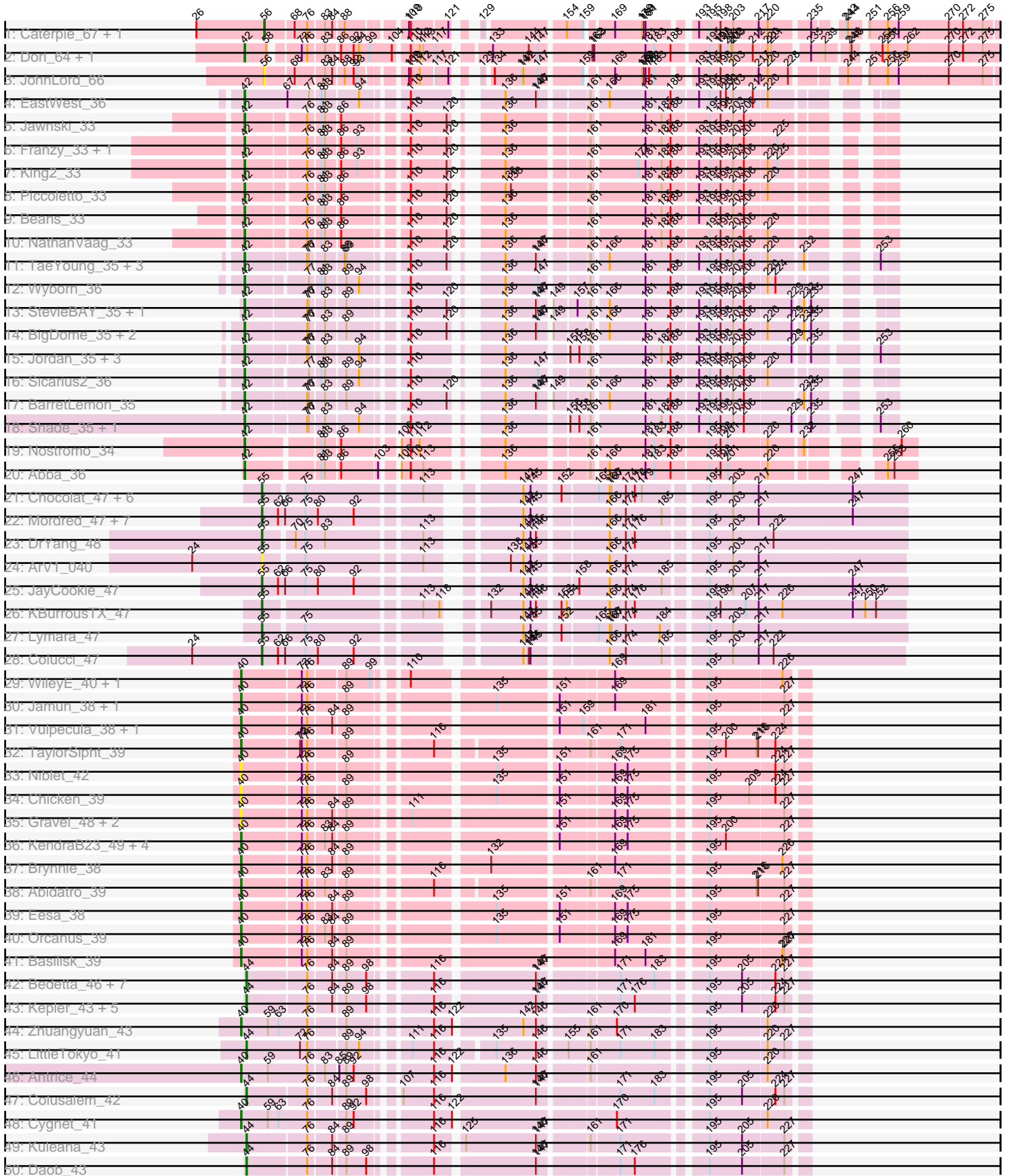


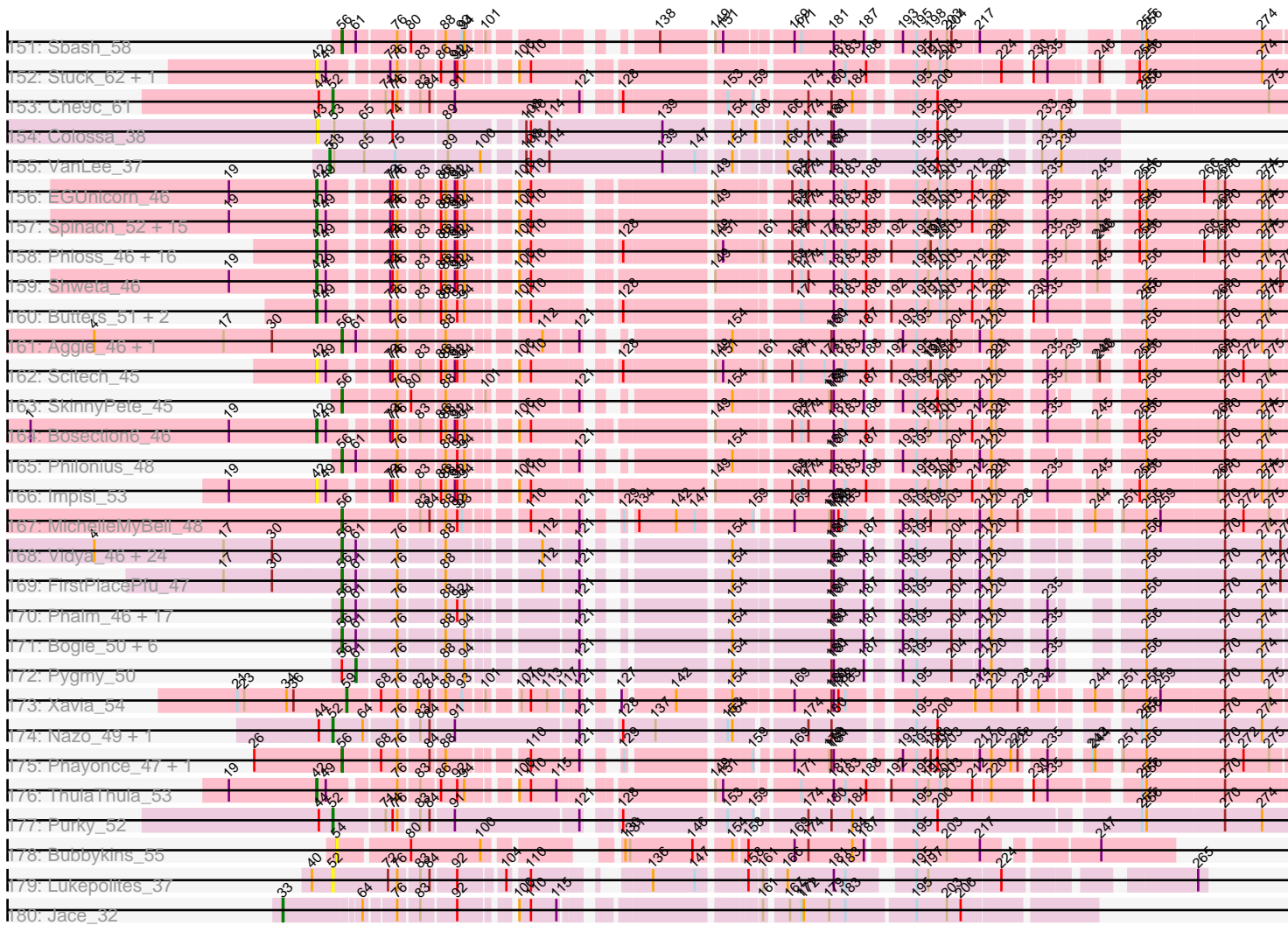
Pham 294350







Pham 294350



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 294350 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294350 has 378 members, 59 are drafts.

Phages represented in each track:

- Track 1 : Caterpie\_67, Sejanus\_64
- Track 2 : Dori\_64, Mask\_64
- Track 3 : JohnLord\_66
- Track 4 : EastWest\_36
- Track 5 : Jawnski\_33
- Track 6 : Franzy\_33, Brent\_33
- Track 7 : King2\_33
- Track 8 : Piccoletto\_33
- Track 9 : Beans\_33
- Track 10 : NathanVaag\_33
- Track 11 : TaeYoung\_35, Grekaycon\_35, BossLady\_35, Martha\_35
- Track 12 : Wyborn\_36
- Track 13 : StevieBAY\_35, GravityBall\_35
- Track 14 : BigDome\_35, LeeroyJ\_35, Timinator\_35
- Track 15 : Jordan\_35, Pippa\_35, Zartrosa\_35, JKerns\_35
- Track 16 : Sicarius2\_36
- Track 17 : BarretLemon\_35
- Track 18 : Shade\_35, Sonny\_35
- Track 19 : Nostromo\_34
- Track 20 : Abba\_36
- Track 21 : Chocolat\_47, Chubster\_47, Linus\_47, MoyaNatalis\_47, EdgarPoe\_47, Conboy\_47, PrincessTrina\_47
- Track 22 : Mordred\_47, RosiePosie\_47, Chipper1996\_470, Tophat\_47, Kabreeze\_47, Scavito\_47, HumptyDumpty\_47, JaNo\_47
- Track 23 : DrYang\_48
- Track 24 : ArV1\_040
- Track 25 : JayCookie\_47
- Track 26 : KBurrousTX\_47
- Track 27 : Lymara\_47
- Track 28 : Colucci\_47
- Track 29 : WileyE\_40, Chickaboom\_40
- Track 30 : Jamun\_38, Galaxy\_38
- Track 31 : Vulpecula\_38, Ruchi\_38
- Track 32 : TaylorSipht\_39
- Track 33 : Niblet\_42
- Track 34 : Chicken\_39
- Track 35 : Gravel\_48, Pelletreau\_48, Westrich\_47

- Track 36 : KendraB23\_49, Amanises\_48, Shen\_38, Zixiang\_42, Toad24\_41
- Track 37 : Brynnie\_38
- Track 38 : Abidatro\_39
- Track 39 : Eesa\_38
- Track 40 : Orcanus\_39
- Track 41 : Basilisk\_39
- Track 42 : Bedetta\_46, Amelia\_41, Cote\_43, Bibble12\_45, HannahPhantana\_42, Pineda\_44, Jerole\_42, Coral\_41
- Track 43 : Kepler\_43, Melons\_43, Lunar\_43, PhirstandPhine\_50, Polka\_41, OtsoOtso\_42
- Track 44 : Zhuangyuan\_43
- Track 45 : LittleTokyo\_41
- Track 46 : Antrice\_44
- Track 47 : Colusalem\_42
- Track 48 : Cygnet\_41
- Track 49 : Kuleana\_43
- Track 50 : Daob\_43
- Track 51 : Camara\_41, Glotell\_42, Amphitrite\_41, AdoptaAdorbs\_40, KHumphrey\_41
- Track 52 : Andrew\_42
- Track 53 : Leona\_40, Azaz\_42
- Track 54 : PhluffyCoco\_41, Rattail\_41, HamCheese\_41, Laphuphu24k\_40, DanHam62\_41, AmiCi24\_40, RedFox\_41, Fingolfin\_41, Juno112\_40, Atlantica\_41, Oppalora\_40
- Track 55 : StuartMinion\_33, AlexMinion\_43
- Track 56 : Renna12\_40
- Track 57 : Babushka\_38
- Track 58 : B3\_37
- Track 59 : Doucette\_41
- Track 60 : PFR1\_36, PFR2\_38
- Track 61 : Dusty\_88, Abscondus\_90
- Track 62 : WilliamBoone\_90
- Track 63 : PhinkBoden\_90, Bachita\_93, Smoothie\_92, Lozinak\_91, Cucurbita\_92, Engineer\_92
- Track 64 : ClubL\_91
- Track 65 : Norvs\_91, Aphelion\_90, Toniann\_91
- Track 66 : Culver\_92
- Track 67 : Miskis\_83
- Track 68 : Geeche\_89
- Track 69 : BrutonGaster\_74
- Track 70 : OneUp\_81
- Track 71 : JonJames\_109
- Track 72 : Yvonnetastic\_106
- Track 73 : Cardigan\_110
- Track 74 : Tangerine\_49
- Track 75 : Tangent\_52, Charming\_52, Rofo\_51
- Track 76 : Brandonk123\_53
- Track 77 : Stultus\_49
- Track 78 : Love\_56, Affeca\_49, Shivanishola\_51, Keitabear\_51, Ailee\_48, MoontowerMania\_51
- Track 79 : YorkOnyx\_51
- Track 80 : Derg\_45
- Track 81 : RiverRaider\_52

