (129, 44690), (141, 44639), (149, 44573), (150, 44570), (155, 44519), (168, 44453), (173, 44441), (181, 44405), (195, 44360), (202, 44330), (209, 44291), (213, 44252), (217, 44219), (218, 44216), (220, 44210), (222, 44192), (230, 44159), (233, 44138), (240, 44108), (259, 43994), (263, 43952), (264, 43931), (267, 43898), (279, 43826), (281, 43820), (289, 43772), (298, 43727), (304, 43703), (309, 43688), (313, 43664),

Gene: Imvubu\_43 Start: 42496, Stop: 41111, Start Num: 77

Candidate Starts for Imvubu\_43:

(60, 42553), (Start: 77 @42496 has 2 MA's), (85, 42448), (86, 42433), (115, 42310), (116, 42304), (129, 42229), (135, 42211), (147, 42139), (169, 41992), (202, 41887), (203, 41878), (206, 41860), (209, 41848), (210, 41845), (216, 41782), (218, 41773), (221, 41758), (223, 41746), (238, 41677), (240, 41665), (250, 41605), (256, 41575), (258, 41563), (260, 41530), (262, 41512), (264, 41482), (267, 41449), (293, 41341), (304, 41293), (311, 41272),

Gene: Inchworm\_52 Start: 45368, Stop: 43965, Start Num: 76

Candidate Starts for Inchworm\_52:

(37, 45533), (Start: 76 @45368 has 218 MA's), (Start: 78 @45365 has 78 MA's), (Start: 79 @45359 has 1 MA's), (85, 45317), (98, 45245), (104, 45224), (129, 45128), (141, 45077), (149, 45011), (150, 45008), (155, 44957), (168, 44891), (173, 44879), (181, 44843), (195, 44798), (202, 44768), (209, 44729), (213, 44690), (217, 44657), (218, 44654), (220, 44648), (222, 44630), (230, 44597), (233, 44576), (240, 44546), (259, 44432), (263, 44390), (264, 44369), (267, 44336), (279, 44264), (281, 44258), (289, 44210), (298, 44165), (304, 44141), (309, 44126), (313, 44102),

Gene: Indlovu\_48 Start: 44932, Stop: 43562, Start Num: 76

Candidate Starts for Indlovu\_48:

(Start: 76 @44932 has 218 MA's), (100, 44788), (121, 44707), (129, 44677), (141, 44620), (145, 44584), (166, 44440), (175, 44416), (177, 44401), (197, 44344), (201, 44335), (202, 44320), (204, 44302), (210, 44278), (215, 44221), (221, 44191), (223, 44179), (224, 44176), (230, 44149), (234, 44125), (235, 44122), (240, 44098), (248, 44071), (256, 44020), (259, 43990), (261, 43963), (267, 43894), (277, 43867), (292, 43789), (304, 43738), (311, 43717), (325, 43636), (326, 43615), (332, 43570),

Gene: Inverness\_51 Start: 45256, Stop: 43853, Start Num: 76

Candidate Starts for Inverness\_51:

(12, 45634), (13, 45589), (17, 45547), (29, 45466), (37, 45421), (Start: 76 @45256 has 218 MA's), (Start: 78 @45253 has 78 MA's), (Start: 79 @45247 has 1 MA's), (85, 45205), (98, 45133), (104, 45112), (129, 45016), (141, 44965), (149, 44899), (150, 44896), (153, 44872), (155, 44845), (168, 44779), (173, 44767), (181, 44731), (195, 44686), (202, 44656), (209, 44617), (213, 44578), (217, 44545), (218, 44542), (222, 44518), (230, 44485), (233, 44464), (240, 44434), (263, 44278), (264, 44257), (267, 44224), (279, 44152), (281, 44146), (289, 44098), (298, 44053), (304, 44029), (309, 44014), (313, 43990),

Gene: Iridessa\_51 Start: 44940, Stop: 43537, Start Num: 76

Candidate Starts for Iridessa\_51:

(37, 45105), (Start: 76 @44940 has 218 MA's), (Start: 78 @44937 has 78 MA's), (Start: 79 @44931 has 1 MA's), (85, 44889), (98, 44817), (104, 44796), (129, 44700), (141, 44649), (149, 44583), (150, 44580), (153, 44556), (155, 44529), (168, 44463), (173, 44451), (181, 44415), (195, 44370), (202, 44340), (209, 44301), (213, 44262), (217, 44229), (218, 44226), (222, 44202), (230, 44169), (233, 44148), (240, 44118), (259, 44004), (263, 43962), (264, 43941), (267, 43908), (279, 43836), (281, 43830), (289, 43782), (298, 43737), (304, 43713), (309, 43698), (313, 43674),

Gene: Iridoclysis\_51 Start: 45227, Stop: 43824, Start Num: 76

Candidate Starts for Iridoclysis\_51:

(37, 45392), (Start: 76 @45227 has 218 MA's), (Start: 78 @45224 has 78 MA's), (Start: 79 @45218 has 1 MA's), (85, 45176), (98, 45104), (104, 45083), (129, 44987), (141, 44936), (149, 44870), (150, 44867), (155, 44816), (168, 44750), (173, 44738), (181, 44702), (195, 44657), (202, 44627), (209, 44588), (213, 44549), (217, 44516), (218, 44513), (222, 44489), (230, 44456), (233, 44435), (240, 44405), (259, 44291), (263, 44249), (264, 44228), (267, 44195), (279, 44123), (281, 44117), (289, 44069), (298, 44024), (304, 44000), (309, 43985), (313, 43961),

Gene: IsaacEli\_52 Start: 45386, Stop: 43983, Start Num: 76

Candidate Starts for IsaacEli\_52:

(12, 45764), (13, 45719), (17, 45677), (29, 45596), (37, 45551), (Start: 76 @45386 has 218 MA's), (Start: 78 @45383 has 78 MA's), (Start: 79 @45377 has 1 MA's), (85, 45335), (98, 45263), (104, 45242), (129, 45146), (141, 45095), (149, 45029), (150, 45026), (155, 44975), (168, 44909), (173, 44897), (181, 44861), (195, 44816), (202, 44786), (209, 44747), (213, 44708), (217, 44675), (218, 44672), (222, 44648), (230, 44615), (233, 44594), (240, 44564), (259, 44450), (263, 44408), (264, 44387), (267, 44354), (279, 44282), (281, 44276), (289, 44228), (298, 44183), (304, 44159), (309, 44144), (313, 44120),

Gene: ItsyBitsy1\_50 Start: 44850, Stop: 43483, Start Num: 78

Candidate Starts for ItsyBitsy1\_50:

(Start: 78 @44850 has 78 MA's), (86, 44787), (88, 44772), (115, 44661), (128, 44610), (140, 44562), (145, 44514), (163, 44379), (165, 44373), (168, 44364), (187, 44319), (189, 44313), (190, 44307), (195, 44295), (213, 44190), (217, 44157), (222, 44130), (230, 44097), (235, 44070), (240, 44046), (245, 44019), (251, 43992), (260, 43917), (264, 43872), (267, 43839), (275, 43818), (277, 43812), (284, 43779), (285, 43770), (287, 43761), (322, 43599), (325, 43581), (330, 43524),

Gene: JAMaL\_46 Start: 45881, Stop: 44538, Start Num: 72

Candidate Starts for JAMaL\_46:

(Start: 72 @45881 has 9 MA's), (Start: 75 @45878 has 15 MA's), (Start: 79 @45869 has 1 MA's), (80, 45863), (87, 45812), (123, 45665), (138, 45620), (141, 45599), (142, 45587), (158, 45458), (162, 45434), (168, 45413), (169, 45410), (175, 45395), (177, 45380), (201, 45311), (202, 45296), (204, 45278), (210, 45254), (221, 45167), (222, 45158), (230, 45125), (231, 45122), (233, 45104), (240, 45074), (253, 45014), (256, 44996), (258, 44984), (261, 44939), (262, 44933), (263, 44924), (264, 44903), (266, 44894), (267, 44870), (281, 44831), (292, 44765), (293, 44762), (311, 44693), (313, 44675),

Gene: JDog\_50 Start: 44964, Stop: 43561, Start Num: 73

Candidate Starts for JDog\_50:

(37, 45126), (Start: 73 @44964 has 20 MA's), (Start: 78 @44961 has 78 MA's), (85, 44913), (98, 44841), (104, 44820), (129, 44724), (141, 44673), (149, 44607), (150, 44604), (153, 44580), (155, 44553), (168, 44487), (173, 44475), (181, 44439), (195, 44394), (202, 44364), (209, 44325), (213, 44286), (217, 44253), (218, 44250), (220, 44244), (222, 44226), (230, 44193), (233, 44172), (240, 44142), (259, 44028), (263, 43986), (264, 43965), (267, 43932), (279, 43860), (281, 43854), (289, 43806), (298, 43761), (304, 43737), (309, 43722), (313, 43698),

Gene: JacAttac\_52 Start: 45368, Stop: 43965, Start Num: 76

Candidate Starts for JacAttac\_52:

(12, 45746), (13, 45701), (17, 45659), (29, 45578), (37, 45533), (Start: 76 @45368 has 218 MA's), (Start: 78 @45365 has 78 MA's), (Start: 79 @45359 has 1 MA's), (85, 45317), (98, 45245), (104, 45224), (129, 45128), (141, 45077), (149, 45011), (150, 45008), (155, 44957), (168, 44891), (173, 44879), (181, 44843), (195, 44798), (202, 44768), (209, 44729), (213, 44690), (217, 44657), (218, 44654), (222, 44630), (230, 44597), (233, 44576), (240, 44546), (259, 44432), (263, 44390), (264, 44369), (267, 44336), (279, 44264), (281, 44258), (289, 44210), (298, 44165), (304, 44141), (309, 44126), (313, 44102),

Gene: Jackstina\_46 Start: 44798, Stop: 43185, Start Num: 41

Candidate Starts for Jackstina\_46:

(19, 44924), (20, 44918), (24, 44903), (Start: 38 @44807 has 9 MA's), (Start: 41 @44798 has 43 MA's), (62, 44702), (83, 44624), (95, 44489), (Start: 127 @44330 has 3 MA's), (133, 44315), (135, 44303), (141, 44273), (147, 44231), (155, 44153), (186, 44021), (193, 43988), (198, 43979), (212, 43886), (218, 43838), (221, 43823), (222, 43814), (230, 43781), (235, 43754), (240, 43730), (258, 43640),

(267, 43529), (279, 43496), (280, 43493), (282, 43478), (286, 43457), (292, 43424),

Gene: JaguarMi\_46 Start: 45187, Stop: 43847, Start Num: 75

Candidate Starts for JaguarMi\_46:

(Start: 75 @45187 has 15 MA's), (Start: 79 @45178 has 1 MA's), (80, 45172), (123, 44974), (138, 44929), (141, 44908), (158, 44767), (162, 44743), (168, 44722), (169, 44719), (175, 44704), (177, 44689), (201, 44620), (204, 44587), (210, 44563), (218, 44491), (221, 44476), (222, 44467), (225, 44452), (230, 44434), (231, 44431), (233, 44413), (240, 44383), (253, 44323), (256, 44305), (258, 44293), (261, 44248), (262, 44242), (263, 44233), (264, 44212), (266, 44203), (267, 44179), (281, 44140), (292, 44074), (293, 44071), (311, 44002), (313, 43984),

Gene: JakeO\_50 Start: 44963, Stop: 43560, Start Num: 73

Candidate Starts for JakeO\_50:

(37, 45125), (Start: 73 @44963 has 20 MA's), (Start: 78 @44960 has 78 MA's), (85, 44912), (98, 44840), (104, 44819), (129, 44723), (141, 44672), (149, 44606), (150, 44603), (153, 44579), (155, 44552), (168, 44486), (173, 44474), (181, 44438), (195, 44393), (202, 44363), (209, 44324), (213, 44285), (217, 44252), (218, 44249), (220, 44243), (222, 44225), (230, 44192), (233, 44171), (240, 44141), (259, 44027), (263, 43985), (264, 43964), (267, 43931), (279, 43859), (281, 43853), (289, 43805), (298, 43760), (304, 43736), (309, 43721), (313, 43697),

Gene: JangoPhett\_51 Start: 45238, Stop: 43835, Start Num: 76

Candidate Starts for JangoPhett\_51:

(12, 45616), (13, 45571), (17, 45529), (29, 45448), (37, 45403), (Start: 76 @45238 has 218 MA's), (Start: 78 @45235 has 78 MA's), (Start: 79 @45229 has 1 MA's), (85, 45187), (98, 45115), (104, 45094), (129, 44998), (141, 44947), (149, 44881), (150, 44878), (155, 44827), (168, 44761), (173, 44749), (181, 44713), (195, 44668), (202, 44638), (209, 44599), (213, 44560), (217, 44527), (218, 44524), (222, 44500), (230, 44467), (233, 44446), (240, 44416), (259, 44302), (263, 44260), (264, 44239), (267, 44206), (279, 44134), (281, 44128), (289, 44080), (298, 44035), (304, 44011), (309, 43996), (313, 43972),

Gene: Jesabah\_51 Start: 44963, Stop: 43563, Start Num: 78

Candidate Starts for Jesabah\_51:

(12, 45344), (13, 45299), (17, 45257), (29, 45176), (37, 45131), (Start: 76 @44966 has 218 MA's), (Start: 78 @44963 has 78 MA's), (Start: 79 @44957 has 1 MA's), (85, 44915), (98, 44843), (104, 44822), (129, 44726), (141, 44675), (149, 44609), (150, 44606), (155, 44555), (168, 44489), (173, 44477), (181, 44441), (195, 44396), (202, 44366), (209, 44327), (213, 44288), (217, 44255), (218, 44252), (222, 44228), (230, 44195), (233, 44174), (240, 44144), (259, 44030), (263, 43988), (264, 43967), (267, 43934), (279, 43862), (281, 43856), (289, 43808), (298, 43763), (304, 43739), (309, 43724), (313, 43700),

Gene: Jillium\_50 Start: 44957, Stop: 43554, Start Num: 76

Candidate Starts for Jillium\_50:

(12, 45335), (13, 45290), (17, 45248), (29, 45167), (37, 45122), (Start: 76 @44957 has 218 MA's), (Start: 78 @44954 has 78 MA's), (Start: 79 @44948 has 1 MA's), (85, 44906), (98, 44834), (104, 44813), (129, 44717), (141, 44666), (149, 44600), (150, 44597), (155, 44546), (168, 44480), (173, 44468), (181, 44432), (195, 44387), (202, 44357), (209, 44318), (213, 44279), (217, 44246), (218, 44243), (222, 44219), (230, 44186), (233, 44165), (240, 44135), (259, 44021), (263, 43979), (264, 43958), (267, 43925), (279, 43853), (281, 43847), (289, 43799), (298, 43754), (304, 43730), (309, 43715), (313, 43691),

Gene: Jiminy\_50 Start: 44798, Stop: 43395, Start Num: 73

Candidate Starts for Jiminy\_50:

(37, 44960), (Start: 73 @44798 has 20 MA's), (Start: 78 @44795 has 78 MA's), (85, 44747), (98, 44675), (104, 44654), (129, 44558), (141, 44507), (149, 44441), (150, 44438), (153, 44414), (155, 44387), (168, 44321), (173, 44309), (181, 44273), (195, 44228), (202, 44198), (209, 44159), (213, 44120), (217, 44087), (218, 44084), (220, 44078), (222, 44060), (230, 44027), (233, 44006), (240, 43976), (259, 43862), (263, 43820), (264, 43799), (267, 43766), (279, 43694), (281, 43688), (289, 43640), (298, 43595), (304, 43571), (309, 43556), (313, 43532),

Gene: Jiraiya\_50 Start: 44948, Stop: 43548, Start Num: 78

Candidate Starts for Jiraiya\_50:

(37, 45113), (Start: 73 @44951 has 20 MA's), (Start: 78 @44948 has 78 MA's), (85, 44900), (98, 44828), (104, 44807), (129, 44711), (141, 44660), (149, 44594), (150, 44591), (153, 44567), (155, 44540), (168, 44474), (173, 44462), (181, 44426), (195, 44381), (202, 44351), (209, 44312), (213, 44273), (217, 44240), (218, 44237), (222, 44213), (230, 44180), (233, 44159), (240, 44129), (259, 44015), (263, 43973), (264, 43952), (267, 43919), (279, 43847), (281, 43841), (289, 43793), (298, 43748), (304, 43724), (309, 43709), (313, 43685),

Gene: Jolie1\_044 Start: 43527, Stop: 42097, Start Num: 70

Candidate Starts for Jolie1\_044:

(49, 43617), (53, 43593), (63, 43557), (Start: 70 @43527 has 3 MA's), (Start: 79 @43509 has 1 MA's), (112, 43305), (117, 43287), (123, 43233), (133, 43206), (140, 43170), (141, 43158), (166, 42978), (168, 42972), (175, 42954), (177, 42939), (201, 42873), (204, 42840), (206, 42831), (209, 42819), (210, 42816), (218, 42744), (220, 42738), (221, 42729), (222, 42720), (223, 42717), (234, 42663), (238, 42648), (248, 42609), (252, 42579), (263, 42486), (264, 42465), (267, 42432), (281, 42393), (288, 42348), (291, 42330), (293, 42324), (302, 42279),

Gene: JoyceMaria\_46 Start: 45697, Stop: 44357, Start Num: 75

Candidate Starts for JoyceMaria\_46:

(Start: 72 @45700 has 9 MA's), (Start: 75 @45697 has 15 MA's), (Start: 79 @45688 has 1 MA's), (80, 45682), (87, 45631), (123, 45484), (138, 45439), (141, 45418), (158, 45277), (162, 45253), (168, 45232), (169, 45229), (175, 45214), (177, 45199), (201, 45130), (204, 45097), (210, 45073), (221, 44986), (222, 44977), (230, 44944), (231, 44941), (233, 44923), (240, 44893), (253, 44833), (256, 44815), (258, 44803), (261, 44758), (262, 44752), (263, 44743), (264, 44722), (266, 44713), (267, 44689), (281, 44650), (292, 44584), (293, 44581), (311, 44512), (313, 44494),

Gene: KLUcky39\_51 Start: 45251, Stop: 43851, Start Num: 78

Candidate Starts for KLUcky39\_51:

(12, 45632), (13, 45587), (17, 45545), (29, 45464), (37, 45419), (Start: 76 @45254 has 218 MA's), (Start: 78 @45251 has 78 MA's), (Start: 79 @45245 has 1 MA's), (85, 45203), (98, 45131), (104, 45110), (129, 45014), (141, 44963), (149, 44897), (150, 44894), (153, 44870), (155, 44843), (168, 44777), (173, 44765), (181, 44729), (195, 44684), (202, 44654), (209, 44615), (213, 44576), (217, 44543), (218, 44540), (222, 44516), (230, 44483), (233, 44462), (240, 44432), (259, 44318), (263, 44276), (264, 44255), (267, 44222), (279, 44150), (281, 44144), (289, 44096), (298, 44051), (304, 44027), (309, 44012), (313, 43988),

Gene: Kahve\_50 Start: 44952, Stop: 43549, Start Num: 76

Candidate Starts for Kahve\_50:

(37, 45117), (Start: 76 @44952 has 218 MA's), (Start: 78 @44949 has 78 MA's), (Start: 79 @44943 has 1 MA's), (85, 44901), (98, 44829), (104, 44808), (129, 44712), (141, 44661), (149, 44595), (150, 44592), (153, 44568), (155, 44541), (168, 44475), (173, 44463), (181, 44427), (195, 44382), (202, 44352), (209, 44313), (213, 44274), (217, 44241), (218, 44238), (222, 44214), (230, 44181), (233, 44160), (240, 44130), (259, 44016), (263, 43974), (264, 43953), (267, 43920), (279, 43848), (281, 43842), (289, 43794), (298, 43749), (304, 43725), (309, 43710), (313, 43686),

Gene: Kailash\_51 Start: 45314, Stop: 43911, Start Num: 76

Candidate Starts for Kailash\_51:

(37, 45479), (Start: 76 @45314 has 218 MA's), (Start: 78 @45311 has 78 MA's), (Start: 79 @45305 has 1 MA's), (85, 45263), (98, 45191), (104, 45170), (129, 45074), (141, 45023), (149, 44957), (150, 44954), (155, 44903), (168, 44837), (173, 44825), (181, 44789), (195, 44744), (202, 44714), (209, 44675), (213, 44636), (217, 44603), (218, 44600), (220, 44594), (222, 44576), (230, 44543), (233, 44522), (240, 44492), (259, 44378), (263, 44336), (264, 44315), (267, 44282), (279, 44210), (281, 44204), (289, 44156), (298, 44111), (304, 44087), (309, 44072), (313, 44048),

Gene: Kaleb\_50 Start: 44997, Stop: 43630, Start Num: 78

Candidate Starts for Kaleb\_50:

(Start: 78 @44997 has 78 MA's), (86, 44934), (88, 44919), (115, 44808), (128, 44757), (140, 44709), (145, 44661), (165, 44520), (168, 44511), (187, 44466), (189, 44460), (190, 44454), (195, 44442), (213, 44337), (217, 44304), (221, 44286), (222, 44277), (230, 44244), (235, 44217), (240, 44193), (245, 44166), (251, 44139), (260, 44064), (264, 44019), (267, 43986), (275, 43965), (277, 43959), (284, 43926), (285, 43917), (287, 43908), (322, 43746), (325, 43728), (330, 43671),

Gene: Kamiyu\_49 Start: 44846, Stop: 43233, Start Num: 41

Candidate Starts for Kamiyu\_49:

(19, 44972), (20, 44966), (24, 44951), (Start: 38 @44855 has 9 MA's), (Start: 41 @44846 has 43 MA's), (62, 44750), (83, 44672), (95, 44537), (Start: 127 @44378 has 3 MA's), (133, 44363), (135, 44351), (141, 44321), (147, 44279), (155, 44201), (186, 44069), (193, 44036), (198, 44027), (212, 43934), (218, 43886), (221, 43871), (222, 43862), (230, 43829), (235, 43802), (240, 43778), (258, 43688), (267, 43577), (279, 43544), (280, 43541), (282, 43526), (286, 43505), (292, 43472),

Gene: KarasumaRum\_51 Start: 46290, Stop: 44905, Start Num: 74

Candidate Starts for KarasumaRum\_51:

(37, 46440), (Start: 74 @46290 has 9 MA's), (Start: 81 @46272 has 2 MA's), (110, 46116), (129, 46053), (138, 46023), (159, 45858), (170, 45816), (176, 45798), (179, 45783), (199, 45732), (206, 45681), (218, 45594), (221, 45579), (222, 45570), (235, 45510), (240, 45486), (241, 45483), (261, 45351), (264, 45318), (267, 45285), (269, 45267), (279, 45213), (287, 45168), (292, 45141), (311, 45060), (317, 45021), (325, 44979),

Gene: Katniss\_52 Start: 45395, Stop: 43992, Start Num: 76

Candidate Starts for Katniss\_52:

(12, 45773), (13, 45728), (17, 45686), (29, 45605), (37, 45560), (Start: 76 @45395 has 218 MA's), (Start: 78 @45392 has 78 MA's), (Start: 79 @45386 has 1 MA's), (85, 45344), (98, 45272), (104, 45251), (129, 45155), (141, 45104), (149, 45038), (150, 45035), (155, 44984), (168, 44918), (173, 44906), (181, 44870), (195, 44825), (202, 44795), (209, 44756), (213, 44717), (217, 44684), (218, 44681), (222, 44657), (230, 44624), (233, 44603), (240, 44573), (259, 44459), (263, 44417), (264, 44396), (267, 44363), (279, 44291), (281, 44285), (289, 44237), (298, 44192), (304, 44168), (309, 44153), (313, 44129),

Gene: KayaCho\_44 Start: 43553, Stop: 42126, Start Num: 70

Candidate Starts for KayaCho\_44:

(67, 43562), (Start: 70 @43553 has 3 MA's), (Start: 79 @43535 has 1 MA's), (112, 43331), (117, 43313), (123, 43259), (140, 43196), (141, 43184), (166, 43004), (168, 42998), (175, 42980), (177, 42965), (201, 42899), (206, 42857), (209, 42845), (210, 42842), (218, 42770), (220, 42764), (222, 42746), (234, 42689), (248, 42635), (252, 42605), (256, 42584), (263, 42512), (264, 42491), (267, 42458), (288, 42374), (291, 42356), (293, 42350), (302, 42305), (304, 42302),

Gene: Keitherie\_51 Start: 45298, Stop: 43895, Start Num: 73

Candidate Starts for Keitherie\_51:

(37, 45460), (Start: 73 @45298 has 20 MA's), (Start: 78 @45295 has 78 MA's), (85, 45247), (98, 45175), (104, 45154), (129, 45058), (141, 45007), (149, 44941), (150, 44938), (153, 44914), (155, 44887), (168, 44821), (173, 44809), (181, 44773), (195, 44728), (202, 44698), (209, 44659), (213, 44620), (217, 44587), (218, 44584), (222, 44560), (230, 44527), (233, 44506), (240, 44476), (259, 44362), (263, 44320), (264, 44299), (267, 44266), (279, 44194), (281, 44188), (289, 44140), (298, 44095), (304, 44071), (309, 44056), (313, 44032),

Gene: Khan1\_51 Start: 44973, Stop: 43570, Start Num: 76

Candidate Starts for Khan1\_51:

(12, 45351), (13, 45306), (17, 45264), (29, 45183), (37, 45138), (Start: 76 @44973 has 218 MA's), (Start: 78 @44970 has 78 MA's), (Start: 79 @44964 has 1 MA's), (85, 44922), (98, 44850), (104, 44829), (129, 44733), (141, 44682), (149, 44616), (150, 44613), (155, 44562), (168, 44496), (173, 44484), (181, 44448), (195, 44403), (202, 44373), (209, 44334), (213, 44295), (217, 44262), (218, 44259), (222, 44235), (230, 44202), (233, 44181), (240, 44151), (259, 44037), (263, 43995), (264, 43974), (267, 43941), (279, 43869), (281, 43863), (289, 43815), (298, 43770), (304, 43746), (309, 43731), (313, 43707),

Gene: Kheth\_50 Start: 44886, Stop: 43519, Start Num: 78

Candidate Starts for Kheth\_50:

(Start: 78 @44886 has 78 MA's), (86, 44823), (88, 44808), (115, 44697), (128, 44646), (140, 44598), (145, 44550), (165, 44409), (168, 44400), (187, 44355), (189, 44349), (190, 44343), (195, 44331), (213, 44226), (217, 44193), (222, 44166), (230, 44133), (235, 44106), (240, 44082), (245, 44055), (251, 44028), (260, 43953), (264, 43908), (267, 43875), (275, 43854), (277, 43848), (284, 43815), (287, 43797), (322, 43635), (325, 43617), (330, 43560),

Gene: Kikipoo\_52 Start: 45386, Stop: 43983, Start Num: 76

Candidate Starts for Kikipoo\_52:

(12, 45764), (13, 45719), (17, 45677), (29, 45596), (37, 45551), (Start: 76 @45386 has 218 MA's), (Start: 78 @45383 has 78 MA's), (Start: 79 @45377 has 1 MA's), (85, 45335), (98, 45263), (104, 45242), (129, 45146), (141, 45095), (149, 45029), (150, 45026), (155, 44975), (168, 44909), (173, 44897), (181, 44861), (195, 44816), (202, 44786), (209, 44747), (213, 44708), (217, 44675), (218, 44672), (222, 44648), (230, 44615), (233, 44594), (240, 44564), (259, 44450), (263, 44408), (264, 44387), (267, 44354), (279, 44282), (281, 44276), (289, 44228), (298, 44183), (304, 44159), (309, 44144), (313, 44120),

Gene: Kimbrough\_51 Start: 44959, Stop: 43556, Start Num: 76

Candidate Starts for Kimbrough\_51:

(37, 45124), (Start: 76 @44959 has 218 MA's), (Start: 78 @44956 has 78 MA's), (Start: 79 @44950 has 1 MA's), (85, 44908), (98, 44836), (104, 44815), (129, 44719), (141, 44668), (149, 44602), (150, 44599), (153, 44575), (155, 44548), (168, 44482), (173, 44470), (181, 44434), (195, 44389), (202, 44359), (209, 44320), (213, 44281), (217, 44248), (218, 44245), (222, 44221), (230, 44188), (233, 44167), (240, 44137), (259, 44023), (263, 43981), (264, 43960), (267, 43927), (279, 43855), (281, 43849), (289, 43801), (298, 43756), (304, 43732), (309, 43717), (313, 43693),

Gene: KingTut\_42 Start: 40622, Stop: 39219, Start Num: 76

Candidate Starts for KingTut\_42:

(37, 40787), (Start: 76 @40622 has 218 MA's), (Start: 78 @40619 has 78 MA's), (Start: 79 @40613 has 1 MA's), (85, 40571), (98, 40499), (104, 40478), (129, 40382), (141, 40331), (149, 40265), (150, 40262), (155, 40211), (168, 40145), (173, 40133), (181, 40097), (195, 40052), (202, 40022), (209, 39983), (213, 39944), (217, 39911), (218, 39908), (220, 39902), (222, 39884), (230, 39851), (233, 39830), (240, 39800), (259, 39686), (263, 39644), (264, 39623), (267, 39590), (279, 39518), (281, 39512), (289, 39464), (298, 39419), (304, 39395), (309, 39380), (313, 39356),

Gene: KingVeVeVe\_51 Start: 45227, Stop: 43827, Start Num: 78

Candidate Starts for KingVeVeVe\_51:

(12, 45608), (13, 45563), (17, 45521), (29, 45440), (37, 45395), (Start: 76 @45230 has 218 MA's), (Start: 78 @45227 has 78 MA's), (Start: 79 @45221 has 1 MA's), (85, 45179), (98, 45107), (104, 45086), (129, 44990), (141, 44939), (149, 44873), (150, 44870), (155, 44819), (168, 44753), (173, 44741), (181, 44705), (195, 44660), (202, 44630), (209, 44591), (213, 44552), (217, 44519), (218, 44516), (222, 44492), (230, 44459), (233, 44438), (240, 44408), (259, 44294), (263, 44252), (264, 44231), (267, 44198), (279, 44126), (281, 44120), (289, 44072), (298, 44027), (304, 44003), (309, 43988), (313, 43964),

Gene: KlimbOn\_51 Start: 45248, Stop: 43845, Start Num: 76

Candidate Starts for KlimbOn\_51:

(12, 45626), (13, 45581), (17, 45539), (29, 45458), (37, 45413), (Start: 76 @45248 has 218 MA's), (Start: 78 @45245 has 78 MA's), (Start: 79 @45239 has 1 MA's), (85, 45197), (98, 45125), (104, 45104), (129, 45008), (141, 44957), (149, 44891), (150, 44888), (153, 44864), (155, 44837), (168, 44771), (173, 44759), (181, 44723), (195, 44678), (202, 44648), (209, 44609), (213, 44570), (217, 44537), (218, 44534), (222, 44510), (230, 44477), (233, 44456), (240, 44426), (263, 44270), (264, 44249), (267, 44216), (279, 44144), (281, 44138), (289, 44090), (298, 44045), (304, 44021), (309, 44006), (313, 43982),

Gene: Kloppinator\_52 Start: 45661, Stop: 44258, Start Num: 76

Candidate Starts for Kloppinator\_52:

(12, 46039), (13, 45994), (17, 45952), (29, 45871), (37, 45826), (Start: 76 @45661 has 218 MA's), (Start: 78 @45658 has 78 MA's), (Start: 79 @45652 has 1 MA's), (85, 45610), (98, 45538), (104, 45517), (129, 45421), (141, 45370), (149, 45304), (150, 45301), (155, 45250), (168, 45184), (173, 45172), (181, 45136), (195, 45091), (202, 45061), (209, 45022), (213, 44983), (217, 44950), (218, 44947), (222, 44923), (230, 44890), (233, 44869), (240, 44839), (259, 44725), (263, 44683), (264, 44662), (267, 44629), (279, 44557), (281, 44551), (289, 44503), (298, 44458), (304, 44434), (309, 44419), (313, 44395),

Gene: Klocker\_52 Start: 47486, Stop: 46047, Start Num: 77

Candidate Starts for Klocker\_52:

(25, 47720), (27, 47714), (42, 47633), (Start: 77 @47486 has 2 MA's), (Start: 79 @47480 has 1 MA's), (85, 47438), (114, 47279), (115, 47276), (116, 47270), (129, 47195), (142, 47132), (155, 47024), (174, 46943), (175, 46940), (191, 46886), (201, 46865), (204, 46832), (206, 46823), (212, 46784), (216, 46745), (218, 46736), (221, 46721), (223, 46709), (225, 46697), (231, 46676), (233, 46658), (235, 46652), (238, 46640), (242, 46607), (248, 46562), (253, 46529), (255, 46514), (258, 46499), (259, 46481), (260, 46466), (261, 46454), (264, 46418), (267, 46385), (275, 46364), (279, 46352), (281, 46346), (297, 46256), (301, 46235), (304, 46229), (311, 46208), (318, 46163), (326, 46106), (330, 46070),

Gene: Kolhan\_50 Start: 44850, Stop: 43483, Start Num: 78

Candidate Starts for Kolhan\_50:

(Start: 78 @44850 has 78 MA's), (86, 44787), (88, 44772), (115, 44661), (128, 44610), (140, 44562), (145, 44514), (165, 44373), (168, 44364), (187, 44319), (189, 44313), (190, 44307), (195, 44295), (213, 44190), (217, 44157), (222, 44130), (230, 44097), (235, 44070), (240, 44046), (245, 44019), (251, 43992), (260, 43917), (264, 43872), (267, 43839), (275, 43818), (277, 43812), (284, 43779), (285, 43770), (287, 43761), (322, 43599), (325, 43581), (330, 43524),

Gene: Kronus\_48 Start: 45468, Stop: 43846, Start Num: 38

Candidate Starts for Kronus\_48:

(19, 45585), (20, 45579), (24, 45564), (Start: 38 @45468 has 9 MA's), (Start: 41 @45459 has 43 MA's), (62, 45363), (83, 45285), (95, 45150), (Start: 127 @44991 has 3 MA's), (133, 44976), (135, 44964),

(141, 44934), (147, 44892), (155, 44814), (186, 44682), (193, 44649), (198, 44640), (212, 44547), (218, 44499), (221, 44484), (222, 44475), (235, 44415), (240, 44391), (258, 44301), (267, 44190), (279, 44157), (280, 44154), (282, 44139), (286, 44118), (292, 44085),

Gene: Kwadwo\_50 Start: 44934, Stop: 43531, Start Num: 76

Candidate Starts for Kwadwo\_50:

(12, 45312), (13, 45267), (17, 45225), (29, 45144), (37, 45099), (Start: 76 @44934 has 218 MA's), (Start: 78 @44931 has 78 MA's), (Start: 79 @44925 has 1 MA's), (85, 44883), (98, 44811), (104, 44790), (129, 44694), (141, 44643), (149, 44577), (150, 44574), (155, 44523), (168, 44457), (173, 44445), (181, 44409), (195, 44364), (202, 44334), (209, 44295), (213, 44256), (217, 44223), (218, 44220), (222, 44196), (230, 44163), (233, 44142), (240, 44112), (259, 43998), (263, 43956), (264, 43935), (267, 43902), (279, 43830), (281, 43824), (289, 43776), (298, 43731), (304, 43707), (309, 43692), (313, 43668),

Gene: Kwksand96\_50 Start: 44809, Stop: 43406, Start Num: 76

Candidate Starts for Kwksand96\_50:

(37, 44974), (Start: 76 @44809 has 218 MA's), (Start: 78 @44806 has 78 MA's), (Start: 79 @44800 has 1 MA's), (85, 44758), (98, 44686), (104, 44665), (129, 44569), (141, 44518), (149, 44452), (150, 44449), (155, 44398), (168, 44332), (173, 44320), (181, 44284), (195, 44239), (202, 44209), (209, 44170), (213, 44131), (217, 44098), (218, 44095), (220, 44089), (222, 44071), (230, 44038), (233, 44017), (240, 43987), (259, 43873), (263, 43831), (264, 43810), (267, 43777), (279, 43705), (281, 43699), (289, 43651), (298, 43606), (304, 43582), (309, 43567), (313, 43543),

Gene: Labeouficaum\_50 Start: 44804, Stop: 43401, Start Num: 76

Candidate Starts for Labeouficaum\_50:

(12, 45182), (13, 45137), (17, 45095), (29, 45014), (37, 44969), (Start: 76 @44804 has 218 MA's), (Start: 78 @44801 has 78 MA's), (Start: 79 @44795 has 1 MA's), (85, 44753), (98, 44681), (104, 44660), (129, 44564), (141, 44513), (149, 44447), (150, 44444), (155, 44393), (168, 44327), (173, 44315), (181, 44279), (195, 44234), (202, 44204), (209, 44165), (213, 44126), (217, 44093), (218, 44090), (220, 44084), (222, 44066), (230, 44033), (233, 44012), (240, 43982), (259, 43868), (263, 43826), (264, 43805), (267, 43772), (279, 43700), (281, 43694), (289, 43646), (298, 43601), (304, 43577), (309, 43562), (313, 43538),

Gene: Lambano\_45 Start: 44684, Stop: 43344, Start Num: 75

Candidate Starts for Lambano\_45:

(Start: 72 @44687 has 9 MA's), (Start: 75 @44684 has 15 MA's), (Start: 79 @44675 has 1 MA's), (80, 44669), (87, 44618), (123, 44471), (141, 44405), (143, 44381), (168, 44219), (175, 44201), (177, 44186), (178, 44183), (185, 44156), (203, 44093), (204, 44084), (216, 43997), (221, 43973), (230, 43931), (231, 43928), (233, 43910), (240, 43880), (248, 43853), (253, 43820), (257, 43799), (258, 43790), (261, 43745), (262, 43739), (263, 43730), (264, 43709), (267, 43676), (281, 43637), (292, 43571), (293, 43568), (311, 43499), (313, 43481),

Gene: Lars\_50 Start: 44957, Stop: 43590, Start Num: 78

Candidate Starts for Lars\_50:

(Start: 78 @44957 has 78 MA's), (86, 44894), (88, 44879), (115, 44768), (128, 44717), (140, 44669), (145, 44621), (165, 44480), (168, 44471), (187, 44426), (189, 44420), (190, 44414), (195, 44402), (213, 44297), (217, 44264), (221, 44246), (222, 44237), (230, 44204), (235, 44177), (240, 44153), (245, 44126), (251, 44099), (260, 44024), (264, 43979), (267, 43946), (275, 43925), (277, 43919), (284, 43886), (287, 43868), (322, 43706), (325, 43688), (330, 43631),

Gene: Larson\_53 Start: 45356, Stop: 43953, Start Num: 73

Candidate Starts for Larson\_53:

(37, 45518), (Start: 73 @45356 has 20 MA's), (Start: 78 @45353 has 78 MA's), (85, 45305), (98, 45233), (104, 45212), (129, 45116), (141, 45065), (149, 44999), (150, 44996), (153, 44972), (155, 44945), (168, 44879), (173, 44867), (181, 44831), (195, 44786), (202, 44756), (209, 44717), (213, 44678), (217, 44645), (218, 44642), (222, 44618), (230, 44585), (233, 44564), (240, 44534), (259, 44420), (263, 44378), (264, 44357), (267, 44324), (279, 44252), (281, 44246), (289, 44198), (298, 44153), (304, 44129), (309, 44114), (313, 44090),

Gene: LasagnaCat\_52 Start: 45380, Stop: 43977, Start Num: 76

Candidate Starts for LasagnaCat\_52:

(37, 45545), (Start: 76 @45380 has 218 MA's), (Start: 78 @45377 has 78 MA's), (Start: 79 @45371 has 1 MA's), (85, 45329), (98, 45257), (104, 45236), (129, 45140), (141, 45089), (149, 45023), (150, 45020), (155, 44969), (168, 44903), (173, 44891), (181, 44855), (195, 44810), (202, 44780), (209, 44741), (213, 44702), (217, 44669), (218, 44666), (222, 44642), (230, 44609), (233, 44588), (240, 44558), (259, 44444), (263, 44402), (264, 44381), (267, 44348), (279, 44276), (281, 44270), (289, 44222), (298, 44177), (304, 44153), (309, 44138), (313, 44114),

Gene: Lasso\_51 Start: 45209, Stop: 43806, Start Num: 76

Candidate Starts for Lasso\_51:

(12, 45587), (13, 45542), (17, 45500), (29, 45419), (37, 45374), (Start: 76 @45209 has 218 MA's), (Start: 78 @45206 has 78 MA's), (Start: 79 @45200 has 1 MA's), (85, 45158), (98, 45086), (104, 45065), (129, 44969), (141, 44918), (149, 44852), (150, 44849), (155, 44798), (168, 44732), (173, 44720), (181, 44684), (195, 44639), (202, 44609), (209, 44570), (213, 44531), (217, 44498), (218, 44495), (222, 44471), (230, 44438), (233, 44417), (240, 44387), (259, 44273), (263, 44231), (264, 44210), (267, 44177), (279, 44105), (281, 44099), (289, 44051), (298, 44006), (304, 43982), (309, 43967), (313, 43943),

Gene: Laurie\_49 Start: 44345, Stop: 42978, Start Num: 78

Candidate Starts for Laurie\_49:

(Start: 78 @44345 has 78 MA's), (86, 44282), (88, 44267), (115, 44156), (128, 44105), (140, 44057), (145, 44009), (163, 43874), (165, 43868), (168, 43859), (187, 43814), (189, 43808), (190, 43802), (195, 43790), (213, 43685), (217, 43652), (219, 43646), (222, 43625), (230, 43592), (235, 43565), (240, 43541), (245, 43514), (251, 43487), (260, 43412), (264, 43367), (267, 43334), (275, 43313), (277, 43307), (284, 43274), (287, 43256), (311, 43157), (322, 43094), (325, 43076), (330, 43019),

Gene: LeeLot\_51 Start: 45258, Stop: 43858, Start Num: 78

Candidate Starts for LeeLot\_51:

(37, 45426), (Start: 76 @45261 has 218 MA's), (Start: 78 @45258 has 78 MA's), (Start: 79 @45252 has 1 MA's), (85, 45210), (98, 45138), (104, 45117), (129, 45021), (141, 44970), (149, 44904), (150, 44901), (153, 44877), (155, 44850), (168, 44784), (173, 44772), (181, 44736), (195, 44691), (202, 44661), (209, 44622), (213, 44583), (217, 44550), (218, 44547), (222, 44523), (230, 44490), (233, 44469), (240, 44439), (259, 44325), (263, 44283), (264, 44262), (267, 44229), (279, 44157), (281, 44151), (289, 44103), (298, 44058), (304, 44034), (309, 44019), (313, 43995),

Gene: Lego3393\_50 Start: 45389, Stop: 43986, Start Num: 76

Candidate Starts for Lego3393\_50:

(12, 45767), (13, 45722), (17, 45680), (29, 45599), (37, 45554), (Start: 76 @45389 has 218 MA's), (Start: 78 @45386 has 78 MA's), (Start: 79 @45380 has 1 MA's), (85, 45338), (98, 45266), (104, 45245), (129, 45149), (141, 45098), (149, 45032), (150, 45029), (155, 44978), (168, 44912), (173, 44900), (181, 44864), (195, 44819), (202, 44789), (209, 44750), (213, 44711), (217, 44678), (218, 44675), (222, 44651), (230, 44618), (233, 44597), (240, 44567), (259, 44453), (263, 44411), (264, 44390), (267, 44357), (279, 44285), (281, 44279), (289, 44231), (298, 44186), (304, 44162), (309, 44147), (313, 44123),

Gene: Legolas\_51 Start: 44976, Stop: 43576, Start Num: 78

Candidate Starts for Legolas\_51:

(12, 45357), (13, 45312), (17, 45270), (29, 45189), (37, 45144), (Start: 76 @44979 has 218 MA's), (Start: 78 @44976 has 78 MA's), (Start: 79 @44970 has 1 MA's), (85, 44928), (98, 44856), (104, 44835), (129, 44739), (141, 44688), (149, 44622), (150, 44619), (155, 44568), (168, 44502), (173, 44490), (181, 44454), (195, 44409), (202, 44379), (209, 44340), (213, 44301), (217, 44268), (218, 44265), (222, 44241), (230, 44208), (233, 44187), (240, 44157), (259, 44043), (263, 44001), (264, 43980), (267, 43947), (279, 43875), (281, 43869), (289, 43821), (298, 43776), (304, 43752), (309, 43737), (313, 43713),

Gene: Lehmann\_51 Start: 44791, Stop: 43388, Start Num: 76

Candidate Starts for Lehmann\_51:

(12, 45169), (13, 45124), (17, 45082), (29, 45001), (37, 44956), (Start: 76 @44791 has 218 MA's), (Start: 78 @44788 has 78 MA's), (Start: 79 @44782 has 1 MA's), (85, 44740), (98, 44668), (104, 44647), (129, 44551), (141, 44500), (149, 44434), (150, 44431), (155, 44380), (168, 44314), (173, 44302), (181, 44266), (195, 44221), (202, 44191), (209, 44152), (213, 44113), (217, 44080), (218, 44077), (222, 44053), (230, 44020), (233, 43999), (240, 43969), (259, 43855), (263, 43813), (264, 43792), (267, 43759), (279, 43687), (281, 43681), (289, 43633), (298, 43588), (304, 43564), (309, 43549), (313, 43525),

Gene: LeiMonet\_52 Start: 44941, Stop: 43538, Start Num: 76

Candidate Starts for LeiMonet\_52:

(12, 45319), (13, 45274), (17, 45232), (29, 45151), (37, 45106), (Start: 76 @44941 has 218 MA's), (Start: 78 @44938 has 78 MA's), (Start: 79 @44932 has 1 MA's), (85, 44890), (98, 44818), (104, 44797), (129, 44701), (141, 44650), (149, 44584), (150, 44581), (155, 44530), (168, 44464), (173, 44452), (181, 44416), (195, 44371), (202, 44341), (209, 44302), (213, 44263), (217, 44230), (218, 44227), (222, 44203), (230, 44170), (233, 44149), (240, 44119), (259, 44005), (263, 43963), (264, 43942), (267, 43909), (279, 43837), (281, 43831), (289, 43783), (298, 43738), (304, 43714), (309, 43699), (313, 43675),

Gene: LemonSlice\_51 Start: 44946, Stop: 43543, Start Num: 76

Candidate Starts for LemonSlice\_51:

(12, 45324), (13, 45279), (17, 45237), (29, 45156), (37, 45111), (Start: 76 @44946 has 218 MA's), (Start: 78 @44943 has 78 MA's), (Start: 79 @44937 has 1 MA's), (85, 44895), (98, 44823), (104, 44802), (129, 44706), (141, 44655), (149, 44589), (150, 44586), (155, 44535), (168, 44469), (173, 44457), (181, 44421), (195, 44376), (202, 44346), (209, 44307), (213, 44268), (217, 44235), (218, 44232), (222, 44208), (230, 44175), (233, 44154), (240, 44124), (259, 44010), (263, 43968), (264, 43947), (267, 43914), (279, 43842), (281, 43836), (289, 43788), (298, 43743), (304, 43719), (309, 43704), (313, 43680),

Gene: Lephleur\_50 Start: 44863, Stop: 43496, Start Num: 78

Candidate Starts for Lephleur\_50:

(Start: 78 @44863 has 78 MA's), (86, 44800), (88, 44785), (115, 44674), (128, 44623), (140, 44575), (145, 44527), (165, 44386), (168, 44377), (187, 44332), (189, 44326), (190, 44320), (195, 44308), (213, 44203), (217, 44170), (222, 44143), (230, 44110), (235, 44083), (240, 44059), (245, 44032), (251, 44005), (260, 43930), (264, 43885), (267, 43852), (275, 43831), (277, 43825), (284, 43792), (287, 43774), (322, 43612), (325, 43594), (330, 43537),

Gene: LestyG\_49 Start: 44887, Stop: 43265, Start Num: 38

Candidate Starts for LestyG\_49:

(19, 45004), (20, 44998), (24, 44983), (Start: 38 @44887 has 9 MA's), (Start: 41 @44878 has 43 MA's), (62, 44782), (83, 44704), (95, 44569), (Start: 127 @44410 has 3 MA's), (133, 44395), (135, 44383), (141, 44353), (147, 44311), (155, 44233), (186, 44101), (193, 44068), (198, 44059), (212, 43966),

(218, 43918), (221, 43903), (222, 43894), (235, 43834), (240, 43810), (258, 43720), (267, 43609), (279, 43576), (280, 43573), (282, 43558), (286, 43537), (292, 43504),

Gene: Ligma\_44 Start: 37982, Stop: 36669, Start Num: 41

Candidate Starts for Ligma\_44:

(Start: 40 @37985 has 1 MA's), (Start: 41 @37982 has 43 MA's), (Start: 124 @37823 has 2 MA's), (Start: 126 @37817 has 4 MA's), (141, 37766), (193, 37511), (201, 37490), (207, 37445), (210, 37433), (230, 37304), (235, 37277), (240, 37253), (249, 37223), (250, 37205), (253, 37193), (258, 37163), (260, 37130), (264, 37085), (267, 37052), (275, 37019), (277, 36992), (286, 36947), (287, 36941), (292, 36914), (293, 36911), (304, 36863), (330, 36701),

Gene: LilMcDreamy\_48 Start: 45351, Stop: 43921, Start Num: 66

Candidate Starts for LilMcDreamy\_48:

(Start: 66 @45351 has 1 MA's), (129, 45084), (155, 44913), (175, 44835), (176, 44829), (191, 44775), (210, 44697), (212, 44673), (213, 44661), (222, 44601), (235, 44541), (240, 44517), (241, 44514), (250, 44469), (261, 44382), (267, 44316), (269, 44298), (277, 44235), (279, 44229), (286, 44190), (287, 44184), (292, 44157), (305, 44100), (318, 44031),

Gene: LilSmirk\_50 Start: 44860, Stop: 43493, Start Num: 78

Candidate Starts for LilSmirk\_50:

(Start: 78 @44860 has 78 MA's), (86, 44797), (88, 44782), (115, 44671), (128, 44620), (140, 44572), (145, 44524), (165, 44383), (168, 44374), (187, 44329), (189, 44323), (190, 44317), (195, 44305), (213, 44200), (217, 44167), (222, 44140), (230, 44107), (235, 44080), (240, 44056), (245, 44029), (251, 44002), (260, 43927), (264, 43882), (267, 43849), (275, 43828), (277, 43822), (284, 43789), (287, 43771), (322, 43609), (325, 43591), (330, 43534),

Gene: LittleDigger\_45 Start: 44700, Stop: 43360, Start Num: 75

Candidate Starts for LittleDigger\_45:

(Start: 72 @44703 has 9 MA's), (Start: 75 @44700 has 15 MA's), (Start: 79 @44691 has 1 MA's), (80, 44685), (87, 44634), (123, 44487), (141, 44421), (143, 44397), (168, 44235), (175, 44217), (177, 44202), (178, 44199), (185, 44172), (203, 44109), (204, 44100), (216, 44013), (218, 44004), (221, 43989), (230, 43947), (231, 43944), (233, 43926), (238, 43908), (240, 43896), (248, 43869), (253, 43836), (257, 43815), (258, 43806), (261, 43761), (262, 43755), (263, 43746), (264, 43725), (267, 43692), (281, 43653), (292, 43587), (293, 43584), (311, 43515), (313, 43497),

Gene: LittleMinkey\_56 Start: 45156, Stop: 43636, Start Num: 46

Candidate Starts for LittleMinkey\_56:

(Start: 46 @45156 has 1 MA's), (58, 45105), (71, 45027), (90, 44925), (130, 44763), (141, 44715), (155, 44595), (156, 44586), (168, 44529), (182, 44475), (183, 44472), (209, 44367), (210, 44364), (218, 44292), (222, 44268), (234, 44211), (253, 44118), (264, 44001), (267, 43968), (268, 43959), (277, 43941), (281, 43929), (295, 43851), (304, 43812), (332, 43644),

Gene: LittleMunchkin\_46 Start: 41233, Stop: 39968, Start Num: 43

Candidate Starts for LittleMunchkin\_46:

(Start: 43 @41233 has 6 MA's), (55, 41194), (Start: 124 @41107 has 2 MA's), (Start: 126 @41101 has 4 MA's), (134, 41080), (141, 41050), (182, 40819), (201, 40774), (210, 40717), (213, 40681), (217, 40648), (218, 40645), (221, 40630), (222, 40621), (225, 40606), (226, 40603), (230, 40588), (235, 40561), (240, 40537), (261, 40402), (264, 40369), (267, 40336), (270, 40327), (275, 40303), (276, 40291), (277, 40276), (287, 40225), (292, 40198), (319, 40075), (325, 40042),

Gene: LizLemon\_50 Start: 44979, Stop: 43612, Start Num: 78

Candidate Starts for LizLemon\_50:

(Start: 78 @44979 has 78 MA's), (86, 44916), (88, 44901), (115, 44790), (128, 44739), (140, 44691), (145, 44643), (165, 44502), (168, 44493), (187, 44448), (189, 44442), (190, 44436), (195, 44424), (213, 44319), (217, 44286), (221, 44268), (222, 44259), (230, 44226), (235, 44199), (240, 44175), (245, 44148), (251, 44121), (260, 44046), (264, 44001), (267, 43968), (275, 43947), (277, 43941), (284, 43908), (287, 43890), (322, 43728), (325, 43710), (330, 43653),

Gene: Lolalove\_47 Start: 45711, Stop: 44371, Start Num: 75

Candidate Starts for Lolalove\_47:

(Start: 72 @45714 has 9 MA's), (Start: 75 @45711 has 15 MA's), (Start: 79 @45702 has 1 MA's), (80, 45696), (87, 45645), (123, 45498), (138, 45453), (141, 45432), (158, 45291), (162, 45267), (168, 45246), (169, 45243), (175, 45228), (177, 45213), (201, 45144), (202, 45129), (204, 45111), (210, 45087), (218, 45015), (222, 44991), (230, 44958), (231, 44955), (233, 44937), (240, 44907), (253, 44847), (256, 44829), (258, 44817), (261, 44772), (262, 44766), (263, 44757), (266, 44727), (267, 44703), (281, 44664), (288, 44619), (292, 44598), (293, 44595), (311, 44526), (313, 44508),

Gene: Longacauda\_50 Start: 44942, Stop: 43539, Start Num: 76

Candidate Starts for Longacauda\_50:

(12, 45320), (13, 45275), (17, 45233), (29, 45152), (37, 45107), (Start: 76 @44942 has 218 MA's), (Start: 78 @44939 has 78 MA's), (Start: 79 @44933 has 1 MA's), (85, 44891), (98, 44819), (104, 44798), (129, 44702), (141, 44651), (149, 44585), (150, 44582), (155, 44531), (168, 44465), (173, 44453), (181, 44417), (195, 44372), (202, 44342), (209, 44303), (213, 44264), (217, 44231), (218, 44228), (222, 44204), (230, 44171), (233, 44150), (240, 44120), (259, 44006), (263, 43964), (264, 43943), (267, 43910), (279, 43838), (281, 43832), (289, 43784), (298, 43739), (304, 43715), (309, 43700), (313, 43676),

Gene: Lopsy\_50 Start: 44807, Stop: 43404, Start Num: 76

Candidate Starts for Lopsy\_50:

(12, 45185), (13, 45140), (17, 45098), (29, 45017), (37, 44972), (Start: 76 @44807 has 218 MA's), (Start: 78 @44804 has 78 MA's), (Start: 79 @44798 has 1 MA's), (85, 44756), (98, 44684), (104, 44663), (129, 44567), (141, 44516), (149, 44450), (150, 44447), (155, 44396), (168, 44330), (173, 44318), (181, 44282), (195, 44237), (202, 44207), (209, 44168), (213, 44129), (217, 44096), (218, 44093), (222, 44069), (230, 44036), (233, 44015), (240, 43985), (259, 43871), (263, 43829), (264, 43808), (267, 43775), (279, 43703), (281, 43697), (298, 43604), (304, 43580), (309, 43565), (313, 43541),

Gene: LostAndPhound\_50 Start: 44961, Stop: 43558, Start Num: 76

Candidate Starts for LostAndPhound\_50:

(12, 45339), (13, 45294), (17, 45252), (29, 45171), (37, 45126), (Start: 76 @44961 has 218 MA's), (Start: 78 @44958 has 78 MA's), (Start: 79 @44952 has 1 MA's), (85, 44910), (98, 44838), (104, 44817), (129, 44721), (141, 44670), (149, 44604), (150, 44601), (155, 44550), (168, 44484), (173, 44472), (181, 44436), (195, 44391), (202, 44361), (209, 44322), (213, 44283), (217, 44250), (218, 44247), (222, 44223), (230, 44190), (233, 44169), (240, 44139), (259, 44025), (263, 43983), (264, 43962), (267, 43929), (279, 43857), (281, 43851), (289, 43803), (298, 43758), (304, 43734), (309, 43719), (313, 43695),

Gene: LuckyMarjie\_50 Start: 44949, Stop: 43546, Start Num: 76

Candidate Starts for LuckyMarjie\_50:

(37, 45114), (Start: 76 @44949 has 218 MA's), (Start: 78 @44946 has 78 MA's), (Start: 79 @44940 has 1 MA's), (85, 44898), (98, 44826), (104, 44805), (129, 44709), (141, 44658), (149, 44592), (150, 44589), (155, 44538), (168, 44472), (173, 44460), (181, 44424), (195, 44379), (202, 44349), (209, 44310), (213, 44271), (217, 44238), (218, 44235), (222, 44211), (230, 44178), (233, 44157), (240, 44127), (259, 44013), (263, 43971), (264, 43950), (267, 43917), (279, 43845), (281, 43839), (289, 43791), (298, 43746), (304, 43722), (309, 43707), (313, 43683),

Gene: Lulumae\_50 Start: 44931, Stop: 43531, Start Num: 78

Candidate Starts for Lulumae\_50:

(37, 45099), (Start: 76 @44934 has 218 MA's), (Start: 78 @44931 has 78 MA's), (Start: 79 @44925 has 1 MA's), (85, 44883), (98, 44811), (104, 44790), (129, 44694), (141, 44643), (149, 44577), (150, 44574), (155, 44523), (168, 44457), (173, 44445), (181, 44409), (195, 44364), (202, 44334), (209, 44295), (213, 44256), (217, 44223), (218, 44220), (222, 44196), (230, 44163), (233, 44142), (240, 44112), (259, 43998), (263, 43956), (264, 43935), (267, 43902), (279, 43830), (281, 43824), (289, 43776), (298, 43731), (304, 43707), (309, 43692), (313, 43668),

Gene: Lulwa\_51 Start: 45227, Stop: 43824, Start Num: 76

Candidate Starts for Lulwa\_51:

(37, 45392), (Start: 76 @45227 has 218 MA's), (Start: 78 @45224 has 78 MA's), (Start: 79 @45218 has 1 MA's), (85, 45176), (98, 45104), (104, 45083), (129, 44987), (141, 44936), (149, 44870), (150, 44867), (155, 44816), (168, 44750), (173, 44738), (181, 44702), (195, 44657), (202, 44627), (209, 44588), (213, 44549), (217, 44516), (218, 44513), (222, 44489), (230, 44456), (233, 44435), (240, 44405), (259, 44291), (263, 44249), (264, 44228), (267, 44195), (279, 44123), (281, 44117), (289, 44069), (298, 44024), (304, 44000), (309, 43985), (313, 43961),

Gene: Lumine\_50 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for Lumine\_50:

(37, 45095), (Start: 76 @44930 has 218 MA's), (Start: 78 @44927 has 78 MA's), (Start: 79 @44921 has 1 MA's), (85, 44879), (98, 44807), (104, 44786), (129, 44690), (141, 44639), (149, 44573), (150, 44570), (155, 44519), (168, 44453), (173, 44441), (181, 44405), (195, 44360), (202, 44330), (209, 44291), (213, 44252), (217, 44219), (218, 44216), (220, 44210), (222, 44192), (230, 44159), (233, 44138), (240, 44108), (259, 43994), (263, 43952), (264, 43931), (267, 43898), (279, 43826), (281, 43820), (289, 43772), (298, 43727), (304, 43703), (309, 43688), (313, 43664),

Gene: MRabcd\_50 Start: 44940, Stop: 43537, Start Num: 76

Candidate Starts for MRabcd\_50:

(12, 45318), (13, 45273), (17, 45231), (29, 45150), (37, 45105), (Start: 76 @44940 has 218 MA's), (Start: 78 @44937 has 78 MA's), (Start: 79 @44931 has 1 MA's), (85, 44889), (98, 44817), (104, 44796), (129, 44700), (141, 44649), (149, 44583), (150, 44580), (155, 44529), (168, 44463), (173, 44451), (181, 44415), (195, 44370), (202, 44340), (209, 44301), (213, 44262), (217, 44229), (218, 44226), (222, 44202), (230, 44169), (233, 44148), (240, 44118), (259, 44004), (263, 43962), (264, 43941), (267, 43908), (279, 43836), (281, 43830), (289, 43782), (298, 43737), (304, 43713), (309, 43698), (313, 43674),

Gene: Mag7\_50 Start: 44864, Stop: 43461, Start Num: 76

Candidate Starts for Mag7\_50:

(37, 45029), (Start: 76 @44864 has 218 MA's), (Start: 78 @44861 has 78 MA's), (Start: 79 @44855 has 1 MA's), (85, 44813), (98, 44741), (104, 44720), (129, 44624), (141, 44573), (149, 44507), (150, 44504), (155, 44453), (168, 44387), (173, 44375), (181, 44339), (195, 44294), (202, 44264), (209, 44225), (213, 44186), (217, 44153), (218, 44150), (220, 44144), (222, 44126), (230, 44093), (233, 44072), (240, 44042), (259, 43928), (263, 43886), (264, 43865), (267, 43832), (279, 43760), (281, 43754), (289, 43706), (298, 43661), (304, 43637), (309, 43622), (313, 43598),

Gene: Magic8\_51 Start: 45299, Stop: 43896, Start Num: 76

Candidate Starts for Magic8\_51:

(37, 45464), (Start: 76 @45299 has 218 MA's), (Start: 78 @45296 has 78 MA's), (Start: 79 @45290 has 1 MA's), (85, 45248), (98, 45176), (104, 45155), (129, 45059), (141, 45008), (149, 44942), (150, 44939), (155, 44888), (168, 44822), (173, 44810), (181, 44774), (195, 44729), (202, 44699), (209, 44660), (213, 44621), (217, 44588), (218, 44585), (220, 44579), (222, 44561), (230, 44528), (233,

44507), (240, 44477), (259, 44363), (263, 44321), (264, 44300), (267, 44267), (279, 44195), (281, 44189), (289, 44141), (298, 44096), (304, 44072), (309, 44057), (313, 44033),

Gene: Magpie\_45 Start: 45553, Stop: 44210, Start Num: 72

Candidate Starts for Magpie\_45:

(Start: 72 @45553 has 9 MA's), (Start: 75 @45550 has 15 MA's), (Start: 79 @45541 has 1 MA's), (80, 45535), (87, 45484), (123, 45337), (138, 45292), (141, 45271), (158, 45130), (162, 45106), (168, 45085), (169, 45082), (175, 45067), (177, 45052), (201, 44983), (202, 44968), (210, 44926), (218, 44854), (221, 44839), (222, 44830), (230, 44797), (231, 44794), (233, 44776), (240, 44746), (253, 44686), (256, 44668), (258, 44656), (261, 44611), (262, 44605), (263, 44596), (266, 44566), (267, 44542), (281, 44503), (288, 44458), (292, 44437), (293, 44434), (311, 44365), (313, 44347),

Gene: Mahdia\_31 Start: 24495, Stop: 23398, Start Num: 126

Candidate Starts for Mahdia\_31:

(23, 25017), (48, 24885), (61, 24807), (Start: 126 @24495 has 4 MA's), (151, 24360), (162, 24273), (164, 24264), (215, 24093), (225, 24039), (241, 23967), (249, 23931), (255, 23889), (265, 23793), (267, 23763), (277, 23736), (286, 23688), (290, 23661), (298, 23628), (306, 23595), (310, 23568), (313, 23547), (316, 23532),

Gene: MakoManhole\_47 Start: 40329, Stop: 38938, Start Num: 28

Candidate Starts for MakoManhole\_47:

(3, 40668), (4, 40644), (8, 40533), (11, 40488), (Start: 28 @40329 has 6 MA's), (32, 40302), (Start: 43 @40251 has 6 MA's), (82, 40107), (Start: 126 @40101 has 4 MA's), (138, 40068), (141, 40050), (144, 40017), (146, 40011), (156, 39921), (172, 39861), (192, 39792), (206, 39729), (215, 39657), (217, 39645), (221, 39627), (222, 39618), (230, 39585), (240, 39534), (249, 39504), (252, 39477), (253, 39474), (264, 39366), (268, 39324), (272, 39291), (277, 39246), (281, 39234), (286, 39201), (287, 39195), (292, 39168),

