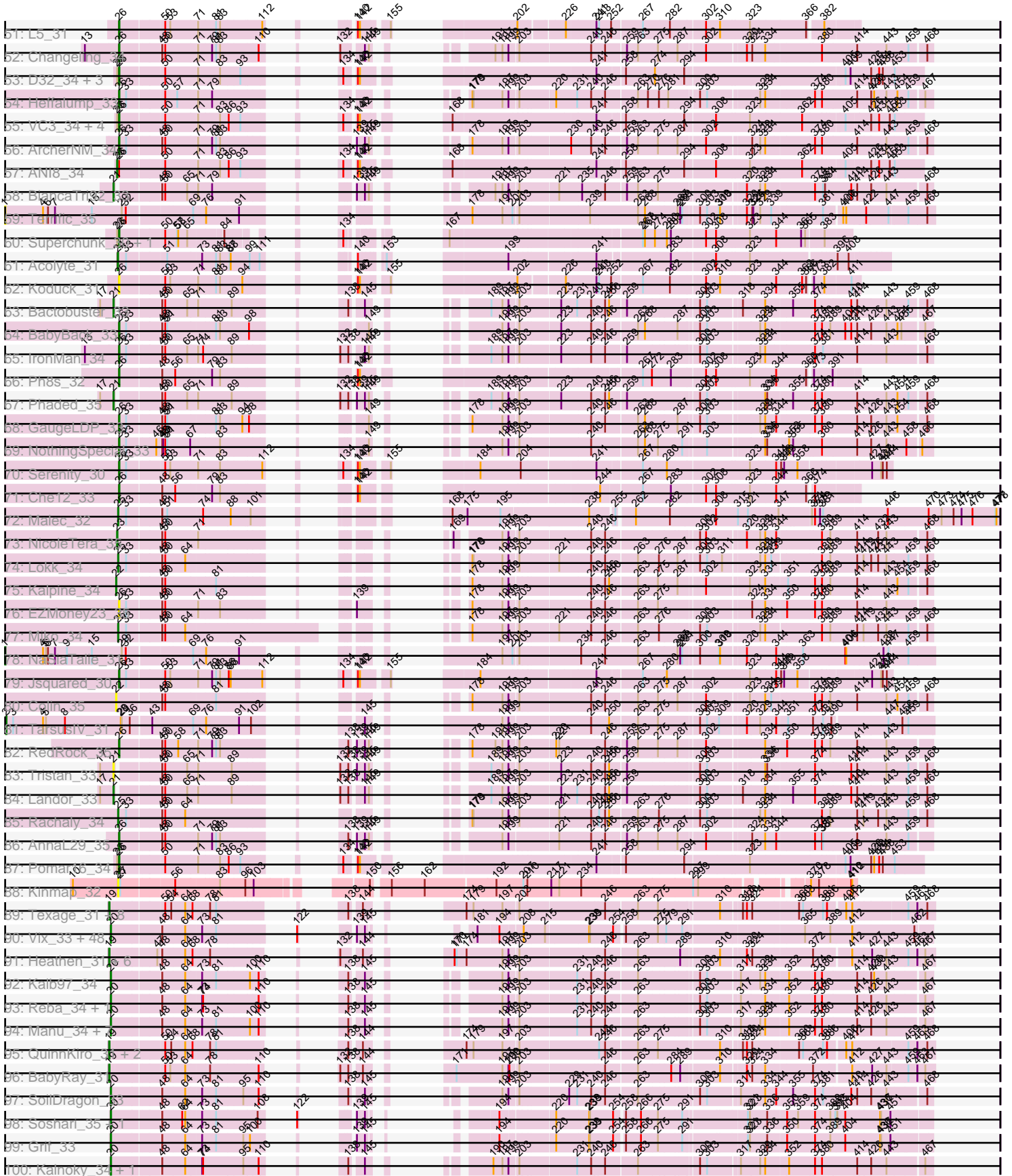




Pham 215702





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r51: Scamp_31	21	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r52: BellusTerra_31 + 4	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r53: Kremtemulca_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r54: Nyxis_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r55: IceMan_32	22	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r56: Shygu2_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r57: Koan_30	21	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r58: LeoAvram_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r59: LittleGuy_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r60: NotAPhaseNom_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r61: Morrow_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r62: Palestino_30	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r63: Tubs_33 + 35	16	51	64	78	83	110	129	132	146	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461
r64: Yecy3_32	21	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r65: EmyBug_33 + 6	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r66: Mammiana_32 + 1	32	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r67: LoneWolf_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r68: RahatElujan_30	30	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r69: Hanray_32	40	47	64	78	83	110	129	132	146	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461
r70: Toaka_30	30	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r71: EdogawaKicco_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r72: Darrell_33	21	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r73: Aima_33	21	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r74: Elephantoon_32	32	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r75: SheaKeira_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r76: Charm_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r77: DreamTeam_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r78: Sachima_31	31	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			
r79: Nergai_25	25	38	78	98	122	132	169	188	199	210	299	308	306	312	329	350	388	404	420	451	461			

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 215702 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215702 has 426 members, 48 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_32
- Track 2 : DontArgue\_31
- Track 3 : WalterMcMickey\_33, Twister\_33
- Track 4 : Poompha\_31
- Track 5 : Topanga\_33
- Track 6 : KittenMittens\_31
- Track 7 : Chupacabra\_32
- Track 8 : PeaceMeal1\_31
- Track 9 : Kristoff\_34
- Track 10 : Eaglepride\_34
- Track 11 : RhynO\_34
- Track 12 : Edison31\_33
- Track 13 : Drake94\_31
- Track 14 : Goose\_32
- Track 15 : Rebeuca\_34
- Track 16 : OKCentral2016\_32
- Track 17 : Shapes\_37, Rowdy\_37, DustyMartin\_37
- Track 18 : Trike\_30
- Track 19 : Severus\_31
- Track 20 : MaCh\_31, Bachome\_31
- Track 21 : Gilberta\_31, Joselito\_31, Aneem\_31, Munch\_31, Lucivia\_31, Flaverint\_31, Jabith\_31, Bowtie\_31
- Track 22 : Insomnia\_31
- Track 23 : Jeeves\_31
- Track 24 : Sunhee\_30
- Track 25 : 40AC\_34
- Track 26 : MyraDee\_29
- Track 27 : Kimona\_28
- Track 28 : Baehexic\_32, Centaur\_33
- Track 29 : SwirlSquare\_33
- Track 30 : Gratitude\_32, WideWale\_33, Updawg\_33, Equemioh13\_33
- Track 31 : TopsytheTRex\_30
- Track 32 : Loser\_35
- Track 33 : Bradman\_30, Quokka\_29, MajorMajor\_30
- Track 34 : XianYue\_31
- Track 35 : Odin\_30
- Track 36 : Sknot\_32, Flare16\_31

- Track 37 : Pukovnik\_33
- Track 38 : BobSwaget\_34
- Track 39 : DBQu4n\_34
- Track 40 : Jaan\_35
- Track 41 : LionsBait\_32
- Track 42 : MiculUcigas\_31
- Track 43 : Journey13\_29
- Track 44 : Buggy\_33
- Track 45 : Leogania\_33
- Track 46 : Adzzy\_32
- Track 47 : WeiHuaDA\_37
- Track 48 : Trixie\_34
- Track 49 : MissWhite\_31
- Track 50 : Kerberos\_34, StarStuff\_34, Duplo\_34, Tomathan\_34
- Track 51 : L5\_31
- Track 52 : Changeling\_34
- Track 53 : D32\_34, Naji\_34, D29\_31, Travvers\_34
- Track 54 : Heffalump\_33
- Track 55 : VC3\_34, AN3\_31, VA6\_31, C3\_29, AN9\_34
- Track 56 : ArcherNM\_34
- Track 57 : ANI8\_34
- Track 58 : BiancaTri92\_33
- Track 59 : Terrific\_35
- Track 60 : Superchunk\_30, Caraxes\_30
- Track 61 : Acolyte\_31
- Track 62 : Koduck\_31
- Track 63 : Bactobuster\_33
- Track 64 : BabyBack\_33
- Track 65 : IronMan\_34
- Track 66 : Ph8s\_32
- Track 67 : Phaded\_35
- Track 68 : GaugeLDP\_33
- Track 69 : NothingSpecial\_33
- Track 70 : Serenity\_30
- Track 71 : Che12\_33
- Track 72 : Malec\_32
- Track 73 : NicoleTera\_35
- Track 74 : Loka\_34
- Track 75 : Kalpine\_34
- Track 76 : EZMoney23\_35
- Track 77 : Miko\_34
- Track 78 : NaSiaTalie\_31
- Track 79 : Jsquared\_30
- Track 80 : Colin\_35
- Track 81 : TarsusIV\_31
- Track 82 : RedRock\_35
- Track 83 : Tristan\_33
- Track 84 : Landor\_33
- Track 85 : Rachaly\_34
- Track 86 : AnnaL29\_35
- Track 87 : Pomar16\_34
- Track 88 : Kinmap\_32

- Track 89 : Texage\_31, Hookmount\_32, Norbert\_31, Lambert1\_32, Noella\_32, Popcicle\_32, Panamaxus\_31, Caviar\_32, Pocahontas\_32
- Track 90 : Vix\_33, Microwolf\_33, Dieselweasel\_33, MuchMore\_35, DaHudson\_33, Colbster\_33, Phoebe\_33, Grum1\_33, JHC117\_33, GtownJaz\_33, AugsMagnumOpus\_35, EpicPhail\_33, LBerry\_33, Aglet\_33, MarQuardt\_33, GingkoMaracino\_33, Mainiac\_33, Pembroke\_33, Cullens\_33, Malinsilva\_35, Stagni\_33, Penny1\_33, Fernando\_33, LugYA\_35, Lilith\_33, Snickers\_33, Watson\_33, Lowa\_33, Bigflo\_33, Ollie\_33, Wooldri\_35, Anubis\_35, P28Green\_33, Taurus\_33, JenCasNa\_33, SoYo\_33, Grub\_33, Beauxregard13\_33, MoneyMay\_33, Marie\_33, Sabinator\_33, Hercules11\_33, MadMarie\_33, StepMih\_33, PGHhamlin\_35, PotatoSplit\_34, Farber\_33, BreSam8\_33, Sabia\_33
- Track 91 : Heathen\_31, Fred313\_31, DropBear\_31, Scout\_31, Kachowdy\_31, HelDan\_31, Marchesa\_31
- Track 92 : Kalb97\_34
- Track 93 : Reba\_34, Phranny\_34
- Track 94 : Manu\_34, Groupthink\_34, PurpleHaze\_33, Pawn\_33, Marius\_34, Heliosoles\_33, Calvinny\_34, Gemma\_33
- Track 95 : QuinnKiro\_31, Veracruz\_31, Todacoro\_32
- Track 96 : BabyRay\_31
- Track 97 : SoilDragon\_33
- Track 98 : Soshari\_35, Methuselah\_32
- Track 99 : Grif\_33
- Track 100 : Kalnoky\_34, JeppNRM\_34
- Track 101 : Giroux\_31, TNguyen7\_31, Idleandcovert\_31, BlueBird\_32, Bugatti\_31, SaturnRing\_31, Pistachio\_32, Puppy\_32
- Track 102 : MA5\_31
- Track 103 : Phoxy\_33, Bxz2\_32, LarryKay\_33, Rummer\_33, HashRod\_34, Louie6\_33, BuzzBuzz\_32, TinyPebbles\_33, Misomonster\_35, KADY\_34, Daishi\_32, AgronaGT15\_33
- Track 104 : Tiffany\_33
- Track 105 : Margo\_32
- Track 106 : BabyJohn\_30, Chiqui\_30
- Track 107 : Jobu08\_33
- Track 108 : JF2\_31, JF4\_31
- Track 109 : ResDef\_32
- Track 110 : Spike509\_33
- Track 111 : Zetzy\_32
- Track 112 : B1\_29
- Track 113 : HaveUMetTed\_34, ACFishhook\_33
- Track 114 : MK4\_31
- Track 115 : Isca\_31
- Track 116 : Rockstar\_31
- Track 117 : PhishRPhriends\_32
- Track 118 : OlanP\_33
- Track 119 : Phantastic\_31
- Track 120 : HamSlice\_30, Eapen\_31, Relief\_31, LappelDuVide\_31, TroyPia\_31, Pipcraft\_31, Citius\_31, Lunsford\_32
- Track 121 : Morpher26\_31, Datway\_31, Katalie136\_31, AbbysRanger\_31, Achebe\_30, PetiteSangsue\_31, Perplexer\_31, Backyardigan\_31, Badger\_31, Bumblebee11\_31, Xena\_31, Cici\_31
- Track 122 : Stasia\_32
- Track 123 : Pumbaa\_31

- Track 124 : Bartimeaus\_31, Wilbur\_31, Ruin\_31, TygerBlood\_31, Albee\_31, JoongJeon\_31, Flux\_31, Bombshell\_31, TiroTheta9\_31, Sabertooth\_31, Druantia\_31, Millski\_30, CentreCat\_31, Thanksgivukkah\_31, Lemur\_31, LittleB\_31, Holli\_31, Skipitt\_31, Kingmustik0402\_31, Romney\_31, Roosevelt\_31, Phelipe\_31, Taquarus\_31, Baby16\_31, Chaph\_31, Peaches\_31, Deano\_31, JetBlade\_31, Connomayer\_31, Florean\_31, SeniorClean\_30, Dhanush\_31, Commander\_31, Wizard007\_31, Medusa\_31, Melvin\_31, Blackmoor\_31, Burger\_30, Eros\_31, Clarenza\_31, YoSam321\_31
- Track 125 : Bruiser\_30, Koreni\_30, Avle17\_31, Alberto7\_32, Nemo27\_31, Caelakin\_31, Wander\_31, Spino\_31, Cocoaberry\_31, Maverick\_31, Phacado\_31, Gadost\_31, Houdini22\_31
- Track 126 : Arturo\_30
- Track 127 : Wile\_31
- Track 128 : Stink\_32, AvatarAhPeg\_32, Miramae\_31
- Track 129 : Annyong\_31, Kyee\_31, BubbleTrouble\_31, KFPoly\_31, MeeZee\_31
- Track 130 : Sparxx\_31, Maxo\_31, Kampy\_31
- Track 131 : LochMonster\_31, Phighter1804\_31, DirtyDunning\_31, Ulysses\_30, Iracema64\_32
- Track 132 : Mazhar510\_31, PeterPeter\_31, Lorenzo\_31, Shaka\_31, Mayonnaise\_31, ICleared\_31
- Track 133 : OKaNui\_32
- Track 134 : Abdiel\_30
- Track 135 : Cintron\_31
- Track 136 : Broseidon\_31
- Track 137 : SheldonCooper\_32, Obama12\_32, Eagle\_30, LHTSCC\_32, BangNhom\_31, Cerulean\_32
- Track 138 : Tinybot\_30, Rosa24\_30
- Track 139 : TinaFeyge\_31, NorthStar\_31
- Track 140 : Kratark\_31
- Track 141 : Camperdownii\_30
- Track 142 : Cindaradix\_30
- Track 143 : Mundrea\_31
- Track 144 : Eris\_30, Funston\_31
- Track 145 : Phontbonne\_31
- Track 146 : Noelle\_31
- Track 147 : Jaykayelowell\_31
- Track 148 : Huxley\_31
- Track 149 : Happiness\_31
- Track 150 : ChampagnePapi\_32
- Track 151 : Scamp\_31
- Track 152 : BellusTerra\_31, Eurydice\_31, Ohfah\_31, Nebs\_31, Polymorphads\_31
- Track 153 : Kremtemulon\_31
- Track 154 : Nyxis\_31
- Track 155 : Iceman\_32
- Track 156 : Shygu2\_31
- Track 157 : Koan\_30
- Track 158 : LeoAvram\_31
- Track 159 : LittleGuy\_31
- Track 160 : NotAPhaseMom\_31
- Track 161 : Morrow\_31
- Track 162 : Palestino\_30
- Track 163 : Tubs\_33, Aliter\_33, Ugenie5\_30, Halex\_32, Fayely\_33, Myxus\_33, Catalina\_34, HortumSL17\_33, Lilleskat\_31, PackMan\_33, Phaeder\_33, Scherzo\_33



- Track 164 : Yecey3\_32
- Track 165 : EmyBug\_33, Eidsmoe\_33, Conquerage\_33, Qobbit\_33, Spouty\_33, Priya\_33, ExplosioNervosa\_33
- Track 166 : Maminiaina\_32, BogosyJay\_32
- Track 167 : LoneWolf\_32
- Track 168 : Rahalelujah\_30
- Track 169 : Hanray\_32, Phonnegut\_33, Beemo\_33, Jiawan\_32, Pioneer\_33, RyeScarlet\_34, Onglai\_32
- Track 170 : Toaka\_30
- Track 171 : EdogawaKiddo\_31
- Track 172 : Darrell\_33
- Track 173 : Alma\_33
- Track 174 : Elephantoon\_32
- Track 175 : SheaKeira\_31
- Track 176 : Charm\_31
- Track 177 : DreamTeam1\_31
- Track 178 : Sachima\_31
- Track 179 : Nergal\_25

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

The start number called the most often in the published annotations is 21, it was called in 162 of the 378 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbysRanger\_31, Abdiel\_30, Achebe\_30, Albee\_31, Alberto7\_32, Annyong\_31, Arturo\_30, AvatarAhPeg\_32, Avle17\_31, Baby16\_31, Backyardigan\_31, Bactobuster\_33, Badger\_31, BangNhom\_31, Bartimeaus\_31, BellusTerra\_31, BiancaTri92\_33, Blackmoor\_31, Bombshell\_31, Broseidon\_31, Bruiser\_30, BubbleTrouble\_31, Bumblebee11\_31, Burger\_30, Caelakin\_31, Camperdownii\_30, CentreCat\_31, Cerulean\_32, ChampagnePapi\_32, Chaph\_31, Chupacabra\_32, Cici\_31, Cindaradix\_30, Cintron\_31, Citius\_31, Clarenza\_31, Cocoaberry\_31, Commander\_31, Connomayer\_31, Datway\_31, Deano\_31, Dhanush\_31, DirtyDunning\_31, DontArgue\_31, Drake94\_31, Druantia\_31, DustyMartin\_37, Eagle\_30, Eaglepride\_34, Eapen\_31, Edison31\_33, Eris\_30, Eros\_31, Eurydice\_31, Floean\_31, Flux\_31, Funston\_31, Gadost\_31, Goose\_32, HamSlice\_30, Happiness\_31, Holli\_31, Houdini22\_31, Huxley\_31, ICleared\_31, Iceman\_32, Iracema64\_32, Jaan\_35, Jaykayelowell\_31, JetBlade\_31, JoongJeon\_31, KFPoly\_31, Kampy\_31, Katalie136\_31, Kimona\_28, Kingmustik0402\_31, KittenMittens\_31, Koan\_30, Koreni\_30, Kratark\_31, Kremtemulon\_31, Kristoff\_34, Kyee\_31, LHTSCC\_32, Landor\_33, LappelDuVide\_31, Lemur\_31, LeoAvram\_31, Leogania\_33, LittleB\_31, LittleGuy\_31, LochMonster\_31, Lorenzo\_31, Lunsford\_32, Maverick\_31, Maxo\_31, Mayonnaise\_31, Mazhar510\_31, Medusa\_31, MeeZee\_31, Melvin\_31, Millski\_30, Miramae\_31, Morpher26\_31, Morrow\_31, Mundrea\_31, MyraDee\_29, Nebs\_31, Nemo27\_31, Noelle\_31, NorthStar\_31, NotAPhaseMom\_31, Nyxis\_31, OKCentral2016\_32, OKaNui\_32, Obama12\_32, Ohfah\_31, Palestino\_30, PeaceMeal1\_31, Peaches\_31, Perplexer\_31, PeterPeter\_31, PetiteSangsue\_31, Phacado\_31, Phaded\_35, Phelipe\_31, Phighter1804\_31, Phontbonne\_31, Pipcraft\_31, Polymorphads\_31, Poompha\_31, Pumbaa\_31, Rebeuca\_34, Relief\_31, RhynO\_34, Romney\_31, Roosevelt\_31, Rosa24\_30, Rowdy\_37, Ruin\_31,

Sabertooth\_31, Scamp\_31, SenorClean\_30, Severus\_31, Shaka\_31, Shapes\_37, SheldonCooper\_32, Shygu2\_31, Skipitt\_31, Sparxx\_31, Spino\_31, Stasia\_32, Stink\_32, Taquarus\_31, Thanksgivukkah\_31, TinaFeyge\_31, Tinybot\_30, TiroTheta9\_31, Topanga\_33, Trike\_30, Tristan\_33, TroyPia\_31, Twister\_33, TygerBlood\_31, Ulysses\_30, WalterMcMickey\_33, Wander\_31, Wilbur\_31, Wile\_31, Wizard007\_31, Xena\_31, YoSam321\_31,

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

•

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

• 40AC\_34, ACFishhook\_33, AN3\_31, AN9\_34, ANI8\_34, Acolyte\_31, Adzzy\_32, Aglet\_33, AgronaGT15\_33, Aliter\_33, Alma\_33, Aneem\_31, AnnaL29\_35, Anubis\_35, ArcherNM\_34, AugsMagnumOpus\_35, B1\_29, BabyBack\_33, BabyJohn\_30, BabyRay\_31, Bachome\_31, Baehexic\_32, Beauxregard13\_33, Beemo\_33, Bigflo\_33, BlueBird\_32, BobSwaget\_34, BogosyJay\_32, Bowtie\_31, Bradman\_30, BreSam8\_33, Bugatti\_31, Buggy\_33, BuzzBuzz\_32, Bxz2\_32, C3\_29, Calvinny\_34, Caraxes\_30, Catalina\_34, Caviar\_32, Centaur\_33, Changeling\_34, Chargerpower\_32, Charm\_31, Che12\_33, Chiqui\_30, Colbster\_33, Colin\_35, Conquerage\_33, Cullens\_33, D29\_31, D32\_34, DBQu4n\_34, DaHudson\_33, Daishi\_32, Darrell\_33, Dieselweasel\_33, DreamTeam1\_31, DropBear\_31, Duplo\_34, EZMoney23\_35, EdogawaKiddo\_31, Eidsmoe\_33, Elephantoon\_32, EmyBug\_33, EpicPhail\_33, Equemioh13\_33, ExplosioNervosa\_33, Farber\_33, Fayely\_33, Fernando\_33, Flare16\_31, Flaverint\_31, Fred313\_31, GaugeLDP\_33, Gemma\_33, Gilberta\_31, GingkoMaracino\_33, Giroux\_31, Gratitude\_32, Grif\_33, Groupthink\_34, Grub\_33, Grum1\_33, GtownJaz\_33, Hanray\_32, HashRod\_34, HaveUMetTed\_34, Heathen\_31, Heffalump\_33, HelDan\_31, Heliosoles\_33, Hercules11\_33, Halex\_32, Hookmount\_32, HortumSL17\_33, Idleandcovert\_31, Insomnia\_31, IronMan\_34, Isca\_31, JF2\_31, JF4\_31, JHC117\_33, Jabith\_31, Jeeves\_31, JenCasNa\_33, JeppNRM\_34, Jiawan\_32, Jobu08\_33, Joselito\_31, Journey13\_29, Jsquared\_30, KADY\_34, Kachowdy\_31, Kalb97\_34, Kalnoky\_34, Kalpine\_34, Kerberos\_34, Kinmap\_32, Koduck\_31, L5\_31, LBerry\_33, Lambert1\_32, LarryKay\_33, Lilith\_33, Lilleskat\_31, LionsBait\_32, Lokk\_34, LoneWolf\_32, Loser\_35, Louie6\_33, Lowa\_33, Lucivia\_31, LugYA\_35, MA5\_31, MK4\_31, MaCh\_31, MadMarie\_33, Mainiac\_33, MajorMajor\_30, Malec\_32, Malinsilva\_35, Maminiaina\_32, Manu\_34, MarQuardt\_33, Marchesa\_31, Margo\_32, Marie\_33, Marius\_34, Methuselah\_32, Microwolf\_33, MiculUcigas\_31, Miko\_34, Misomonster\_35, MissWhite\_31, MoneyMay\_33, MuchMore\_35, Munch\_31, Myxus\_33, NaSiaTalie\_31, Naji\_34, Nergal\_25, NicoleTera\_35, Noella\_32, Norbert\_31, NothingSpecial\_33, Odin\_30, OlanP\_33, Ollie\_33, Onglai\_32, P28Green\_33, PGHhamlin\_35, PackMan\_33, Panamaxus\_31, Pawn\_33, Pembroke\_33, Penny1\_33, Ph8s\_32, Phaeder\_33, Phantastic\_31, PhishRPhriends\_32, Phoebe\_33, Phonnegut\_33, Phoxy\_33, Phranny\_34, Pioneer\_33, Pistachio\_32, Pocahontas\_32, Pomar16\_34, Popcicle\_32, PotatoSplit\_34, Priya\_33, Pukovnik\_33, Puppy\_32, PurpleHaze\_33, Qobbit\_33, QuinnKiro\_31, Quokka\_29, Rachaly\_34, Rahalelujah\_30, Reba\_34, RedRock\_35, ResDef\_32, Rockstar\_31, Rummer\_33, RyeScarlet\_34, Sabia\_33, Sabinator\_33, Sachima\_31, SaturnRing\_31, Scherzo\_33, Scout\_31, Serenity\_30, SheaKeira\_31, Sknot\_32, Snickers\_33, SoYo\_33, SoilDragon\_33, Soshari\_35, Spike509\_33, Spouty\_33, Stagni\_33, StarStuff\_34, StepMih\_33, Sunhee\_30, Superchunk\_30, SwirlSquare\_33, TNguyen7\_31, TarsusIV\_31, Taurus\_33, Terrific\_35, Texage\_31, Tiffany\_33, TinyPebbles\_33, TipsytheTRex\_30, Toaka\_30, Todacoro\_32, Tomathan\_34, Travvers\_34, Trixie\_34, Tubs\_33, Ugenie5\_30, Updawg\_33, VA6\_31, VC3\_34, Veracruz\_31, Vix\_33, Watson\_33, WeiHuaDA\_37, WideWale\_33,

Wooldri\_35, XianYue\_31, Yecey3\_32, Zetzy\_32,

### Summary by start number:

#### Start 1:

- Found in 12 of 426 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 9 of 378
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Baehexic\_32 (A2), Buggy\_33 (A2), Centaur\_33 (A2), Equemioh13\_33 (A2), Flare16\_31 (A2), Gratitude\_32 (A2), MiculUcigas\_31 (A2), NaSiaTalie\_31 (A2), Sknot\_32 (A2), Terrific\_35 (A2), Updawg\_33 (A2), WideWale\_33 (A2),

#### Start 2:

- Found in 1 of 426 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 378
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TarsusIV\_31 (A2),

#### Start 12:

- Found in 11 of 426 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 11 of 378
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aneem\_31 (A11), Bachome\_31 (A11), Bowtie\_31 (A11), Flaverint\_31 (A11), Gilberta\_31 (A11), Insomnia\_31 (A11), Jabith\_31 (A11), Joselito\_31 (A11), Lucivia\_31 (A11), MaCh\_31 (A11), Munch\_31 (A11),

#### Start 18:

- Found in 1 of 426 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 378
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phantastic\_31 (A3),

#### Start 19:

- Found in 39 of 426 ( 9.2% ) of genes in pham
- Manual Annotations of this start: 31 of 378
- Called 100.0% of time when present
- Phage (with cluster) where this start called: B1\_29 (A3), BabyJohn\_30 (A3), BabyRay\_31 (A3), BlueBird\_32 (A3), Bugatti\_31 (A3), Caviar\_32 (A3), Chiqui\_30 (A3), DropBear\_31 (A3), Fred313\_31 (A3), Giroux\_31 (A3), Heathen\_31 (A3), HelDan\_31 (A3), Hookmount\_32 (A3), Idleandcovert\_31 (A3), Isca\_31 (A3), JF2\_31 (A3), JF4\_31 (A3), Kachowdy\_31 (A3), Lambert1\_32 (A3), MA5\_31 (A3), MK4\_31 (A3), Marchesa\_31 (A3), Margo\_32 (A3), Noella\_32 (A3), Norbert\_31 (A3), Panamaxus\_31 (A3), Pistachio\_32 (A3), Pocahontas\_32 (A3), Popcicle\_32 (A3), Puppy\_32 (A3), QuinnKiro\_31 (A3), ResDef\_32 (A3), Rockstar\_31 (A3), SaturnRing\_31 (A3), Scout\_31 (A3), TNguyen7\_31 (A3), Texage\_31 (A3), Todacoro\_32 (A3), Veracruz\_31 (A3),

#### Start 20:

- Found in 86 of 426 ( 20.2% ) of genes in pham
- Manual Annotations of this start: 81 of 378
- Called 100.0% of time when present

- Phage (with cluster) where this start called: ACFishhook\_33 (A3), Aglet\_33 (A3), AgronaGT15\_33 (A3), Anubis\_35 (A3), AugsMagnumOpus\_35 (A3), Beauxregard13\_33 (A3), Bigflo\_33 (A3), BreSam8\_33 (A3), BuzzBuzz\_32 (A3), Bxz2\_32 (A3), Calvinny\_34 (A3), Colbster\_33 (A3), Cullens\_33 (A3), DaHudson\_33 (A3), Daishi\_32 (A3), Dieselweasel\_33 (A3), EpicPhail\_33 (A3), Farber\_33 (A3), Fernando\_33 (A3), Gemma\_33 (A3), GingkoMaracino\_33 (A3), Grif\_33 (A3), Groupthink\_34 (A3), Grub\_33 (A3), Grum1\_33 (A3), GtownJaz\_33 (A3), HashRod\_34 (A3), HaveUMetTed\_34 (A3), Heliosoles\_33 (A3), Hercules11\_33 (A3), JHC117\_33 (A3), JenCasNa\_33 (A3), JeppNRM\_34 (A3), Jobu08\_33 (A3), KADY\_34 (A3), Kalb97\_34 (A3), Kalnoky\_34 (A3), LBerry\_33 (A3), LarryKay\_33 (A3), Lilith\_33 (A3), Louie6\_33 (A3), Iowa\_33 (A3), LugYA\_35 (A3), MadMarie\_33 (A3), Mainiac\_33 (A3), Malinsilva\_35 (A3), Manu\_34 (A3), MarQuardt\_33 (A3), Marie\_33 (A3), Marius\_34 (A3), Methuselah\_32 (A3), Microwolf\_33 (A3), Misomonster\_35 (A3), MoneyMay\_33 (A3), MuchMore\_35 (A3), OlanP\_33 (A3), Ollie\_33 (A3), P28Green\_33 (A3), PGHhamlin\_35 (A3), Pawn\_33 (A3), Pembroke\_33 (A3), Penny1\_33 (A3), PhishRPhriends\_32 (A3), Phoebe\_33 (A3), Phoxy\_33 (A3), Phranny\_34 (A3), PotatoSplit\_34 (A3), PurpleHaze\_33 (A3), Reba\_34 (A3), Rummer\_33 (A3), Sabia\_33 (A3), Sabinator\_33 (A3), Snickers\_33 (A3), SoYo\_33 (A3), SoilDragon\_33 (A3), Soshari\_35 (A3), Spike509\_33 (A3), Stagni\_33 (A3), StepMih\_33 (A3), Taurus\_33 (A3), Tiffany\_33 (A3), TinyPebbles\_33 (A3), Vix\_33 (A3), Watson\_33 (A3), Wooldri\_35 (A3), Zetzy\_32 (A3),

Start 21:

- Found in 172 of 426 ( 40.4% ) of genes in pham
- Manual Annotations of this start: 162 of 378
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger\_31 (A4), Abdiel\_30 (A4), Achebe\_30 (A4), Albee\_31 (A4), Alberto7\_32 (A4), Annyong\_31 (A4), Arturo\_30 (A4), AvatarAhPeg\_32 (A4), Avle17\_31 (A4), Baby16\_31 (A4), Backyardigan\_31 (A4), Bactobuster\_33 (A2), Badger\_31 (A4), BangNhom\_31 (A4), Bartimeaus\_31 (A4), BellusTerra\_31 (A4), BiancaTri92\_33 (A2), Blackmoor\_31 (A4), Bombshell\_31 (A4), Broseidon\_31 (A4), Bruiser\_30 (A4), BubbleTrouble\_31 (A4), Bumblebee11\_31 (A4), Burger\_30 (A4), Caelakin\_31 (A4), Camperdownii\_30 (A4), CentreCat\_31 (A4), Cerulean\_32 (A4), ChampagnePapi\_32 (A4), Chaph\_31 (A4), Chupacabra\_32 (A10), Cici\_31 (A4), Cindaradix\_30 (A4), Cintron\_31 (A4), Citius\_31 (A4), Clarenza\_31 (A4), Cocoaberry\_31 (A4), Commander\_31 (A4), Connomayer\_31 (A4), Datway\_31 (A4), Deano\_31 (A4), Dhanush\_31 (A4), DirtyDunning\_31 (A4), DontArgue\_31 (A10), Drake94\_31 (A10), Druantia\_31 (A4), DustyMartin\_37 (A10), Eagle\_30 (A4), Eaglepride\_34 (A10), Eapen\_31 (A4), Edison31\_33 (A10), Eris\_30 (A4), Eros\_31 (A4), Eurydice\_31 (A4), Florean\_31 (A4), Flux\_31 (A4), Funston\_31 (A4), Gadost\_31 (A4), Goose\_32 (A10), HamSlice\_30 (A4), Happiness\_31 (A4), Holli\_31 (A4), Houdini22\_31 (A4), Huxley\_31 (A4), ICleared\_31 (A4), Iceman\_32 (A4), Iracema64\_32 (A4), Jaan\_35 (A2), Jaykayelowell\_31 (A4), JetBlade\_31 (A4), JoongJeon\_31 (A4), KFPoly\_31 (A4), Kamy\_31 (A4), Katalie136\_31 (A4), Kimona\_28 (A19), Kingmustik0402\_31 (A4), KittenMittens\_31 (A10), Koan\_30 (A4), Koreni\_30 (A4), Kratak\_31 (A4), Kremtemulon\_31 (A4), Kristoff\_34 (A10), Kyee\_31 (A4), LHTSCC\_32 (A4), Landor\_33 (A2), LappelDuVide\_31 (A4), Lemur\_31 (A4), LeoAvram\_31 (A4), Leogania\_33 (A2), LittleB\_31 (A4), LittleGuy\_31 (A4), LochMonster\_31 (A4), Lorenzo\_31 (A4), Lunsford\_32 (A4), Maverick\_31 (A4), Maxo\_31 (A4), Mayonnaise\_31 (A4), Mazhar510\_31 (A4), Medusa\_31 (A4), MeeZee\_31 (A4), Melvin\_31 (A4), Millski\_30 (A4), Miramae\_31 (A4), Morpher26\_31 (A4), Morrow\_31 (A4), Mundrea\_31 (A4), MyraDee\_29 (A18), Nebs\_31 (A4), Nemo27\_31 (A4), Noelle\_31 (A4), NorthStar\_31 (A4), NotAPhaseMom\_31 (A4),

Nyxix\_31 (A4), OKCentral2016\_32 (A10), OKaNui\_32 (A4), Obama12\_32 (A4), Ohfah\_31 (A4), Palestino\_30 (A4), PeaceMeal1\_31 (A10), Peaches\_31 (A4), Perplexer\_31 (A4), PeterPeter\_31 (A4), PetiteSangsue\_31 (A4), Phacado\_31 (A4), Phaded\_35 (A2), Felipe\_31 (A4), Phighter1804\_31 (A4), Phontbonne\_31 (A4), Pipcraft\_31 (A4), Polymorphads\_31 (A4), Poompha\_31 (A10), Pumbaa\_31 (A4), Rebeuca\_34 (A10), Relief\_31 (A4), RhynO\_34 (A10), Romney\_31 (A4), Roosevelt\_31 (A4), Rosa24\_30 (A4), Rowdy\_37 (A10), Ruin\_31 (A4), Sabertooth\_31 (A4), Scamp\_31 (A4), SenorClean\_30 (A4), Severus\_31 (A10), Shaka\_31 (A4), Shapes\_37 (A10), SheldonCooper\_32 (A4), Shygu2\_31 (A4), Skipitt\_31 (A4), Sparxx\_31 (A4), Spino\_31 (A4), Stasia\_32 (A4), Stink\_32 (A4), Taquarus\_31 (A4), Thanksgivukkah\_31 (A4), TinaFeyge\_31 (A4), Tinybot\_30 (A4), TiroTheta9\_31 (A4), Topanga\_33 (A10), Trike\_30 (A10), Tristan\_33 (A2), TroyPia\_31 (A4), Twister\_33 (A10), TygerBlood\_31 (A4), Ulysses\_30 (A4), WalterMcMickey\_33 (A10), Wander\_31 (A4), Wilbur\_31 (A4), Wile\_31 (A4), Wizard007\_31 (A4), Xena\_31 (A4), YoSam321\_31 (A4),

#### Start 22:

- Found in 38 of 426 ( 8.9% ) of genes in pham
- Manual Annotations of this start: 28 of 378
- Called 94.7% of time when present
- Phage (with cluster) where this start called: Aliter\_33 (A9), Alma\_33 (A9), Beemo\_33 (A9), BogosyJay\_32 (A9), Catalina\_34 (A9), Colin\_35 (A2), Conquerage\_33 (A9), Darrell\_33 (A9), Eidsmoe\_33 (A9), Elephantoon\_32 (A9), EmyBug\_33 (A9), ExplosioNervosa\_33 (A9), Fayely\_33 (A9), Hanray\_32 (A9), Horex\_32 (A9), HortumSL17\_33 (A9), Jiawan\_32 (A9), Kalpine\_34 (A2), Lilleskat\_31 (A9), LoneWolf\_32 (A9), Maminiaina\_32 (A9), Myxus\_33 (A9), Onglai\_32 (A9), PackMan\_33 (A9), Phaeder\_33 (A9), Phonnegut\_33 (A9), Pioneer\_33 (A9), Priya\_33 (A9), Qobbit\_33 (A9), RyeScarlet\_34 (A9), Scherzo\_33 (A9), Spouty\_33 (A9), Trixie\_34 (A2), Tubs\_33 (A9), Ugenie5\_30 (A9), WeiHuaDA\_37 (A2),

#### Start 23:

- Found in 22 of 426 ( 5.2% ) of genes in pham
- Manual Annotations of this start: 4 of 378
- Called 18.2% of time when present
- Phage (with cluster) where this start called: ANI8\_34 (A2), NicoleTera\_35 (A2), XianYue\_31 (A2), Yecey3\_32 (A9),

#### Start 24:

- Found in 12 of 426 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 1 of 378
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Acolyte\_31 (A2),

#### Start 25:

- Found in 14 of 426 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 12 of 378
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BobSwaget\_34 (A2), Charm\_31 (A9), DreamTeam1\_31 (A9), Jeeves\_31 (A14), Kinmap\_32 (A21), LionsBait\_32 (A2), Lokk\_34 (A2), Malec\_32 (A2), Miko\_34 (A2), Rachaly\_34 (A2), Rahalelujah\_30 (A9), SheaKeira\_31 (A9), TipsytheTRex\_30 (A2), Toaka\_30 (A9),

#### Start 26:

- Found in 46 of 426 ( 10.8% ) of genes in pham
- Manual Annotations of this start: 35 of 378
- Called 97.8% of time when present
- Phage (with cluster) where this start called: 40AC\_34 (A17), AN3\_31 (A2), AN9\_34 (A2), Adzzy\_32 (A2), AnnaL29\_35 (A2), ArcherNM\_34 (A2), BabyBack\_33 (A2), Bradman\_30 (A2), C3\_29 (A2), Caraxes\_30 (A2), Changeling\_34 (A2), Che12\_33 (A2), D29\_31 (A2), D32\_34 (A2), DBQu4n\_34 (A2), Duplo\_34 (A2), EZMoney23\_35 (A2), GaugeLDP\_33 (A2), Heffalump\_33 (A2), IronMan\_34 (A2), Journey13\_29 (A2), Jsquared\_30 (A2), Kerberos\_34 (A2), Koduck\_31 (A2), L5\_31 (A2), Loser\_35 (A2), MajorMajor\_30 (A2), MissWhite\_31 (A2), Naji\_34 (A2), NothingSpecial\_33 (A2), Odin\_30 (A2), Ph8s\_32 (A2), Pomar16\_34 (A2), Pukovnik\_33 (A2), Quokka\_29 (A2), RedRock\_35 (A2), Serenity\_30 (A2), StarStuff\_34 (A2), Sunhee\_30 (A14), Superchunk\_30 (A2), SwirlSquare\_33 (A2), Tomathan\_34 (A2), Travvers\_34 (A2), VA6\_31 (A2), VC3\_34 (A2),

#### Start 27:

- Found in 27 of 426 ( 6.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 7.4% of time when present
- Phage (with cluster) where this start called: EdogawaKiddo\_31 (A9), Sachima\_31 (A9),

#### Start 53:

- Found in 166 of 426 ( 39.0% ) of genes in pham
- Manual Annotations of this start: 1 of 378
- Called 0.6% of time when present
- Phage (with cluster) where this start called: Nergal\_25 (AG),

#### Start 90:

- Found in 1 of 426 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 378
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chargerpower\_32 (A),

### **Summary by clusters:**

There are 13 clusters represented in this pham: A, A21, A17, A11, A10, AG, A14, A19, A18, A3, A2, A4, A9,

Info for manual annotations of cluster A:

- Start number 90 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A10:

- Start number 21 was manually annotated 17 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 12 was manually annotated 11 times for cluster A11.