- Track 82 : Angelicage\_49
- Track 83 : Sitar\_51, Lennon\_51
- Track 84 : Barsten\_52
- Track 85 : SchottB\_48, Bizzy\_50, StorminNorm\_49, Flatwoods\_50, Tycho\_49, Kroos\_50, Baumdotcom\_48, Ribeye\_50, Gaea\_49, LilHam\_47
- Track 86 : Bibwit\_49
- Track 87 : Geodirt\_50
- Track 88 : Fosterous\_52
- Track 89 : Saronaya\_50
- Track 90 : Paries\_55, Galadriel\_52
- Track 91 : Sedona\_51
- Track 92 : Kamashten\_50, Thing3\_50
- Track 93 : Baddon\_50
- Track 94 : Vivi2\_55
- Track 95 : Gustavo\_50
- Track 96 : Kewpiedoll\_52
- Track 97 : Kwobi\_52
- Track 98 : ChadMasterC\_52
- Track 99 : Sanjuju\_50, Fitzgerald\_50
- Track 100 : FuegoCuervo\_55
- Track 101 : Ashertheman\_50
- Track 102 : McKinley\_54
- Track 103 : JKSyngboy\_48
- Track 104 : Nordenberg\_47
- Track 105 : Jabberwocky\_49
- Track 106 : McCrothy\_52
- Track 107 : BobBob\_50
- Track 108 : Inspectinfecti\_50, Ali17\_47, Hans\_51
- Track 109 : Leonard\_49, Phinally\_49
- Track 110 : Phauci\_42
- Track 111 : Belphegor\_49
- Track 112 : EMoore\_47
- Track 113 : MelBins\_50
- Track 114 : GTE6\_47, RoadKill\_45, EdmundFerry\_46
- Track 115 : Chickadee\_47, Tiamoceli\_48, Twonlo\_45, Kwekel\_47
- Track 116 : Dexdert\_48
- Track 117 : Sampson\_51, Scioto\_52, Abblin\_51, APunk\_52, Natkenzie\_51
- Track 118 : Delrey21\_51, DoctorFroggo\_51, Zipp\_52, Verity\_51
- Track 119 : Zitch\_54
- Track 120 : ViaConlectus\_51, BigHunkinEater\_53
- Track 121 : Tardus\_53
- Track 122 : Pumpkiney\_52
- Track 123 : Lilbeanie\_53
- Track 124 : SpeedDemon\_950
- Track 125 : DatBoi\_90
- Track 126 : Mollymur\_94
- Track 127 : Daredevil\_84
- Track 128 : Towmatter\_83
- Track 129 : Bantam\_94
- Track 130 : ObLaDi\_40
- Track 131 : Cafasso\_40, ModicumRichard\_40, Aleemily\_39
- Track 132 : Morgana\_40
- Track 133 : LordVader\_59

- Track 134 : Lilmac1015\_40, Prairie\_37, CalWood4100\_40
- Track 135 : Bumble\_35
- Track 136 : Circuit\_35
- Track 137 : Nandito\_38
- Track 138 : Klevey\_38
- Track 139 : Altadena\_37
- Track 140 : Bolt007\_38
- Track 141 : TripleJ\_55
- Track 142 : DreamEater\_53
- Track 143 : AirForce1\_41
- Track 144 : JrWilcox\_100
- Track 145 : ValentiniPuff\_98
- Track 146 : Xula\_43, QueenHazel\_44
- Track 147 : PaintedDog\_53
- Track 148 : HC\_46
- Track 149 : Babsiella\_48
- Track 150 : Island3\_49, Brujita\_49
- Track 151 : Sbash\_58
- Track 152 : Stuck\_62, Bluvara\_53
- Track 153 : Che9c\_61
- Track 154 : Colossa\_38
- Track 155 : VanLee\_37
- Track 156 : EGUunicorn\_46
- Track 157 : Spinach\_52, Panchino\_45, BabeRuth\_53, Phrann\_49, ShrimpFriedEgg\_52, Jamie19\_46, Hanako\_52, Redi\_52, PhancyPhin\_52, SpongeBob\_46, Rebel\_44, Nenae\_52, Purgamenstris\_52, Raymond7\_46, Andies\_45, Snekmaggedon\_46
- Track 158 : Phloss\_46, Tortoise12\_47, Pipsqueaks\_48, Smurph\_48, Carcharodon\_48, Parmesanjohn\_48, Tessdabest\_49, Silvafighter\_49, Schnauzer\_49, Fulbright\_47, Melville\_51, Magsby\_48, Xerxes\_48, Chewbacca\_50, Gex\_48, Tapioca\_50, Duplicity\_48
- Track 159 : Shweta\_46
- Track 160 : Butters\_51, Kevin1\_50, Rubeelu\_51
- Track 161 : Aggie\_46, Silvy\_46
- Track 162 : Scitech\_45
- Track 163 : SkinnyPete\_45
- Track 164 : Bosection6\_46
- Track 165 : Philonius\_48
- Track 166 : Impisi\_53
- Track 167 : MichelleMyBell\_48
- Track 168 : Vidya\_46, Kari\_46, Jebeks\_48, Necropolis\_46, Mangethe\_47, Bartholomew\_46, Dynamo\_47, Charlie\_48, Langerak\_47, GaloreK\_46, Donovan\_47, Jung\_45, Techage\_46, Malithi\_47, Arib1\_47, Phegasus\_47, Etoile\_46, Chubbello\_46, BronnyJr\_45, Zilizebeth\_47, Fishburne\_46, Journey\_47, Majeke\_47, Polkaroo\_47, Venti\_47
- Track 169 : FirstPlacePfu\_47
- Track 170 : Phalm\_46, Juniormint\_47, Thespis\_46, StevieRay\_46, KilKor\_46, Bunnies\_47, Xeno\_48, PeanutPie\_47, Brusacoram\_46, Bhagsy\_47, CactusJack\_46, Willsammy\_45, Atcoo\_46, Glaske\_46, Gavriela\_46, Megiddo\_46, Ksquared\_46, StressBall\_46
- Track 171 : Bogie\_50, HUHilltop\_48, Camster\_47, GreaseLightnin\_47, Phineas\_48, Sonah\_47, Shipwreck\_50
- Track 172 : Pygmy\_50

- Track 173 : Xavia\_54
- Track 174 : Nazo\_49, BigNuz\_48
- Track 175 : Phayonce\_47, Mao1\_65
- Track 176 : ThulaThula\_53
- Track 177 : Purky\_52
- Track 178 : Bubbykins\_55
- Track 179 : Lukepolites\_37
- Track 180 : Jace\_32

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

The start number called the most often in the published annotations is 42, it was called in 130 of the 319 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- APunk\_52, Abba\_36, Abblin\_51, Affeca\_49, Ailee\_48, Ali17\_47, Andies\_45, Angelicage\_49, Ashertheman\_50, BabeRuth\_53, Baddon\_50, BarretLemon\_35, Baumdotcom\_48, Beans\_33, Belphegor\_49, Bibwit\_49, BigDome\_35, BigHunkinEater\_53, Bizzy\_50, Bluvara\_53, Bosection6\_46, BossLady\_35, Brandonk123\_53, Brent\_33, Brujita\_49, Butters\_51, Carcharodon\_48, Chewbacca\_50, Chickadee\_47, Delrey21\_51, Derg\_45, Dexdert\_48, DoctorFroggo\_51, Dori\_64, Duplicity\_48, EGUicorn\_46, EMoore\_47, EastWest\_36, EdmundFerry\_46, Flatwoods\_50, Franzy\_33, Fulbright\_47, GTE6\_47, Gaea\_49, Gex\_48, GravityBall\_35, Grekaycon\_35, Gustavo\_50, Hanako\_52, Hans\_51, Impisi\_53, Inspectinfecti\_50, Island3\_49, JKerns\_35, Jamie19\_46, Jawnski\_33, Jordan\_35, Kamashten\_50, Keitabear\_51, Kevin1\_50, Kewpiedoll\_52, King2\_33, Kroos\_50, Kwekel\_47, Kwobi\_52, LeeroyJ\_35, Lennon\_51, Leonard\_49, LilHam\_47, Lilbeanie\_53, Love\_56, Magsby\_48, Martha\_35, Mask\_64, McCrothy\_52, MelBins\_50, Melville\_51, MoontowerMania\_51, NathanVaag\_33, Natkenzie\_51, Nenae\_52, Nostromo\_34, Panchino\_45, Parmesanjohn\_48, PhancyPhin\_52, Phauci\_42, Phinally\_49, Phloss\_46, Phrann\_49, Piccoletto\_33, Pippa\_35, Pipsqueaks\_48, Pumpkiney\_52, Purgamenstris\_52, Raymond7\_46, Rebel\_44, Redi\_52, Ribeye\_50, RiverRaider\_52, RoadKill\_45, Rubeelu\_51, Sampson\_51, Schnauzer\_49, SchottB\_48, Scioto\_52, Scitech\_45, Sedona\_51, Shade\_35, Shivanishola\_51, ShrimpFriedEgg\_52, Shweta\_46, Sicarius2\_36, Silvafighter\_49, Sitar\_51, Smurph\_48, Snekmaggedon\_46, Sonny\_35, Spinach\_52, SpongeBob\_46, StevieBAY\_35, StorminNorm\_49, Stuck\_62, TaeYoung\_35, Tangerine\_49, Tapioca\_50, Tardus\_53, Tessdabest\_49, Thing3\_50, ThulaThula\_53, Tiamoceli\_48, Timinator\_35, Tortoise12\_47, Twonlo\_45, Tycho\_49, Verity\_51, ViaConlectus\_51, Vivi2\_55, Wyborn\_36, Xerxes\_48, YorkOnyx\_51, Zartrosa\_35, Zipp\_52, Zitch\_54,

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

- Fosterous\_52, JKSyngboy\_48, Saronaya\_50,

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

- Abidatro\_39, Abscondus\_90, AdoptaAdorbs\_40, Aggie\_46, AirForce1\_41, Aleemily\_39, AlexMinion\_43, Altadena\_37, Amanises\_48, Amelia\_41, AmiCi24\_40, Amphitrite\_41, Andrew\_42, Antrice\_44, Aphelion\_90, ArV1\_040, Arib1\_47, Atcoo\_46, Atlantica\_41, Azaz\_42, B3\_37, Babsiella\_48, Babushka\_38, Bachita\_93, Bantam\_94, Barsten\_52, Bartholomew\_46, Basilisk\_39, Bedetta\_46, Bhagsy\_47, Bible12\_45,

BigNuz\_48, BobBob\_50, Bogie\_50, Bolt007\_38, BronnyJr\_45, Brusacoram\_46, BrutonGaster\_74, Brynnie\_38, Bubbykins\_55, Bumble\_35, Bunnies\_47, CactusJack\_46, Cafasso\_40, CalWood4100\_40, Camara\_41, Camster\_47, Cardigan\_110, Caterpie\_67, ChadMasterC\_52, Charlie\_48, Charming\_52, Che9c\_61, Chickaboom\_40, Chicken\_39, Chipper1996\_470, Chocolat\_47, Chubbello\_46, Chubster\_47, Circuit\_35, ClubL\_91, Colossa\_38, Colucci\_47, Colusalem\_42, Conboy\_47, Coral\_41, Cote\_43, Cucurbita\_92, Culver\_92, Cygnet\_41, DanHam62\_41, Daob\_43, Daredevil\_84, DatBoi\_90, Donovan\_47, Doucette\_41, DrYang\_48, DreamEater\_53, Dusty\_88, Dynamo\_47, EdgarPoe\_47, Eesa\_38, Engineer\_92, Etoile\_46, Fingolfin\_41, FirstPlacePfu\_47, Fishburne\_46, Fitzgerald\_50, FuegoCuervo\_55, Galadriel\_52, Galaxy\_38, GaloreK\_46, Gavriela\_46, Geeche\_89, Geodirt\_50, Glaske\_46, Glotell\_42, Gravel\_48, GreaseLightnin\_47, HC\_46, HUHilltop\_48, HamCheese\_41, HannahPhantana\_42, HumptyDumpty\_47, JaNo\_47, Jabberwocky\_49, Jace\_32, Jamun\_38, JayCookie\_47, Jebeks\_48, Jerole\_42, JohnLord\_66, JonJames\_109, Journey\_47, JrWilcox\_100, Jung\_45, Juniormint\_47, Juno112\_40, KBurrousTX\_47, KHumphrey\_41, Kabreeze\_47, Kari\_46, KendraB23\_49, Kepler\_43, KilKor\_46, Klevey\_38, Ksquared\_46, Kuleana\_43, Langerak\_47, Laphuphu24k\_40, Leona\_40, Lilmac1015\_40, Linus\_47, LittleTokyo\_41, LordVader\_59, Lozinak\_91, Lukepolitites\_37, Lunar\_43, Lymara\_47, Majeke\_47, Malithi\_47, Mangethe\_47, Mao1\_65, McKinley\_54, Megiddo\_46, Melons\_43, MichelleMyBell\_48, Miskis\_83, ModicumRichard\_40, Mollymur\_94, Mordred\_47, Morgana\_40, MoyaNatalis\_47, Nandito\_38, Nazo\_49, Necropolis\_46, Niblet\_42, Nordenberg\_47, Norvs\_91, ObLaDi\_40, OneUp\_81, Oppalora\_40, Orcanus\_39, OtsoOtso\_42, PFR1\_36, PFR2\_38, PaintedDog\_53, Paries\_55, PeanutPie\_47, Pelletreau\_48, Phalm\_46, Phayonce\_47, Phegasus\_47, Philonius\_48, Phineas\_48, PhinkBoden\_90, PhirstandPhine\_50, PhluffyCoco\_41, Pineda\_44, Polka\_41, Polkaroo\_47, Prairie\_37, PrincessTrina\_47, Purky\_52, Pygmy\_50, QueenHazel\_44, Rattail\_41, RedFox\_41, Renna12\_40, Rofo\_51, RosiePosie\_47, Ruchi\_38, Sanjuju\_50, Sbash\_58, Scavito\_47, Sejanus\_64, Shen\_38, Shipwreck\_50, Silvy\_46, SkinnyPete\_45, Smoothie\_92, Sonah\_47, SpeedDemon\_950, StevieRay\_46, StressBall\_46, StuartMinion\_33, Stultus\_49, Tangent\_52, TaylorSipht\_39, Techage\_46, Thespis\_46, Toad24\_41, Toniann\_91, Tophat\_47, Towmatter\_83, TripleJ\_55, ValentiniPuff\_98, VanLee\_37, Venti\_47, Vidya\_46, Vulpecula\_38, Westrich\_47, WileyE\_40, WilliamBoone\_90, Willsammy\_45, Xavia\_54, Xeno\_48, Xula\_43, Yvonetastic\_106, Zhuangyuan\_43, Zilizebeth\_47, Zixiang\_42,