Gene: Mana\_50 Start: 44949, Stop: 43546, Start Num: 76

Candidate Starts for Mana\_50:

(12, 45327), (13, 45282), (17, 45240), (29, 45159), (37, 45114), (Start: 76 @44949 has 218 MA's), (Start: 78 @44946 has 78 MA's), (Start: 79 @44940 has 1 MA's), (85, 44898), (98, 44826), (104, 44805), (129, 44709), (141, 44658), (149, 44592), (150, 44589), (155, 44538), (168, 44472), (173, 44460), (181, 44424), (195, 44379), (202, 44349), (209, 44310), (213, 44271), (217, 44238), (218, 44235), (222, 44211), (230, 44178), (233, 44157), (240, 44127), (259, 44013), (263, 43971), (264, 43950), (267, 43917), (279, 43845), (281, 43839), (289, 43791), (298, 43746), (304, 43722), (309, 43707), (313, 43683),

Gene: Manad\_51 Start: 45209, Stop: 43806, Start Num: 76

Candidate Starts for Manad\_51:

(12, 45587), (13, 45542), (17, 45500), (29, 45419), (37, 45374), (Start: 76 @45209 has 218 MA's), (Start: 78 @45206 has 78 MA's), (Start: 79 @45200 has 1 MA's), (85, 45158), (98, 45086), (104, 45065), (129, 44969), (141, 44918), (149, 44852), (150, 44849), (155, 44798), (168, 44732), (173, 44720), (181, 44684), (195, 44639), (202, 44609), (209, 44570), (213, 44531), (217, 44498), (218, 44495), (222, 44471), (230, 44438), (233, 44417), (240, 44387), (259, 44273), (263, 44231), (264, 44210), (267, 44177), (279, 44105), (281, 44099), (298, 44006), (304, 43982), (309, 43967), (313, 43943),

Gene: Mariokart\_44 Start: 37741, Stop: 36515, Start Num: 64

Candidate Starts for Mariokart\_44:

(Start: 64 @37741 has 1 MA's), (Start: 124 @37669 has 2 MA's), (134, 37642), (141, 37612), (184, 37375), (193, 37357), (206, 37294), (207, 37291), (210, 37279), (230, 37150), (235, 37123), (240, 37099), (250, 37051), (253, 37039), (258, 37009), (260, 36976), (264, 36931), (267, 36898), (275,

36865), (277, 36838), (286, 36793), (287, 36787), (292, 36760), (293, 36757), (304, 36709), (330, 36547),

Gene: Marley1013\_49 Start: 45665, Stop: 44043, Start Num: 38

Candidate Starts for Marley1013\_49:

(19, 45782), (20, 45776), (24, 45761), (Start: 38 @45665 has 9 MA's), (Start: 41 @45656 has 43 MA's), (62, 45560), (83, 45482), (95, 45347), (Start: 127 @45188 has 3 MA's), (133, 45173), (135, 45161), (141, 45131), (147, 45089), (155, 45011), (186, 44879), (193, 44846), (198, 44837), (212, 44744), (218, 44696), (221, 44681), (222, 44672), (230, 44639), (235, 44612), (240, 44588), (258, 44498), (267, 44387), (279, 44354), (280, 44351), (282, 44336), (286, 44315), (292, 44282),

Gene: Marlia\_49 Start: 44869, Stop: 43247, Start Num: 38

Candidate Starts for Marlia\_49:

(19, 44986), (20, 44980), (24, 44965), (Start: 38 @44869 has 9 MA's), (Start: 41 @44860 has 43 MA's), (62, 44764), (83, 44686), (95, 44551), (Start: 127 @44392 has 3 MA's), (133, 44377), (135, 44365), (141, 44335), (147, 44293), (155, 44215), (186, 44083), (193, 44050), (198, 44041), (212, 43948), (218, 43900), (221, 43885), (222, 43876), (230, 43843), (235, 43816), (240, 43792), (258, 43702), (267, 43591), (279, 43558), (282, 43540), (286, 43519), (292, 43486),

Gene: Maru\_50 Start: 44889, Stop: 43489, Start Num: 78

Candidate Starts for Maru\_50:

(12, 45270), (13, 45225), (17, 45183), (29, 45102), (37, 45057), (Start: 76 @44892 has 218 MA's), (Start: 78 @44889 has 78 MA's), (Start: 79 @44883 has 1 MA's), (85, 44841), (98, 44769), (104, 44748), (129, 44652), (141, 44601), (149, 44535), (150, 44532), (155, 44481), (168, 44415), (173, 44403), (181, 44367), (195, 44322), (202, 44292), (209, 44253), (213, 44214), (217, 44181), (218, 44178), (222, 44154), (230, 44121), (233, 44100), (240, 44070), (259, 43956), (263, 43914), (264, 43893), (267, 43860), (279, 43788), (281, 43782), (289, 43734), (298, 43689), (304, 43665), (309, 43650), (313, 43626),

Gene: Maskar\_51 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for Maskar\_51:

(37, 45095), (Start: 76 @44930 has 218 MA's), (Start: 78 @44927 has 78 MA's), (Start: 79 @44921 has 1 MA's), (85, 44879), (98, 44807), (104, 44786), (129, 44690), (141, 44639), (149, 44573), (150, 44570), (155, 44519), (168, 44453), (173, 44441), (181, 44405), (195, 44360), (202, 44330), (209, 44291), (213, 44252), (217, 44219), (218, 44216), (220, 44210), (222, 44192), (230, 44159), (233, 44138), (240, 44108), (259, 43994), (263, 43952), (264, 43931), (267, 43898), (279, 43826), (281, 43820), (289, 43772), (298, 43727), (304, 43703), (309, 43688), (313, 43664),

Gene: MasterPo\_50 Start: 44872, Stop: 43505, Start Num: 78

Candidate Starts for MasterPo\_50:

(Start: 78 @44872 has 78 MA's), (86, 44809), (88, 44794), (115, 44683), (128, 44632), (140, 44584), (145, 44536), (165, 44395), (168, 44386), (187, 44341), (189, 44335), (190, 44329), (195, 44317), (213, 44212), (217, 44179), (222, 44152), (230, 44119), (235, 44092), (240, 44068), (245, 44041), (251, 44014), (260, 43939), (264, 43894), (267, 43861), (275, 43840), (277, 43834), (284, 43801), (285, 43792), (287, 43783), (322, 43621), (325, 43603), (330, 43546),

Gene: Matalotodo\_51 Start: 45244, Stop: 43841, Start Num: 76

Candidate Starts for Matalotodo\_51:

(37, 45409), (Start: 76 @45244 has 218 MA's), (Start: 78 @45241 has 78 MA's), (Start: 79 @45235 has 1 MA's), (85, 45193), (98, 45121), (104, 45100), (129, 45004), (141, 44953), (149, 44887), (150, 44884), (153, 44860), (155, 44833), (168, 44767), (173, 44755), (181, 44719), (195, 44674), (202, 44644), (209, 44605), (213, 44566), (217, 44533), (218, 44530), (222, 44506), (230, 44473), (233, 44452), (240, 44422), (259, 44308), (263, 44266), (264, 44245), (267, 44212), (279, 44140), (281,

44134), (289, 44086), (298, 44041), (304, 44017), (309, 44002), (313, 43978),

Gene: Mcshane\_50 Start: 44941, Stop: 43538, Start Num: 76

Candidate Starts for Mcshane\_50:

(12, 45319), (13, 45274), (17, 45232), (29, 45151), (37, 45106), (Start: 76 @44941 has 218 MA's), (Start: 78 @44938 has 78 MA's), (Start: 79 @44932 has 1 MA's), (85, 44890), (98, 44818), (104, 44797), (129, 44701), (141, 44650), (149, 44584), (150, 44581), (155, 44530), (168, 44464), (173, 44452), (181, 44416), (195, 44371), (202, 44341), (209, 44302), (213, 44263), (217, 44230), (218, 44227), (222, 44203), (230, 44170), (233, 44149), (240, 44119), (259, 44005), (263, 43963), (264, 43942), (267, 43909), (279, 43837), (281, 43831), (289, 43783), (298, 43738), (304, 43714), (309, 43699), (313, 43675),

Gene: Mecca\_50 Start: 44947, Stop: 43544, Start Num: 76

Candidate Starts for Mecca\_50:

(37, 45112), (Start: 76 @44947 has 218 MA's), (Start: 78 @44944 has 78 MA's), (Start: 79 @44938 has 1 MA's), (85, 44896), (98, 44824), (104, 44803), (129, 44707), (141, 44656), (149, 44590), (150, 44587), (153, 44563), (155, 44536), (168, 44470), (173, 44458), (181, 44422), (195, 44377), (202, 44347), (209, 44308), (213, 44269), (217, 44236), (218, 44233), (222, 44209), (230, 44176), (233, 44155), (240, 44125), (259, 44011), (263, 43969), (264, 43948), (267, 43915), (279, 43843), (281, 43837), (289, 43789), (298, 43744), (304, 43720), (309, 43705), (313, 43681),

Gene: Megamind20\_51 Start: 44966, Stop: 43566, Start Num: 78

Candidate Starts for Megamind20\_51:

(12, 45347), (13, 45302), (17, 45260), (29, 45179), (37, 45134), (Start: 76 @44969 has 218 MA's), (Start: 78 @44966 has 78 MA's), (Start: 79 @44960 has 1 MA's), (85, 44918), (98, 44846), (104, 44825), (129, 44729), (141, 44678), (149, 44612), (150, 44609), (155, 44558), (168, 44492), (173, 44480), (181, 44444), (195, 44399), (202, 44369), (209, 44330), (213, 44291), (217, 44258), (218, 44255), (222, 44231), (230, 44198), (233, 44177), (240, 44147), (259, 44033), (263, 43991), (264, 43970), (267, 43937), (279, 43865), (281, 43859), (289, 43811), (298, 43766), (304, 43742), (309, 43727), (313, 43703),

Gene: Megatron\_52 Start: 45377, Stop: 43974, Start Num: 76

Candidate Starts for Megatron\_52:

(12, 45755), (13, 45710), (17, 45668), (29, 45587), (37, 45542), (Start: 76 @45377 has 218 MA's), (Start: 78 @45374 has 78 MA's), (Start: 79 @45368 has 1 MA's), (85, 45326), (98, 45254), (104, 45233), (129, 45137), (141, 45086), (149, 45020), (150, 45017), (155, 44966), (168, 44900), (173, 44888), (181, 44852), (195, 44807), (202, 44777), (209, 44738), (213, 44699), (217, 44666), (218, 44663), (222, 44639), (230, 44606), (233, 44585), (240, 44555), (259, 44441), (263, 44399), (264, 44378), (267, 44345), (279, 44273), (281, 44267), (289, 44219), (298, 44174), (304, 44150), (309, 44135), (313, 44111),

Gene: Melc17\_51 Start: 45239, Stop: 43836, Start Num: 76

Candidate Starts for Melc17\_51:

(37, 45404), (Start: 76 @45239 has 218 MA's), (Start: 78 @45236 has 78 MA's), (Start: 79 @45230 has 1 MA's), (85, 45188), (98, 45116), (104, 45095), (129, 44999), (141, 44948), (149, 44882), (150, 44879), (155, 44828), (168, 44762), (173, 44750), (181, 44714), (195, 44669), (202, 44639), (209, 44600), (213, 44561), (217, 44528), (218, 44525), (220, 44519), (222, 44501), (230, 44468), (233, 44447), (240, 44417), (259, 44303), (263, 44261), (264, 44240), (267, 44207), (279, 44135), (281, 44129), (289, 44081), (298, 44036), (304, 44012), (309, 43997), (313, 43973),

Gene: MelsMeow\_51 Start: 44983, Stop: 43580, Start Num: 76

Candidate Starts for MelsMeow\_51:

(37, 45148), (Start: 76 @44983 has 218 MA's), (Start: 78 @44980 has 78 MA's), (Start: 79 @44974 has 1 MA's), (85, 44932), (98, 44860), (104, 44839), (129, 44743), (141, 44692), (149, 44626), (150, 44623), (155, 44572), (168, 44506), (173, 44494), (181, 44458), (195, 44413), (202, 44383), (209, 44344), (213, 44305), (217, 44272), (218, 44269), (220, 44263), (222, 44245), (230, 44212), (233, 44191), (240, 44161), (259, 44047), (263, 44005), (264, 43984), (267, 43951), (279, 43879), (281, 43873), (289, 43825), (298, 43780), (304, 43756), (309, 43741), (313, 43717),

Gene: Mesh1\_51 Start: 45257, Stop: 43854, Start Num: 73

Candidate Starts for Mesh1\_51:

(Start: 73 @45257 has 20 MA's), (Start: 78 @45254 has 78 MA's), (Start: 79 @45248 has 1 MA's), (85, 45206), (98, 45134), (104, 45113), (129, 45017), (141, 44966), (149, 44900), (150, 44897), (155, 44846), (168, 44780), (173, 44768), (181, 44732), (195, 44687), (202, 44657), (209, 44618), (213, 44579), (217, 44546), (218, 44543), (222, 44519), (230, 44486), (233, 44465), (240, 44435), (259, 44321), (263, 44279), (264, 44258), (267, 44225), (279, 44153), (281, 44147), (289, 44099), (298, 44054), (304, 44030), (309, 44015), (313, 43991),

Gene: Mesmerelda\_50 Start: 44951, Stop: 43548, Start Num: 76

Candidate Starts for Mesmerelda\_50:

(12, 45329), (13, 45284), (17, 45242), (29, 45161), (37, 45116), (Start: 76 @44951 has 218 MA's), (Start: 78 @44948 has 78 MA's), (Start: 79 @44942 has 1 MA's), (85, 44900), (98, 44828), (104, 44807), (129, 44711), (141, 44660), (149, 44594), (150, 44591), (155, 44540), (168, 44474), (173, 44462), (181, 44426), (195, 44381), (202, 44351), (209, 44312), (213, 44273), (217, 44240), (218, 44237), (222, 44213), (230, 44180), (233, 44159), (240, 44129), (259, 44015), (263, 43973), (264, 43952), (267, 43919), (279, 43847), (281, 43841), (289, 43793), (298, 43748), (304, 43724), (309, 43709), (313, 43685),

Gene: MichaelPhcott\_50 Start: 44861, Stop: 43458, Start Num: 76

Candidate Starts for MichaelPhcott\_50:

(37, 45026), (Start: 76 @44861 has 218 MA's), (Start: 78 @44858 has 78 MA's), (Start: 79 @44852 has 1 MA's), (85, 44810), (98, 44738), (104, 44717), (129, 44621), (141, 44570), (149, 44504), (150, 44501), (155, 44450), (168, 44384), (173, 44372), (181, 44336), (195, 44291), (202, 44261), (209, 44222), (213, 44183), (217, 44150), (218, 44147), (220, 44141), (222, 44123), (230, 44090), (233, 44069), (240, 44039), (259, 43925), (263, 43883), (264, 43862), (267, 43829), (279, 43757), (281, 43751), (289, 43703), (298, 43658), (304, 43634), (309, 43619), (313, 43595),

Gene: Mikota\_51 Start: 45227, Stop: 43824, Start Num: 76

Candidate Starts for Mikota\_51:

(12, 45605), (13, 45560), (17, 45518), (29, 45437), (37, 45392), (Start: 76 @45227 has 218 MA's), (Start: 78 @45224 has 78 MA's), (Start: 79 @45218 has 1 MA's), (85, 45176), (98, 45104), (104, 45083), (129, 44987), (141, 44936), (149, 44870), (150, 44867), (155, 44816), (168, 44750), (173, 44738), (181, 44702), (195, 44657), (202, 44627), (209, 44588), (213, 44549), (217, 44516), (218, 44513), (222, 44489), (230, 44456), (233, 44435), (240, 44405), (259, 44291), (263, 44249), (264, 44228), (267, 44195), (279, 44123), (281, 44117), (289, 44069), (298, 44024), (304, 44000), (309, 43985), (313, 43961),

Gene: MiniBoss\_51 Start: 45230, Stop: 43830, Start Num: 78

Candidate Starts for MiniBoss\_51:

(12, 45611), (13, 45566), (17, 45524), (29, 45443), (37, 45398), (Start: 76 @45233 has 218 MA's), (Start: 78 @45230 has 78 MA's), (Start: 79 @45224 has 1 MA's), (85, 45182), (98, 45110), (104, 45089), (129, 44993), (141, 44942), (149, 44876), (150, 44873), (155, 44822), (168, 44756), (173, 44744), (181, 44708), (195, 44663), (202, 44633), (209, 44594), (213, 44555), (217, 44522), (218, 44519), (222, 44495), (230, 44462), (233, 44441), (240, 44411), (259, 44297), (263, 44255), (264, 44234), (267, 44201), (279, 44129), (281, 44123), (289, 44075), (298, 44030), (304, 44006), (309,

43991), (313, 43967),

Gene: MitKao\_51 Start: 44959, Stop: 43556, Start Num: 76

Candidate Starts for MitKao\_51:

(12, 45337), (13, 45292), (17, 45250), (29, 45169), (37, 45124), (Start: 76 @44959 has 218 MA's), (Start: 78 @44956 has 78 MA's), (Start: 79 @44950 has 1 MA's), (85, 44908), (98, 44836), (104, 44815), (129, 44719), (141, 44668), (149, 44602), (150, 44599), (155, 44548), (168, 44482), (173, 44470), (181, 44434), (195, 44389), (202, 44359), (209, 44320), (213, 44281), (217, 44248), (218, 44245), (220, 44239), (222, 44221), (230, 44188), (233, 44167), (240, 44137), (259, 44023), (263, 43981), (264, 43960), (267, 43927), (279, 43855), (281, 43849), (289, 43801), (298, 43756), (304, 43732), (309, 43717), (313, 43693),

Gene: Mithril\_46 Start: 45718, Stop: 44378, Start Num: 75

Candidate Starts for Mithril\_46:

(Start: 72 @45721 has 9 MA's), (Start: 75 @45718 has 15 MA's), (Start: 79 @45709 has 1 MA's), (80, 45703), (87, 45652), (123, 45505), (141, 45439), (158, 45298), (162, 45274), (168, 45253), (169, 45250), (175, 45235), (177, 45220), (201, 45151), (204, 45118), (210, 45094), (218, 45022), (221, 45007), (222, 44998), (230, 44965), (231, 44962), (233, 44944), (240, 44914), (253, 44854), (256, 44836), (258, 44824), (260, 44791), (261, 44779), (262, 44773), (263, 44764), (264, 44743), (266, 44734), (267, 44710), (281, 44671), (292, 44605), (293, 44602), (309, 44539), (311, 44533), (313, 44515),

Gene: MmasiCarm\_49 Start: 44861, Stop: 43248, Start Num: 41

Candidate Starts for MmasiCarm\_49:

(19, 44987), (20, 44981), (24, 44966), (Start: 38 @44870 has 9 MA's), (Start: 41 @44861 has 43 MA's), (62, 44765), (83, 44687), (95, 44552), (Start: 127 @44393 has 3 MA's), (133, 44378), (135, 44366), (141, 44336), (147, 44294), (155, 44216), (186, 44084), (193, 44051), (198, 44042), (212, 43949), (218, 43901), (221, 43886), (222, 43877), (230, 43844), (235, 43817), (240, 43793), (258, 43703), (267, 43592), (279, 43559), (282, 43541), (286, 43520), (292, 43487),

Gene: Morgushi\_51 Start: 44948, Stop: 43545, Start Num: 76

Candidate Starts for Morgushi\_51:

(12, 45326), (13, 45281), (17, 45239), (29, 45158), (37, 45113), (Start: 76 @44948 has 218 MA's), (Start: 78 @44945 has 78 MA's), (Start: 79 @44939 has 1 MA's), (85, 44897), (98, 44825), (104, 44804), (129, 44708), (141, 44657), (149, 44591), (150, 44588), (155, 44537), (168, 44471), (173, 44459), (181, 44423), (195, 44378), (202, 44348), (209, 44309), (213, 44270), (217, 44237), (218, 44234), (222, 44210), (230, 44177), (233, 44156), (240, 44126), (259, 44012), (263, 43970), (264, 43949), (267, 43916), (279, 43844), (281, 43838), (289, 43790), (298, 43745), (304, 43721), (309, 43706), (313, 43682),

Gene: Morrissey\_33 Start: 26237, Stop: 25131, Start Num: 125

Candidate Starts for Morrissey\_33:

(Start: 125 @26237 has 1 MA's), (151, 26090), (165, 25988), (215, 25820), (221, 25790), (227, 25760), (241, 25694), (252, 25631), (256, 25613), (265, 25520), (266, 25514), (267, 25490), (275, 25469), (277, 25463), (286, 25415), (295, 25370), (298, 25355), (299, 25346), (302, 25334), (313, 25280), (316, 25265),

Gene: Mortcellus\_48 Start: 45513, Stop: 43900, Start Num: 41

Candidate Starts for Mortcellus\_48:

(19, 45639), (20, 45633), (24, 45618), (Start: 38 @45522 has 9 MA's), (Start: 41 @45513 has 43 MA's), (62, 45417), (83, 45339), (95, 45204), (Start: 127 @45045 has 3 MA's), (133, 45030), (135, 45018), (141, 44988), (147, 44946), (155, 44868), (186, 44736), (193, 44703), (198, 44694), (212, 44601), (218, 44553), (221, 44538), (222, 44529), (230, 44496), (235, 44469), (240, 44445), (258, 44355),

(267, 44244), (279, 44211), (282, 44193), (286, 44172), (292, 44139),

Gene: Morty\_52 Start: 45386, Stop: 43983, Start Num: 76

Candidate Starts for Morty\_52:

(12, 45764), (13, 45719), (17, 45677), (29, 45596), (37, 45551), (Start: 76 @45386 has 218 MA's), (Start: 78 @45383 has 78 MA's), (Start: 79 @45377 has 1 MA's), (85, 45335), (98, 45263), (104, 45242), (129, 45146), (141, 45095), (149, 45029), (150, 45026), (155, 44975), (168, 44909), (173, 44897), (181, 44861), (195, 44816), (202, 44786), (209, 44747), (213, 44708), (217, 44675), (218, 44672), (222, 44648), (230, 44615), (233, 44594), (240, 44564), (259, 44450), (263, 44408), (264, 44387), (267, 44354), (279, 44282), (281, 44276), (289, 44228), (298, 44183), (304, 44159), (309, 44144), (313, 44120),

Gene: Morty007\_49 Start: 45656, Stop: 44043, Start Num: 41

Candidate Starts for Morty007\_49:

(19, 45782), (20, 45776), (24, 45761), (Start: 38 @45665 has 9 MA's), (Start: 41 @45656 has 43 MA's), (62, 45560), (83, 45482), (95, 45347), (Start: 127 @45188 has 3 MA's), (133, 45173), (135, 45161), (141, 45131), (147, 45089), (155, 45011), (186, 44879), (193, 44846), (198, 44837), (212, 44744), (218, 44696), (221, 44681), (222, 44672), (230, 44639), (235, 44612), (240, 44588), (258, 44498), (267, 44387), (279, 44354), (280, 44351), (282, 44336), (286, 44315), (292, 44282),

Gene: Mosaic\_50 Start: 44953, Stop: 43550, Start Num: 76

Candidate Starts for Mosaic\_50:

(12, 45331), (13, 45286), (17, 45244), (29, 45163), (37, 45118), (Start: 76 @44953 has 218 MA's), (Start: 78 @44950 has 78 MA's), (Start: 79 @44944 has 1 MA's), (85, 44902), (98, 44830), (104, 44809), (129, 44713), (141, 44662), (149, 44596), (150, 44593), (155, 44542), (168, 44476), (173, 44464), (181, 44428), (195, 44383), (202, 44353), (209, 44314), (213, 44275), (217, 44242), (218, 44239), (222, 44215), (230, 44182), (233, 44161), (240, 44131), (259, 44017), (263, 43975), (264, 43954), (267, 43921), (279, 43849), (281, 43843), (289, 43795), (298, 43750), (304, 43726), (309, 43711), (313, 43687),

Gene: MossRose\_47 Start: 40308, Stop: 38917, Start Num: 28

Candidate Starts for MossRose\_47:

(Start: 28 @40308 has 6 MA's), (32, 40281), (Start: 43 @40230 has 6 MA's), (82, 40086), (Start: 126 @40080 has 4 MA's), (138, 40047), (141, 40029), (144, 39996), (146, 39990), (156, 39900), (172, 39840), (192, 39771), (201, 39750), (206, 39708), (215, 39636), (217, 39624), (221, 39606), (222, 39597), (230, 39564), (240, 39513), (249, 39483), (253, 39453), (264, 39345), (268, 39303), (272, 39270), (277, 39225), (281, 39213), (286, 39180), (287, 39174), (292, 39147),

Gene: MrPhizzler\_51 Start: 44947, Stop: 43547, Start Num: 78

Candidate Starts for MrPhizzler\_51:

(12, 45328), (13, 45283), (17, 45241), (29, 45160), (37, 45115), (Start: 76 @44950 has 218 MA's), (Start: 78 @44947 has 78 MA's), (Start: 79 @44941 has 1 MA's), (85, 44899), (98, 44827), (104, 44806), (129, 44710), (141, 44659), (149, 44593), (150, 44590), (155, 44539), (168, 44473), (173, 44461), (181, 44425), (195, 44380), (202, 44350), (209, 44311), (213, 44272), (217, 44239), (218, 44236), (222, 44212), (230, 44179), (233, 44158), (240, 44128), (259, 44014), (263, 43972), (264, 43951), (267, 43918), (279, 43846), (281, 43840), (289, 43792), (298, 43747), (304, 43723), (309, 43708), (313, 43684),

Gene: Mudslide\_46 Start: 45977, Stop: 44637, Start Num: 75

Candidate Starts for Mudslide\_46:

(Start: 72 @45980 has 9 MA's), (Start: 75 @45977 has 15 MA's), (Start: 79 @45968 has 1 MA's), (80, 45962), (87, 45911), (123, 45764), (138, 45719), (141, 45698), (158, 45557), (162, 45533), (168, 45512), (169, 45509), (175, 45494), (177, 45479), (201, 45410), (202, 45395), (204, 45377), (210,

45353), (218, 45281), (222, 45257), (230, 45224), (231, 45221), (233, 45203), (240, 45173), (253, 45113), (256, 45095), (258, 45083), (261, 45038), (262, 45032), (263, 45023), (266, 44993), (267, 44969), (281, 44930), (288, 44885), (292, 44864), (293, 44861), (311, 44792), (313, 44774),

Gene: Mulan\_51 Start: 45100, Stop: 43700, Start Num: 78

Candidate Starts for Mulan\_51:

(37, 45268), (Start: 76 @45103 has 218 MA's), (Start: 78 @45100 has 78 MA's), (Start: 79 @45094 has 1 MA's), (85, 45052), (98, 44980), (104, 44959), (129, 44863), (141, 44812), (149, 44746), (150, 44743), (153, 44719), (155, 44692), (168, 44626), (173, 44614), (181, 44578), (195, 44533), (202, 44503), (209, 44464), (213, 44425), (217, 44392), (218, 44389), (222, 44365), (230, 44332), (233, 44311), (240, 44281), (259, 44167), (263, 44125), (264, 44104), (267, 44071), (279, 43999), (281, 43993), (289, 43945), (298, 43900), (304, 43876), (309, 43861), (313, 43837),

Gene: Mulaychimus\_49 Start: 44842, Stop: 43229, Start Num: 41

Candidate Starts for Mulaychimus\_49:

(19, 44968), (20, 44962), (24, 44947), (Start: 38 @44851 has 9 MA's), (Start: 41 @44842 has 43 MA's), (62, 44746), (83, 44668), (95, 44533), (Start: 127 @44374 has 3 MA's), (133, 44359), (135, 44347), (141, 44317), (147, 44275), (155, 44197), (186, 44065), (193, 44032), (198, 44023), (212, 43930), (218, 43882), (221, 43867), (222, 43858), (230, 43825), (235, 43798), (240, 43774), (258, 43684), (267, 43573), (279, 43540), (282, 43522), (286, 43501), (292, 43468),

Gene: Murdoc\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Murdoc\_51:

(37, 45399), (Start: 76 @45234 has 218 MA's), (Start: 78 @45231 has 78 MA's), (Start: 79 @45225 has 1 MA's), (85, 45183), (98, 45111), (104, 45090), (129, 44994), (141, 44943), (149, 44877), (150, 44874), (153, 44850), (155, 44823), (168, 44757), (173, 44745), (181, 44709), (195, 44664), (202, 44634), (209, 44595), (213, 44556), (217, 44523), (218, 44520), (222, 44496), (230, 44463), (233, 44442), (240, 44412), (259, 44298), (263, 44256), (264, 44235), (267, 44202), (279, 44130), (281, 44124), (289, 44076), (298, 44031), (304, 44007), (309, 43992), (313, 43968),

Gene: Mutante\_50 Start: 44953, Stop: 43550, Start Num: 76

Candidate Starts for Mutante\_50:

(37, 45118), (Start: 76 @44953 has 218 MA's), (Start: 78 @44950 has 78 MA's), (Start: 79 @44944 has 1 MA's), (85, 44902), (98, 44830), (104, 44809), (129, 44713), (141, 44662), (149, 44596), (150, 44593), (153, 44569), (155, 44542), (168, 44476), (173, 44464), (181, 44428), (195, 44383), (202, 44353), (209, 44314), (213, 44275), (217, 44242), (218, 44239), (222, 44215), (230, 44182), (233, 44161), (240, 44131), (259, 44017), (263, 43975), (264, 43954), (267, 43921), (279, 43849), (281, 43843), (289, 43795), (298, 43750), (304, 43726), (309, 43711), (313, 43687),

Gene: Mysterious\_49 Start: 46273, Stop: 44888, Start Num: 74

Candidate Starts for Mysterious\_49:

(37, 46426), (Start: 74 @46273 has 9 MA's), (Start: 81 @46255 has 2 MA's), (129, 46036), (137, 46009), (138, 46006), (170, 45799), (176, 45781), (206, 45664), (214, 45601), (218, 45577), (221, 45562), (235, 45493), (240, 45469), (241, 45466), (261, 45334), (263, 45322), (264, 45301), (267, 45268), (269, 45250), (279, 45196), (287, 45151), (292, 45124), (311, 45043), (317, 45004), (318, 44998), (325, 44962),

Gene: NHagos\_45 Start: 38885, Stop: 37521, Start Num: 28

Candidate Starts for NHagos\_45:

(Start: 28 @38885 has 6 MA's), (32, 38858), (Start: 43 @38807 has 6 MA's), (Start: 124 @38663 has 2 MA's), (141, 38606), (174, 38411), (182, 38372), (210, 38270), (217, 38201), (233, 38120), (240, 38090), (241, 38087), (250, 38042), (253, 38030), (261, 37955), (264, 37922), (267, 37889), (275, 37856), (276, 37844), (277, 37829), (281, 37817), (287, 37778), (292, 37751), (325, 37595),

Gene: Nacho\_0052 Start: 45380, Stop: 43977, Start Num: 76

Candidate Starts for Nacho\_0052:

(37, 45545), (Start: 76 @45380 has 218 MA's), (Start: 78 @45377 has 78 MA's), (Start: 79 @45371 has 1 MA's), (85, 45329), (98, 45257), (104, 45236), (129, 45140), (141, 45089), (149, 45023), (150, 45020), (153, 44996), (155, 44969), (168, 44903), (173, 44891), (181, 44855), (195, 44810), (202, 44780), (209, 44741), (213, 44702), (217, 44669), (218, 44666), (222, 44642), (230, 44609), (233, 44588), (240, 44558), (259, 44444), (263, 44402), (264, 44381), (267, 44348), (279, 44276), (281, 44270), (289, 44222), (298, 44177), (304, 44153), (309, 44138), (313, 44114),

Gene: Nanao\_45 Start: 44677, Stop: 43337, Start Num: 75

Candidate Starts for Nanao\_45:

(Start: 72 @44680 has 9 MA's), (Start: 75 @44677 has 15 MA's), (Start: 79 @44668 has 1 MA's), (80, 44662), (87, 44611), (123, 44464), (141, 44398), (143, 44374), (168, 44212), (175, 44194), (177, 44179), (178, 44176), (185, 44149), (203, 44086), (204, 44077), (216, 43990), (221, 43966), (230, 43924), (231, 43921), (233, 43903), (240, 43873), (248, 43846), (253, 43813), (257, 43792), (258, 43783), (261, 43738), (262, 43732), (263, 43723), (264, 43702), (267, 43669), (281, 43630), (292, 43564), (293, 43561), (311, 43492), (313, 43474),

Gene: Nangang\_50 Start: 46226, Stop: 44841, Start Num: 74

Candidate Starts for Nangang\_50:

(Start: 74 @46226 has 9 MA's), (Start: 81 @46208 has 2 MA's), (129, 45989), (138, 45959), (159, 45794), (170, 45752), (176, 45734), (179, 45719), (199, 45668), (206, 45617), (218, 45530), (221, 45515), (222, 45506), (235, 45446), (240, 45422), (241, 45419), (257, 45341), (261, 45287), (267, 45221), (269, 45203), (279, 45149), (286, 45110), (287, 45104), (292, 45077), (311, 44996), (317, 44957), (325, 44915),

Gene: Nathan\_51 Start: 45275, Stop: 43875, Start Num: 78

Candidate Starts for Nathan\_51:

(37, 45440), (Start: 73 @45278 has 20 MA's), (Start: 78 @45275 has 78 MA's), (85, 45227), (98, 45155), (104, 45134), (129, 45038), (141, 44987), (149, 44921), (150, 44918), (155, 44867), (168, 44801), (173, 44789), (181, 44753), (195, 44708), (202, 44678), (209, 44639), (213, 44600), (217, 44567), (218, 44564), (222, 44540), (230, 44507), (233, 44486), (240, 44456), (259, 44342), (263, 44300), (264, 44279), (267, 44246), (279, 44174), (281, 44168), (289, 44120), (298, 44075), (304, 44051), (309, 44036), (313, 44012),

Gene: Nehemiah\_50 Start: 46273, Stop: 44888, Start Num: 74

Candidate Starts for Nehemiah\_50:

(37, 46426), (Start: 74 @46273 has 9 MA's), (Start: 81 @46255 has 2 MA's), (84, 46225), (129, 46036), (137, 46009), (170, 45799), (176, 45781), (206, 45664), (214, 45601), (218, 45577), (221, 45562), (235, 45493), (240, 45469), (241, 45466), (261, 45334), (263, 45322), (264, 45301), (267, 45268), (269, 45250), (279, 45196), (287, 45151), (292, 45124), (311, 45043), (317, 45004), (318, 44998), (325, 44962),

Gene: Neos5\_49 Start: 45672, Stop: 44059, Start Num: 41

Candidate Starts for Neos5\_49:

(19, 45798), (20, 45792), (24, 45777), (Start: 38 @45681 has 9 MA's), (Start: 41 @45672 has 43 MA's), (62, 45576), (83, 45498), (95, 45363), (Start: 127 @45204 has 3 MA's), (133, 45189), (135, 45177), (141, 45147), (147, 45105), (155, 45027), (186, 44895), (193, 44862), (198, 44853), (212, 44760), (218, 44712), (221, 44697), (222, 44688), (235, 44628), (240, 44604), (258, 44514), (267, 44403), (279, 44370), (282, 44352), (286, 44331), (292, 44298),

Gene: Newman\_51 Start: 45251, Stop: 43848, Start Num: 76

Candidate Starts for Newman\_51:

(12, 45629), (13, 45584), (17, 45542), (29, 45461), (37, 45416), (Start: 76 @45251 has 218 MA's), (Start: 78 @45248 has 78 MA's), (Start: 79 @45242 has 1 MA's), (85, 45200), (98, 45128), (104, 45107), (129, 45011), (141, 44960), (149, 44894), (150, 44891), (153, 44867), (155, 44840), (168, 44774), (173, 44762), (181, 44726), (195, 44681), (202, 44651), (209, 44612), (213, 44573), (217, 44540), (218, 44537), (222, 44513), (230, 44480), (233, 44459), (240, 44429), (263, 44273), (264, 44252), (267, 44219), (279, 44147), (281, 44141), (289, 44093), (298, 44048), (304, 44024), (309, 44009), (313, 43985),

Gene: Nicole21\_51 Start: 45255, Stop: 43852, Start Num: 76

Candidate Starts for Nicole21\_51:

(37, 45420), (Start: 76 @45255 has 218 MA's), (Start: 78 @45252 has 78 MA's), (Start: 79 @45246 has 1 MA's), (85, 45204), (98, 45132), (104, 45111), (129, 45015), (141, 44964), (149, 44898), (150, 44895), (155, 44844), (168, 44778), (173, 44766), (181, 44730), (195, 44685), (202, 44655), (209, 44616), (213, 44577), (217, 44544), (218, 44541), (222, 44517), (230, 44484), (233, 44463), (240, 44433), (259, 44319), (263, 44277), (264, 44256), (267, 44223), (279, 44151), (281, 44145), (289, 44097), (298, 44052), (304, 44028), (309, 44013), (313, 43989),

Gene: Nigel\_45 Start: 44555, Stop: 43215, Start Num: 75

Candidate Starts for Nigel\_45:

(Start: 75 @44555 has 15 MA's), (Start: 79 @44546 has 1 MA's), (80, 44540), (123, 44342), (141, 44276), (143, 44252), (164, 44102), (168, 44090), (175, 44072), (202, 43973), (204, 43955), (210, 43931), (213, 43895), (218, 43859), (221, 43844), (222, 43835), (223, 43832), (225, 43820), (230, 43802), (231, 43799), (233, 43781), (238, 43763), (240, 43751), (248, 43724), (253, 43691), (257, 43670), (258, 43661), (261, 43616), (262, 43610), (263, 43601), (264, 43580), (267, 43547), (281, 43508), (292, 43442), (293, 43439), (311, 43370), (313, 43352), (326, 43268),

Gene: Nozo\_49 Start: 45636, Stop: 44023, Start Num: 41

Candidate Starts for Nozo\_49:

(19, 45762), (20, 45756), (24, 45741), (Start: 38 @45645 has 9 MA's), (Start: 41 @45636 has 43 MA's), (62, 45540), (83, 45462), (95, 45327), (Start: 127 @45168 has 3 MA's), (133, 45153), (135, 45141), (141, 45111), (147, 45069), (155, 44991), (186, 44859), (193, 44826), (198, 44817), (212, 44724), (218, 44676), (221, 44661), (222, 44652), (230, 44619), (235, 44592), (240, 44568), (258, 44478), (267, 44367), (279, 44334), (280, 44331), (282, 44316), (286, 44295), (292, 44262),

Gene: Numberten\_51 Start: 45246, Stop: 43843, Start Num: 76

Candidate Starts for Numberten\_51:

(37, 45411), (Start: 76 @45246 has 218 MA's), (Start: 78 @45243 has 78 MA's), (Start: 79 @45237 has 1 MA's), (85, 45195), (98, 45123), (104, 45102), (129, 45006), (141, 44955), (149, 44889), (150, 44886), (155, 44835), (168, 44769), (173, 44757), (181, 44721), (195, 44676), (202, 44646), (209, 44607), (213, 44568), (217, 44535), (218, 44532), (222, 44508), (230, 44475), (233, 44454), (240, 44424), (259, 44310), (263, 44268), (264, 44247), (267, 44214), (279, 44142), (281, 44136), (289, 44088), (298, 44043), (304, 44019), (309, 44004), (313, 43980),

Gene: Nyala\_50 Start: 44945, Stop: 43542, Start Num: 76

Candidate Starts for Nyala\_50:

(12, 45323), (13, 45278), (17, 45236), (29, 45155), (37, 45110), (Start: 76 @44945 has 218 MA's), (Start: 78 @44942 has 78 MA's), (Start: 79 @44936 has 1 MA's), (85, 44894), (98, 44822), (104, 44801), (129, 44705), (141, 44654), (149, 44588), (150, 44585), (155, 44534), (168, 44468), (173, 44456), (181, 44420), (195, 44375), (202, 44345), (209, 44306), (213, 44267), (217, 44234), (218, 44231), (222, 44207), (230, 44174), (233, 44153), (240, 44123), (259, 44009), (263, 43967), (264, 43946), (267, 43913), (279, 43841), (281, 43835), (289, 43787), (298, 43742), (304, 43718), (309, 43703), (313, 43679),

Gene: OSmaximus\_52 Start: 45419, Stop: 44016, Start Num: 76

Candidate Starts for OSmaximus\_52:

(37, 45584), (Start: 76 @45419 has 218 MA's), (Start: 78 @45416 has 78 MA's), (Start: 79 @45410 has 1 MA's), (85, 45368), (98, 45296), (104, 45275), (129, 45179), (141, 45128), (149, 45062), (150, 45059), (155, 45008), (168, 44942), (173, 44930), (181, 44894), (195, 44849), (202, 44819), (209, 44780), (213, 44741), (217, 44708), (218, 44705), (222, 44681), (230, 44648), (233, 44627), (240, 44597), (259, 44483), (263, 44441), (264, 44420), (267, 44387), (279, 44315), (281, 44309), (289, 44261), (298, 44216), (304, 44192), (309, 44177), (313, 44153),

Gene: Obutu\_49 Start: 44861, Stop: 43248, Start Num: 41

Candidate Starts for Obutu\_49:

(19, 44987), (20, 44981), (24, 44966), (Start: 38 @44870 has 9 MA's), (Start: 41 @44861 has 43 MA's), (62, 44765), (83, 44687), (95, 44552), (Start: 127 @44393 has 3 MA's), (133, 44378), (135, 44366), (141, 44336), (147, 44294), (155, 44216), (186, 44084), (193, 44051), (198, 44042), (212, 43949), (218, 43901), (221, 43886), (222, 43877), (230, 43844), (235, 43817), (240, 43793), (258, 43703), (267, 43592), (279, 43559), (282, 43541), (286, 43520), (292, 43487),

Gene: Olak\_50 Start: 44948, Stop: 43545, Start Num: 76

Candidate Starts for Olak\_50:

(12, 45326), (13, 45281), (17, 45239), (29, 45158), (37, 45113), (Start: 76 @44948 has 218 MA's), (Start: 78 @44945 has 78 MA's), (Start: 79 @44939 has 1 MA's), (85, 44897), (98, 44825), (104, 44804), (129, 44708), (141, 44657), (149, 44591), (150, 44588), (155, 44537), (168, 44471), (173, 44459), (181, 44423), (195, 44378), (202, 44348), (209, 44309), (213, 44270), (217, 44237), (218, 44234), (222, 44210), (230, 44177), (233, 44156), (240, 44126), (259, 44012), (263, 43970), (264, 43949), (267, 43916), (279, 43844), (281, 43838), (289, 43790), (298, 43745), (304, 43721), (309, 43706), (313, 43682),

Gene: Oline\_50 Start: 44808, Stop: 43405, Start Num: 76

Candidate Starts for Oline\_50:

(37, 44973), (Start: 76 @44808 has 218 MA's), (Start: 78 @44805 has 78 MA's), (Start: 79 @44799 has 1 MA's), (85, 44757), (98, 44685), (104, 44664), (129, 44568), (141, 44517), (149, 44451), (150, 44448), (155, 44397), (168, 44331), (173, 44319), (181, 44283), (195, 44238), (202, 44208), (209, 44169), (213, 44130), (217, 44097), (218, 44094), (220, 44088), (222, 44070), (230, 44037), (233, 44016), (240, 43986), (259, 43872), (263, 43830), (264, 43809), (267, 43776), (279, 43704), (281, 43698), (289, 43650), (298, 43605), (304, 43581), (309, 43566), (313, 43542),

Gene: Olive\_51 Start: 45235, Stop: 43832, Start Num: 76

Candidate Starts for Olive\_51:

(12, 45613), (13, 45568), (17, 45526), (29, 45445), (37, 45400), (Start: 76 @45235 has 218 MA's), (Start: 78 @45232 has 78 MA's), (Start: 79 @45226 has 1 MA's), (85, 45184), (98, 45112), (104, 45091), (129, 44995), (141, 44944), (149, 44878), (150, 44875), (155, 44824), (168, 44758), (173, 44746), (181, 44710), (195, 44665), (202, 44635), (209, 44596), (213, 44557), (217, 44524), (218, 44521), (222, 44497), (230, 44464), (233, 44443), (240, 44413), (259, 44299), (263, 44257), (264, 44236), (267, 44203), (279, 44131), (281, 44125), (289, 44077), (298, 44032), (304, 44008), (309, 43993), (313, 43969),

Gene: OliverWalter\_51 Start: 45257, Stop: 43854, Start Num: 76

Candidate Starts for OliverWalter\_51:

(37, 45422), (Start: 76 @45257 has 218 MA's), (Start: 78 @45254 has 78 MA's), (Start: 79 @45248 has 1 MA's), (85, 45206), (98, 45134), (104, 45113), (129, 45017), (141, 44966), (149, 44900), (150, 44897), (153, 44873), (155, 44846), (168, 44780), (173, 44768), (181, 44732), (195, 44687), (202, 44657), (209, 44618), (213, 44579), (217, 44546), (218, 44543), (222, 44519), (230, 44486), (233,

44465), (240, 44435), (259, 44321), (263, 44279), (264, 44258), (267, 44225), (279, 44153), (281, 44147), (289, 44099), (298, 44054), (304, 44030), (309, 44015), (313, 43991),

Gene: Olivio\_48 Start: 44739, Stop: 43117, Start Num: 38

Candidate Starts for Olivio\_48:

(19, 44856), (20, 44850), (24, 44835), (Start: 38 @44739 has 9 MA's), (Start: 41 @44730 has 43 MA's), (62, 44634), (83, 44556), (95, 44421), (Start: 127 @44262 has 3 MA's), (133, 44247), (135, 44235), (141, 44205), (147, 44163), (155, 44085), (186, 43953), (193, 43920), (198, 43911), (212, 43818), (218, 43770), (221, 43755), (222, 43746), (235, 43686), (240, 43662), (258, 43572), (267, 43461), (279, 43428), (280, 43425), (282, 43410), (286, 43389), (292, 43356),

Gene: Omniscient\_51 Start: 45254, Stop: 43851, Start Num: 76

Candidate Starts for Omniscient\_51:

(37, 45419), (Start: 76 @45254 has 218 MA's), (Start: 78 @45251 has 78 MA's), (Start: 79 @45245 has 1 MA's), (85, 45203), (98, 45131), (104, 45110), (129, 45014), (141, 44963), (149, 44897), (150, 44894), (153, 44870), (155, 44843), (168, 44777), (173, 44765), (181, 44729), (195, 44684), (202, 44654), (209, 44615), (213, 44576), (217, 44543), (218, 44540), (222, 44516), (230, 44483), (233, 44462), (240, 44432), (259, 44318), (263, 44276), (264, 44255), (267, 44222), (279, 44150), (281, 44144), (289, 44096), (298, 44051), (304, 44027), (309, 44012), (313, 43988),

Gene: Oosterbaan\_51 Start: 45239, Stop: 43839, Start Num: 78

Candidate Starts for Oosterbaan\_51:

(37, 45407), (Start: 76 @45242 has 218 MA's), (Start: 78 @45239 has 78 MA's), (Start: 79 @45233 has 1 MA's), (85, 45191), (98, 45119), (104, 45098), (129, 45002), (141, 44951), (149, 44885), (150, 44882), (155, 44831), (168, 44765), (173, 44753), (181, 44717), (195, 44672), (202, 44642), (209, 44603), (213, 44564), (217, 44531), (218, 44528), (222, 44504), (230, 44471), (233, 44450), (240, 44420), (259, 44306), (263, 44264), (264, 44243), (267, 44210), (279, 44138), (281, 44132), (289, 44084), (298, 44039), (304, 44015), (309, 44000), (313, 43976),

Gene: Opia\_50 Start: 44866, Stop: 43499, Start Num: 78

Candidate Starts for Opia\_50:

(Start: 78 @44866 has 78 MA's), (86, 44803), (88, 44788), (115, 44677), (128, 44626), (140, 44578), (145, 44530), (165, 44389), (168, 44380), (187, 44335), (189, 44329), (190, 44323), (195, 44311), (213, 44206), (217, 44173), (221, 44155), (222, 44146), (230, 44113), (235, 44086), (240, 44062), (245, 44035), (251, 44008), (260, 43933), (264, 43888), (267, 43855), (275, 43834), (277, 43828), (284, 43795), (285, 43786), (287, 43777), (322, 43615), (325, 43597), (330, 43540),

Gene: OrangeOswald\_49 Start: 44877, Stop: 43264, Start Num: 41

Candidate Starts for OrangeOswald\_49:

(19, 45003), (20, 44997), (24, 44982), (Start: 38 @44886 has 9 MA's), (Start: 41 @44877 has 43 MA's), (62, 44781), (83, 44703), (95, 44568), (Start: 127 @44409 has 3 MA's), (133, 44394), (135, 44382), (141, 44352), (147, 44310), (155, 44232), (186, 44100), (193, 44067), (198, 44058), (212, 43965), (218, 43917), (221, 43902), (222, 43893), (230, 43860), (235, 43833), (240, 43809), (258, 43719), (267, 43608), (279, 43575), (280, 43572), (282, 43557), (286, 43536), (292, 43503),

Gene: Orfeu\_50 Start: 44938, Stop: 43538, Start Num: 78

Candidate Starts for Orfeu\_50:

(12, 45319), (13, 45274), (17, 45232), (29, 45151), (37, 45106), (Start: 76 @44941 has 218 MA's), (Start: 78 @44938 has 78 MA's), (Start: 79 @44932 has 1 MA's), (85, 44890), (98, 44818), (104, 44797), (129, 44701), (141, 44650), (149, 44584), (150, 44581), (155, 44530), (168, 44464), (173, 44452), (181, 44416), (195, 44371), (202, 44341), (209, 44302), (213, 44263), (217, 44230), (218, 44227), (222, 44203), (230, 44170), (233, 44149), (240, 44119), (259, 44005), (263, 43963), (264, 43942), (267, 43909), (279, 43837), (281, 43831), (289, 43783), (298, 43738), (304, 43714), (309,

43699), (313, 43675),

Gene: Orion\_52 Start: 45372, Stop: 43972, Start Num: 78

Candidate Starts for Orion\_52:

(12, 45753), (13, 45708), (17, 45666), (29, 45585), (37, 45540), (Start: 76 @45375 has 218 MA's), (Start: 78 @45372 has 78 MA's), (Start: 79 @45366 has 1 MA's), (85, 45324), (98, 45252), (104, 45231), (129, 45135), (141, 45084), (149, 45018), (150, 45015), (155, 44964), (168, 44898), (173, 44886), (181, 44850), (195, 44805), (202, 44775), (209, 44736), (213, 44697), (217, 44664), (218, 44661), (222, 44637), (230, 44604), (233, 44583), (240, 44553), (259, 44439), (263, 44397), (264, 44376), (267, 44343), (279, 44271), (281, 44265), (289, 44217), (298, 44172), (304, 44148), (309, 44133), (313, 44109),

Gene: Orwigg\_50 Start: 44938, Stop: 43538, Start Num: 78

Candidate Starts for Orwigg\_50:

(37, 45106), (Start: 76 @44941 has 218 MA's), (Start: 78 @44938 has 78 MA's), (Start: 79 @44932 has 1 MA's), (85, 44890), (98, 44818), (104, 44797), (129, 44701), (141, 44650), (149, 44584), (150, 44581), (155, 44530), (168, 44464), (173, 44452), (181, 44416), (195, 44371), (202, 44341), (209, 44302), (213, 44263), (217, 44230), (218, 44227), (222, 44203), (230, 44170), (233, 44149), (240, 44119), (259, 44005), (263, 43963), (264, 43942), (267, 43909), (279, 43837), (281, 43831), (289, 43783), (298, 43738), (304, 43714), (309, 43699), (313, 43675),

Gene: PG1\_52 Start: 45388, Stop: 43985, Start Num: 76

Candidate Starts for PG1\_52:

(37, 45553), (Start: 76 @45388 has 218 MA's), (Start: 78 @45385 has 78 MA's), (Start: 79 @45379 has 1 MA's), (85, 45337), (98, 45265), (104, 45244), (129, 45148), (141, 45097), (149, 45031), (150, 45028), (153, 45004), (155, 44977), (168, 44911), (173, 44899), (181, 44863), (195, 44818), (202, 44788), (209, 44749), (213, 44710), (217, 44677), (218, 44674), (222, 44650), (230, 44617), (233, 44596), (240, 44566), (259, 44452), (263, 44410), (264, 44389), (267, 44356), (279, 44284), (281, 44278), (289, 44230), (298, 44185), (304, 44161), (309, 44146), (313, 44122),

Gene: Pacifista\_50 Start: 44944, Stop: 43541, Start Num: 76

Candidate Starts for Pacifista\_50:

(12, 45322), (13, 45277), (17, 45235), (29, 45154), (37, 45109), (Start: 76 @44944 has 218 MA's), (Start: 78 @44941 has 78 MA's), (Start: 79 @44935 has 1 MA's), (85, 44893), (98, 44821), (104, 44800), (129, 44704), (141, 44653), (149, 44587), (150, 44584), (155, 44533), (168, 44467), (173, 44455), (181, 44419), (195, 44374), (202, 44344), (209, 44305), (213, 44266), (217, 44233), (218, 44230), (222, 44206), (230, 44173), (233, 44152), (240, 44122), (259, 44008), (263, 43966), (264, 43945), (267, 43912), (279, 43840), (281, 43834), (289, 43786), (298, 43741), (304, 43717), (309, 43702), (313, 43678),

Gene: PallasAthena\_52 Start: 44949, Stop: 43549, Start Num: 78

Candidate Starts for PallasAthena\_52:

(Start: 76 @44952 has 218 MA's), (Start: 78 @44949 has 78 MA's), (Start: 79 @44943 has 1 MA's), (85, 44901), (98, 44829), (104, 44808), (129, 44712), (141, 44661), (149, 44595), (150, 44592), (155, 44541), (168, 44475), (173, 44463), (181, 44427), (195, 44382), (202, 44352), (209, 44313), (213, 44274), (217, 44241), (218, 44238), (220, 44232), (222, 44214), (230, 44181), (233, 44160), (240, 44130), (259, 44016), (263, 43974), (264, 43953), (267, 43920), (279, 43848), (281, 43842), (289, 43794), (298, 43749), (304, 43725), (309, 43710), (313, 43686),

Gene: PenguinLover67\_52 Start: 47634, Stop: 46015, Start Num: 16

Candidate Starts for PenguinLover67\_52:

(Start: 16 @47634 has 1 MA's), (31, 47547), (33, 47535), (57, 47424), (59, 47418), (Start: 76 @47352 has 218 MA's), (129, 47124), (133, 47115), (152, 46983), (177, 46854), (206, 46752), (216, 46674),

(218, 46665), (221, 46650), (223, 46638), (240, 46557), (248, 46530), (256, 46479), (258, 46467), (259, 46449), (279, 46320), (289, 46266), (292, 46248), (304, 46197), (330, 46038),

Gene: Phaedrur\_47 Start: 44797, Stop: 43184, Start Num: 41

Candidate Starts for Phaedrur\_47:

(19, 44926), (20, 44920), (24, 44905), (Start: 38 @44806 has 9 MA's), (Start: 41 @44797 has 43 MA's), (62, 44701), (83, 44623), (95, 44488), (Start: 127 @44329 has 3 MA's), (133, 44314), (135, 44302), (141, 44272), (147, 44230), (155, 44152), (186, 44020), (193, 43987), (198, 43978), (212, 43885), (218, 43837), (221, 43822), (222, 43813), (235, 43753), (240, 43729), (258, 43639), (267, 43528), (279, 43495), (280, 43492), (282, 43477), (286, 43456), (292, 43423),

Gene: Phamished\_52 Start: 45395, Stop: 43992, Start Num: 76

Candidate Starts for Phamished\_52:

(12, 45773), (13, 45728), (17, 45686), (29, 45605), (37, 45560), (Start: 76 @45395 has 218 MA's), (Start: 78 @45392 has 78 MA's), (Start: 79 @45386 has 1 MA's), (85, 45344), (98, 45272), (104, 45251), (129, 45155), (141, 45104), (149, 45038), (150, 45035), (155, 44984), (168, 44918), (173, 44906), (181, 44870), (195, 44825), (202, 44795), (209, 44756), (213, 44717), (217, 44684), (218, 44681), (222, 44657), (230, 44624), (233, 44603), (240, 44573), (259, 44459), (263, 44417), (264, 44396), (267, 44363), (279, 44291), (281, 44285), (289, 44237), (298, 44192), (304, 44168), (309, 44153), (313, 44129),

Gene: Phantasmagoria\_50 Start: 44864, Stop: 43497, Start Num: 78

Candidate Starts for Phantasmagoria\_50:

(Start: 78 @44864 has 78 MA's), (86, 44801), (88, 44786), (115, 44675), (128, 44624), (140, 44576), (145, 44528), (165, 44387), (168, 44378), (187, 44333), (189, 44327), (190, 44321), (195, 44309), (213, 44204), (217, 44171), (222, 44144), (230, 44111), (235, 44084), (240, 44060), (245, 44033), (251, 44006), (260, 43931), (264, 43886), (267, 43853), (275, 43832), (277, 43826), (284, 43793), (285, 43784), (287, 43775), (322, 43613), (325, 43595), (330, 43538),

Gene: Phareon\_51 Start: 44943, Stop: 43540, Start Num: 76

Candidate Starts for Phareon\_51:

(37, 45108), (Start: 76 @44943 has 218 MA's), (Start: 78 @44940 has 78 MA's), (Start: 79 @44934 has 1 MA's), (85, 44892), (98, 44820), (104, 44799), (129, 44703), (141, 44652), (149, 44586), (150, 44583), (155, 44532), (168, 44466), (173, 44454), (181, 44418), (195, 44373), (202, 44343), (209, 44304), (213, 44265), (217, 44232), (218, 44229), (222, 44205), (230, 44172), (233, 44151), (240, 44121), (259, 44007), (263, 43965), (264, 43944), (267, 43911), (279, 43839), (281, 43833), (289, 43785), (298, 43740), (304, 43716), (309, 43701), (313, 43677),

Gene: PhatCats2014\_52 Start: 45389, Stop: 43989, Start Num: 78

Candidate Starts for PhatCats2014\_52:

(12, 45770), (13, 45725), (17, 45683), (29, 45602), (37, 45557), (Start: 76 @45392 has 218 MA's), (Start: 78 @45389 has 78 MA's), (Start: 79 @45383 has 1 MA's), (85, 45341), (98, 45269), (104, 45248), (129, 45152), (141, 45101), (149, 45035), (150, 45032), (155, 44981), (168, 44915), (173, 44903), (181, 44867), (195, 44822), (202, 44792), (209, 44753), (213, 44714), (217, 44681), (218, 44678), (222, 44654), (230, 44621), (233, 44600), (240, 44570), (259, 44456), (263, 44414), (264, 44393), (267, 44360), (279, 44288), (281, 44282), (289, 44234), (298, 44189), (304, 44165), (309, 44150), (313, 44126),

Gene: PhatLouie\_51 Start: 45243, Stop: 43843, Start Num: 78

Candidate Starts for PhatLouie\_51:

(37, 45411), (Start: 76 @45246 has 218 MA's), (Start: 78 @45243 has 78 MA's), (Start: 79 @45237 has 1 MA's), (85, 45195), (98, 45123), (104, 45102), (129, 45006), (141, 44955), (149, 44889), (150, 44886), (153, 44862), (155, 44835), (168, 44769), (173, 44757), (181, 44721), (195, 44676), (202,

44646), (209, 44607), (213, 44568), (217, 44535), (218, 44532), (222, 44508), (230, 44475), (233, 44454), (240, 44424), (259, 44310), (263, 44268), (264, 44247), (267, 44214), (279, 44142), (281, 44136), (289, 44088), (298, 44043), (304, 44019), (309, 44004), (313, 43980),

Gene: Phayeta\_50 Start: 44752, Stop: 43130, Start Num: 38

Candidate Starts for Phayeta\_50:

(19, 44869), (20, 44863), (24, 44848), (Start: 38 @44752 has 9 MA's), (Start: 41 @44743 has 43 MA's), (62, 44647), (83, 44569), (95, 44434), (Start: 127 @44275 has 3 MA's), (133, 44260), (135, 44248), (141, 44218), (147, 44176), (155, 44098), (186, 43966), (193, 43933), (198, 43924), (212, 43831), (218, 43783), (221, 43768), (222, 43759), (230, 43726), (235, 43699), (240, 43675), (258, 43585), (267, 43474), (279, 43441), (282, 43423), (286, 43402), (292, 43369),

Gene: Phelemich\_49 Start: 46254, Stop: 44887, Start Num: 81

Candidate Starts for Phelemich\_49:

(37, 46425), (Start: 74 @46272 has 9 MA's), (Start: 81 @46254 has 2 MA's), (84, 46224), (129, 46035), (137, 46008), (138, 46005), (170, 45798), (176, 45780), (206, 45663), (214, 45600), (218, 45576), (221, 45561), (235, 45492), (240, 45468), (241, 45465), (261, 45333), (263, 45321), (264, 45300), (267, 45267), (269, 45249), (279, 45195), (287, 45150), (292, 45123), (311, 45042), (317, 45003), (318, 44997), (325, 44961),

Gene: PhenghisKhan\_50 Start: 44867, Stop: 43464, Start Num: 76

Candidate Starts for PhenghisKhan\_50:

(37, 45032), (Start: 76 @44867 has 218 MA's), (Start: 78 @44864 has 78 MA's), (Start: 79 @44858 has 1 MA's), (85, 44816), (98, 44744), (104, 44723), (129, 44627), (141, 44576), (149, 44510), (150, 44507), (155, 44456), (168, 44390), (173, 44378), (181, 44342), (195, 44297), (202, 44267), (209, 44228), (213, 44189), (217, 44156), (218, 44153), (220, 44147), (222, 44129), (230, 44096), (233, 44075), (240, 44045), (259, 43931), (263, 43889), (264, 43868), (267, 43835), (279, 43763), (281, 43757), (289, 43709), (298, 43664), (304, 43640), (309, 43625), (313, 43601),

Gene: Pherdinand\_52 Start: 45404, Stop: 44001, Start Num: 76

Candidate Starts for Pherdinand\_52:

(Start: 76 @45404 has 218 MA's), (Start: 78 @45401 has 78 MA's), (Start: 79 @45395 has 1 MA's), (85, 45353), (98, 45281), (104, 45260), (129, 45164), (141, 45113), (149, 45047), (150, 45044), (155, 44993), (168, 44927), (173, 44915), (181, 44879), (195, 44834), (202, 44804), (209, 44765), (213, 44726), (217, 44693), (218, 44690), (222, 44666), (230, 44633), (233, 44612), (240, 44582), (259, 44468), (263, 44426), (264, 44405), (267, 44372), (279, 44300), (281, 44294), (289, 44246), (298, 44201), (304, 44177), (309, 44162), (313, 44138),

Gene: Phergie\_51 Start: 44859, Stop: 43456, Start Num: 76

Candidate Starts for Phergie\_51:

(37, 45024), (Start: 76 @44859 has 218 MA's), (Start: 78 @44856 has 78 MA's), (Start: 79 @44850 has 1 MA's), (85, 44808), (98, 44736), (104, 44715), (129, 44619), (141, 44568), (149, 44502), (150, 44499), (155, 44448), (168, 44382), (173, 44370), (181, 44334), (195, 44289), (202, 44259), (209, 44220), (213, 44181), (217, 44148), (218, 44145), (220, 44139), (222, 44121), (230, 44088), (233, 44067), (240, 44037), (259, 43923), (263, 43881), (264, 43860), (267, 43827), (279, 43755), (281, 43749), (289, 43701), (298, 43656), (304, 43632), (309, 43617), (313, 43593),

Gene: Philly\_48 Start: 44728, Stop: 43115, Start Num: 41

Candidate Starts for Philly\_48:

(19, 44854), (20, 44848), (24, 44833), (Start: 38 @44737 has 9 MA's), (Start: 41 @44728 has 43 MA's), (62, 44632), (83, 44554), (95, 44419), (Start: 127 @44260 has 3 MA's), (133, 44245), (135, 44233), (141, 44203), (147, 44161), (155, 44083), (186, 43951), (193, 43918), (198, 43909), (212, 43816), (218, 43768), (221, 43753), (222, 43744), (230, 43711), (235, 43684), (240, 43660), (258, 43570),

(267, 43459), (279, 43426), (280, 43423), (282, 43408), (286, 43387), (292, 43354),

Gene: Phipps\_51 Start: 45223, Stop: 43820, Start Num: 76

Candidate Starts for Phipps\_51:

(12, 45601), (13, 45556), (17, 45514), (29, 45433), (37, 45388), (Start: 76 @45223 has 218 MA's), (Start: 78 @45220 has 78 MA's), (Start: 79 @45214 has 1 MA's), (85, 45172), (98, 45100), (104, 45079), (129, 44983), (141, 44932), (149, 44866), (150, 44863), (155, 44812), (168, 44746), (173, 44734), (181, 44698), (195, 44653), (202, 44623), (209, 44584), (213, 44545), (217, 44512), (218, 44509), (222, 44485), (230, 44452), (233, 44431), (240, 44401), (259, 44287), (263, 44245), (264, 44224), (267, 44191), (279, 44119), (281, 44113), (289, 44065), (298, 44020), (304, 43996), (309, 43981), (313, 43957),

