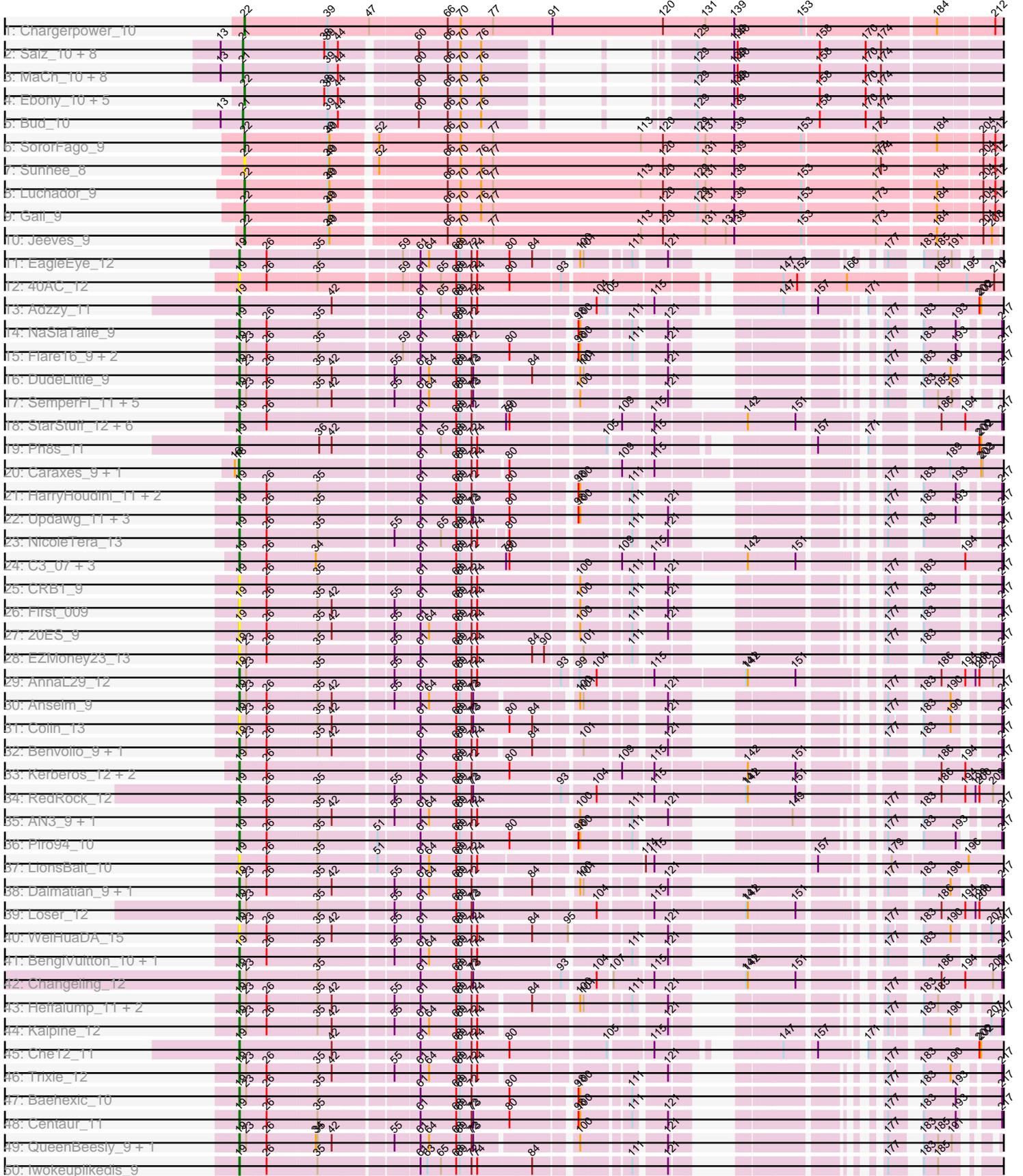
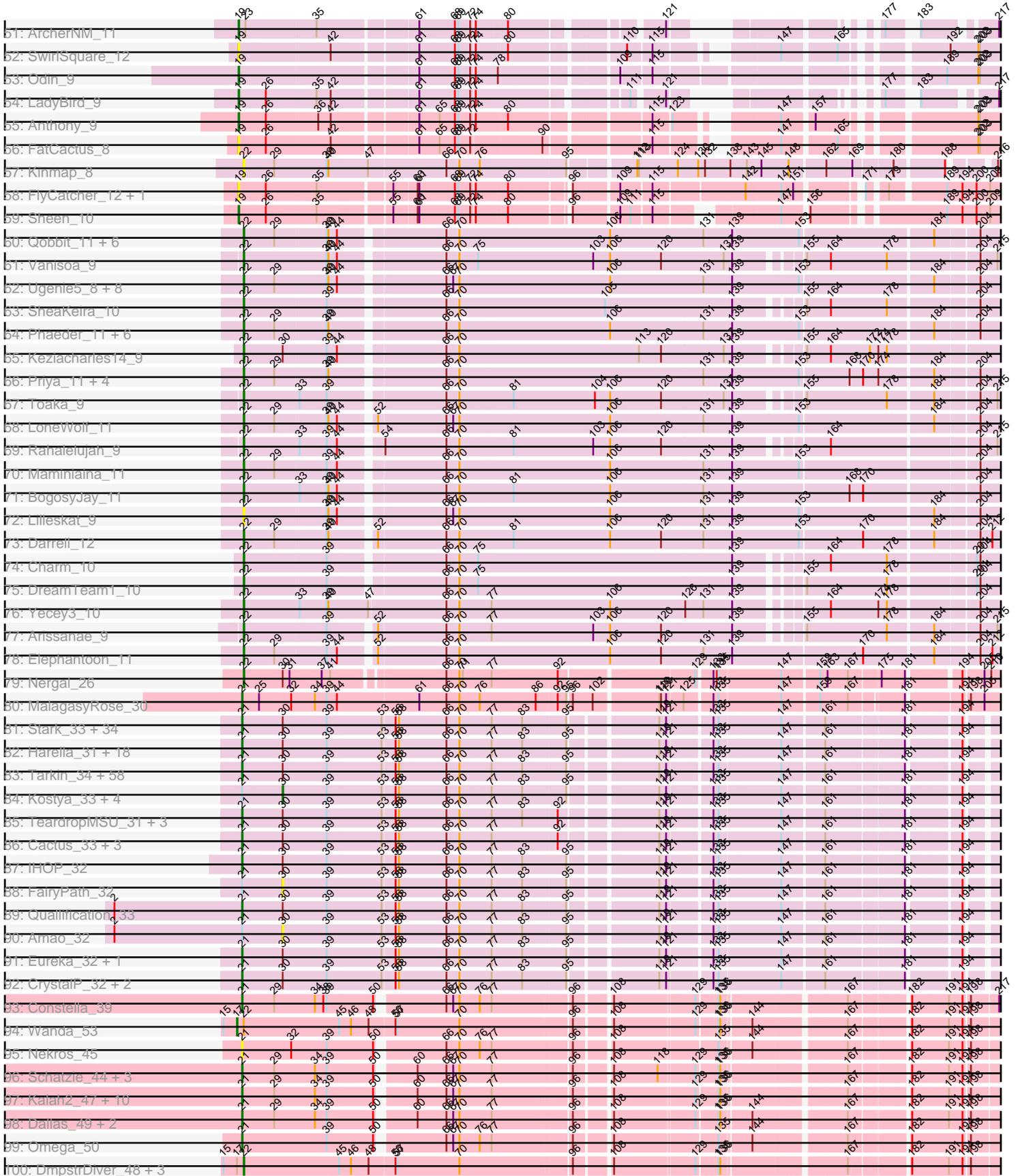


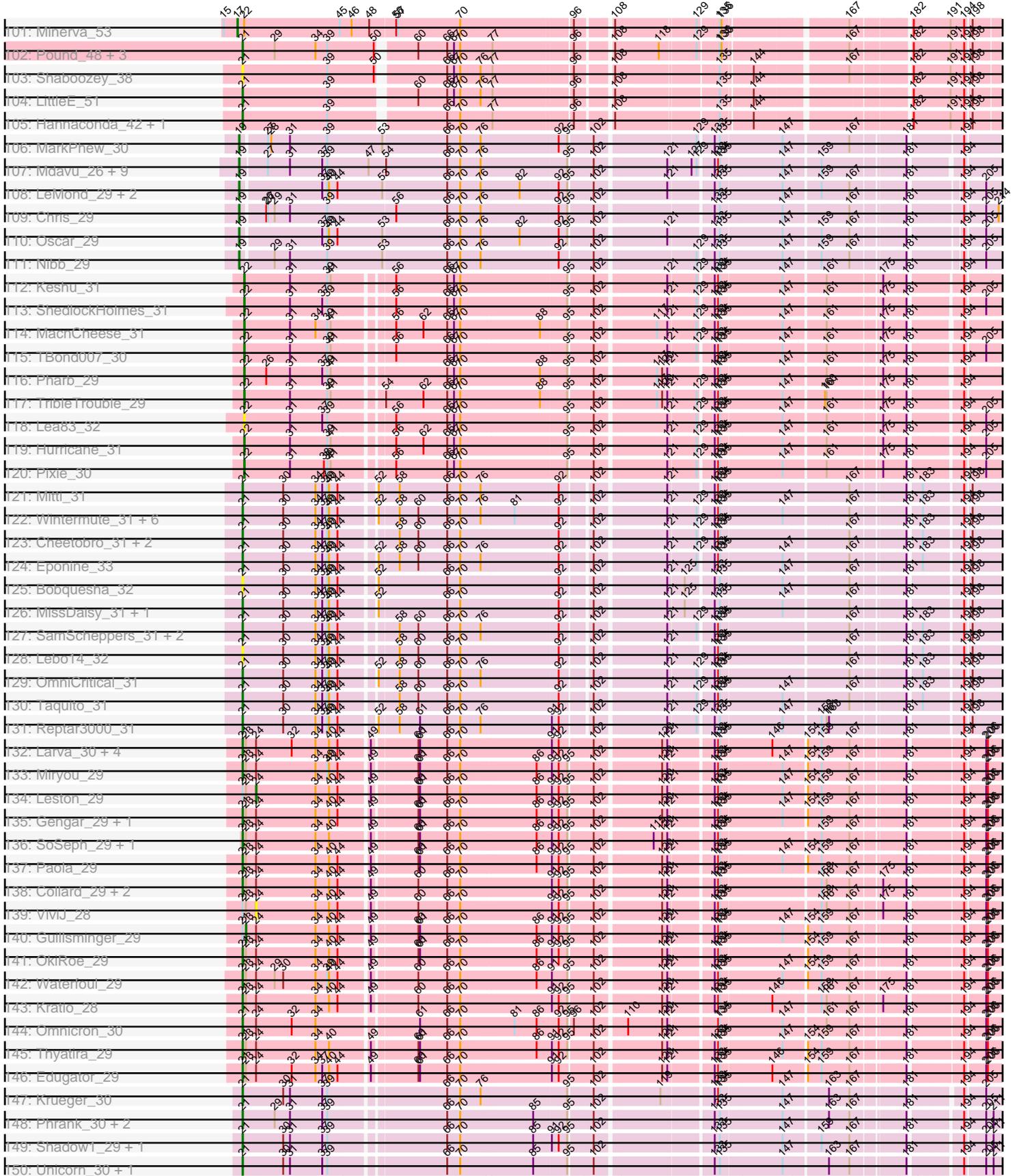
# Zoomed Pham 224168



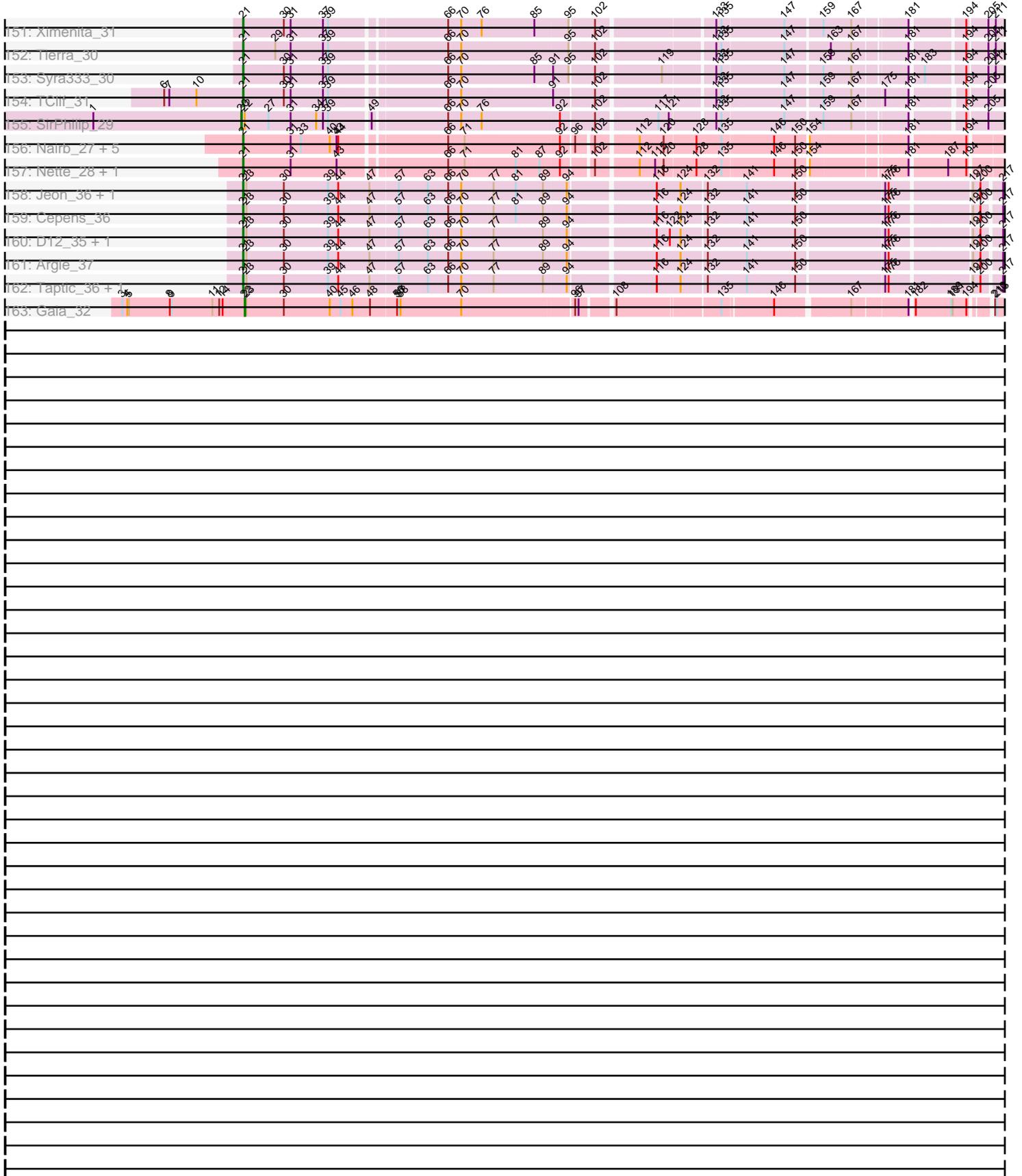
# Zoomed Pham 224168



# Zoomed Pham 224168



# Zoomed Pham 224168



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 224168 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224168 has 428 members, 51 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_10
- Track 2 : Salz\_10, Sham4\_10, Et2Brutus\_9, Fibonacci\_10, Hutc2\_10, Petersenfast\_9, Mulciber\_10, Orange\_10, Snape\_10
- Track 3 : MaCh\_10, Flaverint\_10, Aneem\_10, Munch\_10, Joselito\_10, Gilberta\_10, Bachome\_10, Bowtie\_10, Timothy\_10
- Track 4 : Ebony\_10, Lucivia\_10, TinyTimmy\_10, Insomnia\_10, Mabel\_10, Jabith\_10
- Track 5 : Bud\_10
- Track 6 : SororFago\_9
- Track 7 : Sunhee\_8
- Track 8 : Luchador\_9
- Track 9 : Gail\_9
- Track 10 : Jeeves\_9
- Track 11 : EagleEye\_12
- Track 12 : 40AC\_12
- Track 13 : Adzzy\_11
- Track 14 : NaSiaTalie\_9
- Track 15 : Flare16\_9, MiculUcigas\_9, Sknot\_10
- Track 16 : DudeLittle\_9
- Track 17 : SemperFi\_11, SnapTap\_9, SweetiePie\_9, Georgie2\_9, Crucio\_9, Power\_9
- Track 18 : StarStuff\_12, Tomathan\_12, D32\_12, Travvers\_12, D29\_10, Naji\_12, Duplo\_12
- Track 19 : Ph8s\_11
- Track 20 : Caraxes\_9, Superchunk\_9
- Track 21 : HarryHoudini\_11, Terrific\_13, Drake55\_11
- Track 22 : Updawg\_11, Equemioh13\_11, Gratitude\_10, WideWale\_11
- Track 23 : NicoleTera\_13
- Track 24 : C3\_07, AN9\_12, VC3\_12, ANI8\_12
- Track 25 : CRB1\_9
- Track 26 : First\_009
- Track 27 : 20ES\_9
- Track 28 : EZMoney23\_13
- Track 29 : AnnaL29\_12
- Track 30 : Anselm\_9
- Track 31 : Colin\_13
- Track 32 : Benvolio\_9, Echild\_9
- Track 33 : Kerberos\_12, DBQu4n\_12, Pomar16\_12

- Track 34 : RedRock\_12
- Track 35 : AN3\_9, VA6\_9
- Track 36 : Piro94\_10
- Track 37 : LionsBait\_10
- Track 38 : Dalmatian\_9, Retro23\_9
- Track 39 : Loser\_12
- Track 40 : WeiHuaDA\_15
- Track 41 : BengiVuitton\_10, Deloris\_10
- Track 42 : Changeling\_12
- Track 43 : Heffalump\_11, QueenB2\_9, Fameo\_9
- Track 44 : Kalpine\_12
- Track 45 : Che12\_11
- Track 46 : Trixie\_12
- Track 47 : Baehexic\_10
- Track 48 : Centaur\_11
- Track 49 : QueenBeesly\_9, FiringLine\_9
- Track 50 : Iwokeuplikedis\_9
- Track 51 : ArcherNM\_11
- Track 52 : SwirlSquare\_12
- Track 53 : Odin\_9
- Track 54 : LadyBird\_9
- Track 55 : Anthony\_9
- Track 56 : FatCactus\_8
- Track 57 : Kinmap\_8
- Track 58 : FlyCatcher\_12, Toro\_11
- Track 59 : Sheen\_10
- Track 60 : Qobbit\_11, ExplosioNervosa\_11, Fayely\_11, Phonnegut\_11, EmyBug\_11, Pioneer\_11, Beemo\_11
- Track 61 : Vanisoa\_9
- Track 62 : Ugenie5\_8, RyeScarlet\_12, Onglai\_10, Scherzo\_11, Hanray\_10, Jiawan\_10, EdogawaKiddo\_9, Halex\_10, Sachima\_9
- Track 63 : SheaKeira\_10
- Track 64 : Phaeder\_11, Aliter\_11, Myxus\_11, Tubs\_11, HortumSL17\_11, Catalina\_11, PackMan\_11
- Track 65 : Keziacharles14\_9
- Track 66 : Priya\_11, Eidsmoe\_11, Conquerage\_11, Alma\_11, Spouty\_11
- Track 67 : Toaka\_9
- Track 68 : LoneWolf\_11
- Track 69 : Rahalelujah\_9
- Track 70 : Maminiaina\_11
- Track 71 : BogosyJay\_11
- Track 72 : Lilleskat\_9
- Track 73 : Darrell\_12
- Track 74 : Charm\_10
- Track 75 : DreamTeam1\_10
- Track 76 : Yecey3\_10
- Track 77 : Arissanae\_9
- Track 78 : Elephantoon\_11
- Track 79 : Nergal\_26
- Track 80 : MalagasyRose\_30
- Track 81 : Stark\_33, Gemini\_35, Maxxinista\_33, Emmina\_33, Gage\_34, Moldemort\_33, GoldenSpark\_34, Thresher\_33, Nala\_32, Lilpickle\_31, Argent26\_34, Rakim\_33, Kimchi\_34, Adnama\_35, GooberAzure\_34, YassJohnny\_33, Balomoji\_31,

BaboJay\_31, ShereKhan\_34, Filch\_33, Terminus\_32, RiverMonster\_32, Bench\_34, Command613\_33, Simpliphy\_33, Elite2014\_31, Cjw1\_32, Misfit\_32, ChosenOne\_32, Bruin\_32, Wiggin\_35, Phaja\_32, Teaspoon\_33, NoSleep\_33, Inca\_31

- Track 82 : Harella\_31, Willez\_31, DrDrey\_33, Tomaszewski\_31, Glexan\_30, SirDuracell\_31, Sassay\_31, ChotaBhai\_32, Myrale\_32, Manda\_33, Youngblood\_32, Pat3\_31, Tuco\_33, Contagion\_31, Mosby\_31, Flypotenuse\_30, ABCat\_31, Marshmallow\_32, Cookies\_32
- Track 83 : Tarkin\_34, StormChicken\_32, HufflyPuff\_31, Petra64142\_34, FireRed\_32, StellaBean\_32, BugsBunny\_30, TBrady12\_34, Rimmer\_31, Elph10\_33, FoghornLeghorn\_31, Buck\_31, Kanye\_34, 244\_34, BadStone\_31, HanKaySha\_33, MISSy\_31, Nimrod\_32, Dumbo\_32, MadamMonkfish\_32, Ukulele\_32, Becksu\_32, SophKB\_32, Hopey\_34, Dusk\_31, Miniwave\_32, PhatBacter\_32, JeTaime\_34, MPhalcon\_31, Saints25\_33, Stank\_35, Highbury\_33, Bask21\_32, StolenFromERC\_34, Easy2Say\_34, Palpatine\_32, Hoonter\_34, Lilac\_34, Phaux\_31, Czyszczon1\_33, BigBubba\_33, AmericanBeauty\_34, Goldilocks\_33, Murphy\_33, Gator\_30, Phrux\_32, Paperbeatsrock\_34, Xandras\_34, Holt\_33, Policronamos\_32, Thimble\_32, Porky\_32, DoctorDiddles\_32, Pumpkin\_34, xkcd\_33, Lilizi\_34, OrionPax\_33, Murica\_31, Pharsalus\_33
- Track 84 : Kostya\_33, BilboSwaggins\_32, Mindy\_32, Daikon\_31, Toto\_32
- Track 85 : TeardropMSU\_31, Asriel\_31, Traaww1\_30, Barbarian\_31
- Track 86 : Cactus\_33, Icee\_31, Sotrice96\_32, NelitzaMV\_32
- Track 87 : IHOP\_32
- Track 88 : FairyPath\_32
- Track 89 : Quallification\_33
- Track 90 : Amao\_32
- Track 91 : Eureka\_32, Goku\_32
- Track 92 : CrystalP\_32, Henry\_33, ShamWow\_32
- Track 93 : Constella\_39
- Track 94 : Wanda\_53
- Track 95 : Nekros\_45
- Track 96 : Schatzie\_44, Odette\_47, Bombitas\_43, JuicyJay\_49
- Track 97 : Kalah2\_47, HokkenD\_40, Halley\_47, ThreeRngTarjay\_45, Beem\_47, Hughesyang\_45, Phoebus\_46, Ejimix\_47, Bagrid\_46, Yeet\_45, EricMillard\_47
- Track 98 : Dallas\_49, Zelink\_48, Redno2\_45
- Track 99 : Omega\_50
- Track 100 : DmpstrDiver\_48, Optimus\_52, Duke13\_50, BAKA\_51
- Track 101 : Minerva\_53
- Track 102 : Pound\_48, Dove\_44, Klein\_47, NihilNomen\_46
- Track 103 : Shaboozey\_38
- Track 104 : LittleE\_51
- Track 105 : Hannaconda\_42, KashFlow\_39
- Track 106 : MarkPhew\_30
- Track 107 : Mdavu\_26, Teejan\_26, Enkosi\_26, Amelie\_26, Nikao\_26, LilPharaoh\_26, Binglebops\_26, Torres\_26, SgtBeansprout\_26, Nutello\_26
- Track 108 : LeMond\_29, Scarlett\_29, KiSi\_29
- Track 109 : Chris\_29
- Track 110 : Oscar\_29
- Track 111 : Nibb\_29
- Track 112 : Keshu\_31
- Track 113 : ShedlockHolmes\_31
- Track 114 : MacnCheese\_31
- Track 115 : TBond007\_30
- Track 116 : Pharb\_29

- Track 117 : TribelTrouble\_29
- Track 118 : Lea83\_32
- Track 119 : Hurricane\_31
- Track 120 : Pixie\_30
- Track 121 : Mitti\_31
- Track 122 : Wintermute\_31, Malthus\_32, JF1\_31, Y2\_31, Y10\_31, Fionnbharth\_31, Kraw\_32
- Track 123 : Cheetobro\_31, Chancellor\_31, Slarp\_31
- Track 124 : Eponine\_33
- Track 125 : Bobquesha\_32
- Track 126 : MissDaisy\_31, Patt\_31
- Track 127 : SamScheppers\_31, Ruthiejr\_32, Juliette\_33
- Track 128 : Lebo14\_32
- Track 129 : OmniCritical\_31
- Track 130 : Taquito\_31
- Track 131 : Reptar3000\_31
- Track 132 : Larva\_30, Dadosky\_30, Neighly\_30, Psycho\_30, AlleyCat\_30
- Track 133 : Miryou\_29
- Track 134 : Leston\_29
- Track 135 : Gengar\_29, Feyre\_29
- Track 136 : SoSeph\_29, Heftyboy\_29
- Track 137 : Paola\_29
- Track 138 : Collard\_29, Agent47\_29, InvictusManeo\_29
- Track 139 : ViviJ\_28
- Track 140 : Guillsminger\_29
- Track 141 : OkiRoe\_29
- Track 142 : Waterfoul\_29
- Track 143 : Kratio\_28
- Track 144 : Omnicron\_30
- Track 145 : Thyatira\_29
- Track 146 : Edugator\_29
- Track 147 : Krueger\_30
- Track 148 : Phrank\_30, Cain\_30, Bryler\_30
- Track 149 : Shadow1\_29, Sunflower1121\_29
- Track 150 : Unicorn\_30, PhelpsODU\_30
- Track 151 : Ximenita\_31
- Track 152 : Tierra\_30
- Track 153 : Syra333\_30
- Track 154 : TClif\_31
- Track 155 : SirPhilip\_29
- Track 156 : Nairb\_27, Ibrahim\_27, RonRayGun\_27, ZenTime222\_27, Bernal13\_27, Whitty\_27
- Track 157 : Nette\_28, Mendokysei\_26
- Track 158 : Jeon\_36, GodPhather\_37
- Track 159 : Cepens\_36
- Track 160 : D12\_35, PR\_36
- Track 161 : Argie\_37
- Track 162 : Taptic\_36, Megabear\_36
- Track 163 : Gaia\_32

***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 231 of the 377 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_34, ABCat\_31, Adnama\_35, Agent47\_29, AlleyCat\_30, AmericanBeauty\_34, Aneem\_10, Argent26\_34, Argie\_37, Asriel\_31, BaboJay\_31, Bachome\_10, BadStone\_31, Bagrid\_46, Balomoji\_31, Barbarian\_31, Bask21\_32, Becksu\_32, Beem\_47, Bench\_34, Bernal13\_27, BigBubba\_33, Bobquesha\_32, Bombitas\_43, Bowtie\_10, Bruin\_32, Bryler\_30, Buck\_31, Bud\_10, BugsBunny\_30, Cactus\_33, Cain\_30, Cepens\_36, Chancellor\_31, Cheetobro\_31, ChosenOne\_32, ChotaBhai\_32, Cjw1\_32, Collard\_29, Command613\_33, Constella\_39, Contagion\_31, Cookies\_32, CrystalP\_32, Czystczon1\_33, D12\_35, Dadosky\_30, Dallas\_49, DoctorDiddles\_32, Dove\_44, DrDrey\_33, Dumbo\_32, Dusk\_31, Easy2Say\_34, Edugator\_29, Ejimix\_47, Elite2014\_31, Elph10\_33, Emmina\_33, Eponine\_33, EricMillard\_47, Et2Brutus\_9, Eureka\_32, Feyre\_29, Fibonacci\_10, Filch\_33, Fionnbharth\_31, FireRed\_32, Flaverint\_10, Flypotenuse\_30, FoghornLeghorn\_31, Gage\_34, Gator\_30, Gemini\_35, Gengar\_29, Gilberta\_10, Glexan\_30, GodPhather\_37, Goku\_32, GoldenSpark\_34, Goldilocks\_33, GooberAzure\_34, Halley\_47, HanKaySha\_33, Hannaconda\_42, Harella\_31, Heftyboy\_29, Henry\_33, Highbury\_33, HokkenD\_40, Holt\_33, Hoonter\_34, Hopey\_34, HufflyPuff\_31, Hughesyang\_45, Hutc2\_10, IHOP\_32, Ibrahim\_27, Icee\_31, Inca\_31, InvictusManeo\_29, JF1\_31, JeTaime\_34, Jeon\_36, Joselito\_10, JuicyJay\_49, Juliette\_33, Kalah2\_47, Kanye\_34, KashFlow\_39, Kimchi\_34, Klein\_47, Kratio\_28, Kraw\_32, Krueger\_30, Larva\_30, Lebo14\_32, Lilac\_34, Lilizi\_34, Lilpickle\_31, LittleE\_51, MISSy\_31, MPhalcon\_31, MaCh\_10, MadamMonkfish\_32, MalagasyRose\_30, Malthus\_32, Manda\_33, Marshmallow\_32, Maxxinista\_33, Megabear\_36, Mendokysei\_26, Miniwave\_32, Miryou\_29, Misfit\_32, MissDaisy\_31, Mitti\_31, Moldemort\_33, Mosby\_31, Mulciber\_10, Munch\_10, Murica\_31, Murphy\_33, Myrale\_32, Nairb\_27, Nala\_32, Neighly\_30, Nekros\_45, NelitzaMV\_32, Nette\_28, NihilNomen\_46, Nimrod\_32, NoSleep\_33, Odette\_47, OkiRoe\_29, Omega\_50, OmniCritical\_31, Omnicron\_30, Orange\_10, OrionPax\_33, PR\_36, Palpatine\_32, Paola\_29, Paperbeatsrock\_34, Pat3\_31, Patt\_31, Petersenfast\_9, Petra64142\_34, Phaja\_32, Pharsalus\_33, PhatBacter\_32, Paux\_31, PhelpsODU\_30, Phoebus\_46, Phrank\_30, Phrux\_32, Policronamos\_32, Porky\_32, Pound\_48, Psycho\_30, Pumpkin\_34, Quallification\_33, Rakim\_33, Redno2\_45, Reptar3000\_31, Rimmer\_31, RiverMonster\_32, RonRayGun\_27, Ruthiejr\_32, Saints25\_33, Salz\_10, SamScheppers\_31, Sassay\_31, Schatzie\_44, Shaboozey\_38, Shadow1\_29, Sham4\_10, ShamWow\_32, ShereKhan\_34, Simpliphy\_33, SirDuracell\_31, Slarp\_31, Snape\_10, SoSeph\_29, SophKB\_32, Sotrice96\_32, Stank\_35, Stark\_33, StellaBean\_32, StolenFromERC\_34, StormChicken\_32, Sunflower1121\_29, Syra333\_30, TBrady12\_34, TClif\_31, Taptic\_36, Taquito\_31, Tarkin\_34, TeardropMSU\_31, Teaspoon\_33, Terminus\_32, Thimble\_32, ThreeRngTarjay\_45, Thresher\_33, Thyatira\_29, Tierra\_30, Timothy\_10, Tomaszewski\_31, Traaww1\_30, Tuco\_33, Ukulele\_32, Unicorn\_30, Waterfoul\_29, Whitty\_27, Wiggin\_35, Willez\_31, Wintermute\_31, Xandras\_34, Ximenita\_31, Y10\_31, Y2\_31, YassJohnny\_33, Yeet\_45, Youngblood\_32, Zelink\_48, ZenTime222\_27, xkcd\_33,

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

- Amao\_32, BilboSwaggins\_32, Daikon\_31, FairyPath\_32, Guillsminger\_29, Kostya\_33, Leston\_29, Mindy\_32, Toto\_32, ViviJ\_28,

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

- 20ES\_9, 40AC\_12, AN3\_9, AN9\_12, ANI8\_12, Adzzy\_11, Aliter\_11, Alma\_11, Amelie\_26, AnnaL29\_12, Anselm\_9, Anthony\_9, ArcherNM\_11, Arissanae\_9, BAKA\_51, Baehexic\_10, Beemo\_11, BengiVuitton\_10, Benvolio\_9, Binglebops\_26, BogosyJay\_11, C3\_07, CRB1\_9, Caraxes\_9, Catalina\_11, Centaur\_11, Changeling\_12, Chargerpower\_10, Charm\_10, Che12\_11, Chris\_29, Colin\_13, Conquerage\_11, Crucio\_9, D29\_10, D32\_12, DBQu4n\_12, Dalmatian\_9, Darrell\_12, Deloris\_10, DmpstrDiver\_48, Drake55\_11, DreamTeam1\_10, DudeLittle\_9, Duke13\_50, Duplo\_12, EZMoney23\_13, EagleEye\_12, Ebony\_10, Echid\_9, EdogawaKiddo\_9, Eidsmoe\_11, Elephantoon\_11, EmyBug\_11, Enkosi\_26, Equemioh13\_11, ExplosioNervosa\_11, Fameo\_9, FatCactus\_8, Fayely\_11, FiringLine\_9, First\_009, Flare16\_9, FlyCatcher\_12, Gaia\_32, Gail\_9, Georgie2\_9, Gratitude\_10, Hanray\_10, HarryHoudini\_11, Heffalump\_11, Halex\_10, HortumSL17\_11, Hurricane\_31, Insomnia\_10, Iwokeuplikedis\_9, Jabith\_10, Jeeves\_9, Jiawan\_10, Kalpine\_12, Kerberos\_12, Keshu\_31, Keziacharles14\_9, KiSi\_29, Kinmap\_8, LadyBird\_9, LeMond\_29, Lea83\_32, LilPharaoh\_26, Lilleskat\_9, LionsBait\_10, LoneWolf\_11, Loser\_12, Luchador\_9, Lucivia\_10, Mabel\_10, MacnCheese\_31, Maminiana\_11, MarkPhew\_30, Mdavu\_26, MiculUcigas\_9, Minerva\_53, Myxus\_11, NaSiaTalie\_9, Naji\_12, Nergal\_26, Nibb\_29, NicoleTera\_13, Nikao\_26, Nutello\_26, Odin\_9, Onglai\_10, Optimus\_52, Oscar\_29, PackMan\_11, Ph8s\_11, Phaeder\_11, Pharb\_29, Phonnegut\_11, Pioneer\_11, Piro94\_10, Pixie\_30, Pomar16\_12, Power\_9, Priya\_11, Qobbit\_11, QueenB2\_9, QueenBeesly\_9, Rahalelujah\_9, RedRock\_12, Retro23\_9, RyeScarlet\_12, Sachima\_9, Scarlett\_29, Scherzo\_11, SemperFi\_11, SgtBeansprout\_26, SheaKeira\_10, ShedlockHolmes\_31, Sheen\_10, SirPhilip\_29, Sknot\_10, SnapTap\_9, SororFago\_9, Spouty\_11, StarStuff\_12, Sunhee\_8, Superchunk\_9, SweetiePie\_9, SwirlSquare\_12, TBond007\_30, Teejan\_26, Terrific\_13, TinyTimmy\_10, Toaka\_9, Tomathan\_12, Toro\_11, Torres\_26, Travvers\_12, TribbleTrouble\_29, Trixie\_12, Tubs\_11, Ugenie5\_8, Updawg\_11, VA6\_9, VC3\_12, Vanisoa\_9, Wanda\_53, WeiHuaDA\_15, WideWale\_11, Yecey3\_10,

### Summary by start number:

#### Start 17:

- Found in 6 of 428 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 377
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Minerva\_53 (J), Wanda\_53 (J),

#### Start 18:

- Found in 2 of 428 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 377
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Caraxes\_9 (A2), Superchunk\_9 (A2),

#### Start 19:

- Found in 95 of 428 ( 22.2% ) of genes in pham
- Manual Annotations of this start: 77 of 377
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 20ES\_9 (A2), 40AC\_12 (A17), AN3\_9 (A2), AN9\_12 (A2), ANI8\_12 (A2), Adzzy\_11 (A2), Amelie\_26 (K1), AnnaL29\_12 (A2), Anselm\_9 (A2), Anthony\_9 (A20), ArcherNM\_11 (A2), Baehexic\_10 (A2), BengiVuitton\_10 (A2), Benvolio\_9 (A2), Binglebops\_26 (K1), C3\_07 (A2), CRB1\_9 (A2), Centaur\_11 (A2), Changeling\_12 (A2), Che12\_11 (A2), Chris\_29 (K1), Colin\_13