### Summary by start number:

#### Start 31:

- Found in 26 of 378 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 1 of 319
- Called 3.8% of time when present
- Phage (with cluster) where this start called: Fosterous\_52 (DE1),

#### Start 33:

- Found in 1 of 378 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 319
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jace\_32 (singleton),

#### Start 38:

- Found in 8 of 378 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 8 of 319

- Called 100.0% of time when present
- Phage (with cluster) where this start called: BobBob\_50 (DE1), Charming\_52 (DE1), Galadriel\_52 (DE1), McKinley\_54 (DE1), Nordenberg\_47 (DE1), Paries\_55 (DE1), Rofo\_51 (DE1), Tangent\_52 (DE1),

#### Start 39:

- Found in 4 of 378 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 319
- Called 50.0% of time when present
- Phage (with cluster) where this start called: JKSyngboy\_48 (DE1), Saronaya\_50 (DE1),

#### Start 40:

- Found in 35 of 378 ( 9.3% ) of genes in pham
- Manual Annotations of this start: 23 of 319
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Abidatro\_39 (AS1), Altadena\_37 (FH), Amanises\_48 (AS1), Antrice\_44 (AS2), Basilisk\_39 (AS1), Bolt007\_38 (FH), Brynnie\_38 (AS1), Bumble\_35 (FH), CalWood4100\_40 (FH), Chickaboom\_40 (AS1), Chicken\_39 (AS1), Circuit\_35 (FH), Cygnet\_41 (AS2), Eesa\_38 (AS1), Galaxy\_38 (AS1), Gravel\_48 (AS1), Jamun\_38 (AS1), KendraB23\_49 (AS1), Klevey\_38 (FH), Lilmac1015\_40 (FH), Nandito\_38 (FH), Niblet\_42 (AS1), Orcanus\_39 (AS1), Pelletreau\_48 (AS1), Prairie\_37 (FH), Ruchi\_38 (AS1), Shen\_38 (AS1), TaylorSipht\_39 (AS1), Toad24\_41 (AS1), Vulpecula\_38 (AS1), Westrich\_47 (AS1), WileyE\_40 (AS1), Zhuangyuan\_43 (AS2), Zixiang\_42 (AS1),

#### Start 41:

- Found in 17 of 378 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 9 of 319
- Called 52.9% of time when present
- Phage (with cluster) where this start called: Barsten\_52 (DE1), ChadMasterC\_52 (DE1), Doucette\_41 (BW), Fitzgerald\_50 (DE1), FuegoCuervo\_55 (DE1), Geodirt\_50 (DE1), Jabberwocky\_49 (DE1), Sanjuju\_50 (DE1), Stultus\_49 (DE1),

#### Start 42:

- Found in 146 of 378 ( 38.6% ) of genes in pham
- Manual Annotations of this start: 130 of 319
- Called 97.9% of time when present
- Phage (with cluster) where this start called: APunk\_52 (DE4), Abba\_36 (AO3), Abblin\_51 (DE4), Affeca\_49 (DE1), Ailee\_48 (DE1), Ali17\_47 (DE2), Andies\_45 (N), Angelicage\_49 (DE1), Ashertheman\_50 (DE1), BabeRuth\_53 (N), Baddon\_50 (DE1), BarretLemon\_35 (AO2), Baumdotcom\_48 (DE1), Beans\_33 (AO1), Belphegor\_49 (DE2), Bibwit\_49 (DE1), BigDome\_35 (AO2), BigHunkinEater\_53 (DE4), Bizzy\_50 (DE1), Bluvara\_53 (I3), Bosection6\_46 (N), BossLady\_35 (AO2), Brandonk123\_53 (DE1), Brent\_33 (AO1), Brujita\_49 (I1), Butters\_51 (N), Carcharodon\_48 (N), Chewbacca\_50 (N), Chickadee\_47 (DE3), Delrey21\_51 (DE4), Derg\_45 (DE1), Dextert\_48 (DE3), DoctorFroggo\_51 (DE4), Dori\_64 (AD), Duplicity\_48 (N), EGUnicorn\_46 (N), EMOore\_47 (DE2), EastWest\_36 (AO), EdmundFerry\_46 (DE3), Flatwoods\_50 (DE1), Franzy\_33 (AO1), Fulbright\_47 (N), GTE6\_47 (DE3), Gaea\_49 (DE1), Gex\_48 (N), GravityBall\_35 (AO2), Grekaycon\_35 (AO2), Gustavo\_50 (DE1), Hanako\_52 (N), Hans\_51 (DE2), Impisi\_53 (N), Inspectinfecti\_50 (DE2), Island3\_49 (I1), JKerns\_35 (AO2), Jamie19\_46 (N), Jawnski\_33 (AO1), Jordan\_35 (AO2), Kamashten\_50 (DE1), Keitabear\_51 (DE1), Kevin1\_50 (N), Kewpiedoll\_52 (DE1),

King2\_33 (AO1), Kroos\_50 (DE1), Kwekel\_47 (DE3), Kwobi\_52 (DE1), LeeroyJ\_35 (AO2), Lennon\_51 (DE1), Leonard\_49 (DE2), LilHam\_47 (DE1), Lilbeanie\_53 (DE5), Love\_56 (DE1), Magsby\_48 (N), Martha\_35 (AO2), Mask\_64 (AD), McCrothy\_52 (DE1), MelBins\_50 (DE2), Melville\_51 (N), MoontowerMania\_51 (DE1), NathanVaag\_33 (AO1), Natkenzie\_51 (DE4), Nenae\_52 (N), Nostromo\_34 (AO3), Panchino\_45 (N), Parmesanjohn\_48 (N), PhancyPhin\_52 (N), Phauci\_42 (DE2), Phinally\_49 (DE2), Phloss\_46 (N), Phrann\_49 (N), Piccoletto\_33 (AO1), Pippa\_35 (AO2), Pipsqueaks\_48 (N), Pumpkiney\_52 (DE4), Purgamenstris\_52 (N), Raymond7\_46 (N), Rebel\_44 (N), Redi\_52 (N), Ribeye\_50 (DE1), RiverRaider\_52 (DE1), RoadKill\_45 (DE3), Rubeelu\_51 (N), Sampson\_51 (DE4), Schnauzer\_49 (N), SchottB\_48 (DE1), Scioto\_52 (DE4), Scitech\_45 (N), Sedona\_51 (DE1), Shade\_35 (AO2), Shivanishola\_51 (DE1), ShrimpFriedEgg\_52 (N), Shweta\_46 (N), Sicarius2\_36 (AO2), Silvafighter\_49 (N), Sitar\_51 (DE1), Smurph\_48 (N), Snekmaggedon\_46 (N), Sonny\_35 (AO2), Spinach\_52 (N), SpongeBob\_46 (N), StevieBAY\_35 (AO2), StorminNorm\_49 (DE1), Stuck\_62 (I2), TaeYoung\_35 (AO2), Tangerine\_49 (DE1), Tapioca\_50 (N), Tardus\_53 (DE4), Tessdabest\_49 (N), Thing3\_50 (DE1), ThulaThula\_53 (P5), Tiamoceli\_48 (DE3), Timinator\_35 (AO2), Tortoise12\_47 (N), Twonlo\_45 (DE3), Tycho\_49 (DE1), Verity\_51 (DE4), ViaConlectus\_51 (DE4), Vivi2\_55 (DE1), Wyborn\_36 (AO2), Xerxes\_48 (N), YorkOnyx\_51 (DE1), Zartrosa\_35 (AO2), Zipp\_52 (DE4), Zitch\_54 (DE4),

#### Start 43:

- Found in 1 of 378 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Colossa\_38 (KA),

#### Start 44:

- Found in 47 of 378 ( 12.4% ) of genes in pham
- Manual Annotations of this start: 29 of 319
- Called 91.5% of time when present
- Phage (with cluster) where this start called: AdoptaAdorbs\_40 (AS3), AlexMinion\_43 (AS3), Amelia\_41 (AS2), AmiCi24\_40 (AS3), Amphitrite\_41 (AS3), Andrew\_42 (AS3), Atlantica\_41 (AS3), Azaz\_42 (AS3), Babushka\_38 (AS3), Bedetta\_46 (AS2), Bible12\_45 (AS2), Camara\_41 (AS3), Colusalem\_42 (AS2), Coral\_41 (AS2), Cote\_43 (AS2), DanHam62\_41 (AS3), Daob\_43 (AS2), Fingolfin\_41 (AS3), Glotell\_42 (AS3), HamCheese\_41 (AS3), HannahPhantana\_42 (AS2), Jerole\_42 (AS2), JrWilcox\_100 (GL), Juno112\_40 (AS3), KHumphrey\_41 (AS3), Kepler\_43 (AS2), Kuleana\_43 (AS2), Laphuphu24k\_40 (AS3), Leona\_40 (AS3), LittleTokyo\_41 (AS2), Lunar\_43 (AS2), Melons\_43 (AS2), Oppalora\_40 (AS3), OtsoOtso\_42 (AS2), PhirstandPhine\_50 (AS2), PhluffyCoco\_41 (AS3), Pineda\_44 (AS2), Polka\_41 (AS2), Rattail\_41 (AS3), RedFox\_41 (AS3), Renna12\_40 (AS3), StuartMinion\_33 (AS3), ValentiniPuff\_98 (GL),

#### Start 46:

- Found in 8 of 378 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 7 of 319
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bantam\_94 (DL), Daredevil\_84 (DL), DatBoi\_90 (DL), DreamEater\_53 (FJ), Mollymur\_94 (DL), SpeedDemon\_950 (DL), Towmatter\_83 (DL), TripleJ\_55 (FJ),

#### Start 47:

- Found in 5 of 378 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 5 of 319
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aleemily\_39 (DZ), Cafasso\_40 (DZ), ModicumRichard\_40 (DZ), Morgana\_40 (DZ), ObLaDi\_40 (DZ),

#### Start 50:

- Found in 1 of 378 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 319
- Called 100.0% of time when present
- Phage (with cluster) where this start called: B3\_37 (BV),

#### Start 51:

- Found in 1 of 378 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 319
- Called 100.0% of time when present
- Phage (with cluster) where this start called: VanLee\_37 (KA),

#### Start 52:

- Found in 5 of 378 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 4 of 319
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigNuz\_48 (P4), Che9c\_61 (I2), Lukepolites\_37 (singleton), Nazo\_49 (P4), Purky\_52 (P6),

#### Start 54:

- Found in 1 of 378 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bubbykins\_55 (UNK),