Gene: Phleuron\_50 Start: 44864, Stop: 43461, Start Num: 76

Candidate Starts for Phleuron\_50:

(37, 45029), (Start: 76 @44864 has 218 MA's), (Start: 78 @44861 has 78 MA's), (Start: 79 @44855 has 1 MA's), (85, 44813), (98, 44741), (104, 44720), (129, 44624), (141, 44573), (149, 44507), (150, 44504), (155, 44453), (168, 44387), (173, 44375), (181, 44339), (195, 44294), (202, 44264), (209, 44225), (213, 44186), (217, 44153), (218, 44150), (220, 44144), (222, 44126), (230, 44093), (233, 44072), (240, 44042), (259, 43928), (263, 43886), (264, 43865), (267, 43832), (279, 43760), (281, 43754), (289, 43706), (298, 43661), (304, 43637), (309, 43622), (313, 43598),

Gene: Phlyer\_49 Start: 45617, Stop: 44004, Start Num: 41

Candidate Starts for Phlyer\_49:

(19, 45743), (20, 45737), (24, 45722), (Start: 38 @45626 has 9 MA's), (Start: 41 @45617 has 43 MA's), (62, 45521), (83, 45443), (95, 45308), (Start: 127 @45149 has 3 MA's), (133, 45134), (135, 45122), (141, 45092), (147, 45050), (155, 44972), (186, 44840), (193, 44807), (198, 44798), (212, 44705), (218, 44657), (221, 44642), (222, 44633), (235, 44573), (240, 44549), (258, 44459), (267, 44348), (279, 44315), (280, 44312), (282, 44297), (286, 44276), (292, 44243),

Gene: PhrankReynolds\_49 Start: 44864, Stop: 43461, Start Num: 76

Candidate Starts for PhrankReynolds\_49:

(37, 45029), (Start: 76 @44864 has 218 MA's), (Start: 78 @44861 has 78 MA's), (Start: 79 @44855 has 1 MA's), (85, 44813), (98, 44741), (104, 44720), (129, 44624), (141, 44573), (149, 44507), (150, 44504), (155, 44453), (168, 44387), (173, 44375), (181, 44339), (195, 44294), (202, 44264), (209, 44225), (213, 44186), (217, 44153), (218, 44150), (220, 44144), (222, 44126), (230, 44093), (233, 44072), (240, 44042), (259, 43928), (263, 43886), (264, 43865), (267, 43832), (279, 43760), (281, 43754), (289, 43706), (298, 43661), (304, 43637), (309, 43622), (313, 43598),

Gene: PhrodoBaggins\_51 Start: 45371, Stop: 43968, Start Num: 76

Candidate Starts for PhrodoBaggins\_51:

(37, 45536), (Start: 76 @45371 has 218 MA's), (Start: 78 @45368 has 78 MA's), (Start: 79 @45362 has 1 MA's), (85, 45320), (98, 45248), (104, 45227), (129, 45131), (141, 45080), (149, 45014), (150, 45011), (155, 44960), (168, 44894), (173, 44882), (181, 44846), (195, 44801), (202, 44771), (209, 44732), (213, 44693), (217, 44660), (218, 44657), (222, 44633), (230, 44600), (233, 44579), (240, 44549), (259, 44435), (263, 44393), (264, 44372), (267, 44339), (279, 44267), (281, 44261), (289, 44213), (298, 44168), (304, 44144), (309, 44129), (313, 44105),

Gene: Phunky\_51 Start: 45240, Stop: 43837, Start Num: 76

Candidate Starts for Phunky\_51:

(37, 45405), (Start: 76 @45240 has 218 MA's), (Start: 78 @45237 has 78 MA's), (Start: 79 @45231 has 1 MA's), (85, 45189), (98, 45117), (104, 45096), (129, 45000), (141, 44949), (149, 44883), (150, 44880), (155, 44829), (168, 44763), (173, 44751), (181, 44715), (195, 44670), (202, 44640), (209, 44601), (213, 44562), (217, 44529), (218, 44526), (222, 44502), (230, 44469), (233, 44448), (240,

44418), (259, 44304), (263, 44262), (264, 44241), (267, 44208), (279, 44136), (281, 44130), (289, 44082), (298, 44037), (304, 44013), (309, 43998), (313, 43974),

Gene: Piglet\_0051 Start: 45365, Stop: 43962, Start Num: 76

Candidate Starts for Piglet\_0051:

(37, 45530), (Start: 76 @45365 has 218 MA's), (Start: 78 @45362 has 78 MA's), (Start: 79 @45356 has 1 MA's), (85, 45314), (98, 45242), (104, 45221), (129, 45125), (141, 45074), (149, 45008), (150, 45005), (153, 44981), (155, 44954), (168, 44888), (173, 44876), (181, 44840), (195, 44795), (202, 44765), (209, 44726), (213, 44687), (217, 44654), (218, 44651), (222, 44627), (230, 44594), (233, 44573), (240, 44543), (259, 44429), (263, 44387), (264, 44366), (267, 44333), (279, 44261), (281, 44255), (289, 44207), (298, 44162), (304, 44138), (309, 44123), (313, 44099),

Gene: Pine5\_42 Start: 35716, Stop: 34616, Start Num: 125

Candidate Starts for Pine5\_42:

(Start: 125 @35716 has 1 MA's), (155, 35521), (182, 35425), (205, 35359), (208, 35350), (211, 35326), (225, 35227), (231, 35206), (235, 35182), (252, 35107), (258, 35077), (261, 35032), (264, 34999), (267, 34966), (300, 34822), (303, 34810), (306, 34801), (312, 34768), (315, 34750), (325, 34693), (327, 34663), (333, 34627),

Gene: PinheadLarry\_51 Start: 44953, Stop: 43550, Start Num: 73

Candidate Starts for PinheadLarry\_51:

(37, 45115), (Start: 73 @44953 has 20 MA's), (Start: 78 @44950 has 78 MA's), (85, 44902), (98, 44830), (104, 44809), (129, 44713), (141, 44662), (149, 44596), (150, 44593), (153, 44569), (155, 44542), (168, 44476), (173, 44464), (181, 44428), (195, 44383), (202, 44353), (209, 44314), (213, 44275), (217, 44242), (218, 44239), (222, 44215), (230, 44182), (233, 44161), (240, 44131), (259, 44017), (263, 43975), (264, 43954), (267, 43921), (279, 43849), (281, 43843), (289, 43795), (298, 43750), (304, 43726), (309, 43711), (313, 43687),

Gene: Pinkman\_50 Start: 44802, Stop: 43399, Start Num: 76

Candidate Starts for Pinkman\_50:

(12, 45180), (13, 45135), (17, 45093), (29, 45012), (37, 44967), (Start: 76 @44802 has 218 MA's), (Start: 78 @44799 has 78 MA's), (Start: 79 @44793 has 1 MA's), (85, 44751), (98, 44679), (104, 44658), (129, 44562), (141, 44511), (149, 44445), (150, 44442), (155, 44391), (168, 44325), (173, 44313), (181, 44277), (195, 44232), (202, 44202), (209, 44163), (213, 44124), (217, 44091), (218, 44088), (220, 44082), (222, 44064), (230, 44031), (233, 44010), (240, 43980), (259, 43866), (263, 43824), (264, 43803), (267, 43770), (279, 43698), (281, 43692), (289, 43644), (298, 43599), (304, 43575), (309, 43560), (313, 43536),

Gene: Pipefish\_51 Start: 46266, Stop: 44656, Start Num: 41

Candidate Starts for Pipefish\_51:

(19, 46392), (20, 46386), (24, 46371), (Start: 38 @46275 has 9 MA's), (Start: 41 @46266 has 43 MA's), (62, 46170), (83, 46092), (93, 45969), (95, 45957), (101, 45933), (105, 45918), (Start: 127 @45801 has 3 MA's), (133, 45786), (135, 45774), (141, 45744), (147, 45702), (155, 45624), (186, 45492), (193, 45459), (198, 45450), (212, 45357), (218, 45309), (221, 45294), (222, 45285), (230, 45252), (235, 45225), (240, 45201), (258, 45111), (267, 45000), (279, 44967), (280, 44964), (282, 44949), (286, 44928), (292, 44895),

Gene: Pipsqueak\_51 Start: 45247, Stop: 43844, Start Num: 76

Candidate Starts for Pipsqueak\_51:

(12, 45625), (13, 45580), (17, 45538), (29, 45457), (37, 45412), (Start: 76 @45247 has 218 MA's), (Start: 78 @45244 has 78 MA's), (Start: 79 @45238 has 1 MA's), (85, 45196), (98, 45124), (104, 45103), (129, 45007), (141, 44956), (149, 44890), (150, 44887), (155, 44836), (168, 44770), (173, 44758), (181, 44722), (195, 44677), (202, 44647), (209, 44608), (213, 44569), (217, 44536), (218,

44533), (222, 44509), (230, 44476), (233, 44455), (240, 44425), (259, 44311), (263, 44269), (264, 44248), (267, 44215), (279, 44143), (281, 44137), (289, 44089), (298, 44044), (304, 44020), (309, 44005), (313, 43981),

Gene: Placalicious\_50 Start: 44940, Stop: 43537, Start Num: 76

Candidate Starts for Placalicious\_50:

(37, 45105), (Start: 76 @44940 has 218 MA's), (Start: 78 @44937 has 78 MA's), (Start: 79 @44931 has 1 MA's), (85, 44889), (98, 44817), (104, 44796), (129, 44700), (141, 44649), (149, 44583), (150, 44580), (153, 44556), (155, 44529), (168, 44463), (173, 44451), (181, 44415), (195, 44370), (202, 44340), (209, 44301), (213, 44262), (217, 44229), (218, 44226), (222, 44202), (230, 44169), (233, 44148), (240, 44118), (259, 44004), (263, 43962), (264, 43941), (267, 43908), (279, 43836), (281, 43830), (289, 43782), (298, 43737), (304, 43713), (309, 43698), (313, 43674),

Gene: Plata\_51 Start: 44958, Stop: 43555, Start Num: 73

Candidate Starts for Plata\_51:

(37, 45120), (Start: 73 @44958 has 20 MA's), (Start: 78 @44955 has 78 MA's), (85, 44907), (98, 44835), (104, 44814), (129, 44718), (141, 44667), (149, 44601), (150, 44598), (153, 44574), (155, 44547), (168, 44481), (173, 44469), (181, 44433), (195, 44388), (202, 44358), (209, 44319), (213, 44280), (217, 44247), (218, 44244), (220, 44238), (222, 44220), (230, 44187), (233, 44166), (240, 44136), (259, 44022), (263, 43980), (264, 43959), (267, 43926), (279, 43854), (281, 43848), (289, 43800), (298, 43755), (304, 43731), (309, 43716), (313, 43692),

Gene: Plmatters\_51 Start: 45243, Stop: 43840, Start Num: 76

Candidate Starts for Plmatters\_51:

(37, 45408), (Start: 76 @45243 has 218 MA's), (Start: 78 @45240 has 78 MA's), (Start: 79 @45234 has 1 MA's), (85, 45192), (98, 45120), (104, 45099), (129, 45003), (141, 44952), (149, 44886), (150, 44883), (155, 44832), (168, 44766), (173, 44754), (181, 44718), (195, 44673), (202, 44643), (209, 44604), (213, 44565), (217, 44532), (218, 44529), (222, 44505), (230, 44472), (233, 44451), (240, 44421), (259, 44307), (263, 44265), (264, 44244), (267, 44211), (279, 44139), (281, 44133), (289, 44085), (298, 44040), (304, 44016), (309, 44001), (313, 43977),

Gene: Podrick\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Podrick\_51:

(12, 45612), (13, 45567), (17, 45525), (29, 45444), (37, 45399), (Start: 76 @45234 has 218 MA's), (Start: 78 @45231 has 78 MA's), (Start: 79 @45225 has 1 MA's), (85, 45183), (98, 45111), (104, 45090), (129, 44994), (141, 44943), (149, 44877), (150, 44874), (155, 44823), (168, 44757), (173, 44745), (181, 44709), (195, 44664), (202, 44634), (209, 44595), (213, 44556), (217, 44523), (218, 44520), (222, 44496), (230, 44463), (233, 44442), (240, 44412), (259, 44298), (263, 44256), (264, 44235), (267, 44202), (279, 44130), (281, 44124), (289, 44076), (298, 44031), (304, 44007), (309, 43992), (313, 43968),

Gene: Pops\_51 Start: 45258, Stop: 43855, Start Num: 76

Candidate Starts for Pops\_51:

(12, 45636), (13, 45591), (17, 45549), (29, 45468), (37, 45423), (Start: 76 @45258 has 218 MA's), (Start: 78 @45255 has 78 MA's), (Start: 79 @45249 has 1 MA's), (85, 45207), (98, 45135), (104, 45114), (129, 45018), (141, 44967), (149, 44901), (150, 44898), (153, 44874), (155, 44847), (168, 44781), (173, 44769), (181, 44733), (195, 44688), (202, 44658), (209, 44619), (213, 44580), (217, 44547), (218, 44544), (222, 44520), (230, 44487), (233, 44466), (240, 44436), (259, 44322), (263, 44280), (264, 44259), (267, 44226), (279, 44154), (281, 44148), (289, 44100), (298, 44055), (304, 44031), (309, 44016), (313, 43992),

Gene: Poster\_45 Start: 44678, Stop: 43338, Start Num: 75

Candidate Starts for Poster\_45:

(Start: 72 @44681 has 9 MA's), (Start: 75 @44678 has 15 MA's), (Start: 79 @44669 has 1 MA's), (80, 44663), (87, 44612), (123, 44465), (141, 44399), (143, 44375), (168, 44213), (175, 44195), (177, 44180), (178, 44177), (185, 44150), (203, 44087), (204, 44078), (216, 43991), (221, 43967), (230, 43925), (231, 43922), (233, 43904), (240, 43874), (248, 43847), (253, 43814), (257, 43793), (258, 43784), (261, 43739), (262, 43733), (263, 43724), (264, 43703), (267, 43670), (281, 43631), (292, 43565), (293, 43562), (311, 43493), (313, 43475),

Gene: Potter\_50 Start: 44970, Stop: 43567, Start Num: 76

Candidate Starts for Potter\_50:

(12, 45348), (13, 45303), (17, 45261), (29, 45180), (37, 45135), (Start: 76 @44970 has 218 MA's), (Start: 78 @44967 has 78 MA's), (Start: 79 @44961 has 1 MA's), (85, 44919), (98, 44847), (104, 44826), (129, 44730), (141, 44679), (149, 44613), (150, 44610), (155, 44559), (168, 44493), (173, 44481), (181, 44445), (195, 44400), (202, 44370), (209, 44331), (213, 44292), (217, 44259), (218, 44256), (220, 44250), (222, 44232), (230, 44199), (233, 44178), (240, 44148), (259, 44034), (263, 43992), (264, 43971), (267, 43938), (279, 43866), (281, 43860), (289, 43812), (298, 43767), (304, 43743), (309, 43728), (313, 43704),

Gene: Prickles\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Prickles\_51:

(12, 45612), (13, 45567), (17, 45525), (29, 45444), (37, 45399), (Start: 76 @45234 has 218 MA's), (Start: 78 @45231 has 78 MA's), (Start: 79 @45225 has 1 MA's), (85, 45183), (98, 45111), (104, 45090), (129, 44994), (141, 44943), (149, 44877), (150, 44874), (155, 44823), (168, 44757), (173, 44745), (181, 44709), (195, 44664), (202, 44634), (209, 44595), (213, 44556), (217, 44523), (218, 44520), (222, 44496), (230, 44463), (233, 44442), (240, 44412), (259, 44298), (263, 44256), (264, 44235), (267, 44202), (279, 44130), (281, 44124), (289, 44076), (298, 44031), (304, 44007), (309, 43992), (313, 43968),

Gene: Prince\_46 Start: 45887, Stop: 44547, Start Num: 75

Candidate Starts for Prince\_46:

(Start: 72 @45890 has 9 MA's), (Start: 75 @45887 has 15 MA's), (Start: 79 @45878 has 1 MA's), (80, 45872), (87, 45821), (123, 45674), (138, 45629), (141, 45608), (158, 45467), (162, 45443), (168, 45422), (169, 45419), (175, 45404), (177, 45389), (201, 45320), (202, 45305), (204, 45287), (210, 45263), (218, 45191), (222, 45167), (230, 45134), (231, 45131), (233, 45113), (240, 45083), (253, 45023), (256, 45005), (258, 44993), (261, 44948), (262, 44942), (263, 44933), (266, 44903), (267, 44879), (281, 44840), (288, 44795), (292, 44774), (293, 44771), (311, 44702), (313, 44684),

Gene: PrinceCharming\_50 Start: 44963, Stop: 43596, Start Num: 78

Candidate Starts for PrinceCharming\_50:

(Start: 78 @44963 has 78 MA's), (86, 44900), (88, 44885), (115, 44774), (128, 44723), (140, 44675), (145, 44627), (165, 44486), (168, 44477), (187, 44432), (189, 44426), (190, 44420), (195, 44408), (213, 44303), (217, 44270), (221, 44252), (222, 44243), (230, 44210), (235, 44183), (240, 44159), (245, 44132), (251, 44105), (260, 44030), (264, 43985), (267, 43952), (275, 43931), (277, 43925), (284, 43892), (285, 43883), (287, 43874), (322, 43712), (325, 43694), (330, 43637),

Gene: ProfessorX\_51 Start: 45235, Stop: 43832, Start Num: 76

Candidate Starts for ProfessorX\_51:

(12, 45613), (13, 45568), (17, 45526), (29, 45445), (37, 45400), (Start: 76 @45235 has 218 MA's), (Start: 78 @45232 has 78 MA's), (Start: 79 @45226 has 1 MA's), (85, 45184), (98, 45112), (104, 45091), (129, 44995), (141, 44944), (149, 44878), (150, 44875), (153, 44851), (155, 44824), (168, 44758), (173, 44746), (181, 44710), (195, 44665), (202, 44635), (209, 44596), (213, 44557), (217, 44524), (218, 44521), (222, 44497), (230, 44464), (233, 44443), (240, 44413), (259, 44299), (263, 44257), (264, 44236), (267, 44203), (279, 44131), (281, 44125), (289, 44077), (298, 44032), (304, 44008), (309, 43993), (313, 43969),

Gene: Puhltonio\_51 Start: 45244, Stop: 43841, Start Num: 76

Candidate Starts for Puhltonio\_51:

(12, 45622), (13, 45577), (17, 45535), (29, 45454), (37, 45409), (Start: 76 @45244 has 218 MA's), (Start: 78 @45241 has 78 MA's), (Start: 79 @45235 has 1 MA's), (85, 45193), (98, 45121), (104, 45100), (129, 45004), (141, 44953), (149, 44887), (150, 44884), (155, 44833), (168, 44767), (173, 44755), (181, 44719), (195, 44674), (202, 44644), (209, 44605), (213, 44566), (217, 44533), (218, 44530), (222, 44506), (230, 44473), (233, 44452), (240, 44422), (259, 44308), (263, 44266), (264, 44245), (267, 44212), (279, 44140), (281, 44134), (289, 44086), (298, 44041), (304, 44017), (309, 44002), (313, 43978),

Gene: Puppies\_31 Start: 24982, Stop: 23882, Start Num: 126

Candidate Starts for Puppies\_31:

(Start: 126 @24982 has 4 MA's), (132, 24967), (140, 24934), (154, 24805), (160, 24766), (164, 24742), (200, 24670), (219, 24550), (221, 24538), (241, 24442), (258, 24349), (260, 24316), (264, 24271), (265, 24268), (267, 24238), (275, 24217), (277, 24211), (278, 24208), (285, 24166), (298, 24103), (317, 24007), (321, 23992), (324, 23971),

Gene: QueenBeane\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for QueenBeane\_51:

(12, 45612), (13, 45567), (17, 45525), (29, 45444), (37, 45399), (Start: 76 @45234 has 218 MA's), (Start: 78 @45231 has 78 MA's), (Start: 79 @45225 has 1 MA's), (85, 45183), (98, 45111), (104, 45090), (129, 44994), (141, 44943), (149, 44877), (150, 44874), (155, 44823), (168, 44757), (173, 44745), (181, 44709), (195, 44664), (202, 44634), (209, 44595), (213, 44556), (217, 44523), (218, 44520), (222, 44496), (230, 44463), (233, 44442), (240, 44412), (259, 44298), (263, 44256), (264, 44235), (267, 44202), (279, 44130), (281, 44124), (289, 44076), (298, 44031), (304, 44007), (309, 43992), (313, 43968),

Gene: QueenPie\_45 Start: 45796, Stop: 44456, Start Num: 75

Candidate Starts for QueenPie\_45:

(Start: 72 @45799 has 9 MA's), (Start: 75 @45796 has 15 MA's), (Start: 79 @45787 has 1 MA's), (80, 45781), (123, 45583), (141, 45517), (143, 45493), (155, 45397), (168, 45331), (175, 45313), (177, 45298), (178, 45295), (185, 45268), (203, 45205), (204, 45196), (216, 45109), (218, 45100), (221, 45085), (230, 45043), (231, 45040), (233, 45022), (238, 45004), (240, 44992), (248, 44965), (253, 44932), (257, 44911), (258, 44902), (261, 44857), (262, 44851), (263, 44842), (264, 44821), (267, 44788), (281, 44749), (292, 44683), (293, 44680), (311, 44611), (313, 44593),

Gene: Quesadilla\_52 Start: 47383, Stop: 46022, Start Num: 68

Candidate Starts for Quesadilla\_52:

(51, 47464), (Start: 64 @47407 has 1 MA's), (Start: 68 @47383 has 1 MA's), (Start: 70 @47380 has 3 MA's), (Start: 79 @47362 has 1 MA's), (Start: 81 @47353 has 2 MA's), (129, 47131), (152, 46990), (168, 46894), (177, 46861), (191, 46822), (206, 46759), (210, 46744), (218, 46672), (221, 46657), (228, 46621), (230, 46615), (233, 46594), (234, 46591), (248, 46537), (250, 46516), (256, 46486), (262, 46423), (264, 46393), (277, 46333), (292, 46255), (293, 46252), (304, 46204), (311, 46183), (325, 46102), (330, 46045),

Gene: Quisquilliae\_51 Start: 45271, Stop: 43868, Start Num: 76

Candidate Starts for Quisquilliae\_51:

(12, 45649), (13, 45604), (17, 45562), (29, 45481), (37, 45436), (Start: 76 @45271 has 218 MA's), (Start: 78 @45268 has 78 MA's), (Start: 79 @45262 has 1 MA's), (85, 45220), (98, 45148), (104, 45127), (129, 45031), (141, 44980), (149, 44914), (150, 44911), (155, 44860), (168, 44794), (173, 44782), (181, 44746), (195, 44701), (202, 44671), (209, 44632), (213, 44593), (217, 44560), (218, 44557), (222, 44533), (230, 44500), (233, 44479), (240, 44449), (259, 44335), (263, 44293), (264,

44272), (267, 44239), (279, 44167), (281, 44161), (289, 44113), (298, 44068), (304, 44044), (309, 44029), (313, 44005),

Gene: Qyrzula\_47 Start: 44983, Stop: 43616, Start Num: 78

Candidate Starts for Qyrzula\_47:

(Start: 78 @44983 has 78 MA's), (86, 44920), (88, 44905), (115, 44794), (128, 44743), (140, 44695), (145, 44647), (163, 44512), (165, 44506), (168, 44497), (187, 44452), (189, 44446), (190, 44440), (195, 44428), (213, 44323), (217, 44290), (222, 44263), (230, 44230), (235, 44203), (240, 44179), (245, 44152), (251, 44125), (260, 44050), (264, 44005), (267, 43972), (275, 43951), (277, 43945), (284, 43912), (285, 43903), (287, 43894), (311, 43795), (322, 43732), (325, 43714), (330, 43657),

Gene: RagingRooster\_49 Start: 44878, Stop: 43265, Start Num: 41

Candidate Starts for RagingRooster\_49:

(19, 45004), (20, 44998), (24, 44983), (Start: 38 @44887 has 9 MA's), (Start: 41 @44878 has 43 MA's), (62, 44782), (83, 44704), (95, 44569), (Start: 127 @44410 has 3 MA's), (133, 44395), (135, 44383), (141, 44353), (147, 44311), (155, 44233), (167, 44167), (168, 44164), (186, 44101), (193, 44068), (198, 44059), (212, 43966), (218, 43918), (219, 43915), (221, 43903), (222, 43894), (235, 43834), (240, 43810), (258, 43720), (267, 43609), (279, 43576), (280, 43573), (282, 43558), (286, 43537), (292, 43504),

Gene: RawrgerThat\_47 Start: 45738, Stop: 44398, Start Num: 75

Candidate Starts for RawrgerThat\_47:

(Start: 72 @45741 has 9 MA's), (Start: 75 @45738 has 15 MA's), (Start: 79 @45729 has 1 MA's), (80, 45723), (87, 45672), (123, 45525), (138, 45480), (141, 45459), (158, 45318), (162, 45294), (168, 45273), (169, 45270), (175, 45255), (177, 45240), (201, 45171), (202, 45156), (210, 45114), (218, 45042), (221, 45027), (222, 45018), (230, 44985), (231, 44982), (233, 44964), (240, 44934), (253, 44874), (256, 44856), (258, 44844), (261, 44799), (262, 44793), (263, 44784), (266, 44754), (267, 44730), (281, 44691), (288, 44646), (292, 44625), (293, 44622), (311, 44553), (313, 44535),

Gene: Reccee\_51 Start: 46308, Stop: 44944, Start Num: 81

Candidate Starts for Reccee\_51:

(37, 46476), (Start: 74 @46326 has 9 MA's), (Start: 81 @46308 has 2 MA's), (104, 46179), (129, 46092), (138, 46062), (159, 45897), (170, 45855), (176, 45837), (179, 45822), (199, 45771), (206, 45720), (218, 45633), (221, 45618), (222, 45609), (232, 45558), (235, 45549), (240, 45525), (241, 45522), (261, 45390), (264, 45357), (267, 45324), (269, 45306), (279, 45252), (287, 45207), (292, 45180), (311, 45099), (313, 45081), (325, 45018),

Gene: RedMaple\_51 Start: 45385, Stop: 43982, Start Num: 76

Candidate Starts for RedMaple\_51:

(37, 45550), (Start: 76 @45385 has 218 MA's), (Start: 78 @45382 has 78 MA's), (Start: 79 @45376 has 1 MA's), (85, 45334), (98, 45262), (104, 45241), (129, 45145), (141, 45094), (149, 45028), (150, 45025), (155, 44974), (168, 44908), (173, 44896), (181, 44860), (195, 44815), (202, 44785), (209, 44746), (213, 44707), (217, 44674), (218, 44671), (222, 44647), (230, 44614), (233, 44593), (240, 44563), (259, 44449), (263, 44407), (264, 44386), (267, 44353), (279, 44281), (281, 44275), (289, 44227), (298, 44182), (304, 44158), (309, 44143), (313, 44119),

Gene: RedRaider89\_53 Start: 45468, Stop: 44065, Start Num: 76

Candidate Starts for RedRaider89\_53:

(37, 45633), (Start: 76 @45468 has 218 MA's), (Start: 78 @45465 has 78 MA's), (Start: 79 @45459 has 1 MA's), (85, 45417), (98, 45345), (104, 45324), (129, 45228), (141, 45177), (149, 45111), (150, 45108), (155, 45057), (168, 44991), (173, 44979), (181, 44943), (195, 44898), (202, 44868), (209, 44829), (213, 44790), (217, 44757), (218, 44754), (222, 44730), (230, 44697), (233, 44676), (240, 44646), (259, 44532), (263, 44490), (264, 44469), (267, 44436), (279, 44364), (281, 44358), (289,

44310), (298, 44265), (304, 44241), (309, 44226), (313, 44202),

Gene: Renkei\_45 Start: 44700, Stop: 43360, Start Num: 75

Candidate Starts for Renkei\_45:

(Start: 72 @44703 has 9 MA's), (Start: 75 @44700 has 15 MA's), (Start: 79 @44691 has 1 MA's), (80, 44685), (87, 44634), (123, 44487), (141, 44421), (143, 44397), (168, 44235), (175, 44217), (177, 44202), (178, 44199), (185, 44172), (203, 44109), (204, 44100), (216, 44013), (218, 44004), (221, 43989), (230, 43947), (231, 43944), (233, 43926), (238, 43908), (240, 43896), (248, 43869), (253, 43836), (257, 43815), (258, 43806), (261, 43761), (262, 43755), (263, 43746), (264, 43725), (267, 43692), (281, 43653), (292, 43587), (293, 43584), (311, 43515), (313, 43497),

Gene: Reprobate\_50 Start: 46277, Stop: 44892, Start Num: 74

Candidate Starts for Reprobate\_50:

(37, 46430), (Start: 74 @46277 has 9 MA's), (Start: 81 @46259 has 2 MA's), (84, 46229), (129, 46040), (137, 46013), (138, 46010), (170, 45803), (176, 45785), (206, 45668), (214, 45605), (218, 45581), (221, 45566), (235, 45497), (240, 45473), (241, 45470), (261, 45338), (263, 45326), (264, 45305), (267, 45272), (269, 45254), (279, 45200), (287, 45155), (292, 45128), (311, 45047), (317, 45008), (318, 45002), (325, 44966),

Gene: Rhinoforte\_50 Start: 44985, Stop: 43618, Start Num: 78

Candidate Starts for Rhinoforte\_50:

(Start: 78 @44985 has 78 MA's), (86, 44922), (88, 44907), (115, 44796), (128, 44745), (140, 44697), (145, 44649), (165, 44508), (168, 44499), (187, 44454), (189, 44448), (190, 44442), (195, 44430), (213, 44325), (217, 44292), (222, 44265), (230, 44232), (235, 44205), (240, 44181), (245, 44154), (251, 44127), (260, 44052), (264, 44007), (267, 43974), (275, 43953), (277, 43947), (284, 43914), (287, 43896), (322, 43734), (325, 43716), (330, 43659),

Gene: Rich\_49 Start: 46053, Stop: 44674, Start Num: 74

Candidate Starts for Rich\_49:

(30, 46257), (32, 46248), (54, 46143), (Start: 74 @46053 has 9 MA's), (Start: 81 @46035 has 2 MA's), (129, 45822), (138, 45792), (159, 45627), (170, 45585), (176, 45567), (179, 45552), (180, 45549), (199, 45501), (206, 45450), (218, 45363), (221, 45348), (222, 45339), (232, 45288), (235, 45279), (240, 45255), (241, 45252), (257, 45174), (258, 45165), (261, 45120), (267, 45054), (269, 45036), (279, 44982), (287, 44937), (292, 44910), (311, 44829), (325, 44748),

Gene: Ricotta\_50 Start: 44954, Stop: 43554, Start Num: 78

Candidate Starts for Ricotta\_50:

(12, 45335), (13, 45290), (17, 45248), (29, 45167), (37, 45122), (Start: 76 @44957 has 218 MA's), (Start: 78 @44954 has 78 MA's), (Start: 79 @44948 has 1 MA's), (85, 44906), (98, 44834), (104, 44813), (129, 44717), (141, 44666), (149, 44600), (150, 44597), (155, 44546), (168, 44480), (173, 44468), (181, 44432), (195, 44387), (202, 44357), (209, 44318), (213, 44279), (217, 44246), (218, 44243), (222, 44219), (230, 44186), (233, 44165), (240, 44135), (259, 44021), (263, 43979), (264, 43958), (267, 43925), (279, 43853), (281, 43847), (289, 43799), (298, 43754), (304, 43730), (309, 43715), (313, 43691),

Gene: Riggan\_51 Start: 45230, Stop: 43827, Start Num: 76

Candidate Starts for Riggan\_51:

(12, 45608), (13, 45563), (17, 45521), (29, 45440), (37, 45395), (Start: 76 @45230 has 218 MA's), (Start: 78 @45227 has 78 MA's), (Start: 79 @45221 has 1 MA's), (85, 45179), (98, 45107), (104, 45086), (129, 44990), (141, 44939), (149, 44873), (150, 44870), (155, 44819), (168, 44753), (173, 44741), (181, 44705), (195, 44660), (202, 44630), (209, 44591), (213, 44552), (217, 44519), (218, 44516), (222, 44492), (230, 44459), (233, 44438), (240, 44408), (259, 44294), (263, 44252), (264, 44231), (267, 44198), (279, 44126), (281, 44120), (289, 44072), (298, 44027), (304, 44003), (309,