(A2), Crucio\_9 (A2), D29\_10 (A2), D32\_12 (A2), DBQu4n\_12 (A2), Dalmatian\_9 (A2), Deloris\_10 (A2), Drake55\_11 (A2), DudeLittle\_9 (A2), Duplo\_12 (A2), EZMoney23\_13 (A2), EagleEye\_12 (A16), Echid\_9 (A2), Enkosi\_26 (K1), Equemioh13\_11 (A2), Fameo\_9 (A2), FatCactus\_8 (A20), FiringLine\_9 (A2), First\_009 (A2), Flare16\_9 (A2), FlyCatcher\_12 (A7), Georgie2\_9 (A2), Gratitude\_10 (A2), HarryHoudini\_11 (A2), Heffalump\_11 (A2), Iwokeuplikedis\_9 (A2), Kalpine\_12 (A2), Kerberos\_12 (A2), KiSi\_29 (K1), LadyBird\_9 (A2), LeMond\_29 (K1), LilPharaoh\_26 (K1), LionsBait\_10 (A2), Loser\_12 (A2), MarkPhew\_30 (K1), Mdavu\_26 (K1), MiculUcigas\_9 (A2), NaSiaTalie\_9 (A2), Naji\_12 (A2), Nibb\_29 (K1), NicoleTera\_13 (A2), Nikao\_26 (K1), Nutello\_26 (K1), Odin\_9 (A2), Oscar\_29 (K1), Ph8s\_11 (A2), Piro94\_10 (A2), Pomar16\_12 (A2), Power\_9 (A2), QueenB2\_9 (A2), QueenBeesly\_9 (A2), RedRock\_12 (A2), Retro23\_9 (A2), Scarlett\_29 (K1), SemperFi\_11 (A2), SgtBeansprout\_26 (K1), Sheen\_10 (A7), Sknot\_10 (A2), SnapTap\_9 (A2), StarStuff\_12 (A2), SweetiePie\_9 (A2), SwirlSquare\_12 (A2), Teejan\_26 (K1), Terrific\_13 (A2), Tomathan\_12 (A2), Toro\_11 (A7), Torres\_26 (K1), Travvers\_12 (A2), Trixie\_12 (A2), Updawg\_11 (A2), VA6\_9 (A2), VC3\_12 (A2), WeiHuaDA\_15 (A2), WideWale\_11 (A2),

#### Start 20:

- Found in 1 of 428 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 377
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SirPhilip\_29 (K6),

#### Start 21:

- Found in 257 of 428 ( 60.0% ) of genes in pham
- Manual Annotations of this start: 231 of 377
- Called 96.1% of time when present
- Phage (with cluster) where this start called: 244\_34 (E), ABCat\_31 (E), Adnama\_35 (E), Agent47\_29 (K5), AlleyCat\_30 (K5), AmericanBeauty\_34 (E), Aneem\_10 (A11), Argent26\_34 (E), Argie\_37 (W), Asriel\_31 (E), BaboJay\_31 (E), Bachome\_10 (A11), BadStone\_31 (E), Bagrid\_46 (J), Balomoji\_31 (E), Barbarian\_31 (E), Bask21\_32 (E), Becksu\_32 (E), Beem\_47 (J), Bench\_34 (E), Bernal13\_27 (T), BigBubba\_33 (E), Bobquesha\_32 (K4), Bombitas\_43 (J), Bowtie\_10 (A11), Bruin\_32 (E), Bryler\_30 (K6), Buck\_31 (E), Bud\_10 (A11), BugsBunny\_30 (E), Cactus\_33 (E), Cain\_30 (K6), Cepens\_36 (W), Chancellor\_31 (K4), Cheetobro\_31 (K4), ChosenOne\_32 (E), ChotaBhai\_32 (E), Cjw1\_32 (E), Collard\_29 (K5), Command613\_33 (E), Constella\_39 (J), Contagion\_31 (E), Cookies\_32 (E), CrystalP\_32 (E), Czyszczon1\_33 (E), D12\_35 (W), Dadosky\_30 (K5), Dallas\_49 (J), DoctorDiddles\_32 (E), Dove\_44 (J), DrDrey\_33 (E), Dumbo\_32 (E), Dusk\_31 (E), Easy2Say\_34 (E), Edugator\_29 (K5), Ejimix\_47 (J), Elite2014\_31 (E), Elph10\_33 (E), Emmina\_33 (E), Eponine\_33 (K4), EricMillard\_47 (J), Et2Brutus\_9 (A11), Eureka\_32 (E), Feyre\_29 (K5), Fibonacci\_10 (A11), Filch\_33 (E), Fionnbharth\_31 (K4), FireRed\_32 (E), Flaverint\_10 (A11), Flypotenuse\_30 (E), FoghornLeghorn\_31 (E), Gage\_34 (E), Gator\_30 (E), Gemini\_35 (E), Gengar\_29 (K5), Gilberta\_10 (A11), Glexan\_30 (E), GodPhather\_37 (W), Goku\_32 (E), GoldenSpark\_34 (E), Goldilocks\_33 (E), GooberAzure\_34 (E), Halley\_47 (J), HanKaySha\_33 (E), Hannaconda\_42 (J), Harella\_31 (E), Heftyboy\_29 (K5), Henry\_33 (E), Highbury\_33 (E), HokkenD\_40 (J), Holt\_33 (E), Hoonter\_34 (E), Hopey\_34 (E), HufflyPuff\_31 (E), Hughesyang\_45 (J), Hutc2\_10 (A11), IHOP\_32 (E), Ibrahim\_27 (T), Icee\_31 (E), Inca\_31 (E), InvictusManeo\_29 (K5), JF1\_31 (K4), JeTaimie\_34 (E), Jeon\_36 (W), Joselito\_10 (A11), JuicyJay\_49 (J), Juliette\_33 (K4), Kalah2\_47 (J), Kanye\_34 (E), KashFlow\_39 (J), Kimchi\_34 (E), Klein\_47 (J), Kratio\_28 (K5), Kraw\_32 (K4), Krueger\_30 (K6), Larva\_30 (K5), Lebo14\_32 (K4),

Lilac\_34 (E), Lilizi\_34 (E), Lilpickle\_31 (E), LittleE\_51 (J), MISSy\_31 (E), MPhalcon\_31 (E), MaCh\_10 (A11), MadamMonkfish\_32 (E), MalagasyRose\_30 (AG), Malthus\_32 (K4), Manda\_33 (E), Marshmallow\_32 (E), Maxxinista\_33 (E), Megabear\_36 (W), Mendokysei\_26 (T), Miniwave\_32 (E), Miryou\_29 (K5), Misfit\_32 (E), MissDaisy\_31 (K4), Mitti\_31 (K4), Moldemort\_33 (E), Mosby\_31 (E), Mulciber\_10 (A11), Munch\_10 (A11), Murica\_31 (E), Murphy\_33 (E), Myrale\_32 (E), Nairb\_27 (T), Nala\_32 (E), Neighly\_30 (K3), Nekros\_45 (J), NelitzaMV\_32 (E), Nette\_28 (T), NihilNomen\_46 (J), Nimrod\_32 (E), NoSleep\_33 (E), Odette\_47 (J), OkiRoe\_29 (K5), Omega\_50 (J), OmniCritical\_31 (K4), Omnicron\_30 (K5), Orange\_10 (A11), OrionPax\_33 (E), PR\_36 (W), Palpatine\_32 (E), Paola\_29 (K5), Paperbeatsrock\_34 (E), Pat3\_31 (E), Patt\_31 (K4), Petersenfast\_9 (A11), Petra64142\_34 (E), Phaja\_32 (E), Pharsalus\_33 (E), PhatBacter\_32 (E), Phaux\_31 (E), PhelpsODU\_30 (K6), Phoebus\_46 (J), Phrank\_30 (K6), Phrux\_32 (E), Policronamos\_32 (E), Porky\_32 (E), Pound\_48 (J), Psycho\_30 (K5), Pumpkin\_34 (E), Quallification\_33 (E), Rakim\_33 (E), Redno2\_45 (J), Reptar3000\_31 (K4), Rimmer\_31 (E), RiverMonster\_32 (E), RonRayGun\_27 (T), Ruthiejr\_32 (K4), Saints25\_33 (E), Salz\_10 (A11), SamScheppers\_31 (K4), Sassay\_31 (E), Schatzie\_44 (J), Shaboozey\_38 (J), Shadow1\_29 (K6), Sham4\_10 (A11), ShamWow\_32 (E), ShereKhan\_34 (E), Simpliphy\_33 (E), SirDuracell\_31 (E), Slarp\_31 (K4), Snape\_10 (A11), SoSeph\_29 (K5), SophKB\_32 (E), Sotrice96\_32 (E), Stank\_35 (E), Stark\_33 (E), StellaBean\_32 (E), StolenFromERC\_34 (E), StormChicken\_32 (E), Sunflower1121\_29 (K6), Syra333\_30 (K6), TBrady12\_34 (E), TClif\_31 (K6), Taptic\_36 (W), Taquito\_31 (K4), Tarkin\_34 (E), TeardropMSU\_31 (E), Teaspoon\_33 (E), Terminus\_32 (E), Thimble\_32 (E), ThreeRngTarjay\_45 (J), Thresher\_33 (E), Thyatira\_29 (K5), Tierra\_30 (K6), Timothy\_10 (A11), Tomaszewski\_31 (E), Traaww1\_30 (E), Tuco\_33 (E), Ukulele\_32 (E), Unicorn\_30 (K6), Waterfoul\_29 (K5), Whitty\_27 (T), Wiggin\_35 (E), Willez\_31 (E), Wintermute\_31 (K4), Xandras\_34 (E), Ximenita\_31 (K6), Y10\_31 (K4), Y2\_31 (K4), YassJohnny\_33 (E), Yeet\_45 (J), Youngblood\_32 (E), Zelink\_48 (J), ZenTime222\_27 (T), xkcd\_33 (E),

#### Start 22:

- Found in 74 of 428 ( 17.3% ) of genes in pham
- Manual Annotations of this start: 60 of 377
- Called 95.9% of time when present
- Phage (with cluster) where this start called: Aliter\_11 (A9), Alma\_11 (A9), Arissanae\_9 (A9), BAKA\_51 (J), Beemo\_11 (A9), BogosyJay\_11 (A9), Catalina\_11 (A9), Chargerpower\_10 (A), Charm\_10 (A9), Conquerage\_11 (A9), Darrell\_12 (A9), DmpstrDiver\_48 (J), DreamTeam1\_10 (A9), Duke13\_50 (J), Ebony\_10 (A11), EdogawaKiddo\_9 (A9), Eidsmoe\_11 (A9), Elephantoon\_11 (A9), EmyBug\_11 (A9), ExplosioNervosa\_11 (A9), Fayely\_11 (A9), Gaia\_32 (X), Gail\_9 (A14), Hanray\_10 (A9), Halex\_10 (A9), HortumSL17\_11 (A9), Hurricane\_31 (K3), Insomnia\_10 (A11), Jabith\_10 (A11), Jeeves\_9 (A14), Jiawan\_10 (A9), Keshu\_31 (K3), Keziacharles14\_9 (A9), Kinmap\_8 (A21), Lea83\_32 (K3), Lilleskat\_9 (A9), LoneWolf\_11 (A9), Luchador\_9 (A14), Lucivia\_10 (A11), Mabel\_10 (A11), MacnCheese\_31 (K3), Maminiaina\_11 (A9), Myxus\_11 (A9), Nergal\_26 (AG), Onglai\_10 (A9), Optimus\_52 (J), PackMan\_11 (A9), Phaeder\_11 (A9), Pharb\_29 (K3), Phonnegut\_11 (A9), Pioneer\_11 (A9), Pixie\_30 (K3), Priya\_11 (A9), Qobbit\_11 (A9), Rahalelujah\_9 (A9), RyeScarlet\_12 (A9), Sachima\_9 (A9), Scherzo\_11 (A9), SheaKeira\_10 (A9), ShedlockHolmes\_31 (K3), SororFago\_9 (A14), Spouty\_11 (A9), Sunhee\_8 (A14), TBond007\_30 (K3), TinyTimmy\_10 (A11), Toaka\_9 (A9), TripleTrouble\_29 (K3), Tubs\_11 (A9), Ugenie5\_8 (A9), Vanisoa\_9 (A9), Yecy3\_10 (A9),

#### Start 23:

- Found in 61 of 428 ( 14.3% ) of genes in pham
- Manual Annotations of this start: 1 of 377
- Called 1.6% of time when present
- Phage (with cluster) where this start called: Guillsminger\_29 (K5),

Start 24:

- Found in 23 of 428 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 1 of 377
- Called 8.7% of time when present
- Phage (with cluster) where this start called: Leston\_29 (K5), ViviJ\_28 (K5),

Start 30:

- Found in 177 of 428 ( 41.4% ) of genes in pham
- Manual Annotations of this start: 3 of 377
- Called 4.0% of time when present
- Phage (with cluster) where this start called: Amao\_32 (E), BilboSwaggins\_32 (E), Daikon\_31 (E), FairyPath\_32 (E), Kostya\_33 (E), Mindy\_32 (E), Toto\_32 (E),

### **Summary by clusters:**

There are 21 clusters represented in this pham: A20, A14, A17, A16, E, W, AG, A21, J, T, X, K3, K1, A2, A, K6, K5, K4, A9, A11, A7,

Info for manual annotations of cluster A:

- Start number 22 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A11:

- Start number 21 was manually annotated 18 times for cluster A11.
- Start number 22 was manually annotated 6 times for cluster A11.

Info for manual annotations of cluster A14:

- Start number 22 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A16:

- Start number 19 was manually annotated 1 time for cluster A16.

Info for manual annotations of cluster A2:

- Start number 18 was manually annotated 1 time for cluster A2.
- Start number 19 was manually annotated 59 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 19 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A7:

- Start number 19 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster A9:

- Start number 22 was manually annotated 35 times for cluster A9.

Info for manual annotations of cluster AG:

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

- Start number 22 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster E:

- Start number 21 was manually annotated 122 times for cluster E.
- Start number 30 was manually annotated 3 times for cluster E.

Info for manual annotations of cluster J:

- Start number 17 was manually annotated 2 times for cluster J.
- Start number 21 was manually annotated 25 times for cluster J.
- Start number 22 was manually annotated 4 times for cluster J.

Info for manual annotations of cluster K1:

- Start number 19 was manually annotated 15 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 22 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 21 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 21 was manually annotated 19 times for cluster K5.
- Start number 23 was manually annotated 1 time for cluster K5.
- Start number 24 was manually annotated 1 time for cluster K5.

Info for manual annotations of cluster K6:

- Start number 20 was manually annotated 1 time for cluster K6.
- Start number 21 was manually annotated 12 times for cluster K6.

Info for manual annotations of cluster T:

- Start number 21 was manually annotated 7 times for cluster T.

Info for manual annotations of cluster W:

- Start number 21 was manually annotated 8 times for cluster W.

Info for manual annotations of cluster X:

- Start number 22 was manually annotated 1 time for cluster X.

### **Gene Information:**

Gene: 20ES\_9 Start: 4690, Stop: 5988, Start Num: 19

Candidate Starts for 20ES\_9:

(Start: 19 @4690 has 77 MA's), (26, 4735), (35, 4822), (42, 4846), (55, 4939), (61, 4981), (64, 4996), (68, 5041), (69, 5047), (72, 5068), (74, 5074), (100, 5230), (111, 5302), (121, 5350), (177, 5569), (183, 5602), (217, 5707),

Gene: 244\_34 Start: 29921, Stop: 31423, Start Num: 21

Candidate Starts for 244\_34:

(Start: 21 @29921 has 231 MA's), (Start: 30 @29990 has 3 MA's), (39, 30068), (53, 30164), (56, 30185), (58, 30191), (66, 30275), (70, 30296), (77, 30347), (83, 30401), (95, 30476), (119, 30611), (121, 30623), (133, 30692), (135, 30701), (147, 30806), (161, 30875), (181, 31001), (194, 31082),

(232, 31178), (245, 31205), (252, 31232), (254, 31238), (260, 31256), (272, 31292),

Gene: 40AC\_12 Start: 6575, Stop: 8080, Start Num: 19

Candidate Starts for 40AC\_12:

(Start: 19 @6575 has 77 MA's), (26, 6620), (35, 6707), (59, 6839), (61, 6866), (65, 6899), (68, 6926), (69, 6932), (72, 6953), (74, 6959), (80, 7016), (93, 7100), (147, 7397), (152, 7421), (166, 7496), (185, 7637), (195, 7688), (210, 7733), (226, 7793), (236, 7829), (241, 7841), (260, 7901), (264, 7919), (285, 8009), (287, 8021),

Gene: ABCat\_31 Start: 29633, Stop: 31135, Start Num: 21

Candidate Starts for ABCat\_31:

(Start: 21 @29633 has 231 MA's), (Start: 30 @29702 has 3 MA's), (39, 29780), (53, 29876), (56, 29897), (58, 29903), (66, 29987), (70, 30008), (77, 30059), (83, 30113), (95, 30188), (119, 30323), (121, 30335), (133, 30404), (135, 30413), (147, 30518), (161, 30587), (181, 30713), (194, 30794), (252, 30944), (254, 30950), (260, 30968), (272, 31004),

Gene: AN3\_9 Start: 4672, Stop: 5973, Start Num: 19

Candidate Starts for AN3\_9:

(Start: 19 @4672 has 77 MA's), (26, 4717), (35, 4804), (42, 4828), (55, 4921), (61, 4963), (64, 4978), (68, 5023), (69, 5029), (72, 5050), (74, 5056), (100, 5212), (111, 5284), (121, 5332), (149, 5455), (177, 5551), (183, 5584), (217, 5689), (233, 5725), (264, 5815), (287, 5917),

Gene: AN9\_12 Start: 4696, Stop: 6177, Start Num: 19

Candidate Starts for AN9\_12:

(Start: 19 @4696 has 77 MA's), (26, 4741), (34, 4825), (61, 4987), (68, 5047), (69, 5053), (72, 5074), (79, 5128), (80, 5134), (109, 5302), (115, 5353), (142, 5503), (151, 5584), (194, 5815), (217, 5878), (245, 5977), (284, 6106),

Gene: ANI8\_12 Start: 4696, Stop: 6177, Start Num: 19

Candidate Starts for ANI8\_12:

(Start: 19 @4696 has 77 MA's), (26, 4741), (34, 4825), (61, 4987), (68, 5047), (69, 5053), (72, 5074), (79, 5128), (80, 5134), (109, 5302), (115, 5353), (142, 5503), (151, 5584), (194, 5815), (217, 5878), (245, 5977), (284, 6106),

Gene: Adnama\_35 Start: 30148, Stop: 31650, Start Num: 21

Candidate Starts for Adnama\_35:

(Start: 21 @30148 has 231 MA's), (Start: 30 @30217 has 3 MA's), (39, 30295), (53, 30391), (56, 30412), (58, 30418), (66, 30502), (70, 30523), (77, 30574), (83, 30628), (95, 30703), (119, 30838), (121, 30850), (133, 30919), (135, 30928), (147, 31033), (161, 31102), (181, 31228), (194, 31309), (245, 31432), (252, 31459), (254, 31465), (260, 31483), (272, 31519),

Gene: Adzzy\_11 Start: 4473, Stop: 5846, Start Num: 19

Candidate Starts for Adzzy\_11:

(Start: 19 @4473 has 77 MA's), (42, 4629), (61, 4764), (65, 4797), (68, 4824), (69, 4830), (72, 4851), (74, 4857), (104, 5043), (105, 5061), (115, 5130), (147, 5292), (157, 5340), (171, 5403), (200, 5565), (202, 5568), (233, 5631), (234, 5634), (264, 5721),

Gene: Agent47\_29 Start: 25596, Stop: 27230, Start Num: 21

Candidate Starts for Agent47\_29:

(Start: 21 @25596 has 231 MA's), (Start: 23 @25602 has 1 MA's), (Start: 24 @25617 has 1 MA's), (34, 25722), (40, 25746), (44, 25761), (49, 25809), (60, 25881), (66, 25932), (70, 25953), (91, 26103), (92, 26115), (95, 26130), (102, 26169), (120, 26277), (121, 26286), (133, 26355), (134, 26361), (135, 26364), (159, 26529), (161, 26538), (167, 26577), (175, 26622), (181, 26658), (194, 26742), (205,

26775), (206, 26778), (252, 26925), (254, 26931), (266, 26967), (272, 26985), (299, 27120), (306, 27186), (310, 27219),

Gene: Aliter\_11 Start: 6074, Stop: 7654, Start Num: 22

Candidate Starts for Aliter\_11:

(Start: 22 @6074 has 60 MA's), (29, 6125), (39, 6215), (40, 6218), (66, 6404), (70, 6425), (106, 6686), (131, 6848), (139, 6899), (153, 7016), (184, 7241), (204, 7313), (225, 7373), (252, 7469), (265, 7514), (271, 7532),

Gene: AlleyCat\_30 Start: 25527, Stop: 27161, Start Num: 21

Candidate Starts for AlleyCat\_30:

(Start: 21 @25527 has 231 MA's), (Start: 23 @25533 has 1 MA's), (Start: 24 @25548 has 1 MA's), (32, 25611), (34, 25653), (40, 25677), (44, 25692), (49, 25740), (60, 25812), (61, 25815), (66, 25863), (70, 25884), (91, 26034), (92, 26046), (102, 26100), (120, 26208), (121, 26217), (133, 26286), (134, 26292), (135, 26295), (146, 26382), (154, 26436), (159, 26460), (167, 26508), (181, 26589), (194, 26673), (205, 26706), (206, 26709), (252, 26856), (254, 26862), (266, 26898), (272, 26916), (299, 27051), (306, 27117), (310, 27150),

Gene: Alma\_11 Start: 6153, Stop: 7733, Start Num: 22

Candidate Starts for Alma\_11:

(Start: 22 @6153 has 60 MA's), (29, 6204), (39, 6294), (40, 6297), (66, 6483), (70, 6504), (131, 6927), (139, 6978), (153, 7095), (168, 7179), (170, 7203), (174, 7230), (184, 7320), (204, 7392), (225, 7452), (252, 7548), (265, 7593), (271, 7611),

Gene: Amao\_32 Start: 28914, Stop: 30347, Start Num: 30

Candidate Starts for Amao\_32:

(2, 28620), (Start: 21 @28845 has 231 MA's), (Start: 30 @28914 has 3 MA's), (39, 28992), (53, 29088), (56, 29109), (58, 29115), (66, 29199), (70, 29220), (77, 29271), (83, 29325), (95, 29400), (119, 29535), (121, 29547), (133, 29616), (135, 29625), (147, 29730), (161, 29799), (181, 29925), (194, 30006), (232, 30102), (245, 30129), (252, 30156), (254, 30162), (260, 30180), (272, 30216),

Gene: Amelie\_26 Start: 24344, Stop: 25981, Start Num: 19

Candidate Starts for Amelie\_26:

(Start: 19 @24344 has 77 MA's), (27, 24386), (31, 24425), (37, 24482), (39, 24491), (47, 24563), (54, 24590), (66, 24698), (70, 24719), (76, 24752), (95, 24896), (102, 24935), (121, 25052), (127, 25091), (129, 25100), (133, 25121), (134, 25127), (135, 25130), (147, 25235), (159, 25295), (181, 25424), (194, 25499), (224, 25592), (300, 25874), (308, 25955), (310, 25970),

Gene: AmericanBeauty\_34 Start: 29628, Stop: 31130, Start Num: 21

Candidate Starts for AmericanBeauty\_34:

(Start: 21 @29628 has 231 MA's), (Start: 30 @29697 has 3 MA's), (39, 29775), (53, 29871), (56, 29892), (58, 29898), (66, 29982), (70, 30003), (77, 30054), (83, 30108), (95, 30183), (119, 30318), (121, 30330), (133, 30399), (135, 30408), (147, 30513), (161, 30582), (181, 30708), (194, 30789), (232, 30885), (245, 30912), (252, 30939), (254, 30945), (260, 30963), (272, 30999),

Gene: Aneem\_10 Start: 6224, Stop: 7624, Start Num: 21

Candidate Starts for Aneem\_10:

(13, 6185), (Start: 21 @6224 has 231 MA's), (39, 6371), (44, 6389), (60, 6509), (66, 6560), (70, 6581), (76, 6614), (129, 6761), (139, 6824), (140, 6830), (158, 6974), (170, 7055), (174, 7082), (218, 7286), (221, 7307), (227, 7331), (243, 7391), (252, 7424), (273, 7490), (291, 7586),

Gene: AnnaL29\_12 Start: 6416, Stop: 7891, Start Num: 19

Candidate Starts for AnnaL29\_12:



(Start: 19 @6416 has 77 MA's), (Start: 23 @6428 has 1 MA's), (35, 6548), (55, 6665), (61, 6707), (68, 6767), (69, 6773), (72, 6794), (74, 6800), (93, 6932), (99, 6953), (104, 6980), (115, 7067), (141, 7214), (142, 7217), (151, 7298), (186, 7487), (194, 7529), (199, 7547), (200, 7553), (209, 7577), (245, 7691), (249, 7700), (284, 7820), (291, 7853),

Gene: Anselm\_9 Start: 4805, Stop: 6097, Start Num: 19

Candidate Starts for Anselm\_9:

(Start: 19 @4805 has 77 MA's), (Start: 23 @4817 has 1 MA's), (26, 4850), (35, 4937), (42, 4961), (55, 5054), (61, 5096), (64, 5111), (68, 5156), (69, 5162), (72, 5183), (73, 5186), (100, 5333), (101, 5339), (121, 5453), (177, 5672), (183, 5705), (190, 5750), (217, 5810), (264, 5936), (287, 6038),

Gene: Anthony\_9 Start: 3885, Stop: 5264, Start Num: 19

Candidate Starts for Anthony\_9:

(Start: 19 @3885 has 77 MA's), (26, 3930), (36, 4020), (42, 4041), (61, 4176), (65, 4209), (68, 4236), (69, 4242), (72, 4263), (74, 4269), (80, 4323), (115, 4542), (123, 4572), (147, 4704), (157, 4752), (202, 4983), (203, 4986), (233, 5046), (234, 5049),

Gene: ArcherNM\_11 Start: 6513, Stop: 7808, Start Num: 19

Candidate Starts for ArcherNM\_11:

(Start: 19 @6513 has 77 MA's), (Start: 23 @6525 has 1 MA's), (35, 6645), (61, 6804), (68, 6864), (69, 6870), (72, 6891), (74, 6897), (80, 6945), (121, 7167), (177, 7386), (183, 7419), (217, 7524), (237, 7569), (264, 7650), (285, 7740), (287, 7752),

Gene: Argent26\_34 Start: 29631, Stop: 31133, Start Num: 21

Candidate Starts for Argent26\_34:

(Start: 21 @29631 has 231 MA's), (Start: 30 @29700 has 3 MA's), (39, 29778), (53, 29874), (56, 29895), (58, 29901), (66, 29985), (70, 30006), (77, 30057), (83, 30111), (95, 30186), (119, 30321), (121, 30333), (133, 30402), (135, 30411), (147, 30516), (161, 30585), (181, 30711), (194, 30792), (245, 30915), (252, 30942), (254, 30948), (260, 30966), (272, 31002),

Gene: Argie\_37 Start: 36368, Stop: 37990, Start Num: 21

Candidate Starts for Argie\_37:

(Start: 21 @36368 has 231 MA's), (Start: 23 @36374 has 1 MA's), (Start: 30 @36437 has 3 MA's), (39, 36515), (44, 36533), (47, 36587), (57, 36635), (63, 36686), (66, 36722), (70, 36743), (77, 36797), (89, 36884), (94, 36923), (116, 37061), (124, 37100), (132, 37142), (141, 37205), (150, 37289), (175, 37436), (176, 37442), (197, 37568), (200, 37580), (217, 37610), (223, 37649), (229, 37670), (239, 37703), (242, 37712), (247, 37727), (261, 37775), (262, 37778), (276, 37826), (282, 37862), (286, 37877), (294, 37928),

Gene: Arissanae\_9 Start: 4305, Stop: 5855, Start Num: 22

Candidate Starts for Arissanae\_9:

(Start: 22 @4305 has 60 MA's), (39, 4446), (52, 4518), (66, 4635), (70, 4656), (77, 4707), (103, 4887), (106, 4917), (120, 5007), (139, 5130), (155, 5226), (178, 5367), (184, 5442), (204, 5514), (215, 5544), (225, 5574), (252, 5670), (270, 5730),

Gene: Asriel\_31 Start: 28502, Stop: 30004, Start Num: 21

Candidate Starts for Asriel\_31:

(Start: 21 @28502 has 231 MA's), (Start: 30 @28571 has 3 MA's), (39, 28649), (53, 28745), (56, 28766), (58, 28772), (66, 28856), (70, 28877), (77, 28928), (83, 28982), (92, 29042), (119, 29192), (121, 29204), (133, 29273), (135, 29282), (147, 29387), (161, 29456), (181, 29582), (194, 29663), (252, 29813), (254, 29819), (260, 29837), (272, 29873),

Gene: BAKA\_51 Start: 40867, Stop: 42300, Start Num: 22

Candidate Starts for BAKA\_51:

(15, 40834), (Start: 17 @40858 has 2 MA's), (Start: 22 @40867 has 60 MA's), (45, 41032), (46, 41053), (48, 41083), (56, 41125), (57, 41128), (70, 41236), (96, 41422), (108, 41473), (129, 41605), (135, 41638), (136, 41641), (167, 41833), (182, 41920), (191, 41983), (194, 42007), (198, 42016), (249, 42166), (259, 42199), (260, 42202),

Gene: BaboJay\_31 Start: 29191, Stop: 30693, Start Num: 21

Candidate Starts for BaboJay\_31:

(Start: 21 @29191 has 231 MA's), (Start: 30 @29260 has 3 MA's), (39, 29338), (53, 29434), (56, 29455), (58, 29461), (66, 29545), (70, 29566), (77, 29617), (83, 29671), (95, 29746), (119, 29881), (121, 29893), (133, 29962), (135, 29971), (147, 30076), (161, 30145), (181, 30271), (194, 30352), (245, 30475), (252, 30502), (254, 30508), (260, 30526), (272, 30562),

Gene: Bachome\_10 Start: 6221, Stop: 7621, Start Num: 21

Candidate Starts for Bachome\_10:

(13, 6182), (Start: 21 @6221 has 231 MA's), (39, 6368), (44, 6386), (60, 6506), (66, 6557), (70, 6578), (76, 6611), (129, 6758), (139, 6821), (140, 6827), (158, 6971), (170, 7052), (174, 7079), (218, 7283), (221, 7304), (227, 7328), (243, 7388), (252, 7421), (273, 7487), (291, 7583),

Gene: BadStone\_31 Start: 29633, Stop: 31135, Start Num: 21

Candidate Starts for BadStone\_31:

(Start: 21 @29633 has 231 MA's), (Start: 30 @29702 has 3 MA's), (39, 29780), (53, 29876), (56, 29897), (58, 29903), (66, 29987), (70, 30008), (77, 30059), (83, 30113), (95, 30188), (119, 30323), (121, 30335), (133, 30404), (135, 30413), (147, 30518), (161, 30587), (181, 30713), (194, 30794), (232, 30890), (245, 30917), (252, 30944), (254, 30950), (260, 30968), (272, 31004),

Gene: Baehexic\_10 Start: 5209, Stop: 6513, Start Num: 19

Candidate Starts for Baehexic\_10:

(Start: 19 @5209 has 77 MA's), (Start: 23 @5221 has 1 MA's), (26, 5254), (35, 5341), (61, 5500), (68, 5560), (69, 5566), (72, 5587), (80, 5647), (98, 5746), (100, 5749), (111, 5821), (177, 6088), (183, 6121), (193, 6175), (217, 6226), (237, 6271), (246, 6289), (279, 6406),

Gene: Bagrid\_46 Start: 40215, Stop: 41633, Start Num: 21

Candidate Starts for Bagrid\_46:

(Start: 21 @40215 has 231 MA's), (29, 40269), (34, 40341), (39, 40362), (50, 40443), (60, 40500), (66, 40551), (67, 40563), (70, 40572), (77, 40623), (96, 40755), (108, 40806), (129, 40938), (135, 40971), (136, 40974), (167, 41166), (182, 41253), (191, 41316), (194, 41340), (198, 41349), (249, 41499), (259, 41532), (260, 41535),

Gene: Balomoji\_31 Start: 29367, Stop: 30869, Start Num: 21

Candidate Starts for Balomoji\_31:

(Start: 21 @29367 has 231 MA's), (Start: 30 @29436 has 3 MA's), (39, 29514), (53, 29610), (56, 29631), (58, 29637), (66, 29721), (70, 29742), (77, 29793), (83, 29847), (95, 29922), (119, 30057), (121, 30069), (133, 30138), (135, 30147), (147, 30252), (161, 30321), (181, 30447), (194, 30528), (245, 30651), (252, 30678), (254, 30684), (260, 30702), (272, 30738),

Gene: Barbarian\_31 Start: 28502, Stop: 30004, Start Num: 21

Candidate Starts for Barbarian\_31:

(Start: 21 @28502 has 231 MA's), (Start: 30 @28571 has 3 MA's), (39, 28649), (53, 28745), (56, 28766), (58, 28772), (66, 28856), (70, 28877), (77, 28928), (83, 28982), (92, 29042), (119, 29192), (121, 29204), (133, 29273), (135, 29282), (147, 29387), (161, 29456), (181, 29582), (194, 29663), (252, 29813), (254, 29819), (260, 29837), (272, 29873),

Gene: Bask21\_32 Start: 28819, Stop: 30321, Start Num: 21

Candidate Starts for Bask21\_32:

(Start: 21 @28819 has 231 MA's), (Start: 30 @28888 has 3 MA's), (39, 28966), (53, 29062), (56, 29083), (58, 29089), (66, 29173), (70, 29194), (77, 29245), (83, 29299), (95, 29374), (119, 29509), (121, 29521), (133, 29590), (135, 29599), (147, 29704), (161, 29773), (181, 29899), (194, 29980), (232, 30076), (245, 30103), (252, 30130), (254, 30136), (260, 30154), (272, 30190),

Gene: Becksu\_32 Start: 29824, Stop: 31326, Start Num: 21

Candidate Starts for Becksu\_32:

(Start: 21 @29824 has 231 MA's), (Start: 30 @29893 has 3 MA's), (39, 29971), (53, 30067), (56, 30088), (58, 30094), (66, 30178), (70, 30199), (77, 30250), (83, 30304), (95, 30379), (119, 30514), (121, 30526), (133, 30595), (135, 30604), (147, 30709), (161, 30778), (181, 30904), (194, 30985), (232, 31081), (245, 31108), (252, 31135), (254, 31141), (260, 31159), (272, 31195),

Gene: Beem\_47 Start: 40781, Stop: 42199, Start Num: 21

Candidate Starts for Beem\_47:

(Start: 21 @40781 has 231 MA's), (29, 40835), (34, 40907), (39, 40928), (50, 41009), (60, 41066), (66, 41117), (67, 41129), (70, 41138), (77, 41189), (96, 41321), (108, 41372), (129, 41504), (135, 41537), (136, 41540), (167, 41732), (182, 41819), (191, 41882), (194, 41906), (198, 41915), (249, 42065), (259, 42098), (260, 42101),

Gene: Beemo\_11 Start: 6180, Stop: 7760, Start Num: 22

Candidate Starts for Beemo\_11:

(Start: 22 @6180 has 60 MA's), (29, 6231), (39, 6321), (40, 6324), (44, 6339), (66, 6510), (70, 6531), (106, 6792), (131, 6954), (139, 7005), (153, 7122), (184, 7347), (204, 7419), (225, 7479), (252, 7575), (265, 7620), (271, 7638),

Gene: Bench\_34 Start: 29501, Stop: 31003, Start Num: 21

Candidate Starts for Bench\_34:

(Start: 21 @29501 has 231 MA's), (Start: 30 @29570 has 3 MA's), (39, 29648), (53, 29744), (56, 29765), (58, 29771), (66, 29855), (70, 29876), (77, 29927), (83, 29981), (95, 30056), (119, 30191), (121, 30203), (133, 30272), (135, 30281), (147, 30386), (161, 30455), (181, 30581), (194, 30662), (245, 30785), (252, 30812), (254, 30818), (260, 30836), (272, 30872),

Gene: BengiVuitton\_10 Start: 5133, Stop: 6422, Start Num: 19

Candidate Starts for BengiVuitton\_10:

(Start: 19 @5133 has 77 MA's), (26, 5178), (35, 5265), (55, 5382), (61, 5424), (64, 5439), (68, 5484), (69, 5490), (72, 5511), (74, 5517), (111, 5742), (121, 5790), (177, 6009), (183, 6042), (217, 6147), (265, 6276),

Gene: Benvolio\_9 Start: 4797, Stop: 6086, Start Num: 19

Candidate Starts for Benvolio\_9:

(Start: 19 @4797 has 77 MA's), (Start: 23 @4809 has 1 MA's), (26, 4842), (35, 4929), (42, 4953), (61, 5088), (68, 5148), (69, 5154), (72, 5175), (74, 5181), (84, 5265), (101, 5331), (121, 5445), (177, 5664), (183, 5697), (217, 5802), (233, 5838), (264, 5928), (287, 6030),

Gene: Bernal13\_27 Start: 23579, Stop: 25162, Start Num: 21

Candidate Starts for Bernal13\_27:

(Start: 21 @23579 has 231 MA's), (31, 23660), (33, 23678), (40, 23729), (43, 23741), (44, 23744), (66, 23915), (71, 23942), (92, 24104), (96, 24125), (102, 24149), (112, 24215), (120, 24257), (128, 24311), (135, 24353), (146, 24437), (150, 24473), (154, 24491), (181, 24641), (194, 24728), (235, 24839), (262, 24920), (303, 25121),