#### Start 55:

- Found in 21 of 378 ( 5.6% ) of genes in pham
- Manual Annotations of this start: 19 of 319
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArV1\_040 (AR), Chipper1996\_470 (AR), Chocolat\_47 (AR), Chubster\_47 (AR), Colucci\_47 (AR), Conboy\_47 (AR), DrYang\_48 (AR), EdgarPoe\_47 (AR), HumptyDumpty\_47 (AR), JaNo\_47 (AR), JayCookie\_47 (AR), KBurrousTX\_47 (AR), Kabreeze\_47 (AR), Linus\_47 (AR), Lymara\_47 (AR), Mordred\_47 (AR), MoyaNatalis\_47 (AR), PrincessTrina\_47 (AR), RosiePosie\_47 (AR), Scavito\_47 (AR), Tophat\_47 (AR),

#### Start 56:

- Found in 69 of 378 ( 18.3% ) of genes in pham
- Manual Annotations of this start: 58 of 319
- Called 98.6% of time when present
- Phage (with cluster) where this start called: Aggie\_46 (N), Arib1\_47 (P1), Atcoo\_46 (P1), Babsiella\_48 (I1), Bartholomew\_46 (P1), Bhagsy\_47 (P1), Bogie\_50 (P1), BronnyJr\_45 (P1), Brusacoram\_46 (P1), Bunnies\_47 (P1), CactusJack\_46 (P1), Camster\_47 (P1), Caterpie\_67 (AD), Charlie\_48 (N), Chubbello\_46 (P1), Donovan\_47 (P1), Dynamo\_47 (P1), Etoile\_46 (P1), FirstPlacePfu\_47 (P1), Fishburne\_46 (P1), GaloreK\_46 (P1), Gavriela\_46 (P1), Glaske\_46 (P1), GreaseLightnin\_47 (P1), HC\_46 (I1), HUHilltop\_48 (P1), Jebeks\_48 (P1),

JohnLord\_66 (AD), Journey\_47 (N), Jung\_45 (P1), Juniormint\_47 (P1), Kari\_46 (P1), KilKor\_46 (P1), Ksquared\_46 (P1), Langerak\_47 (P1), LordVader\_59 (F), Majeke\_47 (P1), Malithi\_47 (P1), Mangethe\_47 (P1), Mao1\_65 (AD), Megiddo\_46 (P1), MichelleMyBell\_48 (N), Necropolis\_46 (P1), PaintedDog\_53 (I1), PeanutPie\_47 (P1), Phalm\_46 (P1), Phayonce\_47 (P5), Phegasus\_47 (P1), Philonius\_48 (N), Phineas\_48 (P1), Polkaroo\_47 (P1), QueenHazel\_44 (I1), Sbash\_58 (I2), Sejanus\_64 (AD), Shipwreck\_50 (P1), Silvy\_46 (N), SkinnyPete\_45 (N), Sonah\_47 (P1), StevieRay\_46 (P1), StressBall\_46 (P1), Techage\_46 (P1), Thespis\_46 (P1), Venti\_47 (P1), Vidya\_46 (P1), Willsammy\_45 (P1), Xeno\_48 (N), Xula\_43 (I1), Zilizebeth\_47 (P1),

Start 57:

- Found in 2 of 378 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PFR1\_36 (BX), PFR2\_38 (BX),

Start 59:

- Found in 85 of 378 ( 22.5% ) of genes in pham
- Manual Annotations of this start: 20 of 319
- Called 25.9% of time when present
- Phage (with cluster) where this start called: Abscondus\_90 (CQ1), Aphelion\_90 (CQ1), Bachita\_93 (CQ1), BrutonGaster\_74 (CQ2), Cardigan\_110 (DD), ClubL\_91 (CQ1), Cucurbita\_92 (CQ1), Culver\_92 (CQ1), Dusty\_88 (CQ1), Engineer\_92 (CQ1), Geeche\_89 (CQ1), JonJames\_109 (DD), Lozinak\_91 (CQ1), Miskis\_83 (CQ1), Norvs\_91 (CQ1), OneUp\_81 (CQ2), PhinkBoden\_90 (CQ1), Smoothie\_92 (CQ1), Toniann\_91 (CQ1), WilliamBoone\_90 (CQ1), Xavia\_54 (P3), Yvonnestic\_106 (DD),

Start 60:

- Found in 1 of 378 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AirForce1\_41 (FL),

Start 61:

- Found in 61 of 378 ( 16.1% ) of genes in pham
- Manual Annotations of this start: 1 of 319
- Called 1.6% of time when present
- Phage (with cluster) where this start called: Pygmy\_50 (P1),

### Summary by clusters:

There are 39 clusters represented in this pham: DL, P3, DD, singleton, BV, BW, DZ, FH, FJ, BX, F, UNK, I1, FL, I3, I2, CQ2, CQ1, AS3, AS2, AS1, P1, P6, AD, P4, P5, AO, N, AR, AO3, AO2, AO1, GL, KA, DE1, DE2, DE3, DE4, DE5,

Info for manual annotations of cluster AD:

- Start number 42 was manually annotated 2 times for cluster AD.
- Start number 56 was manually annotated 2 times for cluster AD.

Info for manual annotations of cluster AO:

- Start number 42 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 42 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 42 was manually annotated 17 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 42 was manually annotated 2 times for cluster AO3.

Info for manual annotations of cluster AR:

- Start number 55 was manually annotated 19 times for cluster AR.

Info for manual annotations of cluster AS1:

- Start number 40 was manually annotated 13 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 40 was manually annotated 3 times for cluster AS2.
- Start number 44 was manually annotated 14 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 44 was manually annotated 14 times for cluster AS3.

Info for manual annotations of cluster BV:

- Start number 50 was manually annotated 1 time for cluster BV.

Info for manual annotations of cluster BW:

- Start number 41 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster CQ1:

- Start number 59 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 59 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster DD:

- Start number 59 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DE1:

- Start number 31 was manually annotated 1 time for cluster DE1.
- Start number 38 was manually annotated 8 times for cluster DE1.
- Start number 39 was manually annotated 2 times for cluster DE1.
- Start number 41 was manually annotated 8 times for cluster DE1.
- Start number 42 was manually annotated 34 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 42 was manually annotated 9 times for cluster DE2.

Info for manual annotations of cluster DE3:

- Start number 42 was manually annotated 7 times for cluster DE3.

Info for manual annotations of cluster DE4:

- Start number 42 was manually annotated 9 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 42 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DL:

- Start number 46 was manually annotated 6 times for cluster DL.

Info for manual annotations of cluster DZ:

- Start number 47 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster FH:

- Start number 40 was manually annotated 7 times for cluster FH.

Info for manual annotations of cluster FJ:

- Start number 46 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster GL:

- Start number 44 was manually annotated 1 time for cluster GL.

Info for manual annotations of cluster I1:

- Start number 42 was manually annotated 2 times for cluster I1.
- Start number 56 was manually annotated 4 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 52 was manually annotated 1 time for cluster I2.
- Start number 56 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster KA:

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

Info for manual annotations of cluster N:

- Start number 42 was manually annotated 38 times for cluster N.
- Start number 56 was manually annotated 8 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 56 was manually annotated 42 times for cluster P1.
- Start number 61 was manually annotated 1 time for cluster P1.

Info for manual annotations of cluster P3:

- Start number 59 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:

- Start number 52 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 42 was manually annotated 1 time for cluster P5.
- Start number 56 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 52 was manually annotated 1 time for cluster P6.

### **Gene Information:**

Gene: APunk\_52 Start: 43066, Stop: 44106, Start Num: 42

Candidate Starts for APunk\_52:

(Start: 42 @43066 has 130 MA's), (76, 43156), (83, 43180), (84, 43192), (89, 43210), (110, 43288), (115, 43321), (158, 43495), (174, 43561), (183, 43609), (195, 43681), (197, 43696), (202, 43717), (206, 43738), (208, 43741), (239, 43846), (243, 43879), (248, 43891), (271, 44038), (274, 44074),

Gene: Abba\_36 Start: 28749, Stop: 29633, Start Num: 42

Candidate Starts for Abba\_36:

(Start: 42 @28749 has 130 MA's), (81, 28854), (83, 28860), (86, 28881), (103, 28938), (106, 28953), (110, 28968), (113, 28989), (136, 29073), (161, 29190), (166, 29211), (181, 29271), (183, 29286), (188, 29313), (195, 29370), (198, 29388), (201, 29400), (220, 29457), (256, 29586), (258, 29595),

Gene: Abblin\_51 Start: 43588, Stop: 44628, Start Num: 42

Candidate Starts for Abblin\_51:

(Start: 42 @43588 has 130 MA's), (76, 43678), (83, 43702), (84, 43714), (89, 43732), (110, 43810), (115, 43843), (158, 44017), (174, 44083), (183, 44131), (195, 44203), (197, 44218), (202, 44239), (206, 44260), (208, 44263), (239, 44368), (243, 44401), (248, 44413), (271, 44560), (274, 44596),

Gene: Abidatro\_39 Start: 26326, Stop: 27126, Start Num: 40

Candidate Starts for Abidatro\_39:

(Start: 40 @26326 has 23 MA's), (73, 26422), (76, 26431), (83, 26455), (89, 26485), (116, 26602), (161, 26815), (171, 26860), (195, 26980), (215, 27052), (216, 27055), (227, 27094),

Gene: Abscondus\_90 Start: 55792, Stop: 56517, Start Num: 59

Candidate Starts for Abscondus\_90:

(3, 55459), (6, 55492), (8, 55519), (9, 55522), (10, 55525), (18, 55633), (Start: 59 @55792 has 20 MA's), (85, 55900), (90, 55918), (94, 55933), (95, 55936), (107, 55987), (119, 56050), (134, 56077), (140, 56110), (147, 56149), (155, 56188), (164, 56218), (168, 56245), (178, 56290), (195, 56371), (199, 56395), (213, 56440), (221, 56470),

Gene: AdoptaAdorbs\_40 Start: 26015, Stop: 26812, Start Num: 44

Candidate Starts for AdoptaAdorbs\_40:

(Start: 44 @26015 has 29 MA's), (76, 26111), (89, 26165), (116, 26282), (125, 26318), (146, 26429), (161, 26501), (169, 26537), (171, 26546), (195, 26666), (220, 26753),

Gene: Affeca\_49 Start: 42918, Stop: 43916, Start Num: 42

Candidate Starts for Affeca\_49:

(7, 42675), (15, 42777), (Start: 31 @42864 has 1 MA's), (Start: 42 @42918 has 130 MA's), (Start: 59 @42954 has 20 MA's), (76, 43005), (78, 43011), (83, 43029), (89, 43059), (106, 43122), (110, 43137), (128, 43218), (133, 43233), (137, 43257), (141, 43281), (174, 43428), (181, 43461), (183, 43476), (195, 43545), (197, 43560), (215, 43617), (220, 43632), (266, 43809), (274, 43881),

Gene: Aggie\_46 Start: 32126, Stop: 33115, Start Num: 56

Candidate Starts for Aggie\_46:

(4, 31805), (17, 31973), (30, 32036), (Start: 56 @32126 has 58 MA's), (Start: 61 @32141 has 1 MA's), (76, 32189), (88, 32240), (112, 32336), (121, 32375), (154, 32510), (180, 32621), (181, 32624), (187, 32663), (193, 32687), (195, 32705), (204, 32750), (217, 32780), (220, 32792), (256, 32936), (270,

33035), (274, 33083),

Gene: Ailee\_48 Start: 42523, Stop: 43524, Start Num: 42

Candidate Starts for Ailee\_48:

(7, 42280), (15, 42382), (Start: 31 @42469 has 1 MA's), (Start: 42 @42523 has 130 MA's), (Start: 59 @42559 has 20 MA's), (76, 42610), (78, 42616), (83, 42634), (89, 42664), (106, 42727), (110, 42742), (128, 42823), (133, 42838), (137, 42862), (141, 42886), (174, 43033), (181, 43066), (183, 43081), (195, 43150), (197, 43165), (215, 43222), (220, 43237), (266, 43417), (274, 43489),

Gene: AirForce1\_41 Start: 31193, Stop: 32080, Start Num: 60

Candidate Starts for AirForce1\_41:

(60, 31193), (114, 31409), (139, 31502), (142, 31520), (144, 31529), (147, 31544), (152, 31571), (174, 31661), (195, 31781), (219, 31871),

Gene: Aleemily\_39 Start: 32837, Stop: 33721, Start Num: 47

Candidate Starts for Aleemily\_39:

(Start: 47 @32837 has 5 MA's), (69, 32909), (76, 32927), (79, 32939), (84, 32966), (89, 32984), (110, 33071), (139, 33236), (167, 33368), (174, 33392), (179, 33419), (181, 33425), (194, 33506), (195, 33512), (203, 33551), (234, 33653),

Gene: AlexMinion\_43 Start: 26181, Stop: 26978, Start Num: 44

Candidate Starts for AlexMinion\_43:

(Start: 44 @26181 has 29 MA's), (76, 26277), (89, 26331), (116, 26448), (146, 26595), (161, 26667), (171, 26712), (195, 26832), (220, 26919),