43988), (313, 43964),

Gene: Rimu\_51 Start: 44967, Stop: 43567, Start Num: 78

Candidate Starts for Rimu\_51:

(12, 45348), (13, 45303), (17, 45261), (29, 45180), (37, 45135), (Start: 76 @44970 has 218 MA's), (Start: 78 @44967 has 78 MA's), (Start: 79 @44961 has 1 MA's), (85, 44919), (98, 44847), (104, 44826), (129, 44730), (141, 44679), (149, 44613), (150, 44610), (155, 44559), (168, 44493), (173, 44481), (181, 44445), (195, 44400), (202, 44370), (209, 44331), (213, 44292), (217, 44259), (218, 44256), (222, 44232), (230, 44199), (233, 44178), (240, 44148), (259, 44034), (263, 43992), (264, 43971), (267, 43938), (279, 43866), (281, 43860), (289, 43812), (298, 43767), (304, 43743), (309, 43728), (313, 43704),

Gene: Rinkes\_51 Start: 46908, Stop: 45520, Start Num: 69

Candidate Starts for Rinkes\_51:

(63, 46938), (Start: 69 @46908 has 2 MA's), (Start: 79 @46890 has 1 MA's), (80, 46884), (115, 46719), (116, 46713), (129, 46638), (147, 46545), (166, 46407), (191, 46329), (204, 46278), (206, 46269), (209, 46257), (210, 46254), (216, 46191), (218, 46182), (221, 46167), (230, 46125), (231, 46122), (233, 46104), (235, 46098), (238, 46086), (240, 46074), (248, 46035), (250, 46014), (258, 45972), (261, 45927), (264, 45891), (267, 45858), (279, 45825), (281, 45819), (291, 45756), (292, 45753), (293, 45750), (311, 45681), (318, 45636), (326, 45579), (330, 45543),

Gene: Rita130\_50 Start: 46128, Stop: 44764, Start Num: 81

Candidate Starts for Rita130\_50:

(37, 46296), (Start: 74 @46146 has 9 MA's), (Start: 81 @46128 has 2 MA's), (104, 45999), (129, 45912), (138, 45882), (159, 45717), (170, 45675), (176, 45657), (179, 45642), (199, 45591), (206, 45540), (218, 45453), (221, 45438), (222, 45429), (232, 45378), (235, 45369), (240, 45345), (241, 45342), (261, 45210), (264, 45177), (267, 45144), (269, 45126), (279, 45072), (287, 45027), (292, 45000), (311, 44919), (313, 44901), (325, 44838),

Gene: Rita1961\_49 Start: 44862, Stop: 43249, Start Num: 41

Candidate Starts for Rita1961\_49:

(19, 44988), (20, 44982), (24, 44967), (Start: 38 @44871 has 9 MA's), (Start: 41 @44862 has 43 MA's), (62, 44766), (83, 44688), (95, 44553), (Start: 127 @44394 has 3 MA's), (133, 44379), (135, 44367), (141, 44337), (147, 44295), (155, 44217), (186, 44085), (193, 44052), (198, 44043), (212, 43950), (218, 43902), (221, 43887), (222, 43878), (230, 43845), (235, 43818), (240, 43794), (258, 43704), (267, 43593), (279, 43560), (282, 43542), (286, 43521), (292, 43488),

Gene: Riverton\_50 Start: 45259, Stop: 43859, Start Num: 78

Candidate Starts for Riverton\_50:

(37, 45427), (Start: 76 @45262 has 218 MA's), (Start: 78 @45259 has 78 MA's), (Start: 79 @45253 has 1 MA's), (85, 45211), (98, 45139), (104, 45118), (129, 45022), (141, 44971), (149, 44905), (150, 44902), (155, 44851), (168, 44785), (173, 44773), (181, 44737), (195, 44692), (202, 44662), (209, 44623), (213, 44584), (217, 44551), (218, 44548), (222, 44524), (230, 44491), (233, 44470), (240, 44440), (259, 44326), (263, 44284), (264, 44263), (267, 44230), (279, 44158), (281, 44152), (289, 44104), (298, 44059), (304, 44035), (309, 44020), (313, 43996),

Gene: Robyn\_50 Start: 44826, Stop: 43423, Start Num: 76

Candidate Starts for Robyn\_50:

(12, 45204), (13, 45159), (17, 45117), (29, 45036), (37, 44991), (Start: 76 @44826 has 218 MA's), (Start: 78 @44823 has 78 MA's), (Start: 79 @44817 has 1 MA's), (85, 44775), (98, 44703), (104, 44682), (129, 44586), (141, 44535), (149, 44469), (150, 44466), (155, 44415), (168, 44349), (173, 44337), (181, 44301), (195, 44256), (202, 44226), (209, 44187), (213, 44148), (217, 44115), (218, 44112), (222, 44088), (230, 44055), (233, 44034), (240, 44004), (259, 43890), (263, 43848), (264,

43827), (267, 43794), (279, 43722), (281, 43716), (289, 43668), (298, 43623), (304, 43599), (309, 43584), (313, 43560),

Gene: Roliet\_51 Start: 45243, Stop: 43840, Start Num: 76

Candidate Starts for Roliet\_51:

(12, 45621), (13, 45576), (17, 45534), (29, 45453), (37, 45408), (Start: 76 @45243 has 218 MA's), (Start: 78 @45240 has 78 MA's), (Start: 79 @45234 has 1 MA's), (85, 45192), (98, 45120), (104, 45099), (129, 45003), (141, 44952), (149, 44886), (150, 44883), (155, 44832), (168, 44766), (173, 44754), (181, 44718), (195, 44673), (202, 44643), (209, 44604), (213, 44565), (217, 44532), (218, 44529), (222, 44505), (230, 44472), (233, 44451), (240, 44421), (259, 44307), (263, 44265), (264, 44244), (267, 44211), (279, 44139), (281, 44133), (289, 44085), (298, 44040), (304, 44016), (309, 44001), (313, 43977),

Gene: RomaT\_49 Start: 45660, Stop: 44038, Start Num: 38

Candidate Starts for RomaT\_49:

(19, 45777), (20, 45771), (24, 45756), (Start: 38 @45660 has 9 MA's), (Start: 41 @45651 has 43 MA's), (62, 45555), (83, 45477), (95, 45342), (Start: 127 @45183 has 3 MA's), (133, 45168), (135, 45156), (141, 45126), (147, 45084), (155, 45006), (186, 44874), (193, 44841), (198, 44832), (212, 44739), (218, 44691), (221, 44676), (222, 44667), (235, 44607), (240, 44583), (258, 44493), (267, 44382), (279, 44349), (280, 44346), (282, 44331), (286, 44310), (292, 44277),

Gene: Roscoe\_52 Start: 45480, Stop: 44077, Start Num: 76

Candidate Starts for Roscoe\_52:

(12, 45858), (13, 45813), (17, 45771), (29, 45690), (37, 45645), (Start: 76 @45480 has 218 MA's), (Start: 78 @45477 has 78 MA's), (Start: 79 @45471 has 1 MA's), (85, 45429), (98, 45357), (104, 45336), (129, 45240), (141, 45189), (149, 45123), (150, 45120), (155, 45069), (168, 45003), (173, 44991), (181, 44955), (195, 44910), (202, 44880), (209, 44841), (213, 44802), (217, 44769), (218, 44766), (222, 44742), (230, 44709), (233, 44688), (240, 44658), (259, 44544), (263, 44502), (264, 44481), (267, 44448), (279, 44376), (281, 44370), (289, 44322), (298, 44277), (304, 44253), (309, 44238), (313, 44214),

Gene: Rosebush\_49 Start: 44997, Stop: 43630, Start Num: 78

Candidate Starts for Rosebush\_49:

(Start: 78 @44997 has 78 MA's), (86, 44934), (88, 44919), (115, 44808), (128, 44757), (140, 44709), (145, 44661), (165, 44520), (168, 44511), (187, 44466), (189, 44460), (190, 44454), (195, 44442), (213, 44337), (217, 44304), (221, 44286), (222, 44277), (230, 44244), (235, 44217), (240, 44193), (245, 44166), (251, 44139), (260, 44064), (264, 44019), (267, 43986), (275, 43965), (277, 43959), (284, 43926), (285, 43917), (287, 43908), (322, 43746), (325, 43728), (330, 43671),

Gene: Roy17\_51 Start: 44934, Stop: 43531, Start Num: 76

Candidate Starts for Roy17\_51:

(37, 45099), (Start: 76 @44934 has 218 MA's), (Start: 78 @44931 has 78 MA's), (Start: 79 @44925 has 1 MA's), (85, 44883), (98, 44811), (104, 44790), (129, 44694), (141, 44643), (149, 44577), (150, 44574), (155, 44523), (168, 44457), (173, 44445), (181, 44409), (195, 44364), (202, 44334), (209, 44295), (213, 44256), (217, 44223), (218, 44220), (222, 44196), (230, 44163), (233, 44142), (240, 44112), (259, 43998), (263, 43956), (264, 43935), (267, 43902), (279, 43830), (281, 43824), (289, 43776), (298, 43731), (304, 43707), (309, 43692), (313, 43668),

Gene: SDcharge11\_51 Start: 45053, Stop: 43818, Start Num: 108

Candidate Starts for SDcharge11\_51:

(Start: 108 @45053 has 1 MA's), (129, 44981), (141, 44930), (149, 44864), (150, 44861), (155, 44810), (168, 44744), (173, 44732), (181, 44696), (195, 44651), (202, 44621), (209, 44582), (213, 44543), (217, 44510), (218, 44507), (222, 44483), (230, 44450), (233, 44429), (240, 44399), (259, 44285),

(263, 44243), (264, 44222), (267, 44189), (279, 44117), (281, 44111), (289, 44063), (298, 44018), (304, 43994), (309, 43979), (313, 43955),

Gene: Sabella\_49 Start: 44851, Stop: 43490, Start Num: 78

Candidate Starts for Sabella\_49:

(Start: 78 @44851 has 78 MA's), (86, 44788), (88, 44773), (115, 44662), (128, 44617), (140, 44569), (145, 44521), (165, 44380), (168, 44371), (187, 44326), (189, 44320), (190, 44314), (195, 44302), (213, 44197), (217, 44164), (221, 44146), (222, 44137), (230, 44104), (235, 44077), (240, 44053), (251, 43999), (260, 43924), (264, 43879), (267, 43846), (275, 43825), (277, 43819), (284, 43786), (285, 43777), (287, 43768), (322, 43606), (325, 43588), (330, 43531),

Gene: Saguaro\_53 Start: 47395, Stop: 46115, Start Num: 89

Candidate Starts for Saguaro\_53:

(56, 47587), (Start: 89 @47395 has 1 MA's), (102, 47344), (131, 47212), (133, 47206), (141, 47164), (146, 47125), (150, 47095), (157, 47032), (168, 46978), (177, 46945), (204, 46858), (210, 46834), (216, 46771), (218, 46762), (221, 46747), (223, 46735), (233, 46684), (239, 46657), (240, 46654), (248, 46627), (253, 46594), (256, 46576), (258, 46564), (264, 46483), (267, 46450), (292, 46345), (293, 46342), (301, 46300),

Gene: SallyH\_52 Start: 45379, Stop: 43985, Start Num: 79

Candidate Starts for SallyH\_52:

(12, 45766), (13, 45721), (17, 45679), (29, 45598), (37, 45553), (Start: 76 @45388 has 218 MA's), (Start: 78 @45385 has 78 MA's), (Start: 79 @45379 has 1 MA's), (85, 45337), (98, 45265), (104, 45244), (129, 45148), (141, 45097), (149, 45031), (150, 45028), (155, 44977), (168, 44911), (173, 44899), (181, 44863), (195, 44818), (202, 44788), (209, 44749), (213, 44710), (217, 44677), (218, 44674), (222, 44650), (230, 44617), (233, 44596), (240, 44566), (259, 44452), (263, 44410), (264, 44389), (267, 44356), (279, 44284), (281, 44278), (289, 44230), (298, 44185), (304, 44161), (309, 44146), (313, 44122),

Gene: Samaymay\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Samaymay\_51:

(12, 45612), (13, 45567), (17, 45525), (29, 45444), (37, 45399), (Start: 76 @45234 has 218 MA's), (Start: 78 @45231 has 78 MA's), (Start: 79 @45225 has 1 MA's), (85, 45183), (98, 45111), (104, 45090), (129, 44994), (141, 44943), (149, 44877), (150, 44874), (155, 44823), (168, 44757), (173, 44745), (181, 44709), (195, 44664), (202, 44634), (209, 44595), (213, 44556), (217, 44523), (218, 44520), (222, 44496), (230, 44463), (233, 44442), (240, 44412), (259, 44298), (263, 44256), (264, 44235), (267, 44202), (279, 44130), (281, 44124), (289, 44076), (298, 44031), (304, 44007), (309, 43992), (313, 43968),

Gene: SassyCat97\_50 Start: 44961, Stop: 43558, Start Num: 76

Candidate Starts for SassyCat97\_50:

(12, 45339), (13, 45294), (17, 45252), (29, 45171), (37, 45126), (Start: 76 @44961 has 218 MA's), (Start: 78 @44958 has 78 MA's), (Start: 79 @44952 has 1 MA's), (85, 44910), (98, 44838), (104, 44817), (129, 44721), (141, 44670), (149, 44604), (150, 44601), (155, 44550), (168, 44484), (173, 44472), (181, 44436), (195, 44391), (202, 44361), (209, 44322), (213, 44283), (217, 44250), (218, 44247), (220, 44241), (222, 44223), (230, 44190), (233, 44169), (240, 44139), (259, 44025), (263, 43983), (264, 43962), (267, 43929), (279, 43857), (281, 43851), (289, 43803), (298, 43758), (304, 43734), (309, 43719), (313, 43695),

Gene: Schadenfreude\_50 Start: 44797, Stop: 43397, Start Num: 78

Candidate Starts for Schadenfreude\_50:

(Start: 73 @44800 has 20 MA's), (Start: 78 @44797 has 78 MA's), (Start: 79 @44791 has 1 MA's), (85, 44749), (98, 44677), (104, 44656), (129, 44560), (141, 44509), (149, 44443), (150, 44440), (155,

44389), (168, 44323), (173, 44311), (181, 44275), (195, 44230), (202, 44200), (209, 44161), (213, 44122), (217, 44089), (218, 44086), (220, 44080), (222, 44062), (230, 44029), (233, 44008), (240, 43978), (263, 43822), (264, 43801), (267, 43768), (279, 43696), (281, 43690), (289, 43642), (298, 43597), (304, 43573), (309, 43558), (313, 43534),

Gene: Schueller\_50 Start: 44959, Stop: 43556, Start Num: 73

Candidate Starts for Schueller\_50:

(37, 45121), (Start: 73 @44959 has 20 MA's), (Start: 78 @44956 has 78 MA's), (85, 44908), (98, 44836), (104, 44815), (129, 44719), (141, 44668), (149, 44602), (150, 44599), (155, 44548), (168, 44482), (173, 44470), (181, 44434), (195, 44389), (202, 44359), (209, 44320), (213, 44281), (217, 44248), (218, 44245), (220, 44239), (222, 44221), (230, 44188), (233, 44167), (240, 44137), (259, 44023), (263, 43981), (264, 43960), (267, 43927), (279, 43855), (281, 43849), (289, 43801), (298, 43756), (304, 43732), (309, 43717), (313, 43693),

Gene: Scoot17C\_52 Start: 45377, Stop: 43974, Start Num: 76

Candidate Starts for Scoot17C\_52:

(12, 45755), (13, 45710), (17, 45668), (29, 45587), (37, 45542), (Start: 76 @45377 has 218 MA's), (Start: 78 @45374 has 78 MA's), (Start: 79 @45368 has 1 MA's), (85, 45326), (98, 45254), (104, 45233), (129, 45137), (141, 45086), (149, 45020), (150, 45017), (155, 44966), (168, 44900), (173, 44888), (181, 44852), (195, 44807), (202, 44777), (209, 44738), (213, 44699), (217, 44666), (218, 44663), (222, 44639), (230, 44606), (233, 44585), (240, 44555), (259, 44441), (263, 44399), (264, 44378), (267, 44345), (279, 44273), (281, 44267), (289, 44219), (298, 44174), (304, 44150), (309, 44135), (313, 44111),

Gene: Scrick\_51 Start: 44970, Stop: 43567, Start Num: 76

Candidate Starts for Scrick\_51:

(12, 45348), (13, 45303), (17, 45261), (29, 45180), (37, 45135), (Start: 76 @44970 has 218 MA's), (Start: 78 @44967 has 78 MA's), (Start: 79 @44961 has 1 MA's), (85, 44919), (98, 44847), (104, 44826), (129, 44730), (141, 44679), (149, 44613), (150, 44610), (155, 44559), (168, 44493), (173, 44481), (181, 44445), (195, 44400), (202, 44370), (209, 44331), (213, 44292), (217, 44259), (218, 44256), (222, 44232), (230, 44199), (233, 44178), (240, 44148), (259, 44034), (263, 43992), (264, 43971), (267, 43938), (279, 43866), (281, 43860), (289, 43812), (298, 43767), (304, 43743), (309, 43728), (313, 43704),

Gene: Selr12\_51 Start: 44970, Stop: 43570, Start Num: 78

Candidate Starts for Selr12\_51:

(12, 45351), (13, 45306), (17, 45264), (29, 45183), (37, 45138), (Start: 76 @44973 has 218 MA's), (Start: 78 @44970 has 78 MA's), (Start: 79 @44964 has 1 MA's), (85, 44922), (98, 44850), (104, 44829), (129, 44733), (141, 44682), (149, 44616), (150, 44613), (155, 44562), (168, 44496), (173, 44484), (181, 44448), (195, 44403), (202, 44373), (209, 44334), (213, 44295), (217, 44262), (218, 44259), (222, 44235), (230, 44202), (233, 44181), (240, 44151), (259, 44037), (263, 43995), (264, 43974), (267, 43941), (279, 43869), (281, 43863), (289, 43815), (298, 43770), (304, 43746), (309, 43731), (313, 43707),

Gene: Serendipitous\_50 Start: 45974, Stop: 44589, Start Num: 74

Candidate Starts for Serendipitous\_50:

(Start: 74 @45974 has 9 MA's), (Start: 81 @45956 has 2 MA's), (129, 45737), (138, 45707), (159, 45542), (170, 45500), (176, 45482), (179, 45467), (199, 45416), (206, 45365), (218, 45278), (221, 45263), (222, 45254), (235, 45194), (240, 45170), (241, 45167), (261, 45035), (264, 45002), (267, 44969), (269, 44951), (279, 44897), (287, 44852), (292, 44825), (311, 44744), (325, 44663),

Gene: Serendipity\_51 Start: 45258, Stop: 43855, Start Num: 76

Candidate Starts for Serendipity\_51:

(12, 45636), (13, 45591), (17, 45549), (29, 45468), (37, 45423), (Start: 76 @45258 has 218 MA's), (Start: 78 @45255 has 78 MA's), (Start: 79 @45249 has 1 MA's), (85, 45207), (98, 45135), (104, 45114), (129, 45018), (141, 44967), (149, 44901), (150, 44898), (155, 44847), (168, 44781), (173, 44769), (181, 44733), (195, 44688), (202, 44658), (209, 44619), (213, 44580), (217, 44547), (218, 44544), (222, 44520), (230, 44487), (233, 44466), (240, 44436), (259, 44322), (263, 44280), (264, 44259), (267, 44226), (279, 44154), (281, 44148), (289, 44100), (298, 44055), (304, 44031), (309, 44016), (313, 43992),

Gene: Serpentine\_0051 Start: 45257, Stop: 43854, Start Num: 76

Candidate Starts for Serpentine\_0051:

(37, 45422), (Start: 76 @45257 has 218 MA's), (Start: 78 @45254 has 78 MA's), (Start: 79 @45248 has 1 MA's), (85, 45206), (98, 45134), (104, 45113), (129, 45017), (141, 44966), (149, 44900), (150, 44897), (153, 44873), (155, 44846), (168, 44780), (173, 44768), (181, 44732), (195, 44687), (202, 44657), (209, 44618), (213, 44579), (217, 44546), (218, 44543), (222, 44519), (230, 44486), (233, 44465), (240, 44435), (259, 44321), (263, 44279), (264, 44258), (267, 44225), (279, 44153), (281, 44147), (289, 44099), (298, 44054), (304, 44030), (309, 44015), (313, 43991),

Gene: ShadowBud\_51 Start: 45268, Stop: 43865, Start Num: 76

Candidate Starts for ShadowBud\_51:

(12, 45646), (13, 45601), (17, 45559), (29, 45478), (37, 45433), (Start: 76 @45268 has 218 MA's), (Start: 78 @45265 has 78 MA's), (Start: 79 @45259 has 1 MA's), (85, 45217), (98, 45145), (104, 45124), (129, 45028), (141, 44977), (149, 44911), (150, 44908), (155, 44857), (168, 44791), (173, 44779), (181, 44743), (195, 44698), (202, 44668), (209, 44629), (213, 44590), (217, 44557), (218, 44554), (222, 44530), (230, 44497), (233, 44476), (240, 44446), (259, 44332), (263, 44290), (264, 44269), (267, 44236), (279, 44164), (281, 44158), (289, 44110), (298, 44065), (304, 44041), (309, 44026), (313, 44002),

Gene: Shatter\_44 Start: 37982, Stop: 36669, Start Num: 41

Candidate Starts for Shatter\_44:

(Start: 40 @37985 has 1 MA's), (Start: 41 @37982 has 43 MA's), (Start: 124 @37823 has 2 MA's), (Start: 126 @37817 has 4 MA's), (141, 37766), (193, 37511), (201, 37490), (207, 37445), (210, 37433), (230, 37304), (235, 37277), (240, 37253), (249, 37223), (250, 37205), (253, 37193), (258, 37163), (260, 37130), (264, 37085), (267, 37052), (275, 37019), (277, 36992), (286, 36947), (287, 36941), (292, 36914), (293, 36911), (304, 36863), (330, 36701),

Gene: Sheila\_51 Start: 45283, Stop: 43880, Start Num: 76

Candidate Starts for Sheila\_51:

(12, 45661), (13, 45616), (17, 45574), (29, 45493), (37, 45448), (Start: 76 @45283 has 218 MA's), (Start: 78 @45280 has 78 MA's), (Start: 79 @45274 has 1 MA's), (85, 45232), (98, 45160), (104, 45139), (129, 45043), (141, 44992), (149, 44926), (150, 44923), (155, 44872), (168, 44806), (173, 44794), (181, 44758), (195, 44713), (202, 44683), (209, 44644), (213, 44605), (217, 44572), (218, 44569), (222, 44545), (230, 44512), (233, 44491), (240, 44461), (259, 44347), (263, 44305), (264, 44284), (267, 44251), (279, 44179), (281, 44173), (289, 44125), (298, 44080), (304, 44056), (309, 44041), (313, 44017),

Gene: Shenandoah\_49 Start: 44859, Stop: 43237, Start Num: 38

Candidate Starts for Shenandoah\_49:

(19, 44979), (20, 44973), (24, 44958), (Start: 38 @44859 has 9 MA's), (Start: 41 @44850 has 43 MA's), (62, 44754), (83, 44676), (95, 44541), (Start: 127 @44382 has 3 MA's), (133, 44367), (135, 44355), (141, 44325), (147, 44283), (155, 44205), (186, 44073), (193, 44040), (198, 44031), (212, 43938), (218, 43890), (221, 43875), (222, 43866), (235, 43806), (240, 43782), (258, 43692), (267, 43581), (279, 43548), (280, 43545), (282, 43530), (286, 43509), (292, 43476),

Gene: Shenyu\_50 Start: 46226, Stop: 44841, Start Num: 74

Candidate Starts for Shenyu\_50:

(Start: 74 @46226 has 9 MA's), (Start: 81 @46208 has 2 MA's), (129, 45989), (138, 45959), (159, 45794), (170, 45752), (176, 45734), (179, 45719), (199, 45668), (206, 45617), (218, 45530), (221, 45515), (222, 45506), (235, 45446), (240, 45422), (241, 45419), (257, 45341), (261, 45287), (264, 45254), (267, 45221), (269, 45203), (279, 45149), (286, 45110), (287, 45104), (292, 45077), (311, 44996), (317, 44957), (325, 44915),

Gene: ShiVal\_51 Start: 45241, Stop: 43838, Start Num: 76

Candidate Starts for ShiVal\_51:

(12, 45619), (13, 45574), (17, 45532), (29, 45451), (37, 45406), (Start: 76 @45241 has 218 MA's), (Start: 78 @45238 has 78 MA's), (Start: 79 @45232 has 1 MA's), (85, 45190), (98, 45118), (104, 45097), (129, 45001), (141, 44950), (149, 44884), (150, 44881), (155, 44830), (168, 44764), (173, 44752), (181, 44716), (195, 44671), (202, 44641), (209, 44602), (213, 44563), (217, 44530), (218, 44527), (222, 44503), (230, 44470), (233, 44449), (240, 44419), (259, 44305), (263, 44263), (264, 44242), (267, 44209), (279, 44137), (281, 44131), (289, 44083), (298, 44038), (304, 44014), (309, 43999), (313, 43975),

Gene: Sigman\_52 Start: 45368, Stop: 43965, Start Num: 76

Candidate Starts for Sigman\_52:

(12, 45746), (13, 45701), (17, 45659), (29, 45578), (37, 45533), (Start: 76 @45368 has 218 MA's), (Start: 78 @45365 has 78 MA's), (Start: 79 @45359 has 1 MA's), (85, 45317), (98, 45245), (104, 45224), (129, 45128), (141, 45077), (149, 45011), (150, 45008), (155, 44957), (168, 44891), (173, 44879), (181, 44843), (195, 44798), (202, 44768), (209, 44729), (213, 44690), (217, 44657), (218, 44654), (222, 44630), (230, 44597), (233, 44576), (240, 44546), (259, 44432), (263, 44390), (264, 44369), (267, 44336), (279, 44264), (281, 44258), (289, 44210), (298, 44165), (304, 44141), (309, 44126), (313, 44102),

Gene: SilverBell\_51 Start: 45261, Stop: 43861, Start Num: 78

Candidate Starts for SilverBell\_51:

(12, 45642), (13, 45597), (17, 45555), (29, 45474), (37, 45429), (Start: 76 @45264 has 218 MA's), (Start: 78 @45261 has 78 MA's), (Start: 79 @45255 has 1 MA's), (85, 45213), (98, 45141), (104, 45120), (129, 45024), (141, 44973), (149, 44907), (150, 44904), (155, 44853), (168, 44787), (173, 44775), (181, 44739), (195, 44694), (202, 44664), (209, 44625), (213, 44586), (217, 44553), (218, 44550), (222, 44526), (230, 44493), (233, 44472), (240, 44442), (259, 44328), (263, 44286), (264, 44265), (267, 44232), (279, 44160), (281, 44154), (289, 44106), (298, 44061), (304, 44037), (309, 44022), (313, 43998),

Gene: Simielle\_50 Start: 44927, Stop: 43524, Start Num: 76

Candidate Starts for Simielle\_50:

(12, 45305), (13, 45260), (17, 45218), (29, 45137), (37, 45092), (Start: 76 @44927 has 218 MA's), (Start: 78 @44924 has 78 MA's), (Start: 79 @44918 has 1 MA's), (85, 44876), (98, 44804), (104, 44783), (129, 44687), (141, 44636), (149, 44570), (150, 44567), (155, 44516), (168, 44450), (173, 44438), (181, 44402), (195, 44357), (202, 44327), (209, 44288), (213, 44249), (217, 44216), (218, 44213), (222, 44189), (230, 44156), (233, 44135), (240, 44105), (259, 43991), (263, 43949), (264, 43928), (267, 43895), (279, 43823), (281, 43817), (289, 43769), (298, 43724), (304, 43700), (309, 43685), (313, 43661),

Gene: SirBeauregard\_51 Start: 44937, Stop: 43537, Start Num: 78

Candidate Starts for SirBeauregard\_51:

(12, 45318), (13, 45273), (17, 45231), (29, 45150), (37, 45105), (Start: 76 @44940 has 218 MA's), (Start: 78 @44937 has 78 MA's), (Start: 79 @44931 has 1 MA's), (85, 44889), (98, 44817), (104, 44796), (129, 44700), (141, 44649), (149, 44583), (150, 44580), (155, 44529), (168, 44463), (173,

44451), (181, 44415), (195, 44370), (202, 44340), (209, 44301), (213, 44262), (217, 44229), (218, 44226), (222, 44202), (230, 44169), (233, 44148), (240, 44118), (259, 44004), (263, 43962), (264, 43941), (267, 43908), (279, 43836), (281, 43830), (289, 43782), (298, 43737), (304, 43713), (309, 43698), (313, 43674),

Gene: SirJeffery\_50 Start: 46127, Stop: 44763, Start Num: 81

Candidate Starts for SirJeffery\_50:

(37, 46295), (Start: 74 @46145 has 9 MA's), (Start: 81 @46127 has 2 MA's), (104, 45998), (129, 45911), (138, 45881), (159, 45716), (170, 45674), (176, 45656), (179, 45641), (199, 45590), (206, 45539), (218, 45452), (221, 45437), (222, 45428), (232, 45377), (235, 45368), (240, 45344), (241, 45341), (261, 45209), (264, 45176), (267, 45143), (269, 45125), (279, 45071), (287, 45026), (292, 44999), (311, 44918), (313, 44900), (325, 44837),

Gene: Sisko\_44 Start: 38755, Stop: 37490, Start Num: 43

Candidate Starts for Sisko\_44:

(Start: 43 @38755 has 6 MA's), (50, 38737), (55, 38716), (Start: 124 @38629 has 2 MA's), (Start: 126 @38623 has 4 MA's), (134, 38602), (141, 38572), (194, 38314), (201, 38296), (210, 38239), (218, 38167), (221, 38152), (222, 38143), (226, 38125), (230, 38110), (235, 38083), (240, 38059), (253, 37999), (261, 37924), (264, 37891), (267, 37858), (270, 37849), (275, 37825), (276, 37813), (287, 37747), (292, 37720), (295, 37708), (318, 37600), (319, 37597), (325, 37564),

Gene: Skippy\_51 Start: 45228, Stop: 43825, Start Num: 76

Candidate Starts for Skippy\_51:

(37, 45393), (Start: 76 @45228 has 218 MA's), (Start: 78 @45225 has 78 MA's), (Start: 79 @45219 has 1 MA's), (85, 45177), (98, 45105), (104, 45084), (129, 44988), (141, 44937), (149, 44871), (150, 44868), (155, 44817), (168, 44751), (173, 44739), (181, 44703), (195, 44658), (202, 44628), (209, 44589), (213, 44550), (217, 44517), (218, 44514), (222, 44490), (230, 44457), (233, 44436), (240, 44406), (259, 44292), (263, 44250), (264, 44229), (267, 44196), (279, 44124), (281, 44118), (289, 44070), (298, 44025), (304, 44001), (309, 43986), (313, 43962),

Gene: Slatt\_51 Start: 45254, Stop: 43851, Start Num: 76

Candidate Starts for Slatt\_51:

(12, 45632), (13, 45587), (17, 45545), (29, 45464), (37, 45419), (Start: 76 @45254 has 218 MA's), (Start: 78 @45251 has 78 MA's), (Start: 79 @45245 has 1 MA's), (85, 45203), (98, 45131), (104, 45110), (129, 45014), (141, 44963), (149, 44897), (150, 44894), (155, 44843), (168, 44777), (173, 44765), (181, 44729), (195, 44684), (202, 44654), (209, 44615), (213, 44576), (217, 44543), (218, 44540), (222, 44516), (230, 44483), (233, 44462), (240, 44432), (259, 44318), (263, 44276), (264, 44255), (267, 44222), (279, 44150), (281, 44144), (289, 44096), (298, 44051), (304, 44027), (309, 44012), (313, 43988),

Gene: SlippinJimmy\_49 Start: 45653, Stop: 44031, Start Num: 38

Candidate Starts for SlippinJimmy\_49:

(19, 45770), (20, 45764), (24, 45749), (Start: 38 @45653 has 9 MA's), (Start: 41 @45644 has 43 MA's), (62, 45548), (83, 45470), (95, 45335), (Start: 127 @45176 has 3 MA's), (133, 45161), (135, 45149), (141, 45119), (147, 45077), (155, 44999), (186, 44867), (193, 44834), (198, 44825), (212, 44732), (218, 44684), (221, 44669), (222, 44660), (230, 44627), (235, 44600), (240, 44576), (258, 44486), (267, 44375), (279, 44342), (282, 44324), (286, 44303), (292, 44270),