Gene: BigBubba\_33 Start: 29404, Stop: 30906, Start Num: 21

Candidate Starts for BigBubba\_33:

(Start: 21 @29404 has 231 MA's), (Start: 30 @29473 has 3 MA's), (39, 29551), (53, 29647), (56, 29668), (58, 29674), (66, 29758), (70, 29779), (77, 29830), (83, 29884), (95, 29959), (119, 30094), (121, 30106), (133, 30175), (135, 30184), (147, 30289), (161, 30358), (181, 30484), (194, 30565), (232, 30661), (245, 30688), (252, 30715), (254, 30721), (260, 30739), (272, 30775),

Gene: Biglebops\_26 Start: 24344, Stop: 25981, Start Num: 19

Candidate Starts for Biglebops\_26:

(Start: 19 @24344 has 77 MA's), (27, 24386), (31, 24425), (37, 24482), (39, 24491), (47, 24563), (54, 24590), (66, 24698), (70, 24719), (76, 24752), (95, 24896), (102, 24935), (121, 25052), (127, 25091), (129, 25100), (133, 25121), (134, 25127), (135, 25130), (147, 25235), (159, 25295), (181, 25424), (194, 25499), (224, 25592), (300, 25874), (308, 25955), (310, 25970),

Gene: BilboSwaggins\_32 Start: 29710, Stop: 31143, Start Num: 30

Candidate Starts for BilboSwaggins\_32:

(Start: 21 @29641 has 231 MA's), (Start: 30 @29710 has 3 MA's), (39, 29788), (53, 29884), (56, 29905), (58, 29911), (66, 29995), (70, 30016), (77, 30067), (83, 30121), (95, 30196), (119, 30331), (121, 30343), (133, 30412), (135, 30421), (147, 30526), (161, 30595), (181, 30721), (194, 30802), (252, 30952), (260, 30976), (272, 31012),

Gene: Bobquesha\_32 Start: 25768, Stop: 27381, Start Num: 21

Candidate Starts for Bobquesha\_32:

(Start: 21 @25768 has 231 MA's), (Start: 30 @25837 has 3 MA's), (34, 25894), (37, 25906), (39, 25915), (40, 25918), (44, 25933), (52, 25987), (66, 26104), (70, 26125), (92, 26287), (102, 26332), (121, 26449), (125, 26476), (133, 26518), (135, 26527), (147, 26632), (167, 26740), (181, 26821), (194, 26902), (198, 26911), (224, 26974), (285, 27190), (298, 27250),

Gene: BogosyJay\_11 Start: 5937, Stop: 7517, Start Num: 22

Candidate Starts for BogosyJay\_11:

(Start: 22 @5937 has 60 MA's), (33, 6030), (39, 6078), (40, 6081), (44, 6096), (66, 6267), (70, 6288), (81, 6378), (106, 6549), (131, 6711), (139, 6762), (168, 6963), (170, 6987), (204, 7176), (225, 7236), (252, 7332), (265, 7377), (271, 7395),

Gene: Bombitas\_43 Start: 39837, Stop: 41255, Start Num: 21

Candidate Starts for Bombitas\_43:

(Start: 21 @39837 has 231 MA's), (29, 39891), (34, 39963), (39, 39984), (50, 40065), (60, 40122), (66, 40173), (67, 40185), (70, 40194), (77, 40245), (96, 40377), (108, 40428), (118, 40503), (129, 40560), (135, 40593), (136, 40596), (167, 40788), (182, 40875), (191, 40938), (194, 40962), (198, 40971), (249, 41121), (259, 41154), (260, 41157),

Gene: Bowtie\_10 Start: 6224, Stop: 7624, Start Num: 21

Candidate Starts for Bowtie\_10:

(13, 6185), (Start: 21 @6224 has 231 MA's), (39, 6371), (44, 6389), (60, 6509), (66, 6560), (70, 6581), (76, 6614), (129, 6761), (139, 6824), (140, 6830), (158, 6974), (170, 7055), (174, 7082), (218, 7286), (221, 7307), (227, 7331), (243, 7391), (252, 7424), (273, 7490), (291, 7586),

Gene: Bruin\_32 Start: 29661, Stop: 31163, Start Num: 21

Candidate Starts for Bruin\_32:

(Start: 21 @29661 has 231 MA's), (Start: 30 @29730 has 3 MA's), (39, 29808), (53, 29904), (56, 29925), (58, 29931), (66, 30015), (70, 30036), (77, 30087), (83, 30141), (95, 30216), (119, 30351), (121, 30363), (133, 30432), (135, 30441), (147, 30546), (161, 30615), (181, 30741), (194, 30822), (245, 30945), (252, 30972), (254, 30978), (260, 30996), (272, 31032),

Gene: Bryler\_30 Start: 24221, Stop: 25867, Start Num: 21

Candidate Starts for Bryler\_30:

(Start: 21 @24221 has 231 MA's), (29, 24275), (31, 24302), (37, 24359), (39, 24368), (66, 24557), (70, 24578), (85, 24701), (95, 24755), (102, 24794), (133, 24980), (135, 24989), (147, 25094), (163, 25166), (167, 25202), (181, 25283), (194, 25361), (205, 25394), (211, 25406), (219, 25439), (228, 25466), (251, 25544), (264, 25589), (292, 25718), (299, 25757), (304, 25787), (308, 25841),

Gene: Buck\_31 Start: 29597, Stop: 31099, Start Num: 21

Candidate Starts for Buck\_31:

(Start: 21 @29597 has 231 MA's), (Start: 30 @29666 has 3 MA's), (39, 29744), (53, 29840), (56, 29861), (58, 29867), (66, 29951), (70, 29972), (77, 30023), (83, 30077), (95, 30152), (119, 30287), (121, 30299), (133, 30368), (135, 30377), (147, 30482), (161, 30551), (181, 30677), (194, 30758), (232, 30854), (245, 30881), (252, 30908), (254, 30914), (260, 30932), (272, 30968),

Gene: Bud\_10 Start: 6230, Stop: 7630, Start Num: 21

Candidate Starts for Bud\_10:

(13, 6191), (Start: 21 @6230 has 231 MA's), (39, 6377), (44, 6395), (60, 6515), (66, 6566), (70, 6587), (76, 6620), (129, 6767), (139, 6830), (158, 6980), (170, 7061), (174, 7088), (218, 7292), (221, 7313), (227, 7337), (243, 7397), (252, 7430), (273, 7496), (291, 7592),

Gene: BugsBunny\_30 Start: 29230, Stop: 30732, Start Num: 21

Candidate Starts for BugsBunny\_30:

(Start: 21 @29230 has 231 MA's), (Start: 30 @29299 has 3 MA's), (39, 29377), (53, 29473), (56, 29494), (58, 29500), (66, 29584), (70, 29605), (77, 29656), (83, 29710), (95, 29785), (119, 29920), (121, 29932), (133, 30001), (135, 30010), (147, 30115), (161, 30184), (181, 30310), (194, 30391), (232, 30487), (245, 30514), (252, 30541), (254, 30547), (260, 30565), (272, 30601),

Gene: C3\_07 Start: 4696, Stop: 6177, Start Num: 19

Candidate Starts for C3\_07:

(Start: 19 @4696 has 77 MA's), (26, 4741), (34, 4825), (61, 4987), (68, 5047), (69, 5053), (72, 5074), (79, 5128), (80, 5134), (109, 5302), (115, 5353), (142, 5503), (151, 5584), (194, 5815), (217, 5878), (245, 5977), (284, 6106),

Gene: CRB1\_9 Start: 4679, Stop: 5974, Start Num: 19

Candidate Starts for CRB1\_9:

(Start: 19 @4679 has 77 MA's), (26, 4724), (35, 4811), (61, 4970), (68, 5030), (69, 5036), (72, 5057), (74, 5063), (100, 5219), (111, 5291), (121, 5339), (177, 5558), (183, 5591), (217, 5696), (239, 5744),

Gene: Cactus\_33 Start: 28852, Stop: 30354, Start Num: 21

Candidate Starts for Cactus\_33:

(Start: 21 @28852 has 231 MA's), (Start: 30 @28921 has 3 MA's), (39, 28999), (53, 29095), (56, 29116), (58, 29122), (66, 29206), (70, 29227), (77, 29278), (92, 29392), (119, 29542), (121, 29554), (133, 29623), (135, 29632), (147, 29737), (161, 29806), (181, 29932), (194, 30013), (252, 30163), (254, 30169), (260, 30187), (272, 30223),

Gene: Cain\_30 Start: 24209, Stop: 25855, Start Num: 21

Candidate Starts for Cain\_30:

(Start: 21 @24209 has 231 MA's), (29, 24263), (31, 24290), (37, 24347), (39, 24356), (66, 24545), (70, 24566), (85, 24689), (95, 24743), (102, 24782), (133, 24968), (135, 24977), (147, 25082), (163, 25154), (167, 25190), (181, 25271), (194, 25349), (205, 25382), (211, 25394), (219, 25427), (228, 25454), (251, 25532), (264, 25577), (292, 25706), (299, 25745), (304, 25775), (308, 25829),

Gene: Caraxes\_9 Start: 4337, Stop: 5746, Start Num: 18

Candidate Starts for Caraxes\_9:

(16, 4331), (Start: 18 @4337 has 1 MA's), (61, 4628), (68, 4688), (69, 4694), (72, 4715), (74, 4721), (80, 4769), (109, 4937), (115, 4988), (189, 5417), (202, 5468), (203, 5471), (233, 5531), (234, 5534), (291, 5717),

Gene: Catalina\_11 Start: 6147, Stop: 7727, Start Num: 22

Candidate Starts for Catalina\_11:

(Start: 22 @6147 has 60 MA's), (29, 6198), (39, 6288), (40, 6291), (66, 6477), (70, 6498), (106, 6759), (131, 6921), (139, 6972), (153, 7089), (184, 7314), (204, 7386), (225, 7446), (252, 7542), (265, 7587), (271, 7605),

Gene: Centaur\_11 Start: 5188, Stop: 6492, Start Num: 19

Candidate Starts for Centaur\_11:

(Start: 19 @5188 has 77 MA's), (26, 5233), (35, 5320), (61, 5479), (68, 5539), (69, 5545), (72, 5566), (73, 5569), (80, 5626), (98, 5725), (100, 5728), (111, 5800), (121, 5848), (177, 6067), (183, 6100), (193, 6154), (217, 6205), (237, 6250), (246, 6268),

Gene: Cepens\_36 Start: 36083, Stop: 37705, Start Num: 21

Candidate Starts for Cepens\_36:

(Start: 21 @36083 has 231 MA's), (Start: 23 @36089 has 1 MA's), (Start: 30 @36152 has 3 MA's), (39, 36230), (44, 36248), (47, 36302), (57, 36350), (63, 36401), (66, 36437), (70, 36458), (77, 36512), (81, 36551), (89, 36599), (94, 36638), (116, 36776), (124, 36815), (132, 36857), (141, 36920), (150, 37004), (175, 37151), (176, 37157), (197, 37283), (200, 37295), (217, 37325), (223, 37364), (229, 37385), (239, 37418), (242, 37427), (247, 37442), (261, 37490), (262, 37493), (265, 37502), (276, 37541), (282, 37577), (286, 37592), (294, 37643),

Gene: Chancellor\_31 Start: 26030, Stop: 27640, Start Num: 21

Candidate Starts for Chancellor\_31:

(Start: 21 @26030 has 231 MA's), (Start: 30 @26099 has 3 MA's), (34, 26156), (37, 26168), (39, 26177), (40, 26180), (44, 26195), (58, 26282), (60, 26315), (66, 26366), (70, 26387), (92, 26549), (102, 26594), (121, 26711), (129, 26759), (133, 26780), (134, 26786), (135, 26789), (167, 27002), (181, 27083), (183, 27101), (194, 27164), (198, 27173), (224, 27236), (285, 27452), (298, 27512),

Gene: Changeling\_12 Start: 6426, Stop: 7901, Start Num: 19

Candidate Starts for Changeling\_12:

(Start: 19 @6426 has 77 MA's), (Start: 23 @6438 has 1 MA's), (35, 6558), (61, 6717), (68, 6777), (69, 6783), (72, 6804), (73, 6807), (93, 6942), (104, 6990), (107, 7011), (115, 7077), (141, 7224), (142, 7227), (151, 7308), (186, 7497), (194, 7539), (209, 7587), (217, 7602), (245, 7701), (264, 7764), (284, 7830),

Gene: Chargerpower\_10 Start: 4583, Stop: 6187, Start Num: 22

Candidate Starts for Chargerpower\_10:

(Start: 22 @4583 has 60 MA's), (39, 4724), (47, 4796), (66, 4931), (70, 4952), (77, 5003), (91, 5108), (120, 5303), (131, 5375), (139, 5426), (153, 5543), (184, 5768), (212, 5861), (225, 5906), (240, 5957), (252, 6002), (280, 6110),

Gene: Charm\_10 Start: 4360, Stop: 5916, Start Num: 22

Candidate Starts for Charm\_10:

(Start: 22 @4360 has 60 MA's), (39, 4501), (66, 4690), (70, 4711), (75, 4741), (139, 5185), (164, 5323), (178, 5422), (201, 5563), (204, 5569), (225, 5635), (252, 5731),

Gene: Che12\_11 Start: 4473, Stop: 5840, Start Num: 19

Candidate Starts for Che12\_11:

(Start: 19 @4473 has 77 MA's), (42, 4629), (61, 4764), (68, 4824), (69, 4830), (72, 4851), (74, 4857), (80, 4905), (105, 5055), (115, 5124), (147, 5286), (157, 5334), (171, 5397), (200, 5559), (202, 5562), (233, 5625), (234, 5628), (264, 5715),

Gene: Cheetobro\_31 Start: 26027, Stop: 27637, Start Num: 21

Candidate Starts for Cheetobro\_31:

(Start: 21 @26027 has 231 MA's), (Start: 30 @26096 has 3 MA's), (34, 26153), (37, 26165), (39, 26174), (40, 26177), (44, 26192), (58, 26279), (60, 26312), (66, 26363), (70, 26384), (92, 26546), (102, 26591), (121, 26708), (129, 26756), (133, 26777), (134, 26783), (135, 26786), (167, 26999), (181, 27080), (183, 27098), (194, 27161), (198, 27170), (224, 27233), (285, 27449), (298, 27509),

Gene: ChosenOne\_32 Start: 28849, Stop: 30351, Start Num: 21

Candidate Starts for ChosenOne\_32:

(Start: 21 @28849 has 231 MA's), (Start: 30 @28918 has 3 MA's), (39, 28996), (53, 29092), (56, 29113), (58, 29119), (66, 29203), (70, 29224), (77, 29275), (83, 29329), (95, 29404), (119, 29539), (121, 29551), (133, 29620), (135, 29629), (147, 29734), (161, 29803), (181, 29929), (194, 30010), (245, 30133), (252, 30160), (254, 30166), (260, 30184), (272, 30220),

Gene: ChotaBhai\_32 Start: 28887, Stop: 30389, Start Num: 21

Candidate Starts for ChotaBhai\_32:

(Start: 21 @28887 has 231 MA's), (Start: 30 @28956 has 3 MA's), (39, 29034), (53, 29130), (56, 29151), (58, 29157), (66, 29241), (70, 29262), (77, 29313), (83, 29367), (95, 29442), (119, 29577), (121, 29589), (133, 29658), (135, 29667), (147, 29772), (161, 29841), (181, 29967), (194, 30048), (252, 30198), (254, 30204), (260, 30222), (272, 30258),

Gene: Chris\_29 Start: 24088, Stop: 25749, Start Num: 19

Candidate Starts for Chris\_29:

(Start: 19 @24088 has 77 MA's), (26, 24124), (27, 24127), (29, 24139), (31, 24166), (39, 24232), (56, 24349), (66, 24439), (70, 24460), (76, 24493), (92, 24622), (95, 24637), (102, 24676), (133, 24862), (135, 24871), (147, 24976), (167, 25084), (181, 25165), (194, 25246), (205, 25279), (214, 25300), (254, 25435), (276, 25507), (289, 25573), (308, 25723),

Gene: Cjw1\_32 Start: 30401, Stop: 31903, Start Num: 21

Candidate Starts for Cjw1\_32:

(Start: 21 @30401 has 231 MA's), (Start: 30 @30470 has 3 MA's), (39, 30548), (53, 30644), (56, 30665), (58, 30671), (66, 30755), (70, 30776), (77, 30827), (83, 30881), (95, 30956), (119, 31091), (121, 31103), (133, 31172), (135, 31181), (147, 31286), (161, 31355), (181, 31481), (194, 31562), (245, 31685), (252, 31712), (254, 31718), (260, 31736), (272, 31772),

Gene: Colin\_13 Start: 6391, Stop: 7695, Start Num: 19

Candidate Starts for Colin\_13:

(Start: 19 @6391 has 77 MA's), (Start: 23 @6403 has 1 MA's), (26, 6436), (35, 6523), (42, 6547), (61, 6682), (68, 6742), (69, 6748), (72, 6769), (73, 6772), (80, 6829), (84, 6868), (121, 7057), (177, 7276), (183, 7303), (190, 7348), (217, 7408), (264, 7534), (285, 7624), (287, 7636), (293, 7672),

Gene: Collard\_29 Start: 25557, Stop: 27191, Start Num: 21

Candidate Starts for Collard\_29:

(Start: 21 @25557 has 231 MA's), (Start: 23 @25563 has 1 MA's), (Start: 24 @25578 has 1 MA's), (34, 25683), (40, 25707), (44, 25722), (49, 25770), (60, 25842), (66, 25893), (70, 25914), (91, 26064), (92, 26076), (95, 26091), (102, 26130), (120, 26238), (121, 26247), (133, 26316), (134, 26322), (135, 26325), (159, 26490), (161, 26499), (167, 26538), (175, 26583), (181, 26619), (194, 26703), (205, 26736), (206, 26739), (252, 26886), (254, 26892), (266, 26928), (272, 26946), (299, 27081), (306,

27147), (310, 27180),

Gene: Command613\_33 Start: 29908, Stop: 31410, Start Num: 21

Candidate Starts for Command613\_33:

(Start: 21 @29908 has 231 MA's), (Start: 30 @29977 has 3 MA's), (39, 30055), (53, 30151), (56, 30172), (58, 30178), (66, 30262), (70, 30283), (77, 30334), (83, 30388), (95, 30463), (119, 30598), (121, 30610), (133, 30679), (135, 30688), (147, 30793), (161, 30862), (181, 30988), (194, 31069), (245, 31192), (252, 31219), (254, 31225), (260, 31243), (272, 31279),

Gene: Conquerage\_11 Start: 6176, Stop: 7756, Start Num: 22

Candidate Starts for Conquerage\_11:

(Start: 22 @6176 has 60 MA's), (29, 6227), (39, 6317), (40, 6320), (66, 6506), (70, 6527), (131, 6950), (139, 7001), (153, 7118), (168, 7202), (170, 7226), (174, 7253), (184, 7343), (204, 7415), (225, 7475), (252, 7571), (265, 7616), (271, 7634),

Gene: Constella\_39 Start: 36912, Stop: 38330, Start Num: 21

Candidate Starts for Constella\_39:

(Start: 21 @36912 has 231 MA's), (29, 36966), (34, 37038), (38, 37053), (39, 37059), (50, 37140), (66, 37248), (67, 37260), (70, 37269), (76, 37302), (77, 37320), (96, 37452), (108, 37503), (129, 37635), (135, 37668), (136, 37671), (167, 37863), (182, 37950), (191, 38013), (194, 38037), (198, 38046), (217, 38091), (220, 38103), (249, 38196), (250, 38199), (259, 38229), (260, 38232),

Gene: Contagion\_31 Start: 29145, Stop: 30647, Start Num: 21

Candidate Starts for Contagion\_31:

(Start: 21 @29145 has 231 MA's), (Start: 30 @29214 has 3 MA's), (39, 29292), (53, 29388), (56, 29409), (58, 29415), (66, 29499), (70, 29520), (77, 29571), (83, 29625), (95, 29700), (119, 29835), (121, 29847), (133, 29916), (135, 29925), (147, 30030), (161, 30099), (181, 30225), (194, 30306), (252, 30456), (254, 30462), (260, 30480), (272, 30516),

Gene: Cookies\_32 Start: 29510, Stop: 31012, Start Num: 21

Candidate Starts for Cookies\_32:

(Start: 21 @29510 has 231 MA's), (Start: 30 @29579 has 3 MA's), (39, 29657), (53, 29753), (56, 29774), (58, 29780), (66, 29864), (70, 29885), (77, 29936), (83, 29990), (95, 30065), (119, 30200), (121, 30212), (133, 30281), (135, 30290), (147, 30395), (161, 30464), (181, 30590), (194, 30671), (252, 30821), (254, 30827), (260, 30845), (272, 30881),

Gene: Crucio\_9 Start: 4694, Stop: 5941, Start Num: 19

Candidate Starts for Crucio\_9:

(Start: 19 @4694 has 77 MA's), (Start: 23 @4706 has 1 MA's), (26, 4739), (35, 4826), (42, 4850), (55, 4943), (61, 4985), (64, 5000), (68, 5045), (69, 5051), (72, 5072), (73, 5075), (100, 5222), (121, 5342), (177, 5561), (183, 5591), (185, 5615), (191, 5639), (245, 5738), (265, 5804), (267, 5810), (285, 5867),

Gene: CrystalP\_32 Start: 29641, Stop: 31143, Start Num: 21

Candidate Starts for CrystalP\_32:

(Start: 21 @29641 has 231 MA's), (Start: 30 @29710 has 3 MA's), (39, 29788), (53, 29884), (56, 29905), (58, 29911), (66, 29995), (70, 30016), (77, 30067), (83, 30121), (95, 30196), (119, 30331), (121, 30343), (133, 30412), (135, 30421), (147, 30526), (161, 30595), (181, 30721), (194, 30802), (252, 30952), (260, 30976), (272, 31012),

Gene: Czyszczone1\_33 Start: 29386, Stop: 30888, Start Num: 21

Candidate Starts for Czyszczone1\_33:

(Start: 21 @29386 has 231 MA's), (Start: 30 @29455 has 3 MA's), (39, 29533), (53, 29629), (56, 29650), (58, 29656), (66, 29740), (70, 29761), (77, 29812), (83, 29866), (95, 29941), (119, 30076),



(121, 30088), (133, 30157), (135, 30166), (147, 30271), (161, 30340), (181, 30466), (194, 30547), (232, 30643), (245, 30670), (252, 30697), (254, 30703), (260, 30721), (272, 30757),

Gene: D12\_35 Start: 36653, Stop: 38275, Start Num: 21

Candidate Starts for D12\_35:

(Start: 21 @36653 has 231 MA's), (Start: 23 @36659 has 1 MA's), (Start: 30 @36722 has 3 MA's), (39, 36800), (44, 36818), (47, 36872), (57, 36920), (63, 36971), (66, 37007), (70, 37028), (77, 37082), (89, 37169), (94, 37208), (116, 37346), (122, 37367), (124, 37385), (132, 37427), (141, 37490), (150, 37574), (175, 37721), (176, 37727), (197, 37853), (200, 37865), (217, 37895), (223, 37934), (229, 37955), (239, 37988), (242, 37997), (247, 38012), (261, 38060), (276, 38111), (282, 38147), (286, 38162), (294, 38213), (301, 38270),

Gene: D29\_10 Start: 4697, Stop: 6178, Start Num: 19

Candidate Starts for D29\_10:

(Start: 19 @4697 has 77 MA's), (26, 4742), (61, 4988), (68, 5048), (69, 5054), (72, 5075), (79, 5129), (80, 5135), (109, 5303), (115, 5354), (142, 5504), (151, 5585), (186, 5774), (194, 5816), (217, 5879), (245, 5978), (284, 6107),

Gene: D32\_12 Start: 4697, Stop: 6178, Start Num: 19

Candidate Starts for D32\_12:

(Start: 19 @4697 has 77 MA's), (26, 4742), (61, 4988), (68, 5048), (69, 5054), (72, 5075), (79, 5129), (80, 5135), (109, 5303), (115, 5354), (142, 5504), (151, 5585), (186, 5774), (194, 5816), (217, 5879), (245, 5978), (284, 6107),

Gene: DBQu4n\_12 Start: 4697, Stop: 6178, Start Num: 19

Candidate Starts for DBQu4n\_12:

(Start: 19 @4697 has 77 MA's), (26, 4742), (61, 4988), (68, 5048), (69, 5054), (72, 5075), (80, 5135), (109, 5303), (115, 5354), (142, 5504), (151, 5585), (186, 5774), (194, 5816), (217, 5879), (245, 5978), (284, 6107),

Gene: Dadosky\_30 Start: 25528, Stop: 27162, Start Num: 21

Candidate Starts for Dadosky\_30:

(Start: 21 @25528 has 231 MA's), (Start: 23 @25534 has 1 MA's), (Start: 24 @25549 has 1 MA's), (32, 25612), (34, 25654), (40, 25678), (44, 25693), (49, 25741), (60, 25813), (61, 25816), (66, 25864), (70, 25885), (91, 26035), (92, 26047), (102, 26101), (120, 26209), (121, 26218), (133, 26287), (134, 26293), (135, 26296), (146, 26383), (154, 26437), (159, 26461), (167, 26509), (181, 26590), (194, 26674), (205, 26707), (206, 26710), (252, 26857), (254, 26863), (266, 26899), (272, 26917), (299, 27052), (306, 27118), (310, 27151),

Gene: Daikon\_31 Start: 29448, Stop: 30881, Start Num: 30

Candidate Starts for Daikon\_31:

(Start: 21 @29379 has 231 MA's), (Start: 30 @29448 has 3 MA's), (39, 29526), (53, 29622), (56, 29643), (58, 29649), (66, 29733), (70, 29754), (77, 29805), (83, 29859), (95, 29934), (119, 30069), (121, 30081), (133, 30150), (135, 30159), (147, 30264), (161, 30333), (181, 30459), (194, 30540), (252, 30690), (260, 30714), (272, 30750),

Gene: Dallas\_49 Start: 40306, Stop: 41724, Start Num: 21

Candidate Starts for Dallas\_49:

(Start: 21 @40306 has 231 MA's), (29, 40360), (34, 40432), (39, 40453), (50, 40534), (60, 40591), (66, 40642), (67, 40654), (70, 40663), (77, 40714), (96, 40846), (108, 40897), (129, 41029), (135, 41062), (136, 41065), (144, 41110), (167, 41257), (182, 41344), (191, 41407), (194, 41431), (198, 41440), (249, 41590), (259, 41623), (260, 41626),

Gene: Dalmatian\_9 Start: 4796, Stop: 6088, Start Num: 19

Candidate Starts for Dalmatian\_9:

(Start: 19 @4796 has 77 MA's), (Start: 23 @4808 has 1 MA's), (26, 4841), (35, 4928), (42, 4952), (55, 5045), (61, 5087), (64, 5102), (68, 5147), (69, 5153), (72, 5174), (84, 5264), (100, 5324), (101, 5330), (121, 5444), (177, 5663), (183, 5696), (190, 5741), (217, 5801), (237, 5846), (264, 5927), (287, 6029),

Gene: Darrell\_12 Start: 6369, Stop: 7949, Start Num: 22

Candidate Starts for Darrell\_12:

(Start: 22 @6369 has 60 MA's), (29, 6420), (39, 6510), (40, 6513), (52, 6582), (66, 6699), (70, 6720), (81, 6810), (106, 6981), (120, 7071), (131, 7143), (139, 7194), (153, 7311), (170, 7419), (184, 7536), (204, 7608), (212, 7629), (225, 7668), (252, 7764), (271, 7827),

Gene: Deloris\_10 Start: 5133, Stop: 6422, Start Num: 19

Candidate Starts for Deloris\_10:

(Start: 19 @5133 has 77 MA's), (26, 5178), (35, 5265), (55, 5382), (61, 5424), (64, 5439), (68, 5484), (69, 5490), (72, 5511), (74, 5517), (111, 5742), (121, 5790), (177, 6009), (183, 6042), (217, 6147), (265, 6276),

Gene: DmpstrDiver\_48 Start: 40296, Stop: 41729, Start Num: 22

Candidate Starts for DmpstrDiver\_48:

(15, 40263), (Start: 17 @40287 has 2 MA's), (Start: 22 @40296 has 60 MA's), (45, 40461), (46, 40482), (48, 40512), (56, 40554), (57, 40557), (70, 40665), (96, 40851), (108, 40902), (129, 41034), (135, 41067), (136, 41070), (167, 41262), (182, 41349), (191, 41412), (194, 41436), (198, 41445), (249, 41595), (259, 41628), (260, 41631),

Gene: DoctorDiddles\_32 Start: 28803, Stop: 30305, Start Num: 21

Candidate Starts for DoctorDiddles\_32:

(Start: 21 @28803 has 231 MA's), (Start: 30 @28872 has 3 MA's), (39, 28950), (53, 29046), (56, 29067), (58, 29073), (66, 29157), (70, 29178), (77, 29229), (83, 29283), (95, 29358), (119, 29493), (121, 29505), (133, 29574), (135, 29583), (147, 29688), (161, 29757), (181, 29883), (194, 29964), (232, 30060), (245, 30087), (252, 30114), (254, 30120), (260, 30138), (272, 30174),

Gene: Dove\_44 Start: 39836, Stop: 41254, Start Num: 21

Candidate Starts for Dove\_44:

(Start: 21 @39836 has 231 MA's), (29, 39890), (34, 39962), (39, 39983), (50, 40064), (60, 40121), (66, 40172), (67, 40184), (70, 40193), (77, 40244), (96, 40376), (108, 40427), (118, 40502), (129, 40559), (135, 40592), (136, 40595), (167, 40787), (182, 40874), (191, 40937), (194, 40961), (198, 40970), (242, 41099), (252, 41132), (259, 41153), (260, 41156),

Gene: DrDrey\_33 Start: 30133, Stop: 31635, Start Num: 21

Candidate Starts for DrDrey\_33:

(Start: 21 @30133 has 231 MA's), (Start: 30 @30202 has 3 MA's), (39, 30280), (53, 30376), (56, 30397), (58, 30403), (66, 30487), (70, 30508), (77, 30559), (83, 30613), (95, 30688), (119, 30823), (121, 30835), (133, 30904), (135, 30913), (147, 31018), (161, 31087), (181, 31213), (194, 31294), (252, 31444), (254, 31450), (260, 31468), (272, 31504),

Gene: Drake55\_11 Start: 5205, Stop: 6509, Start Num: 19

Candidate Starts for Drake55\_11:

(Start: 19 @5205 has 77 MA's), (26, 5250), (35, 5337), (61, 5496), (68, 5556), (69, 5562), (72, 5583), (80, 5643), (98, 5742), (100, 5745), (111, 5817), (177, 6084), (183, 6117), (193, 6171), (217, 6222), (237, 6267), (246, 6285),

Gene: DreamTeam1\_10 Start: 4360, Stop: 5916, Start Num: 22

Candidate Starts for DreamTeam1\_10:

(Start: 22 @4360 has 60 MA's), (39, 4501), (66, 4690), (70, 4711), (75, 4741), (139, 5185), (155, 5281), (178, 5422), (201, 5563), (204, 5569), (225, 5635), (252, 5731),

Gene: DudeLittle\_9 Start: 4798, Stop: 6090, Start Num: 19

Candidate Starts for DudeLittle\_9:

(Start: 19 @4798 has 77 MA's), (Start: 23 @4810 has 1 MA's), (26, 4843), (35, 4930), (42, 4954), (55, 5047), (61, 5089), (64, 5104), (68, 5149), (69, 5155), (72, 5176), (73, 5179), (84, 5266), (100, 5326), (101, 5332), (121, 5446), (177, 5665), (183, 5698), (190, 5743), (217, 5803), (237, 5848), (264, 5929), (287, 6031),

Gene: Duke13\_50 Start: 40614, Stop: 42047, Start Num: 22

Candidate Starts for Duke13\_50:

(15, 40581), (Start: 17 @40605 has 2 MA's), (Start: 22 @40614 has 60 MA's), (45, 40779), (46, 40800), (48, 40830), (56, 40872), (57, 40875), (70, 40983), (96, 41169), (108, 41220), (129, 41352), (135, 41385), (136, 41388), (167, 41580), (182, 41667), (191, 41730), (194, 41754), (198, 41763), (249, 41913), (259, 41946), (260, 41949),

Gene: Dumbo\_32 Start: 29108, Stop: 30610, Start Num: 21

Candidate Starts for Dumbo\_32:

(Start: 21 @29108 has 231 MA's), (Start: 30 @29177 has 3 MA's), (39, 29255), (53, 29351), (56, 29372), (58, 29378), (66, 29462), (70, 29483), (77, 29534), (83, 29588), (95, 29663), (119, 29798), (121, 29810), (133, 29879), (135, 29888), (147, 29993), (161, 30062), (181, 30188), (194, 30269), (232, 30365), (245, 30392), (252, 30419), (254, 30425), (260, 30443), (272, 30479),

Gene: Duplo\_12 Start: 4738, Stop: 6219, Start Num: 19

Candidate Starts for Duplo\_12:

(Start: 19 @4738 has 77 MA's), (26, 4783), (61, 5029), (68, 5089), (69, 5095), (72, 5116), (79, 5170), (80, 5176), (109, 5344), (115, 5395), (142, 5545), (151, 5626), (186, 5815), (194, 5857), (217, 5920), (245, 6019), (284, 6148),

Gene: Dusk\_31 Start: 29293, Stop: 30795, Start Num: 21

Candidate Starts for Dusk\_31:

(Start: 21 @29293 has 231 MA's), (Start: 30 @29362 has 3 MA's), (39, 29440), (53, 29536), (56, 29557), (58, 29563), (66, 29647), (70, 29668), (77, 29719), (83, 29773), (95, 29848), (119, 29983), (121, 29995), (133, 30064), (135, 30073), (147, 30178), (161, 30247), (181, 30373), (194, 30454), (232, 30550), (245, 30577), (252, 30604), (254, 30610), (260, 30628), (272, 30664),

Gene: EZMoney23\_13 Start: 6684, Stop: 7985, Start Num: 19

Candidate Starts for EZMoney23\_13:

(Start: 19 @6684 has 77 MA's), (Start: 23 @6696 has 1 MA's), (26, 6729), (35, 6816), (55, 6933), (61, 6975), (68, 7035), (69, 7041), (72, 7062), (74, 7068), (84, 7161), (90, 7182), (101, 7230), (111, 7296), (177, 7563), (183, 7596), (217, 7701), (237, 7746), (264, 7827), (287, 7929),

Gene: EagleEye\_12 Start: 5895, Stop: 7142, Start Num: 19

Candidate Starts for EagleEye\_12:

(Start: 19 @5895 has 77 MA's), (26, 5940), (35, 6027), (59, 6159), (61, 6186), (64, 6201), (68, 6246), (69, 6252), (72, 6273), (74, 6279), (80, 6333), (84, 6372), (100, 6435), (101, 6441), (111, 6507), (121, 6555), (177, 6774), (183, 6801), (185, 6825), (191, 6849), (245, 6942), (265, 7008), (274, 7026),

Gene: Easy2Say\_34 Start: 30891, Stop: 32393, Start Num: 21

Candidate Starts for Easy2Say\_34:

(Start: 21 @30891 has 231 MA's), (Start: 30 @30960 has 3 MA's), (39, 31038), (53, 31134), (56, 31155), (58, 31161), (66, 31245), (70, 31266), (77, 31317), (83, 31371), (95, 31446), (119, 31581), (121, 31593), (133, 31662), (135, 31671), (147, 31776), (161, 31845), (181, 31971), (194, 32052), (232, 32148), (245, 32175), (252, 32202), (254, 32208), (260, 32226), (272, 32262),

Gene: Ebony\_10 Start: 6285, Stop: 7682, Start Num: 22

Candidate Starts for Ebony\_10:

(Start: 22 @6285 has 60 MA's), (38, 6423), (39, 6429), (44, 6447), (60, 6567), (66, 6618), (70, 6639), (76, 6672), (129, 6819), (139, 6882), (140, 6888), (158, 7032), (170, 7113), (174, 7140), (218, 7344), (221, 7365), (227, 7389), (243, 7449), (252, 7482), (273, 7548), (291, 7644),

Gene: Echild\_9 Start: 4797, Stop: 6086, Start Num: 19

Candidate Starts for Echild\_9:

(Start: 19 @4797 has 77 MA's), (Start: 23 @4809 has 1 MA's), (26, 4842), (35, 4929), (42, 4953), (61, 5088), (68, 5148), (69, 5154), (72, 5175), (74, 5181), (84, 5265), (101, 5331), (121, 5445), (177, 5664), (183, 5697), (217, 5802), (233, 5838), (264, 5928), (287, 6030),

Gene: EdogawaKiddo\_9 Start: 6146, Stop: 7726, Start Num: 22

Candidate Starts for EdogawaKiddo\_9:

(Start: 22 @6146 has 60 MA's), (29, 6197), (39, 6287), (40, 6290), (44, 6305), (66, 6476), (67, 6488), (70, 6497), (106, 6758), (131, 6920), (139, 6971), (153, 7088), (184, 7313), (204, 7385), (225, 7445), (252, 7541), (265, 7586), (271, 7604),

Gene: Edugator\_29 Start: 25527, Stop: 27161, Start Num: 21

Candidate Starts for Edugator\_29:

(Start: 21 @25527 has 231 MA's), (Start: 23 @25533 has 1 MA's), (Start: 24 @25548 has 1 MA's), (32, 25611), (34, 25653), (37, 25665), (40, 25677), (44, 25692), (49, 25740), (60, 25812), (61, 25815), (66, 25863), (70, 25884), (91, 26034), (92, 26046), (102, 26100), (120, 26208), (121, 26217), (133, 26286), (134, 26292), (135, 26295), (146, 26382), (154, 26436), (159, 26460), (167, 26508), (181, 26589), (194, 26673), (205, 26706), (206, 26709), (252, 26856), (254, 26862), (272, 26916), (299, 27051), (306, 27117), (310, 27150),

Gene: Eidsmoe\_11 Start: 6176, Stop: 7756, Start Num: 22

Candidate Starts for Eidsmoe\_11:

(Start: 22 @6176 has 60 MA's), (29, 6227), (39, 6317), (40, 6320), (66, 6506), (70, 6527), (131, 6950), (139, 7001), (153, 7118), (168, 7202), (170, 7226), (174, 7253), (184, 7343), (204, 7415), (225, 7475), (252, 7571), (265, 7616), (271, 7634),

Gene: Ejimix\_47 Start: 41566, Stop: 42984, Start Num: 21

Candidate Starts for Ejimix\_47:

(Start: 21 @41566 has 231 MA's), (29, 41620), (34, 41692), (39, 41713), (50, 41794), (60, 41851), (66, 41902), (67, 41914), (70, 41923), (77, 41974), (96, 42106), (108, 42157), (129, 42289), (135, 42322), (136, 42325), (167, 42517), (182, 42604), (191, 42667), (194, 42691), (198, 42700), (249, 42850), (259, 42883), (260, 42886),

Gene: Elephantoon\_11 Start: 5798, Stop: 7378, Start Num: 22

Candidate Starts for Elephantoon\_11:

(Start: 22 @5798 has 60 MA's), (29, 5849), (39, 5939), (44, 5957), (52, 6011), (66, 6128), (70, 6149), (106, 6410), (120, 6500), (131, 6572), (139, 6623), (170, 6848), (184, 6965), (204, 7037), (212, 7058), (225, 7097), (252, 7193),

Gene: Elite2014\_31 Start: 28848, Stop: 30350, Start Num: 21

Candidate Starts for Elite2014\_31:

(Start: 21 @28848 has 231 MA's), (Start: 30 @28917 has 3 MA's), (39, 28995), (53, 29091), (56, 29112), (58, 29118), (66, 29202), (70, 29223), (77, 29274), (83, 29328), (95, 29403), (119, 29538), (121, 29550), (133, 29619), (135, 29628), (147, 29733), (161, 29802), (181, 29928), (194, 30009), (245, 30132), (252, 30159), (254, 30165), (260, 30183), (272, 30219),

Gene: Elph10\_33 Start: 29111, Stop: 30613, Start Num: 21

Candidate Starts for Elph10\_33:

(Start: 21 @29111 has 231 MA's), (Start: 30 @29180 has 3 MA's), (39, 29258), (53, 29354), (56, 29375), (58, 29381), (66, 29465), (70, 29486), (77, 29537), (83, 29591), (95, 29666), (119, 29801), (121, 29813), (133, 29882), (135, 29891), (147, 29996), (161, 30065), (181, 30191), (194, 30272), (232, 30368), (245, 30395), (252, 30422), (254, 30428), (260, 30446), (272, 30482),

Gene: Emmina\_33 Start: 29469, Stop: 30971, Start Num: 21

Candidate Starts for Emmina\_33:

(Start: 21 @29469 has 231 MA's), (Start: 30 @29538 has 3 MA's), (39, 29616), (53, 29712), (56, 29733), (58, 29739), (66, 29823), (70, 29844), (77, 29895), (83, 29949), (95, 30024), (119, 30159), (121, 30171), (133, 30240), (135, 30249), (147, 30354), (161, 30423), (181, 30549), (194, 30630), (245, 30753), (252, 30780), (254, 30786), (260, 30804), (272, 30840),

Gene: EmyBug\_11 Start: 6176, Stop: 7756, Start Num: 22

Candidate Starts for EmyBug\_11:

(Start: 22 @6176 has 60 MA's), (29, 6227), (39, 6317), (40, 6320), (44, 6335), (66, 6506), (70, 6527), (106, 6788), (131, 6950), (139, 7001), (153, 7118), (184, 7343), (204, 7415), (225, 7475), (252, 7571), (265, 7616), (271, 7634),

Gene: Enkosi\_26 Start: 24344, Stop: 25981, Start Num: 19

Candidate Starts for Enkosi\_26:

(Start: 19 @24344 has 77 MA's), (27, 24386), (31, 24425), (37, 24482), (39, 24491), (47, 24563), (54, 24590), (66, 24698), (70, 24719), (76, 24752), (95, 24896), (102, 24935), (121, 25052), (127, 25091), (129, 25100), (133, 25121), (134, 25127), (135, 25130), (147, 25235), (159, 25295), (181, 25424), (194, 25499), (224, 25592), (300, 25874), (308, 25955), (310, 25970),

Gene: Eponine\_33 Start: 26784, Stop: 28394, Start Num: 21

Candidate Starts for Eponine\_33:

(Start: 21 @26784 has 231 MA's), (Start: 30 @26853 has 3 MA's), (34, 26910), (37, 26922), (39, 26931), (40, 26934), (44, 26949), (52, 27003), (58, 27036), (60, 27069), (66, 27120), (70, 27141), (76, 27174), (92, 27303), (102, 27348), (121, 27465), (129, 27513), (133, 27534), (134, 27540), (135, 27543), (147, 27648), (167, 27756), (181, 27837), (183, 27855), (194, 27918), (198, 27927), (224, 27990), (285, 28206), (298, 28266),

Gene: Equemioh13\_11 Start: 5191, Stop: 6495, Start Num: 19

Candidate Starts for Equemioh13\_11:

(Start: 19 @5191 has 77 MA's), (26, 5236), (35, 5323), (61, 5482), (68, 5542), (69, 5548), (72, 5569), (73, 5572), (80, 5629), (98, 5728), (100, 5731), (111, 5803), (121, 5851), (177, 6070), (183, 6103), (193, 6157), (217, 6208), (237, 6253), (246, 6271), (279, 6388),

Gene: EricMillard\_47 Start: 41067, Stop: 42485, Start Num: 21

Candidate Starts for EricMillard\_47:

(Start: 21 @41067 has 231 MA's), (29, 41121), (34, 41193), (39, 41214), (50, 41295), (60, 41352), (66, 41403), (67, 41415), (70, 41424), (77, 41475), (96, 41607), (108, 41658), (129, 41790), (135, 41823), (136, 41826), (167, 42018), (182, 42105), (191, 42168), (194, 42192), (198, 42201), (249, 42351), (259, 42384), (260, 42387),

Gene: Et2Brutus\_9 Start: 6227, Stop: 7627, Start Num: 21

Candidate Starts for Et2Brutus\_9:

(13, 6188), (Start: 21 @6227 has 231 MA's), (38, 6368), (39, 6374), (44, 6392), (60, 6512), (66, 6563), (70, 6584), (76, 6617), (129, 6764), (139, 6827), (140, 6833), (158, 6977), (170, 7058), (174, 7085), (218, 7289), (221, 7310), (227, 7334), (243, 7394), (252, 7427), (273, 7493), (291, 7589),

Gene: Eureka\_32 Start: 29624, Stop: 31126, Start Num: 21

Candidate Starts for Eureka\_32:

(Start: 21 @29624 has 231 MA's), (Start: 30 @29693 has 3 MA's), (39, 29771), (53, 29867), (56, 29888), (58, 29894), (66, 29978), (70, 29999), (77, 30050), (83, 30104), (95, 30179), (119, 30314), (121, 30326), (133, 30395), (135, 30404), (147, 30509), (161, 30578), (181, 30704), (194, 30785), (232, 30881), (252, 30935), (254, 30941), (260, 30959), (272, 30995),

Gene: ExplosioNervosa\_11 Start: 6179, Stop: 7759, Start Num: 22

Candidate Starts for ExplosioNervosa\_11:

(Start: 22 @6179 has 60 MA's), (29, 6230), (39, 6320), (40, 6323), (44, 6338), (66, 6509), (70, 6530), (106, 6791), (131, 6953), (139, 7004), (153, 7121), (184, 7346), (204, 7418), (225, 7478), (252, 7574), (265, 7619), (271, 7637),

Gene: FairyPath\_32 Start: 29905, Stop: 31338, Start Num: 30

Candidate Starts for FairyPath\_32:

(Start: 21 @29836 has 231 MA's), (Start: 30 @29905 has 3 MA's), (39, 29983), (53, 30079), (56, 30100), (58, 30106), (66, 30190), (70, 30211), (77, 30262), (83, 30316), (95, 30391), (119, 30526), (121, 30538), (133, 30607), (135, 30616), (147, 30721), (161, 30790), (181, 30916), (194, 30997), (232, 31093), (245, 31120), (252, 31147), (254, 31153), (260, 31171), (272, 31207),

Gene: Fameo\_9 Start: 4800, Stop: 6035, Start Num: 19

Candidate Starts for Fameo\_9:

(Start: 19 @4800 has 77 MA's), (Start: 23 @4812 has 1 MA's), (26, 4845), (35, 4932), (42, 4956), (55, 5049), (61, 5091), (68, 5151), (69, 5157), (72, 5178), (74, 5184), (84, 5268), (100, 5328), (101, 5334), (111, 5400), (121, 5448), (177, 5667), (183, 5697), (185, 5721), (245, 5835), (265, 5901), (275, 5925),

Gene: FatCactus\_8 Start: 3796, Stop: 5175, Start Num: 19

Candidate Starts for FatCactus\_8:

(Start: 19 @3796 has 77 MA's), (26, 3841), (42, 3952), (61, 4087), (65, 4120), (68, 4147), (69, 4153), (72, 4174), (90, 4294), (115, 4453), (147, 4615), (165, 4702), (202, 4894), (203, 4897), (233, 4957), (234, 4960),

Gene: Fayely\_11 Start: 6179, Stop: 7759, Start Num: 22

Candidate Starts for Fayely\_11:

(Start: 22 @6179 has 60 MA's), (29, 6230), (39, 6320), (40, 6323), (44, 6338), (66, 6509), (70, 6530), (106, 6791), (131, 6953), (139, 7004), (153, 7121), (184, 7346), (204, 7418), (225, 7478), (252, 7574), (265, 7619), (271, 7637),

Gene: Feyre\_29 Start: 25333, Stop: 26967, Start Num: 21

Candidate Starts for Feyre\_29:

(Start: 21 @25333 has 231 MA's), (Start: 23 @25339 has 1 MA's), (Start: 24 @25354 has 1 MA's), (34, 25459), (40, 25483), (44, 25498), (49, 25546), (60, 25618), (61, 25621), (66, 25669), (70, 25690), (86, 25819), (91, 25840), (92, 25852), (95, 25867), (102, 25906), (120, 26014), (121, 26023), (133, 26092), (134, 26098), (135, 26101), (147, 26206), (154, 26242), (159, 26266), (167, 26314), (181, 26395), (194, 26479), (205, 26512), (206, 26515), (232, 26608), (245, 26635), (252, 26662), (254, 26668), (266, 26704), (272, 26722), (276, 26740), (283, 26773), (288, 26797), (295, 26833), (297, 26848), (299, 26857), (306, 26923), (308, 26941),

Gene: Fibonacci\_10 Start: 6227, Stop: 7627, Start Num: 21

Candidate Starts for Fibonacci\_10:

(13, 6188), (Start: 21 @6227 has 231 MA's), (38, 6368), (39, 6374), (44, 6392), (60, 6512), (66, 6563), (70, 6584), (76, 6617), (129, 6764), (139, 6827), (140, 6833), (158, 6977), (170, 7058), (174, 7085), (218, 7289), (221, 7310), (227, 7334), (243, 7394), (252, 7427), (273, 7493), (291, 7589),

Gene: Filch\_33 Start: 29399, Stop: 30901, Start Num: 21

Candidate Starts for Filch\_33:

(Start: 21 @29399 has 231 MA's), (Start: 30 @29468 has 3 MA's), (39, 29546), (53, 29642), (56, 29663), (58, 29669), (66, 29753), (70, 29774), (77, 29825), (83, 29879), (95, 29954), (119, 30089), (121, 30101), (133, 30170), (135, 30179), (147, 30284), (161, 30353), (181, 30479), (194, 30560), (245, 30683), (252, 30710), (254, 30716), (260, 30734), (272, 30770),

Gene: Fionnbharth\_31 Start: 26020, Stop: 27630, Start Num: 21

Candidate Starts for Fionnbharth\_31:

(Start: 21 @26020 has 231 MA's), (Start: 30 @26089 has 3 MA's), (34, 26146), (37, 26158), (39, 26167), (40, 26170), (44, 26185), (52, 26239), (58, 26272), (60, 26305), (66, 26356), (70, 26377), (76, 26410), (81, 26467), (92, 26539), (102, 26584), (121, 26701), (129, 26749), (133, 26770), (134, 26776), (135, 26779), (147, 26884), (167, 26992), (181, 27073), (183, 27091), (194, 27154), (198, 27163), (224, 27226), (285, 27442), (298, 27502),

Gene: FireRed\_32 Start: 29669, Stop: 31171, Start Num: 21

Candidate Starts for FireRed\_32:

(Start: 21 @29669 has 231 MA's), (Start: 30 @29738 has 3 MA's), (39, 29816), (53, 29912), (56, 29933), (58, 29939), (66, 30023), (70, 30044), (77, 30095), (83, 30149), (95, 30224), (119, 30359), (121, 30371), (133, 30440), (135, 30449), (147, 30554), (161, 30623), (181, 30749), (194, 30830), (232, 30926), (245, 30953), (252, 30980), (254, 30986), (260, 31004), (272, 31040),

Gene: FiringLine\_9 Start: 4694, Stop: 5941, Start Num: 19

Candidate Starts for FiringLine\_9:

(Start: 19 @4694 has 77 MA's), (Start: 23 @4706 has 1 MA's), (26, 4739), (34, 4823), (35, 4826), (42, 4850), (55, 4943), (61, 4985), (64, 5000), (68, 5045), (69, 5051), (72, 5072), (73, 5075), (100, 5222), (121, 5342), (177, 5561), (183, 5591), (185, 5615), (191, 5639), (245, 5738), (265, 5804), (267, 5810), (285, 5867),

Gene: First\_009 Start: 4690, Stop: 5988, Start Num: 19

Candidate Starts for First\_009:

(Start: 19 @4690 has 77 MA's), (26, 4735), (35, 4822), (42, 4846), (55, 4939), (61, 4981), (68, 5041), (69, 5047), (72, 5068), (74, 5074), (100, 5230), (111, 5302), (121, 5350), (177, 5569), (183, 5602), (217, 5707),

Gene: Flare16\_9 Start: 4749, Stop: 6053, Start Num: 19

Candidate Starts for Flare16\_9:

(Start: 19 @4749 has 77 MA's), (Start: 23 @4761 has 1 MA's), (26, 4794), (35, 4881), (59, 5013), (61, 5040), (68, 5100), (69, 5106), (72, 5127), (80, 5187), (98, 5286), (100, 5289), (111, 5361), (121, 5409), (177, 5628), (183, 5661), (193, 5715), (217, 5766), (237, 5811), (246, 5829),

Gene: Flaverint\_10 Start: 6224, Stop: 7624, Start Num: 21

Candidate Starts for Flaverint\_10:

(13, 6185), (Start: 21 @6224 has 231 MA's), (39, 6371), (44, 6389), (60, 6509), (66, 6560), (70, 6581), (76, 6614), (129, 6761), (139, 6824), (140, 6830), (158, 6974), (170, 7055), (174, 7082), (218, 7286), (221, 7307), (227, 7331), (243, 7391), (252, 7424), (273, 7490), (291, 7586),

Gene: FlyCatcher\_12 Start: 5649, Stop: 7097, Start Num: 19

Candidate Starts for FlyCatcher\_12:

(Start: 19 @5649 has 77 MA's), (26, 5694), (35, 5781), (55, 5898), (60, 5937), (61, 5940), (68, 6000), (69, 6006), (72, 6027), (74, 6033), (80, 6081), (96, 6174), (109, 6246), (115, 6297), (142, 6447), (147, 6507), (151, 6528), (171, 6618), (179, 6645), (189, 6732), (194, 6759), (200, 6780), (209, 6804), (230, 6864), (231, 6867), (245, 6897), (253, 6921), (265, 6963), (266, 6966), (277, 7002), (279, 7008), (294, 7080),

Gene: Flypotenuse\_30 Start: 29237, Stop: 30739, Start Num: 21

Candidate Starts for Flypotenuse\_30:

(Start: 21 @29237 has 231 MA's), (Start: 30 @29306 has 3 MA's), (39, 29384), (53, 29480), (56, 29501), (58, 29507), (66, 29591), (70, 29612), (77, 29663), (83, 29717), (95, 29792), (119, 29927), (121, 29939), (133, 30008), (135, 30017), (147, 30122), (161, 30191), (181, 30317), (194, 30398), (252, 30548), (254, 30554), (260, 30572), (272, 30608),

Gene: FoghornLeghorn\_31 Start: 29145, Stop: 30647, Start Num: 21

Candidate Starts for FoghornLeghorn\_31:

(Start: 21 @29145 has 231 MA's), (Start: 30 @29214 has 3 MA's), (39, 29292), (53, 29388), (56, 29409), (58, 29415), (66, 29499), (70, 29520), (77, 29571), (83, 29625), (95, 29700), (119, 29835), (121, 29847), (133, 29916), (135, 29925), (147, 30030), (161, 30099), (181, 30225), (194, 30306), (232, 30402), (245, 30429), (252, 30456), (254, 30462), (260, 30480), (272, 30516),

Gene: Gage\_34 Start: 29631, Stop: 31133, Start Num: 21

Candidate Starts for Gage\_34:

(Start: 21 @29631 has 231 MA's), (Start: 30 @29700 has 3 MA's), (39, 29778), (53, 29874), (56, 29895), (58, 29901), (66, 29985), (70, 30006), (77, 30057), (83, 30111), (95, 30186), (119, 30321), (121, 30333), (133, 30402), (135, 30411), (147, 30516), (161, 30585), (181, 30711), (194, 30792), (245, 30915), (252, 30942), (254, 30948), (260, 30966), (272, 31002),

Gene: Gaia\_32 Start: 28916, Stop: 30328, Start Num: 22

Candidate Starts for Gaia\_32:

(3, 28700), (4, 28709), (5, 28712), (8, 28784), (9, 28787), (11, 28859), (12, 28871), (14, 28877), (Start: 22 @28916 has 60 MA's), (Start: 23 @28919 has 1 MA's), (Start: 30 @28982 has 3 MA's), (40, 29063), (45, 29081), (46, 29102), (48, 29132), (56, 29174), (57, 29177), (58, 29180), (70, 29285), (96, 29471), (97, 29477), (108, 29522), (135, 29687), (146, 29768), (167, 29882), (181, 29966), (182, 29969), (189, 30029), (191, 30032), (194, 30056), (210, 30080), (213, 30083), (252, 30209), (254, 30215), (259, 30230), (260, 30233),

Gene: Gail\_9 Start: 4567, Stop: 6147, Start Num: 22

Candidate Starts for Gail\_9:

(Start: 22 @4567 has 60 MA's), (39, 4708), (40, 4711), (66, 4897), (70, 4918), (76, 4951), (77, 4969), (120, 5269), (129, 5329), (131, 5341), (139, 5392), (153, 5509), (173, 5635), (184, 5734), (204, 5806), (212, 5827), (225, 5869), (252, 5965),

Gene: Gator\_30 Start: 29249, Stop: 30751, Start Num: 21

Candidate Starts for Gator\_30:

(Start: 21 @29249 has 231 MA's), (Start: 30 @29318 has 3 MA's), (39, 29396), (53, 29492), (56, 29513), (58, 29519), (66, 29603), (70, 29624), (77, 29675), (83, 29729), (95, 29804), (119, 29939), (121, 29951), (133, 30020), (135, 30029), (147, 30134), (161, 30203), (181, 30329), (194, 30410), (232, 30506), (245, 30533), (252, 30560), (254, 30566), (260, 30584), (272, 30620),

Gene: Gemini\_35 Start: 30148, Stop: 31650, Start Num: 21



Candidate Starts for Gemini\_35:

(Start: 21 @30148 has 231 MA's), (Start: 30 @30217 has 3 MA's), (39, 30295), (53, 30391), (56, 30412), (58, 30418), (66, 30502), (70, 30523), (77, 30574), (83, 30628), (95, 30703), (119, 30838), (121, 30850), (133, 30919), (135, 30928), (147, 31033), (161, 31102), (181, 31228), (194, 31309), (245, 31432), (252, 31459), (254, 31465), (260, 31483), (272, 31519),

Gene: Gengar\_29 Start: 25443, Stop: 27077, Start Num: 21

Candidate Starts for Gengar\_29:

(Start: 21 @25443 has 231 MA's), (Start: 23 @25449 has 1 MA's), (Start: 24 @25464 has 1 MA's), (34, 25569), (40, 25593), (44, 25608), (49, 25656), (60, 25728), (61, 25731), (66, 25779), (70, 25800), (86, 25929), (91, 25950), (92, 25962), (95, 25977), (102, 26016), (120, 26124), (121, 26133), (133, 26202), (134, 26208), (135, 26211), (147, 26316), (154, 26352), (159, 26376), (167, 26424), (181, 26505), (194, 26589), (205, 26622), (206, 26625), (232, 26718), (245, 26745), (252, 26772), (254, 26778), (266, 26814), (272, 26832), (276, 26850), (283, 26883), (288, 26907), (295, 26943), (297, 26958), (299, 26967), (306, 27033), (308, 27051),

Gene: Georgie2\_9 Start: 4695, Stop: 5942, Start Num: 19

Candidate Starts for Georgie2\_9:

(Start: 19 @4695 has 77 MA's), (Start: 23 @4707 has 1 MA's), (26, 4740), (35, 4827), (42, 4851), (55, 4944), (61, 4986), (64, 5001), (68, 5046), (69, 5052), (72, 5073), (73, 5076), (100, 5223), (121, 5343), (177, 5562), (183, 5592), (185, 5616), (191, 5640), (245, 5739), (265, 5805), (267, 5811), (285, 5868),

Gene: Gilberta\_10 Start: 6221, Stop: 7621, Start Num: 21

Candidate Starts for Gilberta\_10:

(13, 6182), (Start: 21 @6221 has 231 MA's), (39, 6368), (44, 6386), (60, 6506), (66, 6557), (70, 6578), (76, 6611), (129, 6758), (139, 6821), (140, 6827), (158, 6971), (170, 7052), (174, 7079), (218, 7283), (221, 7304), (227, 7328), (243, 7388), (252, 7421), (273, 7487), (291, 7583),

Gene: Glexan\_30 Start: 29237, Stop: 30739, Start Num: 21

Candidate Starts for Glexan\_30:

(Start: 21 @29237 has 231 MA's), (Start: 30 @29306 has 3 MA's), (39, 29384), (53, 29480), (56, 29501), (58, 29507), (66, 29591), (70, 29612), (77, 29663), (83, 29717), (95, 29792), (119, 29927), (121, 29939), (133, 30008), (135, 30017), (147, 30122), (161, 30191), (181, 30317), (194, 30398), (252, 30548), (254, 30554), (260, 30572), (272, 30608),

Gene: GodPhather\_37 Start: 36847, Stop: 38469, Start Num: 21

Candidate Starts for GodPhather\_37:

(Start: 21 @36847 has 231 MA's), (Start: 23 @36853 has 1 MA's), (Start: 30 @36916 has 3 MA's), (39, 36994), (44, 37012), (47, 37066), (57, 37114), (63, 37165), (66, 37201), (70, 37222), (77, 37276), (81, 37315), (89, 37363), (94, 37402), (116, 37540), (124, 37579), (132, 37621), (141, 37684), (150, 37768), (175, 37915), (176, 37921), (197, 38047), (200, 38059), (217, 38089), (223, 38128), (229, 38149), (239, 38182), (242, 38191), (247, 38206), (261, 38254), (276, 38305), (282, 38341), (286, 38356), (294, 38407),

Gene: Goku\_32 Start: 29353, Stop: 30855, Start Num: 21

Candidate Starts for Goku\_32:

(Start: 21 @29353 has 231 MA's), (Start: 30 @29422 has 3 MA's), (39, 29500), (53, 29596), (56, 29617), (58, 29623), (66, 29707), (70, 29728), (77, 29779), (83, 29833), (95, 29908), (119, 30043), (121, 30055), (133, 30124), (135, 30133), (147, 30238), (161, 30307), (181, 30433), (194, 30514), (232, 30610), (252, 30664), (254, 30670), (260, 30688), (272, 30724),

Gene: GoldenSpark\_34 Start: 29631, Stop: 31133, Start Num: 21

Candidate Starts for GoldenSpark\_34:

(Start: 21 @29631 has 231 MA's), (Start: 30 @29700 has 3 MA's), (39, 29778), (53, 29874), (56, 29895), (58, 29901), (66, 29985), (70, 30006), (77, 30057), (83, 30111), (95, 30186), (119, 30321), (121, 30333), (133, 30402), (135, 30411), (147, 30516), (161, 30585), (181, 30711), (194, 30792), (245, 30915), (252, 30942), (254, 30948), (260, 30966), (272, 31002),

Gene: Goldilocks\_33 Start: 29051, Stop: 30553, Start Num: 21

Candidate Starts for Goldilocks\_33:

(Start: 21 @29051 has 231 MA's), (Start: 30 @29120 has 3 MA's), (39, 29198), (53, 29294), (56, 29315), (58, 29321), (66, 29405), (70, 29426), (77, 29477), (83, 29531), (95, 29606), (119, 29741), (121, 29753), (133, 29822), (135, 29831), (147, 29936), (161, 30005), (181, 30131), (194, 30212), (232, 30308), (245, 30335), (252, 30362), (254, 30368), (260, 30386), (272, 30422),

Gene: GooberAzure\_34 Start: 29631, Stop: 31133, Start Num: 21

Candidate Starts for GooberAzure\_34:

(Start: 21 @29631 has 231 MA's), (Start: 30 @29700 has 3 MA's), (39, 29778), (53, 29874), (56, 29895), (58, 29901), (66, 29985), (70, 30006), (77, 30057), (83, 30111), (95, 30186), (119, 30321), (121, 30333), (133, 30402), (135, 30411), (147, 30516), (161, 30585), (181, 30711), (194, 30792), (245, 30915), (252, 30942), (254, 30948), (260, 30966), (272, 31002),

Gene: Gratitude\_10 Start: 5191, Stop: 6495, Start Num: 19

Candidate Starts for Gratitude\_10:

(Start: 19 @5191 has 77 MA's), (26, 5236), (35, 5323), (61, 5482), (68, 5542), (69, 5548), (72, 5569), (73, 5572), (80, 5629), (98, 5728), (100, 5731), (111, 5803), (121, 5851), (177, 6070), (183, 6103), (193, 6157), (217, 6208), (237, 6253), (246, 6271), (279, 6388),

Gene: Guillsminger\_29 Start: 25421, Stop: 27049, Start Num: 23

Candidate Starts for Guillsminger\_29:

(Start: 21 @25415 has 231 MA's), (Start: 23 @25421 has 1 MA's), (Start: 24 @25436 has 1 MA's), (34, 25541), (40, 25565), (44, 25580), (49, 25628), (60, 25700), (61, 25703), (66, 25751), (70, 25772), (86, 25901), (91, 25922), (92, 25934), (95, 25949), (102, 25988), (120, 26096), (121, 26105), (133, 26174), (134, 26180), (135, 26183), (147, 26288), (154, 26324), (159, 26348), (167, 26396), (181, 26477), (194, 26561), (205, 26594), (206, 26597), (232, 26690), (245, 26717), (252, 26744), (254, 26750), (266, 26786), (272, 26804), (276, 26822), (283, 26855), (297, 26930), (299, 26939), (306, 27005), (308, 27023),

Gene: Halley\_47 Start: 40780, Stop: 42198, Start Num: 21

Candidate Starts for Halley\_47:

(Start: 21 @40780 has 231 MA's), (29, 40834), (34, 40906), (39, 40927), (50, 41008), (60, 41065), (66, 41116), (67, 41128), (70, 41137), (77, 41188), (96, 41320), (108, 41371), (129, 41503), (135, 41536), (136, 41539), (167, 41731), (182, 41818), (191, 41881), (194, 41905), (198, 41914), (249, 42064), (259, 42097), (260, 42100),

Gene: HanKaySha\_33 Start: 29383, Stop: 30885, Start Num: 21

Candidate Starts for HanKaySha\_33:

(Start: 21 @29383 has 231 MA's), (Start: 30 @29452 has 3 MA's), (39, 29530), (53, 29626), (56, 29647), (58, 29653), (66, 29737), (70, 29758), (77, 29809), (83, 29863), (95, 29938), (119, 30073), (121, 30085), (133, 30154), (135, 30163), (147, 30268), (161, 30337), (181, 30463), (194, 30544), (232, 30640), (245, 30667), (252, 30694), (254, 30700), (260, 30718), (272, 30754),

Gene: Hannaconda\_42 Start: 34598, Stop: 36019, Start Num: 21

Candidate Starts for Hannaconda\_42:

(Start: 21 @34598 has 231 MA's), (39, 34745), (66, 34934), (70, 34955), (77, 35006), (96, 35138), (108, 35189), (135, 35354), (144, 35402), (182, 35636), (191, 35699), (194, 35723), (198, 35732),

(249, 35882), (259, 35915), (260, 35918),

Gene: Hanray\_10 Start: 6182, Stop: 7762, Start Num: 22

Candidate Starts for Hanray\_10:

(Start: 22 @6182 has 60 MA's), (29, 6233), (39, 6323), (40, 6326), (44, 6341), (66, 6512), (67, 6524), (70, 6533), (106, 6794), (131, 6956), (139, 7007), (153, 7124), (184, 7349), (204, 7421), (225, 7481), (252, 7577), (265, 7622), (271, 7640),

Gene: Harella\_31 Start: 29753, Stop: 31255, Start Num: 21

Candidate Starts for Harella\_31:

(Start: 21 @29753 has 231 MA's), (Start: 30 @29822 has 3 MA's), (39, 29900), (53, 29996), (56, 30017), (58, 30023), (66, 30107), (70, 30128), (77, 30179), (83, 30233), (95, 30308), (119, 30443), (121, 30455), (133, 30524), (135, 30533), (147, 30638), (161, 30707), (181, 30833), (194, 30914), (252, 31064), (254, 31070), (260, 31088), (272, 31124),

Gene: HarryHoudini\_11 Start: 5205, Stop: 6509, Start Num: 19

Candidate Starts for HarryHoudini\_11:

(Start: 19 @5205 has 77 MA's), (26, 5250), (35, 5337), (61, 5496), (68, 5556), (69, 5562), (72, 5583), (80, 5643), (98, 5742), (100, 5745), (111, 5817), (177, 6084), (183, 6117), (193, 6171), (217, 6222), (237, 6267), (246, 6285),

Gene: Heffalump\_11 Start: 6599, Stop: 7834, Start Num: 19

Candidate Starts for Heffalump\_11:

(Start: 19 @6599 has 77 MA's), (Start: 23 @6611 has 1 MA's), (26, 6644), (35, 6731), (42, 6755), (55, 6848), (61, 6890), (68, 6950), (69, 6956), (72, 6977), (74, 6983), (84, 7067), (100, 7127), (101, 7133), (111, 7199), (121, 7247), (177, 7466), (183, 7496), (185, 7520), (245, 7634), (265, 7700), (275, 7724),

Gene: Heftyboy\_29 Start: 25564, Stop: 27198, Start Num: 21

Candidate Starts for Heftyboy\_29:

(Start: 21 @25564 has 231 MA's), (Start: 23 @25570 has 1 MA's), (Start: 24 @25585 has 1 MA's), (34, 25690), (40, 25714), (49, 25777), (60, 25849), (61, 25852), (66, 25900), (70, 25921), (86, 26050), (91, 26071), (92, 26083), (95, 26098), (102, 26137), (115, 26230), (120, 26245), (121, 26254), (133, 26323), (134, 26329), (135, 26332), (159, 26497), (167, 26545), (181, 26626), (194, 26710), (205, 26743), (206, 26746), (245, 26866), (252, 26893), (254, 26899), (266, 26935), (272, 26953), (276, 26971), (295, 27064), (297, 27079), (299, 27088), (306, 27154),

Gene: Henry\_33 Start: 29641, Stop: 31143, Start Num: 21

Candidate Starts for Henry\_33:

(Start: 21 @29641 has 231 MA's), (Start: 30 @29710 has 3 MA's), (39, 29788), (53, 29884), (56, 29905), (58, 29911), (66, 29995), (70, 30016), (77, 30067), (83, 30121), (95, 30196), (119, 30331), (121, 30343), (133, 30412), (135, 30421), (147, 30526), (161, 30595), (181, 30721), (194, 30802), (252, 30952), (260, 30976), (272, 31012),

Gene: Highbury\_33 Start: 29299, Stop: 30801, Start Num: 21

Candidate Starts for Highbury\_33:

(Start: 21 @29299 has 231 MA's), (Start: 30 @29368 has 3 MA's), (39, 29446), (53, 29542), (56, 29563), (58, 29569), (66, 29653), (70, 29674), (77, 29725), (83, 29779), (95, 29854), (119, 29989), (121, 30001), (133, 30070), (135, 30079), (147, 30184), (161, 30253), (181, 30379), (194, 30460), (232, 30556), (245, 30583), (252, 30610), (254, 30616), (260, 30634), (272, 30670),

Gene: HokkenD\_40 Start: 39049, Stop: 40467, Start Num: 21

Candidate Starts for HokkenD\_40:

(Start: 21 @39049 has 231 MA's), (29, 39103), (34, 39175), (39, 39196), (50, 39277), (60, 39334), (66, 39385), (67, 39397), (70, 39406), (77, 39457), (96, 39589), (108, 39640), (129, 39772), (135, 39805), (136, 39808), (167, 40000), (182, 40087), (191, 40150), (194, 40174), (198, 40183), (249, 40333), (259, 40366), (260, 40369),

Gene: Holec\_10 Start: 6182, Stop: 7762, Start Num: 22

Candidate Starts for Holec\_10:

(Start: 22 @6182 has 60 MA's), (29, 6233), (39, 6323), (40, 6326), (44, 6341), (66, 6512), (67, 6524), (70, 6533), (106, 6794), (131, 6956), (139, 7007), (153, 7124), (184, 7349), (204, 7421), (225, 7481), (252, 7577), (265, 7622), (271, 7640),

Gene: Holt\_33 Start: 28918, Stop: 30420, Start Num: 21

Candidate Starts for Holt\_33:

(Start: 21 @28918 has 231 MA's), (Start: 30 @28987 has 3 MA's), (39, 29065), (53, 29161), (56, 29182), (58, 29188), (66, 29272), (70, 29293), (77, 29344), (83, 29398), (95, 29473), (119, 29608), (121, 29620), (133, 29689), (135, 29698), (147, 29803), (161, 29872), (181, 29998), (194, 30079), (232, 30175), (245, 30202), (252, 30229), (254, 30235), (260, 30253), (272, 30289),

Gene: Hoonter\_34 Start: 29631, Stop: 31133, Start Num: 21

Candidate Starts for Hoonter\_34:

(Start: 21 @29631 has 231 MA's), (Start: 30 @29700 has 3 MA's), (39, 29778), (53, 29874), (56, 29895), (58, 29901), (66, 29985), (70, 30006), (77, 30057), (83, 30111), (95, 30186), (119, 30321), (121, 30333), (133, 30402), (135, 30411), (147, 30516), (161, 30585), (181, 30711), (194, 30792), (232, 30888), (245, 30915), (252, 30942), (254, 30948), (260, 30966), (272, 31002),

Gene: Hooney\_34 Start: 29918, Stop: 31420, Start Num: 21

Candidate Starts for Hooney\_34:

(Start: 21 @29918 has 231 MA's), (Start: 30 @29987 has 3 MA's), (39, 30065), (53, 30161), (56, 30182), (58, 30188), (66, 30272), (70, 30293), (77, 30344), (83, 30398), (95, 30473), (119, 30608), (121, 30620), (133, 30689), (135, 30698), (147, 30803), (161, 30872), (181, 30998), (194, 31079), (232, 31175), (245, 31202), (252, 31229), (254, 31235), (260, 31253), (272, 31289),

Gene: HortumSL17\_11 Start: 6146, Stop: 7726, Start Num: 22

Candidate Starts for HortumSL17\_11:

(Start: 22 @6146 has 60 MA's), (29, 6197), (39, 6287), (40, 6290), (66, 6476), (70, 6497), (106, 6758), (131, 6920), (139, 6971), (153, 7088), (184, 7313), (204, 7385), (225, 7445), (252, 7541), (265, 7586), (271, 7604),

Gene: HufflyPuff\_31 Start: 29625, Stop: 31127, Start Num: 21

Candidate Starts for HufflyPuff\_31:

(Start: 21 @29625 has 231 MA's), (Start: 30 @29694 has 3 MA's), (39, 29772), (53, 29868), (56, 29889), (58, 29895), (66, 29979), (70, 30000), (77, 30051), (83, 30105), (95, 30180), (119, 30315), (121, 30327), (133, 30396), (135, 30405), (147, 30510), (161, 30579), (181, 30705), (194, 30786), (232, 30882), (245, 30909), (252, 30936), (254, 30942), (260, 30960), (272, 30996),