Info for manual annotations of cluster A14:

- Start number 25 was manually annotated 1 time for cluster A14.

Info for manual annotations of cluster A18:

- Start number 21 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 21 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 1 was manually annotated 9 times for cluster A2.
- Start number 2 was manually annotated 1 time for cluster A2.
- Start number 21 was manually annotated 6 times for cluster A2.
- Start number 22 was manually annotated 2 times for cluster A2.
- Start number 23 was manually annotated 3 times for cluster A2.
- Start number 24 was manually annotated 1 time for cluster A2.
- Start number 25 was manually annotated 6 times for cluster A2.
- Start number 26 was manually annotated 35 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 18 was manually annotated 1 time for cluster A3.
- Start number 19 was manually annotated 31 times for cluster A3.
- Start number 20 was manually annotated 81 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 21 was manually annotated 137 times for cluster A4.

Info for manual annotations of cluster A9:

- Start number 22 was manually annotated 26 times for cluster A9.
- Start number 23 was manually annotated 1 time for cluster A9.
- Start number 25 was manually annotated 5 times for cluster A9.

Info for manual annotations of cluster AG:

- Start number 53 was manually annotated 1 time for cluster AG.

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

Gene: 40AC\_34 Start: 24978, Stop: 26762, Start Num: 26

Candidate Starts for 40AC\_34:

(Start: 26 @24978 has 35 MA's), (33, 24999), (50, 25098), (51, 25104), (57, 25131), (66, 25167), (71, 25188), (79, 25224), (81, 25236), (83, 25248), (110, 25350), (131, 25371), (145, 25425), (149, 25437), (178, 25503), (197, 25593), (199, 25611), (203, 25635), (228, 25770), (240, 25836), (246, 25875), (263, 25965), (275, 26022), (291, 26088), (302, 26145), (334, 26307), (374, 26445), (381, 26469), (412, 26547), (414, 26559), (434, 26622), (443, 26640), (468, 26745),

Gene: ACFishhook\_33 Start: 23442, Stop: 25250, Start Num: 20

Candidate Starts for ACFishhook\_33:

(Start: 20 @23442 has 81 MA's), (48, 23577), (64, 23643), (73, 23688), (74, 23691), (110, 23838), (138, 23883), (145, 23913), (197, 24081), (199, 24099), (203, 24123), (231, 24285), (240, 24324), (246, 24363), (263, 24453), (300, 24615), (303, 24636), (317, 24723), (329, 24780), (334, 24795), (352, 24858), (374, 24933), (380, 24954), (414, 25047), (426, 25086), (443, 25128), (467, 25227),

Gene: AN3\_31 Start: 22715, Stop: 24571, Start Num: 26

Candidate Starts for AN3\_31:

(Start: 23 @22709 has 4 MA's), (Start: 26 @22715 has 35 MA's), (50, 22835), (71, 22925), (83, 22985), (86, 23009), (93, 23036), (134, 23129), (140, 23153), (142, 23159), (168, 23261), (241, 23666), (258, 23735), (294, 23903), (308, 23990), (323, 24086), (362, 24236), (405, 24350), (426, 24419), (434, 24443), (450, 24473), (453, 24488),

Gene: AN9\_34 Start: 22703, Stop: 24556, Start Num: 26

Candidate Starts for AN9\_34:

(Start: 23 @22697 has 4 MA's), (Start: 26 @22703 has 35 MA's), (50, 22823), (71, 22913), (83, 22973), (86, 22997), (93, 23024), (134, 23117), (140, 23141), (142, 23147), (168, 23249), (241, 23654), (258, 23723), (294, 23891), (308, 23978), (323, 24074), (362, 24221), (405, 24335), (426, 24404), (434, 24428), (450, 24458), (453, 24473),

Gene: ANI8\_34 Start: 22697, Stop: 24556, Start Num: 23

Candidate Starts for ANI8\_34:

(Start: 23 @22697 has 4 MA's), (Start: 26 @22703 has 35 MA's), (50, 22823), (71, 22913), (83, 22973), (86, 22997), (93, 23024), (134, 23117), (140, 23141), (142, 23147), (168, 23249), (241, 23654), (258, 23723), (294, 23891), (308, 23978), (323, 24074), (362, 24221), (405, 24335), (426, 24404), (434, 24428), (450, 24458), (453, 24473),

Gene: AbbysRanger\_31 Start: 22986, Stop: 24845, Start Num: 21

Candidate Starts for AbbysRanger\_31:

(14, 22926), (Start: 21 @22986 has 162 MA's), (37, 23052), (45, 23097), (47, 23103), (Start: 53 @23136 has 1 MA's), (57, 23154), (68, 23199), (70, 23205), (71, 23211), (89, 23304), (92, 23319), (122, 23391), (146, 23451), (168, 23502), (171, 23514), (186, 23592), (199, 23661), (218, 23784), (222, 23808), (240, 23889), (247, 23934), (250, 23943), (251, 23946), (274, 24075), (275, 24084), (285, 24126), (291, 24153), (298, 24189), (302, 24216), (306, 24228), (333, 24384), (386, 24558), (389, 24564), (404, 24609), (420, 24660), (421, 24663), (432, 24699), (451, 24735),

Gene: Abdiel\_30 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Abdiel\_30:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (386, 24526), (389, 24532), (404, 24577), (414, 24610), (420, 24628), (421, 24631), (432, 24667), (451, 24703),

Gene: Achebe\_30 Start: 22969, Stop: 24828, Start Num: 21

Candidate Starts for Achebe\_30:

(14, 22909), (Start: 21 @22969 has 162 MA's), (37, 23035), (45, 23080), (47, 23086), (Start: 53 @23119 has 1 MA's), (57, 23137), (68, 23182), (70, 23188), (71, 23194), (89, 23287), (92, 23302), (122, 23374), (146, 23434), (168, 23485), (171, 23497), (186, 23575), (199, 23644), (218, 23767), (222, 23791), (240, 23872), (247, 23917), (250, 23926), (251, 23929), (274, 24058), (275, 24067), (285, 24109), (291, 24136), (298, 24172), (302, 24199), (306, 24211), (333, 24367), (386, 24541), (389, 24547), (404, 24592), (420, 24643), (421, 24646), (432, 24682), (451, 24718),

Gene: Acolyte\_31 Start: 23339, Stop: 25057, Start Num: 24

Candidate Starts for Acolyte\_31:

(Start: 24 @23339 has 1 MA's), (33, 23363), (51, 23468), (73, 23564), (81, 23600), (83, 23612), (87, 23639), (88, 23642), (99, 23687), (111, 23717), (140, 23768), (153, 23822), (199, 24026), (241, 24263), (283, 24461), (308, 24584), (323, 24680), (396, 24908), (408, 24941),

Gene: Adzzy\_32 Start: 21442, Stop: 23085, Start Num: 26

Candidate Starts for Adzzy\_32:



(Start: 26 @21442 has 35 MA's), (48, 21553), (56, 21589), (81, 21700), (83, 21712), (140, 21880), (142, 21886), (199, 22150), (202, 22174), (211, 22201), (226, 22288), (241, 22372), (243, 22378), (245, 22384), (252, 22414), (267, 22498), (271, 22519), (302, 22672), (310, 22711), (323, 22798), (344, 22870), (366, 22957), (373, 22966), (391, 23014),

Gene: Aglet\_33 Start: 23278, Stop: 25035, Start Num: 20

Candidate Starts for Aglet\_33:

(Start: 20 @23278 has 81 MA's), (48, 23413), (64, 23479), (73, 23524), (81, 23560), (122, 23692), (139, 23728), (145, 23749), (181, 23806), (194, 23866), (208, 23920), (215, 23980), (238, 24100), (239, 24103), (254, 24172), (258, 24196), (275, 24289), (279, 24310), (291, 24355), (365, 24685), (389, 24754), (412, 24817), (462, 24988),

Gene: AgronaGT15\_33 Start: 23185, Stop: 24936, Start Num: 20

Candidate Starts for AgronaGT15\_33:

(Start: 20 @23185 has 81 MA's), (48, 23320), (64, 23386), (73, 23431), (81, 23467), (108, 23578), (122, 23599), (139, 23635), (145, 23656), (194, 23773), (220, 23911), (238, 24007), (239, 24010), (254, 24079), (258, 24103), (266, 24148), (275, 24196), (291, 24262), (321, 24433), (323, 24439), (336, 24490), (350, 24535), (359, 24565), (374, 24613), (389, 24655), (393, 24670), (395, 24673), (404, 24697), (436, 24799), (437, 24802), (451, 24826),

Gene: Albee\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Albee\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Alberto7\_32 Start: 23262, Stop: 25118, Start Num: 21

Candidate Starts for Alberto7\_32:

(Start: 21 @23262 has 162 MA's), (48, 23388), (Start: 53 @23412 has 1 MA's), (78, 23517), (79, 23523), (86, 23571), (89, 23580), (98, 23622), (122, 23667), (132, 23673), (168, 23778), (171, 23790), (186, 23868), (199, 23937), (240, 24165), (243, 24189), (244, 24192), (250, 24219), (251, 24222), (269, 24327), (274, 24348), (275, 24357), (298, 24462), (306, 24501), (312, 24546), (349, 24708), (350, 24714), (386, 24831), (389, 24837), (404, 24882), (420, 24933), (421, 24936), (445, 24999), (451, 25008), (467, 25095),

Gene: Aliter\_33 Start: 24305, Stop: 26071, Start Num: 22

Candidate Starts for Aliter\_33:

(Start: 22 @24305 has 28 MA's), (27, 24317), (64, 24491), (83, 24581), (95, 24626), (97, 24635), (139, 24713), (146, 24737), (166, 24773), (197, 24902), (199, 24920), (240, 25145), (243, 25166), (246, 25184), (263, 25274), (275, 25331), (302, 25454), (324, 25577), (334, 25616), (350, 25673), (374, 25754), (380, 25775), (381, 25778), (414, 25868), (454, 25979), (468, 26054),

Gene: Alma\_33 Start: 24420, Stop: 26186, Start Num: 22

Candidate Starts for Alma\_33:

(Start: 22 @24420 has 28 MA's), (64, 24606), (83, 24696), (95, 24741), (97, 24750), (146, 24852), (166, 24888), (197, 25017), (199, 25035), (240, 25260), (243, 25281), (246, 25299), (263, 25389), (275, 25446), (302, 25569), (324, 25692), (329, 25716), (334, 25731), (374, 25869), (380, 25890), (381, 25893), (384, 25899), (414, 25983), (460, 26133), (468, 26169),

Gene: Aneem\_31 Start: 23397, Stop: 25388, Start Num: 12

Candidate Starts for Aneem\_31:

(Start: 12 @23397 has 11 MA's), (Start: 24 @23508 has 1 MA's), (28, 23517), (40, 23574), (41, 23589), (42, 23607), (44, 23619), (54, 23667), (59, 23685), (60, 23688), (85, 23808), (131, 23922), (135, 23943), (140, 23961), (149, 23994), (188, 24177), (195, 24207), (196, 24210), (225, 24384), (227, 24390), (231, 24414), (232, 24420), (248, 24495), (262, 24558), (273, 24600), (274, 24606), (299, 24729), (308, 24777), (310, 24786), (330, 24903), (332, 24906), (345, 24948), (354, 24990), (364, 25026), (381, 25080), (398, 25131), (401, 25137), (405, 25143), (418, 25185), (452, 25275), (461, 25332), (468, 25371), (472, 25380),

Gene: AnnaL29\_35 Start: 25114, Stop: 26892, Start Num: 26

Candidate Starts for AnnaL29\_35:

(Start: 26 @25114 has 35 MA's), (48, 25225), (50, 25234), (71, 25321), (79, 25357), (81, 25369), (83, 25381), (138, 25528), (139, 25537), (145, 25558), (149, 25570), (197, 25726), (199, 25744), (221, 25876), (240, 25969), (246, 26008), (259, 26065), (263, 26098), (275, 26155), (287, 26209), (302, 26278), (324, 26401), (334, 26440), (344, 26470), (374, 26575), (380, 26596), (381, 26599), (414, 26689), (443, 26770), (459, 26830),

Gene: Annyong\_31 Start: 22961, Stop: 24817, Start Num: 21

Candidate Starts for Annyong\_31:

(Start: 21 @22961 has 162 MA's), (48, 23087), (Start: 53 @23111 has 1 MA's), (78, 23216), (79, 23222), (86, 23270), (89, 23279), (98, 23321), (122, 23366), (132, 23372), (168, 23477), (171, 23489), (186, 23567), (199, 23636), (240, 23864), (243, 23888), (244, 23891), (250, 23918), (251, 23921), (269, 24026), (274, 24047), (275, 24056), (298, 24161), (306, 24200), (312, 24245), (350, 24413), (386, 24530), (389, 24536), (404, 24581), (420, 24632), (421, 24635), (445, 24698), (451, 24707), (467, 24794),

Gene: Anubis\_35 Start: 23163, Stop: 24920, Start Num: 20

Candidate Starts for Anubis\_35:

(Start: 20 @23163 has 81 MA's), (48, 23298), (64, 23364), (73, 23409), (81, 23445), (122, 23577), (139, 23613), (145, 23634), (181, 23691), (194, 23751), (208, 23805), (215, 23865), (238, 23985), (239, 23988), (254, 24057), (258, 24081), (275, 24174), (279, 24195), (291, 24240), (365, 24570), (389, 24639), (412, 24702), (462, 24873),

Gene: ArcherNM\_34 Start: 25064, Stop: 26842, Start Num: 26

Candidate Starts for ArcherNM\_34:

(Start: 26 @25064 has 35 MA's), (33, 25085), (48, 25175), (50, 25184), (71, 25271), (79, 25307), (81, 25319), (83, 25331), (139, 25487), (145, 25508), (149, 25520), (178, 25586), (197, 25676), (199, 25694), (203, 25718), (230, 25862), (240, 25919), (246, 25958), (259, 26015), (263, 26048), (275, 26105), (287, 26159), (302, 26228), (324, 26351), (329, 26375), (334, 26390), (374, 26525), (380, 26546), (414, 26639), (443, 26720), (459, 26780), (468, 26825),

Gene: Arturo\_30 Start: 23069, Stop: 24925, Start Num: 21

Candidate Starts for Arturo\_30:

(Start: 21 @23069 has 162 MA's), (48, 23195), (Start: 53 @23219 has 1 MA's), (78, 23324), (79, 23330), (86, 23378), (89, 23387), (98, 23429), (122, 23474), (132, 23480), (168, 23585), (171, 23597), (183, 23660), (186, 23675), (199, 23744), (240, 23972), (243, 23996), (244, 23999), (250, 24026), (251, 24029), (269, 24134), (274, 24155), (275, 24164), (298, 24269), (306, 24308), (312, 24353), (329, 24452), (386, 24638), (389, 24644), (404, 24689), (420, 24740), (421, 24743), (445, 24806), (451, 24815), (467, 24902),

Gene: AugsMagnumOpus\_35 Start: 23269, Stop: 25026, Start Num: 20

Candidate Starts for AugsMagnumOpus\_35:

(Start: 20 @23269 has 81 MA's), (48, 23404), (64, 23470), (73, 23515), (81, 23551), (122, 23683), (139, 23719), (145, 23740), (181, 23797), (194, 23857), (208, 23911), (215, 23971), (238, 24091), (239, 24094), (254, 24163), (258, 24187), (275, 24280), (279, 24301), (291, 24346), (365, 24676), (389, 24745), (412, 24808), (462, 24979),

Gene: AvatarAhPeg\_32 Start: 23239, Stop: 25098, Start Num: 21

Candidate Starts for AvatarAhPeg\_32:

(Start: 21 @23239 has 162 MA's), (37, 23305), (Start: 53 @23389 has 1 MA's), (57, 23407), (68, 23452), (79, 23500), (89, 23557), (98, 23599), (132, 23650), (138, 23671), (146, 23704), (168, 23755), (171, 23767), (180, 23821), (186, 23845), (199, 23914), (240, 24142), (244, 24169), (250, 24196), (251, 24199), (269, 24307), (274, 24328), (275, 24337), (291, 24406), (298, 24442), (306, 24481), (314, 24550), (349, 24688), (386, 24811), (389, 24817), (445, 24979), (451, 24988),

Gene: Avle17\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Avle17\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: B1\_29 Start: 22527, Stop: 24386, Start Num: 19

Candidate Starts for B1\_29:

(Start: 19 @22527 has 31 MA's), (47, 22653), (50, 22671), (Start: 53 @22686 has 1 MA's), (64, 22728), (78, 22791), (131, 22944), (132, 22947), (138, 22968), (144, 22995), (171, 23070), (179, 23121), (197, 23208), (203, 23250), (246, 23490), (259, 23547), (263, 23580), (284, 23673), (289, 23697), (310, 23802), (320, 23868), (324, 23883), (372, 24054), (412, 24159), (427, 24213), (443, 24252), (459, 24306), (463, 24333), (467, 24357),

Gene: Baby16\_31 Start: 22969, Stop: 24825, Start Num: 21

Candidate Starts for Baby16\_31:

(Start: 21 @22969 has 162 MA's), (48, 23095), (Start: 53 @23119 has 1 MA's), (78, 23224), (79, 23230), (86, 23278), (89, 23287), (98, 23329), (122, 23374), (132, 23380), (168, 23485), (171, 23497), (186, 23575), (199, 23644), (240, 23872), (243, 23896), (244, 23899), (250, 23926), (251, 23929), (269, 24034), (275, 24064), (278, 24079), (298, 24169), (306, 24208), (312, 24253), (350, 24421), (386, 24538), (389, 24544), (404, 24589), (420, 24640), (421, 24643), (445, 24706), (451, 24715), (467, 24802),

Gene: BabyBack\_33 Start: 24351, Stop: 26132, Start Num: 26

Candidate Starts for BabyBack\_33:

(Start: 26 @24351 has 35 MA's), (33, 24372), (48, 24462), (50, 24471), (51, 24477), (81, 24609), (83, 24621), (98, 24696), (149, 24810), (197, 24966), (199, 24984), (203, 25008), (223, 25122), (240, 25209), (246, 25248), (263, 25338), (268, 25359), (287, 25449), (300, 25500), (303, 25521), (329, 25665), (334, 25680), (374, 25815), (380, 25836), (389, 25857), (404, 25896), (410, 25914), (414, 25929), (426, 25968), (443, 26010), (454, 26040), (455, 26052), (467, 26109),

Gene: BabyJohn\_30 Start: 23109, Stop: 24968, Start Num: 19

Candidate Starts for BabyJohn\_30:

(Start: 19 @23109 has 31 MA's), (50, 23253), (64, 23310), (132, 23529), (136, 23547), (138, 23550), (144, 23577), (170, 23646), (171, 23652), (197, 23790), (199, 23808), (203, 23832), (246, 24072), (263, 24162), (302, 24342), (310, 24384), (320, 24450), (324, 24465), (372, 24636), (381, 24666), (427, 24795), (459, 24888), (463, 24915), (467, 24939), (468, 24945),

Gene: BabyRay\_31 Start: 23087, Stop: 24946, Start Num: 19

Candidate Starts for BabyRay\_31:

(Start: 19 @23087 has 31 MA's), (50, 23231), (Start: 53 @23246 has 1 MA's), (64, 23288), (78, 23351), (110, 23483), (132, 23507), (138, 23528), (144, 23555), (171, 23630), (197, 23768), (199, 23786), (200, 23789), (203, 23810), (246, 24050), (263, 24140), (284, 24233), (289, 24257), (310, 24362), (320, 24428), (324, 24443), (334, 24482), (372, 24614), (412, 24719), (427, 24773), (443, 24812), (459, 24866), (463, 24893), (467, 24917),

Gene: Bachome\_31 Start: 23388, Stop: 25376, Start Num: 12

Candidate Starts for Bachome\_31:

(Start: 12 @23388 has 11 MA's), (Start: 24 @23499 has 1 MA's), (28, 23508), (40, 23565), (41, 23580), (42, 23598), (44, 23610), (54, 23658), (59, 23676), (60, 23679), (85, 23799), (131, 23913), (135, 23934), (140, 23952), (149, 23985), (188, 24168), (195, 24198), (196, 24201), (225, 24375), (227, 24381), (231, 24405), (232, 24411), (248, 24486), (262, 24549), (273, 24591), (274, 24597), (299, 24720), (308, 24768), (310, 24777), (330, 24894), (332, 24897), (345, 24939), (354, 24981), (364, 25017), (381, 25071), (452, 25263), (461, 25320), (468, 25359), (472, 25368),

Gene: Backyardigan\_31 Start: 22981, Stop: 24840, Start Num: 21

Candidate Starts for Backyardigan\_31:

(14, 22921), (Start: 21 @22981 has 162 MA's), (37, 23047), (45, 23092), (47, 23098), (Start: 53 @23131 has 1 MA's), (57, 23149), (68, 23194), (70, 23200), (71, 23206), (89, 23299), (92, 23314), (122, 23386), (146, 23446), (168, 23497), (171, 23509), (186, 23587), (199, 23656), (218, 23779), (222, 23803), (240, 23884), (247, 23929), (250, 23938), (251, 23941), (274, 24070), (275, 24079), (285, 24121), (291, 24148), (298, 24184), (302, 24211), (306, 24223), (333, 24379), (386, 24553), (389, 24559), (404, 24604), (420, 24655), (421, 24658), (432, 24694), (451, 24730),

Gene: Bactobuster\_33 Start: 24863, Stop: 26638, Start Num: 21

Candidate Starts for Bactobuster\_33:

(17, 24824), (Start: 21 @24863 has 162 MA's), (48, 24974), (50, 24983), (65, 25040), (71, 25067), (89, 25160), (138, 25274), (145, 25304), (189, 25439), (197, 25472), (199, 25490), (203, 25514), (223, 25628), (231, 25676), (240, 25715), (246, 25754), (250, 25766), (259, 25811), (300, 26006), (303, 26027), (318, 26120), (334, 26186), (355, 26258), (374, 26321), (410, 26420), (414, 26435), (443, 26516), (459, 26576), (468, 26621),

Gene: Badger\_31 Start: 22970, Stop: 24829, Start Num: 21

Candidate Starts for Badger\_31:

(14, 22910), (Start: 21 @22970 has 162 MA's), (37, 23036), (45, 23081), (47, 23087), (Start: 53 @23120 has 1 MA's), (57, 23138), (68, 23183), (70, 23189), (71, 23195), (89, 23288), (92, 23303), (122, 23375), (146, 23435), (168, 23486), (171, 23498), (186, 23576), (199, 23645), (218, 23768), (222, 23792), (240, 23873), (247, 23918), (250, 23927), (251, 23930), (274, 24059), (275, 24068), (285, 24110), (291, 24137), (298, 24173), (302, 24200), (306, 24212), (333, 24368), (386, 24542), (389, 24548), (404, 24593), (420, 24644), (421, 24647), (432, 24683), (451, 24719),

Gene: Baehexic\_32 Start: 23237, Stop: 25444, Start Num: 1

Candidate Starts for Baehexic\_32:

(Start: 1 @23237 has 9 MA's), (4, 23351), (5, 23360), (6, 23366), (7, 23387), (9, 23423), (15, 23498), (29, 23588), (32, 23600), (69, 23777), (76, 23816), (91, 23912), (171, 24125), (178, 24173), (197, 24263), (201, 24293), (203, 24305), (246, 24545), (263, 24644), (268, 24665), (287, 24755), (289, 24761), (291, 24767), (300, 24806), (303, 24827), (309, 24863), (310, 24866), (320, 24932), (381, 25148), (400, 25196), (422, 25259), (447, 25319), (459, 25367), (468, 25421),

Gene: BangNhom\_31 Start: 23274, Stop: 25130, Start Num: 21

Candidate Starts for BangNhom\_31:

(Start: 21 @23274 has 162 MA's), (48, 23400), (Start: 53 @23424 has 1 MA's), (78, 23529), (79, 23535), (86, 23583), (98, 23634), (132, 23685), (168, 23790), (171, 23802), (186, 23880), (199, 23949), (229, 24117), (233, 24147), (240, 24177), (243, 24201), (244, 24204), (250, 24231), (251, 24234), (269, 24339), (274, 24360), (275, 24369), (306, 24513), (312, 24558), (349, 24720), (386, 24843), (404, 24894), (445, 25011), (451, 25020), (467, 25107),

Gene: Bartimeaus\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Bartimeaus\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Beauxregard13\_33 Start: 23277, Stop: 25034, Start Num: 20

Candidate Starts for Beauxregard13\_33:

(Start: 20 @23277 has 81 MA's), (48, 23412), (64, 23478), (73, 23523), (81, 23559), (122, 23691), (139, 23727), (145, 23748), (181, 23805), (194, 23865), (208, 23919), (215, 23979), (238, 24099), (239, 24102), (254, 24171), (258, 24195), (275, 24288), (279, 24309), (291, 24354), (365, 24684), (389, 24753), (412, 24816), (462, 24987),

Gene: Beemo\_33 Start: 24411, Stop: 26177, Start Num: 22

Candidate Starts for Beemo\_33:

(Start: 22 @24411 has 28 MA's), (27, 24423), (64, 24597), (83, 24687), (95, 24732), (97, 24741), (139, 24819), (146, 24843), (166, 24879), (197, 25008), (199, 25026), (240, 25251), (243, 25272), (246, 25290), (263, 25380), (275, 25437), (302, 25560), (324, 25683), (334, 25722), (350, 25779), (374, 25860), (380, 25881), (381, 25884), (410, 25959), (414, 25974), (454, 26085), (468, 26160),

Gene: BellusTerra\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for BellusTerra\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (310, 24223), (312, 24241), (329, 24340), (386, 24526), (404, 24577), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: BiancaTri92\_33 Start: 24557, Stop: 26335, Start Num: 21

Candidate Starts for BiancaTri92\_33:

(Start: 21 @24557 has 162 MA's), (48, 24668), (50, 24677), (65, 24737), (71, 24764), (79, 24800), (139, 24980), (145, 25001), (149, 25013), (191, 25148), (197, 25169), (199, 25187), (203, 25211), (221, 25319), (235, 25385), (246, 25451), (259, 25508), (263, 25541), (275, 25598), (320, 25829), (329, 25868), (334, 25883), (374, 26018), (381, 26042), (384, 26048), (410, 26117), (414, 26132), (426, 26171), (443, 26213), (468, 26318),

Gene: Bigflo\_33 Start: 23276, Stop: 25033, Start Num: 20

Candidate Starts for Bigflo\_33:

(Start: 20 @23276 has 81 MA's), (48, 23411), (64, 23477), (73, 23522), (81, 23558), (122, 23690), (139, 23726), (145, 23747), (181, 23804), (194, 23864), (208, 23918), (215, 23978), (238, 24098), (239, 24101), (254, 24170), (258, 24194), (275, 24287), (279, 24308), (291, 24353), (365, 24683), (389, 24752), (412, 24815), (462, 24986),

Gene: Blackmoor\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Blackmoor\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: BlueBird\_32 Start: 22838, Stop: 24697, Start Num: 19

Candidate Starts for BlueBird\_32:

(Start: 19 @22838 has 31 MA's), (50, 22982), (Start: 53 @22997 has 1 MA's), (64, 23039), (88, 23162), (100, 23210), (123, 23252), (132, 23258), (138, 23279), (197, 23519), (201, 23549), (212, 23597), (231, 23723), (240, 23762), (246, 23801), (259, 23858), (263, 23891), (300, 24053), (301, 24056), (310, 24113), (320, 24179), (324, 24194), (381, 24395), (426, 24521), (427, 24524), (457, 24605), (459, 24617), (463, 24644), (468, 24674),

Gene: BobSwaget\_34 Start: 24339, Stop: 26123, Start Num: 25

Candidate Starts for BobSwaget\_34:

(Start: 25 @24339 has 12 MA's), (33, 24363), (48, 24453), (50, 24462), (64, 24519), (178, 24867), (179, 24870), (197, 24957), (199, 24975), (203, 24999), (221, 25107), (240, 25200), (246, 25239), (263, 25329), (276, 25389), (287, 25440), (300, 25491), (303, 25512), (329, 25656), (334, 25671), (339, 25689), (380, 25827), (389, 25848), (414, 25920), (419, 25938), (426, 25959), (432, 25980), (443, 26001), (459, 26061), (468, 26106),

Gene: BogosyJay\_32 Start: 23933, Stop: 25699, Start Num: 22

Candidate Starts for BogosyJay\_32:

(Start: 22 @23933 has 28 MA's), (58, 24098), (64, 24119), (79, 24185), (81, 24197), (83, 24209), (95, 24254), (97, 24263), (100, 24272), (138, 24332), (139, 24341), (146, 24365), (166, 24401), (188, 24494), (197, 24530), (199, 24548), (240, 24773), (243, 24794), (246, 24812), (263, 24902), (275, 24959), (284, 24995), (302, 25082), (324, 25205), (329, 25229), (334, 25244), (350, 25301), (380, 25403), (381, 25406), (414, 25496), (454, 25607), (468, 25682),

Gene: Bombshell\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Bombshell\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Bowtie\_31 Start: 23397, Stop: 25388, Start Num: 12

Candidate Starts for Bowtie\_31:

(Start: 12 @23397 has 11 MA's), (Start: 24 @23508 has 1 MA's), (28, 23517), (40, 23574), (41, 23589), (42, 23607), (44, 23619), (54, 23667), (59, 23685), (60, 23688), (85, 23808), (131, 23922), (135, 23943), (140, 23961), (149, 23994), (188, 24177), (195, 24207), (196, 24210), (225, 24384), (227, 24390), (231, 24414), (232, 24420), (248, 24495), (262, 24558), (273, 24600), (274, 24606), (299, 24729), (308, 24777), (310, 24786), (330, 24903), (332, 24906), (345, 24948), (354, 24990), (364, 25026), (381, 25080), (398, 25131), (401, 25137), (405, 25143), (418, 25185), (452, 25275), (461, 25332), (468, 25371), (472, 25380),

Gene: Bradman\_30 Start: 21646, Stop: 23397, Start Num: 26

Candidate Starts for Bradman\_30:

(Start: 26 @21646 has 35 MA's), (33, 21667), (50, 21766), (Start: 53 @21781 has 1 MA's), (71, 21856), (83, 21916), (112, 22027), (134, 22060), (140, 22084), (142, 22090), (155, 22162), (176, 22237), (184, 22270), (188, 22300), (241, 22588), (267, 22708), (280, 22777), (323, 23008), (344, 23083), (348, 23095), (349, 23104), (358, 23143), (427, 23338), (437, 23365), (438, 23368), (444, 23380),

Gene: BreSam8\_33 Start: 23270, Stop: 25027, Start Num: 20

Candidate Starts for BreSam8\_33:

(Start: 20 @23270 has 81 MA's), (48, 23405), (64, 23471), (73, 23516), (81, 23552), (122, 23684), (139, 23720), (145, 23741), (181, 23798), (194, 23858), (208, 23912), (215, 23972), (238, 24092), (239, 24095), (254, 24164), (258, 24188), (275, 24281), (279, 24302), (291, 24347), (365, 24677), (389, 24746), (412, 24809), (462, 24980),

Gene: Broseidon\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Broseidon\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (301, 24172), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Bruiser\_30 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Bruiser\_30:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: BubbleTrouble\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for BubbleTrouble\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Bugatti\_31 Start: 22838, Stop: 24697, Start Num: 19