Gene: Soile\_51 Start: 44957, Stop: 43554, Start Num: 76

Candidate Starts for Soile\_51:

(37, 45122), (Start: 76 @44957 has 218 MA's), (Start: 78 @44954 has 78 MA's), (Start: 79 @44948 has 1 MA's), (85, 44906), (98, 44834), (104, 44813), (129, 44717), (141, 44666), (149, 44600), (150, 44597), (153, 44573), (155, 44546), (168, 44480), (173, 44468), (181, 44432), (195, 44387), (202,

44357), (209, 44318), (213, 44279), (217, 44246), (218, 44243), (222, 44219), (230, 44186), (233, 44165), (240, 44135), (259, 44021), (263, 43979), (264, 43958), (267, 43925), (279, 43853), (281, 43847), (289, 43799), (298, 43754), (304, 43730), (309, 43715), (313, 43691),

Gene: Solosis\_50 Start: 44955, Stop: 43552, Start Num: 76

Candidate Starts for Solosis\_50:

(12, 45333), (13, 45288), (17, 45246), (29, 45165), (37, 45120), (Start: 76 @44955 has 218 MA's), (Start: 78 @44952 has 78 MA's), (Start: 79 @44946 has 1 MA's), (85, 44904), (98, 44832), (104, 44811), (129, 44715), (141, 44664), (149, 44598), (150, 44595), (155, 44544), (168, 44478), (173, 44466), (181, 44430), (195, 44385), (202, 44355), (209, 44316), (213, 44277), (217, 44244), (218, 44241), (222, 44217), (230, 44184), (233, 44163), (240, 44133), (259, 44019), (263, 43977), (264, 43956), (267, 43923), (279, 43851), (281, 43845), (289, 43797), (298, 43752), (304, 43728), (309, 43713), (313, 43689),

Gene: Sophia\_50 Start: 44949, Stop: 43546, Start Num: 76

Candidate Starts for Sophia\_50:

(12, 45327), (13, 45282), (17, 45240), (29, 45159), (37, 45114), (Start: 76 @44949 has 218 MA's), (Start: 78 @44946 has 78 MA's), (Start: 79 @44940 has 1 MA's), (85, 44898), (98, 44826), (104, 44805), (129, 44709), (141, 44658), (149, 44592), (150, 44589), (153, 44565), (155, 44538), (168, 44472), (173, 44460), (181, 44424), (195, 44379), (202, 44349), (209, 44310), (213, 44271), (217, 44238), (218, 44235), (222, 44211), (230, 44178), (233, 44157), (240, 44127), (259, 44013), (263, 43971), (264, 43950), (267, 43917), (279, 43845), (281, 43839), (289, 43791), (298, 43746), (304, 43722), (309, 43707), (313, 43683),

Gene: Soto\_51 Start: 45255, Stop: 43852, Start Num: 76

Candidate Starts for Soto\_51:

(13, 45588), (17, 45546), (29, 45465), (37, 45420), (Start: 76 @45255 has 218 MA's), (Start: 78 @45252 has 78 MA's), (Start: 79 @45246 has 1 MA's), (85, 45204), (98, 45132), (104, 45111), (129, 45015), (141, 44964), (149, 44898), (150, 44895), (155, 44844), (168, 44778), (173, 44766), (181, 44730), (195, 44685), (202, 44655), (209, 44616), (213, 44577), (217, 44544), (218, 44541), (222, 44517), (230, 44484), (233, 44463), (240, 44433), (259, 44319), (263, 44277), (264, 44256), (267, 44223), (279, 44151), (281, 44145), (289, 44097), (298, 44052), (304, 44028), (309, 44013), (313, 43989),

Gene: Sour\_49 Start: 42596, Stop: 41325, Start Num: 43

Candidate Starts for Sour\_49:

(Start: 43 @42596 has 6 MA's), (55, 42554), (Start: 124 @42464 has 2 MA's), (Start: 126 @42458 has 4 MA's), (134, 42437), (137, 42428), (141, 42407), (175, 42209), (178, 42194), (193, 42152), (194, 42149), (201, 42131), (210, 42074), (221, 41987), (224, 41972), (225, 41963), (230, 41945), (235, 41918), (240, 41894), (249, 41864), (258, 41804), (260, 41771), (264, 41726), (267, 41693), (270, 41684), (275, 41660), (277, 41633), (286, 41588), (287, 41582), (292, 41555), (293, 41552), (304, 41504), (329, 41354),

Gene: Spartan300\_51 Start: 45240, Stop: 43837, Start Num: 76

Candidate Starts for Spartan300\_51:

(12, 45618), (13, 45573), (17, 45531), (29, 45450), (37, 45405), (Start: 76 @45240 has 218 MA's), (Start: 78 @45237 has 78 MA's), (Start: 79 @45231 has 1 MA's), (85, 45189), (98, 45117), (104, 45096), (129, 45000), (141, 44949), (149, 44883), (150, 44880), (155, 44829), (168, 44763), (173, 44751), (181, 44715), (195, 44670), (202, 44640), (209, 44601), (213, 44562), (217, 44529), (218, 44526), (222, 44502), (230, 44469), (233, 44448), (240, 44418), (259, 44304), (263, 44262), (264, 44241), (267, 44208), (279, 44136), (281, 44130), (289, 44082), (298, 44037), (304, 44013), (309, 43998), (313, 43974),

Gene: Squid\_51 Start: 44961, Stop: 43558, Start Num: 76

Candidate Starts for Squid\_51:

(12, 45339), (13, 45294), (17, 45252), (29, 45171), (37, 45126), (Start: 76 @44961 has 218 MA's), (Start: 78 @44958 has 78 MA's), (Start: 79 @44952 has 1 MA's), (85, 44910), (98, 44838), (104, 44817), (129, 44721), (141, 44670), (149, 44604), (150, 44601), (155, 44550), (168, 44484), (173, 44472), (181, 44436), (195, 44391), (202, 44361), (209, 44322), (213, 44283), (217, 44250), (218, 44247), (220, 44241), (222, 44223), (230, 44190), (233, 44169), (240, 44139), (259, 44025), (263, 43983), (264, 43962), (267, 43929), (279, 43857), (281, 43851), (289, 43803), (298, 43758), (304, 43734), (309, 43719), (313, 43695),

Gene: Squiggle\_51 Start: 44964, Stop: 43561, Start Num: 76

Candidate Starts for Squiggle\_51:

(37, 45129), (Start: 76 @44964 has 218 MA's), (Start: 78 @44961 has 78 MA's), (Start: 79 @44955 has 1 MA's), (85, 44913), (98, 44841), (104, 44820), (129, 44724), (141, 44673), (149, 44607), (150, 44604), (153, 44580), (155, 44553), (168, 44487), (173, 44475), (181, 44439), (195, 44394), (202, 44364), (209, 44325), (213, 44286), (217, 44253), (218, 44250), (222, 44226), (230, 44193), (233, 44172), (240, 44142), (259, 44028), (263, 43986), (264, 43965), (267, 43932), (279, 43860), (281, 43854), (289, 43806), (298, 43761), (304, 43737), (309, 43722), (313, 43698),

Gene: StAugustine\_65 Start: 53628, Stop: 52423, Start Num: 127

Candidate Starts for StAugustine\_65:

(Start: 127 @53628 has 3 MA's), (131, 53619), (161, 53418), (165, 53397), (179, 53364), (196, 53307), (206, 53250), (207, 53247), (218, 53163), (227, 53118), (235, 53079), (256, 52905), (258, 52893), (264, 52809), (267, 52776), (279, 52743), (294, 52665), (295, 52659), (311, 52599), (314, 52578),

Gene: Stinger\_45 Start: 44262, Stop: 42913, Start Num: 72

Candidate Starts for Stinger\_45:

(Start: 72 @44262 has 9 MA's), (Start: 75 @44259 has 15 MA's), (Start: 79 @44250 has 1 MA's), (80, 44244), (123, 44046), (137, 44004), (139, 43998), (140, 43986), (141, 43974), (169, 43785), (175, 43770), (177, 43755), (178, 43752), (201, 43686), (203, 43662), (204, 43653), (210, 43629), (218, 43557), (221, 43542), (222, 43533), (225, 43518), (230, 43500), (231, 43497), (233, 43479), (240, 43449), (248, 43422), (256, 43371), (258, 43359), (261, 43314), (262, 43308), (263, 43299), (267, 43245), (281, 43206), (292, 43140), (293, 43137), (311, 43068), (313, 43050),

Gene: StinkyVeggy\_51 Start: 46290, Stop: 44905, Start Num: 74

Candidate Starts for StinkyVeggy\_51:

(37, 46440), (Start: 74 @46290 has 9 MA's), (Start: 81 @46272 has 2 MA's), (110, 46116), (129, 46053), (138, 46023), (159, 45858), (170, 45816), (176, 45798), (179, 45783), (199, 45732), (206, 45681), (218, 45594), (221, 45579), (222, 45570), (235, 45510), (240, 45486), (241, 45483), (261, 45351), (264, 45318), (267, 45285), (269, 45267), (279, 45213), (287, 45168), (292, 45141), (311, 45060), (317, 45021), (325, 44979),

Gene: Struggle\_50 Start: 44796, Stop: 43393, Start Num: 73

Candidate Starts for Struggle\_50:

(37, 44958), (Start: 73 @44796 has 20 MA's), (Start: 78 @44793 has 78 MA's), (85, 44745), (98, 44673), (104, 44652), (129, 44556), (141, 44505), (149, 44439), (150, 44436), (153, 44412), (155, 44385), (168, 44319), (173, 44307), (181, 44271), (195, 44226), (202, 44196), (209, 44157), (213, 44118), (217, 44085), (218, 44082), (220, 44076), (222, 44058), (230, 44025), (233, 44004), (240, 43974), (259, 43860), (263, 43818), (264, 43797), (267, 43764), (279, 43692), (281, 43686), (289, 43638), (298, 43593), (304, 43569), (309, 43554), (313, 43530),

Gene: Suffolk\_51 Start: 45242, Stop: 43842, Start Num: 78

Candidate Starts for Suffolk\_51:

(37, 45410), (Start: 76 @45245 has 218 MA's), (Start: 78 @45242 has 78 MA's), (Start: 79 @45236 has 1 MA's), (85, 45194), (98, 45122), (104, 45101), (129, 45005), (141, 44954), (149, 44888), (150, 44885), (155, 44834), (168, 44768), (173, 44756), (181, 44720), (195, 44675), (202, 44645), (209, 44606), (213, 44567), (217, 44534), (218, 44531), (222, 44507), (230, 44474), (233, 44453), (240, 44423), (259, 44309), (263, 44267), (264, 44246), (267, 44213), (279, 44141), (281, 44135), (289, 44087), (298, 44042), (304, 44018), (309, 44003), (313, 43979),

Gene: Suigeneris\_51 Start: 46147, Stop: 44765, Start Num: 74

Candidate Starts for Suigeneris\_51:

(26, 46372), (Start: 74 @46147 has 9 MA's), (Start: 81 @46129 has 2 MA's), (129, 45913), (138, 45883), (159, 45718), (170, 45676), (176, 45658), (179, 45643), (199, 45592), (218, 45454), (221, 45439), (222, 45430), (232, 45379), (235, 45370), (240, 45346), (241, 45343), (261, 45211), (264, 45178), (267, 45145), (269, 45127), (279, 45073), (287, 45028), (292, 45001), (311, 44920), (313, 44902), (325, 44839),

Gene: Surely\_51 Start: 45251, Stop: 43848, Start Num: 76

Candidate Starts for Surely\_51:

(37, 45416), (Start: 76 @45251 has 218 MA's), (Start: 78 @45248 has 78 MA's), (Start: 79 @45242 has 1 MA's), (85, 45200), (98, 45128), (104, 45107), (129, 45011), (141, 44960), (149, 44894), (150, 44891), (153, 44867), (155, 44840), (168, 44774), (173, 44762), (181, 44726), (195, 44681), (202, 44651), (209, 44612), (213, 44573), (217, 44540), (218, 44537), (222, 44513), (230, 44480), (233, 44459), (240, 44429), (259, 44315), (263, 44273), (264, 44252), (267, 44219), (279, 44147), (281, 44141), (289, 44093), (298, 44048), (304, 44024), (309, 44009), (313, 43985),

Gene: SwainyDoc\_49 Start: 44874, Stop: 43261, Start Num: 41

Candidate Starts for SwainyDoc\_49:

(19, 45000), (20, 44994), (24, 44979), (Start: 38 @44883 has 9 MA's), (Start: 41 @44874 has 43 MA's), (62, 44778), (83, 44700), (95, 44565), (Start: 127 @44406 has 3 MA's), (133, 44391), (135, 44379), (141, 44349), (147, 44307), (155, 44229), (186, 44097), (193, 44064), (198, 44055), (212, 43962), (218, 43914), (221, 43899), (222, 43890), (230, 43857), (235, 43830), (240, 43806), (258, 43716), (267, 43605), (279, 43572), (282, 43554), (286, 43533), (292, 43500),

Gene: Swiphy\_51 Start: 45243, Stop: 43843, Start Num: 78

Candidate Starts for Swiphy\_51:

(37, 45411), (Start: 76 @45246 has 218 MA's), (Start: 78 @45243 has 78 MA's), (Start: 79 @45237 has 1 MA's), (85, 45195), (98, 45123), (104, 45102), (129, 45006), (141, 44955), (149, 44889), (150, 44886), (153, 44862), (155, 44835), (168, 44769), (173, 44757), (181, 44721), (195, 44676), (202, 44646), (209, 44607), (213, 44568), (217, 44535), (218, 44532), (222, 44508), (230, 44475), (233, 44454), (240, 44424), (259, 44310), (263, 44268), (264, 44247), (267, 44214), (279, 44142), (281, 44136), (289, 44088), (298, 44043), (304, 44019), (309, 44004), (313, 43980),

Gene: Swish\_52 Start: 45390, Stop: 43987, Start Num: 76

Candidate Starts for Swish\_52:

(12, 45768), (13, 45723), (17, 45681), (29, 45600), (37, 45555), (Start: 76 @45390 has 218 MA's), (Start: 78 @45387 has 78 MA's), (Start: 79 @45381 has 1 MA's), (85, 45339), (98, 45267), (104, 45246), (129, 45150), (141, 45099), (149, 45033), (150, 45030), (155, 44979), (168, 44913), (173, 44901), (181, 44865), (195, 44820), (202, 44790), (209, 44751), (213, 44712), (217, 44679), (218, 44676), (222, 44652), (230, 44619), (233, 44598), (240, 44568), (259, 44454), (263, 44412), (264, 44391), (267, 44358), (279, 44286), (281, 44280), (289, 44232), (298, 44187), (304, 44163), (309, 44148), (313, 44124),

Gene: SynergyX\_49 Start: 44878, Stop: 43265, Start Num: 41

Candidate Starts for SynergyX\_49:

(19, 45004), (20, 44998), (24, 44983), (Start: 38 @44887 has 9 MA's), (Start: 41 @44878 has 43 MA's), (62, 44782), (83, 44704), (95, 44569), (Start: 127 @44410 has 3 MA's), (133, 44395), (135, 44383), (141, 44353), (147, 44311), (155, 44233), (186, 44101), (193, 44068), (198, 44059), (212, 43966), (218, 43918), (221, 43903), (222, 43894), (230, 43861), (235, 43834), (240, 43810), (258, 43720), (267, 43609), (279, 43576), (280, 43573), (282, 43558), (286, 43537), (292, 43504),

Gene: TA17A\_51 Start: 44847, Stop: 43480, Start Num: 78

Candidate Starts for TA17A\_51:

(Start: 78 @44847 has 78 MA's), (86, 44784), (88, 44769), (115, 44658), (128, 44607), (140, 44559), (145, 44511), (165, 44370), (168, 44361), (187, 44316), (189, 44310), (190, 44304), (195, 44292), (213, 44187), (217, 44154), (221, 44136), (222, 44127), (230, 44094), (235, 44067), (240, 44043), (251, 43989), (260, 43914), (264, 43869), (267, 43836), (275, 43815), (277, 43809), (284, 43776), (285, 43767), (287, 43758), (322, 43596), (325, 43578), (330, 43521),

Gene: TPA2\_57 Start: 44817, Stop: 43513, Start Num: 97

Candidate Starts for TPA2\_57:

(1, 46389), (2, 45999), (5, 45516), (97, 44817), (103, 44790), (116, 44730), (131, 44652), (146, 44565), (148, 44556), (154, 44496), (156, 44478), (171, 44421), (175, 44409), (185, 44367), (188, 44355), (196, 44337), (217, 44199), (221, 44181), (225, 44157), (240, 44088), (246, 44034), (250, 44010), (257, 43977), (261, 43917), (262, 43911), (267, 43851), (271, 43839), (283, 43797), (288, 43767), (294, 43740), (308, 43686), (326, 43569), (331, 43533), (333, 43521),

Gene: TallGrassMM\_51 Start: 44861, Stop: 43461, Start Num: 78

Candidate Starts for TallGrassMM\_51:

(12, 45242), (13, 45197), (17, 45155), (29, 45074), (37, 45029), (Start: 76 @44864 has 218 MA's), (Start: 78 @44861 has 78 MA's), (Start: 79 @44855 has 1 MA's), (85, 44813), (98, 44741), (104, 44720), (129, 44624), (141, 44573), (149, 44507), (150, 44504), (155, 44453), (168, 44387), (173, 44375), (181, 44339), (195, 44294), (202, 44264), (209, 44225), (213, 44186), (217, 44153), (218, 44150), (222, 44126), (230, 44093), (233, 44072), (240, 44042), (259, 43928), (263, 43886), (264, 43865), (267, 43832), (279, 43760), (281, 43754), (289, 43706), (298, 43661), (304, 43637), (309, 43622), (313, 43598),

Gene: Telesworld\_50 Start: 44943, Stop: 43540, Start Num: 76

Candidate Starts for Telesworld\_50:

(37, 45108), (Start: 76 @44943 has 218 MA's), (Start: 78 @44940 has 78 MA's), (Start: 79 @44934 has 1 MA's), (85, 44892), (98, 44820), (104, 44799), (129, 44703), (141, 44652), (149, 44586), (150, 44583), (155, 44532), (168, 44466), (173, 44454), (181, 44418), (195, 44373), (202, 44343), (209, 44304), (213, 44265), (217, 44232), (218, 44229), (222, 44205), (230, 44172), (233, 44151), (240, 44121), (259, 44007), (263, 43965), (264, 43944), (267, 43911), (279, 43839), (281, 43833), (289, 43785), (298, 43740), (304, 43716), (309, 43701), (313, 43677),

Gene: Thonko\_49 Start: 43281, Stop: 41938, Start Num: 75

Candidate Starts for Thonko\_49:

(25, 43518), (Start: 75 @43281 has 15 MA's), (106, 43110), (107, 43104), (129, 43020), (163, 42804), (168, 42789), (202, 42696), (210, 42654), (219, 42579), (221, 42567), (223, 42555), (231, 42522), (235, 42498), (240, 42474), (253, 42414), (256, 42396), (258, 42384), (261, 42339), (264, 42303), (267, 42270), (279, 42237), (291, 42168),

Gene: Thora\_51 Start: 45250, Stop: 43847, Start Num: 76

Candidate Starts for Thora\_51:

(37, 45415), (Start: 76 @45250 has 218 MA's), (Start: 78 @45247 has 78 MA's), (Start: 79 @45241 has 1 MA's), (85, 45199), (98, 45127), (104, 45106), (129, 45010), (141, 44959), (149, 44893), (150, 44890), (155, 44839), (168, 44773), (173, 44761), (181, 44725), (195, 44680), (202, 44650), (209,

44611), (213, 44572), (217, 44539), (218, 44536), (222, 44512), (230, 44479), (233, 44458), (240, 44428), (259, 44314), (263, 44272), (264, 44251), (267, 44218), (279, 44146), (281, 44140), (289, 44092), (298, 44047), (304, 44023), (309, 44008), (313, 43984),

Gene: ThreeOh3D2\_52 Start: 45383, Stop: 43980, Start Num: 76

Candidate Starts for ThreeOh3D2\_52:

(12, 45761), (13, 45716), (17, 45674), (29, 45593), (37, 45548), (Start: 76 @45383 has 218 MA's), (Start: 78 @45380 has 78 MA's), (Start: 79 @45374 has 1 MA's), (85, 45332), (98, 45260), (104, 45239), (129, 45143), (141, 45092), (149, 45026), (150, 45023), (155, 44972), (168, 44906), (173, 44894), (181, 44858), (195, 44813), (202, 44783), (209, 44744), (213, 44705), (217, 44672), (218, 44669), (222, 44645), (230, 44612), (233, 44591), (240, 44561), (259, 44447), (263, 44405), (264, 44384), (267, 44351), (279, 44279), (281, 44273), (289, 44225), (298, 44180), (304, 44156), (309, 44141), (313, 44117),

Gene: Thunderbird\_50 Start: 44951, Stop: 43548, Start Num: 73

Candidate Starts for Thunderbird\_50:

(37, 45113), (Start: 73 @44951 has 20 MA's), (Start: 78 @44948 has 78 MA's), (85, 44900), (98, 44828), (104, 44807), (129, 44711), (141, 44660), (149, 44594), (150, 44591), (153, 44567), (155, 44540), (168, 44474), (173, 44462), (181, 44426), (195, 44381), (202, 44351), (209, 44312), (213, 44273), (217, 44240), (218, 44237), (222, 44213), (230, 44180), (233, 44159), (240, 44129), (259, 44015), (263, 43973), (264, 43952), (267, 43919), (279, 43847), (281, 43841), (289, 43793), (298, 43748), (304, 43724), (309, 43709), (313, 43685),

Gene: Timmi\_50 Start: 44950, Stop: 43547, Start Num: 76

Candidate Starts for Timmi\_50:

(12, 45328), (13, 45283), (17, 45241), (29, 45160), (37, 45115), (Start: 76 @44950 has 218 MA's), (Start: 78 @44947 has 78 MA's), (Start: 79 @44941 has 1 MA's), (85, 44899), (98, 44827), (104, 44806), (129, 44710), (141, 44659), (149, 44593), (150, 44590), (155, 44539), (168, 44473), (173, 44461), (181, 44425), (195, 44380), (202, 44350), (209, 44311), (213, 44272), (217, 44239), (218, 44236), (222, 44212), (230, 44179), (233, 44158), (240, 44128), (259, 44014), (263, 43972), (264, 43951), (267, 43918), (279, 43846), (281, 43840), (289, 43792), (298, 43747), (304, 43723), (309, 43708), (313, 43684),

Gene: Tinciduntolum\_51 Start: 45009, Stop: 43642, Start Num: 78

Candidate Starts for Tinciduntolum\_51:

(Start: 78 @45009 has 78 MA's), (86, 44946), (88, 44931), (115, 44820), (128, 44769), (140, 44721), (145, 44673), (165, 44532), (168, 44523), (187, 44478), (189, 44472), (190, 44466), (195, 44454), (213, 44349), (217, 44316), (221, 44298), (222, 44289), (230, 44256), (235, 44229), (240, 44205), (245, 44178), (251, 44151), (260, 44076), (264, 44031), (267, 43998), (275, 43977), (277, 43971), (284, 43938), (285, 43929), (287, 43920), (322, 43758), (325, 43740), (330, 43683),

Gene: TinyTerror\_49 Start: 44864, Stop: 43251, Start Num: 41

Candidate Starts for TinyTerror\_49:

(19, 44990), (20, 44984), (24, 44969), (Start: 38 @44873 has 9 MA's), (Start: 41 @44864 has 43 MA's), (62, 44768), (83, 44690), (95, 44555), (Start: 127 @44396 has 3 MA's), (133, 44381), (135, 44369), (141, 44339), (147, 44297), (155, 44219), (186, 44087), (193, 44054), (198, 44045), (212, 43952), (218, 43904), (221, 43889), (222, 43880), (235, 43820), (240, 43796), (258, 43706), (267, 43595), (279, 43562), (282, 43544), (286, 43523), (292, 43490),

Gene: TomBombadil\_51 Start: 45235, Stop: 43832, Start Num: 76

Candidate Starts for TomBombadil\_51:

(12, 45613), (13, 45568), (17, 45526), (29, 45445), (37, 45400), (Start: 76 @45235 has 218 MA's), (Start: 78 @45232 has 78 MA's), (Start: 79 @45226 has 1 MA's), (85, 45184), (98, 45112), (104,

45091), (129, 44995), (141, 44944), (149, 44878), (150, 44875), (155, 44824), (168, 44758), (173, 44746), (181, 44710), (195, 44665), (202, 44635), (209, 44596), (213, 44557), (217, 44524), (218, 44521), (220, 44515), (222, 44497), (230, 44464), (233, 44443), (240, 44413), (259, 44299), (263, 44257), (264, 44236), (267, 44203), (279, 44131), (281, 44125), (289, 44077), (298, 44032), (304, 44008), (309, 43993), (313, 43969),

Gene: Tomlarah\_51 Start: 45238, Stop: 43835, Start Num: 76

Candidate Starts for Tomlarah\_51:

(12, 45616), (13, 45571), (17, 45529), (29, 45448), (37, 45403), (Start: 76 @45238 has 218 MA's), (Start: 78 @45235 has 78 MA's), (Start: 79 @45229 has 1 MA's), (85, 45187), (98, 45115), (104, 45094), (129, 44998), (141, 44947), (149, 44881), (150, 44878), (155, 44827), (168, 44761), (173, 44749), (181, 44713), (195, 44668), (202, 44638), (209, 44599), (213, 44560), (217, 44527), (218, 44524), (222, 44500), (230, 44467), (233, 44446), (240, 44416), (259, 44302), (263, 44260), (264, 44239), (267, 44206), (279, 44134), (281, 44128), (289, 44080), (298, 44035), (304, 44011), (309, 43996), (313, 43972),

Gene: Toni\_50 Start: 44942, Stop: 43539, Start Num: 76

Candidate Starts for Toni\_50:

(12, 45320), (13, 45275), (17, 45233), (29, 45152), (37, 45107), (Start: 76 @44942 has 218 MA's), (Start: 78 @44939 has 78 MA's), (Start: 79 @44933 has 1 MA's), (85, 44891), (98, 44819), (104, 44798), (129, 44702), (141, 44651), (149, 44585), (150, 44582), (155, 44531), (168, 44465), (173, 44453), (181, 44417), (195, 44372), (202, 44342), (209, 44303), (213, 44264), (217, 44231), (218, 44228), (222, 44204), (230, 44171), (233, 44150), (240, 44120), (259, 44006), (263, 43964), (264, 43943), (267, 43910), (279, 43838), (281, 43832), (289, 43784), (298, 43739), (304, 43715), (309, 43700), (313, 43676),

Gene: TooFast2Furius\_54 Start: 45480, Stop: 44077, Start Num: 76

Candidate Starts for TooFast2Furius\_54:

(37, 45645), (Start: 76 @45480 has 218 MA's), (Start: 78 @45477 has 78 MA's), (Start: 79 @45471 has 1 MA's), (85, 45429), (98, 45357), (104, 45336), (129, 45240), (141, 45189), (149, 45123), (150, 45120), (153, 45096), (155, 45069), (168, 45003), (173, 44991), (181, 44955), (195, 44910), (202, 44880), (209, 44841), (213, 44802), (217, 44769), (218, 44766), (222, 44742), (230, 44709), (233, 44688), (240, 44658), (259, 44544), (263, 44502), (264, 44481), (267, 44448), (279, 44376), (281, 44370), (289, 44322), (298, 44277), (304, 44253), (309, 44238), (313, 44214),

Gene: Tooj\_51 Start: 45317, Stop: 43914, Start Num: 76

Candidate Starts for Tooj\_51:

(12, 45695), (13, 45650), (17, 45608), (29, 45527), (37, 45482), (Start: 76 @45317 has 218 MA's), (Start: 78 @45314 has 78 MA's), (Start: 79 @45308 has 1 MA's), (85, 45266), (98, 45194), (104, 45173), (129, 45077), (141, 45026), (149, 44960), (150, 44957), (155, 44906), (168, 44840), (173, 44828), (181, 44792), (195, 44747), (202, 44717), (209, 44678), (213, 44639), (217, 44606), (218, 44603), (222, 44579), (230, 44546), (233, 44525), (240, 44495), (259, 44381), (263, 44339), (264, 44318), (267, 44285), (279, 44213), (281, 44207), (289, 44159), (298, 44114), (304, 44090), (309, 44075), (313, 44051),

Gene: TraderJ\_47 Start: 40118, Stop: 38949, Start Num: 124

Candidate Starts for TraderJ\_47:

(3, 40970), (4, 40946), (8, 40835), (11, 40790), (Start: 28 @40631 has 6 MA's), (Start: 43 @40553 has 6 MA's), (91, 40298), (96, 40271), (Start: 124 @40118 has 2 MA's), (Start: 126 @40112 has 4 MA's), (135, 40088), (138, 40079), (141, 40061), (144, 40028), (146, 40022), (156, 39932), (172, 39872), (192, 39803), (206, 39740), (215, 39668), (217, 39656), (221, 39638), (222, 39629), (230, 39596), (240, 39545), (249, 39515), (252, 39488), (253, 39485), (264, 39377), (268, 39335), (272, 39302), (277, 39257), (281, 39245), (286, 39212), (287, 39206), (292, 39179),

Gene: Tres\_50 Start: 44860, Stop: 43493, Start Num: 78

Candidate Starts for Tres\_50:

(Start: 78 @44860 has 78 MA's), (86, 44797), (88, 44782), (115, 44671), (128, 44620), (140, 44572), (145, 44524), (165, 44383), (168, 44374), (187, 44329), (189, 44323), (190, 44317), (195, 44305), (213, 44200), (217, 44167), (221, 44149), (222, 44140), (230, 44107), (235, 44080), (240, 44056), (245, 44029), (251, 44002), (260, 43927), (264, 43882), (267, 43849), (275, 43828), (277, 43822), (284, 43789), (285, 43780), (287, 43771), (322, 43609), (325, 43591), (330, 43534),

Gene: Triad\_51 Start: 44121, Stop: 42718, Start Num: 76

Candidate Starts for Triad\_51:

(12, 44499), (13, 44454), (17, 44412), (29, 44331), (37, 44286), (Start: 76 @44121 has 218 MA's), (Start: 78 @44118 has 78 MA's), (Start: 79 @44112 has 1 MA's), (85, 44070), (98, 43998), (104, 43977), (129, 43881), (141, 43830), (149, 43764), (150, 43761), (155, 43710), (168, 43644), (173, 43632), (181, 43596), (195, 43551), (202, 43521), (209, 43482), (213, 43443), (217, 43410), (218, 43407), (222, 43383), (230, 43350), (233, 43329), (240, 43299), (259, 43185), (263, 43143), (264, 43122), (267, 43089), (279, 43017), (281, 43011), (289, 42963), (298, 42918), (304, 42894), (309, 42879), (313, 42855),

Gene: Trine\_30 Start: 24580, Stop: 23426, Start Num: 118

Candidate Starts for Trine\_30:

(Start: 118 @24580 has 1 MA's), (Start: 119 @24574 has 1 MA's), (154, 24382), (204, 24229), (215, 24148), (218, 24133), (231, 24073), (236, 24046), (241, 24022), (249, 23986), (252, 23959), (267, 23818), (277, 23791), (278, 23788), (285, 23746), (298, 23683), (306, 23650), (324, 23521),

Gene: True\_50 Start: 44948, Stop: 43545, Start Num: 76

Candidate Starts for True\_50:

(12, 45326), (13, 45281), (17, 45239), (29, 45158), (37, 45113), (Start: 76 @44948 has 218 MA's), (Start: 78 @44945 has 78 MA's), (Start: 79 @44939 has 1 MA's), (85, 44897), (98, 44825), (104, 44804), (129, 44708), (141, 44657), (149, 44591), (150, 44588), (155, 44537), (168, 44471), (173, 44459), (181, 44423), (195, 44378), (202, 44348), (209, 44309), (213, 44270), (217, 44237), (218, 44234), (222, 44210), (230, 44177), (233, 44156), (240, 44126), (259, 44012), (263, 43970), (264, 43949), (267, 43916), (279, 43844), (281, 43838), (289, 43790), (298, 43745), (304, 43721), (309, 43706), (313, 43682),

Gene: Trypo\_52 Start: 45379, Stop: 43976, Start Num: 76

Candidate Starts for Trypo\_52:

(37, 45544), (Start: 76 @45379 has 218 MA's), (Start: 78 @45376 has 78 MA's), (Start: 79 @45370 has 1 MA's), (85, 45328), (98, 45256), (104, 45235), (129, 45139), (141, 45088), (149, 45022), (150, 45019), (155, 44968), (168, 44902), (173, 44890), (181, 44854), (195, 44809), (202, 44779), (209, 44740), (213, 44701), (217, 44668), (218, 44665), (220, 44659), (222, 44641), (230, 44608), (233, 44587), (240, 44557), (259, 44443), (263, 44401), (264, 44380), (267, 44347), (279, 44275), (281, 44269), (289, 44221), (298, 44176), (304, 44152), (309, 44137), (313, 44113),

Gene: Tydolla\_49 Start: 45612, Stop: 43999, Start Num: 41

Candidate Starts for Tydolla\_49:

(19, 45738), (20, 45732), (24, 45717), (Start: 38 @45621 has 9 MA's), (Start: 41 @45612 has 43 MA's), (62, 45516), (83, 45438), (95, 45303), (Start: 127 @45144 has 3 MA's), (133, 45129), (135, 45117), (141, 45087), (147, 45045), (155, 44967), (186, 44835), (193, 44802), (198, 44793), (212, 44700), (218, 44652), (221, 44637), (222, 44628), (230, 44595), (235, 44568), (240, 44544), (258, 44454), (267, 44343), (279, 44310), (280, 44307), (282, 44292), (286, 44271), (292, 44238),

Gene: TyrionL\_50 Start: 44804, Stop: 43401, Start Num: 76

Candidate Starts for TyrionL\_50:

(12, 45182), (13, 45137), (17, 45095), (29, 45014), (37, 44969), (Start: 76 @44804 has 218 MA's), (Start: 78 @44801 has 78 MA's), (Start: 79 @44795 has 1 MA's), (85, 44753), (98, 44681), (104, 44660), (129, 44564), (141, 44513), (149, 44447), (150, 44444), (155, 44393), (168, 44327), (173, 44315), (181, 44279), (195, 44234), (202, 44204), (209, 44165), (213, 44126), (217, 44093), (218, 44090), (220, 44084), (222, 44066), (230, 44033), (233, 44012), (240, 43982), (259, 43868), (263, 43826), (264, 43805), (267, 43772), (279, 43700), (281, 43694), (289, 43646), (298, 43601), (304, 43577), (309, 43562), (313, 43538),

Gene: UACh1\_51 Start: 45272, Stop: 43869, Start Num: 76

Candidate Starts for UACh1\_51:

(12, 45650), (13, 45605), (17, 45563), (29, 45482), (37, 45437), (Start: 76 @45272 has 218 MA's), (Start: 78 @45269 has 78 MA's), (Start: 79 @45263 has 1 MA's), (85, 45221), (98, 45149), (104, 45128), (129, 45032), (141, 44981), (149, 44915), (150, 44912), (153, 44888), (155, 44861), (168, 44795), (173, 44783), (181, 44747), (195, 44702), (202, 44672), (209, 44633), (213, 44594), (217, 44561), (218, 44558), (222, 44534), (230, 44501), (233, 44480), (240, 44450), (259, 44336), (263, 44294), (264, 44273), (267, 44240), (279, 44168), (281, 44162), (289, 44114), (298, 44069), (304, 44045), (309, 44030), (313, 44006),

Gene: UncleHowie\_51 Start: 44947, Stop: 43544, Start Num: 76

Candidate Starts for UncleHowie\_51:

(37, 45112), (Start: 76 @44947 has 218 MA's), (Start: 78 @44944 has 78 MA's), (Start: 79 @44938 has 1 MA's), (85, 44896), (98, 44824), (104, 44803), (129, 44707), (141, 44656), (149, 44590), (150, 44587), (153, 44563), (155, 44536), (168, 44470), (173, 44458), (181, 44422), (195, 44377), (202, 44347), (209, 44308), (213, 44269), (217, 44236), (218, 44233), (222, 44209), (230, 44176), (233, 44155), (240, 44125), (259, 44011), (263, 43969), (264, 43948), (267, 43915), (279, 43843), (281, 43837), (289, 43789), (298, 43744), (304, 43720), (309, 43705), (313, 43681),

Gene: Upyo\_30 Start: 25191, Stop: 24034, Start Num: 119

Candidate Starts for Upyo\_30:

(61, 25530), (65, 25512), (101, 25284), (Start: 119 @25191 has 1 MA's), (Start: 126 @25155 has 4 MA's), (140, 25110), (164, 24924), (204, 24834), (215, 24753), (218, 24738), (225, 24699), (231, 24678), (241, 24627), (249, 24591), (267, 24423), (277, 24396), (278, 24393), (281, 24384), (285, 24351), (298, 24288), (302, 24267), (324, 24123), (325, 24114), (326, 24093), (328, 24078),

Gene: Usavi\_51 Start: 45246, Stop: 43843, Start Num: 76

Candidate Starts for Usavi\_51:

(37, 45411), (Start: 76 @45246 has 218 MA's), (Start: 78 @45243 has 78 MA's), (Start: 79 @45237 has 1 MA's), (85, 45195), (98, 45123), (104, 45102), (129, 45006), (141, 44955), (149, 44889), (150, 44886), (153, 44862), (155, 44835), (168, 44769), (173, 44757), (181, 44721), (195, 44676), (202, 44646), (209, 44607), (213, 44568), (217, 44535), (218, 44532), (222, 44508), (230, 44475), (233, 44454), (240, 44424), (259, 44310), (263, 44268), (264, 44247), (267, 44214), (279, 44142), (281, 44136), (289, 44088), (298, 44043), (304, 44019), (309, 44004), (313, 43980),

Gene: Vaishali24\_50 Start: 44918, Stop: 43515, Start Num: 76

Candidate Starts for Vaishali24\_50:

(12, 45296), (13, 45251), (17, 45209), (29, 45128), (37, 45083), (Start: 76 @44918 has 218 MA's), (Start: 78 @44915 has 78 MA's), (Start: 79 @44909 has 1 MA's), (85, 44867), (98, 44795), (104, 44774), (129, 44678), (141, 44627), (149, 44561), (150, 44558), (155, 44507), (168, 44441), (173, 44429), (181, 44393), (195, 44348), (202, 44318), (209, 44279), (213, 44240), (217, 44207), (218, 44204), (222, 44180), (230, 44147), (233, 44126), (240, 44096), (259, 43982), (263, 43940), (264, 43919), (267, 43886), (279, 43814), (281, 43808), (289, 43760), (298, 43715), (304, 43691), (309, 43676), (313, 43652),

Gene: Valjean\_51 Start: 45240, Stop: 43840, Start Num: 78

Candidate Starts for Valjean\_51:

(37, 45408), (Start: 76 @45243 has 218 MA's), (Start: 78 @45240 has 78 MA's), (Start: 79 @45234 has 1 MA's), (85, 45192), (98, 45120), (104, 45099), (129, 45003), (141, 44952), (149, 44886), (150, 44883), (153, 44859), (155, 44832), (168, 44766), (173, 44754), (181, 44718), (195, 44673), (202, 44643), (209, 44604), (213, 44565), (217, 44532), (218, 44529), (222, 44505), (230, 44472), (233, 44451), (240, 44421), (259, 44307), (263, 44265), (264, 44244), (267, 44211), (279, 44139), (281, 44133), (289, 44085), (298, 44040), (304, 44016), (309, 44001), (313, 43977),

Gene: Vaticameos\_47 Start: 42929, Stop: 41526, Start Num: 76

Candidate Starts for Vaticameos\_47:

(12, 43307), (13, 43262), (17, 43220), (29, 43139), (37, 43094), (Start: 76 @42929 has 218 MA's), (Start: 78 @42926 has 78 MA's), (Start: 79 @42920 has 1 MA's), (85, 42878), (98, 42806), (104, 42785), (129, 42689), (141, 42638), (149, 42572), (150, 42569), (155, 42518), (168, 42452), (173, 42440), (181, 42404), (195, 42359), (202, 42329), (209, 42290), (213, 42251), (217, 42218), (218, 42215), (222, 42191), (230, 42158), (233, 42137), (240, 42107), (259, 41993), (263, 41951), (264, 41930), (267, 41897), (279, 41825), (281, 41819), (289, 41771), (298, 41726), (304, 41702), (309, 41687), (313, 41663),

Gene: Veritas\_50 Start: 44825, Stop: 43422, Start Num: 73

Candidate Starts for Veritas\_50:

(37, 44987), (Start: 73 @44825 has 20 MA's), (Start: 78 @44822 has 78 MA's), (85, 44774), (98, 44702), (104, 44681), (129, 44585), (141, 44534), (149, 44468), (150, 44465), (155, 44414), (168, 44348), (173, 44336), (181, 44300), (195, 44255), (202, 44225), (209, 44186), (213, 44147), (217, 44114), (218, 44111), (220, 44105), (222, 44087), (230, 44054), (233, 44033), (240, 44003), (259, 43889), (263, 43847), (264, 43826), (267, 43793), (279, 43721), (281, 43715), (289, 43667), (298, 43622), (304, 43598), (309, 43583), (313, 43559),

Gene: Vic9\_00049 Start: 45381, Stop: 44014, Start Num: 78

Candidate Starts for Vic9\_00049:

(Start: 78 @45381 has 78 MA's), (86, 45318), (88, 45303), (115, 45192), (128, 45141), (140, 45093), (145, 45045), (165, 44904), (168, 44895), (187, 44850), (189, 44844), (190, 44838), (195, 44826), (213, 44721), (217, 44688), (219, 44682), (221, 44670), (222, 44661), (230, 44628), (235, 44601), (240, 44577), (245, 44550), (251, 44523), (260, 44448), (264, 44403), (267, 44370), (275, 44349), (277, 44343), (284, 44310), (287, 44292), (322, 44130), (325, 44112), (330, 44055),

Gene: Vincenzo\_47 Start: 46277, Stop: 44940, Start Num: 75

Candidate Starts for Vincenzo\_47:

(Start: 75 @46277 has 15 MA's), (Start: 81 @46262 has 2 MA's), (123, 46067), (138, 46022), (141, 46001), (162, 45836), (168, 45815), (169, 45812), (175, 45797), (202, 45698), (204, 45680), (210, 45656), (218, 45584), (221, 45569), (225, 45545), (231, 45524), (233, 45506), (240, 45476), (248, 45449), (253, 45416), (256, 45398), (261, 45341), (264, 45305), (267, 45272), (281, 45233), (292, 45167), (293, 45164), (309, 45101), (311, 45095), (313, 45077),

Gene: VioletZ\_48 Start: 45803, Stop: 44463, Start Num: 75

Candidate Starts for VioletZ\_48:

(Start: 72 @45806 has 9 MA's), (Start: 75 @45803 has 15 MA's), (Start: 79 @45794 has 1 MA's), (80, 45788), (87, 45737), (123, 45590), (138, 45545), (141, 45524), (158, 45383), (162, 45359), (168, 45338), (169, 45335), (175, 45320), (177, 45305), (201, 45236), (202, 45221), (204, 45203), (210, 45179), (218, 45107), (222, 45083), (230, 45050), (231, 45047), (233, 45029), (240, 44999), (253, 44939), (256, 44921), (258, 44909), (261, 44864), (262, 44858), (263, 44849), (266, 44819), (267, 44795), (281, 44756), (288, 44711), (292, 44690), (293, 44687), (311, 44618), (313, 44600),

Gene: Virapocalypse\_51 Start: 45238, Stop: 43835, Start Num: 76

Candidate Starts for Virapocalypse\_51:

(12, 45616), (13, 45571), (17, 45529), (29, 45448), (37, 45403), (Start: 76 @45238 has 218 MA's), (Start: 78 @45235 has 78 MA's), (Start: 79 @45229 has 1 MA's), (85, 45187), (98, 45115), (104, 45094), (129, 44998), (141, 44947), (149, 44881), (150, 44878), (155, 44827), (168, 44761), (173, 44749), (181, 44713), (195, 44668), (202, 44638), (209, 44599), (213, 44560), (217, 44527), (218, 44524), (222, 44500), (230, 44467), (233, 44446), (240, 44416), (259, 44302), (263, 44260), (264, 44239), (267, 44206), (279, 44134), (281, 44128), (289, 44080), (298, 44035), (304, 44011), (309, 43996), (313, 43972),

Gene: Virgeve\_50 Start: 45015, Stop: 43612, Start Num: 73

Candidate Starts for Virgeve\_50:

(37, 45177), (Start: 73 @45015 has 20 MA's), (Start: 78 @45012 has 78 MA's), (85, 44964), (98, 44892), (104, 44871), (129, 44775), (141, 44724), (149, 44658), (150, 44655), (155, 44604), (168, 44538), (173, 44526), (181, 44490), (195, 44445), (202, 44415), (209, 44376), (213, 44337), (217, 44304), (218, 44301), (220, 44295), (222, 44277), (230, 44244), (233, 44223), (240, 44193), (259, 44079), (263, 44037), (264, 44016), (267, 43983), (279, 43911), (281, 43905), (289, 43857), (298, 43812), (304, 43788), (309, 43773), (313, 43749),

Gene: Vista\_51 Start: 45248, Stop: 43845, Start Num: 76

Candidate Starts for Vista\_51:

(37, 45413), (Start: 76 @45248 has 218 MA's), (Start: 78 @45245 has 78 MA's), (Start: 79 @45239 has 1 MA's), (85, 45197), (98, 45125), (104, 45104), (129, 45008), (141, 44957), (149, 44891), (150, 44888), (153, 44864), (155, 44837), (168, 44771), (173, 44759), (181, 44723), (195, 44678), (202, 44648), (209, 44609), (213, 44570), (217, 44537), (218, 44534), (222, 44510), (230, 44477), (233, 44456), (240, 44426), (259, 44312), (263, 44270), (264, 44249), (267, 44216), (279, 44144), (281, 44138), (289, 44090), (298, 44045), (304, 44021), (309, 44006), (313, 43982),

Gene: Vivaldi\_52 Start: 45680, Stop: 44280, Start Num: 78

Candidate Starts for Vivaldi\_52:

(Start: 73 @45683 has 20 MA's), (Start: 78 @45680 has 78 MA's), (Start: 79 @45674 has 1 MA's), (85, 45632), (98, 45560), (104, 45539), (129, 45443), (141, 45392), (149, 45326), (150, 45323), (155, 45272), (168, 45206), (173, 45194), (181, 45158), (195, 45113), (202, 45083), (209, 45044), (213, 45005), (217, 44972), (218, 44969), (222, 44945), (230, 44912), (233, 44891), (240, 44861), (259, 44747), (263, 44705), (264, 44684), (267, 44651), (279, 44579), (281, 44573), (298, 44480), (304, 44456), (309, 44441), (313, 44417),

Gene: Vortex\_51 Start: 44945, Stop: 43542, Start Num: 76

Candidate Starts for Vortex\_51:

(12, 45323), (13, 45278), (17, 45236), (29, 45155), (37, 45110), (Start: 76 @44945 has 218 MA's), (Start: 78 @44942 has 78 MA's), (Start: 79 @44936 has 1 MA's), (85, 44894), (98, 44822), (104, 44801), (129, 44705), (141, 44654), (149, 44588), (150, 44585), (155, 44534), (168, 44468), (173, 44456), (181, 44420), (195, 44375), (202, 44345), (209, 44306), (213, 44267), (217, 44234), (218, 44231), (222, 44207), (230, 44174), (233, 44153), (240, 44123), (259, 44009), (263, 43967), (264, 43946), (267, 43913), (279, 43841), (281, 43835), (289, 43787), (298, 43742), (304, 43718), (309, 43703), (313, 43679),

Gene: Waleliano\_46 Start: 45719, Stop: 44379, Start Num: 75

Candidate Starts for Waleliano\_46:

(Start: 72 @45722 has 9 MA's), (Start: 75 @45719 has 15 MA's), (Start: 79 @45710 has 1 MA's), (80, 45704), (87, 45653), (123, 45506), (141, 45440), (158, 45299), (162, 45275), (168, 45254), (169, 45251), (175, 45236), (177, 45221), (201, 45152), (204, 45119), (210, 45095), (218, 45023), (221,

45008), (222, 44999), (230, 44966), (231, 44963), (233, 44945), (240, 44915), (253, 44855), (256, 44837), (258, 44825), (260, 44792), (261, 44780), (262, 44774), (263, 44765), (264, 44744), (266, 44735), (267, 44711), (281, 44672), (292, 44606), (293, 44603), (309, 44540), (311, 44534), (313, 44516),

Gene: Wallhey\_50 Start: 44808, Stop: 43405, Start Num: 76

Candidate Starts for Wallhey\_50:

(12, 45186), (13, 45141), (17, 45099), (29, 45018), (37, 44973), (Start: 76 @44808 has 218 MA's), (Start: 78 @44805 has 78 MA's), (Start: 79 @44799 has 1 MA's), (85, 44757), (98, 44685), (104, 44664), (129, 44568), (141, 44517), (149, 44451), (150, 44448), (155, 44397), (168, 44331), (173, 44319), (181, 44283), (195, 44238), (202, 44208), (209, 44169), (213, 44130), (217, 44097), (218, 44094), (220, 44088), (222, 44070), (230, 44037), (233, 44016), (240, 43986), (259, 43872), (263, 43830), (264, 43809), (267, 43776), (279, 43704), (281, 43698), (289, 43650), (298, 43605), (304, 43581), (309, 43566), (313, 43542),

Gene: Waterdiva\_51 Start: 45240, Stop: 43837, Start Num: 76

Candidate Starts for Waterdiva\_51:

(37, 45405), (Start: 76 @45240 has 218 MA's), (Start: 78 @45237 has 78 MA's), (Start: 79 @45231 has 1 MA's), (85, 45189), (98, 45117), (104, 45096), (129, 45000), (141, 44949), (149, 44883), (150, 44880), (153, 44856), (155, 44829), (168, 44763), (173, 44751), (181, 44715), (195, 44670), (202, 44640), (209, 44601), (213, 44562), (217, 44529), (218, 44526), (222, 44502), (230, 44469), (233, 44448), (240, 44418), (259, 44304), (263, 44262), (264, 44241), (267, 44208), (279, 44136), (281, 44130), (289, 44082), (298, 44037), (304, 44013), (309, 43998), (313, 43974),

Gene: Weher20\_51 Start: 45239, Stop: 43836, Start Num: 76

Candidate Starts for Weher20\_51:

(37, 45404), (Start: 76 @45239 has 218 MA's), (Start: 78 @45236 has 78 MA's), (Start: 79 @45230 has 1 MA's), (85, 45188), (98, 45116), (104, 45095), (129, 44999), (141, 44948), (149, 44882), (150, 44879), (155, 44828), (168, 44762), (173, 44750), (181, 44714), (195, 44669), (202, 44639), (209, 44600), (213, 44561), (217, 44528), (218, 44525), (220, 44519), (222, 44501), (230, 44468), (233, 44447), (240, 44417), (259, 44303), (263, 44261), (264, 44240), (267, 44207), (279, 44135), (281, 44129), (289, 44081), (298, 44036), (304, 44012), (309, 43997), (313, 43973),

Gene: West99\_50 Start: 44995, Stop: 43628, Start Num: 78

Candidate Starts for West99\_50:

(Start: 78 @44995 has 78 MA's), (86, 44932), (88, 44917), (115, 44806), (128, 44755), (140, 44707), (145, 44659), (165, 44518), (168, 44509), (187, 44464), (189, 44458), (190, 44452), (195, 44440), (213, 44335), (217, 44302), (221, 44284), (222, 44275), (230, 44242), (235, 44215), (240, 44191), (245, 44164), (251, 44137), (260, 44062), (264, 44017), (267, 43984), (275, 43963), (277, 43957), (284, 43924), (285, 43915), (287, 43906), (322, 43744), (325, 43726), (330, 43669),

Gene: Widow\_31 Start: 24786, Stop: 23686, Start Num: 126

Candidate Starts for Widow\_31:

(Start: 126 @24786 has 4 MA's), (132, 24771), (140, 24738), (160, 24570), (164, 24546), (200, 24474), (219, 24354), (221, 24342), (241, 24246), (258, 24153), (260, 24120), (264, 24075), (265, 24072), (267, 24042), (275, 24021), (277, 24015), (278, 24012), (285, 23970), (298, 23907), (317, 23811), (321, 23796), (324, 23775),

Gene: Windsor\_50 Start: 44944, Stop: 43541, Start Num: 76

Candidate Starts for Windsor\_50:

(12, 45322), (13, 45277), (17, 45235), (29, 45154), (37, 45109), (Start: 76 @44944 has 218 MA's), (Start: 78 @44941 has 78 MA's), (Start: 79 @44935 has 1 MA's), (85, 44893), (98, 44821), (104, 44800), (129, 44704), (141, 44653), (149, 44587), (150, 44584), (155, 44533), (168, 44467), (173,

44455), (181, 44419), (195, 44374), (202, 44344), (209, 44305), (213, 44266), (217, 44233), (218, 44230), (222, 44206), (230, 44173), (233, 44152), (240, 44122), (259, 44008), (263, 43966), (264, 43945), (267, 43912), (279, 43840), (281, 43834), (289, 43786), (298, 43741), (304, 43717), (309, 43702), (313, 43678),

Gene: Wooper\_47 Start: 40124, Stop: 38955, Start Num: 124

Candidate Starts for Wooper\_47:

(4, 40952), (8, 40841), (11, 40796), (Start: 28 @40637 has 6 MA's), (Start: 43 @40559 has 6 MA's), (91, 40304), (96, 40277), (Start: 124 @40124 has 2 MA's), (Start: 126 @40118 has 4 MA's), (135, 40094), (138, 40085), (141, 40067), (144, 40034), (146, 40028), (156, 39938), (172, 39878), (192, 39809), (206, 39746), (215, 39674), (217, 39662), (221, 39644), (222, 39635), (230, 39602), (240, 39551), (249, 39521), (252, 39494), (253, 39491), (264, 39383), (268, 39341), (272, 39308), (277, 39263), (281, 39251), (286, 39218), (287, 39212), (292, 39185),

Gene: Xavier\_50 Start: 44952, Stop: 43549, Start Num: 76

Candidate Starts for Xavier\_50:

(12, 45330), (13, 45285), (17, 45243), (29, 45162), (37, 45117), (Start: 76 @44952 has 218 MA's), (Start: 78 @44949 has 78 MA's), (Start: 79 @44943 has 1 MA's), (85, 44901), (98, 44829), (104, 44808), (129, 44712), (141, 44661), (149, 44595), (150, 44592), (155, 44541), (168, 44475), (173, 44463), (181, 44427), (195, 44382), (202, 44352), (209, 44313), (213, 44274), (217, 44241), (218, 44238), (220, 44232), (222, 44214), (230, 44181), (233, 44160), (240, 44130), (259, 44016), (263, 43974), (264, 43953), (267, 43920), (279, 43848), (281, 43842), (289, 43794), (298, 43749), (304, 43725), (309, 43710), (313, 43686),

Gene: Xincheng\_45 Start: 45163, Stop: 43823, Start Num: 75

Candidate Starts for Xincheng\_45:

(Start: 75 @45163 has 15 MA's), (Start: 79 @45154 has 1 MA's), (80, 45148), (123, 44950), (138, 44905), (141, 44884), (158, 44743), (162, 44719), (168, 44698), (169, 44695), (175, 44680), (177, 44665), (201, 44596), (204, 44563), (210, 44539), (218, 44467), (221, 44452), (222, 44443), (225, 44428), (230, 44410), (231, 44407), (233, 44389), (240, 44359), (253, 44299), (256, 44281), (258, 44269), (261, 44224), (262, 44218), (263, 44209), (264, 44188), (266, 44179), (267, 44155), (281, 44116), (292, 44050), (293, 44047), (311, 43978), (313, 43960),

Gene: Yago84\_44 Start: 38830, Stop: 37565, Start Num: 43

Candidate Starts for Yago84\_44:

(Start: 43 @38830 has 6 MA's), (50, 38812), (55, 38791), (Start: 124 @38704 has 2 MA's), (Start: 126 @38698 has 4 MA's), (134, 38677), (141, 38647), (194, 38389), (201, 38371), (210, 38314), (218, 38242), (221, 38227), (222, 38218), (226, 38200), (230, 38185), (235, 38158), (240, 38134), (253, 38074), (261, 37999), (264, 37966), (267, 37933), (270, 37924), (275, 37900), (276, 37888), (287, 37822), (292, 37795), (295, 37783), (318, 37675), (319, 37672), (325, 37639),

Gene: Yahalom\_49 Start: 44898, Stop: 43276, Start Num: 38

Candidate Starts for Yahalom\_49:

(19, 45015), (20, 45009), (24, 44994), (Start: 38 @44898 has 9 MA's), (Start: 41 @44889 has 43 MA's), (62, 44793), (83, 44715), (95, 44580), (Start: 127 @44421 has 3 MA's), (133, 44406), (135, 44394), (141, 44364), (147, 44322), (155, 44244), (186, 44112), (193, 44079), (198, 44070), (212, 43977), (218, 43929), (221, 43914), (222, 43905), (235, 43845), (240, 43821), (258, 43731), (267, 43620), (279, 43587), (280, 43584), (282, 43569), (286, 43548), (292, 43515),

Gene: Yeshua\_47 Start: 40101, Stop: 38932, Start Num: 124

Candidate Starts for Yeshua\_47:

(4, 40929), (8, 40818), (11, 40773), (Start: 28 @40614 has 6 MA's), (Start: 43 @40536 has 6 MA's), (91, 40281), (96, 40254), (Start: 124 @40101 has 2 MA's), (Start: 126 @40095 has 4 MA's), (135,

40071), (138, 40062), (141, 40044), (144, 40011), (146, 40005), (156, 39915), (172, 39855), (192, 39786), (206, 39723), (215, 39651), (217, 39639), (221, 39621), (222, 39612), (230, 39579), (240, 39528), (249, 39498), (252, 39471), (253, 39468), (264, 39360), (268, 39318), (272, 39285), (277, 39240), (281, 39228), (286, 39195), (287, 39189), (292, 39162),

Gene: Yinz\_49 Start: 44914, Stop: 43301, Start Num: 41

Candidate Starts for Yinz\_49:

(19, 45040), (20, 45034), (24, 45019), (Start: 38 @44923 has 9 MA's), (Start: 41 @44914 has 43 MA's), (62, 44818), (83, 44740), (95, 44605), (Start: 127 @44446 has 3 MA's), (133, 44431), (135, 44419), (141, 44389), (147, 44347), (155, 44269), (167, 44203), (168, 44200), (186, 44137), (193, 44104), (198, 44095), (212, 44002), (218, 43954), (221, 43939), (222, 43930), (235, 43870), (240, 43846), (258, 43756), (267, 43645), (279, 43612), (280, 43609), (282, 43594), (286, 43573), (292, 43540),

Gene: Yoshand\_52 Start: 45400, Stop: 44000, Start Num: 78

Candidate Starts for Yoshand\_52:

(12, 45781), (13, 45736), (17, 45694), (29, 45613), (37, 45568), (Start: 76 @45403 has 218 MA's), (Start: 78 @45400 has 78 MA's), (Start: 79 @45394 has 1 MA's), (85, 45352), (98, 45280), (104, 45259), (129, 45163), (141, 45112), (149, 45046), (150, 45043), (155, 44992), (168, 44926), (173, 44914), (181, 44878), (195, 44833), (202, 44803), (209, 44764), (213, 44725), (217, 44692), (218, 44689), (222, 44665), (230, 44632), (233, 44611), (240, 44581), (259, 44467), (263, 44425), (264, 44404), (267, 44371), (279, 44299), (281, 44293), (289, 44245), (298, 44200), (304, 44176), (309, 44161), (313, 44137),

Gene: YouGoGlencoco\_51 Start: 45242, Stop: 43839, Start Num: 76

Candidate Starts for YouGoGlencoco\_51:

(12, 45620), (13, 45575), (17, 45533), (29, 45452), (37, 45407), (Start: 76 @45242 has 218 MA's), (Start: 78 @45239 has 78 MA's), (Start: 79 @45233 has 1 MA's), (85, 45191), (98, 45119), (104, 45098), (129, 45002), (141, 44951), (149, 44885), (150, 44882), (155, 44831), (168, 44765), (173, 44753), (181, 44717), (195, 44672), (202, 44642), (209, 44603), (213, 44564), (217, 44531), (218, 44528), (222, 44504), (230, 44471), (233, 44450), (240, 44420), (259, 44306), (263, 44264), (264, 44243), (267, 44210), (279, 44138), (281, 44132), (289, 44084), (298, 44039), (304, 44015), (309, 44000), (313, 43976),

Gene: Zaider\_52 Start: 45472, Stop: 44069, Start Num: 76

Candidate Starts for Zaider\_52:

(37, 45637), (Start: 76 @45472 has 218 MA's), (Start: 78 @45469 has 78 MA's), (Start: 79 @45463 has 1 MA's), (85, 45421), (98, 45349), (104, 45328), (129, 45232), (141, 45181), (149, 45115), (150, 45112), (153, 45088), (155, 45061), (168, 44995), (173, 44983), (181, 44947), (195, 44902), (202, 44872), (209, 44833), (213, 44794), (217, 44761), (218, 44758), (222, 44734), (230, 44701), (233, 44680), (240, 44650), (259, 44536), (263, 44494), (264, 44473), (267, 44440), (279, 44368), (281, 44362), (289, 44314), (298, 44269), (304, 44245), (309, 44230), (313, 44206),

Gene: Zelda\_51 Start: 45289, Stop: 43886, Start Num: 76

Candidate Starts for Zelda\_51:

(37, 45454), (Start: 76 @45289 has 218 MA's), (Start: 78 @45286 has 78 MA's), (Start: 79 @45280 has 1 MA's), (85, 45238), (98, 45166), (104, 45145), (129, 45049), (141, 44998), (149, 44932), (150, 44929), (153, 44905), (155, 44878), (168, 44812), (173, 44800), (181, 44764), (195, 44719), (202, 44689), (209, 44650), (213, 44611), (217, 44578), (218, 44575), (222, 44551), (230, 44518), (233, 44497), (240, 44467), (259, 44353), (263, 44311), (264, 44290), (267, 44257), (279, 44185), (281, 44179), (289, 44131), (298, 44086), (304, 44062), (309, 44047), (313, 44023),

Gene: Zemanar\_47 Start: 45703, Stop: 44360, Start Num: 72

Candidate Starts for Zemanar\_47:

(Start: 72 @45703 has 9 MA's), (Start: 75 @45700 has 15 MA's), (Start: 79 @45691 has 1 MA's), (80, 45685), (87, 45634), (123, 45487), (138, 45442), (141, 45421), (158, 45280), (162, 45256), (168, 45235), (169, 45232), (175, 45217), (177, 45202), (201, 45133), (204, 45100), (210, 45076), (221, 44989), (222, 44980), (230, 44947), (231, 44944), (233, 44926), (240, 44896), (253, 44836), (256, 44818), (258, 44806), (261, 44761), (262, 44755), (263, 44746), (264, 44725), (266, 44716), (267, 44692), (281, 44653), (292, 44587), (293, 44584), (311, 44515), (313, 44497),

Gene: Zenteno07\_55 Start: 45181, Stop: 43661, Start Num: 46

Candidate Starts for Zenteno07\_55:

(Start: 46 @45181 has 1 MA's), (58, 45130), (71, 45052), (90, 44950), (130, 44788), (141, 44740), (155, 44620), (156, 44611), (168, 44554), (182, 44500), (183, 44497), (209, 44392), (210, 44389), (218, 44317), (222, 44293), (234, 44236), (253, 44143), (264, 44026), (267, 43993), (268, 43984), (277, 43966), (281, 43954), (295, 43876), (304, 43837), (332, 43669),

Gene: Zonia\_51 Start: 45259, Stop: 43856, Start Num: 76

Candidate Starts for Zonia\_51:

(12, 45637), (13, 45592), (17, 45550), (29, 45469), (37, 45424), (Start: 76 @45259 has 218 MA's), (Start: 78 @45256 has 78 MA's), (Start: 79 @45250 has 1 MA's), (85, 45208), (98, 45136), (104, 45115), (129, 45019), (141, 44968), (149, 44902), (150, 44899), (155, 44848), (168, 44782), (173, 44770), (181, 44734), (195, 44689), (202, 44659), (209, 44620), (213, 44581), (217, 44548), (218, 44545), (220, 44539), (222, 44521), (230, 44488), (233, 44467), (240, 44437), (259, 44323), (263, 44281), (264, 44260), (267, 44227), (279, 44155), (281, 44149), (289, 44101), (298, 44056), (304, 44032), (309, 44017), (313, 43993),