Gene: Hughesyang\_45 Start: 40709, Stop: 42127, Start Num: 21

Candidate Starts for Hughesyang\_45:

(Start: 21 @40709 has 231 MA's), (29, 40763), (34, 40835), (39, 40856), (50, 40937), (60, 40994), (66, 41045), (67, 41057), (70, 41066), (77, 41117), (96, 41249), (108, 41300), (129, 41432), (135, 41465), (136, 41468), (167, 41660), (182, 41747), (191, 41810), (194, 41834), (198, 41843), (249, 41993), (259, 42026), (260, 42029),

Gene: Hurricane\_31 Start: 25714, Stop: 27399, Start Num: 22

Candidate Starts for Hurricane\_31:

(Start: 22 @25714 has 60 MA's), (31, 25792), (39, 25858), (41, 25864), (56, 25957), (62, 26005), (66, 26047), (67, 26059), (70, 26068), (95, 26248), (102, 26287), (121, 26404), (129, 26452), (133, 26473), (134, 26479), (135, 26482), (147, 26587), (161, 26656), (175, 26740), (181, 26776), (194, 26854), (205, 26887), (228, 26959), (256, 27052), (264, 27082),

Gene: Hutc2\_10 Start: 6227, Stop: 7627, Start Num: 21

Candidate Starts for Hutc2\_10:

(13, 6188), (Start: 21 @6227 has 231 MA's), (38, 6368), (39, 6374), (44, 6392), (60, 6512), (66, 6563), (70, 6584), (76, 6617), (129, 6764), (139, 6827), (140, 6833), (158, 6977), (170, 7058), (174, 7085), (218, 7289), (221, 7310), (227, 7334), (243, 7394), (252, 7427), (273, 7493), (291, 7589),

Gene: IHOP\_32 Start: 29818, Stop: 31320, Start Num: 21

Candidate Starts for IHOP\_32:

(Start: 21 @29818 has 231 MA's), (Start: 30 @29887 has 3 MA's), (39, 29965), (53, 30061), (56, 30082), (58, 30088), (66, 30172), (70, 30193), (77, 30244), (83, 30298), (95, 30373), (119, 30508), (121, 30520), (133, 30589), (135, 30598), (147, 30703), (161, 30772), (181, 30898), (194, 30979), (245, 31102), (252, 31129), (254, 31135), (260, 31153), (272, 31189),

Gene: Ibrahim\_27 Start: 23579, Stop: 25162, Start Num: 21

Candidate Starts for Ibrahim\_27:

(Start: 21 @23579 has 231 MA's), (31, 23660), (33, 23678), (40, 23729), (43, 23741), (44, 23744), (66, 23915), (71, 23942), (92, 24104), (96, 24125), (102, 24149), (112, 24215), (120, 24257), (128, 24311), (135, 24353), (146, 24437), (150, 24473), (154, 24491), (181, 24641), (194, 24728), (235, 24839), (262, 24920), (303, 25121),

Gene: Icee\_31 Start: 29299, Stop: 30801, Start Num: 21

Candidate Starts for Icee\_31:

(Start: 21 @29299 has 231 MA's), (Start: 30 @29368 has 3 MA's), (39, 29446), (53, 29542), (56, 29563), (58, 29569), (66, 29653), (70, 29674), (77, 29725), (92, 29839), (119, 29989), (121, 30001), (133, 30070), (135, 30079), (147, 30184), (161, 30253), (181, 30379), (194, 30460), (252, 30610), (254, 30616), (260, 30634), (272, 30670),

Gene: Inca\_31 Start: 28320, Stop: 29822, Start Num: 21

Candidate Starts for Inca\_31:

(Start: 21 @28320 has 231 MA's), (Start: 30 @28389 has 3 MA's), (39, 28467), (53, 28563), (56, 28584), (58, 28590), (66, 28674), (70, 28695), (77, 28746), (83, 28800), (95, 28875), (119, 29010), (121, 29022), (133, 29091), (135, 29100), (147, 29205), (161, 29274), (181, 29400), (194, 29481), (245, 29604), (252, 29631), (254, 29637), (260, 29655), (272, 29691),

Gene: Insomnia\_10 Start: 6279, Stop: 7676, Start Num: 22

Candidate Starts for Insomnia\_10:

(Start: 22 @6279 has 60 MA's), (38, 6417), (39, 6423), (44, 6441), (60, 6561), (66, 6612), (70, 6633), (76, 6666), (129, 6813), (139, 6876), (140, 6882), (158, 7026), (170, 7107), (174, 7134), (218, 7338), (221, 7359), (227, 7383), (243, 7443), (252, 7476), (273, 7542), (291, 7638),

Gene: InvictusManeo\_29 Start: 25600, Stop: 27234, Start Num: 21

Candidate Starts for InvictusManeo\_29:

(Start: 21 @25600 has 231 MA's), (Start: 23 @25606 has 1 MA's), (Start: 24 @25621 has 1 MA's), (34, 25726), (40, 25750), (44, 25765), (49, 25813), (60, 25885), (66, 25936), (70, 25957), (91, 26107), (92, 26119), (95, 26134), (102, 26173), (120, 26281), (121, 26290), (133, 26359), (134, 26365), (135, 26368), (159, 26533), (161, 26542), (167, 26581), (175, 26626), (181, 26662), (194, 26746), (205, 26779), (206, 26782), (252, 26929), (254, 26935), (266, 26971), (272, 26989), (299, 27124), (306,

27190), (310, 27223),

Gene: Iwokeuplikedis\_9 Start: 4489, Stop: 5760, Start Num: 19

Candidate Starts for Iwokeuplikedis\_9:

(Start: 19 @4489 has 77 MA's), (26, 4534), (35, 4621), (61, 4780), (63, 4792), (65, 4813), (68, 4840), (69, 4846), (72, 4867), (74, 4873), (84, 4966), (111, 5098), (121, 5146), (177, 5365), (183, 5398), (185, 5422), (245, 5560), (248, 5569),

Gene: JF1\_31 Start: 26019, Stop: 27629, Start Num: 21

Candidate Starts for JF1\_31:

(Start: 21 @26019 has 231 MA's), (Start: 30 @26088 has 3 MA's), (34, 26145), (37, 26157), (39, 26166), (40, 26169), (44, 26184), (52, 26238), (58, 26271), (60, 26304), (66, 26355), (70, 26376), (76, 26409), (81, 26466), (92, 26538), (102, 26583), (121, 26700), (129, 26748), (133, 26769), (134, 26775), (135, 26778), (147, 26883), (167, 26991), (181, 27072), (183, 27090), (194, 27153), (198, 27162), (224, 27225), (285, 27441), (298, 27501),

Gene: Jabith\_10 Start: 6279, Stop: 7676, Start Num: 22

Candidate Starts for Jabith\_10:

(Start: 22 @6279 has 60 MA's), (38, 6417), (39, 6423), (44, 6441), (60, 6561), (66, 6612), (70, 6633), (76, 6666), (129, 6813), (139, 6876), (140, 6882), (158, 7026), (170, 7107), (174, 7134), (218, 7338), (221, 7359), (227, 7383), (243, 7443), (252, 7476), (273, 7542), (291, 7638),

Gene: JeTaime\_34 Start: 30442, Stop: 31944, Start Num: 21

Candidate Starts for JeTaime\_34:

(Start: 21 @30442 has 231 MA's), (Start: 30 @30511 has 3 MA's), (39, 30589), (53, 30685), (56, 30706), (58, 30712), (66, 30796), (70, 30817), (77, 30868), (83, 30922), (95, 30997), (119, 31132), (121, 31144), (133, 31213), (135, 31222), (147, 31327), (161, 31396), (181, 31522), (194, 31603), (232, 31699), (245, 31726), (252, 31753), (254, 31759), (260, 31777), (272, 31813),

Gene: Jeeves\_9 Start: 4583, Stop: 6160, Start Num: 22

Candidate Starts for Jeeves\_9:

(Start: 22 @4583 has 60 MA's), (39, 4724), (40, 4727), (66, 4913), (70, 4934), (77, 4985), (113, 5246), (120, 5285), (131, 5357), (137, 5393), (139, 5408), (153, 5525), (173, 5651), (184, 5750), (204, 5822), (208, 5837), (225, 5882), (252, 5978), (265, 6023),

Gene: Jeon\_36 Start: 36589, Stop: 38211, Start Num: 21

Candidate Starts for Jeon\_36:

(Start: 21 @36589 has 231 MA's), (Start: 23 @36595 has 1 MA's), (Start: 30 @36658 has 3 MA's), (39, 36736), (44, 36754), (47, 36808), (57, 36856), (63, 36907), (66, 36943), (70, 36964), (77, 37018), (81, 37057), (89, 37105), (94, 37144), (116, 37282), (124, 37321), (132, 37363), (141, 37426), (150, 37510), (175, 37657), (176, 37663), (197, 37789), (200, 37801), (217, 37831), (223, 37870), (229, 37891), (239, 37924), (242, 37933), (247, 37948), (261, 37996), (276, 38047), (282, 38083), (286, 38098), (294, 38149),

Gene: Jiawan\_10 Start: 6182, Stop: 7762, Start Num: 22

Candidate Starts for Jiawan\_10:

(Start: 22 @6182 has 60 MA's), (29, 6233), (39, 6323), (40, 6326), (44, 6341), (66, 6512), (67, 6524), (70, 6533), (106, 6794), (131, 6956), (139, 7007), (153, 7124), (184, 7349), (204, 7421), (225, 7481), (252, 7577), (265, 7622), (271, 7640),

Gene: Joselito\_10 Start: 6224, Stop: 7624, Start Num: 21

Candidate Starts for Joselito\_10:

(13, 6185), (Start: 21 @6224 has 231 MA's), (39, 6371), (44, 6389), (60, 6509), (66, 6560), (70, 6581), (76, 6614), (129, 6761), (139, 6824), (140, 6830), (158, 6974), (170, 7055), (174, 7082), (218, 7286), (221, 7307), (227, 7331), (243, 7391), (252, 7424), (273, 7490), (291, 7586),

Gene: JuicyJay\_49 Start: 42529, Stop: 43947, Start Num: 21

Candidate Starts for JuicyJay\_49:

(Start: 21 @42529 has 231 MA's), (29, 42583), (34, 42655), (39, 42676), (50, 42757), (60, 42814), (66, 42865), (67, 42877), (70, 42886), (77, 42937), (96, 43069), (108, 43120), (118, 43195), (129, 43252), (135, 43285), (136, 43288), (167, 43480), (182, 43567), (191, 43630), (194, 43654), (198, 43663), (249, 43813), (259, 43846), (260, 43849),

Gene: Juliette\_33 Start: 26178, Stop: 27788, Start Num: 21

Candidate Starts for Juliette\_33:

(Start: 21 @26178 has 231 MA's), (Start: 30 @26247 has 3 MA's), (34, 26304), (37, 26316), (39, 26325), (40, 26328), (44, 26343), (58, 26430), (60, 26463), (66, 26514), (70, 26535), (76, 26568), (92, 26697), (102, 26742), (121, 26859), (129, 26907), (133, 26928), (134, 26934), (135, 26937), (167, 27150), (181, 27231), (183, 27249), (194, 27312), (198, 27321), (224, 27384), (285, 27600), (298, 27660),

Gene: Kalah2\_47 Start: 41117, Stop: 42535, Start Num: 21

Candidate Starts for Kalah2\_47:

(Start: 21 @41117 has 231 MA's), (29, 41171), (34, 41243), (39, 41264), (50, 41345), (60, 41402), (66, 41453), (67, 41465), (70, 41474), (77, 41525), (96, 41657), (108, 41708), (129, 41840), (135, 41873), (136, 41876), (167, 42068), (182, 42155), (191, 42218), (194, 42242), (198, 42251), (249, 42401), (259, 42434), (260, 42437),

Gene: Kalpine\_12 Start: 6504, Stop: 7799, Start Num: 19

Candidate Starts for Kalpine\_12:

(Start: 19 @6504 has 77 MA's), (Start: 23 @6516 has 1 MA's), (26, 6549), (35, 6636), (42, 6660), (55, 6753), (61, 6795), (64, 6810), (68, 6855), (69, 6861), (72, 6882), (74, 6888), (121, 7161), (177, 7380), (183, 7407), (190, 7452), (207, 7494), (217, 7512), (237, 7557), (264, 7638), (285, 7728), (287, 7740),

Gene: Kanye\_34 Start: 30627, Stop: 32129, Start Num: 21

Candidate Starts for Kanye\_34:

(Start: 21 @30627 has 231 MA's), (Start: 30 @30696 has 3 MA's), (39, 30774), (53, 30870), (56, 30891), (58, 30897), (66, 30981), (70, 31002), (77, 31053), (83, 31107), (95, 31182), (119, 31317), (121, 31329), (133, 31398), (135, 31407), (147, 31512), (161, 31581), (181, 31707), (194, 31788), (232, 31884), (245, 31911), (252, 31938), (254, 31944), (260, 31962), (272, 31998),

Gene: KashFlow\_39 Start: 34219, Stop: 35640, Start Num: 21

Candidate Starts for KashFlow\_39:

(Start: 21 @34219 has 231 MA's), (39, 34366), (66, 34555), (70, 34576), (77, 34627), (96, 34759), (108, 34810), (135, 34975), (144, 35023), (182, 35257), (191, 35320), (194, 35344), (198, 35353), (249, 35503), (259, 35536), (260, 35539),

Gene: Kerberos\_12 Start: 4697, Stop: 6178, Start Num: 19

Candidate Starts for Kerberos\_12:

(Start: 19 @4697 has 77 MA's), (26, 4742), (61, 4988), (68, 5048), (69, 5054), (72, 5075), (80, 5135), (109, 5303), (115, 5354), (142, 5504), (151, 5585), (186, 5774), (194, 5816), (217, 5879), (245, 5978), (284, 6107),

Gene: Keshu\_31 Start: 25708, Stop: 27387, Start Num: 22

Candidate Starts for Keshu\_31:

(Start: 22 @25708 has 60 MA's), (31, 25786), (39, 25852), (41, 25858), (56, 25951), (66, 26041), (67, 26053), (70, 26062), (95, 26242), (102, 26281), (121, 26398), (129, 26446), (133, 26467), (134, 26473), (135, 26476), (147, 26581), (161, 26650), (175, 26734), (181, 26770), (194, 26851), (228, 26956), (256, 27049), (264, 27079), (290, 27196), (297, 27271),

Gene: Keziacharles14\_9 Start: 4347, Stop: 5900, Start Num: 22

Candidate Starts for Keziacharles14\_9:

(Start: 22 @4347 has 60 MA's), (Start: 30 @4413 has 3 MA's), (39, 4488), (44, 4506), (66, 4677), (70, 4698), (113, 5010), (120, 5049), (137, 5157), (139, 5172), (155, 5268), (164, 5310), (172, 5379), (174, 5394), (178, 5409), (225, 5619), (252, 5715), (259, 5736), (265, 5760),

Gene: KiSi\_29 Start: 23968, Stop: 25626, Start Num: 19

Candidate Starts for KiSi\_29:

(Start: 19 @23968 has 77 MA's), (37, 24103), (39, 24112), (40, 24115), (44, 24130), (53, 24208), (66, 24319), (70, 24340), (76, 24373), (82, 24439), (92, 24502), (95, 24517), (102, 24556), (121, 24673), (133, 24742), (135, 24751), (147, 24856), (159, 24916), (167, 24964), (181, 25045), (194, 25123), (205, 25156), (251, 25303), (254, 25312), (276, 25384), (289, 25450), (308, 25600),

Gene: Kimchi\_34 Start: 29634, Stop: 31136, Start Num: 21

Candidate Starts for Kimchi\_34:

(Start: 21 @29634 has 231 MA's), (Start: 30 @29703 has 3 MA's), (39, 29781), (53, 29877), (56, 29898), (58, 29904), (66, 29988), (70, 30009), (77, 30060), (83, 30114), (95, 30189), (119, 30324), (121, 30336), (133, 30405), (135, 30414), (147, 30519), (161, 30588), (181, 30714), (194, 30795), (245, 30918), (252, 30945), (254, 30951), (260, 30969), (272, 31005),

Gene: Kinmap\_8 Start: 4508, Stop: 5944, Start Num: 22

Candidate Starts for Kinmap\_8:

(Start: 22 @4508 has 60 MA's), (29, 4559), (39, 4652), (40, 4655), (47, 4724), (66, 4859), (70, 4880), (76, 4913), (95, 5060), (112, 5159), (113, 5162), (124, 5231), (130, 5267), (132, 5279), (138, 5321), (143, 5348), (145, 5372), (148, 5414), (162, 5468), (169, 5513), (180, 5573), (188, 5648), (216, 5705), (231, 5762), (271, 5873),

Gene: Klein\_47 Start: 40341, Stop: 41759, Start Num: 21

Candidate Starts for Klein\_47:

(Start: 21 @40341 has 231 MA's), (29, 40395), (34, 40467), (39, 40488), (50, 40569), (60, 40626), (66, 40677), (67, 40689), (70, 40698), (77, 40749), (96, 40881), (108, 40932), (118, 41007), (129, 41064), (135, 41097), (136, 41100), (167, 41292), (182, 41379), (191, 41442), (194, 41466), (198, 41475), (242, 41604), (252, 41637), (259, 41658), (260, 41661),

Gene: Kostya\_33 Start: 29711, Stop: 31144, Start Num: 30

Candidate Starts for Kostya\_33:

(Start: 21 @29642 has 231 MA's), (Start: 30 @29711 has 3 MA's), (39, 29789), (53, 29885), (56, 29906), (58, 29912), (66, 29996), (70, 30017), (77, 30068), (83, 30122), (95, 30197), (119, 30332), (121, 30344), (133, 30413), (135, 30422), (147, 30527), (161, 30596), (181, 30722), (194, 30803), (252, 30953), (260, 30977), (272, 31013),

Gene: Kratio\_28 Start: 25231, Stop: 26865, Start Num: 21

Candidate Starts for Kratio\_28:

(Start: 21 @25231 has 231 MA's), (Start: 23 @25237 has 1 MA's), (Start: 24 @25252 has 1 MA's), (34, 25357), (40, 25381), (44, 25396), (49, 25444), (60, 25516), (66, 25567), (70, 25588), (91, 25738), (92, 25750), (95, 25765), (102, 25804), (120, 25912), (121, 25921), (133, 25990), (134, 25996), (135, 25999), (146, 26086), (159, 26164), (161, 26173), (167, 26212), (175, 26257), (181, 26293), (194, 26377), (205, 26410), (206, 26413), (252, 26560), (254, 26566), (266, 26602), (272, 26620), (299,



26755), (306, 26821), (310, 26854),

Gene: Kraw\_32 Start: 25943, Stop: 27553, Start Num: 21

Candidate Starts for Kraw\_32:

(Start: 21 @25943 has 231 MA's), (Start: 30 @26012 has 3 MA's), (34, 26069), (37, 26081), (39, 26090), (40, 26093), (44, 26108), (52, 26162), (58, 26195), (60, 26228), (66, 26279), (70, 26300), (76, 26333), (81, 26390), (92, 26462), (102, 26507), (121, 26624), (129, 26672), (133, 26693), (134, 26699), (135, 26702), (147, 26807), (167, 26915), (181, 26996), (183, 27014), (194, 27077), (198, 27086), (224, 27149), (285, 27365), (298, 27425),

Gene: Krueger\_30 Start: 24088, Stop: 25734, Start Num: 21

Candidate Starts for Krueger\_30:

(Start: 21 @24088 has 231 MA's), (Start: 30 @24157 has 3 MA's), (31, 24169), (37, 24226), (39, 24235), (66, 24424), (70, 24445), (76, 24481), (95, 24625), (102, 24664), (119, 24769), (133, 24850), (134, 24856), (135, 24859), (147, 24964), (163, 25036), (167, 25072), (181, 25153), (194, 25228), (205, 25261), (219, 25306), (228, 25333), (251, 25411), (264, 25456), (292, 25585), (299, 25624), (302, 25633), (304, 25654), (308, 25708),

Gene: LadyBird\_9 Start: 4681, Stop: 5976, Start Num: 19

Candidate Starts for LadyBird\_9:

(Start: 19 @4681 has 77 MA's), (26, 4726), (35, 4813), (42, 4837), (61, 4972), (68, 5032), (69, 5038), (72, 5059), (74, 5065), (111, 5293), (121, 5341), (177, 5560), (183, 5593), (217, 5698), (239, 5746),

Gene: Larva\_30 Start: 25395, Stop: 27029, Start Num: 21

Candidate Starts for Larva\_30:

(Start: 21 @25395 has 231 MA's), (Start: 23 @25401 has 1 MA's), (Start: 24 @25416 has 1 MA's), (32, 25479), (34, 25521), (40, 25545), (44, 25560), (49, 25608), (60, 25680), (61, 25683), (66, 25731), (70, 25752), (91, 25902), (92, 25914), (102, 25968), (120, 26076), (121, 26085), (133, 26154), (134, 26160), (135, 26163), (146, 26250), (154, 26304), (159, 26328), (167, 26376), (181, 26457), (194, 26541), (205, 26574), (206, 26577), (252, 26724), (254, 26730), (266, 26766), (272, 26784), (299, 26919), (306, 26985), (310, 27018),

Gene: LeMond\_29 Start: 24039, Stop: 25697, Start Num: 19

Candidate Starts for LeMond\_29:

(Start: 19 @24039 has 77 MA's), (37, 24174), (39, 24183), (40, 24186), (44, 24201), (53, 24279), (66, 24390), (70, 24411), (76, 24444), (82, 24510), (92, 24573), (95, 24588), (102, 24627), (121, 24744), (133, 24813), (135, 24822), (147, 24927), (159, 24987), (167, 25035), (181, 25116), (194, 25194), (205, 25227), (251, 25374), (254, 25383), (276, 25455), (289, 25521), (308, 25671),

Gene: Lea83\_32 Start: 25778, Stop: 27457, Start Num: 22

Candidate Starts for Lea83\_32:

(Start: 22 @25778 has 60 MA's), (31, 25856), (37, 25913), (39, 25922), (56, 26021), (66, 26111), (67, 26123), (70, 26132), (95, 26312), (102, 26351), (121, 26468), (129, 26516), (133, 26537), (134, 26543), (135, 26546), (147, 26651), (161, 26720), (175, 26804), (181, 26840), (194, 26918), (205, 26951), (228, 27023), (256, 27116), (263, 27143), (264, 27146), (290, 27263),

Gene: Lebo14\_32 Start: 26033, Stop: 27643, Start Num: 21

Candidate Starts for Lebo14\_32:

(Start: 21 @26033 has 231 MA's), (Start: 30 @26102 has 3 MA's), (34, 26159), (37, 26171), (39, 26180), (40, 26183), (44, 26198), (58, 26285), (60, 26318), (66, 26369), (70, 26390), (92, 26552), (102, 26597), (121, 26714), (133, 26783), (134, 26789), (135, 26792), (167, 27005), (181, 27086), (183, 27104), (194, 27167), (198, 27176), (224, 27239), (285, 27455), (298, 27515),

Gene: Leston\_29 Start: 25566, Stop: 27179, Start Num: 24

Candidate Starts for Leston\_29:

(Start: 21 @25545 has 231 MA's), (Start: 23 @25551 has 1 MA's), (Start: 24 @25566 has 1 MA's), (34, 25671), (40, 25695), (44, 25710), (49, 25758), (60, 25830), (61, 25833), (66, 25881), (70, 25902), (86, 26031), (91, 26052), (92, 26064), (95, 26079), (102, 26118), (120, 26226), (121, 26235), (133, 26304), (134, 26310), (135, 26313), (147, 26418), (154, 26454), (159, 26478), (167, 26526), (181, 26607), (194, 26691), (205, 26724), (206, 26727), (232, 26820), (245, 26847), (252, 26874), (254, 26880), (266, 26916), (272, 26934), (276, 26952), (283, 26985), (297, 27060), (299, 27069), (306, 27135), (308, 27153),

Gene: LilPharaoh\_26 Start: 24344, Stop: 25981, Start Num: 19

Candidate Starts for LilPharaoh\_26:

(Start: 19 @24344 has 77 MA's), (27, 24386), (31, 24425), (37, 24482), (39, 24491), (47, 24563), (54, 24590), (66, 24698), (70, 24719), (76, 24752), (95, 24896), (102, 24935), (121, 25052), (127, 25091), (129, 25100), (133, 25121), (134, 25127), (135, 25130), (147, 25235), (159, 25295), (181, 25424), (194, 25499), (224, 25592), (300, 25874), (308, 25955), (310, 25970),

Gene: Lilac\_34 Start: 29138, Stop: 30640, Start Num: 21

Candidate Starts for Lilac\_34:

(Start: 21 @29138 has 231 MA's), (Start: 30 @29207 has 3 MA's), (39, 29285), (53, 29381), (56, 29402), (58, 29408), (66, 29492), (70, 29513), (77, 29564), (83, 29618), (95, 29693), (119, 29828), (121, 29840), (133, 29909), (135, 29918), (147, 30023), (161, 30092), (181, 30218), (194, 30299), (232, 30395), (245, 30422), (252, 30449), (254, 30455), (260, 30473), (272, 30509),

Gene: Lilizi\_34 Start: 29346, Stop: 30848, Start Num: 21

Candidate Starts for Lilizi\_34:

(Start: 21 @29346 has 231 MA's), (Start: 30 @29415 has 3 MA's), (39, 29493), (53, 29589), (56, 29610), (58, 29616), (66, 29700), (70, 29721), (77, 29772), (83, 29826), (95, 29901), (119, 30036), (121, 30048), (133, 30117), (135, 30126), (147, 30231), (161, 30300), (181, 30426), (194, 30507), (232, 30603), (245, 30630), (252, 30657), (254, 30663), (260, 30681), (272, 30717),

Gene: Lilleskat\_9 Start: 6146, Stop: 7726, Start Num: 22

Candidate Starts for Lilleskat\_9:

(Start: 22 @6146 has 60 MA's), (39, 6287), (40, 6290), (44, 6305), (66, 6476), (67, 6488), (70, 6497), (106, 6758), (131, 6920), (139, 6971), (153, 7088), (184, 7313), (204, 7385), (225, 7445), (252, 7541), (265, 7586), (271, 7604),

Gene: Lilpickle\_31 Start: 28848, Stop: 30350, Start Num: 21

Candidate Starts for Lilpickle\_31:

(Start: 21 @28848 has 231 MA's), (Start: 30 @28917 has 3 MA's), (39, 28995), (53, 29091), (56, 29112), (58, 29118), (66, 29202), (70, 29223), (77, 29274), (83, 29328), (95, 29403), (119, 29538), (121, 29550), (133, 29619), (135, 29628), (147, 29733), (161, 29802), (181, 29928), (194, 30009), (245, 30132), (252, 30159), (254, 30165), (260, 30183), (272, 30219),

Gene: LionsBait\_10 Start: 6239, Stop: 7756, Start Num: 19

Candidate Starts for LionsBait\_10:

(Start: 19 @6239 has 77 MA's), (26, 6284), (35, 6371), (51, 6464), (61, 6530), (64, 6545), (68, 6590), (69, 6596), (72, 6617), (74, 6623), (114, 6872), (115, 6887), (157, 7145), (179, 7235), (196, 7364), (226, 7469), (238, 7514), (245, 7532), (264, 7595),

Gene: LittleE\_51 Start: 40578, Stop: 41996, Start Num: 21

Candidate Starts for LittleE\_51:

(Start: 21 @40578 has 231 MA's), (39, 40725), (60, 40863), (66, 40914), (67, 40926), (70, 40935), (76, 40968), (77, 40986), (96, 41118), (108, 41169), (135, 41334), (144, 41382), (182, 41616), (191, 41679), (194, 41703), (198, 41712), (249, 41862), (259, 41895), (260, 41898),

Gene: LoneWolf\_11 Start: 5993, Stop: 7573, Start Num: 22

Candidate Starts for LoneWolf\_11:

(Start: 22 @5993 has 60 MA's), (29, 6044), (39, 6134), (40, 6137), (44, 6152), (52, 6206), (66, 6323), (67, 6335), (70, 6344), (106, 6605), (131, 6767), (139, 6818), (153, 6935), (184, 7160), (204, 7232), (225, 7292), (252, 7388), (265, 7433), (271, 7451),

Gene: Loser\_12 Start: 6404, Stop: 7858, Start Num: 19

Candidate Starts for Loser\_12:

(Start: 19 @6404 has 77 MA's), (Start: 23 @6416 has 1 MA's), (35, 6536), (55, 6653), (61, 6695), (68, 6755), (69, 6761), (72, 6782), (73, 6785), (104, 6968), (115, 7055), (141, 7202), (142, 7205), (151, 7286), (186, 7475), (194, 7517), (199, 7535), (200, 7541), (245, 7658), (265, 7724), (278, 7763),

Gene: Luchador\_9 Start: 4568, Stop: 6148, Start Num: 22

Candidate Starts for Luchador\_9:

(Start: 22 @4568 has 60 MA's), (39, 4709), (40, 4712), (66, 4898), (70, 4919), (76, 4952), (77, 4970), (113, 5231), (120, 5270), (129, 5330), (131, 5342), (139, 5393), (153, 5510), (173, 5636), (184, 5735), (204, 5807), (212, 5828), (225, 5870), (252, 5966), (265, 6011),

Gene: Lucivia\_10 Start: 6276, Stop: 7673, Start Num: 22

Candidate Starts for Lucivia\_10:

(Start: 22 @6276 has 60 MA's), (38, 6414), (39, 6420), (44, 6438), (60, 6558), (66, 6609), (70, 6630), (76, 6663), (129, 6810), (139, 6873), (140, 6879), (158, 7023), (170, 7104), (174, 7131), (218, 7335), (221, 7356), (227, 7380), (243, 7440), (252, 7473), (273, 7539), (291, 7635),

Gene: MISSy\_31 Start: 29153, Stop: 30655, Start Num: 21

Candidate Starts for MISSy\_31:

(Start: 21 @29153 has 231 MA's), (Start: 30 @29222 has 3 MA's), (39, 29300), (53, 29396), (56, 29417), (58, 29423), (66, 29507), (70, 29528), (77, 29579), (83, 29633), (95, 29708), (119, 29843), (121, 29855), (133, 29924), (135, 29933), (147, 30038), (161, 30107), (181, 30233), (194, 30314), (232, 30410), (245, 30437), (252, 30464), (254, 30470), (260, 30488), (272, 30524),

Gene: MPhalcon\_31 Start: 29147, Stop: 30649, Start Num: 21

Candidate Starts for MPhalcon\_31:

(Start: 21 @29147 has 231 MA's), (Start: 30 @29216 has 3 MA's), (39, 29294), (53, 29390), (56, 29411), (58, 29417), (66, 29501), (70, 29522), (77, 29573), (83, 29627), (95, 29702), (119, 29837), (121, 29849), (133, 29918), (135, 29927), (147, 30032), (161, 30101), (181, 30227), (194, 30308), (232, 30404), (245, 30431), (252, 30458), (254, 30464), (260, 30482), (272, 30518),

Gene: MaCh\_10 Start: 6221, Stop: 7621, Start Num: 21

Candidate Starts for MaCh\_10:

(13, 6182), (Start: 21 @6221 has 231 MA's), (39, 6368), (44, 6386), (60, 6506), (66, 6557), (70, 6578), (76, 6611), (129, 6758), (139, 6821), (140, 6827), (158, 6971), (170, 7052), (174, 7079), (218, 7283), (221, 7304), (227, 7328), (243, 7388), (252, 7421), (273, 7487), (291, 7583),

Gene: Mabel\_10 Start: 6291, Stop: 7688, Start Num: 22

Candidate Starts for Mabel\_10:

(Start: 22 @6291 has 60 MA's), (38, 6429), (39, 6435), (44, 6453), (60, 6573), (66, 6624), (70, 6645), (76, 6678), (129, 6825), (139, 6888), (140, 6894), (158, 7038), (170, 7119), (174, 7146), (218, 7350), (221, 7371), (227, 7395), (243, 7455), (252, 7488), (273, 7554), (291, 7650),

Gene: MacnCheese\_31 Start: 25776, Stop: 27434, Start Num: 22

Candidate Starts for MacnCheese\_31:

(Start: 22 @25776 has 60 MA's), (31, 25854), (34, 25899), (39, 25920), (41, 25926), (56, 26019), (62, 26067), (66, 26109), (67, 26121), (70, 26130), (88, 26265), (95, 26310), (102, 26349), (117, 26448), (121, 26466), (129, 26514), (133, 26535), (134, 26541), (135, 26544), (147, 26649), (161, 26718), (175, 26802), (181, 26838), (194, 26913), (222, 27006), (251, 27093), (252, 27096), (264, 27132), (268, 27144), (288, 27231), (299, 27327), (307, 27405), (308, 27411),

Gene: MadamMonkfish\_32 Start: 29059, Stop: 30561, Start Num: 21

Candidate Starts for MadamMonkfish\_32:

(Start: 21 @29059 has 231 MA's), (Start: 30 @29128 has 3 MA's), (39, 29206), (53, 29302), (56, 29323), (58, 29329), (66, 29413), (70, 29434), (77, 29485), (83, 29539), (95, 29614), (119, 29749), (121, 29761), (133, 29830), (135, 29839), (147, 29944), (161, 30013), (181, 30139), (194, 30220), (232, 30316), (245, 30343), (252, 30370), (254, 30376), (260, 30394), (272, 30430),

Gene: MalagasyRose\_30 Start: 24210, Stop: 25847, Start Num: 21

Candidate Starts for MalagasyRose\_30:

(Start: 21 @24210 has 231 MA's), (25, 24237), (32, 24294), (34, 24336), (39, 24357), (44, 24375), (61, 24516), (66, 24561), (70, 24582), (76, 24615), (86, 24711), (92, 24744), (95, 24759), (96, 24765), (102, 24798), (119, 24903), (120, 24906), (121, 24915), (125, 24942), (133, 24984), (135, 24993), (147, 25098), (159, 25158), (167, 25206), (181, 25287), (194, 25368), (198, 25377), (205, 25401), (240, 25512), (252, 25551), (269, 25602), (276, 25629), (296, 25725), (299, 25737), (304, 25767), (308, 25821),

Gene: Malthus\_32 Start: 25943, Stop: 27553, Start Num: 21

Candidate Starts for Malthus\_32:

(Start: 21 @25943 has 231 MA's), (Start: 30 @26012 has 3 MA's), (34, 26069), (37, 26081), (39, 26090), (40, 26093), (44, 26108), (52, 26162), (58, 26195), (60, 26228), (66, 26279), (70, 26300), (76, 26333), (81, 26390), (92, 26462), (102, 26507), (121, 26624), (129, 26672), (133, 26693), (134, 26699), (135, 26702), (147, 26807), (167, 26915), (181, 26996), (183, 27014), (194, 27077), (198, 27086), (224, 27149), (285, 27365), (298, 27425),

Gene: Maminiaina\_11 Start: 5916, Stop: 7496, Start Num: 22

Candidate Starts for Maminiaina\_11:

(Start: 22 @5916 has 60 MA's), (29, 5967), (39, 6057), (44, 6075), (66, 6246), (70, 6267), (106, 6528), (131, 6690), (139, 6741), (153, 6858), (204, 7155), (225, 7215), (252, 7311), (265, 7356), (271, 7374),

Gene: Manda\_33 Start: 30126, Stop: 31628, Start Num: 21

Candidate Starts for Manda\_33:

(Start: 21 @30126 has 231 MA's), (Start: 30 @30195 has 3 MA's), (39, 30273), (53, 30369), (56, 30390), (58, 30396), (66, 30480), (70, 30501), (77, 30552), (83, 30606), (95, 30681), (119, 30816), (121, 30828), (133, 30897), (135, 30906), (147, 31011), (161, 31080), (181, 31206), (194, 31287), (252, 31437), (254, 31443), (260, 31461), (272, 31497),

Gene: MarkPhew\_30 Start: 23940, Stop: 25595, Start Num: 19

Candidate Starts for MarkPhew\_30:

(Start: 19 @23940 has 77 MA's), (27, 23979), (28, 23985), (31, 24018), (39, 24084), (53, 24180), (66, 24291), (70, 24312), (76, 24345), (92, 24474), (95, 24489), (102, 24528), (129, 24693), (133, 24714), (135, 24723), (147, 24828), (167, 24936), (181, 25017), (194, 25098), (251, 25278), (276, 25359), (289, 25425), (300, 25488), (308, 25569),

Gene: Marshmallow\_32 Start: 29639, Stop: 31141, Start Num: 21

Candidate Starts for Marshmallow\_32:

(Start: 21 @29639 has 231 MA's), (Start: 30 @29708 has 3 MA's), (39, 29786), (53, 29882), (56, 29903), (58, 29909), (66, 29993), (70, 30014), (77, 30065), (83, 30119), (95, 30194), (119, 30329), (121, 30341), (133, 30410), (135, 30419), (147, 30524), (161, 30593), (181, 30719), (194, 30800), (252, 30950), (254, 30956), (260, 30974), (272, 31010),

Gene: Maxxinista\_33 Start: 29108, Stop: 30610, Start Num: 21

Candidate Starts for Maxxinista\_33:

(Start: 21 @29108 has 231 MA's), (Start: 30 @29177 has 3 MA's), (39, 29255), (53, 29351), (56, 29372), (58, 29378), (66, 29462), (70, 29483), (77, 29534), (83, 29588), (95, 29663), (119, 29798), (121, 29810), (133, 29879), (135, 29888), (147, 29993), (161, 30062), (181, 30188), (194, 30269), (245, 30392), (252, 30419), (254, 30425), (260, 30443), (272, 30479),