Candidate Starts for Bugatti\_31:

(Start: 19 @22838 has 31 MA's), (50, 22982), (Start: 53 @22997 has 1 MA's), (64, 23039), (88, 23162), (100, 23210), (123, 23252), (132, 23258), (138, 23279), (197, 23519), (201, 23549), (212, 23597), (231, 23723), (240, 23762), (246, 23801), (259, 23858), (263, 23891), (300, 24053), (301, 24056), (310, 24113), (320, 24179), (324, 24194), (381, 24395), (426, 24521), (427, 24524), (457, 24605), (459, 24617), (463, 24644), (468, 24674),

Gene: Buggy\_33 Start: 23267, Stop: 25489, Start Num: 1

Candidate Starts for Buggy\_33:

(Start: 1 @23267 has 9 MA's), (4, 23381), (5, 23390), (6, 23396), (11, 23480), (29, 23618), (36, 23642), (43, 23696), (76, 23846), (91, 23942), (102, 23978), (104, 23987), (197, 24293), (203, 24335), (246, 24575), (263, 24674), (268, 24695), (279, 24752), (289, 24791), (291, 24797), (309, 24893), (310,

24896), (320, 24962), (344, 25046), (363, 25118), (400, 25238), (439, 25349), (457, 25400), (459, 25412),

Gene: Bumblebee11\_31 Start: 22972, Stop: 24831, Start Num: 21

Candidate Starts for Bumblebee11\_31:

(14, 22912), (Start: 21 @22972 has 162 MA's), (37, 23038), (45, 23083), (47, 23089), (Start: 53 @23122 has 1 MA's), (57, 23140), (68, 23185), (70, 23191), (71, 23197), (89, 23290), (92, 23305), (122, 23377), (146, 23437), (168, 23488), (171, 23500), (186, 23578), (199, 23647), (218, 23770), (222, 23794), (240, 23875), (247, 23920), (250, 23929), (251, 23932), (274, 24061), (275, 24070), (285, 24112), (291, 24139), (298, 24175), (302, 24202), (306, 24214), (333, 24370), (386, 24544), (389, 24550), (404, 24595), (420, 24646), (421, 24649), (432, 24685), (451, 24721),

Gene: Burger\_30 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Burger\_30:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: BuzzBuzz\_32 Start: 23364, Stop: 25115, Start Num: 20

Candidate Starts for BuzzBuzz\_32:

(Start: 20 @23364 has 81 MA's), (48, 23499), (64, 23565), (73, 23610), (81, 23646), (108, 23757), (122, 23778), (139, 23814), (145, 23835), (194, 23952), (220, 24090), (238, 24186), (239, 24189), (254, 24258), (258, 24282), (266, 24327), (275, 24375), (291, 24441), (321, 24612), (323, 24618), (336, 24669), (350, 24714), (359, 24744), (374, 24792), (389, 24834), (393, 24849), (395, 24852), (404, 24876), (436, 24978), (437, 24981), (451, 25005),

Gene: Bxz2\_32 Start: 23371, Stop: 25122, Start Num: 20

Candidate Starts for Bxz2\_32:

(Start: 20 @23371 has 81 MA's), (48, 23506), (64, 23572), (73, 23617), (81, 23653), (108, 23764), (122, 23785), (139, 23821), (145, 23842), (194, 23959), (220, 24097), (238, 24193), (239, 24196), (254, 24265), (258, 24289), (266, 24334), (275, 24382), (291, 24448), (321, 24619), (323, 24625), (336, 24676), (350, 24721), (359, 24751), (374, 24799), (389, 24841), (393, 24856), (395, 24859), (404, 24883), (436, 24985), (437, 24988), (451, 25012),

Gene: C3\_29 Start: 22703, Stop: 24556, Start Num: 26

Candidate Starts for C3\_29:

(Start: 23 @22697 has 4 MA's), (Start: 26 @22703 has 35 MA's), (50, 22823), (71, 22913), (83, 22973), (86, 22997), (93, 23024), (134, 23117), (140, 23141), (142, 23147), (168, 23249), (241, 23654), (258, 23723), (294, 23891), (308, 23978), (323, 24074), (362, 24221), (405, 24335), (426, 24404), (434, 24428), (450, 24458), (453, 24473),

Gene: Caelakin\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Caelakin\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),



Gene: Calvinny\_34 Start: 23361, Stop: 25169, Start Num: 20

Candidate Starts for Calvinny\_34:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (81, 23643), (100, 23733), (110, 23757), (138, 23802), (145, 23832), (197, 24000), (199, 24018), (203, 24042), (231, 24204), (240, 24243), (246, 24282), (263, 24372), (300, 24534), (303, 24555), (317, 24642), (329, 24699), (334, 24714), (352, 24777), (374, 24852), (380, 24873), (414, 24966), (426, 25005), (443, 25047), (467, 25146),

Gene: Camperdownii\_30 Start: 22579, Stop: 24435, Start Num: 21

Candidate Starts for Camperdownii\_30:

(Start: 21 @22579 has 162 MA's), (48, 22705), (Start: 53 @22729 has 1 MA's), (78, 22834), (79, 22840), (86, 22888), (98, 22939), (132, 22990), (168, 23095), (171, 23107), (186, 23185), (199, 23254), (229, 23422), (233, 23452), (240, 23482), (244, 23509), (250, 23536), (251, 23539), (269, 23644), (274, 23665), (275, 23674), (298, 23779), (306, 23818), (310, 23845), (312, 23863), (313, 23866), (333, 23974), (350, 24031), (386, 24148), (389, 24154), (445, 24316), (451, 24325),

Gene: Caraxes\_30 Start: 21397, Stop: 22950, Start Num: 26

Candidate Starts for Caraxes\_30:

(Start: 23 @21391 has 4 MA's), (Start: 26 @21397 has 35 MA's), (50, 21517), (57, 21550), (58, 21553), (65, 21580), (84, 21667), (134, 21754), (167, 21856), (267, 22384), (268, 22390), (274, 22420), (280, 22453), (283, 22465), (302, 22558), (308, 22588), (323, 22684), (344, 22756), (361, 22822), (365, 22834), (383, 22879),

Gene: Catalina\_34 Start: 24377, Stop: 26143, Start Num: 22

Candidate Starts for Catalina\_34:

(Start: 22 @24377 has 28 MA's), (27, 24389), (64, 24563), (83, 24653), (95, 24698), (97, 24707), (139, 24785), (146, 24809), (166, 24845), (197, 24974), (199, 24992), (240, 25217), (243, 25238), (246, 25256), (263, 25346), (275, 25403), (302, 25526), (324, 25649), (334, 25688), (350, 25745), (374, 25826), (380, 25847), (381, 25850), (414, 25940), (454, 26051), (468, 26126),

Gene: Caviar\_32 Start: 23373, Stop: 25232, Start Num: 19

Candidate Starts for Caviar\_32:

(Start: 19 @23373 has 31 MA's), (50, 23517), (54, 23535), (64, 23574), (68, 23595), (78, 23637), (81, 23655), (138, 23814), (144, 23841), (174, 23946), (179, 23967), (197, 24054), (203, 24096), (246, 24336), (263, 24426), (275, 24483), (310, 24648), (318, 24702), (320, 24714), (324, 24729), (360, 24858), (363, 24870), (381, 24930), (386, 24942), (406, 24987), (412, 25005), (459, 25152), (463, 25179), (468, 25209),

Gene: Centaur\_33 Start: 23215, Stop: 25422, Start Num: 1

Candidate Starts for Centaur\_33:

(Start: 1 @23215 has 9 MA's), (4, 23329), (5, 23338), (6, 23344), (7, 23365), (9, 23401), (15, 23476), (29, 23566), (32, 23578), (69, 23755), (76, 23794), (91, 23890), (171, 24103), (178, 24151), (197, 24241), (201, 24271), (203, 24283), (246, 24523), (263, 24622), (268, 24643), (287, 24733), (289, 24739), (291, 24745), (300, 24784), (303, 24805), (309, 24841), (310, 24844), (320, 24910), (381, 25126), (400, 25174), (422, 25237), (447, 25297), (459, 25345), (468, 25399),

Gene: CentreCat\_31 Start: 22961, Stop: 24817, Start Num: 21

Candidate Starts for CentreCat\_31:

(Start: 21 @22961 has 162 MA's), (48, 23087), (Start: 53 @23111 has 1 MA's), (78, 23216), (79, 23222), (86, 23270), (89, 23279), (98, 23321), (122, 23366), (132, 23372), (168, 23477), (171, 23489), (186, 23567), (199, 23636), (240, 23864), (243, 23888), (244, 23891), (250, 23918), (251, 23921), (269, 24026), (275, 24056), (278, 24071), (298, 24161), (306, 24200), (312, 24245), (350, 24413), (386, 24530), (389, 24536), (404, 24581), (420, 24632), (421, 24635), (445, 24698), (451, 24707),

(467, 24794),

Gene: Cerulean\_32 Start: 23275, Stop: 25131, Start Num: 21

Candidate Starts for Cerulean\_32:

(Start: 21 @23275 has 162 MA's), (48, 23401), (Start: 53 @23425 has 1 MA's), (78, 23530), (79, 23536), (86, 23584), (98, 23635), (132, 23686), (168, 23791), (171, 23803), (186, 23881), (199, 23950), (229, 24118), (233, 24148), (240, 24178), (243, 24202), (244, 24205), (250, 24232), (251, 24235), (269, 24340), (274, 24361), (275, 24370), (306, 24514), (312, 24559), (349, 24721), (386, 24844), (404, 24895), (445, 25012), (451, 25021), (467, 25108),

Gene: ChampagnePapi\_32 Start: 23274, Stop: 25130, Start Num: 21

Candidate Starts for ChampagnePapi\_32:

(Start: 21 @23274 has 162 MA's), (48, 23400), (Start: 53 @23424 has 1 MA's), (78, 23529), (79, 23535), (86, 23583), (98, 23634), (132, 23685), (168, 23790), (171, 23802), (186, 23880), (199, 23949), (240, 24177), (243, 24201), (244, 24204), (250, 24231), (251, 24234), (269, 24339), (275, 24369), (278, 24384), (298, 24474), (306, 24513), (312, 24558), (350, 24726), (386, 24843), (404, 24894), (445, 25011), (451, 25020), (467, 25107),

Gene: Changeling\_34 Start: 25115, Stop: 26890, Start Num: 26

Candidate Starts for Changeling\_34:

(13, 25016), (Start: 26 @25115 has 35 MA's), (48, 25226), (50, 25235), (71, 25319), (79, 25355), (81, 25367), (83, 25379), (110, 25481), (132, 25505), (145, 25556), (149, 25568), (191, 25703), (197, 25724), (199, 25742), (203, 25766), (240, 25967), (246, 26006), (259, 26063), (263, 26096), (275, 26153), (287, 26207), (302, 26276), (320, 26384), (324, 26399), (334, 26438), (380, 26594), (414, 26687), (443, 26768), (459, 26828), (468, 26873),

Gene: Chaph\_31 Start: 22969, Stop: 24825, Start Num: 21

Candidate Starts for Chaph\_31:

(Start: 21 @22969 has 162 MA's), (48, 23095), (Start: 53 @23119 has 1 MA's), (78, 23224), (79, 23230), (86, 23278), (89, 23287), (98, 23329), (122, 23374), (132, 23380), (168, 23485), (171, 23497), (186, 23575), (199, 23644), (240, 23872), (243, 23896), (244, 23899), (250, 23926), (251, 23929), (269, 24034), (275, 24064), (278, 24079), (298, 24169), (306, 24208), (312, 24253), (350, 24421), (386, 24538), (389, 24544), (404, 24589), (420, 24640), (421, 24643), (445, 24706), (451, 24715), (467, 24802),

Gene: Chargerpower\_32 Start: 22051, Stop: 23787, Start Num: 90

Candidate Starts for Chargerpower\_32:

(Start: 90 @22051 has 1 MA's), (130, 22222), (133, 22243), (137, 22255), (154, 22333), (163, 22432), (173, 22492), (207, 22666), (217, 22750), (245, 22894), (261, 22978), (297, 23167), (350, 23404), (377, 23494), (380, 23509), (425, 23647), (429, 23656), (433, 23671), (450, 23704),

Gene: Charm\_31 Start: 22329, Stop: 24071, Start Num: 25

Candidate Starts for Charm\_31:

(Start: 25 @22329 has 12 MA's), (27, 22335), (57, 22485), (65, 22515), (77, 22566), (88, 22632), (102, 22680), (113, 22704), (129, 22779), (162, 22893), (187, 23004), (200, 23070), (216, 23184), (221, 23220), (237, 23301), (245, 23340), (264, 23454), (267, 23466), (297, 23613), (299, 23628), (307, 23673), (364, 23925), (374, 23958), (375, 23961), (388, 23997), (410, 24060),

Gene: Che12\_33 Start: 21672, Stop: 23324, Start Num: 26

Candidate Starts for Che12\_33:

(Start: 26 @21672 has 35 MA's), (48, 21783), (56, 21819), (79, 21918), (83, 21942), (140, 22110), (142, 22116), (244, 22626), (267, 22737), (283, 22818), (302, 22911), (308, 22941), (323, 23037), (344, 23109), (366, 23196), (374, 23208),

Gene: Chiqui\_30 Start: 23109, Stop: 24977, Start Num: 19

Candidate Starts for Chiqui\_30:

(Start: 19 @23109 has 31 MA's), (50, 23253), (64, 23310), (132, 23538), (136, 23556), (138, 23559), (144, 23586), (170, 23655), (171, 23661), (197, 23799), (199, 23817), (203, 23841), (246, 24081), (263, 24171), (302, 24351), (310, 24393), (320, 24459), (324, 24474), (372, 24645), (381, 24675), (427, 24804), (459, 24897), (463, 24924), (467, 24948), (468, 24954),

Gene: Chupacabra\_32 Start: 23269, Stop: 25104, Start Num: 21

Candidate Starts for Chupacabra\_32:

(Start: 21 @23269 has 162 MA's), (30, 23302), (35, 23317), (100, 23629), (110, 23653), (114, 23671), (115, 23674), (116, 23677), (117, 23698), (119, 23725), (197, 23938), (199, 23956), (203, 23980), (228, 24115), (230, 24124), (246, 24220), (259, 24277), (263, 24310), (287, 24421), (302, 24490), (320, 24598), (324, 24613), (334, 24652), (336, 24658), (355, 24724), (374, 24787), (380, 24808), (381, 24811), (384, 24817), (389, 24829), (410, 24886), (414, 24901), (416, 24910), (443, 24982), (459, 25042), (468, 25087), (469, 25090),

Gene: Cici\_31 Start: 22966, Stop: 24825, Start Num: 21

Candidate Starts for Cici\_31:

(14, 22906), (Start: 21 @22966 has 162 MA's), (37, 23032), (45, 23077), (47, 23083), (Start: 53 @23116 has 1 MA's), (57, 23134), (68, 23179), (70, 23185), (71, 23191), (89, 23284), (92, 23299), (122, 23371), (146, 23431), (168, 23482), (171, 23494), (186, 23572), (199, 23641), (218, 23764), (222, 23788), (240, 23869), (247, 23914), (250, 23923), (251, 23926), (274, 24055), (275, 24064), (285, 24106), (291, 24133), (298, 24169), (302, 24196), (306, 24208), (333, 24364), (386, 24538), (389, 24544), (404, 24589), (420, 24640), (421, 24643), (432, 24679), (451, 24715),

Gene: Cindaradix\_30 Start: 22690, Stop: 24546, Start Num: 21

Candidate Starts for Cindaradix\_30:

(Start: 21 @22690 has 162 MA's), (Start: 53 @22840 has 1 MA's), (57, 22858), (61, 22870), (68, 22903), (71, 22915), (79, 22951), (89, 23008), (92, 23023), (146, 23155), (168, 23206), (171, 23218), (186, 23296), (189, 23317), (199, 23365), (240, 23593), (250, 23647), (251, 23650), (269, 23755), (274, 23776), (275, 23785), (298, 23890), (333, 24085), (350, 24142), (386, 24259), (389, 24265), (451, 24436),

Gene: Cintron\_31 Start: 23005, Stop: 24864, Start Num: 21

Candidate Starts for Cintron\_31:

(Start: 21 @23005 has 162 MA's), (48, 23131), (Start: 53 @23155 has 1 MA's), (78, 23260), (79, 23266), (86, 23314), (89, 23323), (98, 23365), (122, 23410), (132, 23416), (168, 23521), (171, 23533), (186, 23611), (199, 23680), (229, 23848), (240, 23908), (243, 23932), (244, 23935), (250, 23962), (251, 23965), (269, 24070), (275, 24100), (278, 24115), (298, 24205), (306, 24244), (310, 24271), (312, 24289), (389, 24580), (414, 24658), (417, 24670), (420, 24676), (432, 24715), (445, 24742), (449, 24748), (467, 24841),

Gene: Citius\_31 Start: 22975, Stop: 24831, Start Num: 21

Candidate Starts for Citius\_31:

(Start: 21 @22975 has 162 MA's), (48, 23101), (Start: 53 @23125 has 1 MA's), (78, 23230), (79, 23236), (86, 23284), (98, 23335), (122, 23380), (132, 23386), (168, 23491), (171, 23503), (186, 23581), (199, 23650), (240, 23878), (243, 23902), (244, 23905), (250, 23932), (251, 23935), (269, 24040), (275, 24070), (278, 24085), (298, 24175), (306, 24214), (312, 24259), (350, 24427), (386, 24544), (389, 24550), (404, 24595), (420, 24646), (421, 24649), (445, 24712), (451, 24721), (467, 24808),

Gene: Clarenza\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Clarenza\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Cocoaberry\_31 Start: 22964, Stop: 24820, Start Num: 21

Candidate Starts for Cocoaberry\_31:

(Start: 21 @22964 has 162 MA's), (48, 23090), (Start: 53 @23114 has 1 MA's), (78, 23219), (79, 23225), (86, 23273), (89, 23282), (98, 23324), (122, 23369), (132, 23375), (168, 23480), (171, 23492), (186, 23570), (199, 23639), (240, 23867), (243, 23891), (244, 23894), (250, 23921), (251, 23924), (269, 24029), (274, 24050), (275, 24059), (298, 24164), (306, 24203), (312, 24248), (349, 24410), (350, 24416), (386, 24533), (389, 24539), (404, 24584), (420, 24635), (421, 24638), (445, 24701), (451, 24710), (467, 24797),

Gene: Colbster\_33 Start: 23277, Stop: 25034, Start Num: 20

Candidate Starts for Colbster\_33:

(Start: 20 @23277 has 81 MA's), (48, 23412), (64, 23478), (73, 23523), (81, 23559), (122, 23691), (139, 23727), (145, 23748), (181, 23805), (194, 23865), (208, 23919), (215, 23979), (238, 24099), (239, 24102), (254, 24171), (258, 24195), (275, 24288), (279, 24309), (291, 24354), (365, 24684), (389, 24753), (412, 24816), (462, 24987),

Gene: Colin\_35 Start: 24479, Stop: 26257, Start Num: 22

Candidate Starts for Colin\_35:

(Start: 22 @24479 has 28 MA's), (48, 24593), (50, 24602), (81, 24734), (178, 25001), (197, 25091), (199, 25109), (203, 25133), (240, 25334), (246, 25373), (263, 25463), (275, 25520), (287, 25574), (302, 25643), (323, 25760), (334, 25805), (339, 25823), (374, 25940), (380, 25961), (389, 25982), (414, 26054), (443, 26135), (454, 26165), (459, 26195), (468, 26240),

Gene: Commander\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Commander\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Connomayer\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Connomayer\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Conquerage\_33 Start: 24407, Stop: 26173, Start Num: 22

Candidate Starts for Conquerage\_33:

(Start: 22 @24407 has 28 MA's), (64, 24593), (83, 24683), (95, 24728), (97, 24737), (139, 24815), (146, 24839), (166, 24875), (197, 25004), (199, 25022), (240, 25247), (243, 25268), (246, 25286),

(263, 25376), (275, 25433), (302, 25556), (324, 25679), (334, 25718), (350, 25775), (374, 25856), (380, 25877), (381, 25880), (414, 25970), (454, 26081), (468, 26156),

Gene: Cullens\_33 Start: 23276, Stop: 25033, Start Num: 20

Candidate Starts for Cullens\_33:

(Start: 20 @23276 has 81 MA's), (48, 23411), (64, 23477), (73, 23522), (81, 23558), (122, 23690), (139, 23726), (145, 23747), (181, 23804), (194, 23864), (208, 23918), (215, 23978), (238, 24098), (239, 24101), (254, 24170), (258, 24194), (275, 24287), (279, 24308), (291, 24353), (365, 24683), (389, 24752), (412, 24815), (462, 24986),

Gene: D29\_31 Start: 22559, Stop: 24412, Start Num: 26

Candidate Starts for D29\_31:

(Start: 23 @22553 has 4 MA's), (Start: 26 @22559 has 35 MA's), (50, 22679), (71, 22769), (83, 22829), (93, 22880), (134, 22973), (140, 22997), (142, 23003), (241, 23510), (258, 23579), (274, 23666), (294, 23747), (405, 24191), (409, 24206), (426, 24260), (434, 24284), (438, 24293), (453, 24329),

Gene: D32\_34 Start: 22559, Stop: 24412, Start Num: 26

Candidate Starts for D32\_34:

(Start: 23 @22553 has 4 MA's), (Start: 26 @22559 has 35 MA's), (50, 22679), (71, 22769), (83, 22829), (93, 22880), (134, 22973), (140, 22997), (142, 23003), (241, 23510), (258, 23579), (274, 23666), (294, 23747), (405, 24191), (409, 24206), (426, 24260), (434, 24284), (438, 24293), (453, 24329),

Gene: DBQu4n\_34 Start: 22559, Stop: 24412, Start Num: 26

Candidate Starts for DBQu4n\_34:

(Start: 23 @22553 has 4 MA's), (Start: 26 @22559 has 35 MA's), (50, 22679), (71, 22769), (83, 22829), (93, 22880), (134, 22973), (140, 22997), (142, 23003), (241, 23510), (258, 23579), (274, 23666), (294, 23747), (305, 23813), (323, 23930), (387, 24149), (392, 24161), (405, 24191), (426, 24260), (434, 24284), (438, 24293), (453, 24329),

Gene: DaHudson\_33 Start: 23269, Stop: 25026, Start Num: 20

Candidate Starts for DaHudson\_33:

(Start: 20 @23269 has 81 MA's), (48, 23404), (64, 23470), (73, 23515), (81, 23551), (122, 23683), (139, 23719), (145, 23740), (181, 23797), (194, 23857), (208, 23911), (215, 23971), (238, 24091), (239, 24094), (254, 24163), (258, 24187), (275, 24280), (279, 24301), (291, 24346), (365, 24676), (389, 24745), (412, 24808), (462, 24979),

Gene: Daishi\_32 Start: 22205, Stop: 23956, Start Num: 20

Candidate Starts for Daishi\_32:

(Start: 20 @22205 has 81 MA's), (48, 22340), (64, 22406), (73, 22451), (81, 22487), (108, 22598), (122, 22619), (139, 22655), (145, 22676), (194, 22793), (220, 22931), (238, 23027), (239, 23030), (254, 23099), (258, 23123), (266, 23168), (275, 23216), (291, 23282), (321, 23453), (323, 23459), (336, 23510), (350, 23555), (359, 23585), (374, 23633), (389, 23675), (393, 23690), (395, 23693), (404, 23717), (436, 23819), (437, 23822), (451, 23846),

Gene: Darrell\_33 Start: 24371, Stop: 26137, Start Num: 22

Candidate Starts for Darrell\_33:

(Start: 22 @24371 has 28 MA's), (64, 24557), (79, 24623), (83, 24647), (95, 24692), (97, 24701), (138, 24770), (139, 24779), (166, 24839), (179, 24881), (189, 24935), (197, 24968), (199, 24986), (203, 25010), (205, 25016), (235, 25184), (240, 25211), (246, 25250), (263, 25340), (275, 25397), (302, 25520), (309, 25559), (324, 25643), (334, 25682), (374, 25820), (380, 25841), (381, 25844), (386, 25856), (404, 25901), (443, 26015), (454, 26045), (468, 26120),

Gene: Datway\_31 Start: 22981, Stop: 24840, Start Num: 21

Candidate Starts for Datway\_31:

(14, 22921), (Start: 21 @22981 has 162 MA's), (37, 23047), (45, 23092), (47, 23098), (Start: 53 @23131 has 1 MA's), (57, 23149), (68, 23194), (70, 23200), (71, 23206), (89, 23299), (92, 23314), (122, 23386), (146, 23446), (168, 23497), (171, 23509), (186, 23587), (199, 23656), (218, 23779), (222, 23803), (240, 23884), (247, 23929), (250, 23938), (251, 23941), (274, 24070), (275, 24079), (285, 24121), (291, 24148), (298, 24184), (302, 24211), (306, 24223), (333, 24379), (386, 24553), (389, 24559), (404, 24604), (420, 24655), (421, 24658), (432, 24694), (451, 24730),

Gene: Deano\_31 Start: 22968, Stop: 24824, Start Num: 21

Candidate Starts for Deano\_31:

(Start: 21 @22968 has 162 MA's), (48, 23094), (Start: 53 @23118 has 1 MA's), (78, 23223), (79, 23229), (86, 23277), (89, 23286), (98, 23328), (122, 23373), (132, 23379), (168, 23484), (171, 23496), (186, 23574), (199, 23643), (240, 23871), (243, 23895), (244, 23898), (250, 23925), (251, 23928), (269, 24033), (275, 24063), (278, 24078), (298, 24168), (306, 24207), (312, 24252), (350, 24420), (386, 24537), (389, 24543), (404, 24588), (420, 24639), (421, 24642), (445, 24705), (451, 24714), (467, 24801),

Gene: Dhanush\_31 Start: 22963, Stop: 24819, Start Num: 21

Candidate Starts for Dhanush\_31:

(Start: 21 @22963 has 162 MA's), (48, 23089), (Start: 53 @23113 has 1 MA's), (78, 23218), (79, 23224), (86, 23272), (89, 23281), (98, 23323), (122, 23368), (132, 23374), (168, 23479), (171, 23491), (186, 23569), (199, 23638), (240, 23866), (243, 23890), (244, 23893), (250, 23920), (251, 23923), (269, 24028), (275, 24058), (278, 24073), (298, 24163), (306, 24202), (312, 24247), (350, 24415), (386, 24532), (389, 24538), (404, 24583), (420, 24634), (421, 24637), (445, 24700), (451, 24709), (467, 24796),

Gene: Dieselweasel\_33 Start: 23278, Stop: 25035, Start Num: 20

Candidate Starts for Dieselweasel\_33:

(Start: 20 @23278 has 81 MA's), (48, 23413), (64, 23479), (73, 23524), (81, 23560), (122, 23692), (139, 23728), (145, 23749), (181, 23806), (194, 23866), (208, 23920), (215, 23980), (238, 24100), (239, 24103), (254, 24172), (258, 24196), (275, 24289), (279, 24310), (291, 24355), (365, 24685), (389, 24754), (412, 24817), (462, 24988),

Gene: DirtyDunning\_31 Start: 22953, Stop: 24809, Start Num: 21

Candidate Starts for DirtyDunning\_31:

(Start: 21 @22953 has 162 MA's), (48, 23079), (Start: 53 @23103 has 1 MA's), (78, 23208), (79, 23214), (86, 23262), (89, 23271), (98, 23313), (122, 23358), (132, 23364), (168, 23469), (171, 23481), (183, 23544), (186, 23559), (199, 23628), (229, 23796), (240, 23856), (244, 23883), (250, 23910), (251, 23913), (269, 24018), (274, 24039), (275, 24048), (298, 24153), (312, 24237), (329, 24336), (386, 24522), (389, 24528), (404, 24573), (420, 24624), (421, 24627), (445, 24690), (451, 24699), (467, 24786),

Gene: DontArgue\_31 Start: 21656, Stop: 23866, Start Num: 21

Candidate Starts for DontArgue\_31:

(Start: 21 @21656 has 162 MA's), (30, 21689), (63, 21839), (89, 21971), (110, 22040), (116, 22064), (117, 22085), (118, 22094), (120, 22118), (124, 22178), (126, 22241), (139, 22331), (158, 22466), (171, 22562), (174, 22592), (197, 22700), (198, 22709), (203, 22742), (206, 22751), (240, 22943), (243, 22964), (246, 22982), (259, 23039), (263, 23072), (275, 23129), (289, 23189), (300, 23234), (303, 23255), (304, 23258), (308, 23282), (318, 23348), (320, 23360), (329, 23399), (355, 23486), (381, 23573), (404, 23630), (410, 23648), (414, 23663), (426, 23702),

Gene: Drake94\_31 Start: 21398, Stop: 23680, Start Num: 21

Candidate Starts for Drake94\_31:

(Start: 21 @21398 has 162 MA's), (30, 21431), (47, 21515), (63, 21581), (89, 21713), (117, 21827), (118, 21836), (124, 21920), (127, 21995), (139, 22073), (152, 22148), (159, 22238), (169, 22364), (197, 22511), (199, 22529), (203, 22553), (240, 22754), (246, 22793), (263, 22883), (275, 22940), (287, 22994), (300, 23045), (303, 23066), (306, 23075), (308, 23093), (310, 23105), (329, 23210), (334, 23225), (336, 23231), (346, 23264), (374, 23363), (380, 23384), (381, 23387), (404, 23444), (410, 23462), (412, 23465), (414, 23477), (426, 23516), (443, 23558), (445, 23561), (468, 23663),

Gene: DreamTeam1\_31 Start: 22328, Stop: 23986, Start Num: 25

Candidate Starts for DreamTeam1\_31:

(Start: 25 @22328 has 12 MA's), (27, 22334), (57, 22484), (65, 22514), (77, 22565), (88, 22631), (102, 22679), (113, 22703), (129, 22778), (162, 22892), (216, 23183), (221, 23219), (245, 23339), (264, 23453), (297, 23612), (299, 23627), (308, 23681), (374, 23870),

Gene: DropBear\_31 Start: 22899, Stop: 24758, Start Num: 19

Candidate Starts for DropBear\_31:

(Start: 19 @22899 has 31 MA's), (47, 23025), (48, 23034), (64, 23100), (68, 23121), (78, 23163), (132, 23319), (144, 23367), (170, 23436), (171, 23442), (174, 23472), (197, 23580), (199, 23598), (203, 23622), (246, 23862), (263, 23952), (289, 24069), (310, 24174), (320, 24240), (324, 24255), (372, 24426), (412, 24531), (427, 24585), (443, 24624), (459, 24678), (463, 24705), (467, 24729),

Gene: Druantia\_31 Start: 22961, Stop: 24817, Start Num: 21

Candidate Starts for Druantia\_31:

(Start: 21 @22961 has 162 MA's), (48, 23087), (Start: 53 @23111 has 1 MA's), (78, 23216), (79, 23222), (86, 23270), (89, 23279), (98, 23321), (122, 23366), (132, 23372), (168, 23477), (171, 23489), (186, 23567), (199, 23636), (240, 23864), (243, 23888), (244, 23891), (250, 23918), (251, 23921), (269, 24026), (275, 24056), (278, 24071), (298, 24161), (306, 24200), (312, 24245), (350, 24413), (386, 24530), (389, 24536), (404, 24581), (420, 24632), (421, 24635), (445, 24698), (451, 24707), (467, 24794),

Gene: Duplo\_34 Start: 22597, Stop: 24450, Start Num: 26

Candidate Starts for Duplo\_34:

(Start: 23 @22591 has 4 MA's), (Start: 26 @22597 has 35 MA's), (50, 22717), (71, 22807), (83, 22867), (93, 22918), (134, 23011), (140, 23035), (142, 23041), (241, 23548), (258, 23617), (274, 23704), (294, 23785), (323, 23968), (387, 24187), (392, 24199), (405, 24229), (426, 24298), (434, 24322), (438, 24331), (453, 24367),

Gene: DustyMartin\_37 Start: 23534, Stop: 25366, Start Num: 21

Candidate Starts for DustyMartin\_37:

(Start: 21 @23534 has 162 MA's), (30, 23567), (63, 23717), (68, 23744), (110, 23918), (115, 23939), (116, 23942), (197, 24203), (199, 24221), (246, 24482), (259, 24539), (263, 24572), (287, 24683), (302, 24752), (318, 24848), (320, 24860), (324, 24875), (329, 24899), (334, 24914), (336, 24920), (343, 24944), (355, 24986), (368, 25031), (374, 25049), (381, 25073), (410, 25148), (414, 25163), (416, 25172), (426, 25202), (443, 25244), (468, 25349), (469, 25352),

Gene: EZMoney23\_35 Start: 24766, Stop: 26544, Start Num: 26

Candidate Starts for EZMoney23\_35:

(Start: 26 @24766 has 35 MA's), (33, 24787), (48, 24877), (50, 24886), (71, 24970), (83, 25030), (139, 25186), (178, 25285), (197, 25375), (199, 25393), (203, 25417), (240, 25618), (246, 25657), (263, 25747), (275, 25804), (324, 26050), (334, 26089), (350, 26146), (374, 26227), (380, 26248), (414, 26341), (443, 26422),

Gene: Eagle\_30 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Eagle\_30:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (229, 23803), (233, 23833), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (306, 24199), (312, 24244), (349, 24406), (386, 24529), (404, 24580), (445, 24697), (451, 24706), (467, 24793),

Gene: Eaglepride\_34 Start: 23450, Stop: 25285, Start Num: 21

Candidate Starts for Eaglepride\_34:

(Start: 21 @23450 has 162 MA's), (30, 23483), (31, 23486), (68, 23660), (81, 23720), (116, 23858), (117, 23879), (119, 23906), (171, 23981), (172, 23987), (179, 24032), (193, 24104), (197, 24119), (199, 24137), (243, 24383), (246, 24401), (259, 24458), (263, 24491), (268, 24512), (275, 24548), (287, 24602), (300, 24653), (303, 24674), (318, 24767), (324, 24794), (329, 24818), (334, 24833), (336, 24839), (374, 24968), (380, 24989), (381, 24992), (410, 25067), (414, 25082), (416, 25091), (426, 25121), (443, 25163), (454, 25193), (459, 25223), (468, 25268),

Gene: Eapen\_31 Start: 22959, Stop: 24815, Start Num: 21

Candidate Starts for Eapen\_31:

(Start: 21 @22959 has 162 MA's), (48, 23085), (Start: 53 @23109 has 1 MA's), (78, 23214), (79, 23220), (86, 23268), (98, 23319), (122, 23364), (132, 23370), (168, 23475), (171, 23487), (186, 23565), (199, 23634), (240, 23862), (243, 23886), (244, 23889), (250, 23916), (251, 23919), (269, 24024), (275, 24054), (278, 24069), (298, 24159), (306, 24198), (312, 24243), (350, 24411), (386, 24528), (389, 24534), (404, 24579), (420, 24630), (421, 24633), (445, 24696), (451, 24705), (467, 24792),

Gene: Edison31\_33 Start: 23483, Stop: 25318, Start Num: 21

Candidate Starts for Edison31\_33:

(Start: 21 @23483 has 162 MA's), (30, 23516), (68, 23693), (114, 23885), (116, 23891), (117, 23912), (119, 23939), (189, 24119), (197, 24152), (199, 24170), (203, 24194), (221, 24302), (235, 24368), (246, 24434), (259, 24491), (263, 24524), (275, 24581), (287, 24635), (292, 24650), (302, 24704), (320, 24812), (324, 24827), (329, 24851), (334, 24866), (368, 24983), (374, 25001), (380, 25022), (381, 25025), (410, 25100), (414, 25115), (443, 25196), (454, 25226), (459, 25256), (468, 25301), (469, 25304),

Gene: EdogawaKiddo\_31 Start: 24389, Stop: 26143, Start Num: 27

Candidate Starts for EdogawaKiddo\_31:

(Start: 22 @24377 has 28 MA's), (27, 24389), (64, 24563), (83, 24653), (95, 24698), (97, 24707), (139, 24785), (146, 24809), (166, 24845), (197, 24974), (199, 24992), (220, 25115), (240, 25217), (243, 25238), (246, 25256), (263, 25346), (275, 25403), (302, 25526), (324, 25649), (334, 25688), (350, 25745), (374, 25826), (380, 25847), (381, 25850), (410, 25925), (414, 25940), (454, 26051), (468, 26126),

Gene: Eidsmoe\_33 Start: 24443, Stop: 26209, Start Num: 22

Candidate Starts for Eidsmoe\_33:

(Start: 22 @24443 has 28 MA's), (64, 24629), (83, 24719), (95, 24764), (97, 24773), (139, 24851), (146, 24875), (166, 24911), (197, 25040), (199, 25058), (240, 25283), (243, 25304), (246, 25322), (263, 25412), (275, 25469), (302, 25592), (324, 25715), (334, 25754), (350, 25811), (374, 25892), (380, 25913), (381, 25916), (414, 26006), (454, 26117), (468, 26192),

Gene: Elephantoon\_32 Start: 23816, Stop: 25582, Start Num: 22

Candidate Starts for Elephantoon\_32:

(Start: 22 @23816 has 28 MA's), (64, 24002), (83, 24092), (95, 24137), (97, 24146), (138, 24215), (139, 24224), (146, 24248), (166, 24284), (179, 24326), (189, 24380), (197, 24413), (199, 24431), (203, 24455), (205, 24461), (235, 24629), (240, 24656), (246, 24695), (263, 24785), (275, 24842),



(291, 24908), (302, 24965), (309, 25004), (324, 25088), (334, 25127), (374, 25265), (380, 25286), (381, 25289), (414, 25379), (443, 25460), (468, 25565),

Gene: EmyBug\_33 Start: 24443, Stop: 26209, Start Num: 22

Candidate Starts for EmyBug\_33:

(Start: 22 @24443 has 28 MA's), (64, 24629), (83, 24719), (95, 24764), (97, 24773), (139, 24851), (146, 24875), (166, 24911), (197, 25040), (199, 25058), (240, 25283), (243, 25304), (246, 25322), (263, 25412), (275, 25469), (302, 25592), (324, 25715), (334, 25754), (350, 25811), (374, 25892), (380, 25913), (381, 25916), (414, 26006), (454, 26117), (468, 26192),

Gene: EpicPhail\_33 Start: 23277, Stop: 25034, Start Num: 20

Candidate Starts for EpicPhail\_33:

(Start: 20 @23277 has 81 MA's), (48, 23412), (64, 23478), (73, 23523), (81, 23559), (122, 23691), (139, 23727), (145, 23748), (181, 23805), (194, 23865), (208, 23919), (215, 23979), (238, 24099), (239, 24102), (254, 24171), (258, 24195), (275, 24288), (279, 24309), (291, 24354), (365, 24684), (389, 24753), (412, 24816), (462, 24987),

Gene: Equemioh13\_33 Start: 23218, Stop: 25425, Start Num: 1

Candidate Starts for Equemioh13\_33:

(Start: 1 @23218 has 9 MA's), (4, 23332), (5, 23341), (6, 23347), (7, 23368), (15, 23479), (29, 23569), (32, 23581), (69, 23758), (76, 23797), (91, 23893), (178, 24154), (197, 24244), (201, 24274), (203, 24286), (239, 24484), (263, 24625), (268, 24646), (287, 24736), (289, 24742), (291, 24748), (300, 24787), (303, 24808), (309, 24844), (310, 24847), (320, 24913), (324, 24928), (325, 24931), (329, 24952), (339, 24985), (381, 25129), (400, 25177), (422, 25240), (447, 25300), (459, 25348), (468, 25402),

Gene: Eris\_30 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Eris\_30:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Eros\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Eros\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Eurydice\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Eurydice\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (310, 24223), (312, 24241), (329, 24340), (386, 24526), (404, 24577), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: ExplosioNervosa\_33 Start: 24446, Stop: 26212, Start Num: 22

Candidate Starts for ExplosioNervosa\_33:

(Start: 22 @24446 has 28 MA's), (64, 24632), (83, 24722), (95, 24767), (97, 24776), (139, 24854), (146, 24878), (166, 24914), (197, 25043), (199, 25061), (240, 25286), (243, 25307), (246, 25325), (263, 25415), (275, 25472), (302, 25595), (324, 25718), (334, 25757), (350, 25814), (374, 25895), (380, 25916), (381, 25919), (414, 26009), (454, 26120), (468, 26195),

Gene: Farber\_33 Start: 23270, Stop: 25027, Start Num: 20

Candidate Starts for Farber\_33:

(Start: 20 @23270 has 81 MA's), (48, 23405), (64, 23471), (73, 23516), (81, 23552), (122, 23684), (139, 23720), (145, 23741), (181, 23798), (194, 23858), (208, 23912), (215, 23972), (238, 24092), (239, 24095), (254, 24164), (258, 24188), (275, 24281), (279, 24302), (291, 24347), (365, 24677), (389, 24746), (412, 24809), (462, 24980),

Gene: Fayely\_33 Start: 24410, Stop: 26176, Start Num: 22

Candidate Starts for Fayely\_33:

(Start: 22 @24410 has 28 MA's), (27, 24422), (64, 24596), (83, 24686), (95, 24731), (97, 24740), (139, 24818), (146, 24842), (166, 24878), (197, 25007), (199, 25025), (240, 25250), (243, 25271), (246, 25289), (263, 25379), (275, 25436), (302, 25559), (324, 25682), (334, 25721), (350, 25778), (374, 25859), (380, 25880), (381, 25883), (414, 25973), (454, 26084), (468, 26159),

Gene: Fernando\_33 Start: 23276, Stop: 25033, Start Num: 20

Candidate Starts for Fernando\_33:

(Start: 20 @23276 has 81 MA's), (48, 23411), (64, 23477), (73, 23522), (81, 23558), (122, 23690), (139, 23726), (145, 23747), (181, 23804), (194, 23864), (208, 23918), (215, 23978), (238, 24098), (239, 24101), (254, 24170), (258, 24194), (275, 24287), (279, 24308), (291, 24353), (365, 24683), (389, 24752), (412, 24815), (462, 24986),

Gene: Flare16\_31 Start: 22776, Stop: 24998, Start Num: 1

Candidate Starts for Flare16\_31:

(Start: 1 @22776 has 9 MA's), (4, 22890), (6, 22905), (15, 23037), (36, 23151), (38, 23172), (43, 23205), (69, 23316), (76, 23355), (91, 23451), (134, 23553), (197, 23802), (201, 23832), (203, 23844), (234, 24015), (246, 24084), (263, 24183), (287, 24294), (289, 24300), (291, 24306), (300, 24345), (309, 24402), (310, 24405), (320, 24471), (344, 24555), (363, 24627), (400, 24747), (439, 24858), (457, 24909), (459, 24921),

Gene: Flaverint\_31 Start: 23391, Stop: 25382, Start Num: 12

Candidate Starts for Flaverint\_31:

(Start: 12 @23391 has 11 MA's), (Start: 24 @23502 has 1 MA's), (28, 23511), (40, 23568), (41, 23583), (42, 23601), (44, 23613), (54, 23661), (59, 23679), (60, 23682), (85, 23802), (131, 23916), (135, 23937), (140, 23955), (149, 23988), (188, 24171), (195, 24201), (196, 24204), (225, 24378), (227, 24384), (231, 24408), (232, 24414), (248, 24489), (262, 24552), (273, 24594), (274, 24600), (299, 24723), (308, 24771), (310, 24780), (330, 24897), (332, 24900), (345, 24942), (354, 24984), (364, 25020), (381, 25074), (398, 25125), (401, 25131), (405, 25137), (418, 25179), (452, 25269), (461, 25326), (468, 25365), (472, 25374),

Gene: Florean\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Florean\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Flux\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Flux\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Fred313\_31 Start: 22584, Stop: 24443, Start Num: 19

Candidate Starts for Fred313\_31:

(Start: 19 @22584 has 31 MA's), (47, 22710), (48, 22719), (64, 22785), (68, 22806), (78, 22848), (132, 23004), (144, 23052), (170, 23121), (171, 23127), (174, 23157), (197, 23265), (199, 23283), (203, 23307), (246, 23547), (263, 23637), (289, 23754), (310, 23859), (320, 23925), (324, 23940), (372, 24111), (412, 24216), (427, 24270), (443, 24309), (459, 24363), (463, 24390), (467, 24414),

Gene: Funston\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Funston\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Gadost\_31 Start: 22964, Stop: 24820, Start Num: 21

Candidate Starts for Gadost\_31:

(Start: 21 @22964 has 162 MA's), (48, 23090), (Start: 53 @23114 has 1 MA's), (78, 23219), (79, 23225), (86, 23273), (89, 23282), (98, 23324), (122, 23369), (132, 23375), (168, 23480), (171, 23492), (186, 23570), (199, 23639), (240, 23867), (243, 23891), (244, 23894), (250, 23921), (251, 23924), (269, 24029), (274, 24050), (275, 24059), (298, 24164), (306, 24203), (312, 24248), (349, 24410), (350, 24416), (386, 24533), (389, 24539), (404, 24584), (420, 24635), (421, 24638), (445, 24701), (451, 24710), (467, 24797),

Gene: GaugeLDP\_33 Start: 24026, Stop: 25807, Start Num: 26

Candidate Starts for GaugeLDP\_33:

(Start: 26 @24026 has 35 MA's), (33, 24047), (48, 24137), (50, 24146), (51, 24152), (81, 24284), (83, 24296), (94, 24353), (98, 24371), (149, 24485), (178, 24551), (197, 24641), (199, 24659), (203, 24683), (240, 24884), (246, 24923), (263, 25013), (268, 25034), (287, 25124), (300, 25175), (303, 25196), (329, 25340), (334, 25355), (344, 25385), (374, 25490), (380, 25511), (414, 25604), (426, 25643), (443, 25685), (454, 25715), (468, 25790),

Gene: Gemma\_33 Start: 23357, Stop: 25165, Start Num: 20

Candidate Starts for Gemma\_33:

(Start: 20 @23357 has 81 MA's), (48, 23492), (64, 23558), (73, 23603), (81, 23639), (100, 23729), (110, 23753), (138, 23798), (145, 23828), (197, 23996), (199, 24014), (203, 24038), (231, 24200), (240, 24239), (246, 24278), (263, 24368), (300, 24530), (303, 24551), (317, 24638), (329, 24695), (334, 24710), (352, 24773), (374, 24848), (380, 24869), (414, 24962), (426, 25001), (443, 25043), (467, 25142),

Gene: Gilberta\_31 Start: 23388, Stop: 25379, Start Num: 12

Candidate Starts for Gilberta\_31:

(Start: 12 @23388 has 11 MA's), (Start: 24 @23499 has 1 MA's), (28, 23508), (40, 23565), (41, 23580), (42, 23598), (44, 23610), (54, 23658), (59, 23676), (60, 23679), (85, 23799), (131, 23913), (135, 23934), (140, 23952), (149, 23985), (188, 24168), (195, 24198), (196, 24201), (225, 24375), (227, 24381), (231, 24405), (232, 24411), (248, 24486), (262, 24549), (273, 24591), (274, 24597), (299, 24720), (308, 24768), (310, 24777), (330, 24894), (332, 24897), (345, 24939), (354, 24981), (364, 25017), (381, 25071), (398, 25122), (401, 25128), (405, 25134), (418, 25176), (452, 25266), (461, 25323), (468, 25362), (472, 25371),

Gene: GingkoMaracino\_33 Start: 23163, Stop: 24920, Start Num: 20

Candidate Starts for GingkoMaracino\_33:

(Start: 20 @23163 has 81 MA's), (48, 23298), (64, 23364), (73, 23409), (81, 23445), (122, 23577), (139, 23613), (145, 23634), (181, 23691), (194, 23751), (208, 23805), (215, 23865), (238, 23985), (239, 23988), (254, 24057), (258, 24081), (275, 24174), (279, 24195), (291, 24240), (365, 24570), (389, 24639), (412, 24702), (462, 24873),

Gene: Giroux\_31 Start: 22838, Stop: 24697, Start Num: 19

Candidate Starts for Giroux\_31:

(Start: 19 @22838 has 31 MA's), (50, 22982), (Start: 53 @22997 has 1 MA's), (64, 23039), (88, 23162), (100, 23210), (123, 23252), (132, 23258), (138, 23279), (197, 23519), (201, 23549), (212, 23597), (231, 23723), (240, 23762), (246, 23801), (259, 23858), (263, 23891), (300, 24053), (301, 24056), (310, 24113), (320, 24179), (324, 24194), (381, 24395), (426, 24521), (427, 24524), (457, 24605), (459, 24617), (463, 24644), (468, 24674),

Gene: Goose\_32 Start: 23270, Stop: 25105, Start Num: 21

Candidate Starts for Goose\_32:

(Start: 21 @23270 has 162 MA's), (30, 23303), (35, 23318), (100, 23630), (110, 23654), (114, 23672), (115, 23675), (116, 23678), (117, 23699), (119, 23726), (197, 23939), (199, 23957), (203, 23981), (228, 24116), (230, 24125), (246, 24221), (259, 24278), (263, 24311), (287, 24422), (302, 24491), (320, 24599), (324, 24614), (334, 24653), (336, 24659), (355, 24725), (374, 24788), (380, 24809), (381, 24812), (384, 24818), (389, 24830), (410, 24887), (414, 24902), (416, 24911), (421, 24926), (443, 24983), (459, 25043), (468, 25088), (469, 25091),

Gene: Gratitude\_32 Start: 23218, Stop: 25425, Start Num: 1

Candidate Starts for Gratitude\_32:

(Start: 1 @23218 has 9 MA's), (4, 23332), (5, 23341), (6, 23347), (7, 23368), (15, 23479), (29, 23569), (32, 23581), (69, 23758), (76, 23797), (91, 23893), (178, 24154), (197, 24244), (201, 24274), (203, 24286), (239, 24484), (263, 24625), (268, 24646), (287, 24736), (289, 24742), (291, 24748), (300, 24787), (303, 24808), (309, 24844), (310, 24847), (320, 24913), (324, 24928), (325, 24931), (329, 24952), (339, 24985), (381, 25129), (400, 25177), (422, 25240), (447, 25300), (459, 25348), (468, 25402),

Gene: Grif\_33 Start: 23360, Stop: 25111, Start Num: 20

Candidate Starts for Grif\_33:

(Start: 20 @23360 has 81 MA's), (48, 23495), (64, 23561), (73, 23606), (81, 23642), (95, 23714), (100, 23732), (139, 23810), (145, 23831), (194, 23948), (220, 24086), (238, 24182), (239, 24185), (254, 24254), (258, 24278), (266, 24323), (275, 24371), (291, 24437), (321, 24608), (323, 24614), (336, 24665), (350, 24710), (374, 24788), (389, 24830), (404, 24872), (436, 24974), (437, 24977), (451, 25001),

Gene: Groupthink\_34 Start: 23361, Stop: 25169, Start Num: 20

Candidate Starts for Groupthink\_34:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (81, 23643), (100, 23733), (110, 23757), (138, 23802), (145, 23832), (197, 24000), (199, 24018), (203, 24042), (231, 24204),

(240, 24243), (246, 24282), (263, 24372), (300, 24534), (303, 24555), (317, 24642), (329, 24699), (334, 24714), (352, 24777), (374, 24852), (380, 24873), (414, 24966), (426, 25005), (443, 25047), (467, 25146),

Gene: Grub\_33 Start: 23269, Stop: 25026, Start Num: 20

Candidate Starts for Grub\_33:

(Start: 20 @23269 has 81 MA's), (48, 23404), (64, 23470), (73, 23515), (81, 23551), (122, 23683), (139, 23719), (145, 23740), (181, 23797), (194, 23857), (208, 23911), (215, 23971), (238, 24091), (239, 24094), (254, 24163), (258, 24187), (275, 24280), (279, 24301), (291, 24346), (365, 24676), (389, 24745), (412, 24808), (462, 24979),

Gene: Grum1\_33 Start: 23276, Stop: 25033, Start Num: 20

Candidate Starts for Grum1\_33:

(Start: 20 @23276 has 81 MA's), (48, 23411), (64, 23477), (73, 23522), (81, 23558), (122, 23690), (139, 23726), (145, 23747), (181, 23804), (194, 23864), (208, 23918), (215, 23978), (238, 24098), (239, 24101), (254, 24170), (258, 24194), (275, 24287), (279, 24308), (291, 24353), (365, 24683), (389, 24752), (412, 24815), (462, 24986),

Gene: GtownJaz\_33 Start: 23278, Stop: 25035, Start Num: 20

Candidate Starts for GtownJaz\_33:

(Start: 20 @23278 has 81 MA's), (48, 23413), (64, 23479), (73, 23524), (81, 23560), (122, 23692), (139, 23728), (145, 23749), (181, 23806), (194, 23866), (208, 23920), (215, 23980), (238, 24100), (239, 24103), (254, 24172), (258, 24196), (275, 24289), (279, 24310), (291, 24355), (365, 24685), (389, 24754), (412, 24817), (462, 24988),

Gene: HamSlice\_30 Start: 22958, Stop: 24814, Start Num: 21

Candidate Starts for HamSlice\_30:

(Start: 21 @22958 has 162 MA's), (48, 23084), (Start: 53 @23108 has 1 MA's), (78, 23213), (79, 23219), (86, 23267), (98, 23318), (122, 23363), (132, 23369), (168, 23474), (171, 23486), (186, 23564), (199, 23633), (240, 23861), (243, 23885), (244, 23888), (250, 23915), (251, 23918), (269, 24023), (275, 24053), (278, 24068), (298, 24158), (306, 24197), (312, 24242), (350, 24410), (386, 24527), (389, 24533), (404, 24578), (420, 24629), (421, 24632), (445, 24695), (451, 24704), (467, 24791),

Gene: Hanray\_32 Start: 24381, Stop: 26147, Start Num: 22

Candidate Starts for Hanray\_32:

(Start: 22 @24381 has 28 MA's), (27, 24393), (64, 24567), (83, 24657), (95, 24702), (97, 24711), (139, 24789), (146, 24813), (166, 24849), (197, 24978), (199, 24996), (240, 25221), (243, 25242), (246, 25260), (263, 25350), (275, 25407), (302, 25530), (324, 25653), (334, 25692), (350, 25749), (374, 25830), (380, 25851), (381, 25854), (410, 25929), (414, 25944), (454, 26055), (468, 26130),

Gene: Happiness\_31 Start: 22966, Stop: 24822, Start Num: 21

Candidate Starts for Happiness\_31:

(Start: 21 @22966 has 162 MA's), (48, 23092), (Start: 53 @23116 has 1 MA's), (71, 23191), (78, 23221), (86, 23275), (89, 23284), (98, 23326), (132, 23377), (168, 23482), (171, 23494), (186, 23572), (199, 23641), (229, 23809), (233, 23839), (240, 23869), (243, 23893), (244, 23896), (250, 23923), (251, 23926), (269, 24031), (274, 24052), (275, 24061), (298, 24166), (306, 24205), (312, 24250), (349, 24412), (386, 24535), (404, 24586), (420, 24637), (421, 24640), (445, 24703), (451, 24712), (467, 24799),

Gene: HashRod\_34 Start: 23364, Stop: 25115, Start Num: 20

Candidate Starts for HashRod\_34:

(Start: 20 @23364 has 81 MA's), (48, 23499), (64, 23565), (73, 23610), (81, 23646), (108, 23757), (122, 23778), (139, 23814), (145, 23835), (194, 23952), (220, 24090), (238, 24186), (239, 24189), (254, 24258), (258, 24282), (266, 24327), (275, 24375), (291, 24441), (321, 24612), (323, 24618), (336, 24669), (350, 24714), (359, 24744), (374, 24792), (389, 24834), (393, 24849), (395, 24852), (404, 24876), (436, 24978), (437, 24981), (451, 25005),

Gene: HaveUMetTed\_34 Start: 23354, Stop: 25162, Start Num: 20

Candidate Starts for HaveUMetTed\_34:

(Start: 20 @23354 has 81 MA's), (48, 23489), (64, 23555), (73, 23600), (74, 23603), (110, 23750), (138, 23795), (145, 23825), (197, 23993), (199, 24011), (203, 24035), (231, 24197), (240, 24236), (246, 24275), (263, 24365), (300, 24527), (303, 24548), (317, 24635), (329, 24692), (334, 24707), (352, 24770), (374, 24845), (380, 24866), (414, 24959), (426, 24998), (443, 25040), (467, 25139),

Gene: Heathen\_31 Start: 22640, Stop: 24499, Start Num: 19

Candidate Starts for Heathen\_31:

(Start: 19 @22640 has 31 MA's), (47, 22766), (48, 22775), (64, 22841), (68, 22862), (78, 22904), (132, 23060), (144, 23108), (170, 23177), (171, 23183), (174, 23213), (197, 23321), (199, 23339), (203, 23363), (246, 23603), (263, 23693), (289, 23810), (310, 23915), (320, 23981), (324, 23996), (372, 24167), (412, 24272), (427, 24326), (443, 24365), (459, 24419), (463, 24446), (467, 24470),

Gene: Heffalump\_33 Start: 24558, Stop: 26342, Start Num: 26

Candidate Starts for Heffalump\_33:

(Start: 26 @24558 has 35 MA's), (33, 24579), (50, 24678), (57, 24711), (71, 24768), (79, 24804), (178, 25083), (179, 25086), (197, 25173), (199, 25191), (203, 25215), (220, 25314), (231, 25377), (240, 25416), (246, 25455), (263, 25545), (270, 25575), (276, 25605), (281, 25629), (300, 25707), (303, 25728), (329, 25872), (334, 25887), (374, 26025), (380, 26046), (414, 26139), (426, 26178), (430, 26187), (443, 26220), (454, 26250), (459, 26280), (467, 26319),

Gene: HelDan\_31 Start: 22892, Stop: 24751, Start Num: 19

Candidate Starts for HelDan\_31:

(Start: 19 @22892 has 31 MA's), (47, 23018), (48, 23027), (64, 23093), (68, 23114), (78, 23156), (132, 23312), (144, 23360), (170, 23429), (171, 23435), (174, 23465), (197, 23573), (199, 23591), (203, 23615), (246, 23855), (263, 23945), (289, 24062), (310, 24167), (320, 24233), (324, 24248), (372, 24419), (412, 24524), (427, 24578), (443, 24617), (459, 24671), (463, 24698), (467, 24722),

Gene: Heliosoles\_33 Start: 23361, Stop: 25169, Start Num: 20

Candidate Starts for Heliosoles\_33:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (81, 23643), (100, 23733), (110, 23757), (138, 23802), (145, 23832), (197, 24000), (199, 24018), (203, 24042), (231, 24204), (240, 24243), (246, 24282), (263, 24372), (300, 24534), (303, 24555), (317, 24642), (329, 24699), (334, 24714), (352, 24777), (374, 24852), (380, 24873), (414, 24966), (426, 25005), (443, 25047), (467, 25146),

Gene: Hercules11\_33 Start: 23284, Stop: 25041, Start Num: 20

Candidate Starts for Hercules11\_33:

(Start: 20 @23284 has 81 MA's), (48, 23419), (64, 23485), (73, 23530), (81, 23566), (122, 23698), (139, 23734), (145, 23755), (181, 23812), (194, 23872), (208, 23926), (215, 23986), (238, 24106), (239, 24109), (254, 24178), (258, 24202), (275, 24295), (279, 24316), (291, 24361), (365, 24691), (389, 24760), (412, 24823), (462, 24994),

Gene: Horex\_32 Start: 24381, Stop: 26147, Start Num: 22

Candidate Starts for Horex\_32:

(Start: 22 @24381 has 28 MA's), (27, 24393), (64, 24567), (83, 24657), (95, 24702), (97, 24711), (139, 24789), (146, 24813), (166, 24849), (197, 24978), (199, 24996), (240, 25221), (243, 25242), (246, 25260), (263, 25350), (275, 25407), (302, 25530), (324, 25653), (334, 25692), (350, 25749), (374, 25830), (380, 25851), (381, 25854), (414, 25944), (454, 26055), (468, 26130),

Gene: Holli\_31 Start: 22750, Stop: 24606, Start Num: 21

Candidate Starts for Holli\_31:

(Start: 21 @22750 has 162 MA's), (48, 22876), (Start: 53 @22900 has 1 MA's), (78, 23005), (79, 23011), (86, 23059), (89, 23068), (98, 23110), (122, 23155), (132, 23161), (168, 23266), (171, 23278), (186, 23356), (199, 23425), (240, 23653), (243, 23677), (244, 23680), (250, 23707), (251, 23710), (269, 23815), (275, 23845), (278, 23860), (298, 23950), (306, 23989), (312, 24034), (350, 24202), (386, 24319), (389, 24325), (404, 24370), (420, 24421), (421, 24424), (445, 24487), (451, 24496), (467, 24583),

Gene: Hookmount\_32 Start: 23374, Stop: 25233, Start Num: 19

Candidate Starts for Hookmount\_32:

(Start: 19 @23374 has 31 MA's), (50, 23518), (54, 23536), (64, 23575), (68, 23596), (78, 23638), (81, 23656), (138, 23815), (144, 23842), (174, 23947), (179, 23968), (197, 24055), (203, 24097), (246, 24337), (263, 24427), (275, 24484), (310, 24649), (318, 24703), (320, 24715), (324, 24730), (360, 24859), (363, 24871), (381, 24931), (386, 24943), (406, 24988), (412, 25006), (459, 25153), (463, 25180), (468, 25210),

Gene: HortumSL17\_33 Start: 24377, Stop: 26143, Start Num: 22

Candidate Starts for HortumSL17\_33:

(Start: 22 @24377 has 28 MA's), (27, 24389), (64, 24563), (83, 24653), (95, 24698), (97, 24707), (139, 24785), (146, 24809), (166, 24845), (197, 24974), (199, 24992), (240, 25217), (243, 25238), (246, 25256), (263, 25346), (275, 25403), (302, 25526), (324, 25649), (334, 25688), (350, 25745), (374, 25826), (380, 25847), (381, 25850), (414, 25940), (454, 26051), (468, 26126),

Gene: Houdini22\_31 Start: 22964, Stop: 24820, Start Num: 21

Candidate Starts for Houdini22\_31:

(Start: 21 @22964 has 162 MA's), (48, 23090), (Start: 53 @23114 has 1 MA's), (78, 23219), (79, 23225), (86, 23273), (89, 23282), (98, 23324), (122, 23369), (132, 23375), (168, 23480), (171, 23492), (186, 23570), (199, 23639), (240, 23867), (243, 23891), (244, 23894), (250, 23921), (251, 23924), (269, 24029), (274, 24050), (275, 24059), (298, 24164), (306, 24203), (312, 24248), (349, 24410), (350, 24416), (386, 24533), (389, 24539), (404, 24584), (420, 24635), (421, 24638), (445, 24701), (451, 24710), (467, 24797),

Gene: Huxley\_31 Start: 23021, Stop: 24877, Start Num: 21

Candidate Starts for Huxley\_31:

(Start: 21 @23021 has 162 MA's), (48, 23147), (Start: 53 @23171 has 1 MA's), (78, 23276), (79, 23282), (86, 23330), (98, 23381), (122, 23426), (132, 23432), (168, 23537), (171, 23549), (183, 23612), (186, 23627), (199, 23696), (240, 23924), (243, 23948), (244, 23951), (250, 23978), (251, 23981), (269, 24086), (274, 24107), (275, 24116), (298, 24221), (306, 24260), (312, 24305), (386, 24590), (389, 24596), (404, 24641), (420, 24692), (421, 24695), (445, 24758), (451, 24767), (467, 24854),

Gene: ICleared\_31 Start: 22958, Stop: 24814, Start Num: 21

Candidate Starts for ICleared\_31:

(Start: 21 @22958 has 162 MA's), (48, 23084), (Start: 53 @23108 has 1 MA's), (78, 23213), (79, 23219), (86, 23267), (98, 23318), (122, 23363), (132, 23369), (168, 23474), (171, 23486), (186, 23564), (199, 23633), (240, 23861), (243, 23885), (244, 23888), (250, 23915), (251, 23918), (269, 24023), (274, 24044), (275, 24053), (298, 24158), (306, 24197), (312, 24242), (349, 24404), (350,

24410), (386, 24527), (389, 24533), (404, 24578), (420, 24629), (421, 24632), (445, 24695), (451, 24704), (467, 24791),

Gene: Iceman\_32 Start: 23249, Stop: 25105, Start Num: 21

Candidate Starts for Iceman\_32:

(Start: 21 @23249 has 162 MA's), (48, 23375), (Start: 53 @23399 has 1 MA's), (78, 23504), (79, 23510), (86, 23558), (98, 23609), (122, 23654), (132, 23660), (168, 23765), (171, 23777), (186, 23855), (199, 23924), (240, 24152), (243, 24176), (244, 24179), (250, 24206), (251, 24209), (269, 24314), (275, 24344), (278, 24359), (298, 24449), (306, 24488), (312, 24533), (350, 24701), (384, 24812), (386, 24818), (389, 24824), (404, 24869), (420, 24920), (421, 24923), (445, 24986), (451, 24995), (467, 25082),

Gene: Idleandcovert\_31 Start: 22838, Stop: 24697, Start Num: 19

Candidate Starts for Idleandcovert\_31:

(Start: 19 @22838 has 31 MA's), (50, 22982), (Start: 53 @22997 has 1 MA's), (64, 23039), (88, 23162), (100, 23210), (123, 23252), (132, 23258), (138, 23279), (197, 23519), (201, 23549), (212, 23597), (231, 23723), (240, 23762), (246, 23801), (259, 23858), (263, 23891), (300, 24053), (301, 24056), (310, 24113), (320, 24179), (324, 24194), (381, 24395), (426, 24521), (427, 24524), (457, 24605), (459, 24617), (463, 24644), (468, 24674),

Gene: Insomnia\_31 Start: 23449, Stop: 25440, Start Num: 12

Candidate Starts for Insomnia\_31:

(Start: 12 @23449 has 11 MA's), (Start: 24 @23560 has 1 MA's), (28, 23569), (40, 23626), (41, 23641), (42, 23659), (44, 23671), (54, 23719), (59, 23737), (60, 23740), (85, 23860), (131, 23974), (135, 23995), (140, 24013), (149, 24046), (188, 24229), (195, 24259), (196, 24262), (225, 24436), (227, 24442), (231, 24466), (232, 24472), (248, 24547), (262, 24610), (273, 24652), (274, 24658), (299, 24781), (308, 24829), (310, 24838), (330, 24955), (332, 24958), (345, 25000), (354, 25042), (364, 25078), (381, 25132), (398, 25183), (401, 25189), (405, 25195), (418, 25237), (461, 25384), (468, 25423), (472, 25432),

Gene: Iracema64\_32 Start: 23268, Stop: 25124, Start Num: 21

Candidate Starts for Iracema64\_32:

(Start: 21 @23268 has 162 MA's), (48, 23394), (Start: 53 @23418 has 1 MA's), (78, 23523), (79, 23529), (86, 23577), (89, 23586), (98, 23628), (122, 23673), (132, 23679), (168, 23784), (171, 23796), (183, 23859), (186, 23874), (199, 23943), (229, 24111), (240, 24171), (244, 24198), (250, 24225), (251, 24228), (269, 24333), (274, 24354), (275, 24363), (298, 24468), (312, 24552), (329, 24651), (386, 24837), (389, 24843), (404, 24888), (420, 24939), (421, 24942), (445, 25005), (451, 25014), (467, 25101),

Gene: IronMan\_34 Start: 24846, Stop: 26621, Start Num: 26

Candidate Starts for IronMan\_34:

(13, 24744), (Start: 26 @24846 has 35 MA's), (33, 24867), (48, 24957), (50, 24966), (65, 25023), (71, 25050), (74, 25065), (89, 25143), (132, 25236), (138, 25257), (145, 25287), (149, 25299), (189, 25422), (197, 25455), (199, 25473), (203, 25497), (223, 25611), (240, 25698), (246, 25737), (259, 25794), (300, 25989), (303, 26010), (329, 26154), (334, 26169), (374, 26304), (381, 26328), (414, 26418), (443, 26499), (468, 26604),

Gene: Isca\_31 Start: 22776, Stop: 24635, Start Num: 19

Candidate Starts for Isca\_31:

(Start: 19 @22776 has 31 MA's), (47, 22902), (50, 22920), (Start: 53 @22935 has 1 MA's), (64, 22977), (132, 23196), (138, 23217), (144, 23244), (171, 23319), (174, 23349), (197, 23457), (199, 23475), (203, 23499), (246, 23739), (259, 23796), (263, 23829), (284, 23922), (289, 23946), (310, 24051), (320, 24117), (324, 24132), (372, 24303), (412, 24408), (426, 24459), (427, 24462), (443, 24501),



(459, 24555), (463, 24582), (467, 24606),

Gene: JF2\_31 Start: 22527, Stop: 24386, Start Num: 19

Candidate Starts for JF2\_31:

(Start: 19 @22527 has 31 MA's), (47, 22653), (50, 22671), (Start: 53 @22686 has 1 MA's), (64, 22728), (78, 22791), (131, 22944), (132, 22947), (138, 22968), (144, 22995), (171, 23070), (179, 23121), (197, 23208), (203, 23250), (246, 23490), (259, 23547), (263, 23580), (284, 23673), (289, 23697), (310, 23802), (320, 23868), (324, 23883), (372, 24054), (412, 24159), (427, 24213), (443, 24252), (458, 24300), (459, 24306), (463, 24333), (467, 24357),

Gene: JF4\_31 Start: 22527, Stop: 24386, Start Num: 19

Candidate Starts for JF4\_31:

(Start: 19 @22527 has 31 MA's), (47, 22653), (50, 22671), (Start: 53 @22686 has 1 MA's), (64, 22728), (78, 22791), (131, 22944), (132, 22947), (138, 22968), (144, 22995), (171, 23070), (179, 23121), (197, 23208), (203, 23250), (246, 23490), (259, 23547), (263, 23580), (284, 23673), (289, 23697), (310, 23802), (320, 23868), (324, 23883), (372, 24054), (412, 24159), (427, 24213), (443, 24252), (458, 24300), (459, 24306), (463, 24333), (467, 24357),

Gene: JHC117\_33 Start: 23275, Stop: 25032, Start Num: 20

Candidate Starts for JHC117\_33:

(Start: 20 @23275 has 81 MA's), (48, 23410), (64, 23476), (73, 23521), (81, 23557), (122, 23689), (139, 23725), (145, 23746), (181, 23803), (194, 23863), (208, 23917), (215, 23977), (238, 24097), (239, 24100), (254, 24169), (258, 24193), (275, 24286), (279, 24307), (291, 24352), (365, 24682), (389, 24751), (412, 24814), (462, 24985),

Gene: Jaan\_35 Start: 25218, Stop: 26993, Start Num: 21

Candidate Starts for Jaan\_35:

(17, 25179), (Start: 21 @25218 has 162 MA's), (48, 25329), (50, 25338), (65, 25395), (71, 25422), (89, 25515), (132, 25608), (138, 25629), (145, 25659), (149, 25671), (189, 25794), (197, 25827), (199, 25845), (203, 25869), (223, 25983), (229, 26007), (240, 26070), (246, 26109), (250, 26121), (259, 26166), (300, 26361), (303, 26382), (334, 26541), (336, 26547), (355, 26613), (374, 26676), (380, 26697), (414, 26790), (443, 26871), (454, 26901), (459, 26931), (468, 26976),

Gene: Jabith\_31 Start: 23449, Stop: 25440, Start Num: 12

Candidate Starts for Jabith\_31:

(Start: 12 @23449 has 11 MA's), (Start: 24 @23560 has 1 MA's), (28, 23569), (40, 23626), (41, 23641), (42, 23659), (44, 23671), (54, 23719), (59, 23737), (60, 23740), (85, 23860), (131, 23974), (135, 23995), (140, 24013), (149, 24046), (188, 24229), (195, 24259), (196, 24262), (225, 24436), (227, 24442), (231, 24466), (232, 24472), (248, 24547), (262, 24610), (273, 24652), (274, 24658), (299, 24781), (308, 24829), (310, 24838), (330, 24955), (332, 24958), (345, 25000), (354, 25042), (364, 25078), (381, 25132), (398, 25183), (401, 25189), (405, 25195), (418, 25237), (452, 25327), (461, 25384), (468, 25423), (472, 25432),

Gene: Jaykayelowell\_31 Start: 22956, Stop: 24812, Start Num: 21

Candidate Starts for Jaykayelowell\_31:

(Start: 21 @22956 has 162 MA's), (48, 23082), (Start: 53 @23106 has 1 MA's), (78, 23211), (79, 23217), (86, 23265), (98, 23316), (122, 23361), (132, 23367), (168, 23472), (171, 23484), (186, 23562), (199, 23631), (240, 23859), (244, 23886), (250, 23913), (251, 23916), (269, 24021), (275, 24051), (278, 24066), (298, 24156), (306, 24195), (312, 24240), (350, 24408), (386, 24525), (389, 24531), (404, 24576), (420, 24627), (421, 24630), (445, 24693), (451, 24702), (467, 24789),

Gene: Jeeves\_31 Start: 21978, Stop: 23861, Start Num: 25

Candidate Starts for Jeeves\_31:

(Start: 25 @21978 has 12 MA's), (27, 21984), (72, 22194), (79, 22227), (83, 22251), (86, 22272), (109, 22347), (122, 22437), (150, 22551), (162, 22692), (171, 22746), (198, 22881), (207, 22935), (217, 23019), (236, 23118), (245, 23163), (261, 23247), (277, 23346), (283, 23370), (297, 23436), (299, 23451), (316, 23571), (328, 23598), (356, 23688), (367, 23724), (374, 23748), (385, 23781), (399, 23823), (410, 23850), (412, 23853),

Gene: JenCasNa\_33 Start: 23276, Stop: 25033, Start Num: 20

Candidate Starts for JenCasNa\_33:

(Start: 20 @23276 has 81 MA's), (48, 23411), (64, 23477), (73, 23522), (81, 23558), (122, 23690), (139, 23726), (145, 23747), (181, 23804), (194, 23864), (208, 23918), (215, 23978), (238, 24098), (239, 24101), (254, 24170), (258, 24194), (275, 24287), (279, 24308), (291, 24353), (365, 24683), (389, 24752), (412, 24815), (462, 24986),

Gene: JeppNRM\_34 Start: 23360, Stop: 25168, Start Num: 20

Candidate Starts for JeppNRM\_34:

(Start: 20 @23360 has 81 MA's), (48, 23495), (64, 23561), (73, 23606), (74, 23609), (95, 23714), (110, 23756), (138, 23801), (145, 23831), (190, 23972), (197, 23999), (199, 24017), (203, 24041), (231, 24203), (240, 24242), (246, 24281), (263, 24371), (300, 24533), (303, 24554), (317, 24641), (329, 24698), (334, 24713), (352, 24776), (374, 24851), (380, 24872), (414, 24965), (426, 25004), (443, 25046), (467, 25145),

Gene: JetBlade\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for JetBlade\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Jiawan\_32 Start: 24413, Stop: 26179, Start Num: 22

Candidate Starts for Jiawan\_32:

(Start: 22 @24413 has 28 MA's), (27, 24425), (64, 24599), (83, 24689), (95, 24734), (97, 24743), (139, 24821), (146, 24845), (166, 24881), (197, 25010), (199, 25028), (240, 25253), (243, 25274), (246, 25292), (263, 25382), (275, 25439), (302, 25562), (324, 25685), (334, 25724), (350, 25781), (374, 25862), (380, 25883), (381, 25886), (410, 25961), (414, 25976), (454, 26087), (468, 26162),

Gene: Jobu08\_33 Start: 23349, Stop: 25154, Start Num: 20

Candidate Starts for Jobu08\_33:

(Start: 20 @23349 has 81 MA's), (48, 23484), (64, 23550), (73, 23595), (95, 23703), (110, 23745), (138, 23790), (145, 23820), (197, 23988), (199, 24006), (203, 24030), (229, 24168), (231, 24192), (240, 24231), (246, 24270), (263, 24360), (300, 24522), (303, 24543), (317, 24630), (334, 24702), (344, 24732), (355, 24774), (374, 24837), (381, 24861), (410, 24936), (414, 24951), (426, 24990), (443, 25032), (468, 25137),

Gene: JoongJeon\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for JoongJeon\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Joselito\_31 Start: 23397, Stop: 25388, Start Num: 12

Candidate Starts for Joselito\_31:

(Start: 12 @23397 has 11 MA's), (Start: 24 @23508 has 1 MA's), (28, 23517), (40, 23574), (41, 23589), (42, 23607), (44, 23619), (54, 23667), (59, 23685), (60, 23688), (85, 23808), (131, 23922), (135, 23943), (140, 23961), (149, 23994), (188, 24177), (195, 24207), (196, 24210), (225, 24384), (227, 24390), (231, 24414), (232, 24420), (248, 24495), (262, 24558), (273, 24600), (274, 24606), (299, 24729), (308, 24777), (310, 24786), (330, 24903), (332, 24906), (345, 24948), (354, 24990), (364, 25026), (381, 25080), (398, 25131), (401, 25137), (405, 25143), (418, 25185), (452, 25275), (461, 25332), (468, 25371), (472, 25380),

Gene: Journey13\_29 Start: 21908, Stop: 23737, Start Num: 26

Candidate Starts for Journey13\_29:

(Start: 26 @21908 has 35 MA's), (52, 22037), (Start: 53 @22043 has 1 MA's), (79, 22154), (83, 22178), (132, 22313), (140, 22346), (142, 22352), (184, 22532), (241, 22850), (262, 22952), (267, 22973), (268, 22979), (271, 22994), (283, 23054), (290, 23081), (331, 23300), (415, 23564), (434, 23624), (464, 23726), (465, 23729),

Gene: Jsquared\_30 Start: 21719, Stop: 23470, Start Num: 26

Candidate Starts for Jsquared\_30:

(Start: 26 @21719 has 35 MA's), (33, 21740), (50, 21839), (Start: 53 @21854 has 1 MA's), (71, 21929), (79, 21965), (81, 21977), (83, 21989), (86, 22013), (88, 22019), (112, 22100), (134, 22133), (140, 22157), (142, 22163), (155, 22235), (184, 22343), (241, 22661), (267, 22781), (280, 22850), (323, 23081), (344, 23156), (348, 23168), (349, 23177), (358, 23216), (427, 23411), (437, 23438), (438, 23441), (444, 23453),

Gene: KADY\_34 Start: 23364, Stop: 25115, Start Num: 20

Candidate Starts for KADY\_34:

(Start: 20 @23364 has 81 MA's), (48, 23499), (64, 23565), (73, 23610), (81, 23646), (108, 23757), (122, 23778), (139, 23814), (145, 23835), (194, 23952), (220, 24090), (238, 24186), (239, 24189), (254, 24258), (258, 24282), (266, 24327), (275, 24375), (291, 24441), (321, 24612), (323, 24618), (336, 24669), (350, 24714), (359, 24744), (374, 24792), (389, 24834), (393, 24849), (395, 24852), (404, 24876), (436, 24978), (437, 24981), (451, 25005),

Gene: KFPoly\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for KFPoly\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (274, 24043), (275, 24052), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Kachowdy\_31 Start: 22892, Stop: 24751, Start Num: 19

Candidate Starts for Kachowdy\_31:

(Start: 19 @22892 has 31 MA's), (47, 23018), (48, 23027), (64, 23093), (68, 23114), (78, 23156), (132, 23312), (144, 23360), (170, 23429), (171, 23435), (174, 23465), (197, 23573), (199, 23591), (203, 23615), (246, 23855), (263, 23945), (289, 24062), (310, 24167), (320, 24233), (324, 24248), (372, 24419), (412, 24524), (427, 24578), (443, 24617), (459, 24671), (463, 24698), (467, 24722),

Gene: Kalb97\_34 Start: 23360, Stop: 25168, Start Num: 20

Candidate Starts for Kalb97\_34:

(Start: 20 @23360 has 81 MA's), (48, 23495), (64, 23561), (73, 23606), (81, 23642), (100, 23732), (110, 23756), (138, 23801), (145, 23831), (197, 23999), (199, 24017), (203, 24041), (231, 24203), (240, 24242), (246, 24281), (263, 24371), (300, 24533), (303, 24554), (317, 24641), (329, 24698), (334, 24713), (352, 24776), (374, 24851), (380, 24872), (414, 24965), (426, 25004), (430, 25013), (443, 25046), (467, 25145),

Gene: Kalnoky\_34 Start: 23361, Stop: 25169, Start Num: 20

Candidate Starts for Kalnoky\_34:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (74, 23610), (95, 23715), (110, 23757), (138, 23802), (145, 23832), (190, 23973), (197, 24000), (199, 24018), (203, 24042), (231, 24204), (240, 24243), (246, 24282), (263, 24372), (300, 24534), (303, 24555), (317, 24642), (329, 24699), (334, 24714), (352, 24777), (374, 24852), (380, 24873), (414, 24966), (426, 25005), (443, 25047), (467, 25146),

Gene: Kalpine\_34 Start: 24570, Stop: 26348, Start Num: 22

Candidate Starts for Kalpine\_34:

(Start: 22 @24570 has 28 MA's), (48, 24684), (50, 24693), (81, 24825), (178, 25092), (197, 25182), (199, 25200), (240, 25425), (246, 25464), (250, 25476), (263, 25554), (275, 25611), (287, 25665), (302, 25734), (323, 25851), (334, 25896), (351, 25953), (374, 26031), (380, 26052), (389, 26073), (414, 26145), (443, 26226), (454, 26256), (459, 26286), (468, 26331),

Gene: Kamy\_31 Start: 22958, Stop: 24814, Start Num: 21

Candidate Starts for Kamy\_31:

(Start: 21 @22958 has 162 MA's), (48, 23084), (Start: 53 @23108 has 1 MA's), (78, 23213), (79, 23219), (86, 23267), (89, 23276), (98, 23318), (122, 23363), (132, 23369), (168, 23474), (171, 23486), (186, 23564), (199, 23633), (240, 23861), (243, 23885), (244, 23888), (250, 23915), (251, 23918), (269, 24023), (275, 24053), (278, 24068), (298, 24158), (306, 24197), (310, 24224), (312, 24242), (329, 24341), (386, 24527), (404, 24578), (421, 24632), (445, 24695), (451, 24704), (467, 24791),

Gene: Katalie136\_31 Start: 22972, Stop: 24831, Start Num: 21

Candidate Starts for Katalie136\_31:

(14, 22912), (Start: 21 @22972 has 162 MA's), (37, 23038), (45, 23083), (47, 23089), (Start: 53 @23122 has 1 MA's), (57, 23140), (68, 23185), (70, 23191), (71, 23197), (89, 23290), (92, 23305), (122, 23377), (146, 23437), (168, 23488), (171, 23500), (186, 23578), (199, 23647), (218, 23770), (222, 23794), (240, 23875), (247, 23920), (250, 23929), (251, 23932), (274, 24061), (275, 24070), (285, 24112), (291, 24139), (298, 24175), (302, 24202), (306, 24214), (333, 24370), (386, 24544), (389, 24550), (404, 24595), (420, 24646), (421, 24649), (432, 24685), (451, 24721),

Gene: Kerberos\_34 Start: 22559, Stop: 24412, Start Num: 26

Candidate Starts for Kerberos\_34:

(Start: 23 @22553 has 4 MA's), (Start: 26 @22559 has 35 MA's), (50, 22679), (71, 22769), (83, 22829), (93, 22880), (134, 22973), (140, 22997), (142, 23003), (241, 23510), (258, 23579), (274, 23666), (294, 23747), (323, 23930), (387, 24149), (392, 24161), (405, 24191), (426, 24260), (434, 24284), (438, 24293), (453, 24329),

Gene: Kimona\_28 Start: 20738, Stop: 22444, Start Num: 21

Candidate Starts for Kimona\_28:

(Start: 21 @20738 has 162 MA's), (30, 20771), (35, 20786), (64, 20936), (65, 20942), (86, 21053), (88, 21059), (134, 21116), (153, 21185), (167, 21218), (169, 21230), (199, 21389), (267, 21752), (327, 22079), (335, 22100), (338, 22112), (352, 22166), (358, 22190), (387, 22271), (424, 22379), (434, 22409), (448, 22436),

Gene: Kingmustik0402\_31 Start: 22952, Stop: 24808, Start Num: 21

Candidate Starts for Kingmustik0402\_31:

(Start: 21 @22952 has 162 MA's), (48, 23078), (Start: 53 @23102 has 1 MA's), (78, 23207), (79, 23213), (86, 23261), (89, 23270), (98, 23312), (122, 23357), (132, 23363), (168, 23468), (171, 23480), (186, 23558), (199, 23627), (240, 23855), (243, 23879), (244, 23882), (250, 23909), (251, 23912), (269, 24017), (275, 24047), (278, 24062), (298, 24152), (306, 24191), (312, 24236), (350, 24404), (386, 24521), (389, 24527), (404, 24572), (420, 24623), (421, 24626), (445, 24689), (451, 24698), (467, 24785),

Gene: Kinmap\_32 Start: 22357, Stop: 24255, Start Num: 25

Candidate Starts for Kinmap\_32:

(10, 22222), (Start: 25 @22357 has 12 MA's), (27, 22363), (56, 22507), (83, 22630), (96, 22696), (103, 22717), (150, 22936), (156, 22978), (162, 23077), (192, 23281), (207, 23362), (210, 23374), (217, 23446), (221, 23470), (234, 23536), (297, 23863), (299, 23878), (370, 24130), (378, 24154), (410, 24244), (412, 24247),

Gene: KittenMittens\_31 Start: 21406, Stop: 23688, Start Num: 21

Candidate Starts for KittenMittens\_31:

(Start: 21 @21406 has 162 MA's), (30, 21439), (47, 21523), (63, 21589), (117, 21835), (118, 21844), (124, 21928), (127, 22003), (139, 22081), (152, 22156), (159, 22246), (160, 22279), (169, 22372), (197, 22519), (199, 22537), (203, 22561), (240, 22762), (246, 22801), (263, 22891), (275, 22948), (303, 23074), (306, 23083), (308, 23101), (310, 23113), (329, 23218), (334, 23233), (336, 23239), (346, 23272), (374, 23371), (380, 23392), (381, 23395), (404, 23452), (410, 23470), (412, 23473), (414, 23485), (426, 23524), (443, 23566), (445, 23569), (468, 23671),

Gene: Koan\_30 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Koan\_30:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Koduck\_31 Start: 21936, Stop: 23582, Start Num: 26

Candidate Starts for Koduck\_31:

(Start: 26 @21936 has 35 MA's), (50, 22056), (Start: 53 @22071 has 1 MA's), (71, 22146), (81, 22194), (83, 22206), (94, 22263), (140, 22374), (142, 22380), (155, 22452), (202, 22671), (226, 22785), (241, 22869), (243, 22875), (252, 22911), (267, 22995), (282, 23073), (302, 23169), (310, 23208), (323, 23295), (344, 23367), (362, 23442), (366, 23454), (373, 23463), (382, 23493), (411, 23562),

Gene: Koreni\_30 Start: 22606, Stop: 24462, Start Num: 21

Candidate Starts for Koreni\_30:

(Start: 21 @22606 has 162 MA's), (48, 22732), (Start: 53 @22756 has 1 MA's), (78, 22861), (79, 22867), (86, 22915), (89, 22924), (98, 22966), (122, 23011), (132, 23017), (168, 23122), (171, 23134), (186, 23212), (199, 23281), (240, 23509), (243, 23533), (244, 23536), (250, 23563), (251, 23566), (269, 23671), (274, 23692), (275, 23701), (298, 23806), (306, 23845), (312, 23890), (349, 24052), (350, 24058), (386, 24175), (389, 24181), (404, 24226), (420, 24277), (421, 24280), (445, 24343), (451, 24352), (467, 24439),

Gene: Kratark\_31 Start: 22952, Stop: 24808, Start Num: 21

Candidate Starts for Kratark\_31:

(Start: 21 @22952 has 162 MA's), (48, 23078), (Start: 53 @23102 has 1 MA's), (78, 23207), (79, 23213), (86, 23261), (98, 23312), (122, 23357), (132, 23363), (168, 23468), (171, 23480), (183,

23543), (186, 23558), (199, 23627), (240, 23855), (243, 23879), (244, 23882), (250, 23909), (251, 23912), (269, 24017), (274, 24038), (275, 24047), (298, 24152), (306, 24191), (312, 24236), (329, 24335), (386, 24521), (389, 24527), (404, 24572), (420, 24623), (421, 24626), (445, 24689), (451, 24698), (467, 24785),

Gene: Kremtemulon\_31 Start: 23008, Stop: 24867, Start Num: 21

Candidate Starts for Kremtemulon\_31:

(Start: 21 @23008 has 162 MA's), (48, 23134), (Start: 53 @23158 has 1 MA's), (78, 23263), (79, 23269), (86, 23317), (89, 23326), (98, 23368), (132, 23419), (168, 23524), (171, 23536), (186, 23614), (199, 23683), (240, 23911), (244, 23938), (250, 23965), (251, 23968), (269, 24073), (275, 24103), (278, 24118), (298, 24208), (306, 24247), (310, 24274), (312, 24292), (389, 24583), (414, 24661), (417, 24673), (420, 24679), (432, 24718), (445, 24745), (449, 24751), (467, 24844),

Gene: Kristoff\_34 Start: 23647, Stop: 25482, Start Num: 21

Candidate Starts for Kristoff\_34:

(Start: 21 @23647 has 162 MA's), (30, 23680), (68, 23857), (114, 24049), (116, 24055), (117, 24076), (119, 24103), (189, 24283), (197, 24316), (199, 24334), (203, 24358), (221, 24466), (246, 24598), (259, 24655), (263, 24688), (275, 24745), (287, 24799), (292, 24814), (302, 24868), (320, 24976), (324, 24991), (329, 25015), (334, 25030), (368, 25147), (374, 25165), (380, 25186), (381, 25189), (410, 25264), (414, 25279), (443, 25360), (454, 25390), (459, 25420), (468, 25465), (469, 25468),

Gene: Kyee\_31 Start: 22958, Stop: 24814, Start Num: 21

Candidate Starts for Kyee\_31:

(Start: 21 @22958 has 162 MA's), (48, 23084), (Start: 53 @23108 has 1 MA's), (78, 23213), (79, 23219), (86, 23267), (89, 23276), (98, 23318), (122, 23363), (132, 23369), (168, 23474), (171, 23486), (186, 23564), (199, 23633), (240, 23861), (243, 23885), (244, 23888), (250, 23915), (251, 23918), (269, 24023), (274, 24044), (275, 24053), (298, 24158), (306, 24197), (312, 24242), (350, 24410), (386, 24527), (389, 24533), (404, 24578), (420, 24629), (421, 24632), (445, 24695), (451, 24704), (467, 24791),

Gene: L5\_31 Start: 21890, Stop: 23536, Start Num: 26

Candidate Starts for L5\_31:

(Start: 26 @21890 has 35 MA's), (50, 22010), (Start: 53 @22025 has 1 MA's), (71, 22100), (81, 22148), (83, 22160), (112, 22271), (140, 22328), (142, 22334), (155, 22406), (202, 22625), (226, 22739), (241, 22823), (243, 22829), (252, 22865), (267, 22949), (282, 23027), (302, 23123), (310, 23162), (323, 23249), (366, 23408), (382, 23447),

Gene: LBerry\_33 Start: 23277, Stop: 25034, Start Num: 20

Candidate Starts for LBerry\_33:

(Start: 20 @23277 has 81 MA's), (48, 23412), (64, 23478), (73, 23523), (81, 23559), (122, 23691), (139, 23727), (145, 23748), (181, 23805), (194, 23865), (208, 23919), (215, 23979), (238, 24099), (239, 24102), (254, 24171), (258, 24195), (275, 24288), (279, 24309), (291, 24354), (365, 24684), (389, 24753), (412, 24816), (462, 24987),

Gene: LHTSCC\_32 Start: 23274, Stop: 25130, Start Num: 21

Candidate Starts for LHTSCC\_32:

(Start: 21 @23274 has 162 MA's), (48, 23400), (Start: 53 @23424 has 1 MA's), (78, 23529), (79, 23535), (86, 23583), (98, 23634), (132, 23685), (168, 23790), (171, 23802), (186, 23880), (199, 23949), (229, 24117), (233, 24147), (240, 24177), (243, 24201), (244, 24204), (250, 24231), (251, 24234), (269, 24339), (274, 24360), (275, 24369), (306, 24513), (312, 24558), (349, 24720), (386, 24843), (404, 24894), (445, 25011), (451, 25020), (467, 25107),

Gene: Lambert1\_32 Start: 23373, Stop: 25232, Start Num: 19

Candidate Starts for Lambert1\_32:

(Start: 19 @23373 has 31 MA's), (50, 23517), (54, 23535), (64, 23574), (68, 23595), (78, 23637), (81, 23655), (138, 23814), (144, 23841), (174, 23946), (179, 23967), (197, 24054), (203, 24096), (246, 24336), (263, 24426), (275, 24483), (310, 24648), (318, 24702), (320, 24714), (324, 24729), (360, 24858), (363, 24870), (381, 24930), (386, 24942), (406, 24987), (412, 25005), (459, 25152), (463, 25179), (468, 25209),

Gene: Landor\_33 Start: 24870, Stop: 26645, Start Num: 21

Candidate Starts for Landor\_33:

(17, 24831), (Start: 21 @24870 has 162 MA's), (48, 24981), (50, 24990), (65, 25047), (71, 25074), (89, 25167), (132, 25260), (138, 25281), (145, 25311), (149, 25323), (189, 25446), (197, 25479), (199, 25497), (203, 25521), (223, 25635), (231, 25683), (240, 25722), (246, 25761), (250, 25773), (259, 25818), (300, 26013), (303, 26034), (318, 26127), (334, 26193), (355, 26265), (374, 26328), (410, 26427), (414, 26442), (443, 26523), (459, 26583), (468, 26628),

Gene: LappelDuVide\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for LappelDuVide\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: LarryKay\_33 Start: 23366, Stop: 25117, Start Num: 20

Candidate Starts for LarryKay\_33:

(Start: 20 @23366 has 81 MA's), (48, 23501), (64, 23567), (73, 23612), (81, 23648), (108, 23759), (122, 23780), (139, 23816), (145, 23837), (194, 23954), (220, 24092), (238, 24188), (239, 24191), (254, 24260), (258, 24284), (266, 24329), (275, 24377), (291, 24443), (321, 24614), (323, 24620), (336, 24671), (350, 24716), (359, 24746), (374, 24794), (389, 24836), (393, 24851), (395, 24854), (404, 24878), (436, 24980), (437, 24983), (451, 25007),

Gene: Lemur\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Lemur\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: LeoAvram\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for LeoAvram\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (329, 24340), (386, 24526), (404, 24577), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Leogania\_33 Start: 24913, Stop: 26691, Start Num: 21

Candidate Starts for Leogania\_33:

(Start: 21 @24913 has 162 MA's), (48, 25024), (50, 25033), (71, 25120), (139, 25336), (145, 25357), (149, 25369), (191, 25504), (197, 25525), (199, 25543), (203, 25567), (221, 25675), (246, 25807),

(259, 25864), (263, 25897), (275, 25954), (320, 26185), (329, 26224), (334, 26239), (374, 26374), (381, 26398), (384, 26404), (410, 26473), (414, 26488), (426, 26527), (430, 26536), (443, 26569), (468, 26674), (472, 26683),

Gene: Lilith\_33 Start: 23270, Stop: 25027, Start Num: 20

Candidate Starts for Lilith\_33:

(Start: 20 @23270 has 81 MA's), (48, 23405), (64, 23471), (73, 23516), (81, 23552), (122, 23684), (139, 23720), (145, 23741), (181, 23798), (194, 23858), (208, 23912), (215, 23972), (238, 24092), (239, 24095), (254, 24164), (258, 24188), (275, 24281), (279, 24302), (291, 24347), (365, 24677), (389, 24746), (412, 24809), (462, 24980),

Gene: Lilleskat\_31 Start: 24377, Stop: 26143, Start Num: 22

Candidate Starts for Lilleskat\_31:

(Start: 22 @24377 has 28 MA's), (27, 24389), (64, 24563), (83, 24653), (95, 24698), (97, 24707), (139, 24785), (146, 24809), (166, 24845), (197, 24974), (199, 24992), (240, 25217), (243, 25238), (246, 25256), (263, 25346), (275, 25403), (302, 25526), (324, 25649), (334, 25688), (350, 25745), (374, 25826), (380, 25847), (381, 25850), (414, 25940), (454, 26051), (468, 26126),

Gene: LionsBait\_32 Start: 24478, Stop: 26265, Start Num: 25

Candidate Starts for LionsBait\_32:

(Start: 25 @24478 has 12 MA's), (33, 24502), (48, 24592), (50, 24601), (57, 24634), (71, 24691), (89, 24784), (191, 25075), (197, 25096), (199, 25114), (203, 25138), (240, 25339), (246, 25378), (263, 25468), (275, 25525), (303, 25651), (320, 25756), (334, 25810), (374, 25948), (381, 25972), (414, 26062), (426, 26101), (434, 26125), (443, 26143), (468, 26248),

Gene: LittleB\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for LittleB\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: LittleGuy\_31 Start: 22903, Stop: 24762, Start Num: 21

Candidate Starts for LittleGuy\_31:

(Start: 21 @22903 has 162 MA's), (48, 23029), (Start: 53 @23053 has 1 MA's), (78, 23158), (79, 23164), (86, 23212), (89, 23221), (98, 23263), (122, 23308), (132, 23314), (168, 23419), (171, 23431), (186, 23509), (199, 23578), (250, 23860), (251, 23863), (269, 23968), (275, 23998), (298, 24103), (306, 24142), (310, 24169), (312, 24187), (389, 24478), (414, 24556), (417, 24568), (420, 24574), (432, 24613), (445, 24640), (449, 24646), (451, 24649), (467, 24739),

Gene: LochMonster\_31 Start: 22932, Stop: 24788, Start Num: 21

Candidate Starts for LochMonster\_31:

(Start: 21 @22932 has 162 MA's), (48, 23058), (Start: 53 @23082 has 1 MA's), (78, 23187), (79, 23193), (86, 23241), (89, 23250), (98, 23292), (122, 23337), (132, 23343), (168, 23448), (171, 23460), (183, 23523), (186, 23538), (199, 23607), (229, 23775), (240, 23835), (244, 23862), (250, 23889), (251, 23892), (269, 23997), (274, 24018), (275, 24027), (298, 24132), (312, 24216), (329, 24315), (386, 24501), (389, 24507), (404, 24552), (420, 24603), (421, 24606), (445, 24669), (451, 24678), (467, 24765),

Gene: Loka\_34 Start: 24358, Stop: 26142, Start Num: 25

Candidate Starts for Loka\_34:



(Start: 25 @24358 has 12 MA's), (33, 24382), (48, 24472), (50, 24481), (64, 24538), (178, 24886), (179, 24889), (197, 24976), (199, 24994), (203, 25018), (221, 25126), (240, 25219), (246, 25258), (263, 25348), (276, 25408), (287, 25459), (300, 25510), (303, 25531), (311, 25576), (329, 25675), (334, 25690), (339, 25708), (380, 25846), (389, 25867), (414, 25939), (419, 25957), (426, 25978), (432, 25999), (443, 26020), (459, 26080), (468, 26125),

Gene: LoneWolf\_32 Start: 23970, Stop: 25736, Start Num: 22

Candidate Starts for LoneWolf\_32:

(Start: 22 @23970 has 28 MA's), (64, 24156), (75, 24204), (83, 24246), (95, 24291), (97, 24300), (110, 24324), (138, 24369), (139, 24378), (146, 24402), (166, 24438), (197, 24567), (199, 24585), (205, 24615), (209, 24624), (235, 24783), (240, 24810), (246, 24849), (263, 24939), (275, 24996), (291, 25062), (302, 25119), (324, 25242), (334, 25281), (374, 25419), (380, 25440), (381, 25443), (404, 25500), (414, 25533), (454, 25644), (468, 25719),

Gene: Lorenzo\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Lorenzo\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Loser\_35 Start: 25033, Stop: 26811, Start Num: 26

Candidate Starts for Loser\_35:

(Start: 26 @25033 has 35 MA's), (48, 25144), (50, 25153), (58, 25186), (71, 25240), (79, 25276), (81, 25288), (83, 25300), (138, 25447), (139, 25456), (145, 25477), (149, 25489), (178, 25555), (191, 25624), (197, 25645), (199, 25663), (203, 25687), (220, 25786), (221, 25795), (246, 25927), (259, 25984), (263, 26017), (275, 26074), (287, 26128), (302, 26197), (324, 26320), (334, 26359), (350, 26413), (374, 26494), (380, 26515), (389, 26536), (414, 26608), (443, 26689),

Gene: Louie6\_33 Start: 23364, Stop: 25115, Start Num: 20

Candidate Starts for Louie6\_33:

(Start: 20 @23364 has 81 MA's), (48, 23499), (64, 23565), (73, 23610), (81, 23646), (108, 23757), (122, 23778), (139, 23814), (145, 23835), (194, 23952), (220, 24090), (238, 24186), (239, 24189), (254, 24258), (258, 24282), (266, 24327), (275, 24375), (291, 24441), (321, 24612), (323, 24618), (336, 24669), (350, 24714), (359, 24744), (374, 24792), (389, 24834), (393, 24849), (395, 24852), (404, 24876), (436, 24978), (437, 24981), (451, 25005),

Gene: Lowa\_33 Start: 23269, Stop: 25026, Start Num: 20

Candidate Starts for Lowa\_33:

(Start: 20 @23269 has 81 MA's), (48, 23404), (64, 23470), (73, 23515), (81, 23551), (122, 23683), (139, 23719), (145, 23740), (181, 23797), (194, 23857), (208, 23911), (215, 23971), (238, 24091), (239, 24094), (254, 24163), (258, 24187), (275, 24280), (279, 24301), (291, 24346), (365, 24676), (389, 24745), (412, 24808), (462, 24979),

Gene: Lucivia\_31 Start: 23446, Stop: 25437, Start Num: 12

Candidate Starts for Lucivia\_31:

(Start: 12 @23446 has 11 MA's), (Start: 24 @23557 has 1 MA's), (28, 23566), (40, 23623), (41, 23638), (42, 23656), (44, 23668), (54, 23716), (59, 23734), (60, 23737), (85, 23857), (131, 23971), (135, 23992), (140, 24010), (149, 24043), (188, 24226), (195, 24256), (196, 24259), (225, 24433), (227, 24439), (231, 24463), (232, 24469), (248, 24544), (262, 24607), (273, 24649), (274, 24655), (299, 24778), (308, 24826), (310, 24835), (330, 24952), (332, 24955), (345, 24997), (354, 25039), (364,

25075), (381, 25129), (398, 25180), (401, 25186), (405, 25192), (418, 25234), (452, 25324), (461, 25381), (468, 25420), (472, 25429),

Gene: LugYA\_35 Start: 23277, Stop: 25034, Start Num: 20

Candidate Starts for LugYA\_35:

(Start: 20 @23277 has 81 MA's), (48, 23412), (64, 23478), (73, 23523), (81, 23559), (122, 23691), (139, 23727), (145, 23748), (181, 23805), (194, 23865), (208, 23919), (215, 23979), (238, 24099), (239, 24102), (254, 24171), (258, 24195), (275, 24288), (279, 24309), (291, 24354), (365, 24684), (389, 24753), (412, 24816), (462, 24987),

Gene: Lunsford\_32 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Lunsford\_32:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: MA5\_31 Start: 22455, Stop: 24314, Start Num: 19

Candidate Starts for MA5\_31:

(Start: 19 @22455 has 31 MA's), (39, 22533), (50, 22599), (64, 22656), (80, 22731), (132, 22875), (138, 22896), (144, 22923), (171, 22998), (179, 23049), (197, 23136), (199, 23154), (203, 23178), (246, 23418), (263, 23508), (302, 23688), (310, 23730), (320, 23796), (324, 23811), (329, 23835), (372, 23982), (381, 24012), (427, 24141), (459, 24234), (463, 24261), (467, 24285), (468, 24291),

Gene: MK4\_31 Start: 22761, Stop: 24620, Start Num: 19

Candidate Starts for MK4\_31:

(Start: 19 @22761 has 31 MA's), (47, 22887), (50, 22905), (Start: 53 @22920 has 1 MA's), (64, 22962), (78, 23025), (131, 23178), (132, 23181), (138, 23202), (144, 23229), (171, 23304), (179, 23355), (197, 23442), (199, 23460), (203, 23484), (229, 23622), (246, 23724), (259, 23781), (263, 23814), (284, 23907), (289, 23931), (310, 24036), (320, 24102), (324, 24117), (372, 24288), (412, 24393), (427, 24447), (443, 24486), (459, 24540), (463, 24567), (467, 24591),

Gene: MaCh\_31 Start: 23388, Stop: 25376, Start Num: 12

Candidate Starts for MaCh\_31:

(Start: 12 @23388 has 11 MA's), (Start: 24 @23499 has 1 MA's), (28, 23508), (40, 23565), (41, 23580), (42, 23598), (44, 23610), (54, 23658), (59, 23676), (60, 23679), (85, 23799), (131, 23913), (135, 23934), (140, 23952), (149, 23985), (188, 24168), (195, 24198), (196, 24201), (225, 24375), (227, 24381), (231, 24405), (232, 24411), (248, 24486), (262, 24549), (273, 24591), (274, 24597), (299, 24720), (308, 24768), (310, 24777), (330, 24894), (332, 24897), (345, 24939), (354, 24981), (364, 25017), (381, 25071), (452, 25263), (461, 25320), (468, 25359), (472, 25368),

Gene: MadMarie\_33 Start: 23279, Stop: 25036, Start Num: 20

Candidate Starts for MadMarie\_33:

(Start: 20 @23279 has 81 MA's), (48, 23414), (64, 23480), (73, 23525), (81, 23561), (122, 23693), (139, 23729), (145, 23750), (181, 23807), (194, 23867), (208, 23921), (215, 23981), (238, 24101), (239, 24104), (254, 24173), (258, 24197), (275, 24290), (279, 24311), (291, 24356), (365, 24686), (389, 24755), (412, 24818), (462, 24989),

Gene: Mainiac\_33 Start: 23270, Stop: 25027, Start Num: 20

Candidate Starts for Mainiac\_33:

(Start: 20 @23270 has 81 MA's), (48, 23405), (64, 23471), (73, 23516), (81, 23552), (122, 23684), (139, 23720), (145, 23741), (181, 23798), (194, 23858), (208, 23912), (215, 23972), (238, 24092), (239, 24095), (254, 24164), (258, 24188), (275, 24281), (279, 24302), (291, 24347), (365, 24677), (389, 24746), (412, 24809), (462, 24980),

Gene: MajorMajor\_30 Start: 21646, Stop: 23397, Start Num: 26

Candidate Starts for MajorMajor\_30:

(Start: 26 @21646 has 35 MA's), (33, 21667), (50, 21766), (Start: 53 @21781 has 1 MA's), (71, 21856), (83, 21916), (112, 22027), (134, 22060), (140, 22084), (142, 22090), (155, 22162), (176, 22237), (184, 22270), (188, 22300), (241, 22588), (267, 22708), (280, 22777), (323, 23008), (344, 23083), (348, 23095), (349, 23104), (358, 23143), (427, 23338), (437, 23365), (438, 23368), (444, 23380),

Gene: Malec\_32 Start: 23029, Stop: 25110, Start Num: 25

Candidate Starts for Malec\_32:

(Start: 25 @23029 has 12 MA's), (33, 23053), (48, 23143), (51, 23158), (74, 23257), (88, 23332), (101, 23380), (168, 23569), (175, 23608), (195, 23704), (238, 23953), (255, 24016), (262, 24061), (282, 24163), (308, 24301), (315, 24364), (321, 24394), (347, 24478), (371, 24568), (374, 24577), (379, 24592), (381, 24601), (446, 24775), (470, 24895), (473, 24934), (474, 24970), (475, 24994), (476, 25027), (477, 25096), (478, 25099),

Gene: Malinsilva\_35 Start: 23269, Stop: 25026, Start Num: 20

Candidate Starts for Malinsilva\_35:

(Start: 20 @23269 has 81 MA's), (48, 23404), (64, 23470), (73, 23515), (81, 23551), (122, 23683), (139, 23719), (145, 23740), (181, 23797), (194, 23857), (208, 23911), (215, 23971), (238, 24091), (239, 24094), (254, 24163), (258, 24187), (275, 24280), (279, 24301), (291, 24346), (365, 24676), (389, 24745), (412, 24808), (462, 24979),

Gene: Maminiaina\_32 Start: 23915, Stop: 25681, Start Num: 22

Candidate Starts for Maminiaina\_32:

(Start: 22 @23915 has 28 MA's), (58, 24080), (64, 24101), (79, 24167), (81, 24179), (83, 24191), (95, 24236), (97, 24245), (100, 24254), (138, 24314), (139, 24323), (146, 24347), (166, 24383), (188, 24476), (197, 24512), (199, 24530), (240, 24755), (243, 24776), (246, 24794), (263, 24884), (275, 24941), (284, 24977), (302, 25064), (324, 25187), (329, 25211), (334, 25226), (350, 25283), (380, 25385), (381, 25388), (414, 25478), (454, 25589), (468, 25664),

Gene: Manu\_34 Start: 23361, Stop: 25169, Start Num: 20

Candidate Starts for Manu\_34:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (81, 23643), (100, 23733), (110, 23757), (138, 23802), (145, 23832), (197, 24000), (199, 24018), (203, 24042), (231, 24204), (240, 24243), (246, 24282), (263, 24372), (300, 24534), (303, 24555), (317, 24642), (329, 24699), (334, 24714), (352, 24777), (374, 24852), (380, 24873), (414, 24966), (426, 25005), (443, 25047), (467, 25146),

Gene: MarQuardt\_33 Start: 23278, Stop: 25035, Start Num: 20

Candidate Starts for MarQuardt\_33:

(Start: 20 @23278 has 81 MA's), (48, 23413), (64, 23479), (73, 23524), (81, 23560), (122, 23692), (139, 23728), (145, 23749), (181, 23806), (194, 23866), (208, 23920), (215, 23980), (238, 24100), (239, 24103), (254, 24172), (258, 24196), (275, 24289), (279, 24310), (291, 24355), (365, 24685), (389, 24754), (412, 24817), (462, 24988),

Gene: Marchesa\_31 Start: 22890, Stop: 24749, Start Num: 19

Candidate Starts for Marchesa\_31:

(Start: 19 @22890 has 31 MA's), (47, 23016), (48, 23025), (64, 23091), (68, 23112), (78, 23154), (132, 23310), (144, 23358), (170, 23427), (171, 23433), (174, 23463), (197, 23571), (199, 23589), (203, 23613), (246, 23853), (263, 23943), (289, 24060), (310, 24165), (320, 24231), (324, 24246), (372, 24417), (412, 24522), (427, 24576), (443, 24615), (459, 24669), (463, 24696), (467, 24720),

Gene: Margo\_32 Start: 23399, Stop: 25258, Start Num: 19

Candidate Starts for Margo\_32:

(Start: 19 @23399 has 31 MA's), (50, 23543), (64, 23600), (68, 23621), (78, 23663), (81, 23681), (138, 23840), (144, 23867), (174, 23972), (179, 23993), (197, 24080), (203, 24122), (246, 24362), (263, 24452), (275, 24509), (310, 24674), (318, 24728), (320, 24740), (324, 24755), (360, 24884), (363, 24896), (381, 24956), (386, 24968), (406, 25013), (412, 25031), (459, 25178), (463, 25205), (468, 25235),

Gene: Marie\_33 Start: 23276, Stop: 25033, Start Num: 20

Candidate Starts for Marie\_33:

(Start: 20 @23276 has 81 MA's), (48, 23411), (64, 23477), (73, 23522), (81, 23558), (122, 23690), (139, 23726), (145, 23747), (181, 23804), (194, 23864), (208, 23918), (215, 23978), (238, 24098), (239, 24101), (254, 24170), (258, 24194), (275, 24287), (279, 24308), (291, 24353), (365, 24683), (389, 24752), (412, 24815), (462, 24986),

Gene: Marius\_34 Start: 23361, Stop: 25169, Start Num: 20

Candidate Starts for Marius\_34:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (81, 23643), (100, 23733), (110, 23757), (138, 23802), (145, 23832), (197, 24000), (199, 24018), (203, 24042), (231, 24204), (240, 24243), (246, 24282), (263, 24372), (300, 24534), (303, 24555), (317, 24642), (329, 24699), (334, 24714), (352, 24777), (374, 24852), (380, 24873), (414, 24966), (426, 25005), (443, 25047), (467, 25146),

Gene: Maverick\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Maverick\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Maxo\_31 Start: 22958, Stop: 24814, Start Num: 21

Candidate Starts for Maxo\_31:

(Start: 21 @22958 has 162 MA's), (48, 23084), (Start: 53 @23108 has 1 MA's), (78, 23213), (79, 23219), (86, 23267), (89, 23276), (98, 23318), (122, 23363), (132, 23369), (168, 23474), (171, 23486), (186, 23564), (199, 23633), (240, 23861), (243, 23885), (244, 23888), (250, 23915), (251, 23918), (269, 24023), (275, 24053), (278, 24068), (298, 24158), (306, 24197), (310, 24224), (312, 24242), (329, 24341), (386, 24527), (404, 24578), (421, 24632), (445, 24695), (451, 24704), (467, 24791),

Gene: Mayonnaise\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Mayonnaise\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Mazhar510\_31 Start: 22961, Stop: 24817, Start Num: 21

Candidate Starts for Mazhar510\_31:

(Start: 21 @22961 has 162 MA's), (48, 23087), (Start: 53 @23111 has 1 MA's), (78, 23216), (79, 23222), (86, 23270), (98, 23321), (122, 23366), (132, 23372), (168, 23477), (171, 23489), (186, 23567), (199, 23636), (240, 23864), (243, 23888), (244, 23891), (250, 23918), (251, 23921), (269, 24026), (274, 24047), (275, 24056), (298, 24161), (306, 24200), (312, 24245), (349, 24407), (350, 24413), (386, 24530), (389, 24536), (404, 24581), (420, 24632), (421, 24635), (445, 24698), (451, 24707), (467, 24794),

Gene: Medusa\_31 Start: 22961, Stop: 24817, Start Num: 21

Candidate Starts for Medusa\_31:

(Start: 21 @22961 has 162 MA's), (48, 23087), (Start: 53 @23111 has 1 MA's), (78, 23216), (79, 23222), (86, 23270), (89, 23279), (98, 23321), (122, 23366), (132, 23372), (168, 23477), (171, 23489), (186, 23567), (199, 23636), (240, 23864), (243, 23888), (244, 23891), (250, 23918), (251, 23921), (269, 24026), (275, 24056), (278, 24071), (298, 24161), (306, 24200), (312, 24245), (350, 24413), (386, 24530), (389, 24536), (404, 24581), (420, 24632), (421, 24635), (445, 24698), (451, 24707), (467, 24794),

Gene: MeeZee\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for MeeZee\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Melvin\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Melvin\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Methuselah\_32 Start: 23360, Stop: 25111, Start Num: 20

Candidate Starts for Methuselah\_32:

(Start: 20 @23360 has 81 MA's), (48, 23495), (62, 23552), (64, 23561), (73, 23606), (81, 23642), (108, 23753), (122, 23774), (139, 23810), (145, 23831), (194, 23948), (220, 24086), (238, 24182), (239, 24185), (254, 24254), (258, 24278), (266, 24323), (275, 24371), (291, 24437), (321, 24608), (323, 24614), (336, 24665), (350, 24710), (359, 24740), (374, 24788), (389, 24830), (393, 24845), (395, 24848), (404, 24872), (436, 24974), (437, 24977), (451, 25001),

Gene: Microwolf\_33 Start: 23278, Stop: 25035, Start Num: 20

Candidate Starts for Microwolf\_33:

(Start: 20 @23278 has 81 MA's), (48, 23413), (64, 23479), (73, 23524), (81, 23560), (122, 23692), (139, 23728), (145, 23749), (181, 23806), (194, 23866), (208, 23920), (215, 23980), (238, 24100), (239, 24103), (254, 24172), (258, 24196), (275, 24289), (279, 24310), (291, 24355), (365, 24685), (389, 24754), (412, 24817), (462, 24988),

Gene: MiculUcigas\_31 Start: 22775, Stop: 24997, Start Num: 1

Candidate Starts for MiculUcigas\_31:

(Start: 1 @22775 has 9 MA's), (4, 22889), (6, 22904), (36, 23150), (43, 23204), (69, 23315), (76, 23354), (91, 23450), (134, 23552), (197, 23801), (201, 23831), (203, 23843), (234, 24014), (246, 24083), (263, 24182), (287, 24293), (289, 24299), (291, 24305), (300, 24344), (309, 24401), (310, 24404), (320, 24470), (344, 24554), (363, 24626), (400, 24746), (439, 24857), (457, 24908), (459, 24920),

Gene: Miko\_34 Start: 24326, Stop: 26263, Start Num: 25

Candidate Starts for Miko\_34:

(Start: 25 @24326 has 12 MA's), (33, 24350), (48, 24440), (50, 24449), (64, 24506), (178, 25007), (197, 25097), (199, 25115), (203, 25139), (221, 25247), (240, 25340), (246, 25379), (263, 25469), (276, 25529), (300, 25631), (303, 25652), (329, 25796), (334, 25811), (380, 25967), (389, 25988), (414, 26060), (419, 26078), (432, 26120), (443, 26141), (459, 26201), (468, 26246),

Gene: Millski\_30 Start: 22963, Stop: 24819, Start Num: 21

Candidate Starts for Millski\_30:

(Start: 21 @22963 has 162 MA's), (48, 23089), (Start: 53 @23113 has 1 MA's), (78, 23218), (79, 23224), (86, 23272), (89, 23281), (98, 23323), (122, 23368), (132, 23374), (168, 23479), (171, 23491), (186, 23569), (199, 23638), (240, 23866), (243, 23890), (244, 23893), (250, 23920), (251, 23923), (269, 24028), (275, 24058), (278, 24073), (298, 24163), (306, 24202), (312, 24247), (350, 24415), (386, 24532), (389, 24538), (404, 24583), (420, 24634), (421, 24637), (445, 24700), (451, 24709), (467, 24796),

Gene: Miramae\_31 Start: 22903, Stop: 24762, Start Num: 21

Candidate Starts for Miramae\_31:

(Start: 21 @22903 has 162 MA's), (37, 22969), (Start: 53 @23053 has 1 MA's), (57, 23071), (68, 23116), (79, 23164), (89, 23221), (98, 23263), (132, 23314), (138, 23335), (146, 23368), (168, 23419), (171, 23431), (180, 23485), (186, 23509), (199, 23578), (240, 23806), (244, 23833), (250, 23860), (251, 23863), (269, 23971), (274, 23992), (275, 24001), (291, 24070), (298, 24106), (306, 24145), (314, 24214), (349, 24352), (386, 24475), (389, 24481), (445, 24643), (451, 24652),

Gene: Misomonster\_35 Start: 23363, Stop: 25114, Start Num: 20

Candidate Starts for Misomonster\_35:

(Start: 20 @23363 has 81 MA's), (48, 23498), (64, 23564), (73, 23609), (81, 23645), (108, 23756), (122, 23777), (139, 23813), (145, 23834), (194, 23951), (220, 24089), (238, 24185), (239, 24188), (254, 24257), (258, 24281), (266, 24326), (275, 24374), (291, 24440), (321, 24611), (323, 24617), (336, 24668), (350, 24713), (359, 24743), (374, 24791), (389, 24833), (393, 24848), (395, 24851), (404, 24875), (436, 24977), (437, 24980), (451, 25004),

Gene: MissWhite\_31 Start: 21856, Stop: 23703, Start Num: 26

Candidate Starts for MissWhite\_31:

(Start: 26 @21856 has 35 MA's), (33, 21877), (52, 21985), (79, 22102), (83, 22126), (143, 22306), (168, 22402), (182, 22474), (226, 22711), (241, 22795), (245, 22807), (249, 22828), (260, 22876), (267, 22921), (268, 22927), (271, 22942), (274, 22957), (280, 22990), (283, 23002), (296, 23053), (323, 23221), (336, 23266), (342, 23284), (415, 23512), (426, 23548), (438, 23581),

Gene: MoneyMay\_33 Start: 23276, Stop: 25033, Start Num: 20

Candidate Starts for MoneyMay\_33:

(Start: 20 @23276 has 81 MA's), (48, 23411), (64, 23477), (73, 23522), (81, 23558), (122, 23690), (139, 23726), (145, 23747), (181, 23804), (194, 23864), (208, 23918), (215, 23978), (238, 24098), (239, 24101), (254, 24170), (258, 24194), (275, 24287), (279, 24308), (291, 24353), (365, 24683), (389, 24752), (412, 24815), (462, 24986),

Gene: Morpher26\_31 Start: 22972, Stop: 24831, Start Num: 21

Candidate Starts for Morpher26\_31:

(14, 22912), (Start: 21 @22972 has 162 MA's), (37, 23038), (45, 23083), (47, 23089), (Start: 53 @23122 has 1 MA's), (57, 23140), (68, 23185), (70, 23191), (71, 23197), (89, 23290), (92, 23305), (122, 23377), (146, 23437), (168, 23488), (171, 23500), (186, 23578), (199, 23647), (218, 23770), (222, 23794), (240, 23875), (247, 23920), (250, 23929), (251, 23932), (274, 24061), (275, 24070), (285, 24112), (291, 24139), (298, 24175), (302, 24202), (306, 24214), (333, 24370), (386, 24544), (389, 24550), (404, 24595), (420, 24646), (421, 24649), (432, 24685), (451, 24721),

Gene: Morrow\_31 Start: 22963, Stop: 24819, Start Num: 21

Candidate Starts for Morrow\_31:

(Start: 21 @22963 has 162 MA's), (48, 23089), (Start: 53 @23113 has 1 MA's), (78, 23218), (79, 23224), (86, 23272), (89, 23281), (98, 23323), (122, 23368), (132, 23374), (171, 23491), (186, 23569), (199, 23638), (240, 23866), (243, 23890), (244, 23893), (251, 23923), (269, 24028), (275, 24058), (278, 24073), (298, 24163), (306, 24202), (310, 24229), (312, 24247), (329, 24346), (386, 24532), (404, 24583), (421, 24637), (445, 24700), (451, 24709), (467, 24796),

Gene: MuchMore\_35 Start: 23269, Stop: 25026, Start Num: 20

Candidate Starts for MuchMore\_35:

(Start: 20 @23269 has 81 MA's), (48, 23404), (64, 23470), (73, 23515), (81, 23551), (122, 23683), (139, 23719), (145, 23740), (181, 23797), (194, 23857), (208, 23911), (215, 23971), (238, 24091), (239, 24094), (254, 24163), (258, 24187), (275, 24280), (279, 24301), (291, 24346), (365, 24676), (389, 24745), (412, 24808), (462, 24979),

Gene: Munch\_31 Start: 23397, Stop: 25388, Start Num: 12

Candidate Starts for Munch\_31:

(Start: 12 @23397 has 11 MA's), (Start: 24 @23508 has 1 MA's), (28, 23517), (40, 23574), (41, 23589), (42, 23607), (44, 23619), (54, 23667), (59, 23685), (60, 23688), (85, 23808), (131, 23922), (135, 23943), (140, 23961), (149, 23994), (188, 24177), (195, 24207), (196, 24210), (225, 24384), (227, 24390), (231, 24414), (232, 24420), (248, 24495), (262, 24558), (273, 24600), (274, 24606), (299, 24729), (308, 24777), (310, 24786), (330, 24903), (332, 24906), (345, 24948), (354, 24990), (364, 25026), (381, 25080), (398, 25131), (401, 25137), (405, 25143), (418, 25185), (452, 25275), (461, 25332), (468, 25371), (472, 25380),

Gene: Mundrea\_31 Start: 22930, Stop: 24786, Start Num: 21

Candidate Starts for Mundrea\_31:

(Start: 21 @22930 has 162 MA's), (Start: 53 @23080 has 1 MA's), (57, 23098), (61, 23110), (68, 23143), (71, 23155), (89, 23248), (92, 23263), (146, 23395), (168, 23446), (171, 23458), (186, 23536), (199, 23605), (240, 23833), (250, 23887), (251, 23890), (269, 23995), (274, 24016), (275, 24025), (298, 24130), (333, 24325), (350, 24382), (386, 24499), (389, 24505), (451, 24676),

Gene: MyraDee\_29 Start: 20768, Stop: 22630, Start Num: 21

Candidate Starts for MyraDee\_29:

(Start: 21 @20768 has 162 MA's), (29, 20789), (34, 20810), (49, 20894), (55, 20924), (81, 21038), (93, 21101), (94, 21107), (110, 21152), (186, 21344), (196, 21392), (199, 21413), (218, 21536), (221, 21557), (229, 21581), (250, 21695), (251, 21698), (269, 21806), (274, 21827), (275, 21836), (291, 21905), (298, 21941), (308, 21998), (320, 22085), (322, 22091), (363, 22250), (376, 22289), (380, 22304), (384, 22313), (386, 22319), (408, 22382), (431, 22457), (435, 22472), (440, 22487), (471, 22607),

Gene: Myxus\_33 Start: 24377, Stop: 26143, Start Num: 22

Candidate Starts for Myxus\_33:

(Start: 22 @24377 has 28 MA's), (27, 24389), (64, 24563), (83, 24653), (95, 24698), (97, 24707), (139, 24785), (146, 24809), (166, 24845), (197, 24974), (199, 24992), (240, 25217), (243, 25238), (246, 25256), (263, 25346), (275, 25403), (302, 25526), (324, 25649), (334, 25688), (350, 25745), (374, 25826), (380, 25847), (381, 25850), (414, 25940), (454, 26051), (468, 26126),

Gene: NaSiaTalie\_31 Start: 22773, Stop: 24995, Start Num: 1

Candidate Starts for NaSiaTalie\_31:

(Start: 1 @22773 has 9 MA's), (4, 22887), (5, 22896), (6, 22902), (7, 22923), (9, 22959), (15, 23034), (29, 23124), (32, 23136), (69, 23313), (76, 23352), (91, 23448), (197, 23799), (201, 23829), (203, 23841), (234, 24012), (246, 24081), (263, 24180), (287, 24291), (289, 24297), (291, 24303), (300, 24342), (309, 24399), (310, 24402), (320, 24468), (344, 24552), (363, 24624), (404, 24750), (406, 24753), (439, 24855), (447, 24870), (459, 24918),

Gene: Naji\_34 Start: 22559, Stop: 24412, Start Num: 26

Candidate Starts for Naji\_34:

(Start: 23 @22553 has 4 MA's), (Start: 26 @22559 has 35 MA's), (50, 22679), (71, 22769), (83, 22829), (93, 22880), (134, 22973), (140, 22997), (142, 23003), (241, 23510), (258, 23579), (274, 23666), (294, 23747), (405, 24191), (409, 24206), (426, 24260), (434, 24284), (438, 24293), (453, 24329),

Gene: Nebs\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Nebs\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (310, 24223), (312, 24241), (329, 24340), (386, 24526), (404, 24577), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Nemo27\_31 Start: 22959, Stop: 24815, Start Num: 21

Candidate Starts for Nemo27\_31:

(Start: 21 @22959 has 162 MA's), (48, 23085), (Start: 53 @23109 has 1 MA's), (78, 23214), (79, 23220), (86, 23268), (89, 23277), (98, 23319), (122, 23364), (132, 23370), (168, 23475), (171, 23487), (186, 23565), (199, 23634), (240, 23862), (243, 23886), (244, 23889), (250, 23916), (251, 23919), (269, 24024), (274, 24045), (275, 24054), (298, 24159), (306, 24198), (312, 24243), (349, 24405), (350, 24411), (386, 24528), (389, 24534), (404, 24579), (420, 24630), (421, 24633), (445, 24696), (451, 24705), (467, 24792),

Gene: Nergal\_25 Start: 20708, Stop: 22390, Start Num: 53

Candidate Starts for Nergal\_25:

(Start: 53 @20708 has 1 MA's), (70, 20774), (165, 21074), (224, 21374), (246, 21488), (260, 21542), (262, 21566), (265, 21578), (273, 21617), (288, 21686), (293, 21701), (300, 21749), (323, 21893), (330, 21923), (337, 21944), (341, 21956), (345, 21968), (394, 22127), (403, 22151), (405, 22154), (407, 22157), (420, 22196), (441, 22250), (458, 22310), (466, 22358),

Gene: NicoleTera\_35 Start: 24630, Stop: 26411, Start Num: 23

Candidate Starts for NicoleTera\_35:

(Start: 23 @24630 has 4 MA's), (48, 24744), (50, 24753), (71, 24840), (169, 25128), (197, 25245), (199, 25263), (203, 25287), (240, 25488), (246, 25527), (300, 25779), (302, 25797), (320, 25905), (329, 25944), (334, 25959), (344, 25989), (380, 26115), (389, 26136), (414, 26208), (432, 26268), (443, 26289), (468, 26394),

Gene: Noella\_32 Start: 23374, Stop: 25233, Start Num: 19

Candidate Starts for Noella\_32:



(Start: 19 @23374 has 31 MA's), (50, 23518), (54, 23536), (64, 23575), (68, 23596), (78, 23638), (81, 23656), (138, 23815), (144, 23842), (174, 23947), (179, 23968), (197, 24055), (203, 24097), (246, 24337), (263, 24427), (275, 24484), (310, 24649), (318, 24703), (320, 24715), (324, 24730), (360, 24859), (363, 24871), (381, 24931), (386, 24943), (406, 24988), (412, 25006), (459, 25153), (463, 25180), (468, 25210),

Gene: Noelle\_31 Start: 23041, Stop: 24900, Start Num: 21

Candidate Starts for Noelle\_31:

(Start: 21 @23041 has 162 MA's), (54, 23194), (63, 23227), (64, 23233), (68, 23254), (71, 23266), (87, 23353), (92, 23374), (138, 23473), (168, 23557), (171, 23569), (184, 23635), (186, 23647), (199, 23716), (240, 23944), (247, 23989), (250, 23998), (251, 24001), (274, 24130), (275, 24139), (285, 24181), (291, 24208), (298, 24244), (302, 24271), (306, 24283), (310, 24310), (333, 24439), (350, 24496), (351, 24499), (386, 24613), (389, 24619), (412, 24685), (420, 24715), (447, 24784), (451, 24790),

Gene: Norbert\_31 Start: 23373, Stop: 25232, Start Num: 19

Candidate Starts for Norbert\_31:

(Start: 19 @23373 has 31 MA's), (50, 23517), (54, 23535), (64, 23574), (68, 23595), (78, 23637), (81, 23655), (138, 23814), (144, 23841), (174, 23946), (179, 23967), (197, 24054), (203, 24096), (246, 24336), (263, 24426), (275, 24483), (310, 24648), (318, 24702), (320, 24714), (324, 24729), (360, 24858), (363, 24870), (381, 24930), (386, 24942), (406, 24987), (412, 25005), (459, 25152), (463, 25179), (468, 25209),

Gene: NorthStar\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for NorthStar\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (180, 23542), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: NotAPhaseMom\_31 Start: 22964, Stop: 24820, Start Num: 21

Candidate Starts for NotAPhaseMom\_31:

(Start: 21 @22964 has 162 MA's), (48, 23090), (Start: 53 @23114 has 1 MA's), (78, 23219), (79, 23225), (86, 23273), (89, 23282), (98, 23324), (122, 23369), (132, 23375), (168, 23480), (171, 23492), (186, 23570), (199, 23639), (240, 23867), (243, 23891), (244, 23894), (250, 23921), (251, 23924), (269, 24029), (274, 24050), (275, 24059), (298, 24164), (306, 24203), (312, 24248), (349, 24410), (350, 24416), (386, 24533), (389, 24539), (404, 24584), (420, 24635), (445, 24701), (451, 24710), (467, 24797),

Gene: NothingSpecial\_33 Start: 24784, Stop: 26571, Start Num: 26

Candidate Starts for NothingSpecial\_33:

(Start: 26 @24784 has 35 MA's), (33, 24805), (46, 24883), (48, 24895), (49, 24898), (50, 24904), (51, 24910), (67, 24979), (83, 25057), (149, 25246), (197, 25402), (199, 25420), (203, 25444), (240, 25645), (263, 25774), (268, 25795), (275, 25831), (291, 25897), (303, 25957), (334, 26116), (336, 26122), (352, 26179), (355, 26191), (380, 26275), (414, 26368), (426, 26407), (443, 26449), (458, 26503), (466, 26539),

Gene: Nyxis\_31 Start: 22903, Stop: 24762, Start Num: 21

Candidate Starts for Nyxis\_31:

(Start: 21 @22903 has 162 MA's), (48, 23029), (Start: 53 @23053 has 1 MA's), (78, 23158), (79, 23164), (86, 23212), (89, 23221), (98, 23263), (122, 23308), (132, 23314), (171, 23431), (186, 23509),

(199, 23578), (250, 23860), (251, 23863), (269, 23968), (275, 23998), (298, 24103), (306, 24142), (310, 24169), (312, 24187), (389, 24478), (414, 24556), (417, 24568), (420, 24574), (432, 24613), (445, 24640), (449, 24646), (451, 24649), (467, 24739),

Gene: OKCentral2016\_32 Start: 22976, Stop: 24811, Start Num: 21

Candidate Starts for OKCentral2016\_32:

(Start: 21 @22976 has 162 MA's), (30, 23009), (35, 23024), (100, 23336), (110, 23360), (114, 23378), (115, 23381), (116, 23384), (117, 23405), (119, 23432), (197, 23645), (199, 23663), (203, 23687), (228, 23822), (230, 23831), (246, 23927), (259, 23984), (263, 24017), (287, 24128), (302, 24197), (320, 24305), (324, 24320), (334, 24359), (336, 24365), (355, 24431), (374, 24494), (380, 24515), (381, 24518), (384, 24524), (389, 24536), (410, 24593), (414, 24608), (416, 24617), (434, 24671), (443, 24689), (459, 24749), (468, 24794), (469, 24797),

Gene: OKaNui\_32 Start: 23013, Stop: 24869, Start Num: 21

Candidate Starts for OKaNui\_32:

(Start: 21 @23013 has 162 MA's), (48, 23139), (Start: 53 @23163 has 1 MA's), (78, 23268), (79, 23274), (86, 23322), (89, 23331), (98, 23373), (122, 23418), (132, 23424), (168, 23529), (171, 23541), (180, 23595), (186, 23619), (199, 23688), (229, 23856), (240, 23916), (243, 23940), (244, 23943), (247, 23961), (250, 23970), (251, 23973), (269, 24078), (275, 24108), (278, 24123), (298, 24213), (306, 24252), (312, 24297), (350, 24465), (386, 24582), (389, 24588), (404, 24633), (420, 24684), (421, 24687), (445, 24750), (451, 24759), (467, 24846),

Gene: Obama12\_32 Start: 23276, Stop: 25132, Start Num: 21

Candidate Starts for Obama12\_32:

(Start: 21 @23276 has 162 MA's), (48, 23402), (Start: 53 @23426 has 1 MA's), (78, 23531), (79, 23537), (86, 23585), (98, 23636), (132, 23687), (168, 23792), (171, 23804), (186, 23882), (199, 23951), (229, 24119), (233, 24149), (240, 24179), (243, 24203), (244, 24206), (250, 24233), (251, 24236), (269, 24341), (274, 24362), (275, 24371), (306, 24515), (312, 24560), (349, 24722), (386, 24845), (404, 24896), (445, 25013), (451, 25022), (467, 25109),

Gene: Odin\_30 Start: 21523, Stop: 23199, Start Num: 26

Candidate Starts for Odin\_30:

(Start: 23 @21517 has 4 MA's), (Start: 26 @21523 has 35 MA's), (50, 21643), (57, 21676), (58, 21679), (65, 21706), (84, 21793), (134, 21880), (167, 21982), (211, 22204), (241, 22390), (267, 22510), (323, 22810), (344, 22885), (349, 22906), (358, 22945), (391, 23035), (427, 23140), (437, 23167), (438, 23170), (444, 23182),

Gene: Ohfah\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Ohfah\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (310, 24223), (312, 24241), (329, 24340), (386, 24526), (404, 24577), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: OlanP\_33 Start: 23541, Stop: 25349, Start Num: 20

Candidate Starts for OlanP\_33:

(Start: 20 @23541 has 81 MA's), (48, 23676), (64, 23742), (73, 23787), (81, 23823), (100, 23913), (110, 23937), (138, 23982), (145, 24012), (197, 24180), (199, 24198), (203, 24222), (231, 24384), (240, 24423), (246, 24462), (259, 24519), (263, 24552), (300, 24714), (303, 24735), (317, 24822), (329, 24879), (334, 24894), (352, 24957), (374, 25032), (380, 25053), (414, 25146), (426, 25185), (443, 25227), (467, 25326),

Gene: Ollie\_33 Start: 23147, Stop: 24904, Start Num: 20

Candidate Starts for Ollie\_33:

(Start: 20 @23147 has 81 MA's), (48, 23282), (64, 23348), (73, 23393), (81, 23429), (122, 23561), (139, 23597), (145, 23618), (181, 23675), (194, 23735), (208, 23789), (215, 23849), (238, 23969), (239, 23972), (254, 24041), (258, 24065), (275, 24158), (279, 24179), (291, 24224), (365, 24554), (389, 24623), (412, 24686), (462, 24857),

Gene: Onglai\_32 Start: 22711, Stop: 24477, Start Num: 22

Candidate Starts for Onglai\_32:

(Start: 22 @22711 has 28 MA's), (27, 22723), (64, 22897), (83, 22987), (95, 23032), (97, 23041), (139, 23119), (146, 23143), (166, 23179), (197, 23308), (199, 23326), (240, 23551), (243, 23572), (246, 23590), (263, 23680), (275, 23737), (302, 23860), (324, 23983), (334, 24022), (350, 24079), (374, 24160), (380, 24181), (381, 24184), (410, 24259), (414, 24274), (454, 24385), (468, 24460),

Gene: P28Green\_33 Start: 23278, Stop: 25035, Start Num: 20

Candidate Starts for P28Green\_33:

(Start: 20 @23278 has 81 MA's), (48, 23413), (64, 23479), (73, 23524), (81, 23560), (122, 23692), (139, 23728), (145, 23749), (181, 23806), (194, 23866), (208, 23920), (215, 23980), (238, 24100), (239, 24103), (254, 24172), (258, 24196), (275, 24289), (279, 24310), (291, 24355), (365, 24685), (389, 24754), (412, 24817), (462, 24988),

Gene: PGHhamlin\_35 Start: 23269, Stop: 25026, Start Num: 20

Candidate Starts for PGHhamlin\_35:

(Start: 20 @23269 has 81 MA's), (48, 23404), (64, 23470), (73, 23515), (81, 23551), (122, 23683), (139, 23719), (145, 23740), (181, 23797), (194, 23857), (208, 23911), (215, 23971), (238, 24091), (239, 24094), (254, 24163), (258, 24187), (275, 24280), (279, 24301), (291, 24346), (365, 24676), (389, 24745), (412, 24808), (462, 24979),

Gene: PackMan\_33 Start: 24377, Stop: 26143, Start Num: 22

Candidate Starts for PackMan\_33:

(Start: 22 @24377 has 28 MA's), (27, 24389), (64, 24563), (83, 24653), (95, 24698), (97, 24707), (139, 24785), (146, 24809), (166, 24845), (197, 24974), (199, 24992), (240, 25217), (243, 25238), (246, 25256), (263, 25346), (275, 25403), (302, 25526), (324, 25649), (334, 25688), (350, 25745), (374, 25826), (380, 25847), (381, 25850), (414, 25940), (454, 26051), (468, 26126),

Gene: Palestino\_30 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Palestino\_30:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (105, 23335), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Panamaxus\_31 Start: 23373, Stop: 25232, Start Num: 19

Candidate Starts for Panamaxus\_31:

(Start: 19 @23373 has 31 MA's), (50, 23517), (54, 23535), (64, 23574), (68, 23595), (78, 23637), (81, 23655), (138, 23814), (144, 23841), (174, 23946), (179, 23967), (197, 24054), (203, 24096), (246, 24336), (263, 24426), (275, 24483), (310, 24648), (318, 24702), (320, 24714), (324, 24729), (360, 24858), (363, 24870), (381, 24930), (386, 24942), (406, 24987), (412, 25005), (459, 25152), (463, 25179), (468, 25209),

Gene: Pawn\_33 Start: 23361, Stop: 25169, Start Num: 20

Candidate Starts for Pawn\_33:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (81, 23643), (100, 23733), (110, 23757), (138, 23802), (145, 23832), (197, 24000), (199, 24018), (203, 24042), (231, 24204), (240, 24243), (246, 24282), (263, 24372), (300, 24534), (303, 24555), (317, 24642), (329, 24699), (334, 24714), (352, 24777), (374, 24852), (380, 24873), (414, 24966), (426, 25005), (443, 25047), (467, 25146),

Gene: PeaceMeal1\_31 Start: 21407, Stop: 23689, Start Num: 21

Candidate Starts for PeaceMeal1\_31:

(Start: 21 @21407 has 162 MA's), (30, 21440), (47, 21524), (63, 21590), (89, 21722), (117, 21836), (118, 21845), (124, 21929), (127, 22004), (139, 22082), (152, 22157), (159, 22247), (169, 22373), (178, 22430), (197, 22520), (199, 22538), (203, 22562), (240, 22763), (246, 22802), (263, 22892), (275, 22949), (300, 23054), (303, 23075), (306, 23084), (308, 23102), (310, 23114), (320, 23180), (329, 23219), (334, 23234), (336, 23240), (346, 23273), (374, 23372), (380, 23393), (381, 23396), (404, 23453), (410, 23471), (412, 23474), (414, 23486), (426, 23525), (443, 23567), (445, 23570), (468, 23672),

Gene: Peaches\_31 Start: 22959, Stop: 24815, Start Num: 21

Candidate Starts for Peaches\_31:

(Start: 21 @22959 has 162 MA's), (48, 23085), (Start: 53 @23109 has 1 MA's), (78, 23214), (79, 23220), (86, 23268), (89, 23277), (98, 23319), (122, 23364), (132, 23370), (168, 23475), (171, 23487), (186, 23565), (199, 23634), (240, 23862), (243, 23886), (244, 23889), (250, 23916), (251, 23919), (269, 24024), (275, 24054), (278, 24069), (298, 24159), (306, 24198), (312, 24243), (350, 24411), (386, 24528), (389, 24534), (404, 24579), (420, 24630), (421, 24633), (445, 24696), (451, 24705), (467, 24792),

Gene: Pembroke\_33 Start: 23278, Stop: 25035, Start Num: 20

Candidate Starts for Pembroke\_33:

(Start: 20 @23278 has 81 MA's), (48, 23413), (64, 23479), (73, 23524), (81, 23560), (122, 23692), (139, 23728), (145, 23749), (181, 23806), (194, 23866), (208, 23920), (215, 23980), (238, 24100), (239, 24103), (254, 24172), (258, 24196), (275, 24289), (279, 24310), (291, 24355), (365, 24685), (389, 24754), (412, 24817), (462, 24988),

Gene: Penny1\_33 Start: 23277, Stop: 25034, Start Num: 20

Candidate Starts for Penny1\_33:

(Start: 20 @23277 has 81 MA's), (48, 23412), (64, 23478), (73, 23523), (81, 23559), (122, 23691), (139, 23727), (145, 23748), (181, 23805), (194, 23865), (208, 23919), (215, 23979), (238, 24099), (239, 24102), (254, 24171), (258, 24195), (275, 24288), (279, 24309), (291, 24354), (365, 24684), (389, 24753), (412, 24816), (462, 24987),

Gene: Perplexer\_31 Start: 22969, Stop: 24828, Start Num: 21

Candidate Starts for Perplexer\_31:

(14, 22909), (Start: 21 @22969 has 162 MA's), (37, 23035), (45, 23080), (47, 23086), (Start: 53 @23119 has 1 MA's), (57, 23137), (68, 23182), (70, 23188), (71, 23194), (89, 23287), (92, 23302), (122, 23374), (146, 23434), (168, 23485), (171, 23497), (186, 23575), (199, 23644), (218, 23767), (222, 23791), (240, 23872), (247, 23917), (250, 23926), (251, 23929), (274, 24058), (275, 24067), (285, 24109), (291, 24136), (298, 24172), (302, 24199), (306, 24211), (333, 24367), (386, 24541), (389, 24547), (404, 24592), (420, 24643), (421, 24646), (432, 24682), (451, 24718),

Gene: PeterPeter\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for PeterPeter\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186,

23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: PetiteSangsue\_31 Start: 22972, Stop: 24831, Start Num: 21

Candidate Starts for PetiteSangsue\_31:

(14, 22912), (Start: 21 @22972 has 162 MA's), (37, 23038), (45, 23083), (47, 23089), (Start: 53 @23122 has 1 MA's), (57, 23140), (68, 23185), (70, 23191), (71, 23197), (89, 23290), (92, 23305), (122, 23377), (146, 23437), (168, 23488), (171, 23500), (186, 23578), (199, 23647), (218, 23770), (222, 23794), (240, 23875), (247, 23920), (250, 23929), (251, 23932), (274, 24061), (275, 24070), (285, 24112), (291, 24139), (298, 24175), (302, 24202), (306, 24214), (333, 24370), (386, 24544), (389, 24550), (404, 24595), (420, 24646), (421, 24649), (432, 24685), (451, 24721),

Gene: Ph8s\_32 Start: 21442, Stop: 23091, Start Num: 26

Candidate Starts for Ph8s\_32:

(Start: 26 @21442 has 35 MA's), (48, 21553), (56, 21589), (79, 21688), (83, 21712), (140, 21880), (142, 21886), (267, 22504), (272, 22531), (283, 22585), (302, 22678), (308, 22708), (323, 22804), (344, 22876), (366, 22963), (373, 22972), (391, 23020),

Gene: Phacado\_31 Start: 22959, Stop: 24815, Start Num: 21

Candidate Starts for Phacado\_31:

(Start: 21 @22959 has 162 MA's), (48, 23085), (Start: 53 @23109 has 1 MA's), (78, 23214), (79, 23220), (86, 23268), (89, 23277), (98, 23319), (122, 23364), (132, 23370), (168, 23475), (171, 23487), (186, 23565), (199, 23634), (240, 23862), (243, 23886), (244, 23889), (250, 23916), (251, 23919), (269, 24024), (274, 24045), (275, 24054), (298, 24159), (306, 24198), (312, 24243), (349, 24405), (350, 24411), (386, 24528), (389, 24534), (404, 24579), (420, 24630), (421, 24633), (445, 24696), (451, 24705), (467, 24792),

Gene: Phaded\_35 Start: 25217, Stop: 26992, Start Num: 21

Candidate Starts for Phaded\_35:

(17, 25178), (Start: 21 @25217 has 162 MA's), (48, 25328), (50, 25337), (65, 25394), (71, 25421), (89, 25514), (132, 25607), (138, 25628), (139, 25637), (145, 25658), (149, 25670), (189, 25793), (197, 25826), (199, 25844), (203, 25868), (223, 25982), (240, 26069), (246, 26108), (250, 26120), (259, 26165), (300, 26360), (303, 26381), (334, 26540), (336, 26546), (355, 26612), (374, 26675), (380, 26696), (414, 26789), (443, 26870), (454, 26900), (459, 26930), (468, 26975),

Gene: Phaeder\_33 Start: 24377, Stop: 26143, Start Num: 22

Candidate Starts for Phaeder\_33:

(Start: 22 @24377 has 28 MA's), (27, 24389), (64, 24563), (83, 24653), (95, 24698), (97, 24707), (139, 24785), (146, 24809), (166, 24845), (197, 24974), (199, 24992), (240, 25217), (243, 25238), (246, 25256), (263, 25346), (275, 25403), (302, 25526), (324, 25649), (334, 25688), (350, 25745), (374, 25826), (380, 25847), (381, 25850), (414, 25940), (454, 26051), (468, 26126),

Gene: Phantastic\_31 Start: 22796, Stop: 24658, Start Num: 18

Candidate Starts for Phantastic\_31:

(Start: 18 @22796 has 1 MA's), (64, 23000), (71, 23033), (100, 23171), (110, 23195), (123, 23213), (174, 23372), (197, 23480), (200, 23501), (203, 23522), (246, 23762), (259, 23819), (263, 23852), (302, 24032), (310, 24074), (320, 24140), (324, 24155), (372, 24326), (386, 24368), (412, 24431), (427, 24485), (428, 24488), (443, 24524), (459, 24578), (463, 24605), (467, 24629),

Gene: Phelipe\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Phelipe\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Phighter1804\_31 Start: 22935, Stop: 24791, Start Num: 21

Candidate Starts for Phighter1804\_31:

(Start: 21 @22935 has 162 MA's), (48, 23061), (Start: 53 @23085 has 1 MA's), (78, 23190), (79, 23196), (86, 23244), (89, 23253), (98, 23295), (122, 23340), (132, 23346), (168, 23451), (171, 23463), (183, 23526), (186, 23541), (199, 23610), (229, 23778), (240, 23838), (244, 23865), (250, 23892), (251, 23895), (269, 24000), (274, 24021), (275, 24030), (298, 24135), (312, 24219), (329, 24318), (386, 24504), (389, 24510), (404, 24555), (420, 24606), (421, 24609), (445, 24672), (451, 24681), (467, 24768),

Gene: PhishRPhriends\_32 Start: 22545, Stop: 24353, Start Num: 20

Candidate Starts for PhishRPhriends\_32:

(Start: 20 @22545 has 81 MA's), (48, 22680), (64, 22746), (73, 22791), (81, 22827), (100, 22917), (110, 22941), (138, 22986), (145, 23016), (197, 23184), (199, 23202), (203, 23226), (231, 23388), (240, 23427), (246, 23466), (263, 23556), (300, 23718), (303, 23739), (317, 23826), (334, 23898), (352, 23961), (374, 24036), (380, 24057), (414, 24150), (426, 24189), (443, 24231), (467, 24330),

Gene: Phoebe\_33 Start: 23275, Stop: 25032, Start Num: 20

Candidate Starts for Phoebe\_33:

(Start: 20 @23275 has 81 MA's), (48, 23410), (64, 23476), (73, 23521), (81, 23557), (122, 23689), (139, 23725), (145, 23746), (181, 23803), (194, 23863), (208, 23917), (215, 23977), (238, 24097), (239, 24100), (254, 24169), (258, 24193), (275, 24286), (279, 24307), (291, 24352), (365, 24682), (389, 24751), (412, 24814), (462, 24985),

Gene: Phonnegut\_33 Start: 24410, Stop: 26176, Start Num: 22

Candidate Starts for Phonnegut\_33:

(Start: 22 @24410 has 28 MA's), (27, 24422), (64, 24596), (83, 24686), (95, 24731), (97, 24740), (139, 24818), (146, 24842), (166, 24878), (197, 25007), (199, 25025), (240, 25250), (243, 25271), (246, 25289), (263, 25379), (275, 25436), (302, 25559), (324, 25682), (334, 25721), (350, 25778), (374, 25859), (380, 25880), (381, 25883), (410, 25958), (414, 25973), (454, 26084), (468, 26159),

Gene: Phontbonne\_31 Start: 22904, Stop: 24763, Start Num: 21

Candidate Starts for Phontbonne\_31:

(Start: 21 @22904 has 162 MA's), (48, 23030), (Start: 53 @23054 has 1 MA's), (78, 23159), (79, 23165), (86, 23213), (89, 23222), (98, 23264), (122, 23309), (132, 23315), (171, 23432), (186, 23510), (199, 23579), (250, 23861), (251, 23864), (269, 23969), (275, 23999), (298, 24104), (306, 24143), (310, 24170), (312, 24188), (389, 24479), (414, 24557), (417, 24569), (420, 24575), (432, 24614), (445, 24641), (449, 24647), (467, 24740),

Gene: Phoxy\_33 Start: 23361, Stop: 25112, Start Num: 20

Candidate Starts for Phoxy\_33:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (81, 23643), (108, 23754), (122, 23775), (139, 23811), (145, 23832), (194, 23949), (220, 24087), (238, 24183), (239, 24186), (254, 24255), (258, 24279), (266, 24324), (275, 24372), (291, 24438), (321, 24609), (323, 24615), (336, 24666), (350, 24711), (359, 24741), (374, 24789), (389, 24831), (393, 24846), (395, 24849), (404, 24873), (436, 24975), (437, 24978), (451, 25002),

Gene: Phranny\_34 Start: 23353, Stop: 25161, Start Num: 20

Candidate Starts for Phranny\_34:

(Start: 20 @23353 has 81 MA's), (48, 23488), (64, 23554), (73, 23599), (74, 23602), (110, 23749), (138, 23794), (145, 23824), (197, 23992), (199, 24010), (203, 24034), (231, 24196), (240, 24235), (246, 24274), (263, 24364), (300, 24526), (303, 24547), (317, 24634), (334, 24706), (352, 24769), (374, 24844), (380, 24865), (414, 24958), (426, 24997), (443, 25039), (467, 25138),

Gene: Pioneer\_33 Start: 24410, Stop: 26176, Start Num: 22

Candidate Starts for Pioneer\_33:

(Start: 22 @24410 has 28 MA's), (27, 24422), (64, 24596), (83, 24686), (95, 24731), (97, 24740), (139, 24818), (146, 24842), (166, 24878), (197, 25007), (199, 25025), (240, 25250), (243, 25271), (246, 25289), (263, 25379), (275, 25436), (302, 25559), (324, 25682), (334, 25721), (350, 25778), (374, 25859), (380, 25880), (381, 25883), (410, 25958), (414, 25973), (454, 26084), (468, 26159),

Gene: Pipcraft\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Pipcraft\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Pistachio\_32 Start: 22385, Stop: 24244, Start Num: 19

Candidate Starts for Pistachio\_32:

(Start: 19 @22385 has 31 MA's), (50, 22529), (Start: 53 @22544 has 1 MA's), (64, 22586), (88, 22709), (100, 22757), (123, 22799), (132, 22805), (138, 22826), (197, 23066), (201, 23096), (212, 23144), (231, 23270), (240, 23309), (246, 23348), (259, 23405), (263, 23438), (300, 23600), (301, 23603), (310, 23660), (320, 23726), (324, 23741), (381, 23942), (426, 24068), (427, 24071), (457, 24152), (459, 24164), (463, 24191), (468, 24221),

Gene: Pocahontas\_32 Start: 23370, Stop: 25229, Start Num: 19

Candidate Starts for Pocahontas\_32:

(Start: 19 @23370 has 31 MA's), (50, 23514), (54, 23532), (64, 23571), (68, 23592), (78, 23634), (81, 23652), (138, 23811), (144, 23838), (174, 23943), (179, 23964), (197, 24051), (203, 24093), (246, 24333), (263, 24423), (275, 24480), (310, 24645), (318, 24699), (320, 24711), (324, 24726), (360, 24855), (363, 24867), (381, 24927), (386, 24939), (406, 24984), (412, 25002), (459, 25149), (463, 25176), (468, 25206),

Gene: Polymorphads\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Polymorphads\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (310, 24223), (312, 24241), (329, 24340), (386, 24526), (404, 24577), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Pomar16\_34 Start: 22600, Stop: 24453, Start Num: 26

Candidate Starts for Pomar16\_34:

(Start: 23 @22594 has 4 MA's), (Start: 26 @22600 has 35 MA's), (50, 22720), (71, 22810), (83, 22870), (86, 22894), (93, 22921), (134, 23014), (140, 23038), (142, 23044), (241, 23551), (258, 23620), (294, 23788), (323, 23971), (405, 24232), (409, 24247), (426, 24301), (430, 24310), (434, 24325), (438, 24334), (453, 24370),

Gene: Poompha\_31 Start: 21405, Stop: 23687, Start Num: 21

Candidate Starts for Poompha\_31:

(Start: 21 @21405 has 162 MA's), (30, 21438), (47, 21522), (63, 21588), (81, 21675), (89, 21720), (117, 21834), (118, 21843), (124, 21927), (127, 22002), (139, 22080), (152, 22155), (169, 22371), (178, 22428), (197, 22518), (199, 22536), (203, 22560), (206, 22569), (240, 22761), (246, 22800), (263, 22890), (275, 22947), (300, 23052), (306, 23082), (308, 23100), (310, 23112), (329, 23217), (334, 23232), (336, 23238), (346, 23271), (374, 23370), (380, 23391), (381, 23394), (404, 23451), (410, 23469), (412, 23472), (414, 23484), (426, 23523), (443, 23565), (445, 23568), (468, 23670),

Gene: Popcicle\_32 Start: 23370, Stop: 25229, Start Num: 19

Candidate Starts for Popcicle\_32:

(Start: 19 @23370 has 31 MA's), (50, 23514), (54, 23532), (64, 23571), (68, 23592), (78, 23634), (81, 23652), (138, 23811), (144, 23838), (174, 23943), (179, 23964), (197, 24051), (203, 24093), (246, 24333), (263, 24423), (275, 24480), (310, 24645), (318, 24699), (320, 24711), (324, 24726), (360, 24855), (363, 24867), (381, 24927), (386, 24939), (406, 24984), (412, 25002), (459, 25149), (463, 25176), (468, 25206),

Gene: PotatoSplit\_34 Start: 23277, Stop: 25034, Start Num: 20

Candidate Starts for PotatoSplit\_34:

(Start: 20 @23277 has 81 MA's), (48, 23412), (64, 23478), (73, 23523), (81, 23559), (122, 23691), (139, 23727), (145, 23748), (181, 23805), (194, 23865), (208, 23919), (215, 23979), (238, 24099), (239, 24102), (254, 24171), (258, 24195), (275, 24288), (279, 24309), (291, 24354), (365, 24684), (389, 24753), (412, 24816), (462, 24987),

Gene: Priya\_33 Start: 24444, Stop: 26210, Start Num: 22

Candidate Starts for Priya\_33:

(Start: 22 @24444 has 28 MA's), (64, 24630), (83, 24720), (95, 24765), (97, 24774), (139, 24852), (146, 24876), (166, 24912), (197, 25041), (199, 25059), (240, 25284), (243, 25305), (246, 25323), (263, 25413), (275, 25470), (302, 25593), (324, 25716), (334, 25755), (350, 25812), (374, 25893), (380, 25914), (381, 25917), (414, 26007), (454, 26118), (468, 26193),

Gene: Pukovnik\_33 Start: 24251, Stop: 26089, Start Num: 26

Candidate Starts for Pukovnik\_33:

(Start: 26 @24251 has 35 MA's), (33, 24272), (48, 24362), (50, 24371), (65, 24428), (71, 24455), (89, 24548), (100, 24593), (144, 24689), (199, 24905), (218, 25028), (219, 25037), (240, 25133), (250, 25187), (251, 25190), (269, 25298), (275, 25328), (291, 25397), (298, 25433), (301, 25445), (306, 25472), (386, 25802), (404, 25853), (414, 25886), (420, 25904), (421, 25907), (445, 25970),

Gene: Pumbaa\_31 Start: 22935, Stop: 24791, Start Num: 21

Candidate Starts for Pumbaa\_31:

(Start: 21 @22935 has 162 MA's), (48, 23061), (Start: 53 @23085 has 1 MA's), (79, 23196), (86, 23244), (88, 23250), (89, 23253), (98, 23295), (132, 23346), (168, 23451), (171, 23463), (186, 23541), (199, 23610), (229, 23778), (233, 23808), (240, 23838), (244, 23865), (250, 23892), (251, 23895), (269, 24000), (274, 24021), (275, 24030), (298, 24135), (306, 24174), (310, 24201), (312, 24219), (313, 24222), (333, 24330), (350, 24387), (386, 24504), (389, 24510), (445, 24672), (451, 24681),

Gene: Puppy\_32 Start: 22455, Stop: 24314, Start Num: 19

Candidate Starts for Puppy\_32:

(Start: 19 @22455 has 31 MA's), (50, 22599), (Start: 53 @22614 has 1 MA's), (64, 22656), (88, 22779), (100, 22827), (123, 22869), (132, 22875), (138, 22896), (197, 23136), (201, 23166), (212, 23214), (231, 23340), (240, 23379), (246, 23418), (259, 23475), (263, 23508), (300, 23670), (301, 23673), (310, 23730), (320, 23796), (324, 23811), (381, 24012), (426, 24138), (427, 24141), (457, 24222),



(459, 24234), (463, 24261), (468, 24291),

Gene: PurpleHaze\_33 Start: 23360, Stop: 25168, Start Num: 20

Candidate Starts for PurpleHaze\_33:

(Start: 20 @23360 has 81 MA's), (48, 23495), (64, 23561), (73, 23606), (81, 23642), (100, 23732), (110, 23756), (138, 23801), (145, 23831), (197, 23999), (199, 24017), (203, 24041), (231, 24203), (240, 24242), (246, 24281), (263, 24371), (300, 24533), (303, 24554), (317, 24641), (329, 24698), (334, 24713), (352, 24776), (374, 24851), (380, 24872), (414, 24965), (426, 25004), (443, 25046), (467, 25145),

Gene: Qobbit\_33 Start: 24407, Stop: 26173, Start Num: 22

Candidate Starts for Qobbit\_33:

(Start: 22 @24407 has 28 MA's), (64, 24593), (83, 24683), (95, 24728), (97, 24737), (139, 24815), (146, 24839), (166, 24875), (197, 25004), (199, 25022), (240, 25247), (243, 25268), (246, 25286), (263, 25376), (275, 25433), (302, 25556), (324, 25679), (334, 25718), (350, 25775), (374, 25856), (380, 25877), (381, 25880), (414, 25970), (454, 26081), (468, 26156),

Gene: QuinnKiro\_31 Start: 23373, Stop: 25232, Start Num: 19

Candidate Starts for QuinnKiro\_31:

(Start: 19 @23373 has 31 MA's), (50, 23517), (54, 23535), (64, 23574), (68, 23595), (78, 23637), (81, 23655), (138, 23814), (144, 23841), (174, 23946), (179, 23967), (197, 24054), (203, 24096), (243, 24318), (246, 24336), (263, 24426), (275, 24483), (310, 24648), (318, 24702), (320, 24714), (324, 24729), (360, 24858), (363, 24870), (381, 24930), (386, 24942), (406, 24987), (412, 25005), (459, 25152), (463, 25179), (468, 25209),

Gene: Quokka\_29 Start: 21646, Stop: 23397, Start Num: 26

Candidate Starts for Quokka\_29:

(Start: 26 @21646 has 35 MA's), (33, 21667), (50, 21766), (Start: 53 @21781 has 1 MA's), (71, 21856), (83, 21916), (112, 22027), (134, 22060), (140, 22084), (142, 22090), (155, 22162), (176, 22237), (184, 22270), (188, 22300), (241, 22588), (267, 22708), (280, 22777), (323, 23008), (344, 23083), (348, 23095), (349, 23104), (358, 23143), (427, 23338), (437, 23365), (438, 23368), (444, 23380),

Gene: Rachaly\_34 Start: 24354, Stop: 26138, Start Num: 25

Candidate Starts for Rachaly\_34:

(Start: 25 @24354 has 12 MA's), (33, 24378), (48, 24468), (50, 24477), (64, 24534), (178, 24882), (179, 24885), (197, 24972), (199, 24990), (203, 25014), (221, 25122), (240, 25215), (243, 25236), (246, 25254), (250, 25266), (263, 25344), (276, 25404), (300, 25506), (303, 25527), (329, 25671), (334, 25686), (380, 25842), (389, 25863), (414, 25935), (419, 25953), (432, 25995), (443, 26016), (459, 26076), (468, 26121),

Gene: Rahalelujah\_30 Start: 22236, Stop: 23978, Start Num: 25

Candidate Starts for Rahalelujah\_30:

(Start: 25 @22236 has 12 MA's), (27, 22242), (50, 22359), (57, 22392), (83, 22509), (88, 22539), (102, 22587), (106, 22596), (107, 22599), (129, 22686), (141, 22731), (151, 22758), (171, 22833), (187, 22911), (200, 22977), (217, 23103), (299, 23535), (307, 23580), (326, 23712), (370, 23853), (374, 23865), (388, 23904), (410, 23967),

Gene: Reba\_34 Start: 23026, Stop: 24834, Start Num: 20

Candidate Starts for Reba\_34:

(Start: 20 @23026 has 81 MA's), (48, 23161), (64, 23227), (73, 23272), (74, 23275), (110, 23422), (138, 23467), (145, 23497), (197, 23665), (199, 23683), (203, 23707), (231, 23869), (240, 23908), (246, 23947), (263, 24037), (300, 24199), (303, 24220), (317, 24307), (334, 24379), (352, 24442), (374, 24517), (380, 24538), (414, 24631), (426, 24670), (443, 24712), (467, 24811),

Gene: Rebeuca\_34 Start: 23648, Stop: 25483, Start Num: 21

Candidate Starts for Rebeuca\_34:

(Start: 21 @23648 has 162 MA's), (30, 23681), (68, 23858), (114, 24050), (116, 24056), (117, 24077), (119, 24104), (189, 24284), (197, 24317), (199, 24335), (203, 24359), (221, 24467), (246, 24599), (259, 24656), (263, 24689), (275, 24746), (287, 24800), (302, 24869), (320, 24977), (324, 24992), (329, 25016), (334, 25031), (368, 25148), (374, 25166), (380, 25187), (381, 25190), (410, 25265), (414, 25280), (443, 25361), (454, 25391), (459, 25421), (468, 25466), (469, 25469),

Gene: RedRock\_35 Start: 25191, Stop: 26969, Start Num: 26

Candidate Starts for RedRock\_35:

(Start: 26 @25191 has 35 MA's), (48, 25302), (50, 25311), (58, 25344), (71, 25398), (79, 25434), (81, 25446), (83, 25458), (138, 25605), (139, 25614), (145, 25635), (149, 25647), (178, 25713), (191, 25782), (197, 25803), (199, 25821), (203, 25845), (220, 25944), (221, 25953), (246, 26085), (259, 26142), (263, 26175), (275, 26232), (287, 26286), (302, 26355), (334, 26517), (350, 26571), (374, 26652), (380, 26673), (389, 26694), (414, 26766), (443, 26847),

Gene: Relief\_31 Start: 22958, Stop: 24814, Start Num: 21

Candidate Starts for Relief\_31:

(Start: 21 @22958 has 162 MA's), (48, 23084), (Start: 53 @23108 has 1 MA's), (78, 23213), (79, 23219), (86, 23267), (98, 23318), (122, 23363), (132, 23369), (168, 23474), (171, 23486), (186, 23564), (199, 23633), (240, 23861), (243, 23885), (244, 23888), (250, 23915), (251, 23918), (269, 24023), (275, 24053), (278, 24068), (298, 24158), (306, 24197), (312, 24242), (350, 24410), (386, 24527), (389, 24533), (404, 24578), (420, 24629), (421, 24632), (445, 24695), (451, 24704), (467, 24791),

Gene: ResDef\_32 Start: 23373, Stop: 25232, Start Num: 19

Candidate Starts for ResDef\_32:

(Start: 19 @23373 has 31 MA's), (50, 23517), (54, 23535), (64, 23574), (68, 23595), (78, 23637), (81, 23655), (138, 23814), (144, 23841), (179, 23967), (197, 24054), (203, 24096), (246, 24336), (263, 24426), (275, 24483), (310, 24648), (318, 24702), (320, 24714), (324, 24729), (360, 24858), (363, 24870), (381, 24930), (386, 24942), (406, 24987), (412, 25005), (459, 25152), (463, 25179), (468, 25209),

Gene: RhynO\_34 Start: 23623, Stop: 25455, Start Num: 21

Candidate Starts for RhynO\_34:

(Start: 21 @23623 has 162 MA's), (30, 23656), (63, 23806), (68, 23833), (94, 23962), (110, 24007), (115, 24028), (116, 24031), (197, 24292), (199, 24310), (246, 24571), (259, 24628), (263, 24661), (287, 24772), (302, 24841), (318, 24937), (320, 24949), (324, 24964), (329, 24988), (334, 25003), (336, 25009), (343, 25033), (355, 25075), (368, 25120), (374, 25138), (381, 25162), (410, 25237), (414, 25252), (416, 25261), (426, 25291), (443, 25333), (468, 25438), (469, 25441),

Gene: Rockstar\_31 Start: 22769, Stop: 24628, Start Num: 19

Candidate Starts for Rockstar\_31:

(Start: 19 @22769 has 31 MA's), (47, 22895), (50, 22913), (Start: 53 @22928 has 1 MA's), (64, 22970), (78, 23033), (132, 23189), (138, 23210), (144, 23237), (171, 23312), (179, 23363), (197, 23450), (199, 23468), (203, 23492), (246, 23732), (259, 23789), (263, 23822), (284, 23915), (289, 23939), (310, 24044), (320, 24110), (324, 24125), (372, 24296), (412, 24401), (427, 24455), (443, 24494), (459, 24548), (463, 24575), (467, 24599),

Gene: Romney\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Romney\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Roosevelt\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Roosevelt\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Rosa24\_30 Start: 22935, Stop: 24791, Start Num: 21

Candidate Starts for Rosa24\_30:

(Start: 21 @22935 has 162 MA's), (48, 23061), (Start: 53 @23085 has 1 MA's), (86, 23244), (89, 23253), (98, 23295), (122, 23340), (132, 23346), (168, 23451), (171, 23463), (186, 23541), (199, 23610), (229, 23778), (233, 23808), (240, 23838), (244, 23865), (250, 23892), (251, 23895), (269, 24000), (274, 24021), (275, 24030), (298, 24135), (306, 24174), (312, 24219), (349, 24381), (386, 24504), (389, 24510), (445, 24672), (451, 24681),

Gene: Rowdy\_37 Start: 23534, Stop: 25366, Start Num: 21

Candidate Starts for Rowdy\_37:

(Start: 21 @23534 has 162 MA's), (30, 23567), (63, 23717), (68, 23744), (110, 23918), (115, 23939), (116, 23942), (197, 24203), (199, 24221), (246, 24482), (259, 24539), (263, 24572), (287, 24683), (302, 24752), (318, 24848), (320, 24860), (324, 24875), (329, 24899), (334, 24914), (336, 24920), (343, 24944), (355, 24986), (368, 25031), (374, 25049), (381, 25073), (410, 25148), (414, 25163), (416, 25172), (426, 25202), (443, 25244), (468, 25349), (469, 25352),

Gene: Ruin\_31 Start: 22956, Stop: 24812, Start Num: 21

Candidate Starts for Ruin\_31:

(Start: 21 @22956 has 162 MA's), (48, 23082), (Start: 53 @23106 has 1 MA's), (78, 23211), (79, 23217), (86, 23265), (89, 23274), (98, 23316), (122, 23361), (132, 23367), (168, 23472), (171, 23484), (186, 23562), (199, 23631), (240, 23859), (243, 23883), (244, 23886), (250, 23913), (251, 23916), (269, 24021), (275, 24051), (278, 24066), (298, 24156), (306, 24195), (312, 24240), (350, 24408), (386, 24525), (389, 24531), (404, 24576), (420, 24627), (421, 24630), (445, 24693), (451, 24702), (467, 24789),

Gene: Rummer\_33 Start: 23361, Stop: 25112, Start Num: 20

Candidate Starts for Rummer\_33:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (81, 23643), (108, 23754), (122, 23775), (139, 23811), (145, 23832), (194, 23949), (220, 24087), (238, 24183), (239, 24186), (254, 24255), (258, 24279), (266, 24324), (275, 24372), (291, 24438), (321, 24609), (323, 24615), (336, 24666), (350, 24711), (359, 24741), (374, 24789), (389, 24831), (393, 24846), (395, 24849), (404, 24873), (436, 24975), (437, 24978), (451, 25002),

Gene: RyeScarlet\_34 Start: 24381, Stop: 26147, Start Num: 22

Candidate Starts for RyeScarlet\_34:

(Start: 22 @24381 has 28 MA's), (27, 24393), (64, 24567), (83, 24657), (95, 24702), (97, 24711), (139, 24789), (146, 24813), (166, 24849), (197, 24978), (199, 24996), (240, 25221), (243, 25242), (246,

25260), (263, 25350), (275, 25407), (302, 25530), (324, 25653), (334, 25692), (350, 25749), (374, 25830), (380, 25851), (381, 25854), (410, 25929), (414, 25944), (454, 26055), (468, 26130),

Gene: Sabertooth\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Sabertooth\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Sabia\_33 Start: 23270, Stop: 25027, Start Num: 20

Candidate Starts for Sabia\_33:

(Start: 20 @23270 has 81 MA's), (48, 23405), (64, 23471), (73, 23516), (81, 23552), (122, 23684), (139, 23720), (145, 23741), (181, 23798), (194, 23858), (208, 23912), (215, 23972), (238, 24092), (239, 24095), (254, 24164), (258, 24188), (275, 24281), (279, 24302), (291, 24347), (365, 24677), (389, 24746), (412, 24809), (462, 24980),

Gene: Sabinator\_33 Start: 23275, Stop: 25032, Start Num: 20

Candidate Starts for Sabinator\_33:

(Start: 20 @23275 has 81 MA's), (48, 23410), (64, 23476), (73, 23521), (81, 23557), (122, 23689), (139, 23725), (145, 23746), (181, 23803), (194, 23863), (208, 23917), (215, 23977), (238, 24097), (239, 24100), (254, 24169), (258, 24193), (275, 24286), (279, 24307), (291, 24352), (365, 24682), (389, 24751), (412, 24814), (462, 24985),

Gene: Sachima\_31 Start: 24389, Stop: 26143, Start Num: 27

Candidate Starts for Sachima\_31:

(Start: 22 @24377 has 28 MA's), (27, 24389), (64, 24563), (83, 24653), (95, 24698), (97, 24707), (139, 24785), (146, 24809), (166, 24845), (197, 24974), (199, 24992), (240, 25217), (243, 25238), (246, 25256), (263, 25346), (275, 25403), (302, 25526), (324, 25649), (334, 25688), (350, 25745), (374, 25826), (380, 25847), (381, 25850), (414, 25940), (454, 26051), (468, 26126),

Gene: SaturnRing\_31 Start: 22838, Stop: 24697, Start Num: 19

Candidate Starts for SaturnRing\_31:

(Start: 19 @22838 has 31 MA's), (50, 22982), (Start: 53 @22997 has 1 MA's), (64, 23039), (88, 23162), (100, 23210), (123, 23252), (132, 23258), (138, 23279), (197, 23519), (201, 23549), (212, 23597), (231, 23723), (240, 23762), (246, 23801), (259, 23858), (263, 23891), (300, 24053), (301, 24056), (310, 24113), (320, 24179), (324, 24194), (381, 24395), (426, 24521), (427, 24524), (457, 24605), (459, 24617), (463, 24644), (468, 24674),

Gene: Scamp\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Scamp\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Scherzo\_33 Start: 24410, Stop: 26176, Start Num: 22

Candidate Starts for Scherzo\_33:

(Start: 22 @24410 has 28 MA's), (27, 24422), (64, 24596), (83, 24686), (95, 24731), (97, 24740), (139, 24818), (146, 24842), (166, 24878), (197, 25007), (199, 25025), (240, 25250), (243, 25271), (246,

25289), (263, 25379), (275, 25436), (302, 25559), (324, 25682), (334, 25721), (350, 25778), (374, 25859), (380, 25880), (381, 25883), (414, 25973), (454, 26084), (468, 26159),

Gene: Scout\_31 Start: 22139, Stop: 23998, Start Num: 19

Candidate Starts for Scout\_31:

(Start: 19 @22139 has 31 MA's), (47, 22265), (48, 22274), (64, 22340), (68, 22361), (78, 22403), (132, 22559), (144, 22607), (170, 22676), (171, 22682), (174, 22712), (197, 22820), (199, 22838), (203, 22862), (246, 23102), (263, 23192), (289, 23309), (310, 23414), (320, 23480), (324, 23495), (372, 23666), (412, 23771), (427, 23825), (443, 23864), (459, 23918), (463, 23945), (467, 23969),

Gene: SenorClean\_30 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for SenorClean\_30:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Serenity\_30 Start: 21771, Stop: 23522, Start Num: 26

Candidate Starts for Serenity\_30:

(Start: 26 @21771 has 35 MA's), (33, 21792), (50, 21891), (Start: 53 @21906 has 1 MA's), (71, 21981), (83, 22041), (112, 22152), (134, 22185), (140, 22209), (142, 22215), (155, 22287), (184, 22395), (204, 22512), (241, 22713), (267, 22833), (280, 22902), (323, 23133), (344, 23208), (348, 23220), (349, 23229), (358, 23268), (427, 23463), (437, 23490), (438, 23493), (444, 23505),

Gene: Severus\_31 Start: 21405, Stop: 23687, Start Num: 21

Candidate Starts for Severus\_31:

(Start: 21 @21405 has 162 MA's), (30, 21438), (47, 21522), (63, 21588), (89, 21720), (100, 21765), (110, 21789), (115, 21810), (116, 21813), (118, 21843), (120, 21867), (121, 21885), (125, 21942), (127, 22002), (139, 22080), (152, 22155), (159, 22245), (164, 22305), (169, 22371), (197, 22518), (199, 22536), (203, 22560), (230, 22704), (240, 22761), (246, 22800), (253, 22821), (263, 22890), (289, 23007), (300, 23052), (306, 23082), (308, 23100), (310, 23112), (320, 23178), (329, 23217), (334, 23232), (336, 23238), (346, 23271), (350, 23289), (380, 23391), (381, 23394), (404, 23451), (410, 23469), (412, 23472), (414, 23484), (426, 23523), (443, 23565), (445, 23568), (468, 23670),

Gene: Shaka\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Shaka\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Shapes\_37 Start: 23534, Stop: 25366, Start Num: 21

Candidate Starts for Shapes\_37:

(Start: 21 @23534 has 162 MA's), (30, 23567), (63, 23717), (68, 23744), (110, 23918), (115, 23939), (116, 23942), (197, 24203), (199, 24221), (246, 24482), (259, 24539), (263, 24572), (287, 24683), (302, 24752), (318, 24848), (320, 24860), (324, 24875), (329, 24899), (334, 24914), (336, 24920), (343, 24944), (355, 24986), (368, 25031), (374, 25049), (381, 25073), (410, 25148), (414, 25163), (416, 25172), (426, 25202), (443, 25244), (468, 25349), (469, 25352),

Gene: SheaKeira\_31 Start: 22351, Stop: 24009, Start Num: 25

Candidate Starts for SheaKeira\_31:

(Start: 25 @22351 has 12 MA's), (46, 22453), (57, 22507), (64, 22531), (65, 22537), (82, 22618), (83, 22624), (88, 22654), (102, 22702), (113, 22726), (129, 22801), (200, 23092), (234, 23308), (245, 23362), (264, 23476), (267, 23488), (297, 23635), (299, 23650), (369, 23875), (389, 23938),

Gene: SheldonCooper\_32 Start: 23275, Stop: 25131, Start Num: 21

Candidate Starts for SheldonCooper\_32:

(Start: 21 @23275 has 162 MA's), (48, 23401), (Start: 53 @23425 has 1 MA's), (78, 23530), (79, 23536), (86, 23584), (98, 23635), (132, 23686), (168, 23791), (171, 23803), (186, 23881), (199, 23950), (229, 24118), (233, 24148), (240, 24178), (243, 24202), (244, 24205), (250, 24232), (251, 24235), (269, 24340), (274, 24361), (275, 24370), (306, 24514), (312, 24559), (349, 24721), (386, 24844), (404, 24895), (445, 25012), (451, 25021), (467, 25108),

Gene: Shygu2\_31 Start: 22966, Stop: 24825, Start Num: 21

Candidate Starts for Shygu2\_31:

(14, 22903), (Start: 21 @22966 has 162 MA's), (35, 23014), (37, 23032), (Start: 53 @23116 has 1 MA's), (57, 23134), (68, 23179), (71, 23191), (122, 23371), (146, 23431), (168, 23482), (171, 23494), (186, 23572), (199, 23641), (240, 23869), (244, 23896), (250, 23923), (251, 23926), (269, 24034), (274, 24055), (275, 24064), (291, 24133), (298, 24169), (306, 24208), (349, 24415), (386, 24538), (404, 24589), (445, 24706), (451, 24715),

Gene: Skipitt\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for Skipitt\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Sknot\_32 Start: 22776, Stop: 24998, Start Num: 1

Candidate Starts for Sknot\_32:

(Start: 1 @22776 has 9 MA's), (4, 22890), (6, 22905), (15, 23037), (36, 23151), (38, 23172), (43, 23205), (69, 23316), (76, 23355), (91, 23451), (134, 23553), (197, 23802), (201, 23832), (203, 23844), (234, 24015), (246, 24084), (263, 24183), (287, 24294), (289, 24300), (291, 24306), (300, 24345), (309, 24402), (310, 24405), (320, 24471), (344, 24555), (363, 24627), (400, 24747), (439, 24858), (457, 24909), (459, 24921),

Gene: Snickers\_33 Start: 23251, Stop: 25008, Start Num: 20

Candidate Starts for Snickers\_33:

(Start: 20 @23251 has 81 MA's), (48, 23386), (64, 23452), (73, 23497), (81, 23533), (122, 23665), (139, 23701), (145, 23722), (181, 23779), (194, 23839), (208, 23893), (215, 23953), (238, 24073), (239, 24076), (254, 24145), (258, 24169), (275, 24262), (279, 24283), (291, 24328), (365, 24658), (389, 24727), (412, 24790), (462, 24961),