Gene: Mdavu\_26 Start: 24332, Stop: 25969, Start Num: 19

Candidate Starts for Mdavu\_26:

(Start: 19 @24332 has 77 MA's), (27, 24374), (31, 24413), (37, 24470), (39, 24479), (47, 24551), (54, 24578), (66, 24686), (70, 24707), (76, 24740), (95, 24884), (102, 24923), (121, 25040), (127, 25079), (129, 25088), (133, 25109), (134, 25115), (135, 25118), (147, 25223), (159, 25283), (181, 25412), (194, 25487), (224, 25580), (300, 25862), (308, 25943), (310, 25958),

Gene: Megabear\_36 Start: 36026, Stop: 37648, Start Num: 21

Candidate Starts for Megabear\_36:

(Start: 21 @36026 has 231 MA's), (Start: 23 @36032 has 1 MA's), (Start: 30 @36095 has 3 MA's), (39, 36173), (44, 36191), (47, 36245), (57, 36293), (63, 36344), (66, 36380), (70, 36401), (77, 36455), (89, 36542), (94, 36581), (116, 36719), (124, 36758), (132, 36800), (141, 36863), (150, 36947), (175, 37094), (176, 37100), (197, 37226), (200, 37238), (217, 37268), (223, 37307), (229, 37328), (239, 37361), (242, 37370), (247, 37385), (261, 37433), (276, 37484), (282, 37520), (286, 37535), (294, 37586), (301, 37643),

Gene: Mendokysei\_26 Start: 23388, Stop: 24968, Start Num: 21

Candidate Starts for Mendokysei\_26:

(Start: 21 @23388 has 231 MA's), (31, 23469), (43, 23550), (66, 23724), (71, 23751), (81, 23835), (87, 23877), (92, 23910), (102, 23955), (112, 24021), (115, 24048), (120, 24063), (128, 24117), (135, 24159), (146, 24243), (150, 24279), (154, 24297), (181, 24447), (187, 24504), (194, 24534), (235, 24645), (244, 24663), (262, 24726),

Gene: MiculUcigas\_9 Start: 4749, Stop: 6053, Start Num: 19

Candidate Starts for MiculUcigas\_9:

(Start: 19 @4749 has 77 MA's), (Start: 23 @4761 has 1 MA's), (26, 4794), (35, 4881), (59, 5013), (61, 5040), (68, 5100), (69, 5106), (72, 5127), (80, 5187), (98, 5286), (100, 5289), (111, 5361), (121, 5409), (177, 5628), (183, 5661), (193, 5715), (217, 5766), (237, 5811), (246, 5829),

Gene: Mindy\_32 Start: 29488, Stop: 30921, Start Num: 30

Candidate Starts for Mindy\_32:

(Start: 21 @29419 has 231 MA's), (Start: 30 @29488 has 3 MA's), (39, 29566), (53, 29662), (56, 29683), (58, 29689), (66, 29773), (70, 29794), (77, 29845), (83, 29899), (95, 29974), (119, 30109), (121, 30121), (133, 30190), (135, 30199), (147, 30304), (161, 30373), (181, 30499), (194, 30580), (252, 30730), (260, 30754), (272, 30790),

Gene: Minerva\_53 Start: 42154, Stop: 43596, Start Num: 17

Candidate Starts for Minerva\_53:

(15, 42130), (Start: 17 @42154 has 2 MA's), (Start: 22 @42163 has 60 MA's), (45, 42328), (46, 42349), (48, 42379), (56, 42421), (57, 42424), (70, 42532), (96, 42718), (108, 42769), (129, 42901), (135,

42934), (136, 42937), (167, 43129), (182, 43216), (191, 43279), (194, 43303), (198, 43312), (242, 43441), (252, 43474), (259, 43495), (260, 43498),

Gene: Miniwave\_32 Start: 29838, Stop: 31340, Start Num: 21

Candidate Starts for Miniwave\_32:

(Start: 21 @29838 has 231 MA's), (Start: 30 @29907 has 3 MA's), (39, 29985), (53, 30081), (56, 30102), (58, 30108), (66, 30192), (70, 30213), (77, 30264), (83, 30318), (95, 30393), (119, 30528), (121, 30540), (133, 30609), (135, 30618), (147, 30723), (161, 30792), (181, 30918), (194, 30999), (232, 31095), (245, 31122), (252, 31149), (254, 31155), (260, 31173), (272, 31209),

Gene: Miryou\_29 Start: 25400, Stop: 27034, Start Num: 21

Candidate Starts for Miryou\_29:

(Start: 21 @25400 has 231 MA's), (Start: 23 @25406 has 1 MA's), (Start: 24 @25421 has 1 MA's), (34, 25526), (39, 25547), (40, 25550), (44, 25565), (49, 25613), (60, 25685), (61, 25688), (66, 25736), (70, 25757), (86, 25886), (91, 25907), (92, 25919), (95, 25934), (102, 25973), (120, 26081), (121, 26090), (133, 26159), (134, 26165), (135, 26168), (147, 26273), (154, 26309), (159, 26333), (167, 26381), (181, 26462), (194, 26546), (205, 26579), (206, 26582), (232, 26675), (245, 26702), (252, 26729), (254, 26735), (266, 26771), (272, 26789), (276, 26807), (283, 26840), (295, 26900), (306, 26990), (308, 27008), (310, 27023),

Gene: Misfit\_32 Start: 29728, Stop: 31230, Start Num: 21

Candidate Starts for Misfit\_32:

(Start: 21 @29728 has 231 MA's), (Start: 30 @29797 has 3 MA's), (39, 29875), (53, 29971), (56, 29992), (58, 29998), (66, 30082), (70, 30103), (77, 30154), (83, 30208), (95, 30283), (119, 30418), (121, 30430), (133, 30499), (135, 30508), (147, 30613), (161, 30682), (181, 30808), (194, 30889), (245, 31012), (252, 31039), (254, 31045), (260, 31063), (272, 31099),

Gene: MissDaisy\_31 Start: 25786, Stop: 27396, Start Num: 21

Candidate Starts for MissDaisy\_31:

(Start: 21 @25786 has 231 MA's), (Start: 30 @25855 has 3 MA's), (34, 25912), (37, 25924), (39, 25933), (40, 25936), (44, 25951), (52, 26005), (66, 26122), (70, 26143), (92, 26305), (102, 26350), (121, 26467), (125, 26494), (133, 26536), (135, 26545), (147, 26650), (167, 26758), (181, 26839), (194, 26920), (198, 26929), (224, 26992), (285, 27208),

Gene: Mitti\_31 Start: 25944, Stop: 27554, Start Num: 21

Candidate Starts for Mitti\_31:

(Start: 21 @25944 has 231 MA's), (Start: 30 @26013 has 3 MA's), (34, 26070), (37, 26082), (39, 26091), (40, 26094), (44, 26109), (52, 26163), (58, 26196), (66, 26280), (70, 26301), (76, 26334), (92, 26463), (102, 26508), (121, 26625), (133, 26694), (134, 26700), (135, 26703), (167, 26916), (181, 26997), (183, 27015), (194, 27078), (198, 27087), (224, 27150), (285, 27366), (298, 27426),

Gene: Moldemort\_33 Start: 29383, Stop: 30885, Start Num: 21

Candidate Starts for Moldemort\_33:

(Start: 21 @29383 has 231 MA's), (Start: 30 @29452 has 3 MA's), (39, 29530), (53, 29626), (56, 29647), (58, 29653), (66, 29737), (70, 29758), (77, 29809), (83, 29863), (95, 29938), (119, 30073), (121, 30085), (133, 30154), (135, 30163), (147, 30268), (161, 30337), (181, 30463), (194, 30544), (245, 30667), (252, 30694), (254, 30700), (260, 30718), (272, 30754),

Gene: Mosby\_31 Start: 29145, Stop: 30647, Start Num: 21

Candidate Starts for Mosby\_31:

(Start: 21 @29145 has 231 MA's), (Start: 30 @29214 has 3 MA's), (39, 29292), (53, 29388), (56, 29409), (58, 29415), (66, 29499), (70, 29520), (77, 29571), (83, 29625), (95, 29700), (119, 29835), (121, 29847), (133, 29916), (135, 29925), (147, 30030), (161, 30099), (181, 30225), (194, 30306),

(252, 30456), (254, 30462), (260, 30480), (272, 30516),

Gene: Mulciber\_10 Start: 6227, Stop: 7627, Start Num: 21

Candidate Starts for Mulciber\_10:

(13, 6188), (Start: 21 @6227 has 231 MA's), (38, 6368), (39, 6374), (44, 6392), (60, 6512), (66, 6563), (70, 6584), (76, 6617), (129, 6764), (139, 6827), (140, 6833), (158, 6977), (170, 7058), (174, 7085), (218, 7289), (221, 7310), (227, 7334), (243, 7394), (252, 7427), (273, 7493), (291, 7589),

Gene: Munch\_10 Start: 6224, Stop: 7624, Start Num: 21

Candidate Starts for Munch\_10:

(13, 6185), (Start: 21 @6224 has 231 MA's), (39, 6371), (44, 6389), (60, 6509), (66, 6560), (70, 6581), (76, 6614), (129, 6761), (139, 6824), (140, 6830), (158, 6974), (170, 7055), (174, 7082), (218, 7286), (221, 7307), (227, 7331), (243, 7391), (252, 7424), (273, 7490), (291, 7586),

Gene: Murica\_31 Start: 29625, Stop: 31127, Start Num: 21

Candidate Starts for Murica\_31:

(Start: 21 @29625 has 231 MA's), (Start: 30 @29694 has 3 MA's), (39, 29772), (53, 29868), (56, 29889), (58, 29895), (66, 29979), (70, 30000), (77, 30051), (83, 30105), (95, 30180), (119, 30315), (121, 30327), (133, 30396), (135, 30405), (147, 30510), (161, 30579), (181, 30705), (194, 30786), (232, 30882), (245, 30909), (252, 30936), (254, 30942), (260, 30960), (272, 30996),

Gene: Murphy\_33 Start: 29620, Stop: 31122, Start Num: 21

Candidate Starts for Murphy\_33:

(Start: 21 @29620 has 231 MA's), (Start: 30 @29689 has 3 MA's), (39, 29767), (53, 29863), (56, 29884), (58, 29890), (66, 29974), (70, 29995), (77, 30046), (83, 30100), (95, 30175), (119, 30310), (121, 30322), (133, 30391), (135, 30400), (147, 30505), (161, 30574), (181, 30700), (194, 30781), (232, 30877), (245, 30904), (252, 30931), (254, 30937), (260, 30955), (272, 30991),

Gene: Myrale\_32 Start: 29504, Stop: 31006, Start Num: 21

Candidate Starts for Myrale\_32:

(Start: 21 @29504 has 231 MA's), (Start: 30 @29573 has 3 MA's), (39, 29651), (53, 29747), (56, 29768), (58, 29774), (66, 29858), (70, 29879), (77, 29930), (83, 29984), (95, 30059), (119, 30194), (121, 30206), (133, 30275), (135, 30284), (147, 30389), (161, 30458), (181, 30584), (194, 30665), (252, 30815), (254, 30821), (260, 30839), (272, 30875),

Gene: Myxus\_11 Start: 6146, Stop: 7726, Start Num: 22

Candidate Starts for Myxus\_11:

(Start: 22 @6146 has 60 MA's), (29, 6197), (39, 6287), (40, 6290), (66, 6476), (70, 6497), (106, 6758), (131, 6920), (139, 6971), (153, 7088), (184, 7313), (204, 7385), (225, 7445), (252, 7541), (265, 7586), (271, 7604),

Gene: NaSiaTalie\_9 Start: 4749, Stop: 6050, Start Num: 19

Candidate Starts for NaSiaTalie\_9:

(Start: 19 @4749 has 77 MA's), (26, 4794), (35, 4881), (61, 5040), (68, 5100), (69, 5106), (72, 5127), (98, 5283), (100, 5286), (111, 5358), (121, 5406), (177, 5625), (183, 5658), (193, 5712), (217, 5763), (237, 5808), (246, 5826),

Gene: Nairb\_27 Start: 23579, Stop: 25162, Start Num: 21

Candidate Starts for Nairb\_27:

(Start: 21 @23579 has 231 MA's), (31, 23660), (33, 23678), (40, 23729), (43, 23741), (44, 23744), (66, 23915), (71, 23942), (92, 24104), (96, 24125), (102, 24149), (112, 24215), (120, 24257), (128, 24311), (135, 24353), (146, 24437), (150, 24473), (154, 24491), (181, 24641), (194, 24728), (235, 24839), (262, 24920), (303, 25121),

Gene: Naji\_12 Start: 4697, Stop: 6178, Start Num: 19

Candidate Starts for Naji\_12:

(Start: 19 @4697 has 77 MA's), (26, 4742), (61, 4988), (68, 5048), (69, 5054), (72, 5075), (79, 5129), (80, 5135), (109, 5303), (115, 5354), (142, 5504), (151, 5585), (186, 5774), (194, 5816), (217, 5879), (245, 5978), (284, 6107),

Gene: Nala\_32 Start: 29659, Stop: 31161, Start Num: 21

Candidate Starts for Nala\_32:

(Start: 21 @29659 has 231 MA's), (Start: 30 @29728 has 3 MA's), (39, 29806), (53, 29902), (56, 29923), (58, 29929), (66, 30013), (70, 30034), (77, 30085), (83, 30139), (95, 30214), (119, 30349), (121, 30361), (133, 30430), (135, 30439), (147, 30544), (161, 30613), (181, 30739), (194, 30820), (245, 30943), (252, 30970), (254, 30976), (260, 30994), (272, 31030),

Gene: Neighly\_30 Start: 25394, Stop: 27028, Start Num: 21

Candidate Starts for Neighly\_30:

(Start: 21 @25394 has 231 MA's), (Start: 23 @25400 has 1 MA's), (Start: 24 @25415 has 1 MA's), (32, 25478), (34, 25520), (40, 25544), (44, 25559), (49, 25607), (60, 25679), (61, 25682), (66, 25730), (70, 25751), (91, 25901), (92, 25913), (102, 25967), (120, 26075), (121, 26084), (133, 26153), (134, 26159), (135, 26162), (146, 26249), (154, 26303), (159, 26327), (167, 26375), (181, 26456), (194, 26540), (205, 26573), (206, 26576), (252, 26723), (254, 26729), (266, 26765), (272, 26783), (299, 26918), (306, 26984), (310, 27017),

Gene: Nekros\_45 Start: 39651, Stop: 41069, Start Num: 21

Candidate Starts for Nekros\_45:

(Start: 21 @39651 has 231 MA's), (32, 39735), (39, 39798), (50, 39879), (66, 39987), (70, 40008), (76, 40041), (77, 40059), (96, 40191), (108, 40242), (135, 40407), (144, 40455), (167, 40602), (182, 40689), (191, 40752), (194, 40776), (198, 40785), (249, 40935), (259, 40968), (260, 40971),

Gene: NelitzaMV\_32 Start: 29709, Stop: 31211, Start Num: 21

Candidate Starts for NelitzaMV\_32:

(Start: 21 @29709 has 231 MA's), (Start: 30 @29778 has 3 MA's), (39, 29856), (53, 29952), (56, 29973), (58, 29979), (66, 30063), (70, 30084), (77, 30135), (92, 30249), (119, 30399), (121, 30411), (133, 30480), (135, 30489), (147, 30594), (161, 30663), (181, 30789), (194, 30870), (252, 31020), (254, 31026), (260, 31044), (272, 31080),

Gene: Nergal\_26 Start: 22488, Stop: 24122, Start Num: 22

Candidate Starts for Nergal\_26:

(Start: 22 @22488 has 60 MA's), (Start: 30 @22557 has 3 MA's), (31, 22569), (37, 22626), (41, 22641), (66, 22824), (70, 22845), (71, 22851), (77, 22896), (92, 23007), (129, 23226), (133, 23247), (134, 23253), (135, 23256), (147, 23361), (159, 23421), (163, 23433), (167, 23469), (175, 23520), (181, 23556), (194, 23631), (205, 23664), (210, 23676), (219, 23715), (252, 23814), (268, 23862), (308, 24096),

Gene: Nette\_28 Start: 23397, Stop: 24977, Start Num: 21

Candidate Starts for Nette\_28:

(Start: 21 @23397 has 231 MA's), (31, 23478), (43, 23559), (66, 23733), (71, 23760), (81, 23844), (87, 23886), (92, 23919), (102, 23964), (112, 24030), (115, 24057), (120, 24072), (128, 24126), (135, 24168), (146, 24252), (150, 24288), (154, 24306), (181, 24456), (187, 24513), (194, 24543), (235, 24654), (244, 24672), (262, 24735),

Gene: Nibb\_29 Start: 24078, Stop: 25730, Start Num: 19

Candidate Starts for Nibb\_29:



(Start: 19 @24078 has 77 MA's), (29, 24129), (31, 24156), (39, 24222), (53, 24318), (66, 24429), (70, 24450), (76, 24483), (92, 24612), (102, 24666), (129, 24831), (133, 24852), (135, 24861), (147, 24966), (159, 25026), (167, 25074), (181, 25155), (194, 25233), (205, 25266), (251, 25413), (254, 25422), (255, 25425), (276, 25494), (289, 25560), (300, 25623), (308, 25704),

Gene: NicoleTera\_13 Start: 6467, Stop: 7756, Start Num: 19

Candidate Starts for NicoleTera\_13:

(Start: 19 @6467 has 77 MA's), (26, 6512), (35, 6599), (55, 6716), (61, 6758), (65, 6791), (68, 6818), (69, 6824), (72, 6845), (74, 6851), (80, 6893), (111, 7064), (121, 7112), (177, 7331), (183, 7364), (217, 7469), (233, 7505), (239, 7517), (260, 7577), (264, 7595), (287, 7697),

Gene: NihilNomen\_46 Start: 40857, Stop: 42275, Start Num: 21

Candidate Starts for NihilNomen\_46:

(Start: 21 @40857 has 231 MA's), (29, 40911), (34, 40983), (39, 41004), (50, 41085), (60, 41142), (66, 41193), (67, 41205), (70, 41214), (77, 41265), (96, 41397), (108, 41448), (118, 41523), (129, 41580), (135, 41613), (136, 41616), (167, 41808), (182, 41895), (191, 41958), (194, 41982), (198, 41991), (242, 42120), (252, 42153), (259, 42174), (260, 42177),

Gene: Nikao\_26 Start: 24344, Stop: 25981, Start Num: 19

Candidate Starts for Nikao\_26:

(Start: 19 @24344 has 77 MA's), (27, 24386), (31, 24425), (37, 24482), (39, 24491), (47, 24563), (54, 24590), (66, 24698), (70, 24719), (76, 24752), (95, 24896), (102, 24935), (121, 25052), (127, 25091), (129, 25100), (133, 25121), (134, 25127), (135, 25130), (147, 25235), (159, 25295), (181, 25424), (194, 25499), (224, 25592), (300, 25874), (308, 25955), (310, 25970),

Gene: Nimrod\_32 Start: 29883, Stop: 31385, Start Num: 21

Candidate Starts for Nimrod\_32:

(Start: 21 @29883 has 231 MA's), (Start: 30 @29952 has 3 MA's), (39, 30030), (53, 30126), (56, 30147), (58, 30153), (66, 30237), (70, 30258), (77, 30309), (83, 30363), (95, 30438), (119, 30573), (121, 30585), (133, 30654), (135, 30663), (147, 30768), (161, 30837), (181, 30963), (194, 31044), (232, 31140), (245, 31167), (252, 31194), (254, 31200), (260, 31218), (272, 31254),

Gene: NoSleep\_33 Start: 29380, Stop: 30882, Start Num: 21

Candidate Starts for NoSleep\_33:

(Start: 21 @29380 has 231 MA's), (Start: 30 @29449 has 3 MA's), (39, 29527), (53, 29623), (56, 29644), (58, 29650), (66, 29734), (70, 29755), (77, 29806), (83, 29860), (95, 29935), (119, 30070), (121, 30082), (133, 30151), (135, 30160), (147, 30265), (161, 30334), (181, 30460), (194, 30541), (245, 30664), (252, 30691), (254, 30697), (260, 30715), (272, 30751),

Gene: Nutello\_26 Start: 24344, Stop: 25981, Start Num: 19

Candidate Starts for Nutello\_26:

(Start: 19 @24344 has 77 MA's), (27, 24386), (31, 24425), (37, 24482), (39, 24491), (47, 24563), (54, 24590), (66, 24698), (70, 24719), (76, 24752), (95, 24896), (102, 24935), (121, 25052), (127, 25091), (129, 25100), (133, 25121), (134, 25127), (135, 25130), (147, 25235), (159, 25295), (181, 25424), (194, 25499), (224, 25592), (300, 25874), (308, 25955), (310, 25970),

Gene: Odette\_47 Start: 40090, Stop: 41508, Start Num: 21

Candidate Starts for Odette\_47:

(Start: 21 @40090 has 231 MA's), (29, 40144), (34, 40216), (39, 40237), (50, 40318), (60, 40375), (66, 40426), (67, 40438), (70, 40447), (77, 40498), (96, 40630), (108, 40681), (118, 40756), (129, 40813), (135, 40846), (136, 40849), (167, 41041), (182, 41128), (191, 41191), (194, 41215), (198, 41224), (249, 41374), (259, 41407), (260, 41410),

Gene: Odin\_9 Start: 4473, Stop: 5888, Start Num: 19

Candidate Starts for Odin\_9:

(Start: 19 @4473 has 77 MA's), (61, 4764), (68, 4824), (69, 4830), (72, 4851), (74, 4857), (78, 4896), (109, 5079), (115, 5130), (189, 5559), (202, 5610), (203, 5613), (233, 5673), (234, 5676),

Gene: OkiRoe\_29 Start: 25416, Stop: 27050, Start Num: 21

Candidate Starts for OkiRoe\_29:

(Start: 21 @25416 has 231 MA's), (Start: 23 @25422 has 1 MA's), (Start: 24 @25437 has 1 MA's), (34, 25542), (40, 25566), (44, 25581), (49, 25629), (60, 25701), (61, 25704), (66, 25752), (70, 25773), (86, 25902), (91, 25923), (92, 25935), (95, 25950), (102, 25989), (120, 26097), (121, 26106), (133, 26175), (134, 26181), (135, 26184), (154, 26325), (159, 26349), (167, 26397), (181, 26478), (194, 26562), (205, 26595), (206, 26598), (245, 26718), (252, 26745), (254, 26751), (266, 26787), (272, 26805), (276, 26823), (283, 26856), (295, 26916), (306, 27006), (308, 27024), (310, 27039),

Gene: Omega\_50 Start: 41222, Stop: 42643, Start Num: 21

Candidate Starts for Omega\_50:

(Start: 21 @41222 has 231 MA's), (39, 41369), (50, 41450), (66, 41558), (67, 41570), (70, 41579), (76, 41612), (77, 41630), (96, 41762), (108, 41813), (135, 41978), (144, 42026), (167, 42173), (182, 42260), (194, 42347), (198, 42356), (249, 42506), (259, 42539), (260, 42542),

Gene: OmniCritical\_31 Start: 25928, Stop: 27538, Start Num: 21

Candidate Starts for OmniCritical\_31:

(Start: 21 @25928 has 231 MA's), (Start: 30 @25997 has 3 MA's), (34, 26054), (37, 26066), (39, 26075), (40, 26078), (44, 26093), (52, 26147), (58, 26180), (60, 26213), (66, 26264), (70, 26285), (76, 26318), (92, 26447), (102, 26492), (121, 26609), (129, 26657), (133, 26678), (134, 26684), (135, 26687), (167, 26900), (181, 26981), (183, 26999), (194, 27062), (198, 27071), (224, 27134), (285, 27350), (298, 27410),

Gene: Omnicron\_30 Start: 24325, Stop: 25953, Start Num: 21

Candidate Starts for Omnicron\_30:

(Start: 21 @24325 has 231 MA's), (Start: 24 @24346 has 1 MA's), (32, 24409), (34, 24451), (61, 24613), (66, 24661), (70, 24682), (81, 24772), (86, 24811), (92, 24844), (95, 24859), (96, 24865), (102, 24898), (110, 24946), (120, 25006), (121, 25015), (134, 25090), (135, 25093), (147, 25198), (161, 25267), (167, 25306), (181, 25387), (194, 25468), (205, 25501), (206, 25504), (245, 25624), (252, 25651), (254, 25657), (266, 25693), (272, 25711), (276, 25729), (299, 25843), (308, 25927), (309, 25930), (310, 25942),

Gene: Onglai\_10 Start: 4512, Stop: 6092, Start Num: 22

Candidate Starts for Onglai\_10:

(Start: 22 @4512 has 60 MA's), (29, 4563), (39, 4653), (40, 4656), (44, 4671), (66, 4842), (67, 4854), (70, 4863), (106, 5124), (131, 5286), (139, 5337), (153, 5454), (184, 5679), (204, 5751), (225, 5811), (252, 5907), (265, 5952), (271, 5970),

Gene: Optimus\_52 Start: 41748, Stop: 43181, Start Num: 22

Candidate Starts for Optimus\_52:

(15, 41715), (Start: 17 @41739 has 2 MA's), (Start: 22 @41748 has 60 MA's), (45, 41913), (46, 41934), (48, 41964), (56, 42006), (57, 42009), (70, 42117), (96, 42303), (108, 42354), (129, 42486), (135, 42519), (136, 42522), (167, 42714), (182, 42801), (191, 42864), (194, 42888), (198, 42897), (249, 43047), (259, 43080), (260, 43083),

Gene: Orange\_10 Start: 6224, Stop: 7624, Start Num: 21

Candidate Starts for Orange\_10:

(13, 6185), (Start: 21 @6224 has 231 MA's), (38, 6365), (39, 6371), (44, 6389), (60, 6509), (66, 6560), (70, 6581), (76, 6614), (129, 6761), (139, 6824), (140, 6830), (158, 6974), (170, 7055), (174, 7082), (218, 7286), (221, 7307), (227, 7331), (243, 7391), (252, 7424), (273, 7490), (291, 7586),

Gene: OrionPax\_33 Start: 29386, Stop: 30888, Start Num: 21

Candidate Starts for OrionPax\_33:

(Start: 21 @29386 has 231 MA's), (Start: 30 @29455 has 3 MA's), (39, 29533), (53, 29629), (56, 29650), (58, 29656), (66, 29740), (70, 29761), (77, 29812), (83, 29866), (95, 29941), (119, 30076), (121, 30088), (133, 30157), (135, 30166), (147, 30271), (161, 30340), (181, 30466), (194, 30547), (232, 30643), (245, 30670), (252, 30697), (254, 30703), (260, 30721), (272, 30757),

Gene: Oscar\_29 Start: 24040, Stop: 25698, Start Num: 19

Candidate Starts for Oscar\_29:

(Start: 19 @24040 has 77 MA's), (37, 24175), (39, 24184), (40, 24187), (44, 24202), (53, 24280), (66, 24391), (70, 24412), (76, 24445), (82, 24511), (92, 24574), (95, 24589), (102, 24628), (121, 24745), (133, 24814), (135, 24823), (147, 24928), (159, 24988), (167, 25036), (181, 25117), (194, 25195), (205, 25228), (251, 25375), (254, 25384), (276, 25456), (289, 25522), (305, 25645), (308, 25672),

Gene: PR\_36 Start: 36630, Stop: 38252, Start Num: 21

Candidate Starts for PR\_36:

(Start: 21 @36630 has 231 MA's), (Start: 23 @36636 has 1 MA's), (Start: 30 @36699 has 3 MA's), (39, 36777), (44, 36795), (47, 36849), (57, 36897), (63, 36948), (66, 36984), (70, 37005), (77, 37059), (89, 37146), (94, 37185), (116, 37323), (122, 37344), (124, 37362), (132, 37404), (141, 37467), (150, 37551), (175, 37698), (176, 37704), (197, 37830), (200, 37842), (217, 37872), (223, 37911), (229, 37932), (239, 37965), (242, 37974), (247, 37989), (261, 38037), (276, 38088), (282, 38124), (286, 38139), (294, 38190), (301, 38247),

Gene: PackMan\_11 Start: 6146, Stop: 7726, Start Num: 22

Candidate Starts for PackMan\_11:

(Start: 22 @6146 has 60 MA's), (29, 6197), (39, 6287), (40, 6290), (66, 6476), (70, 6497), (106, 6758), (131, 6920), (139, 6971), (153, 7088), (184, 7313), (204, 7385), (225, 7445), (252, 7541), (265, 7586), (271, 7604),

Gene: Palpatine\_32 Start: 29655, Stop: 31157, Start Num: 21

Candidate Starts for Palpatine\_32:

(Start: 21 @29655 has 231 MA's), (Start: 30 @29724 has 3 MA's), (39, 29802), (53, 29898), (56, 29919), (58, 29925), (66, 30009), (70, 30030), (77, 30081), (83, 30135), (95, 30210), (119, 30345), (121, 30357), (133, 30426), (135, 30435), (147, 30540), (161, 30609), (181, 30735), (194, 30816), (232, 30912), (245, 30939), (252, 30966), (254, 30972), (260, 30990), (272, 31026),

Gene: Paola\_29 Start: 25415, Stop: 27049, Start Num: 21

Candidate Starts for Paola\_29:

(Start: 21 @25415 has 231 MA's), (Start: 23 @25421 has 1 MA's), (Start: 24 @25436 has 1 MA's), (34, 25541), (40, 25565), (44, 25580), (49, 25628), (60, 25700), (61, 25703), (66, 25751), (70, 25772), (86, 25901), (91, 25922), (92, 25934), (95, 25949), (102, 25988), (120, 26096), (121, 26105), (133, 26174), (134, 26180), (135, 26183), (147, 26288), (154, 26324), (159, 26348), (167, 26396), (181, 26477), (194, 26561), (205, 26594), (206, 26597), (232, 26690), (245, 26717), (252, 26744), (254, 26750), (266, 26786), (272, 26804), (276, 26822), (283, 26855), (297, 26930), (299, 26939), (306, 27005), (308, 27023),

Gene: Paperbeatsrock\_34 Start: 30621, Stop: 32123, Start Num: 21

Candidate Starts for Paperbeatsrock\_34:

(Start: 21 @30621 has 231 MA's), (Start: 30 @30690 has 3 MA's), (39, 30768), (53, 30864), (56, 30885), (58, 30891), (66, 30975), (70, 30996), (77, 31047), (83, 31101), (95, 31176), (119, 31311), (121, 31323), (133, 31392), (135, 31401), (147, 31506), (161, 31575), (181, 31701), (194, 31782), (232, 31878), (245, 31905), (252, 31932), (254, 31938), (260, 31956), (272, 31992),

Gene: Pat3\_31 Start: 28367, Stop: 29869, Start Num: 21

Candidate Starts for Pat3\_31:

(Start: 21 @28367 has 231 MA's), (Start: 30 @28436 has 3 MA's), (39, 28514), (53, 28610), (56, 28631), (58, 28637), (66, 28721), (70, 28742), (77, 28793), (83, 28847), (95, 28922), (119, 29057), (121, 29069), (133, 29138), (135, 29147), (147, 29252), (161, 29321), (181, 29447), (194, 29528), (252, 29678), (254, 29684), (260, 29702), (272, 29738),

Gene: Patt\_31 Start: 25762, Stop: 27372, Start Num: 21

Candidate Starts for Patt\_31:

(Start: 21 @25762 has 231 MA's), (Start: 30 @25831 has 3 MA's), (34, 25888), (37, 25900), (39, 25909), (40, 25912), (44, 25927), (52, 25981), (66, 26098), (70, 26119), (92, 26281), (102, 26326), (121, 26443), (125, 26470), (133, 26512), (135, 26521), (147, 26626), (167, 26734), (181, 26815), (194, 26896), (198, 26905), (224, 26968), (285, 27184),

Gene: Petersenfast\_9 Start: 6227, Stop: 7627, Start Num: 21

Candidate Starts for Petersenfast\_9:

(13, 6188), (Start: 21 @6227 has 231 MA's), (38, 6368), (39, 6374), (44, 6392), (60, 6512), (66, 6563), (70, 6584), (76, 6617), (129, 6764), (139, 6827), (140, 6833), (158, 6977), (170, 7058), (174, 7085), (218, 7289), (221, 7310), (227, 7334), (243, 7394), (252, 7427), (273, 7493), (291, 7589),

Gene: Petra64142\_34 Start: 30101, Stop: 31603, Start Num: 21

Candidate Starts for Petra64142\_34:

(Start: 21 @30101 has 231 MA's), (Start: 30 @30170 has 3 MA's), (39, 30248), (53, 30344), (56, 30365), (58, 30371), (66, 30455), (70, 30476), (77, 30527), (83, 30581), (95, 30656), (119, 30791), (121, 30803), (133, 30872), (135, 30881), (147, 30986), (161, 31055), (181, 31181), (194, 31262), (232, 31358), (245, 31385), (252, 31412), (254, 31418), (260, 31436), (272, 31472),

Gene: Ph8s\_11 Start: 4474, Stop: 5847, Start Num: 19

Candidate Starts for Ph8s\_11:

(Start: 19 @4474 has 77 MA's), (36, 4609), (42, 4630), (61, 4765), (65, 4798), (68, 4825), (69, 4831), (72, 4852), (74, 4858), (105, 5062), (115, 5131), (157, 5341), (171, 5404), (200, 5566), (202, 5569), (233, 5632), (234, 5635), (264, 5722),

Gene: Phaeder\_11 Start: 6146, Stop: 7726, Start Num: 22

Candidate Starts for Phaeder\_11:

(Start: 22 @6146 has 60 MA's), (29, 6197), (39, 6287), (40, 6290), (66, 6476), (70, 6497), (106, 6758), (131, 6920), (139, 6971), (153, 7088), (184, 7313), (204, 7385), (225, 7445), (252, 7541), (265, 7586), (271, 7604),

Gene: Phaja\_32 Start: 29817, Stop: 31319, Start Num: 21

Candidate Starts for Phaja\_32:

(Start: 21 @29817 has 231 MA's), (Start: 30 @29886 has 3 MA's), (39, 29964), (53, 30060), (56, 30081), (58, 30087), (66, 30171), (70, 30192), (77, 30243), (83, 30297), (95, 30372), (119, 30507), (121, 30519), (133, 30588), (135, 30597), (147, 30702), (161, 30771), (181, 30897), (194, 30978), (245, 31101), (252, 31128), (254, 31134), (260, 31152), (272, 31188),

Gene: Pharb\_29 Start: 25069, Stop: 26709, Start Num: 22

Candidate Starts for Pharb\_29:

(Start: 22 @25069 has 60 MA's), (26, 25105), (31, 25147), (37, 25204), (39, 25213), (41, 25219), (66, 25402), (67, 25414), (70, 25423), (88, 25558), (95, 25603), (102, 25642), (117, 25741), (120, 25750), (121, 25759), (133, 25828), (134, 25834), (135, 25837), (147, 25942), (161, 26011), (175, 26095), (181, 26131), (194, 26206), (222, 26299), (264, 26425), (277, 26470), (306, 26668),

Gene: Pharsalus\_33 Start: 30421, Stop: 31923, Start Num: 21

Candidate Starts for Pharsalus\_33:

(Start: 21 @30421 has 231 MA's), (Start: 30 @30490 has 3 MA's), (39, 30568), (53, 30664), (56, 30685), (58, 30691), (66, 30775), (70, 30796), (77, 30847), (83, 30901), (95, 30976), (119, 31111), (121, 31123), (133, 31192), (135, 31201), (147, 31306), (161, 31375), (181, 31501), (194, 31582), (232, 31678), (245, 31705), (252, 31732), (254, 31738), (260, 31756), (272, 31792),

Gene: PhatBacter\_32 Start: 29669, Stop: 31171, Start Num: 21

Candidate Starts for PhatBacter\_32:

(Start: 21 @29669 has 231 MA's), (Start: 30 @29738 has 3 MA's), (39, 29816), (53, 29912), (56, 29933), (58, 29939), (66, 30023), (70, 30044), (77, 30095), (83, 30149), (95, 30224), (119, 30359), (121, 30371), (133, 30440), (135, 30449), (147, 30554), (161, 30623), (181, 30749), (194, 30830), (232, 30926), (245, 30953), (252, 30980), (254, 30986), (260, 31004), (272, 31040),

Gene: Phaux\_31 Start: 29667, Stop: 31169, Start Num: 21

Candidate Starts for Phaux\_31:

(Start: 21 @29667 has 231 MA's), (Start: 30 @29736 has 3 MA's), (39, 29814), (53, 29910), (56, 29931), (58, 29937), (66, 30021), (70, 30042), (77, 30093), (83, 30147), (95, 30222), (119, 30357), (121, 30369), (133, 30438), (135, 30447), (147, 30552), (161, 30621), (181, 30747), (194, 30828), (232, 30924), (245, 30951), (252, 30978), (254, 30984), (260, 31002), (272, 31038),

Gene: PhelpsODU\_30 Start: 24247, Stop: 25893, Start Num: 21

Candidate Starts for PhelpsODU\_30:

(Start: 21 @24247 has 231 MA's), (Start: 30 @24316 has 3 MA's), (31, 24328), (37, 24385), (39, 24394), (66, 24583), (70, 24604), (85, 24727), (95, 24781), (102, 24820), (133, 25006), (135, 25015), (147, 25120), (163, 25192), (167, 25228), (181, 25309), (194, 25387), (205, 25420), (211, 25432), (219, 25465), (228, 25492), (251, 25570), (264, 25615), (292, 25744), (299, 25783), (304, 25813),