Gene: SoYo\_33 Start: 23188, Stop: 24945, Start Num: 20

Candidate Starts for SoYo\_33:

(Start: 20 @23188 has 81 MA's), (48, 23323), (64, 23389), (73, 23434), (81, 23470), (122, 23602), (139, 23638), (145, 23659), (181, 23716), (194, 23776), (208, 23830), (215, 23890), (238, 24010), (239, 24013), (254, 24082), (258, 24106), (275, 24199), (279, 24220), (291, 24265), (365, 24595), (389, 24664), (412, 24727), (462, 24898),

Gene: SoilDragon\_33 Start: 22965, Stop: 24770, Start Num: 20

Candidate Starts for SoilDragon\_33:

(Start: 20 @22965 has 81 MA's), (48, 23100), (64, 23166), (73, 23211), (81, 23247), (95, 23319), (110, 23361), (138, 23406), (145, 23436), (197, 23604), (199, 23622), (203, 23646), (229, 23784), (231, 23808), (240, 23847), (246, 23886), (263, 23976), (300, 24138), (303, 24159), (317, 24246), (334, 24318), (344, 24348), (355, 24390), (374, 24453), (381, 24477), (410, 24552), (414, 24567), (426, 24606), (443, 24648), (468, 24753),

Gene: Soshari\_35 Start: 23360, Stop: 25111, Start Num: 20

Candidate Starts for Soshari\_35:

(Start: 20 @23360 has 81 MA's), (48, 23495), (62, 23552), (64, 23561), (73, 23606), (81, 23642), (108, 23753), (122, 23774), (139, 23810), (145, 23831), (194, 23948), (220, 24086), (238, 24182), (239, 24185), (254, 24254), (258, 24278), (266, 24323), (275, 24371), (291, 24437), (321, 24608), (323, 24614), (336, 24665), (350, 24710), (359, 24740), (374, 24788), (389, 24830), (393, 24845), (395, 24848), (404, 24872), (436, 24974), (437, 24977), (451, 25001),

Gene: Sparxx\_31 Start: 22958, Stop: 24814, Start Num: 21

Candidate Starts for Sparxx\_31:

(Start: 21 @22958 has 162 MA's), (48, 23084), (Start: 53 @23108 has 1 MA's), (78, 23213), (79, 23219), (86, 23267), (89, 23276), (98, 23318), (122, 23363), (132, 23369), (168, 23474), (171, 23486), (186, 23564), (199, 23633), (240, 23861), (243, 23885), (244, 23888), (250, 23915), (251, 23918), (269, 24023), (275, 24053), (278, 24068), (298, 24158), (306, 24197), (310, 24224), (312, 24242), (329, 24341), (386, 24527), (404, 24578), (421, 24632), (445, 24695), (451, 24704), (467, 24791),

Gene: Spike509\_33 Start: 23361, Stop: 25112, Start Num: 20

Candidate Starts for Spike509\_33:

(Start: 20 @23361 has 81 MA's), (48, 23496), (64, 23562), (73, 23607), (81, 23643), (108, 23754), (122, 23775), (139, 23811), (145, 23832), (194, 23949), (220, 24087), (238, 24183), (239, 24186), (254, 24255), (258, 24279), (266, 24324), (275, 24372), (291, 24438), (320, 24606), (321, 24609), (323, 24615), (336, 24666), (350, 24711), (359, 24741), (374, 24789), (389, 24831), (393, 24846), (395, 24849), (404, 24873), (436, 24975), (437, 24978), (451, 25002),

Gene: Spino\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Spino\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Spouty\_33 Start: 24443, Stop: 26209, Start Num: 22

Candidate Starts for Spouty\_33:

(Start: 22 @24443 has 28 MA's), (64, 24629), (83, 24719), (95, 24764), (97, 24773), (139, 24851), (146, 24875), (166, 24911), (197, 25040), (199, 25058), (240, 25283), (243, 25304), (246, 25322), (263, 25412), (275, 25469), (302, 25592), (324, 25715), (334, 25754), (350, 25811), (374, 25892), (380, 25913), (381, 25916), (414, 26006), (454, 26117), (468, 26192),

Gene: Stagni\_33 Start: 23279, Stop: 25036, Start Num: 20

Candidate Starts for Stagni\_33:

(Start: 20 @23279 has 81 MA's), (48, 23414), (64, 23480), (73, 23525), (81, 23561), (122, 23693), (139, 23729), (145, 23750), (181, 23807), (194, 23867), (208, 23921), (215, 23981), (238, 24101), (239, 24104), (254, 24173), (258, 24197), (275, 24290), (279, 24311), (291, 24356), (365, 24686),

(389, 24755), (412, 24818), (462, 24989),

Gene: StarStuff\_34 Start: 22559, Stop: 24412, Start Num: 26

Candidate Starts for StarStuff\_34:

(Start: 23 @22553 has 4 MA's), (Start: 26 @22559 has 35 MA's), (50, 22679), (71, 22769), (83, 22829), (93, 22880), (134, 22973), (140, 22997), (142, 23003), (241, 23510), (258, 23579), (274, 23666), (294, 23747), (323, 23930), (387, 24149), (392, 24161), (405, 24191), (426, 24260), (434, 24284), (438, 24293), (453, 24329),

Gene: Stasia\_32 Start: 23404, Stop: 25242, Start Num: 21

Candidate Starts for Stasia\_32:

(Start: 21 @23404 has 162 MA's), (37, 23470), (48, 23530), (64, 23596), (71, 23629), (78, 23659), (79, 23665), (86, 23713), (98, 23764), (138, 23836), (171, 23938), (197, 24076), (199, 24094), (246, 24358), (263, 24448), (300, 24610), (303, 24631), (318, 24724), (324, 24751), (329, 24775), (334, 24790), (374, 24925), (381, 24949), (389, 24967), (414, 25039), (443, 25120),

Gene: StepMih\_33 Start: 23270, Stop: 25027, Start Num: 20

Candidate Starts for StepMih\_33:

(Start: 20 @23270 has 81 MA's), (48, 23405), (64, 23471), (73, 23516), (81, 23552), (122, 23684), (139, 23720), (145, 23741), (181, 23798), (194, 23858), (208, 23912), (215, 23972), (238, 24092), (239, 24095), (254, 24164), (258, 24188), (275, 24281), (279, 24302), (291, 24347), (365, 24677), (389, 24746), (412, 24809), (462, 24980),

Gene: Stink\_32 Start: 23240, Stop: 25099, Start Num: 21

Candidate Starts for Stink\_32:

(Start: 21 @23240 has 162 MA's), (37, 23306), (Start: 53 @23390 has 1 MA's), (57, 23408), (68, 23453), (79, 23501), (89, 23558), (98, 23600), (132, 23651), (138, 23672), (146, 23705), (168, 23756), (171, 23768), (180, 23822), (186, 23846), (199, 23915), (240, 24143), (244, 24170), (250, 24197), (251, 24200), (269, 24308), (274, 24329), (275, 24338), (291, 24407), (298, 24443), (306, 24482), (314, 24551), (349, 24689), (386, 24812), (389, 24818), (445, 24980), (451, 24989),

Gene: Sunhee\_30 Start: 22065, Stop: 23957, Start Num: 26

Candidate Starts for Sunhee\_30:

(Start: 26 @22065 has 35 MA's), (33, 22086), (65, 22248), (72, 22278), (81, 22323), (83, 22335), (122, 22524), (128, 22536), (150, 22638), (191, 22980), (192, 22983), (207, 23064), (214, 23124), (217, 23148), (237, 23253), (245, 23292), (256, 23349), (257, 23352), (297, 23565), (299, 23580), (316, 23700), (410, 23946), (412, 23949),

Gene: Superchunk\_30 Start: 21397, Stop: 22950, Start Num: 26

Candidate Starts for Superchunk\_30:

(Start: 23 @21391 has 4 MA's), (Start: 26 @21397 has 35 MA's), (50, 21517), (57, 21550), (58, 21553), (65, 21580), (84, 21667), (134, 21754), (167, 21856), (267, 22384), (268, 22390), (274, 22420), (280, 22453), (283, 22465), (302, 22558), (308, 22588), (323, 22684), (344, 22756), (361, 22822), (365, 22834), (383, 22879),

Gene: SwirlSquare\_33 Start: 21533, Stop: 23197, Start Num: 26

Candidate Starts for SwirlSquare\_33:

(Start: 26 @21533 has 35 MA's), (48, 21644), (56, 21680), (79, 21779), (83, 21803), (140, 21971), (142, 21977), (267, 22598), (283, 22679), (302, 22772), (308, 22802), (323, 22898), (344, 22970), (366, 23057), (391, 23126),

Gene: TNguyen7\_31 Start: 22806, Stop: 24665, Start Num: 19

Candidate Starts for TNguyen7\_31:



(Start: 19 @22806 has 31 MA's), (50, 22950), (Start: 53 @22965 has 1 MA's), (64, 23007), (88, 23130), (100, 23178), (123, 23220), (132, 23226), (138, 23247), (197, 23487), (201, 23517), (212, 23565), (231, 23691), (240, 23730), (246, 23769), (259, 23826), (263, 23859), (300, 24021), (301, 24024), (310, 24081), (320, 24147), (324, 24162), (381, 24363), (426, 24489), (427, 24492), (457, 24573), (459, 24585), (463, 24612), (468, 24642),

Gene: Taquarus\_31 Start: 22963, Stop: 24819, Start Num: 21

Candidate Starts for Taquarus\_31:

(Start: 21 @22963 has 162 MA's), (48, 23089), (Start: 53 @23113 has 1 MA's), (78, 23218), (79, 23224), (86, 23272), (89, 23281), (98, 23323), (122, 23368), (132, 23374), (168, 23479), (171, 23491), (186, 23569), (199, 23638), (240, 23866), (243, 23890), (244, 23893), (250, 23920), (251, 23923), (269, 24028), (275, 24058), (278, 24073), (298, 24163), (306, 24202), (312, 24247), (350, 24415), (386, 24532), (389, 24538), (404, 24583), (420, 24634), (421, 24637), (445, 24700), (451, 24709), (467, 24796),

Gene: TarsusIV\_31 Start: 22846, Stop: 25041, Start Num: 2

Candidate Starts for TarsusIV\_31:

(Start: 2 @22846 has 1 MA's), (3, 22867), (4, 22957), (5, 22966), (8, 23023), (28, 23191), (29, 23194), (36, 23218), (43, 23272), (69, 23383), (76, 23422), (91, 23518), (102, 23554), (145, 23659), (197, 23869), (199, 23887), (240, 24112), (250, 24163), (263, 24241), (275, 24298), (300, 24403), (303, 24424), (309, 24460), (320, 24529), (329, 24568), (344, 24613), (351, 24640), (372, 24715), (381, 24745), (390, 24769), (447, 24919), (456, 24952), (459, 24967),

Gene: Taurus\_33 Start: 23276, Stop: 25033, Start Num: 20

Candidate Starts for Taurus\_33:

(Start: 20 @23276 has 81 MA's), (48, 23411), (64, 23477), (73, 23522), (81, 23558), (122, 23690), (139, 23726), (145, 23747), (181, 23804), (194, 23864), (208, 23918), (215, 23978), (238, 24098), (239, 24101), (254, 24170), (258, 24194), (275, 24287), (279, 24308), (291, 24353), (365, 24683), (389, 24752), (412, 24815), (462, 24986),

Gene: Terrific\_35 Start: 23230, Stop: 25437, Start Num: 1

Candidate Starts for Terrific\_35:

(Start: 1 @23230 has 9 MA's), (4, 23344), (6, 23359), (7, 23380), (15, 23491), (29, 23581), (32, 23593), (69, 23770), (76, 23809), (91, 23905), (178, 24166), (197, 24256), (201, 24286), (203, 24298), (239, 24496), (263, 24637), (268, 24658), (287, 24748), (289, 24754), (291, 24760), (300, 24799), (303, 24820), (309, 24856), (310, 24859), (320, 24925), (324, 24940), (325, 24943), (329, 24964), (339, 24997), (381, 25141), (400, 25189), (406, 25198), (422, 25252), (447, 25312), (459, 25360), (468, 25414),

Gene: Texage\_31 Start: 23374, Stop: 25233, Start Num: 19

Candidate Starts for Texage\_31:

(Start: 19 @23374 has 31 MA's), (50, 23518), (54, 23536), (64, 23575), (68, 23596), (78, 23638), (81, 23656), (138, 23815), (144, 23842), (174, 23947), (179, 23968), (197, 24055), (203, 24097), (246, 24337), (263, 24427), (275, 24484), (310, 24649), (318, 24703), (320, 24715), (324, 24730), (360, 24859), (363, 24871), (381, 24931), (386, 24943), (406, 24988), (412, 25006), (459, 25153), (463, 25180), (468, 25210),

Gene: Thanksgivukkah\_31 Start: 22961, Stop: 24817, Start Num: 21

Candidate Starts for Thanksgivukkah\_31:

(Start: 21 @22961 has 162 MA's), (48, 23087), (Start: 53 @23111 has 1 MA's), (78, 23216), (79, 23222), (86, 23270), (89, 23279), (98, 23321), (122, 23366), (132, 23372), (168, 23477), (171, 23489), (186, 23567), (199, 23636), (240, 23864), (243, 23888), (244, 23891), (250, 23918), (251, 23921), (269, 24026), (275, 24056), (278, 24071), (298, 24161), (306, 24200), (312, 24245), (350, 24413),

(386, 24530), (389, 24536), (404, 24581), (420, 24632), (421, 24635), (445, 24698), (451, 24707), (467, 24794),

Gene: Tiffany\_33 Start: 23171, Stop: 24922, Start Num: 20

Candidate Starts for Tiffany\_33:

(Start: 20 @23171 has 81 MA's), (48, 23306), (64, 23372), (73, 23417), (81, 23453), (95, 23525), (100, 23543), (139, 23621), (145, 23642), (181, 23699), (194, 23759), (220, 23897), (238, 23993), (239, 23996), (254, 24065), (258, 24089), (266, 24134), (275, 24182), (291, 24248), (321, 24419), (323, 24425), (336, 24476), (350, 24521), (374, 24599), (389, 24641), (404, 24683), (436, 24785), (437, 24788), (451, 24812),

Gene: TinaFeyge\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for TinaFeyge\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (180, 23539), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: TinyPebbles\_33 Start: 23366, Stop: 25117, Start Num: 20

Candidate Starts for TinyPebbles\_33:

(Start: 20 @23366 has 81 MA's), (48, 23501), (64, 23567), (73, 23612), (81, 23648), (108, 23759), (122, 23780), (139, 23816), (145, 23837), (194, 23954), (220, 24092), (238, 24188), (239, 24191), (254, 24260), (258, 24284), (266, 24329), (275, 24377), (291, 24443), (321, 24614), (323, 24620), (336, 24671), (350, 24716), (359, 24746), (374, 24794), (389, 24836), (393, 24851), (395, 24854), (404, 24878), (436, 24980), (437, 24983), (451, 25007),

Gene: Tinybot\_30 Start: 22937, Stop: 24793, Start Num: 21

Candidate Starts for Tinybot\_30:

(Start: 21 @22937 has 162 MA's), (48, 23063), (Start: 53 @23087 has 1 MA's), (86, 23246), (89, 23255), (98, 23297), (122, 23342), (132, 23348), (168, 23453), (171, 23465), (186, 23543), (199, 23612), (229, 23780), (233, 23810), (240, 23840), (244, 23867), (250, 23894), (251, 23897), (269, 24002), (274, 24023), (275, 24032), (298, 24137), (306, 24176), (312, 24221), (349, 24383), (386, 24506), (389, 24512), (445, 24674), (451, 24683),

Gene: TipsytheTRex\_30 Start: 21878, Stop: 23713, Start Num: 25

Candidate Starts for TipsytheTRex\_30:

(Start: 25 @21878 has 12 MA's), (50, 22001), (Start: 53 @22016 has 1 MA's), (57, 22034), (71, 22091), (81, 22139), (83, 22151), (112, 22262), (140, 22319), (142, 22325), (184, 22505), (199, 22589), (211, 22640), (213, 22661), (226, 22727), (241, 22811), (245, 22823), (267, 22931), (283, 23012), (304, 23111), (323, 23231), (380, 23435), (387, 23450), (426, 23561), (442, 23603),

Gene: TiroTheta9\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for TiroTheta9\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Toaka\_30 Start: 22544, Stop: 24361, Start Num: 25

Candidate Starts for Toaka\_30:

(Start: 25 @22544 has 12 MA's), (27, 22550), (47, 22649), (79, 22793), (83, 22817), (161, 23180), (162, 23183), (171, 23216), (187, 23294), (191, 23318), (196, 23336), (200, 23360), (217, 23486), (234, 23576), (261, 23714), (299, 23918), (307, 23963), (308, 23972), (318, 24047), (319, 24050), (410, 24350),

Gene: Todacoro\_32 Start: 23373, Stop: 25232, Start Num: 19

Candidate Starts for Todacoro\_32:

(Start: 19 @23373 has 31 MA's), (50, 23517), (54, 23535), (64, 23574), (68, 23595), (78, 23637), (81, 23655), (138, 23814), (144, 23841), (174, 23946), (179, 23967), (197, 24054), (203, 24096), (243, 24318), (246, 24336), (263, 24426), (275, 24483), (310, 24648), (318, 24702), (320, 24714), (324, 24729), (360, 24858), (363, 24870), (381, 24930), (386, 24942), (406, 24987), (412, 25005), (459, 25152), (463, 25179), (468, 25209),

Gene: Tomathan\_34 Start: 22559, Stop: 24412, Start Num: 26

Candidate Starts for Tomathan\_34:

(Start: 23 @22553 has 4 MA's), (Start: 26 @22559 has 35 MA's), (50, 22679), (71, 22769), (83, 22829), (93, 22880), (134, 22973), (140, 22997), (142, 23003), (241, 23510), (258, 23579), (274, 23666), (294, 23747), (323, 23930), (387, 24149), (392, 24161), (405, 24191), (426, 24260), (434, 24284), (438, 24293), (453, 24329),

Gene: Topanga\_33 Start: 23566, Stop: 25401, Start Num: 21

Candidate Starts for Topanga\_33:

(Start: 21 @23566 has 162 MA's), (Start: 53 @23713 has 1 MA's), (63, 23749), (94, 23905), (116, 23974), (117, 23995), (119, 24022), (197, 24235), (199, 24253), (231, 24439), (240, 24478), (246, 24517), (259, 24574), (263, 24607), (275, 24664), (287, 24718), (303, 24790), (304, 24793), (324, 24910), (329, 24934), (334, 24949), (336, 24955), (350, 25003), (357, 25030), (374, 25084), (380, 25105), (381, 25108), (389, 25126), (410, 25183), (414, 25198), (430, 25246), (443, 25279), (454, 25309), (468, 25384),

Gene: Travvers\_34 Start: 22559, Stop: 24412, Start Num: 26

Candidate Starts for Travvers\_34:

(Start: 23 @22553 has 4 MA's), (Start: 26 @22559 has 35 MA's), (50, 22679), (71, 22769), (83, 22829), (93, 22880), (134, 22973), (140, 22997), (142, 23003), (241, 23510), (258, 23579), (274, 23666), (294, 23747), (405, 24191), (409, 24206), (426, 24260), (434, 24284), (438, 24293), (453, 24329),

Gene: Trike\_30 Start: 21413, Stop: 23695, Start Num: 21

Candidate Starts for Trike\_30:

(Start: 21 @21413 has 162 MA's), (30, 21446), (47, 21530), (63, 21596), (89, 21728), (117, 21842), (118, 21851), (124, 21935), (127, 22010), (139, 22088), (152, 22163), (157, 22208), (169, 22379), (197, 22526), (198, 22535), (199, 22544), (203, 22568), (240, 22769), (246, 22808), (263, 22898), (275, 22955), (286, 22997), (287, 23009), (300, 23060), (306, 23090), (308, 23108), (310, 23120), (334, 23240), (336, 23246), (374, 23378), (380, 23399), (381, 23402), (404, 23459), (413, 23486), (414, 23492), (443, 23573), (445, 23576), (468, 23678), (469, 23681),

Gene: Tristan\_33 Start: 24889, Stop: 26664, Start Num: 21

Candidate Starts for Tristan\_33:

(17, 24850), (Start: 21 @24889 has 162 MA's), (48, 25000), (50, 25009), (65, 25066), (71, 25093), (89, 25186), (132, 25279), (138, 25300), (139, 25309), (145, 25330), (149, 25342), (189, 25465), (197, 25498), (199, 25516), (203, 25540), (223, 25654), (240, 25741), (246, 25780), (250, 25792), (259, 25837), (300, 26032), (303, 26053), (334, 26212), (336, 26218), (374, 26347), (410, 26446), (414, 26461), (443, 26542), (459, 26602), (468, 26647),

Gene: Trixie\_34 Start: 24439, Stop: 26220, Start Num: 22

Candidate Starts for Trixie\_34:

(Start: 22 @24439 has 28 MA's), (48, 24556), (50, 24565), (81, 24697), (178, 24964), (197, 25054), (199, 25072), (203, 25096), (246, 25336), (263, 25426), (275, 25483), (302, 25606), (323, 25723), (334, 25768), (374, 25903), (380, 25924), (389, 25945), (414, 26017), (443, 26098), (454, 26128), (459, 26158),

Gene: TroyPia\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for TroyPia\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Tubs\_33 Start: 24377, Stop: 26143, Start Num: 22

Candidate Starts for Tubs\_33:

(Start: 22 @24377 has 28 MA's), (27, 24389), (64, 24563), (83, 24653), (95, 24698), (97, 24707), (139, 24785), (146, 24809), (166, 24845), (197, 24974), (199, 24992), (240, 25217), (243, 25238), (246, 25256), (263, 25346), (275, 25403), (302, 25526), (324, 25649), (334, 25688), (350, 25745), (374, 25826), (380, 25847), (381, 25850), (414, 25940), (454, 26051), (468, 26126),

Gene: Twister\_33 Start: 23481, Stop: 25316, Start Num: 21

Candidate Starts for Twister\_33:

(Start: 21 @23481 has 162 MA's), (30, 23514), (63, 23664), (116, 23889), (117, 23910), (119, 23937), (189, 24117), (197, 24150), (199, 24168), (203, 24192), (221, 24300), (246, 24432), (259, 24489), (263, 24522), (275, 24579), (287, 24633), (292, 24648), (302, 24702), (320, 24810), (324, 24825), (329, 24849), (334, 24864), (355, 24936), (368, 24981), (374, 24999), (380, 25020), (381, 25023), (410, 25098), (414, 25113), (443, 25194), (454, 25224), (459, 25254), (468, 25299), (469, 25302),

Gene: TygerBlood\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for TygerBlood\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Ugenie5\_30 Start: 24410, Stop: 26176, Start Num: 22

Candidate Starts for Ugenie5\_30:

(Start: 22 @24410 has 28 MA's), (27, 24422), (64, 24596), (83, 24686), (95, 24731), (97, 24740), (139, 24818), (146, 24842), (166, 24878), (197, 25007), (199, 25025), (240, 25250), (243, 25271), (246, 25289), (263, 25379), (275, 25436), (302, 25559), (324, 25682), (334, 25721), (350, 25778), (374, 25859), (380, 25880), (381, 25883), (414, 25973), (454, 26084), (468, 26159),

Gene: Ulysses\_30 Start: 22678, Stop: 24534, Start Num: 21

Candidate Starts for Ulysses\_30:

(Start: 21 @22678 has 162 MA's), (48, 22804), (Start: 53 @22828 has 1 MA's), (78, 22933), (79, 22939), (86, 22987), (89, 22996), (98, 23038), (122, 23083), (132, 23089), (168, 23194), (171, 23206), (183, 23269), (186, 23284), (199, 23353), (229, 23521), (240, 23581), (244, 23608), (250, 23635), (251, 23638), (269, 23743), (274, 23764), (275, 23773), (298, 23878), (312, 23962), (329, 24061),

(386, 24247), (389, 24253), (404, 24298), (420, 24349), (421, 24352), (445, 24415), (451, 24424), (467, 24511),

Gene: Updawg\_33 Start: 23218, Stop: 25425, Start Num: 1

Candidate Starts for Updawg\_33:

(Start: 1 @23218 has 9 MA's), (4, 23332), (5, 23341), (6, 23347), (7, 23368), (15, 23479), (29, 23569), (32, 23581), (69, 23758), (76, 23797), (91, 23893), (178, 24154), (197, 24244), (201, 24274), (203, 24286), (239, 24484), (263, 24625), (268, 24646), (287, 24736), (289, 24742), (291, 24748), (300, 24787), (303, 24808), (309, 24844), (310, 24847), (320, 24913), (324, 24928), (325, 24931), (329, 24952), (339, 24985), (381, 25129), (400, 25177), (422, 25240), (447, 25300), (459, 25348), (468, 25402),

Gene: VA6\_31 Start: 22715, Stop: 24568, Start Num: 26

Candidate Starts for VA6\_31:

(Start: 23 @22709 has 4 MA's), (Start: 26 @22715 has 35 MA's), (50, 22835), (71, 22925), (83, 22985), (86, 23009), (93, 23036), (134, 23129), (140, 23153), (142, 23159), (168, 23261), (241, 23666), (258, 23735), (294, 23903), (308, 23990), (323, 24086), (362, 24233), (405, 24347), (426, 24416), (434, 24440), (450, 24470), (453, 24485),

Gene: VC3\_34 Start: 22703, Stop: 24556, Start Num: 26

Candidate Starts for VC3\_34:

(Start: 23 @22697 has 4 MA's), (Start: 26 @22703 has 35 MA's), (50, 22823), (71, 22913), (83, 22973), (86, 22997), (93, 23024), (134, 23117), (140, 23141), (142, 23147), (168, 23249), (241, 23654), (258, 23723), (294, 23891), (308, 23978), (323, 24074), (362, 24221), (405, 24335), (426, 24404), (434, 24428), (450, 24458), (453, 24473),

Gene: Veracruz\_31 Start: 23373, Stop: 25232, Start Num: 19

Candidate Starts for Veracruz\_31:

(Start: 19 @23373 has 31 MA's), (50, 23517), (54, 23535), (64, 23574), (68, 23595), (78, 23637), (81, 23655), (138, 23814), (144, 23841), (174, 23946), (179, 23967), (197, 24054), (203, 24096), (243, 24318), (246, 24336), (263, 24426), (275, 24483), (310, 24648), (318, 24702), (320, 24714), (324, 24729), (360, 24858), (363, 24870), (381, 24930), (386, 24942), (406, 24987), (412, 25005), (459, 25152), (463, 25179), (468, 25209),

Gene: Vix\_33 Start: 23359, Stop: 25116, Start Num: 20

Candidate Starts for Vix\_33:

(Start: 20 @23359 has 81 MA's), (48, 23494), (64, 23560), (73, 23605), (81, 23641), (122, 23773), (139, 23809), (145, 23830), (181, 23887), (194, 23947), (208, 24001), (215, 24061), (238, 24181), (239, 24184), (254, 24253), (258, 24277), (275, 24370), (279, 24391), (291, 24436), (365, 24766), (389, 24835), (412, 24898), (462, 25069),

Gene: WalterMcMickey\_33 Start: 23481, Stop: 25316, Start Num: 21

Candidate Starts for WalterMcMickey\_33:

(Start: 21 @23481 has 162 MA's), (30, 23514), (63, 23664), (116, 23889), (117, 23910), (119, 23937), (189, 24117), (197, 24150), (199, 24168), (203, 24192), (221, 24300), (246, 24432), (259, 24489), (263, 24522), (275, 24579), (287, 24633), (292, 24648), (302, 24702), (320, 24810), (324, 24825), (329, 24849), (334, 24864), (355, 24936), (368, 24981), (374, 24999), (380, 25020), (381, 25023), (410, 25098), (414, 25113), (443, 25194), (454, 25224), (459, 25254), (468, 25299), (469, 25302),

Gene: Wander\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Wander\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488),

(186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (274, 24046), (275, 24055), (298, 24160), (306, 24199), (312, 24244), (349, 24406), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Watson\_33 Start: 23269, Stop: 25026, Start Num: 20

Candidate Starts for Watson\_33:

(Start: 20 @23269 has 81 MA's), (48, 23404), (64, 23470), (73, 23515), (81, 23551), (122, 23683), (139, 23719), (145, 23740), (181, 23797), (194, 23857), (208, 23911), (215, 23971), (238, 24091), (239, 24094), (254, 24163), (258, 24187), (275, 24280), (279, 24301), (291, 24346), (365, 24676), (389, 24745), (412, 24808), (462, 24979),

Gene: WeiHuaDA\_37 Start: 25110, Stop: 26891, Start Num: 22

Candidate Starts for WeiHuaDA\_37:

(Start: 22 @25110 has 28 MA's), (48, 25227), (50, 25236), (81, 25368), (138, 25527), (178, 25635), (179, 25638), (197, 25725), (199, 25743), (203, 25767), (240, 25968), (246, 26007), (263, 26097), (275, 26154), (287, 26208), (302, 26277), (323, 26394), (334, 26439), (374, 26574), (380, 26595), (389, 26616), (413, 26682), (443, 26769), (454, 26799), (459, 26829), (468, 26874),

Gene: WideWale\_33 Start: 23218, Stop: 25425, Start Num: 1

Candidate Starts for WideWale\_33:

(Start: 1 @23218 has 9 MA's), (4, 23332), (5, 23341), (6, 23347), (7, 23368), (15, 23479), (29, 23569), (32, 23581), (69, 23758), (76, 23797), (91, 23893), (178, 24154), (197, 24244), (201, 24274), (203, 24286), (239, 24484), (263, 24625), (268, 24646), (287, 24736), (289, 24742), (291, 24748), (300, 24787), (303, 24808), (309, 24844), (310, 24847), (320, 24913), (324, 24928), (325, 24931), (329, 24952), (339, 24985), (381, 25129), (400, 25177), (422, 25240), (447, 25300), (459, 25348), (468, 25402),

Gene: Wilbur\_31 Start: 22960, Stop: 24816, Start Num: 21

Candidate Starts for Wilbur\_31:

(Start: 21 @22960 has 162 MA's), (48, 23086), (Start: 53 @23110 has 1 MA's), (78, 23215), (79, 23221), (86, 23269), (89, 23278), (98, 23320), (122, 23365), (132, 23371), (168, 23476), (171, 23488), (186, 23566), (199, 23635), (240, 23863), (243, 23887), (244, 23890), (250, 23917), (251, 23920), (269, 24025), (275, 24055), (278, 24070), (298, 24160), (306, 24199), (312, 24244), (350, 24412), (386, 24529), (389, 24535), (404, 24580), (420, 24631), (421, 24634), (445, 24697), (451, 24706), (467, 24793),

Gene: Wile\_31 Start: 22982, Stop: 24841, Start Num: 21

Candidate Starts for Wile\_31:

(14, 22922), (16, 22937), (Start: 21 @22982 has 162 MA's), (37, 23048), (45, 23093), (47, 23099), (Start: 53 @23132 has 1 MA's), (57, 23150), (68, 23195), (70, 23201), (71, 23207), (89, 23300), (92, 23315), (122, 23387), (146, 23447), (168, 23498), (171, 23510), (186, 23588), (199, 23657), (218, 23780), (222, 23804), (240, 23885), (247, 23930), (250, 23939), (251, 23942), (274, 24071), (275, 24080), (285, 24122), (291, 24149), (298, 24185), (302, 24212), (306, 24224), (333, 24380), (386, 24554), (389, 24560), (404, 24605), (420, 24656), (421, 24659), (432, 24695), (451, 24731),

Gene: Wizard007\_31 Start: 22962, Stop: 24818, Start Num: 21

Candidate Starts for Wizard007\_31:

(Start: 21 @22962 has 162 MA's), (48, 23088), (Start: 53 @23112 has 1 MA's), (78, 23217), (79, 23223), (86, 23271), (89, 23280), (98, 23322), (122, 23367), (132, 23373), (168, 23478), (171, 23490), (186, 23568), (199, 23637), (240, 23865), (243, 23889), (244, 23892), (250, 23919), (251, 23922), (269, 24027), (275, 24057), (278, 24072), (298, 24162), (306, 24201), (312, 24246), (350, 24414), (386, 24531), (389, 24537), (404, 24582), (420, 24633), (421, 24636), (445, 24699), (451, 24708),

(467, 24795),

Gene: Wooldri\_35 Start: 23188, Stop: 24945, Start Num: 20

Candidate Starts for Wooldri\_35:

(Start: 20 @23188 has 81 MA's), (48, 23323), (64, 23389), (73, 23434), (81, 23470), (122, 23602), (139, 23638), (145, 23659), (181, 23716), (194, 23776), (208, 23830), (215, 23890), (238, 24010), (239, 24013), (254, 24082), (258, 24106), (275, 24199), (279, 24220), (291, 24265), (365, 24595), (389, 24664), (412, 24727), (462, 24898),

Gene: Xena\_31 Start: 22969, Stop: 24828, Start Num: 21

Candidate Starts for Xena\_31:

(14, 22909), (Start: 21 @22969 has 162 MA's), (37, 23035), (45, 23080), (47, 23086), (Start: 53 @23119 has 1 MA's), (57, 23137), (68, 23182), (70, 23188), (71, 23194), (89, 23287), (92, 23302), (122, 23374), (146, 23434), (168, 23485), (171, 23497), (186, 23575), (199, 23644), (218, 23767), (222, 23791), (240, 23872), (247, 23917), (250, 23926), (251, 23929), (274, 24058), (275, 24067), (285, 24109), (291, 24136), (298, 24172), (302, 24199), (306, 24211), (333, 24367), (386, 24541), (389, 24547), (404, 24592), (420, 24643), (421, 24646), (432, 24682), (451, 24718),

Gene: XianYue\_31 Start: 22723, Stop: 24396, Start Num: 23

Candidate Starts for XianYue\_31:

(Start: 23 @22723 has 4 MA's), (48, 22840), (50, 22849), (51, 22855), (56, 22876), (64, 22906), (81, 22987), (139, 23155), (147, 23179), (177, 23287), (192, 23353), (243, 23620), (295, 23833), (324, 24019), (337, 24064), (340, 24073), (353, 24124), (358, 24142), (434, 24361), (448, 24388),

Gene: Yecey3\_32 Start: 22435, Stop: 24132, Start Num: 23

Candidate Starts for Yecey3\_32:

(Start: 23 @22435 has 4 MA's), (46, 22540), (57, 22594), (65, 22624), (79, 22687), (83, 22711), (140, 22789), (146, 22810), (148, 22813), (166, 22864), (168, 22885), (184, 22963), (185, 22966), (241, 23278), (242, 23281), (250, 23314), (252, 23320), (267, 23404), (268, 23410), (271, 23425), (283, 23485), (310, 23617), (323, 23704), (360, 23839), (368, 23866), (397, 23941), (402, 23956), (415, 23992), (423, 24016), (432, 24049), (438, 24061),

Gene: YoSam321\_31 Start: 22957, Stop: 24813, Start Num: 21

Candidate Starts for YoSam321\_31:

(Start: 21 @22957 has 162 MA's), (48, 23083), (Start: 53 @23107 has 1 MA's), (78, 23212), (79, 23218), (86, 23266), (89, 23275), (98, 23317), (122, 23362), (132, 23368), (168, 23473), (171, 23485), (186, 23563), (199, 23632), (240, 23860), (243, 23884), (244, 23887), (250, 23914), (251, 23917), (269, 24022), (275, 24052), (278, 24067), (298, 24157), (306, 24196), (312, 24241), (350, 24409), (386, 24526), (389, 24532), (404, 24577), (420, 24628), (421, 24631), (445, 24694), (451, 24703), (467, 24790),

Gene: Zetzy\_32 Start: 22817, Stop: 24574, Start Num: 20

Candidate Starts for Zetzy\_32:

(Start: 20 @22817 has 81 MA's), (48, 22952), (64, 23018), (73, 23063), (108, 23210), (139, 23267), (145, 23288), (194, 23405), (208, 23459), (215, 23519), (233, 23612), (238, 23639), (239, 23642), (254, 23711), (258, 23735), (266, 23780), (277, 23840), (279, 23849), (291, 23894), (300, 23933), (310, 23990), (365, 24224), (389, 24293), (412, 24356), (451, 24464),