Gene: Phoebus\_46 Start: 41067, Stop: 42485, Start Num: 21

Candidate Starts for Phoebus\_46:

(Start: 21 @41067 has 231 MA's), (29, 41121), (34, 41193), (39, 41214), (50, 41295), (60, 41352), (66, 41403), (67, 41415), (70, 41424), (77, 41475), (96, 41607), (108, 41658), (129, 41790), (135, 41823), (136, 41826), (167, 42018), (182, 42105), (191, 42168), (194, 42192), (198, 42201), (249, 42351), (259, 42384), (260, 42387),

Gene: Phonnegut\_11 Start: 6179, Stop: 7759, Start Num: 22

Candidate Starts for Phonnegut\_11:

(Start: 22 @6179 has 60 MA's), (29, 6230), (39, 6320), (40, 6323), (44, 6338), (66, 6509), (70, 6530), (106, 6791), (131, 6953), (139, 7004), (153, 7121), (184, 7346), (204, 7418), (225, 7478), (252, 7574), (265, 7619), (271, 7637),

Gene: Phrank\_30 Start: 24197, Stop: 25843, Start Num: 21

Candidate Starts for Phrank\_30:

(Start: 21 @24197 has 231 MA's), (29, 24251), (31, 24278), (37, 24335), (39, 24344), (66, 24533), (70, 24554), (85, 24677), (95, 24731), (102, 24770), (133, 24956), (135, 24965), (147, 25070), (163, 25142), (167, 25178), (181, 25259), (194, 25337), (205, 25370), (211, 25382), (219, 25415), (228, 25442), (251, 25520), (264, 25565), (292, 25694), (299, 25733), (304, 25763), (308, 25817),

Gene: Phrux\_32 Start: 29382, Stop: 30884, Start Num: 21

Candidate Starts for Phrux\_32:

(Start: 21 @29382 has 231 MA's), (Start: 30 @29451 has 3 MA's), (39, 29529), (53, 29625), (56, 29646), (58, 29652), (66, 29736), (70, 29757), (77, 29808), (83, 29862), (95, 29937), (119, 30072), (121, 30084), (133, 30153), (135, 30162), (147, 30267), (161, 30336), (181, 30462), (194, 30543), (232, 30639), (245, 30666), (252, 30693), (254, 30699), (260, 30717), (272, 30753),

Gene: Pioneer\_11 Start: 6179, Stop: 7759, Start Num: 22

Candidate Starts for Pioneer\_11:

(Start: 22 @6179 has 60 MA's), (29, 6230), (39, 6320), (40, 6323), (44, 6338), (66, 6509), (70, 6530), (106, 6791), (131, 6953), (139, 7004), (153, 7121), (184, 7346), (204, 7418), (225, 7478), (252, 7574), (265, 7619), (271, 7637),

Gene: Piro94\_10 Start: 5206, Stop: 6510, Start Num: 19

Candidate Starts for Piro94\_10:

(Start: 19 @5206 has 77 MA's), (26, 5251), (35, 5338), (51, 5431), (61, 5497), (68, 5557), (69, 5563), (72, 5584), (80, 5644), (98, 5743), (100, 5746), (111, 5818), (177, 6085), (183, 6118), (193, 6172), (217, 6223), (237, 6268), (246, 6286),

Gene: Pixie\_30 Start: 25256, Stop: 26941, Start Num: 22

Candidate Starts for Pixie\_30:

(Start: 22 @25256 has 60 MA's), (31, 25334), (38, 25394), (39, 25400), (41, 25406), (56, 25499), (66, 25589), (67, 25601), (70, 25610), (95, 25790), (102, 25829), (121, 25946), (129, 25994), (133, 26015), (134, 26021), (135, 26024), (147, 26129), (161, 26198), (175, 26282), (181, 26318), (194, 26396), (205, 26429), (228, 26501), (256, 26594), (264, 26624), (290, 26741),

Gene: Policronamos\_32 Start: 29667, Stop: 31169, Start Num: 21

Candidate Starts for Policronamos\_32:

(Start: 21 @29667 has 231 MA's), (Start: 30 @29736 has 3 MA's), (39, 29814), (53, 29910), (56, 29931), (58, 29937), (66, 30021), (70, 30042), (77, 30093), (83, 30147), (95, 30222), (119, 30357), (121, 30369), (133, 30438), (135, 30447), (147, 30552), (161, 30621), (181, 30747), (194, 30828), (232, 30924), (245, 30951), (252, 30978), (254, 30984), (260, 31002), (272, 31038),

Gene: Pomar16\_12 Start: 4738, Stop: 6219, Start Num: 19

Candidate Starts for Pomar16\_12:

(Start: 19 @4738 has 77 MA's), (26, 4783), (61, 5029), (68, 5089), (69, 5095), (72, 5116), (80, 5176), (109, 5344), (115, 5395), (142, 5545), (151, 5626), (186, 5815), (194, 5857), (217, 5920), (245, 6019), (284, 6148),

Gene: Porky\_32 Start: 29478, Stop: 30980, Start Num: 21

Candidate Starts for Porky\_32:

(Start: 21 @29478 has 231 MA's), (Start: 30 @29547 has 3 MA's), (39, 29625), (53, 29721), (56, 29742), (58, 29748), (66, 29832), (70, 29853), (77, 29904), (83, 29958), (95, 30033), (119, 30168), (121, 30180), (133, 30249), (135, 30258), (147, 30363), (161, 30432), (181, 30558), (194, 30639), (232, 30735), (245, 30762), (252, 30789), (254, 30795), (260, 30813), (272, 30849),

Gene: Pound\_48 Start: 42088, Stop: 43506, Start Num: 21

Candidate Starts for Pound\_48:

(Start: 21 @42088 has 231 MA's), (29, 42142), (34, 42214), (39, 42235), (50, 42316), (60, 42373), (66, 42424), (67, 42436), (70, 42445), (77, 42496), (96, 42628), (108, 42679), (118, 42754), (129, 42811), (135, 42844), (136, 42847), (167, 43039), (182, 43126), (191, 43189), (194, 43213), (198, 43222), (242, 43351), (252, 43384), (259, 43405), (260, 43408),

Gene: Power\_9 Start: 4694, Stop: 5941, Start Num: 19

Candidate Starts for Power\_9:

(Start: 19 @4694 has 77 MA's), (Start: 23 @4706 has 1 MA's), (26, 4739), (35, 4826), (42, 4850), (55, 4943), (61, 4985), (64, 5000), (68, 5045), (69, 5051), (72, 5072), (73, 5075), (100, 5222), (121, 5342), (177, 5561), (183, 5591), (185, 5615), (191, 5639), (245, 5738), (265, 5804), (267, 5810), (285, 5867),

Gene: Priya\_11 Start: 6177, Stop: 7757, Start Num: 22

Candidate Starts for Priya\_11:

(Start: 22 @6177 has 60 MA's), (29, 6228), (39, 6318), (40, 6321), (66, 6507), (70, 6528), (131, 6951), (139, 7002), (153, 7119), (168, 7203), (170, 7227), (174, 7254), (184, 7344), (204, 7416), (225, 7476), (252, 7572), (265, 7617), (271, 7635),

Gene: Psycho\_30 Start: 25525, Stop: 27159, Start Num: 21

Candidate Starts for Psycho\_30:

(Start: 21 @25525 has 231 MA's), (Start: 23 @25531 has 1 MA's), (Start: 24 @25546 has 1 MA's), (32, 25609), (34, 25651), (40, 25675), (44, 25690), (49, 25738), (60, 25810), (61, 25813), (66, 25861), (70, 25882), (91, 26032), (92, 26044), (102, 26098), (120, 26206), (121, 26215), (133, 26284), (134, 26290), (135, 26293), (146, 26380), (154, 26434), (159, 26458), (167, 26506), (181, 26587), (194, 26671), (205, 26704), (206, 26707), (252, 26854), (254, 26860), (266, 26896), (272, 26914), (299, 27049), (306, 27115), (310, 27148),

Gene: Pumpkin\_34 Start: 29718, Stop: 31220, Start Num: 21

Candidate Starts for Pumpkin\_34:

(Start: 21 @29718 has 231 MA's), (Start: 30 @29787 has 3 MA's), (39, 29865), (53, 29961), (56, 29982), (58, 29988), (66, 30072), (70, 30093), (77, 30144), (83, 30198), (95, 30273), (119, 30408), (121, 30420), (133, 30489), (135, 30498), (147, 30603), (161, 30672), (181, 30798), (194, 30879), (232, 30975), (245, 31002), (252, 31029), (254, 31035), (260, 31053), (272, 31089),

Gene: Qobbit\_11 Start: 6176, Stop: 7756, Start Num: 22

Candidate Starts for Qobbit\_11:

(Start: 22 @6176 has 60 MA's), (29, 6227), (39, 6317), (40, 6320), (44, 6335), (66, 6506), (70, 6527), (106, 6788), (131, 6950), (139, 7001), (153, 7118), (184, 7343), (204, 7415), (225, 7475), (252, 7571), (265, 7616), (271, 7634),

Gene: Quallification\_33 Start: 29847, Stop: 31349, Start Num: 21

Candidate Starts for Quallification\_33:

(2, 29622), (Start: 21 @29847 has 231 MA's), (Start: 30 @29916 has 3 MA's), (39, 29994), (53, 30090), (56, 30111), (58, 30117), (66, 30201), (70, 30222), (77, 30273), (83, 30327), (95, 30402), (119, 30537), (121, 30549), (133, 30618), (135, 30627), (147, 30732), (161, 30801), (181, 30927), (194, 31008), (232, 31104), (245, 31131), (252, 31158), (254, 31164), (260, 31182), (272, 31218),

Gene: QueenB2\_9 Start: 4800, Stop: 6035, Start Num: 19

Candidate Starts for QueenB2\_9:

(Start: 19 @4800 has 77 MA's), (Start: 23 @4812 has 1 MA's), (26, 4845), (35, 4932), (42, 4956), (55, 5049), (61, 5091), (68, 5151), (69, 5157), (72, 5178), (74, 5184), (84, 5268), (100, 5328), (101, 5334), (111, 5400), (121, 5448), (177, 5667), (183, 5697), (185, 5721), (245, 5835), (265, 5901), (275, 5925),

Gene: QueenBeesly\_9 Start: 4694, Stop: 5941, Start Num: 19

Candidate Starts for QueenBeesly\_9:

(Start: 19 @4694 has 77 MA's), (Start: 23 @4706 has 1 MA's), (26, 4739), (34, 4823), (35, 4826), (42, 4850), (55, 4943), (61, 4985), (64, 5000), (68, 5045), (69, 5051), (72, 5072), (73, 5075), (100, 5222), (121, 5342), (177, 5561), (183, 5591), (185, 5615), (191, 5639), (245, 5738), (265, 5804), (267, 5810), (285, 5867),

Gene: Rahalelujah\_9 Start: 4273, Stop: 5823, Start Num: 22

Candidate Starts for Rahalelujah\_9:

(Start: 22 @4273 has 60 MA's), (33, 4366), (39, 4414), (44, 4432), (54, 4495), (66, 4603), (70, 4624), (81, 4714), (103, 4855), (106, 4885), (120, 4975), (139, 5098), (164, 5236), (204, 5482), (215, 5512), (225, 5542), (252, 5638),

Gene: Rakim\_33 Start: 29747, Stop: 31249, Start Num: 21

Candidate Starts for Rakim\_33:

(Start: 21 @29747 has 231 MA's), (Start: 30 @29816 has 3 MA's), (39, 29894), (53, 29990), (56, 30011), (58, 30017), (66, 30101), (70, 30122), (77, 30173), (83, 30227), (95, 30302), (119, 30437), (121, 30449), (133, 30518), (135, 30527), (147, 30632), (161, 30701), (181, 30827), (194, 30908), (245, 31031), (252, 31058), (254, 31064), (260, 31082), (272, 31118),

Gene: RedRock\_12 Start: 6487, Stop: 7968, Start Num: 19

Candidate Starts for RedRock\_12:

(Start: 19 @6487 has 77 MA's), (26, 6532), (35, 6619), (55, 6736), (61, 6778), (68, 6838), (69, 6844), (72, 6865), (73, 6868), (93, 7009), (104, 7057), (115, 7144), (141, 7291), (142, 7294), (151, 7375), (186, 7564), (194, 7606), (199, 7624), (200, 7630), (209, 7654), (245, 7768), (249, 7777), (284, 7897),

Gene: Redno2\_45 Start: 37822, Stop: 39240, Start Num: 21

Candidate Starts for Redno2\_45:

(Start: 21 @37822 has 231 MA's), (29, 37876), (34, 37948), (39, 37969), (50, 38050), (60, 38107), (66, 38158), (67, 38170), (70, 38179), (77, 38230), (96, 38362), (108, 38413), (129, 38545), (135, 38578), (136, 38581), (144, 38626), (167, 38773), (182, 38860), (191, 38923), (194, 38947), (198, 38956), (249, 39106), (259, 39139), (260, 39142),

Gene: Reptar3000\_31 Start: 25755, Stop: 27365, Start Num: 21

Candidate Starts for Reptar3000\_31:

(Start: 21 @25755 has 231 MA's), (Start: 30 @25824 has 3 MA's), (34, 25881), (37, 25893), (39, 25902), (40, 25905), (44, 25920), (52, 25974), (58, 26007), (61, 26043), (66, 26091), (70, 26112), (76, 26145), (91, 26262), (92, 26274), (102, 26319), (121, 26436), (129, 26484), (133, 26505), (135, 26514), (147, 26619), (159, 26679), (161, 26688), (163, 26691), (181, 26808), (194, 26889), (198, 26898), (224, 26961), (285, 27177), (298, 27237),

Gene: Retro23\_9 Start: 4797, Stop: 6089, Start Num: 19

Candidate Starts for Retro23\_9:

(Start: 19 @4797 has 77 MA's), (Start: 23 @4809 has 1 MA's), (26, 4842), (35, 4929), (42, 4953), (55, 5046), (61, 5088), (64, 5103), (68, 5148), (69, 5154), (72, 5175), (84, 5265), (100, 5325), (101, 5331), (121, 5445), (177, 5664), (183, 5697), (190, 5742), (217, 5802), (237, 5847), (264, 5928), (287, 6030),

Gene: Rimmer\_31 Start: 29207, Stop: 30709, Start Num: 21

Candidate Starts for Rimmer\_31:

(Start: 21 @29207 has 231 MA's), (Start: 30 @29276 has 3 MA's), (39, 29354), (53, 29450), (56, 29471), (58, 29477), (66, 29561), (70, 29582), (77, 29633), (83, 29687), (95, 29762), (119, 29897), (121, 29909), (133, 29978), (135, 29987), (147, 30092), (161, 30161), (181, 30287), (194, 30368), (232, 30464), (245, 30491), (252, 30518), (254, 30524), (260, 30542), (272, 30578),

Gene: RiverMonster\_32 Start: 29396, Stop: 30898, Start Num: 21

Candidate Starts for RiverMonster\_32:

(Start: 21 @29396 has 231 MA's), (Start: 30 @29465 has 3 MA's), (39, 29543), (53, 29639), (56, 29660), (58, 29666), (66, 29750), (70, 29771), (77, 29822), (83, 29876), (95, 29951), (119, 30086), (121, 30098), (133, 30167), (135, 30176), (147, 30281), (161, 30350), (181, 30476), (194, 30557),



(245, 30680), (252, 30707), (254, 30713), (260, 30731), (272, 30767),

Gene: RonRayGun\_27 Start: 23579, Stop: 25162, Start Num: 21

Candidate Starts for RonRayGun\_27:

(Start: 21 @23579 has 231 MA's), (31, 23660), (33, 23678), (40, 23729), (43, 23741), (44, 23744), (66, 23915), (71, 23942), (92, 24104), (96, 24125), (102, 24149), (112, 24215), (120, 24257), (128, 24311), (135, 24353), (146, 24437), (150, 24473), (154, 24491), (181, 24641), (194, 24728), (235, 24839), (262, 24920), (303, 25121),

Gene: Ruthiejr\_32 Start: 25909, Stop: 27519, Start Num: 21

Candidate Starts for Ruthiejr\_32:

(Start: 21 @25909 has 231 MA's), (Start: 30 @25978 has 3 MA's), (34, 26035), (37, 26047), (39, 26056), (40, 26059), (44, 26074), (58, 26161), (60, 26194), (66, 26245), (70, 26266), (76, 26299), (92, 26428), (102, 26473), (121, 26590), (129, 26638), (133, 26659), (134, 26665), (135, 26668), (167, 26881), (181, 26962), (183, 26980), (194, 27043), (198, 27052), (224, 27115), (285, 27331), (298, 27391),

Gene: RyeScarlet\_12 Start: 6182, Stop: 7762, Start Num: 22

Candidate Starts for RyeScarlet\_12:

(Start: 22 @6182 has 60 MA's), (29, 6233), (39, 6323), (40, 6326), (44, 6341), (66, 6512), (67, 6524), (70, 6533), (106, 6794), (131, 6956), (139, 7007), (153, 7124), (184, 7349), (204, 7421), (225, 7481), (252, 7577), (265, 7622), (271, 7640),

Gene: Sachima\_9 Start: 6146, Stop: 7726, Start Num: 22

Candidate Starts for Sachima\_9:

(Start: 22 @6146 has 60 MA's), (29, 6197), (39, 6287), (40, 6290), (44, 6305), (66, 6476), (67, 6488), (70, 6497), (106, 6758), (131, 6920), (139, 6971), (153, 7088), (184, 7313), (204, 7385), (225, 7445), (252, 7541), (265, 7586), (271, 7604),

Gene: Saints25\_33 Start: 29299, Stop: 30801, Start Num: 21

Candidate Starts for Saints25\_33:

(Start: 21 @29299 has 231 MA's), (Start: 30 @29368 has 3 MA's), (39, 29446), (53, 29542), (56, 29563), (58, 29569), (66, 29653), (70, 29674), (77, 29725), (83, 29779), (95, 29854), (119, 29989), (121, 30001), (133, 30070), (135, 30079), (147, 30184), (161, 30253), (181, 30379), (194, 30460), (232, 30556), (245, 30583), (252, 30610), (254, 30616), (260, 30634), (272, 30670),

Gene: Salz\_10 Start: 6224, Stop: 7624, Start Num: 21

Candidate Starts for Salz\_10:

(13, 6185), (Start: 21 @6224 has 231 MA's), (38, 6365), (39, 6371), (44, 6389), (60, 6509), (66, 6560), (70, 6581), (76, 6614), (129, 6761), (139, 6824), (140, 6830), (158, 6974), (170, 7055), (174, 7082), (218, 7286), (221, 7307), (227, 7331), (243, 7391), (252, 7424), (273, 7490), (291, 7586),

Gene: SamScheppers\_31 Start: 26422, Stop: 28032, Start Num: 21

Candidate Starts for SamScheppers\_31:

(Start: 21 @26422 has 231 MA's), (Start: 30 @26491 has 3 MA's), (34, 26548), (37, 26560), (39, 26569), (40, 26572), (44, 26587), (58, 26674), (60, 26707), (66, 26758), (70, 26779), (76, 26812), (92, 26941), (102, 26986), (121, 27103), (129, 27151), (133, 27172), (134, 27178), (135, 27181), (167, 27394), (181, 27475), (183, 27493), (194, 27556), (198, 27565), (224, 27628), (285, 27844), (298, 27904),

Gene: Sassay\_31 Start: 29145, Stop: 30647, Start Num: 21

Candidate Starts for Sassay\_31:

(Start: 21 @29145 has 231 MA's), (Start: 30 @29214 has 3 MA's), (39, 29292), (53, 29388), (56, 29409), (58, 29415), (66, 29499), (70, 29520), (77, 29571), (83, 29625), (95, 29700), (119, 29835), (121, 29847), (133, 29916), (135, 29925), (147, 30030), (161, 30099), (181, 30225), (194, 30306), (252, 30456), (254, 30462), (260, 30480), (272, 30516),

Gene: Scarlett\_29 Start: 24041, Stop: 25699, Start Num: 19

Candidate Starts for Scarlett\_29:

(Start: 19 @24041 has 77 MA's), (37, 24176), (39, 24185), (40, 24188), (44, 24203), (53, 24281), (66, 24392), (70, 24413), (76, 24446), (82, 24512), (92, 24575), (95, 24590), (102, 24629), (121, 24746), (133, 24815), (135, 24824), (147, 24929), (159, 24989), (167, 25037), (181, 25118), (194, 25196), (205, 25229), (251, 25376), (254, 25385), (276, 25457), (289, 25523), (308, 25673),

Gene: Schatzie\_44 Start: 39838, Stop: 41256, Start Num: 21

Candidate Starts for Schatzie\_44:

(Start: 21 @39838 has 231 MA's), (29, 39892), (34, 39964), (39, 39985), (50, 40066), (60, 40123), (66, 40174), (67, 40186), (70, 40195), (77, 40246), (96, 40378), (108, 40429), (118, 40504), (129, 40561), (135, 40594), (136, 40597), (167, 40789), (182, 40876), (191, 40939), (194, 40963), (198, 40972), (249, 41122), (259, 41155), (260, 41158),

Gene: Scherzo\_11 Start: 6179, Stop: 7759, Start Num: 22

Candidate Starts for Scherzo\_11:

(Start: 22 @6179 has 60 MA's), (29, 6230), (39, 6320), (40, 6323), (44, 6338), (66, 6509), (67, 6521), (70, 6530), (106, 6791), (131, 6953), (139, 7004), (153, 7121), (184, 7346), (204, 7418), (225, 7478), (252, 7574), (265, 7619), (271, 7637),

Gene: SemperFi\_11 Start: 5122, Stop: 6369, Start Num: 19

Candidate Starts for SemperFi\_11:

(Start: 19 @5122 has 77 MA's), (Start: 23 @5134 has 1 MA's), (26, 5167), (35, 5254), (42, 5278), (55, 5371), (61, 5413), (64, 5428), (68, 5473), (69, 5479), (72, 5500), (73, 5503), (100, 5650), (121, 5770), (177, 5989), (183, 6019), (185, 6043), (191, 6067), (245, 6166), (265, 6232), (267, 6238), (285, 6295),

Gene: SgtBeansprout\_26 Start: 24344, Stop: 25981, Start Num: 19

Candidate Starts for SgtBeansprout\_26:

(Start: 19 @24344 has 77 MA's), (27, 24386), (31, 24425), (37, 24482), (39, 24491), (47, 24563), (54, 24590), (66, 24698), (70, 24719), (76, 24752), (95, 24896), (102, 24935), (121, 25052), (127, 25091), (129, 25100), (133, 25121), (134, 25127), (135, 25130), (147, 25235), (159, 25295), (181, 25424), (194, 25499), (224, 25592), (300, 25874), (308, 25955), (310, 25970),

Gene: Shaboozey\_38 Start: 33959, Stop: 35380, Start Num: 21

Candidate Starts for Shaboozey\_38:

(Start: 21 @33959 has 231 MA's), (39, 34106), (50, 34187), (66, 34295), (67, 34307), (70, 34316), (76, 34349), (77, 34367), (96, 34499), (108, 34550), (135, 34715), (144, 34763), (167, 34910), (182, 34997), (191, 35060), (194, 35084), (198, 35093), (249, 35243), (259, 35276), (260, 35279),

Gene: Shadow1\_29 Start: 24070, Stop: 25716, Start Num: 21

Candidate Starts for Shadow1\_29:

(Start: 21 @24070 has 231 MA's), (Start: 30 @24139 has 3 MA's), (31, 24151), (37, 24208), (39, 24217), (66, 24406), (70, 24427), (85, 24550), (91, 24577), (92, 24589), (95, 24604), (102, 24643), (133, 24829), (135, 24838), (147, 24943), (159, 25003), (167, 25051), (181, 25132), (194, 25210), (205, 25243), (211, 25255), (219, 25288), (228, 25315), (251, 25393), (264, 25438), (292, 25567), (299, 25606), (302, 25615), (304, 25636),

Gene: Sham4\_10 Start: 6227, Stop: 7627, Start Num: 21

Candidate Starts for Sham4\_10:

(13, 6188), (Start: 21 @6227 has 231 MA's), (38, 6368), (39, 6374), (44, 6392), (60, 6512), (66, 6563), (70, 6584), (76, 6617), (129, 6764), (139, 6827), (140, 6833), (158, 6977), (170, 7058), (174, 7085), (218, 7289), (221, 7310), (227, 7334), (243, 7394), (252, 7427), (273, 7493), (291, 7589),

Gene: ShamWow\_32 Start: 29641, Stop: 31143, Start Num: 21

Candidate Starts for ShamWow\_32:

(Start: 21 @29641 has 231 MA's), (Start: 30 @29710 has 3 MA's), (39, 29788), (53, 29884), (56, 29905), (58, 29911), (66, 29995), (70, 30016), (77, 30067), (83, 30121), (95, 30196), (119, 30331), (121, 30343), (133, 30412), (135, 30421), (147, 30526), (161, 30595), (181, 30721), (194, 30802), (252, 30952), (260, 30976), (272, 31012),

Gene: SheaKeira\_10 Start: 4377, Stop: 5927, Start Num: 22

Candidate Starts for SheaKeira\_10:

(Start: 22 @4377 has 60 MA's), (39, 4518), (66, 4707), (70, 4728), (105, 4980), (139, 5202), (155, 5298), (164, 5340), (178, 5439), (204, 5586), (225, 5646), (252, 5742), (270, 5802),

Gene: ShedlockHolmes\_31 Start: 25778, Stop: 27463, Start Num: 22

Candidate Starts for ShedlockHolmes\_31:

(Start: 22 @25778 has 60 MA's), (31, 25856), (37, 25913), (39, 25922), (56, 26021), (66, 26111), (67, 26123), (70, 26132), (95, 26312), (102, 26351), (121, 26468), (129, 26516), (133, 26537), (134, 26543), (135, 26546), (147, 26651), (161, 26720), (175, 26804), (181, 26840), (194, 26918), (205, 26951), (228, 27023), (256, 27116), (264, 27146), (290, 27263), (297, 27347),

Gene: Sheen\_10 Start: 5731, Stop: 7155, Start Num: 19

Candidate Starts for Sheen\_10:

(Start: 19 @5731 has 77 MA's), (26, 5776), (35, 5863), (55, 5980), (60, 6019), (61, 6022), (68, 6082), (69, 6088), (72, 6109), (74, 6115), (80, 6163), (96, 6256), (109, 6328), (111, 6346), (115, 6379), (147, 6550), (156, 6589), (189, 6790), (194, 6817), (200, 6838), (209, 6862), (230, 6922), (231, 6925), (245, 6955), (253, 6979), (265, 7021), (266, 7024), (277, 7060), (279, 7066), (294, 7138),

Gene: ShereKhan\_34 Start: 30624, Stop: 32126, Start Num: 21

Candidate Starts for ShereKhan\_34:

(Start: 21 @30624 has 231 MA's), (Start: 30 @30693 has 3 MA's), (39, 30771), (53, 30867), (56, 30888), (58, 30894), (66, 30978), (70, 30999), (77, 31050), (83, 31104), (95, 31179), (119, 31314), (121, 31326), (133, 31395), (135, 31404), (147, 31509), (161, 31578), (181, 31704), (194, 31785), (245, 31908), (252, 31935), (254, 31941), (260, 31959), (272, 31995),

Gene: Simpliphy\_33 Start: 29386, Stop: 30888, Start Num: 21

Candidate Starts for Simpliphy\_33:

(Start: 21 @29386 has 231 MA's), (Start: 30 @29455 has 3 MA's), (39, 29533), (53, 29629), (56, 29650), (58, 29656), (66, 29740), (70, 29761), (77, 29812), (83, 29866), (95, 29941), (119, 30076), (121, 30088), (133, 30157), (135, 30166), (147, 30271), (161, 30340), (181, 30466), (194, 30547), (245, 30670), (252, 30697), (254, 30703), (260, 30721), (272, 30757),

Gene: SirDuracell\_31 Start: 28306, Stop: 29808, Start Num: 21

Candidate Starts for SirDuracell\_31:

(Start: 21 @28306 has 231 MA's), (Start: 30 @28375 has 3 MA's), (39, 28453), (53, 28549), (56, 28570), (58, 28576), (66, 28660), (70, 28681), (77, 28732), (83, 28786), (95, 28861), (119, 28996), (121, 29008), (133, 29077), (135, 29086), (147, 29191), (161, 29260), (181, 29386), (194, 29467), (252, 29617), (254, 29623), (260, 29641), (272, 29677),

Gene: SirPhilip\_29 Start: 23735, Stop: 25366, Start Num: 20

Candidate Starts for SirPhilip\_29:

(1, 23474), (Start: 20 @23735 has 1 MA's), (Start: 22 @23741 has 60 MA's), (27, 23780), (31, 23819), (34, 23864), (37, 23876), (39, 23885), (49, 23951), (66, 24074), (70, 24095), (76, 24131), (92, 24260), (102, 24314), (117, 24413), (121, 24431), (133, 24500), (135, 24509), (147, 24614), (159, 24674), (167, 24722), (181, 24803), (194, 24881), (205, 24914), (251, 25061), (252, 25064), (276, 25142),

Gene: Sknot\_10 Start: 4749, Stop: 6053, Start Num: 19

Candidate Starts for Sknot\_10:

(Start: 19 @4749 has 77 MA's), (Start: 23 @4761 has 1 MA's), (26, 4794), (35, 4881), (59, 5013), (61, 5040), (68, 5100), (69, 5106), (72, 5127), (80, 5187), (98, 5286), (100, 5289), (111, 5361), (121, 5409), (177, 5628), (183, 5661), (193, 5715), (217, 5766), (237, 5811), (246, 5829),

Gene: Slarp\_31 Start: 26030, Stop: 27640, Start Num: 21

Candidate Starts for Slarp\_31:

(Start: 21 @26030 has 231 MA's), (Start: 30 @26099 has 3 MA's), (34, 26156), (37, 26168), (39, 26177), (40, 26180), (44, 26195), (58, 26282), (60, 26315), (66, 26366), (70, 26387), (92, 26549), (102, 26594), (121, 26711), (129, 26759), (133, 26780), (134, 26786), (135, 26789), (167, 27002), (181, 27083), (183, 27101), (194, 27164), (198, 27173), (224, 27236), (285, 27452), (298, 27512),

Gene: SnapTap\_9 Start: 4694, Stop: 5941, Start Num: 19

Candidate Starts for SnapTap\_9:

(Start: 19 @4694 has 77 MA's), (Start: 23 @4706 has 1 MA's), (26, 4739), (35, 4826), (42, 4850), (55, 4943), (61, 4985), (64, 5000), (68, 5045), (69, 5051), (72, 5072), (73, 5075), (100, 5222), (121, 5342), (177, 5561), (183, 5591), (185, 5615), (191, 5639), (245, 5738), (265, 5804), (267, 5810), (285, 5867),

Gene: Snape\_10 Start: 6230, Stop: 7630, Start Num: 21

Candidate Starts for Snape\_10:

(13, 6191), (Start: 21 @6230 has 231 MA's), (38, 6371), (39, 6377), (44, 6395), (60, 6515), (66, 6566), (70, 6587), (76, 6620), (129, 6767), (139, 6830), (140, 6836), (158, 6980), (170, 7061), (174, 7088), (218, 7292), (221, 7313), (227, 7337), (243, 7397), (252, 7430), (273, 7496), (291, 7592),

Gene: SoSeph\_29 Start: 25564, Stop: 27198, Start Num: 21

Candidate Starts for SoSeph\_29:

(Start: 21 @25564 has 231 MA's), (Start: 23 @25570 has 1 MA's), (Start: 24 @25585 has 1 MA's), (34, 25690), (40, 25714), (49, 25777), (60, 25849), (61, 25852), (66, 25900), (70, 25921), (86, 26050), (91, 26071), (92, 26083), (95, 26098), (102, 26137), (115, 26230), (120, 26245), (121, 26254), (133, 26323), (134, 26329), (135, 26332), (159, 26497), (167, 26545), (181, 26626), (194, 26710), (205, 26743), (206, 26746), (245, 26866), (252, 26893), (254, 26899), (266, 26935), (272, 26953), (276, 26971), (295, 27064), (297, 27079), (299, 27088), (306, 27154),

Gene: SophKB\_32 Start: 29640, Stop: 31142, Start Num: 21

Candidate Starts for SophKB\_32:

(Start: 21 @29640 has 231 MA's), (Start: 30 @29709 has 3 MA's), (39, 29787), (53, 29883), (56, 29904), (58, 29910), (66, 29994), (70, 30015), (77, 30066), (83, 30120), (95, 30195), (119, 30330), (121, 30342), (133, 30411), (135, 30420), (147, 30525), (161, 30594), (181, 30720), (194, 30801), (232, 30897), (245, 30924), (252, 30951), (254, 30957), (260, 30975), (272, 31011),

Gene: SororFago\_9 Start: 4555, Stop: 6138, Start Num: 22

Candidate Starts for SororFago\_9:

(Start: 22 @4555 has 60 MA's), (39, 4696), (40, 4699), (52, 4768), (66, 4885), (70, 4906), (77, 4957), (113, 5218), (120, 5257), (129, 5317), (131, 5329), (139, 5380), (153, 5497), (173, 5623), (184, 5722), (204, 5794), (212, 5815), (225, 5860), (252, 5956), (265, 6001),

Gene: Sotrice96\_32 Start: 29595, Stop: 31097, Start Num: 21

Candidate Starts for Sotrice96\_32:

(Start: 21 @29595 has 231 MA's), (Start: 30 @29664 has 3 MA's), (39, 29742), (53, 29838), (56, 29859), (58, 29865), (66, 29949), (70, 29970), (77, 30021), (92, 30135), (119, 30285), (121, 30297), (133, 30366), (135, 30375), (147, 30480), (161, 30549), (181, 30675), (194, 30756), (252, 30906), (254, 30912), (260, 30930), (272, 30966),

Gene: Spouty\_11 Start: 6176, Stop: 7756, Start Num: 22

Candidate Starts for Spouty\_11:

(Start: 22 @6176 has 60 MA's), (29, 6227), (39, 6317), (40, 6320), (66, 6506), (70, 6527), (131, 6950), (139, 7001), (153, 7118), (168, 7202), (170, 7226), (174, 7253), (184, 7343), (204, 7415), (225, 7475), (252, 7571), (265, 7616), (271, 7634),

Gene: Stank\_35 Start: 30147, Stop: 31649, Start Num: 21

Candidate Starts for Stank\_35:

(Start: 21 @30147 has 231 MA's), (Start: 30 @30216 has 3 MA's), (39, 30294), (53, 30390), (56, 30411), (58, 30417), (66, 30501), (70, 30522), (77, 30573), (83, 30627), (95, 30702), (119, 30837), (121, 30849), (133, 30918), (135, 30927), (147, 31032), (161, 31101), (181, 31227), (194, 31308), (232, 31404), (245, 31431), (252, 31458), (254, 31464), (260, 31482), (272, 31518),

Gene: StarStuff\_12 Start: 4697, Stop: 6178, Start Num: 19

Candidate Starts for StarStuff\_12:

(Start: 19 @4697 has 77 MA's), (26, 4742), (61, 4988), (68, 5048), (69, 5054), (72, 5075), (79, 5129), (80, 5135), (109, 5303), (115, 5354), (142, 5504), (151, 5585), (186, 5774), (194, 5816), (217, 5879), (245, 5978), (284, 6107),

Gene: Stark\_33 Start: 29399, Stop: 30901, Start Num: 21

Candidate Starts for Stark\_33:

(Start: 21 @29399 has 231 MA's), (Start: 30 @29468 has 3 MA's), (39, 29546), (53, 29642), (56, 29663), (58, 29669), (66, 29753), (70, 29774), (77, 29825), (83, 29879), (95, 29954), (119, 30089), (121, 30101), (133, 30170), (135, 30179), (147, 30284), (161, 30353), (181, 30479), (194, 30560), (245, 30683), (252, 30710), (254, 30716), (260, 30734), (272, 30770),

Gene: StellaBean\_32 Start: 29640, Stop: 31142, Start Num: 21

Candidate Starts for StellaBean\_32:

(Start: 21 @29640 has 231 MA's), (Start: 30 @29709 has 3 MA's), (39, 29787), (53, 29883), (56, 29904), (58, 29910), (66, 29994), (70, 30015), (77, 30066), (83, 30120), (95, 30195), (119, 30330), (121, 30342), (133, 30411), (135, 30420), (147, 30525), (161, 30594), (181, 30720), (194, 30801), (232, 30897), (245, 30924), (252, 30951), (254, 30957), (260, 30975), (272, 31011),

Gene: StolenFromERC\_34 Start: 29631, Stop: 31133, Start Num: 21

Candidate Starts for StolenFromERC\_34:

(Start: 21 @29631 has 231 MA's), (Start: 30 @29700 has 3 MA's), (39, 29778), (53, 29874), (56, 29895), (58, 29901), (66, 29985), (70, 30006), (77, 30057), (83, 30111), (95, 30186), (119, 30321), (121, 30333), (133, 30402), (135, 30411), (147, 30516), (161, 30585), (181, 30711), (194, 30792), (232, 30888), (245, 30915), (252, 30942), (254, 30948), (260, 30966), (272, 31002),

Gene: StormChicken\_32 Start: 29815, Stop: 31317, Start Num: 21

Candidate Starts for StormChicken\_32:

(Start: 21 @29815 has 231 MA's), (Start: 30 @29884 has 3 MA's), (39, 29962), (53, 30058), (56, 30079), (58, 30085), (66, 30169), (70, 30190), (77, 30241), (83, 30295), (95, 30370), (119, 30505), (121, 30517), (133, 30586), (135, 30595), (147, 30700), (161, 30769), (181, 30895), (194, 30976), (232, 31072), (245, 31099), (252, 31126), (254, 31132), (260, 31150), (272, 31186),

Gene: Sunflower1121\_29 Start: 24082, Stop: 25728, Start Num: 21

Candidate Starts for Sunflower1121\_29:

(Start: 21 @24082 has 231 MA's), (Start: 30 @24151 has 3 MA's), (31, 24163), (37, 24220), (39, 24229), (66, 24418), (70, 24439), (85, 24562), (91, 24589), (92, 24601), (95, 24616), (102, 24655), (133, 24841), (135, 24850), (147, 24955), (159, 25015), (167, 25063), (181, 25144), (194, 25222), (205, 25255), (211, 25267), (219, 25300), (228, 25327), (251, 25405), (264, 25450), (292, 25579), (299, 25618), (302, 25627), (304, 25648),

Gene: Sunhee\_8 Start: 4574, Stop: 6157, Start Num: 22

Candidate Starts for Sunhee\_8:

(Start: 22 @4574 has 60 MA's), (39, 4715), (40, 4718), (52, 4787), (66, 4904), (70, 4925), (76, 4958), (77, 4976), (120, 5276), (131, 5348), (139, 5399), (173, 5642), (174, 5651), (204, 5813), (212, 5834), (225, 5876), (252, 5972), (259, 5993), (265, 6017), (281, 6086),

Gene: Superchunk\_9 Start: 4337, Stop: 5746, Start Num: 18

Candidate Starts for Superchunk\_9:

(16, 4331), (Start: 18 @4337 has 1 MA's), (61, 4628), (68, 4688), (69, 4694), (72, 4715), (74, 4721), (80, 4769), (109, 4937), (115, 4988), (189, 5417), (202, 5468), (203, 5471), (233, 5531), (234, 5534), (291, 5717),

Gene: SweetiePie\_9 Start: 4694, Stop: 5941, Start Num: 19

Candidate Starts for SweetiePie\_9:

(Start: 19 @4694 has 77 MA's), (Start: 23 @4706 has 1 MA's), (26, 4739), (35, 4826), (42, 4850), (55, 4943), (61, 4985), (64, 5000), (68, 5045), (69, 5051), (72, 5072), (73, 5075), (100, 5222), (121, 5342), (177, 5561), (183, 5591), (185, 5615), (191, 5639), (245, 5738), (265, 5804), (267, 5810), (285, 5867),

Gene: SwirlSquare\_12 Start: 4508, Stop: 5878, Start Num: 19

Candidate Starts for SwirlSquare\_12:

(Start: 19 @4508 has 77 MA's), (42, 4664), (61, 4799), (68, 4859), (69, 4865), (72, 4886), (74, 4892), (80, 4940), (110, 5120), (115, 5159), (147, 5321), (165, 5408), (192, 5555), (202, 5600), (203, 5603), (233, 5663), (234, 5666), (291, 5849),

Gene: Syra333\_30 Start: 24095, Stop: 25738, Start Num: 21

Candidate Starts for Syra333\_30:

(Start: 21 @24095 has 231 MA's), (Start: 30 @24164 has 3 MA's), (31, 24176), (37, 24233), (39, 24242), (66, 24431), (70, 24452), (85, 24575), (91, 24602), (95, 24629), (102, 24668), (119, 24773), (133, 24854), (135, 24863), (147, 24968), (159, 25028), (167, 25076), (181, 25157), (183, 25175), (194, 25235), (205, 25268), (211, 25280), (219, 25313), (228, 25340), (251, 25418), (264, 25463), (292, 25592), (299, 25628), (304, 25658), (308, 25712),

Gene: TBond007\_30 Start: 25255, Stop: 26940, Start Num: 22

Candidate Starts for TBond007\_30:

(Start: 22 @25255 has 60 MA's), (31, 25333), (39, 25399), (41, 25405), (56, 25498), (66, 25588), (67, 25600), (70, 25609), (95, 25789), (102, 25828), (121, 25945), (129, 25993), (133, 26014), (134, 26020), (135, 26023), (147, 26128), (161, 26197), (175, 26281), (181, 26317), (194, 26395), (205, 26428), (228, 26500), (256, 26593), (264, 26623), (290, 26740), (297, 26824),

Gene: TBrady12\_34 Start: 29631, Stop: 31133, Start Num: 21

Candidate Starts for TBrady12\_34:

(Start: 21 @29631 has 231 MA's), (Start: 30 @29700 has 3 MA's), (39, 29778), (53, 29874), (56, 29895), (58, 29901), (66, 29985), (70, 30006), (77, 30057), (83, 30111), (95, 30186), (119, 30321), (121, 30333), (133, 30402), (135, 30411), (147, 30516), (161, 30585), (181, 30711), (194, 30792),

(232, 30888), (245, 30915), (252, 30942), (254, 30948), (260, 30966), (272, 31002),

Gene: TClif\_31 Start: 24557, Stop: 26188, Start Num: 21

Candidate Starts for TClif\_31:

(6, 24419), (7, 24428), (10, 24476), (Start: 21 @24557 has 231 MA's), (Start: 30 @24626 has 3 MA's), (31, 24638), (37, 24695), (39, 24704), (66, 24893), (70, 24914), (91, 25064), (102, 25130), (133, 25316), (135, 25325), (147, 25430), (159, 25490), (167, 25538), (175, 25589), (181, 25625), (194, 25700), (205, 25733), (245, 25835), (251, 25859), (257, 25877), (258, 25880), (299, 26078), (308, 26162),

Gene: Taptic\_36 Start: 36026, Stop: 37648, Start Num: 21

Candidate Starts for Taptic\_36:

(Start: 21 @36026 has 231 MA's), (Start: 23 @36032 has 1 MA's), (Start: 30 @36095 has 3 MA's), (39, 36173), (44, 36191), (47, 36245), (57, 36293), (63, 36344), (66, 36380), (70, 36401), (77, 36455), (89, 36542), (94, 36581), (116, 36719), (124, 36758), (132, 36800), (141, 36863), (150, 36947), (175, 37094), (176, 37100), (197, 37226), (200, 37238), (217, 37268), (223, 37307), (229, 37328), (239, 37361), (242, 37370), (247, 37385), (261, 37433), (276, 37484), (282, 37520), (286, 37535), (294, 37586), (301, 37643),

Gene: Taquito\_31 Start: 26469, Stop: 28079, Start Num: 21

Candidate Starts for Taquito\_31:

(Start: 21 @26469 has 231 MA's), (Start: 30 @26538 has 3 MA's), (34, 26595), (37, 26607), (39, 26616), (40, 26619), (44, 26634), (58, 26721), (60, 26754), (66, 26805), (70, 26826), (92, 26988), (102, 27033), (121, 27150), (129, 27198), (133, 27219), (134, 27225), (135, 27228), (147, 27333), (167, 27441), (181, 27522), (183, 27540), (194, 27603), (198, 27612), (224, 27675), (285, 27891), (298, 27951),

Gene: Tarkin\_34 Start: 30630, Stop: 32132, Start Num: 21

Candidate Starts for Tarkin\_34:

(Start: 21 @30630 has 231 MA's), (Start: 30 @30699 has 3 MA's), (39, 30777), (53, 30873), (56, 30894), (58, 30900), (66, 30984), (70, 31005), (77, 31056), (83, 31110), (95, 31185), (119, 31320), (121, 31332), (133, 31401), (135, 31410), (147, 31515), (161, 31584), (181, 31710), (194, 31791), (232, 31887), (245, 31914), (252, 31941), (254, 31947), (260, 31965), (272, 32001),

Gene: TeardropMSU\_31 Start: 29541, Stop: 31043, Start Num: 21

Candidate Starts for TeardropMSU\_31:

(Start: 21 @29541 has 231 MA's), (Start: 30 @29610 has 3 MA's), (39, 29688), (53, 29784), (56, 29805), (58, 29811), (66, 29895), (70, 29916), (77, 29967), (83, 30021), (92, 30081), (119, 30231), (121, 30243), (133, 30312), (135, 30321), (147, 30426), (161, 30495), (181, 30621), (194, 30702), (252, 30852), (254, 30858), (260, 30876), (272, 30912),

Gene: Teaspoon\_33 Start: 29594, Stop: 31096, Start Num: 21

Candidate Starts for Teaspoon\_33:

(Start: 21 @29594 has 231 MA's), (Start: 30 @29663 has 3 MA's), (39, 29741), (53, 29837), (56, 29858), (58, 29864), (66, 29948), (70, 29969), (77, 30020), (83, 30074), (95, 30149), (119, 30284), (121, 30296), (133, 30365), (135, 30374), (147, 30479), (161, 30548), (181, 30674), (194, 30755), (245, 30878), (252, 30905), (254, 30911), (260, 30929), (272, 30965),

Gene: Teejan\_26 Start: 24344, Stop: 25981, Start Num: 19

Candidate Starts for Teejan\_26:

(Start: 19 @24344 has 77 MA's), (27, 24386), (31, 24425), (37, 24482), (39, 24491), (47, 24563), (54, 24590), (66, 24698), (70, 24719), (76, 24752), (95, 24896), (102, 24935), (121, 25052), (127, 25091), (129, 25100), (133, 25121), (134, 25127), (135, 25130), (147, 25235), (159, 25295), (181, 25424),

(194, 25499), (224, 25592), (300, 25874), (308, 25955), (310, 25970),

Gene: Terminus\_32 Start: 29728, Stop: 31230, Start Num: 21

Candidate Starts for Terminus\_32:

(Start: 21 @29728 has 231 MA's), (Start: 30 @29797 has 3 MA's), (39, 29875), (53, 29971), (56, 29992), (58, 29998), (66, 30082), (70, 30103), (77, 30154), (83, 30208), (95, 30283), (119, 30418), (121, 30430), (133, 30499), (135, 30508), (147, 30613), (161, 30682), (181, 30808), (194, 30889), (245, 31012), (252, 31039), (254, 31045), (260, 31063), (272, 31099),

Gene: Terrific\_13 Start: 5203, Stop: 6507, Start Num: 19

Candidate Starts for Terrific\_13:

(Start: 19 @5203 has 77 MA's), (26, 5248), (35, 5335), (61, 5494), (68, 5554), (69, 5560), (72, 5581), (80, 5641), (98, 5740), (100, 5743), (111, 5815), (177, 6082), (183, 6115), (193, 6169), (217, 6220), (237, 6265), (246, 6283),

Gene: Thimble\_32 Start: 28591, Stop: 30093, Start Num: 21

Candidate Starts for Thimble\_32:

(Start: 21 @28591 has 231 MA's), (Start: 30 @28660 has 3 MA's), (39, 28738), (53, 28834), (56, 28855), (58, 28861), (66, 28945), (70, 28966), (77, 29017), (83, 29071), (95, 29146), (119, 29281), (121, 29293), (133, 29362), (135, 29371), (147, 29476), (161, 29545), (181, 29671), (194, 29752), (232, 29848), (245, 29875), (252, 29902), (254, 29908), (260, 29926), (272, 29962),

Gene: ThreeRngTarjay\_45 Start: 40917, Stop: 42335, Start Num: 21

Candidate Starts for ThreeRngTarjay\_45:

(Start: 21 @40917 has 231 MA's), (29, 40971), (34, 41043), (39, 41064), (50, 41145), (60, 41202), (66, 41253), (67, 41265), (70, 41274), (77, 41325), (96, 41457), (108, 41508), (129, 41640), (135, 41673), (136, 41676), (167, 41868), (182, 41955), (191, 42018), (194, 42042), (198, 42051), (249, 42201), (259, 42234), (260, 42237),

Gene: Thresher\_33 Start: 30395, Stop: 31897, Start Num: 21

Candidate Starts for Thresher\_33:

(Start: 21 @30395 has 231 MA's), (Start: 30 @30464 has 3 MA's), (39, 30542), (53, 30638), (56, 30659), (58, 30665), (66, 30749), (70, 30770), (77, 30821), (83, 30875), (95, 30950), (119, 31085), (121, 31097), (133, 31166), (135, 31175), (147, 31280), (161, 31349), (181, 31475), (194, 31556), (245, 31679), (252, 31706), (254, 31712), (260, 31730), (272, 31766),

Gene: Thyatira\_29 Start: 25415, Stop: 27049, Start Num: 21

Candidate Starts for Thyatira\_29:

(Start: 21 @25415 has 231 MA's), (Start: 23 @25421 has 1 MA's), (Start: 24 @25436 has 1 MA's), (34, 25541), (40, 25565), (49, 25628), (60, 25700), (61, 25703), (66, 25751), (70, 25772), (86, 25901), (91, 25922), (92, 25934), (95, 25949), (102, 25988), (120, 26096), (121, 26105), (133, 26174), (134, 26180), (135, 26183), (147, 26288), (154, 26324), (159, 26348), (167, 26396), (181, 26477), (194, 26561), (205, 26594), (206, 26597), (245, 26717), (252, 26744), (254, 26750), (266, 26786), (272, 26804), (276, 26822), (283, 26855), (295, 26915), (306, 27005), (308, 27023), (310, 27038),

Gene: Tierra\_30 Start: 24918, Stop: 26564, Start Num: 21

Candidate Starts for Tierra\_30:

(Start: 21 @24918 has 231 MA's), (29, 24972), (31, 24999), (37, 25056), (39, 25065), (66, 25254), (70, 25275), (95, 25452), (102, 25491), (133, 25677), (135, 25686), (147, 25791), (163, 25863), (167, 25899), (181, 25980), (194, 26058), (205, 26091), (211, 26103), (219, 26136), (228, 26163), (251, 26241), (264, 26286), (292, 26415), (299, 26454), (304, 26484), (308, 26538),

Gene: Timothy\_10 Start: 6224, Stop: 7624, Start Num: 21



Candidate Starts for Timothy\_10:

(13, 6185), (Start: 21 @6224 has 231 MA's), (39, 6371), (44, 6389), (60, 6509), (66, 6560), (70, 6581), (76, 6614), (129, 6761), (139, 6824), (140, 6830), (158, 6974), (170, 7055), (174, 7082), (218, 7286), (221, 7307), (227, 7331), (243, 7391), (252, 7424), (273, 7490), (291, 7586),

Gene: TinyTimmy\_10 Start: 6279, Stop: 7676, Start Num: 22

Candidate Starts for TinyTimmy\_10:

(Start: 22 @6279 has 60 MA's), (38, 6417), (39, 6423), (44, 6441), (60, 6561), (66, 6612), (70, 6633), (76, 6666), (129, 6813), (139, 6876), (140, 6882), (158, 7026), (170, 7107), (174, 7134), (218, 7338), (221, 7359), (227, 7383), (243, 7443), (252, 7476), (273, 7542), (291, 7638),

Gene: Toaka\_9 Start: 4553, Stop: 6103, Start Num: 22

Candidate Starts for Toaka\_9:

(Start: 22 @4553 has 60 MA's), (33, 4646), (39, 4694), (66, 4883), (70, 4904), (81, 4994), (104, 5138), (106, 5165), (120, 5255), (137, 5363), (139, 5378), (155, 5474), (178, 5615), (184, 5690), (204, 5762), (215, 5792), (225, 5822), (252, 5918), (271, 5981),

Gene: Tomaszewski\_31 Start: 29238, Stop: 30740, Start Num: 21

Candidate Starts for Tomaszewski\_31:

(Start: 21 @29238 has 231 MA's), (Start: 30 @29307 has 3 MA's), (39, 29385), (53, 29481), (56, 29502), (58, 29508), (66, 29592), (70, 29613), (77, 29664), (83, 29718), (95, 29793), (119, 29928), (121, 29940), (133, 30009), (135, 30018), (147, 30123), (161, 30192), (181, 30318), (194, 30399), (252, 30549), (254, 30555), (260, 30573), (272, 30609),

Gene: Tomathan\_12 Start: 4697, Stop: 6178, Start Num: 19

Candidate Starts for Tomathan\_12:

(Start: 19 @4697 has 77 MA's), (26, 4742), (61, 4988), (68, 5048), (69, 5054), (72, 5075), (79, 5129), (80, 5135), (109, 5303), (115, 5354), (142, 5504), (151, 5585), (186, 5774), (194, 5816), (217, 5879), (245, 5978), (284, 6107),

Gene: Toro\_11 Start: 5649, Stop: 7097, Start Num: 19

Candidate Starts for Toro\_11:

(Start: 19 @5649 has 77 MA's), (26, 5694), (35, 5781), (55, 5898), (60, 5937), (61, 5940), (68, 6000), (69, 6006), (72, 6027), (74, 6033), (80, 6081), (96, 6174), (109, 6246), (115, 6297), (142, 6447), (147, 6507), (151, 6528), (171, 6618), (179, 6645), (189, 6732), (194, 6759), (200, 6780), (209, 6804), (230, 6864), (231, 6867), (245, 6897), (253, 6921), (265, 6963), (266, 6966), (277, 7002), (279, 7008), (294, 7080),

Gene: Torres\_26 Start: 24344, Stop: 25981, Start Num: 19

Candidate Starts for Torres\_26:

(Start: 19 @24344 has 77 MA's), (27, 24386), (31, 24425), (37, 24482), (39, 24491), (47, 24563), (54, 24590), (66, 24698), (70, 24719), (76, 24752), (95, 24896), (102, 24935), (121, 25052), (127, 25091), (129, 25100), (133, 25121), (134, 25127), (135, 25130), (147, 25235), (159, 25295), (181, 25424), (194, 25499), (224, 25592), (300, 25874), (308, 25955), (310, 25970),

Gene: Toto\_32 Start: 29710, Stop: 31143, Start Num: 30

Candidate Starts for Toto\_32:

(Start: 21 @29641 has 231 MA's), (Start: 30 @29710 has 3 MA's), (39, 29788), (53, 29884), (56, 29905), (58, 29911), (66, 29995), (70, 30016), (77, 30067), (83, 30121), (95, 30196), (119, 30331), (121, 30343), (133, 30412), (135, 30421), (147, 30526), (161, 30595), (181, 30721), (194, 30802), (252, 30952), (260, 30976), (272, 31012),

Gene: Traaww1\_30 Start: 29279, Stop: 30781, Start Num: 21

Candidate Starts for Traaww1\_30:

(Start: 21 @29279 has 231 MA's), (Start: 30 @29348 has 3 MA's), (39, 29426), (53, 29522), (56, 29543), (58, 29549), (66, 29633), (70, 29654), (77, 29705), (83, 29759), (92, 29819), (119, 29969), (121, 29981), (133, 30050), (135, 30059), (147, 30164), (161, 30233), (181, 30359), (194, 30440), (252, 30590), (254, 30596), (260, 30614), (272, 30650),

Gene: Travvers\_12 Start: 4697, Stop: 6178, Start Num: 19

Candidate Starts for Travvers\_12:

(Start: 19 @4697 has 77 MA's), (26, 4742), (61, 4988), (68, 5048), (69, 5054), (72, 5075), (79, 5129), (80, 5135), (109, 5303), (115, 5354), (142, 5504), (151, 5585), (186, 5774), (194, 5816), (217, 5879), (245, 5978), (284, 6107),

Gene: TribelTrouble\_29 Start: 25351, Stop: 26991, Start Num: 22

Candidate Starts for TribelTrouble\_29:

(Start: 22 @25351 has 60 MA's), (31, 25429), (39, 25495), (41, 25501), (54, 25576), (62, 25642), (66, 25684), (67, 25696), (70, 25705), (88, 25840), (95, 25885), (102, 25924), (117, 26023), (120, 26032), (121, 26041), (129, 26089), (133, 26110), (134, 26116), (135, 26119), (147, 26224), (160, 26290), (161, 26293), (175, 26377), (181, 26413), (194, 26491), (222, 26584), (264, 26710), (268, 26722), (276, 26752), (297, 26875), (308, 26968),

Gene: Trixie\_12 Start: 6376, Stop: 7671, Start Num: 19

Candidate Starts for Trixie\_12:

(Start: 19 @6376 has 77 MA's), (Start: 23 @6388 has 1 MA's), (26, 6421), (35, 6508), (42, 6532), (55, 6625), (61, 6667), (64, 6682), (68, 6727), (69, 6733), (72, 6754), (74, 6760), (121, 7033), (177, 7252), (183, 7279), (190, 7324), (217, 7384), (264, 7510), (285, 7600), (287, 7612),

Gene: Tubs\_11 Start: 6146, Stop: 7726, Start Num: 22

Candidate Starts for Tubs\_11:

(Start: 22 @6146 has 60 MA's), (29, 6197), (39, 6287), (40, 6290), (66, 6476), (70, 6497), (106, 6758), (131, 6920), (139, 6971), (153, 7088), (184, 7313), (204, 7385), (225, 7445), (252, 7541), (265, 7586), (271, 7604),

Gene: Tuco\_33 Start: 30149, Stop: 31651, Start Num: 21

Candidate Starts for Tuco\_33:

(Start: 21 @30149 has 231 MA's), (Start: 30 @30218 has 3 MA's), (39, 30296), (53, 30392), (56, 30413), (58, 30419), (66, 30503), (70, 30524), (77, 30575), (83, 30629), (95, 30704), (119, 30839), (121, 30851), (133, 30920), (135, 30929), (147, 31034), (161, 31103), (181, 31229), (194, 31310), (252, 31460), (254, 31466), (260, 31484), (272, 31520),

Gene: Ugenie5\_8 Start: 6179, Stop: 7759, Start Num: 22

Candidate Starts for Ugenie5\_8:

(Start: 22 @6179 has 60 MA's), (29, 6230), (39, 6320), (40, 6323), (44, 6338), (66, 6509), (67, 6521), (70, 6530), (106, 6791), (131, 6953), (139, 7004), (153, 7121), (184, 7346), (204, 7418), (225, 7478), (252, 7574), (265, 7619), (271, 7637),

Gene: Ukulele\_32 Start: 29399, Stop: 30901, Start Num: 21

Candidate Starts for Ukulele\_32:

(Start: 21 @29399 has 231 MA's), (Start: 30 @29468 has 3 MA's), (39, 29546), (53, 29642), (56, 29663), (58, 29669), (66, 29753), (70, 29774), (77, 29825), (83, 29879), (95, 29954), (119, 30089), (121, 30101), (133, 30170), (135, 30179), (147, 30284), (161, 30353), (181, 30479), (194, 30560), (232, 30656), (245, 30683), (252, 30710), (254, 30716), (260, 30734), (272, 30770),

Gene: Unicorn\_30 Start: 24247, Stop: 25893, Start Num: 21

Candidate Starts for Unicorn\_30:

(Start: 21 @24247 has 231 MA's), (Start: 30 @24316 has 3 MA's), (31, 24328), (37, 24385), (39, 24394), (66, 24583), (70, 24604), (85, 24727), (95, 24781), (102, 24820), (133, 25006), (135, 25015), (147, 25120), (163, 25192), (167, 25228), (181, 25309), (194, 25387), (205, 25420), (211, 25432), (219, 25465), (228, 25492), (251, 25570), (264, 25615), (292, 25744), (299, 25783), (304, 25813),

Gene: Updawg\_11 Start: 5191, Stop: 6495, Start Num: 19

Candidate Starts for Updawg\_11:

(Start: 19 @5191 has 77 MA's), (26, 5236), (35, 5323), (61, 5482), (68, 5542), (69, 5548), (72, 5569), (73, 5572), (80, 5629), (98, 5728), (100, 5731), (111, 5803), (121, 5851), (177, 6070), (183, 6103), (193, 6157), (217, 6208), (237, 6253), (246, 6271), (279, 6388),

Gene: VA6\_9 Start: 4672, Stop: 5973, Start Num: 19

Candidate Starts for VA6\_9:

(Start: 19 @4672 has 77 MA's), (26, 4717), (35, 4804), (42, 4828), (55, 4921), (61, 4963), (64, 4978), (68, 5023), (69, 5029), (72, 5050), (74, 5056), (100, 5212), (111, 5284), (121, 5332), (149, 5455), (177, 5551), (183, 5584), (217, 5689), (233, 5725), (264, 5815), (287, 5917),

Gene: VC3\_12 Start: 4696, Stop: 6177, Start Num: 19

Candidate Starts for VC3\_12:

(Start: 19 @4696 has 77 MA's), (26, 4741), (34, 4825), (61, 4987), (68, 5047), (69, 5053), (72, 5074), (79, 5128), (80, 5134), (109, 5302), (115, 5353), (142, 5503), (151, 5584), (194, 5815), (217, 5878), (245, 5977), (284, 6106),

Gene: Vanisoa\_9 Start: 4264, Stop: 5814, Start Num: 22

Candidate Starts for Vanisoa\_9:

(Start: 22 @4264 has 60 MA's), (39, 4405), (40, 4408), (44, 4423), (66, 4594), (70, 4615), (75, 4645), (103, 4846), (106, 4876), (120, 4966), (137, 5074), (139, 5089), (155, 5185), (164, 5227), (178, 5326), (204, 5473), (215, 5503), (225, 5533), (252, 5629), (270, 5689),

Gene: ViviJ\_28 Start: 25378, Stop: 26991, Start Num: 24

Candidate Starts for ViviJ\_28:

(Start: 21 @25357 has 231 MA's), (Start: 23 @25363 has 1 MA's), (Start: 24 @25378 has 1 MA's), (34, 25483), (40, 25507), (44, 25522), (49, 25570), (60, 25642), (66, 25693), (70, 25714), (91, 25864), (92, 25876), (95, 25891), (102, 25930), (120, 26038), (121, 26047), (133, 26116), (134, 26122), (135, 26125), (159, 26290), (161, 26299), (167, 26338), (175, 26383), (181, 26419), (194, 26503), (205, 26536), (206, 26539), (252, 26686), (254, 26692), (266, 26728), (272, 26746), (299, 26881), (306, 26947), (310, 26980),

Gene: Wanda\_53 Start: 40631, Stop: 42073, Start Num: 17

Candidate Starts for Wanda\_53:

(15, 40607), (Start: 17 @40631 has 2 MA's), (Start: 22 @40640 has 60 MA's), (45, 40805), (46, 40826), (48, 40856), (56, 40898), (57, 40901), (70, 41009), (96, 41195), (108, 41246), (129, 41378), (135, 41411), (136, 41414), (144, 41459), (167, 41606), (182, 41693), (191, 41756), (194, 41780), (198, 41789), (249, 41939), (259, 41972), (260, 41975),

Gene: Waterfoul\_29 Start: 25439, Stop: 27073, Start Num: 21

Candidate Starts for Waterfoul\_29:

(Start: 21 @25439 has 231 MA's), (Start: 23 @25445 has 1 MA's), (Start: 24 @25460 has 1 MA's), (29, 25493), (Start: 30 @25508 has 3 MA's), (34, 25565), (39, 25586), (40, 25589), (44, 25604), (49, 25652), (60, 25724), (66, 25775), (70, 25796), (86, 25925), (91, 25946), (95, 25973), (102, 26012), (120, 26120), (121, 26129), (133, 26198), (134, 26204), (135, 26207), (147, 26312), (154, 26348), (159, 26372), (167, 26420), (181, 26501), (194, 26585), (205, 26618), (206, 26621), (232, 26714),

(245, 26741), (252, 26768), (254, 26774), (266, 26810), (272, 26828), (276, 26846), (283, 26879), (295, 26939), (306, 27029), (308, 27047), (310, 27062),

Gene: WeiHuaDA\_15 Start: 6986, Stop: 8281, Start Num: 19

Candidate Starts for WeiHuaDA\_15:

(Start: 19 @6986 has 77 MA's), (Start: 23 @6998 has 1 MA's), (26, 7031), (35, 7118), (42, 7142), (55, 7235), (61, 7277), (68, 7337), (69, 7343), (72, 7364), (74, 7370), (84, 7454), (95, 7511), (121, 7643), (177, 7862), (183, 7889), (190, 7934), (207, 7976), (217, 7994), (237, 8039), (264, 8120), (281, 8192), (287, 8222),

Gene: Whitty\_27 Start: 23579, Stop: 25162, Start Num: 21

Candidate Starts for Whitty\_27:

(Start: 21 @23579 has 231 MA's), (31, 23660), (33, 23678), (40, 23729), (43, 23741), (44, 23744), (66, 23915), (71, 23942), (92, 24104), (96, 24125), (102, 24149), (112, 24215), (120, 24257), (128, 24311), (135, 24353), (146, 24437), (150, 24473), (154, 24491), (181, 24641), (194, 24728), (235, 24839), (262, 24920), (303, 25121),

Gene: WideWale\_11 Start: 5191, Stop: 6495, Start Num: 19

Candidate Starts for WideWale\_11:

(Start: 19 @5191 has 77 MA's), (26, 5236), (35, 5323), (61, 5482), (68, 5542), (69, 5548), (72, 5569), (73, 5572), (80, 5629), (98, 5728), (100, 5731), (111, 5803), (121, 5851), (177, 6070), (183, 6103), (193, 6157), (217, 6208), (237, 6253), (246, 6271), (279, 6388),

Gene: Wiggin\_35 Start: 30145, Stop: 31647, Start Num: 21

Candidate Starts for Wiggin\_35:

(Start: 21 @30145 has 231 MA's), (Start: 30 @30214 has 3 MA's), (39, 30292), (53, 30388), (56, 30409), (58, 30415), (66, 30499), (70, 30520), (77, 30571), (83, 30625), (95, 30700), (119, 30835), (121, 30847), (133, 30916), (135, 30925), (147, 31030), (161, 31099), (181, 31225), (194, 31306), (245, 31429), (252, 31456), (254, 31462), (260, 31480), (272, 31516),

Gene: Willez\_31 Start: 29145, Stop: 30647, Start Num: 21

Candidate Starts for Willez\_31:

(Start: 21 @29145 has 231 MA's), (Start: 30 @29214 has 3 MA's), (39, 29292), (53, 29388), (56, 29409), (58, 29415), (66, 29499), (70, 29520), (77, 29571), (83, 29625), (95, 29700), (119, 29835), (121, 29847), (133, 29916), (135, 29925), (147, 30030), (161, 30099), (181, 30225), (194, 30306), (252, 30456), (254, 30462), (260, 30480), (272, 30516),

Gene: Wintermute\_31 Start: 26019, Stop: 27629, Start Num: 21

Candidate Starts for Wintermute\_31:

(Start: 21 @26019 has 231 MA's), (Start: 30 @26088 has 3 MA's), (34, 26145), (37, 26157), (39, 26166), (40, 26169), (44, 26184), (52, 26238), (58, 26271), (60, 26304), (66, 26355), (70, 26376), (76, 26409), (81, 26466), (92, 26538), (102, 26583), (121, 26700), (129, 26748), (133, 26769), (134, 26775), (135, 26778), (147, 26883), (167, 26991), (181, 27072), (183, 27090), (194, 27153), (198, 27162), (224, 27225), (285, 27441), (298, 27501),

Gene: Xandras\_34 Start: 29631, Stop: 31133, Start Num: 21

Candidate Starts for Xandras\_34:

(Start: 21 @29631 has 231 MA's), (Start: 30 @29700 has 3 MA's), (39, 29778), (53, 29874), (56, 29895), (58, 29901), (66, 29985), (70, 30006), (77, 30057), (83, 30111), (95, 30186), (119, 30321), (121, 30333), (133, 30402), (135, 30411), (147, 30516), (161, 30585), (181, 30711), (194, 30792), (232, 30888), (245, 30915), (252, 30942), (254, 30948), (260, 30966), (272, 31002),

Gene: Ximenita\_31 Start: 24274, Stop: 25920, Start Num: 21

Candidate Starts for Ximenita\_31:

(Start: 21 @24274 has 231 MA's), (Start: 30 @24343 has 3 MA's), (31, 24355), (37, 24412), (39, 24421), (66, 24610), (70, 24631), (76, 24667), (85, 24757), (95, 24811), (102, 24850), (133, 25036), (135, 25045), (147, 25150), (159, 25210), (167, 25258), (181, 25339), (194, 25417), (205, 25450), (211, 25462), (219, 25495), (228, 25522), (251, 25600), (264, 25645), (292, 25774), (299, 25810), (302, 25819), (304, 25840), (308, 25894),

Gene: Y10\_31 Start: 26019, Stop: 27629, Start Num: 21

Candidate Starts for Y10\_31:

(Start: 21 @26019 has 231 MA's), (Start: 30 @26088 has 3 MA's), (34, 26145), (37, 26157), (39, 26166), (40, 26169), (44, 26184), (52, 26238), (58, 26271), (60, 26304), (66, 26355), (70, 26376), (76, 26409), (81, 26466), (92, 26538), (102, 26583), (121, 26700), (129, 26748), (133, 26769), (134, 26775), (135, 26778), (147, 26883), (167, 26991), (181, 27072), (183, 27090), (194, 27153), (198, 27162), (224, 27225), (285, 27441), (298, 27501),

Gene: Y2\_31 Start: 26019, Stop: 27629, Start Num: 21

Candidate Starts for Y2\_31:

(Start: 21 @26019 has 231 MA's), (Start: 30 @26088 has 3 MA's), (34, 26145), (37, 26157), (39, 26166), (40, 26169), (44, 26184), (52, 26238), (58, 26271), (60, 26304), (66, 26355), (70, 26376), (76, 26409), (81, 26466), (92, 26538), (102, 26583), (121, 26700), (129, 26748), (133, 26769), (134, 26775), (135, 26778), (147, 26883), (167, 26991), (181, 27072), (183, 27090), (194, 27153), (198, 27162), (224, 27225), (285, 27441), (298, 27501),

Gene: YassJohnny\_33 Start: 30156, Stop: 31658, Start Num: 21

Candidate Starts for YassJohnny\_33:

(Start: 21 @30156 has 231 MA's), (Start: 30 @30225 has 3 MA's), (39, 30303), (53, 30399), (56, 30420), (58, 30426), (66, 30510), (70, 30531), (77, 30582), (83, 30636), (95, 30711), (119, 30846), (121, 30858), (133, 30927), (135, 30936), (147, 31041), (161, 31110), (181, 31236), (194, 31317), (245, 31440), (252, 31467), (254, 31473), (260, 31491), (272, 31527),

Gene: Yecey3\_10 Start: 4341, Stop: 5915, Start Num: 22

Candidate Starts for Yecey3\_10:

(Start: 22 @4341 has 60 MA's), (33, 4434), (39, 4482), (40, 4485), (47, 4554), (66, 4689), (70, 4710), (77, 4761), (106, 4971), (126, 5103), (131, 5133), (139, 5184), (164, 5322), (174, 5406), (178, 5421), (204, 5568), (225, 5634), (252, 5730), (259, 5751), (280, 5838),

Gene: Yeet\_45 Start: 40076, Stop: 41494, Start Num: 21

Candidate Starts for Yeet\_45:

(Start: 21 @40076 has 231 MA's), (29, 40130), (34, 40202), (39, 40223), (50, 40304), (60, 40361), (66, 40412), (67, 40424), (70, 40433), (77, 40484), (96, 40616), (108, 40667), (129, 40799), (135, 40832), (136, 40835), (167, 41027), (182, 41114), (191, 41177), (194, 41201), (198, 41210), (249, 41360), (259, 41393), (260, 41396),

Gene: Youngblood\_32 Start: 29801, Stop: 31303, Start Num: 21

Candidate Starts for Youngblood\_32:

(Start: 21 @29801 has 231 MA's), (Start: 30 @29870 has 3 MA's), (39, 29948), (53, 30044), (56, 30065), (58, 30071), (66, 30155), (70, 30176), (77, 30227), (83, 30281), (95, 30356), (119, 30491), (121, 30503), (133, 30572), (135, 30581), (147, 30686), (161, 30755), (181, 30881), (194, 30962), (252, 31112), (254, 31118), (260, 31136), (272, 31172),

Gene: Zelink\_48 Start: 41861, Stop: 43279, Start Num: 21

Candidate Starts for Zelink\_48:

(Start: 21 @41861 has 231 MA's), (29, 41915), (34, 41987), (39, 42008), (50, 42089), (60, 42146), (66, 42197), (67, 42209), (70, 42218), (77, 42269), (96, 42401), (108, 42452), (129, 42584), (135, 42617), (136, 42620), (144, 42665), (167, 42812), (182, 42899), (191, 42962), (194, 42986), (198, 42995), (249, 43145), (259, 43178), (260, 43181),

Gene: ZenTime222\_27 Start: 23579, Stop: 25162, Start Num: 21

Candidate Starts for ZenTime222\_27:

(Start: 21 @23579 has 231 MA's), (31, 23660), (33, 23678), (40, 23729), (43, 23741), (44, 23744), (66, 23915), (71, 23942), (92, 24104), (96, 24125), (102, 24149), (112, 24215), (120, 24257), (128, 24311), (135, 24353), (146, 24437), (150, 24473), (154, 24491), (181, 24641), (194, 24728), (235, 24839), (262, 24920), (303, 25121),

Gene: xkcd\_33 Start: 29810, Stop: 31312, Start Num: 21

Candidate Starts for xkcd\_33:

(Start: 21 @29810 has 231 MA's), (Start: 30 @29879 has 3 MA's), (39, 29957), (53, 30053), (56, 30074), (58, 30080), (66, 30164), (70, 30185), (77, 30236), (83, 30290), (95, 30365), (119, 30500), (121, 30512), (133, 30581), (135, 30590), (147, 30695), (161, 30764), (181, 30890), (194, 30971), (232, 31067), (245, 31094), (252, 31121), (254, 31127), (260, 31145), (272, 31181),