Gene: Ali17\_47 Start: 41267, Stop: 42328, Start Num: 42

Candidate Starts for Ali17\_47:

(Start: 42 @41267 has 130 MA's), (Start: 59 @41303 has 20 MA's), (76, 41354), (83, 41378), (86, 41399), (96, 41435), (110, 41486), (115, 41519), (141, 41630), (174, 41777), (177, 41798), (181, 41810), (183, 41825), (195, 41906), (197, 41921), (206, 41963), (208, 41966), (243, 42095), (263, 42191), (271, 42263), (274, 42299),

Gene: Altadena\_37 Start: 28014, Stop: 28847, Start Num: 40

Candidate Starts for Altadena\_37:

(Start: 40 @28014 has 23 MA's), (76, 28104), (83, 28128), (110, 28236), (136, 28341), (161, 28461), (171, 28500), (195, 28638), (203, 28677),

Gene: Amanises\_48 Start: 27385, Stop: 28191, Start Num: 40

Candidate Starts for Amanises\_48:

(Start: 40 @27385 has 23 MA's), (73, 27481), (76, 27490), (83, 27514), (84, 27526), (89, 27544), (151, 27838), (169, 27919), (175, 27937), (195, 28045), (200, 28072), (227, 28159),

Gene: Amelia\_41 Start: 26090, Stop: 26884, Start Num: 44

Candidate Starts for Amelia\_41:

(Start: 44 @26090 has 29 MA's), (76, 26183), (84, 26219), (89, 26237), (98, 26270), (116, 26354), (146, 26501), (147, 26504), (171, 26618), (183, 26672), (195, 26738), (205, 26792), (224, 26837), (227, 26852),

Gene: AmiCi24\_40 Start: 26013, Stop: 26810, Start Num: 44

Candidate Starts for AmiCi24\_40:

(Start: 44 @26013 has 29 MA's), (76, 26109), (89, 26163), (116, 26280), (125, 26316), (146, 26427), (161, 26499), (169, 26535), (171, 26544), (195, 26664), (200, 26691), (220, 26751),

Gene: Amphitrite\_41 Start: 26014, Stop: 26811, Start Num: 44

Candidate Starts for Amphitrite\_41:

(Start: 44 @26014 has 29 MA's), (76, 26110), (89, 26164), (116, 26281), (125, 26317), (146, 26428), (161, 26500), (169, 26536), (171, 26545), (195, 26665), (220, 26752),

Gene: Andies\_45 Start: 32643, Stop: 33707, Start Num: 42

Candidate Starts for Andies\_45:

(19, 32529), (Start: 42 @32643 has 130 MA's), (49, 32655), (73, 32721), (74, 32724), (76, 32730), (83, 32754), (86, 32775), (88, 32781), (91, 32793), (92, 32796), (94, 32805), (106, 32847), (110, 32862), (149, 33054), (168, 33135), (171, 33147), (174, 33156), (181, 33189), (183, 33204), (188, 33231), (195, 33285), (197, 33300), (201, 33315), (203, 33324), (212, 33354), (220, 33372), (221, 33378), (235, 33429), (245, 33486), (254, 33522), (256, 33528), (269, 33618), (270, 33627), (274, 33675), (275, 33684),

Gene: Andrew\_42 Start: 25907, Stop: 26704, Start Num: 44

Candidate Starts for Andrew\_42:

(Start: 44 @25907 has 29 MA's), (76, 26003), (84, 26039), (89, 26057), (92, 26069), (116, 26174), (125, 26210), (146, 26321), (161, 26393), (169, 26429), (171, 26438), (195, 26558), (200, 26585), (220, 26645),

Gene: Angelicage\_49 Start: 43336, Stop: 44331, Start Num: 42

Candidate Starts for Angelicage\_49:

(2, 42985), (7, 43093), (15, 43195), (Start: 31 @43282 has 1 MA's), (Start: 42 @43336 has 130 MA's), (Start: 59 @43372 has 20 MA's), (76, 43423), (78, 43429), (83, 43447), (89, 43477), (106, 43540), (110, 43555), (128, 43636), (133, 43651), (137, 43675), (141, 43699), (174, 43846), (181, 43879), (183, 43894), (195, 43963), (197, 43978), (215, 44035), (220, 44050), (266, 44224), (274, 44296),

Gene: Antrice\_44 Start: 27283, Stop: 28095, Start Num: 40

Candidate Starts for Antrice\_44:

(Start: 40 @27283 has 23 MA's), (Start: 59 @27328 has 20 MA's), (76, 27391), (83, 27415), (85, 27433), (89, 27445), (92, 27457), (116, 27562), (122, 27592), (136, 27664), (146, 27712), (161, 27784), (195, 27949), (220, 28036),

Gene: Aphelion\_90 Start: 56388, Stop: 57113, Start Num: 59

Candidate Starts for Aphelion\_90:

(6, 56088), (8, 56115), (9, 56118), (10, 56121), (18, 56229), (Start: 59 @56388 has 20 MA's), (85, 56496), (90, 56514), (94, 56529), (95, 56532), (107, 56583), (119, 56646), (134, 56673), (140, 56706), (147, 56745), (155, 56784), (164, 56814), (168, 56841), (178, 56886), (195, 56967), (199, 56991), (213, 57036), (221, 57066),

Gene: ArV1\_040 Start: 35856, Stop: 36800, Start Num: 55

Candidate Starts for ArV1\_040:

(24, 35742), (Start: 55 @35856 has 19 MA's), (75, 35916), (113, 36090), (138, 36186), (142, 36207), (145, 36219), (166, 36333), (174, 36360), (195, 36480), (203, 36519), (217, 36561),

Gene: Arib1\_47 Start: 32549, Stop: 33544, Start Num: 56

Candidate Starts for Arib1\_47:

(4, 32228), (17, 32396), (30, 32459), (Start: 56 @32549 has 58 MA's), (Start: 61 @32564 has 1 MA's), (76, 32612), (88, 32663), (112, 32759), (121, 32798), (154, 32933), (180, 33044), (181, 33047), (187, 33086), (193, 33110), (195, 33128), (204, 33173), (217, 33203), (220, 33215), (256, 33362), (270, 33461), (274, 33509), (276, 33533),

Gene: Ashertheman\_50 Start: 42632, Stop: 43633, Start Num: 42

Candidate Starts for Ashertheman\_50:

(Start: 42 @42632 has 130 MA's), (Start: 59 @42668 has 20 MA's), (76, 42722), (83, 42746), (89, 42776), (97, 42806), (106, 42839), (110, 42854), (139, 42983), (141, 42998), (142, 43001), (174, 43145), (181, 43178), (183, 43193), (195, 43262), (197, 43277), (215, 43334), (220, 43349),

Gene: Atcoo\_46 Start: 33030, Stop: 34004, Start Num: 56

Candidate Starts for Atcoo\_46:

(Start: 56 @33030 has 58 MA's), (Start: 61 @33048 has 1 MA's), (76, 33096), (88, 33147), (92, 33162), (94, 33171), (121, 33282), (154, 33417), (180, 33528), (181, 33531), (187, 33570), (193, 33594), (195, 33612), (204, 33657), (217, 33687), (220, 33699), (235, 33756), (256, 33825), (270, 33924), (274, 33972),

Gene: Atlantica\_41 Start: 26015, Stop: 26812, Start Num: 44

Candidate Starts for Atlantica\_41:

(Start: 44 @26015 has 29 MA's), (76, 26111), (89, 26165), (116, 26282), (125, 26318), (146, 26429), (161, 26501), (169, 26537), (171, 26546), (195, 26666), (200, 26693), (220, 26753),

Gene: Azaz\_42 Start: 26087, Stop: 26887, Start Num: 44

Candidate Starts for Azaz\_42:

(Start: 44 @26087 has 29 MA's), (76, 26183), (89, 26237), (92, 26249), (111, 26318), (116, 26354), (122, 26384), (161, 26576), (171, 26621), (195, 26741), (220, 26828),

Gene: B3\_37 Start: 26812, Stop: 27609, Start Num: 50

Candidate Starts for B3\_37:

(Start: 31 @26755 has 1 MA's), (Start: 50 @26812 has 1 MA's), (76, 26887), (84, 26923), (146, 27193), (166, 27280), (174, 27307), (195, 27412), (200, 27439), (201, 27442), (202, 27448), (217, 27487),

Gene: BabeRuth\_53 Start: 34364, Stop: 35428, Start Num: 42

Candidate Starts for BabeRuth\_53:

(19, 34250), (Start: 42 @34364 has 130 MA's), (49, 34376), (73, 34442), (74, 34445), (76, 34451), (83, 34475), (86, 34496), (88, 34502), (91, 34514), (92, 34517), (94, 34526), (106, 34568), (110, 34583), (149, 34775), (168, 34856), (171, 34868), (174, 34877), (181, 34910), (183, 34925), (188, 34952), (195, 35006), (197, 35021), (201, 35036), (203, 35045), (212, 35075), (220, 35093), (221, 35099), (235, 35150), (245, 35207), (254, 35243), (256, 35249), (269, 35339), (270, 35348), (274, 35396), (275, 35405),

Gene: Babsiella\_48 Start: 33402, Stop: 34397, Start Num: 56

Candidate Starts for Babsiella\_48:

(21, 33267), (Start: 56 @33402 has 58 MA's), (Start: 61 @33417 has 1 MA's), (76, 33465), (88, 33516), (94, 33540), (121, 33651), (154, 33786), (180, 33897), (181, 33900), (187, 33939), (193, 33963), (195, 33981), (204, 34026), (217, 34056), (220, 34068), (235, 34125), (256, 34215), (270, 34314), (274, 34362), (276, 34386),

Gene: Babushka\_38 Start: 25948, Stop: 26745, Start Num: 44

Candidate Starts for Babushka\_38:

(16, 25816), (Start: 44 @25948 has 29 MA's), (76, 26044), (84, 26080), (89, 26098), (116, 26215), (146, 26362), (161, 26434), (171, 26479), (195, 26599), (220, 26686),

Gene: Bachita\_93 Start: 56837, Stop: 57562, Start Num: 59

Candidate Starts for Bachita\_93:

(6, 56537), (8, 56564), (9, 56567), (10, 56570), (28, 56732), (Start: 59 @56837 has 20 MA's), (85, 56945), (90, 56963), (94, 56978), (95, 56981), (107, 57032), (119, 57095), (134, 57122), (140, 57155), (147, 57194), (155, 57233), (164, 57263), (168, 57290), (178, 57335), (195, 57416), (199, 57440),

(213, 57485), (221, 57515),

Gene: Baddon\_50 Start: 43605, Stop: 44627, Start Num: 42

Candidate Starts for Baddon\_50:

(15, 43464), (Start: 31 @43551 has 1 MA's), (Start: 39 @43599 has 2 MA's), (Start: 42 @43605 has 130 MA's), (Start: 59 @43641 has 20 MA's), (76, 43695), (83, 43719), (89, 43749), (97, 43779), (106, 43812), (110, 43827), (128, 43908), (139, 43956), (141, 43971), (142, 43974), (174, 44118), (181, 44151), (183, 44166), (195, 44235), (197, 44250), (215, 44307),

Gene: Bantam\_94 Start: 63033, Stop: 62203, Start Num: 46

Candidate Starts for Bantam\_94:

(Start: 46 @63033 has 7 MA's), (83, 62910), (90, 62874), (107, 62805), (136, 62697), (168, 62532), (173, 62514), (195, 62406), (232, 62262),

Gene: BarretLemon\_35 Start: 29827, Stop: 30672, Start Num: 42

Candidate Starts for BarretLemon\_35:

(Start: 42 @29827 has 130 MA's), (76, 29920), (77, 29923), (83, 29944), (89, 29974), (110, 30052), (120, 30109), (136, 30157), (146, 30208), (147, 30211), (149, 30226), (161, 30274), (166, 30292), (181, 30352), (188, 30394), (193, 30433), (195, 30451), (198, 30469), (203, 30490), (206, 30508), (232, 30589), (235, 30595),

Gene: Barsten\_52 Start: 43289, Stop: 44287, Start Num: 41

Candidate Starts for Barsten\_52:

(29, 43238), (Start: 41 @43289 has 9 MA's), (Start: 59 @43325 has 20 MA's), (76, 43376), (78, 43382), (83, 43400), (89, 43430), (106, 43493), (110, 43508), (128, 43589), (133, 43604), (137, 43628), (141, 43652), (174, 43799), (181, 43832), (183, 43847), (195, 43916), (197, 43931), (215, 43988), (220, 44003), (266, 44180), (274, 44252),

Gene: Bartholomew\_46 Start: 32543, Stop: 33535, Start Num: 56

Candidate Starts for Bartholomew\_46:

(4, 32222), (17, 32390), (30, 32453), (Start: 56 @32543 has 58 MA's), (Start: 61 @32558 has 1 MA's), (76, 32606), (88, 32657), (112, 32753), (121, 32792), (154, 32927), (180, 33038), (181, 33041), (187, 33080), (193, 33104), (195, 33122), (204, 33167), (217, 33197), (220, 33209), (256, 33353), (270, 33452), (274, 33500), (276, 33524),

Gene: Basilisk\_39 Start: 26840, Stop: 27646, Start Num: 40

Candidate Starts for Basilisk\_39:

(Start: 40 @26840 has 23 MA's), (73, 26936), (76, 26945), (84, 26981), (89, 26999), (169, 27374), (181, 27419), (195, 27500), (226, 27611), (227, 27614),

Gene: Baumdotcom\_48 Start: 42032, Stop: 43054, Start Num: 42

Candidate Starts for Baumdotcom\_48:

(Start: 42 @42032 has 130 MA's), (Start: 59 @42068 has 20 MA's), (76, 42122), (83, 42146), (89, 42176), (97, 42206), (106, 42239), (110, 42254), (128, 42335), (139, 42383), (141, 42398), (142, 42401), (174, 42545), (181, 42578), (183, 42593), (195, 42662), (197, 42677), (215, 42734), (220, 42749),

Gene: Beans\_33 Start: 29523, Stop: 30368, Start Num: 42

Candidate Starts for Beans\_33:

(Start: 42 @29523 has 130 MA's), (76, 29610), (81, 29628), (83, 29634), (86, 29655), (110, 29742), (120, 29799), (136, 29847), (161, 29964), (181, 30042), (185, 30069), (188, 30084), (193, 30123), (195, 30141), (198, 30159), (203, 30180), (206, 30198),

Gene: Bedetta\_46 Start: 26237, Stop: 27031, Start Num: 44

Candidate Starts for Bedetta\_46:

(Start: 44 @26237 has 29 MA's), (76, 26330), (84, 26366), (89, 26384), (98, 26417), (116, 26501), (146, 26648), (147, 26651), (171, 26765), (183, 26819), (195, 26885), (205, 26939), (224, 26984), (227, 26999),

Gene: Belphegor\_49 Start: 43122, Stop: 44186, Start Num: 42

Candidate Starts for Belphegor\_49:

(Start: 42 @43122 has 130 MA's), (68, 43188), (75, 43206), (76, 43209), (83, 43233), (84, 43245), (89, 43263), (94, 43284), (109, 43338), (110, 43341), (115, 43374), (174, 43632), (177, 43653), (181, 43665), (183, 43680), (195, 43761), (197, 43776), (206, 43818), (208, 43821), (220, 43848), (243, 43959), (263, 44040), (271, 44112), (274, 44148),

Gene: Bhagsy\_47 Start: 32535, Stop: 33509, Start Num: 56

Candidate Starts for Bhagsy\_47:

(Start: 56 @32535 has 58 MA's), (Start: 61 @32553 has 1 MA's), (76, 32601), (88, 32652), (92, 32667), (94, 32676), (121, 32787), (154, 32922), (180, 33033), (181, 33036), (187, 33075), (193, 33099), (195, 33117), (204, 33162), (217, 33192), (220, 33204), (235, 33261), (256, 33330), (270, 33429), (274, 33477),

Gene: Bible12\_45 Start: 26085, Stop: 26879, Start Num: 44

Candidate Starts for Bible12\_45:

(Start: 44 @26085 has 29 MA's), (76, 26178), (84, 26214), (89, 26232), (98, 26265), (116, 26349), (146, 26496), (147, 26499), (171, 26613), (183, 26667), (195, 26733), (205, 26787), (224, 26832), (227, 26847),

Gene: Bibwit\_49 Start: 42164, Stop: 43165, Start Num: 42

Candidate Starts for Bibwit\_49:

(7, 41921), (15, 42023), (Start: 31 @42110 has 1 MA's), (Start: 42 @42164 has 130 MA's), (Start: 59 @42200 has 20 MA's), (76, 42254), (83, 42278), (89, 42308), (97, 42338), (106, 42371), (110, 42386), (139, 42515), (141, 42530), (142, 42533), (174, 42677), (181, 42710), (183, 42725), (195, 42794), (196, 42800), (197, 42809), (215, 42866), (220, 42881),

Gene: BigDome\_35 Start: 29819, Stop: 30664, Start Num: 42

Candidate Starts for BigDome\_35:

(Start: 42 @29819 has 130 MA's), (76, 29912), (77, 29915), (83, 29936), (89, 29966), (110, 30044), (120, 30101), (136, 30149), (146, 30200), (147, 30203), (149, 30218), (161, 30266), (166, 30284), (181, 30344), (188, 30386), (193, 30425), (195, 30443), (198, 30461), (203, 30482), (206, 30500), (220, 30530), (229, 30569), (232, 30581), (235, 30587),

Gene: BigHunkinEater\_53 Start: 42843, Stop: 43886, Start Num: 42

Candidate Starts for BigHunkinEater\_53:

(Start: 42 @42843 has 130 MA's), (76, 42933), (83, 42957), (84, 42969), (89, 42987), (110, 43065), (115, 43098), (158, 43272), (174, 43338), (183, 43386), (195, 43458), (197, 43473), (202, 43494), (206, 43515), (208, 43518), (239, 43623), (243, 43656), (248, 43668), (271, 43818), (274, 43854),

Gene: BigNuz\_48 Start: 34451, Stop: 35503, Start Num: 52

Candidate Starts for BigNuz\_48:

(Start: 44 @34433 has 29 MA's), (Start: 52 @34451 has 4 MA's), (64, 34490), (76, 34526), (83, 34547), (84, 34559), (91, 34586), (121, 34739), (128, 34766), (137, 34805), (153, 34886), (154, 34892), (174, 34967), (180, 34994), (195, 35075), (200, 35102), (255, 35318), (256, 35324), (270, 35423), (274, 35471),

Gene: Bizzy\_50 Start: 42320, Stop: 43342, Start Num: 42

Candidate Starts for Bizzy\_50:

(Start: 42 @42320 has 130 MA's), (Start: 59 @42356 has 20 MA's), (76, 42410), (83, 42434), (89, 42464), (97, 42494), (106, 42527), (110, 42542), (128, 42623), (139, 42671), (141, 42686), (142, 42689), (174, 42833), (181, 42866), (183, 42881), (195, 42950), (197, 42965), (215, 43022), (220, 43037),

Gene: Bluvara\_53 Start: 38043, Stop: 39089, Start Num: 42

Candidate Starts for Bluvara\_53:

(Start: 42 @38043 has 130 MA's), (49, 38055), (73, 38121), (76, 38130), (83, 38154), (86, 38175), (91, 38193), (92, 38196), (94, 38205), (106, 38247), (110, 38262), (181, 38589), (183, 38604), (188, 38631), (195, 38685), (197, 38700), (201, 38715), (203, 38724), (224, 38784), (230, 38811), (235, 38829), (246, 38883), (254, 38904), (256, 38910), (274, 39057),

Gene: BobBob\_50 Start: 42507, Stop: 43514, Start Num: 38

Candidate Starts for BobBob\_50:

(Start: 38 @42507 has 8 MA's), (Start: 41 @42516 has 9 MA's), (Start: 59 @42552 has 20 MA's), (76, 42603), (78, 42609), (83, 42627), (89, 42657), (106, 42720), (110, 42735), (120, 42786), (139, 42864), (174, 43026), (181, 43059), (183, 43074), (195, 43143), (197, 43158), (215, 43215), (220, 43230), (266, 43407), (274, 43479),

Gene: Bogie\_50 Start: 34801, Stop: 35775, Start Num: 56

Candidate Starts for Bogie\_50:

(Start: 56 @34801 has 58 MA's), (Start: 61 @34819 has 1 MA's), (76, 34867), (88, 34918), (94, 34942), (121, 35053), (154, 35188), (180, 35299), (181, 35302), (187, 35341), (193, 35365), (195, 35383), (204, 35428), (217, 35458), (220, 35470), (235, 35527), (256, 35596), (270, 35695), (274, 35743),

Gene: Bolt007\_38 Start: 30497, Stop: 31360, Start Num: 40

Candidate Starts for Bolt007\_38:

(Start: 40 @30497 has 23 MA's), (76, 30587), (83, 30611), (110, 30719), (136, 30824), (161, 30944), (195, 31121), (203, 31160), (205, 31175), (221, 31214), (238, 31277),

Gene: Bosection6\_46 Start: 32109, Stop: 33173, Start Num: 42

Candidate Starts for Bosection6\_46:

(1, 31737), (19, 31995), (Start: 42 @32109 has 130 MA's), (49, 32121), (73, 32187), (74, 32190), (76, 32196), (83, 32220), (86, 32241), (88, 32247), (91, 32259), (92, 32262), (94, 32271), (106, 32313), (110, 32328), (149, 32520), (168, 32601), (171, 32613), (174, 32622), (181, 32655), (183, 32670), (188, 32697), (195, 32751), (197, 32766), (201, 32781), (203, 32790), (212, 32820), (220, 32838), (221, 32844), (235, 32895), (245, 32952), (254, 32988), (256, 32994), (269, 33084), (270, 33093), (274, 33141), (275, 33150),

Gene: BossLady\_35 Start: 29796, Stop: 30644, Start Num: 42

Candidate Starts for BossLady\_35:

(Start: 42 @29796 has 130 MA's), (76, 29886), (77, 29889), (83, 29910), (88, 29937), (89, 29940), (110, 30018), (120, 30075), (136, 30123), (146, 30174), (147, 30177), (161, 30240), (166, 30258), (181, 30318), (188, 30360), (193, 30399), (195, 30417), (198, 30435), (203, 30456), (206, 30474), (220, 30504), (232, 30555), (253, 30621),

Gene: Brandonk123\_53 Start: 43467, Stop: 44465, Start Num: 42

Candidate Starts for Brandonk123\_53:

(15, 43326), (Start: 31 @43413 has 1 MA's), (Start: 42 @43467 has 130 MA's), (Start: 59 @43503 has 20 MA's), (76, 43554), (78, 43560), (83, 43578), (89, 43608), (106, 43671), (110, 43686), (128, 43767), (133, 43782), (137, 43806), (141, 43830), (150, 43878), (174, 43977), (181, 44010), (183, 44025),

(195, 44094), (197, 44109), (215, 44166), (220, 44181), (266, 44358), (274, 44430),

Gene: Brent\_33 Start: 29486, Stop: 30331, Start Num: 42

Candidate Starts for Brent\_33:

(Start: 42 @29486 has 130 MA's), (76, 29576), (81, 29594), (83, 29600), (86, 29621), (93, 29648), (110, 29708), (120, 29765), (136, 29813), (161, 29930), (181, 30008), (185, 30035), (188, 30050), (193, 30089), (195, 30107), (198, 30125), (203, 30146), (206, 30164), (225, 30209),

Gene: BronnyJr\_45 Start: 33039, Stop: 34031, Start Num: 56

Candidate Starts for BronnyJr\_45:

(4, 32718), (17, 32886), (30, 32949), (Start: 56 @33039 has 58 MA's), (Start: 61 @33054 has 1 MA's), (76, 33102), (88, 33153), (112, 33249), (121, 33288), (154, 33423), (180, 33534), (181, 33537), (187, 33576), (193, 33600), (195, 33618), (204, 33663), (217, 33693), (220, 33705), (256, 33849), (270, 33948), (274, 33996), (276, 34020),

Gene: Brujita\_49 Start: 34787, Stop: 35854, Start Num: 42

Candidate Starts for Brujita\_49:

(Start: 42 @34787 has 130 MA's), (49, 34799), (73, 34865), (76, 34874), (83, 34898), (86, 34919), (88, 34925), (92, 34940), (94, 34949), (106, 34991), (110, 35006), (128, 35093), (171, 35291), (181, 35333), (183, 35348), (188, 35375), (192, 35396), (195, 35429), (197, 35444), (201, 35459), (203, 35468), (212, 35498), (220, 35516), (221, 35522), (230, 35555), (235, 35573), (255, 35666), (256, 35672), (270, 35771), (274, 35819), (276, 35843),

Gene: Brusacoram\_46 Start: 32536, Stop: 33510, Start Num: 56

Candidate Starts for Brusacoram\_46:

(Start: 56 @32536 has 58 MA's), (Start: 61 @32554 has 1 MA's), (76, 32602), (88, 32653), (92, 32668), (94, 32677), (121, 32788), (154, 32923), (180, 33034), (181, 33037), (187, 33076), (193, 33100), (195, 33118), (204, 33163), (217, 33193), (220, 33205), (235, 33262), (256, 33331), (270, 33430), (274, 33478),

Gene: BrutonGaster\_74 Start: 51893, Stop: 52576, Start Num: 59

Candidate Starts for BrutonGaster\_74:

(Start: 59 @51893 has 20 MA's), (82, 51980), (85, 52001), (90, 52019), (95, 52037), (107, 52088), (134, 52178), (140, 52211), (155, 52289), (164, 52319), (168, 52346), (178, 52391), (195, 52472), (199, 52496), (213, 52541), (223, 52571),

Gene: Brynnie\_38 Start: 26718, Stop: 27524, Start Num: 40

Candidate Starts for Brynnie\_38:

(Start: 40 @26718 has 23 MA's), (73, 26814), (76, 26823), (84, 26859), (89, 26877), (132, 27069), (169, 27252), (195, 27378), (226, 27489),

Gene: Bubbykins\_55 Start: 42381, Stop: 43304, Start Num: 54

Candidate Starts for Bubbykins\_55:

(54, 42381), (80, 42462), (100, 42552), (130, 42672), (131, 42678), (146, 42756), (154, 42795), (158, 42810), (169, 42870), (174, 42888), (184, 42945), (187, 42960), (195, 43008), (203, 43047), (217, 43089), (247, 43209),

Gene: Bumble\_35 Start: 28079, Stop: 28930, Start Num: 40

Candidate Starts for Bumble\_35:

(Start: 40 @28079 has 23 MA's), (76, 28169), (83, 28193), (110, 28301), (136, 28406), (171, 28565), (181, 28604), (195, 28685), (203, 28724), (257, 28919),

Gene: Bunnies\_47 Start: 32550, Stop: 33524, Start Num: 56

Candidate Starts for Bunnies\_47:

(Start: 56 @32550 has 58 MA's), (Start: 61 @32568 has 1 MA's), (76, 32616), (88, 32667), (92, 32682), (94, 32691), (121, 32802), (154, 32937), (180, 33048), (181, 33051), (187, 33090), (193, 33114), (195, 33132), (204, 33177), (217, 33207), (220, 33219), (235, 33276), (256, 33345), (270, 33444), (274, 33492),

Gene: Butters\_51 Start: 34063, Stop: 35127, Start Num: 42

Candidate Starts for Butters\_51:

(Start: 42 @34063 has 130 MA's), (49, 34075), (73, 34141), (76, 34150), (83, 34174), (86, 34195), (88, 34201), (92, 34216), (94, 34225), (106, 34267), (110, 34282), (128, 34369), (171, 34567), (181, 34609), (183, 34624), (188, 34651), (192, 34672), (195, 34705), (197, 34720), (201, 34735), (203, 34744), (212, 34774), (220, 34792), (221, 34798), (230, 34831), (235, 34849), (255, 34942), (256, 34948), (269, 35038), (270, 35047), (274, 35095), (275, 35104),

Gene: CactusJack\_46 Start: 32800, Stop: 33774, Start Num: 56

Candidate Starts for CactusJack\_46:

(Start: 56 @32800 has 58 MA's), (Start: 61 @32818 has 1 MA's), (76, 32866), (88, 32917), (92, 32932), (94, 32941), (121, 33052), (154, 33187), (180, 33298), (181, 33301), (187, 33340), (193, 33364), (195, 33382), (204, 33427), (217, 33457), (220, 33469), (235, 33526), (256, 33595), (270, 33694), (274, 33742),

Gene: Cafasso\_40 Start: 33411, Stop: 34295, Start Num: 47

Candidate Starts for Cafasso\_40:

(Start: 47 @33411 has 5 MA's), (69, 33483), (76, 33501), (79, 33513), (84, 33540), (89, 33558), (110, 33645), (139, 33810), (167, 33942), (174, 33966), (179, 33993), (181, 33999), (194, 34080), (195, 34086), (203, 34125), (234, 34227),

Gene: CalWood4100\_40 Start: 29991, Stop: 30845, Start Num: 40

Candidate Starts for CalWood4100\_40:

(Start: 40 @29991 has 23 MA's), (76, 30081), (83, 30105), (110, 30213), (136, 30318), (161, 30438), (195, 30615), (203, 30654), (238, 30771),

Gene: Camara\_41 Start: 26017, Stop: 26814, Start Num: 44

Candidate Starts for Camara\_41:

(Start: 44 @26017 has 29 MA's), (76, 26113), (89, 26167), (116, 26284), (125, 26320), (146, 26431), (161, 26503), (169, 26539), (171, 26548), (195, 26668), (220, 26755),

Gene: Camster\_47 Start: 32557, Stop: 33531, Start Num: 56

Candidate Starts for Camster\_47:

(Start: 56 @32557 has 58 MA's), (Start: 61 @32575 has 1 MA's), (76, 32623), (88, 32674), (94, 32698), (121, 32809), (154, 32944), (180, 33055), (181, 33058), (187, 33097), (193, 33121), (195, 33139), (204, 33184), (217, 33214), (220, 33226), (235, 33283), (256, 33352), (270, 33451), (274, 33499),

Gene: Carcharodon\_48 Start: 33458, Stop: 34519, Start Num: 42

Candidate Starts for Carcharodon\_48:

(Start: 42 @33458 has 130 MA's), (49, 33470), (73, 33536), (74, 33539), (76, 33545), (83, 33569), (86, 33590), (88, 33596), (91, 33608), (92, 33611), (94, 33620), (106, 33662), (110, 33677), (128, 33764), (149, 33869), (151, 33878), (161, 33923), (168, 33950), (171, 33962), (177, 33992), (181, 34004), (183, 34019), (188, 34046), (192, 34067), (195, 34100), (197, 34115), (198, 34118), (201, 34130), (203, 34139), (220, 34187), (221, 34193), (235, 34244), (239, 34268), (245, 34301), (246, 34304), (254, 34334), (256, 34340), (266, 34412), (269, 34430), (270, 34439), (274, 34487), (275, 34496),

Gene: Cardigan\_110 Start: 63451, Stop: 64143, Start Num: 59

Candidate Starts for Cardigan\_110:

(Start: 59 @63451 has 20 MA's), (73, 63505), (82, 63538), (90, 63577), (100, 63613), (102, 63622), (107, 63646), (109, 63655), (110, 63658), (136, 63754), (145, 63796), (147, 63808), (159, 63865), (166, 63901), (173, 63925), (178, 63952), (180, 63958), (195, 64033), (203, 64072), (207, 64093),

Gene: Caterpie\_67 Start: 48654, Stop: 49646, Start Num: 56

Candidate Starts for Caterpie\_67:

(26, 48540), (Start: 56 @48654 has 58 MA's), (68, 48699), (76, 48720), (83, 48744), (84, 48756), (88, 48771), (109, 48849), (110, 48852), (121, 48906), (129, 48924), (154, 49041), (159, 49062), (169, 49098), (179, 49140), (180, 49143), (181, 49146), (193, 49209), (195, 49227), (198, 49245), (203, 49266), (217, 49302), (220, 49314), (235, 49374), (243, 49410), (244, 49413), (251, 49437), (256, 49467), (259, 49485), (270, 49566), (272, 49590), (275, 49623),

Gene: ChadMasterC\_52 Start: 44688, Stop: 45686, Start Num: 41

Candidate Starts for ChadMasterC\_52:

(29, 44637), (Start: 41 @44688 has 9 MA's), (Start: 59 @44724 has 20 MA's), (76, 44775), (78, 44781), (83, 44799), (89, 44829), (106, 44892), (110, 44907), (128, 44988), (137, 45027), (141, 45051), (174, 45198), (181, 45231), (183, 45246), (195, 45315), (197, 45330), (215, 45387), (220, 45402), (266, 45579), (274, 45651),

Gene: Charlie\_48 Start: 31920, Stop: 32912, Start Num: 56

Candidate Starts for Charlie\_48:

(4, 31599), (17, 31767), (30, 31830), (Start: 56 @31920 has 58 MA's), (Start: 61 @31935 has 1 MA's), (76, 31983), (88, 32034), (112, 32130), (121, 32169), (154, 32304), (180, 32415), (181, 32418), (187, 32457), (193, 32481), (195, 32499), (204, 32544), (217, 32574), (220, 32586), (256, 32730), (270, 32829), (274, 32877), (276, 32901),

Gene: Charming\_52 Start: 42946, Stop: 43956, Start Num: 38

Candidate Starts for Charming\_52:

(Start: 38 @42946 has 8 MA's), (Start: 41 @42955 has 9 MA's), (Start: 59 @42991 has 20 MA's), (76, 43045), (78, 43051), (83, 43069), (89, 43099), (106, 43162), (110, 43177), (128, 43258), (141, 43321), (174, 43468), (181, 43501), (183, 43516), (195, 43585), (197, 43600), (215, 43657), (220, 43672), (264, 43837), (274, 43921),

Gene: Che9c\_61 Start: 43643, Stop: 44704, Start Num: 52

Candidate Starts for Che9c\_61:

(Start: 44 @43625 has 29 MA's), (Start: 52 @43643 has 4 MA's), (71, 43703), (74, 43712), (76, 43718), (83, 43739), (84, 43751), (91, 43778), (121, 43931), (128, 43958), (153, 44078), (159, 44105), (174, 44159), (180, 44186), (184, 44213), (195, 44267), (200, 44294), (255, 44519), (256, 44525), (275, 44681),

Gene: Chewbacca\_50 Start: 33458, Stop: 34519, Start Num: 42

Candidate Starts for Chewbacca\_50:

(Start: 42 @33458 has 130 MA's), (49, 33470), (73, 33536), (74, 33539), (76, 33545), (83, 33569), (86, 33590), (88, 33596), (91, 33608), (92, 33611), (94, 33620), (106, 33662), (110, 33677), (128, 33764), (149, 33869), (151, 33878), (161, 33923), (168, 33950), (171, 33962), (177, 33992), (181, 34004), (183, 34019), (188, 34046), (192, 34067), (195, 34100), (197, 34115), (198, 34118), (201, 34130), (203, 34139), (220, 34187), (221, 34193), (235, 34244), (239, 34268), (245, 34301), (246, 34304), (254, 34334), (256, 34340), (266, 34412), (269, 34430), (270, 34439), (274, 34487), (275, 34496),

Gene: Chickaboom\_40 Start: 26337, Stop: 27143, Start Num: 40

Candidate Starts for Chickaboom\_40:

(Start: 40 @26337 has 23 MA's), (73, 26433), (76, 26442), (89, 26496), (99, 26535), (110, 26574), (169, 26871), (195, 26997), (226, 27108),

Gene: Chickadee\_47 Start: 39366, Stop: 40424, Start Num: 42

Candidate Starts for Chickadee\_47:

(35, 39336), (Start: 42 @39366 has 130 MA's), (76, 39453), (83, 39477), (89, 39507), (106, 39570), (110, 39585), (115, 39618), (141, 39729), (147, 39756), (158, 39810), (174, 39876), (177, 39897), (181, 39909), (183, 39924), (195, 40008), (198, 40026), (202, 40044), (206, 40065), (220, 40095), (243, 40206), (264, 40311), (267, 40332), (273, 40389), (274, 40395),

Gene: Chicken\_39 Start: 26680, Stop: 27486, Start Num: 40

Candidate Starts for Chicken\_39:

(Start: 40 @26680 has 23 MA's), (73, 26776), (76, 26785), (89, 26839), (135, 27040), (151, 27133), (169, 27214), (175, 27232), (195, 27340), (209, 27403), (224, 27439), (227, 27454),

Gene: Chipper1996\_470 Start: 37422, Stop: 38381, Start Num: 55

Candidate Starts for Chipper1996\_470:

(Start: 55 @37422 has 19 MA's), (62, 37449), (66, 37461), (75, 37494), (80, 37512), (92, 37572), (142, 37785), (145, 37797), (166, 37911), (174, 37938), (185, 37998), (195, 38058), (203, 38097), (217, 38139), (247, 38292),

Gene: Chocolat\_47 Start: 37414, Stop: 38361, Start Num: 55

Candidate Starts for Chocolat\_47:

(Start: 55 @37414 has 19 MA's), (75, 37474), (113, 37648), (142, 37765), (145, 37777), (152, 37816), (165, 37873), (166, 37891), (167, 37894), (174, 37918), (176, 37933), (179, 37945), (195, 38038), (203, 38077), (217, 38119), (247, 38272),

Gene: Chubbello\_46 Start: 32539, Stop: 33531, Start Num: 56

Candidate Starts for Chubbello\_46:

(4, 32218), (17, 32386), (30, 32449), (Start: 56 @32539 has 58 MA's), (Start: 61 @32554 has 1 MA's), (76, 32602), (88, 32653), (112, 32749), (121, 32788), (154, 32923), (180, 33034), (181, 33037), (187, 33076), (193, 33100), (195, 33118), (204, 33163), (217, 33193), (220, 33205), (256, 33349), (270, 33448), (274, 33496), (276, 33520),

Gene: Chubster\_47 Start: 37334, Stop: 38281, Start Num: 55

Candidate Starts for Chubster\_47:

(Start: 55 @37334 has 19 MA's), (75, 37394), (113, 37568), (142, 37685), (145, 37697), (152, 37736), (165, 37793), (166, 37811), (167, 37814), (174, 37838), (176, 37853), (179, 37865), (195, 37958), (203, 37997), (217, 38039), (247, 38192),

Gene: Circuit\_35 Start: 29044, Stop: 29892, Start Num: 40

Candidate Starts for Circuit\_35:

(Start: 40 @29044 has 23 MA's), (76, 29134), (83, 29158), (110, 29266), (136, 29371), (171, 29530), (181, 29569), (195, 29650), (203, 29689),

Gene: ClubL\_91 Start: 55523, Stop: 56248, Start Num: 59

Candidate Starts for ClubL\_91:

(Start: 59 @55523 has 20 MA's), (85, 55631), (90, 55649), (94, 55664), (95, 55667), (107, 55718), (119, 55781), (134, 55808), (140, 55841), (147, 55880), (155, 55919), (164, 55949), (168, 55976), (178, 56021), (195, 56102), (199, 56126), (221, 56201),

Gene: Colossa\_38 Start: 30320, Stop: 31258, Start Num: 43

Candidate Starts for Colossa\_38:

(43, 30320), (53, 30338), (65, 30377), (74, 30413), (89, 30476), (108, 30557), (110, 30563), (114, 30587), (139, 30734), (154, 30812), (160, 30836), (166, 30866), (174, 30893), (180, 30923), (181, 30926), (195, 31025), (200, 31052), (203, 31064), (233, 31163), (238, 31187),

Gene: Colucci\_47 Start: 37135, Stop: 38091, Start Num: 55

Candidate Starts for Colucci\_47:

(24, 37021), (Start: 55 @37135 has 19 MA's), (62, 37162), (66, 37174), (75, 37207), (80, 37225), (92, 37285), (142, 37498), (144, 37507), (145, 37510), (166, 37624), (174, 37651), (185, 37711), (195, 37771), (203, 37810), (217, 37852), (222, 37876),

Gene: Colusalem\_42 Start: 26067, Stop: 26861, Start Num: 44

Candidate Starts for Colusalem\_42:

(Start: 44 @26067 has 29 MA's), (76, 26160), (84, 26196), (89, 26214), (98, 26247), (107, 26280), (116, 26331), (146, 26478), (147, 26481), (171, 26595), (183, 26649), (195, 26715), (205, 26769), (224, 26814), (227, 26829),

Gene: Conboy\_47 Start: 37562, Stop: 38509, Start Num: 55

Candidate Starts for Conboy\_47:

(Start: 55 @37562 has 19 MA's), (75, 37622), (113, 37796), (142, 37913), (145, 37925), (152, 37964), (165, 38021), (166, 38039), (167, 38042), (174, 38066), (176, 38081), (179, 38093), (195, 38186), (203, 38225), (217, 38267), (247, 38420),

Gene: Coral\_41 Start: 25938, Stop: 26732, Start Num: 44

Candidate Starts for Coral\_41:

(Start: 44 @25938 has 29 MA's), (76, 26031), (84, 26067), (89, 26085), (98, 26118), (116, 26202), (146, 26349), (147, 26352), (171, 26466), (183, 26520), (195, 26586), (205, 26640), (224, 26685), (227, 26700),

Gene: Cote\_43 Start: 26415, Stop: 27209, Start Num: 44

Candidate Starts for Cote\_43:

(Start: 44 @26415 has 29 MA's), (76, 26508), (84, 26544), (89, 26562), (98, 26595), (116, 26679), (146, 26826), (147, 26829), (171, 26943), (183, 26997), (195, 27063), (205, 27117), (224, 27162), (227, 27177),

Gene: Cucurbita\_92 Start: 57344, Stop: 58069, Start Num: 59

Candidate Starts for Cucurbita\_92:

(6, 57044), (8, 57071), (9, 57074), (10, 57077), (28, 57239), (Start: 59 @57344 has 20 MA's), (85, 57452), (90, 57470), (94, 57485), (95, 57488), (107, 57539), (119, 57602), (134, 57629), (140, 57662), (147, 57701), (155, 57740), (164, 57770), (168, 57797), (178, 57842), (195, 57923), (199, 57947), (213, 57992), (221, 58022),

Gene: Culver\_92 Start: 55420, Stop: 56145, Start Num: 59

Candidate Starts for Culver\_92:

(Start: 59 @55420 has 20 MA's), (85, 55528), (90, 55546), (94, 55561), (95, 55564), (107, 55615), (119, 55678), (134, 55705), (140, 55738), (147, 55777), (155, 55816), (164, 55846), (168, 55873), (195, 55999), (199, 56023), (221, 56098),

Gene: Cygnet\_41 Start: 26877, Stop: 27689, Start Num: 40

Candidate Starts for Cygnet\_41:

(Start: 40 @26877 has 23 MA's), (Start: 59 @26922 has 20 MA's), (63, 26940), (76, 26985), (89, 27039), (92, 27051), (116, 27156), (122, 27186), (170, 27417), (195, 27543), (220, 27630),

Gene: DanHam62\_41 Start: 26014, Stop: 26811, Start Num: 44

Candidate Starts for DanHam62\_41:

(Start: 44 @26014 has 29 MA's), (76, 26110), (89, 26164), (116, 26281), (125, 26317), (146, 26428), (161, 26500), (169, 26536), (171, 26545), (195, 26665), (200, 26692), (220, 26752),

Gene: Daob\_43 Start: 26423, Stop: 27217, Start Num: 44

Candidate Starts for Daob\_43:

(Start: 44 @26423 has 29 MA's), (76, 26516), (84, 26552), (89, 26570), (98, 26603), (116, 26687), (146, 26834), (147, 26837), (171, 26951), (176, 26975), (195, 27071), (205, 27125), (227, 27185),

Gene: Daredevil\_84 Start: 58699, Stop: 57869, Start Num: 46

Candidate Starts for Daredevil\_84:

(Start: 46 @58699 has 7 MA's), (73, 58609), (90, 58537), (107, 58468), (126, 58402), (136, 58360), (168, 58195), (173, 58177), (195, 58069), (199, 58045), (232, 57931), (242, 57877),

Gene: DatBoi\_90 Start: 62181, Stop: 61351, Start Num: 46

Candidate Starts for DatBoi\_90:

(Start: 46 @62181 has 7 MA's), (83, 62058), (90, 62022), (107, 61953), (136, 61845), (168, 61680), (173, 61662), (186, 61593), (195, 61554),

Gene: Delrey21\_51 Start: 44353, Stop: 45396, Start Num: 42

Candidate Starts for Delrey21\_51:

(Start: 42 @44353 has 130 MA's), (76, 44443), (83, 44467), (84, 44479), (110, 44575), (158, 44782), (174, 44848), (183, 44896), (195, 44968), (197, 44983), (202, 45004), (206, 45025), (208, 45028), (220, 45055), (239, 45133), (243, 45166), (248, 45178), (267, 45301), (271, 45328), (274, 45364),

Gene: Derg\_45 Start: 41912, Stop: 42934, Start Num: 42

Candidate Starts for Derg\_45:

(Start: 42 @41912 has 130 MA's), (Start: 59 @41948 has 20 MA's), (76, 42002), (83, 42026), (89, 42056), (97, 42086), (106, 42119), (110, 42134), (128, 42215), (139, 42263), (141, 42278), (142, 42281), (174, 42425), (181, 42458), (183, 42473), (195, 42542), (197, 42557), (215, 42614),

Gene: Dxdert\_48 Start: 39661, Stop: 40713, Start Num: 42

Candidate Starts for Dxdert\_48:

(Start: 42 @39661 has 130 MA's), (76, 39748), (83, 39772), (89, 39802), (106, 39865), (110, 39880), (115, 39913), (141, 40024), (147, 40051), (158, 40105), (174, 40171), (177, 40192), (181, 40204), (183, 40219), (195, 40303), (198, 40321), (202, 40339), (220, 40390), (243, 40492), (264, 40600), (267, 40621), (274, 40684),

Gene: DoctorFroggo\_51 Start: 44353, Stop: 45396, Start Num: 42

Candidate Starts for DoctorFroggo\_51:

(Start: 42 @44353 has 130 MA's), (76, 44443), (83, 44467), (84, 44479), (110, 44575), (158, 44782), (174, 44848), (183, 44896), (195, 44968), (197, 44983), (202, 45004), (206, 45025), (208, 45028), (220, 45055), (239, 45133), (243, 45166), (248, 45178), (267, 45301), (271, 45328), (274, 45364),

Gene: Donovan\_47 Start: 32566, Stop: 33558, Start Num: 56

Candidate Starts for Donovan\_47:

(4, 32245), (17, 32413), (30, 32476), (Start: 56 @32566 has 58 MA's), (Start: 61 @32581 has 1 MA's), (76, 32629), (88, 32680), (112, 32776), (121, 32815), (154, 32950), (180, 33061), (181, 33064), (187, 33103), (193, 33127), (195, 33145), (204, 33190), (217, 33220), (220, 33232), (256, 33376), (270, 33475), (274, 33523), (276, 33547),

Gene: Dori\_64 Start: 50133, Stop: 51218, Start Num: 42

Candidate Starts for Dori\_64:

(Start: 42 @50133 has 130 MA's), (58, 50169), (73, 50208), (76, 50217), (83, 50241), (86, 50262), (92, 50283), (94, 50292), (99, 50310), (104, 50343), (110, 50364), (112, 50379), (113, 50385), (117, 50406), (133, 50466), (144, 50526), (147, 50541), (162, 50613), (163, 50616), (181, 50700), (183, 50715), (188, 50742), (195, 50799), (197, 50814), (198, 50817), (201, 50829), (202, 50835), (203, 50838), (212, 50868), (220, 50886), (221, 50892), (235, 50943), (239, 50967), (245, 51000), (246, 51003), (254, 51033), (256, 51039), (262, 51072), (270, 51138), (272, 51162), (275, 51195),

Gene: Doucette\_41 Start: 28699, Stop: 29496, Start Num: 41

Candidate Starts for Doucette\_41:

(14, 28546), (37, 28684), (Start: 41 @28699 has 9 MA's), (48, 28711), (76, 28795), (84, 28831), (89, 28849), (91, 28858), (105, 28912), (121, 28981), (136, 29038), (137, 29041), (166, 29176), (167, 29179), (195, 29311), (200, 29338), (203, 29350), (210, 29377),

Gene: DrYang\_48 Start: 39485, Stop: 40438, Start Num: 55

Candidate Starts for DrYang\_48:

(Start: 55 @39485 has 19 MA's), (70, 39530), (75, 39545), (83, 39575), (113, 39719), (142, 39839), (145, 39851), (146, 39860), (166, 39965), (174, 39992), (176, 40007), (195, 40112), (203, 40151), (222, 40217),

Gene: DreamEater\_53 Start: 34406, Stop: 35281, Start Num: 46

Candidate Starts for DreamEater\_53:

(Start: 46 @34406 has 7 MA's), (68, 34475), (76, 34496), (84, 34532), (104, 34607), (110, 34628), (121, 34682), (163, 34847), (171, 34883), (172, 34886), (175, 34895), (180, 34919), (181, 34922), (182, 34928), (193, 34985), (195, 35003), (202, 35039), (203, 35042),

Gene: Duplicity\_48 Start: 33467, Stop: 34528, Start Num: 42

Candidate Starts for Duplicity\_48:

(Start: 42 @33467 has 130 MA's), (49, 33479), (73, 33545), (74, 33548), (76, 33554), (83, 33578), (86, 33599), (88, 33605), (91, 33617), (92, 33620), (94, 33629), (106, 33671), (110, 33686), (128, 33773), (149, 33878), (151, 33887), (161, 33932), (168, 33959), (171, 33971), (177, 34001), (181, 34013), (183, 34028), (188, 34055), (192, 34076), (195, 34109), (197, 34124), (198, 34127), (201, 34139), (203, 34148), (220, 34196), (221, 34202), (235, 34253), (239, 34277), (245, 34310), (246, 34313), (254, 34343), (256, 34349), (266, 34421), (269, 34439), (270, 34448), (274, 34496), (275, 34505),

Gene: Dusty\_88 Start: 55039, Stop: 55764, Start Num: 59

Candidate Starts for Dusty\_88:

(3, 54706), (6, 54739), (8, 54766), (9, 54769), (10, 54772), (18, 54880), (Start: 59 @55039 has 20 MA's), (85, 55147), (90, 55165), (94, 55180), (95, 55183), (107, 55234), (119, 55297), (134, 55324), (140, 55357), (147, 55396), (155, 55435), (164, 55465), (168, 55492), (178, 55537), (195, 55618), (199, 55642), (213, 55687), (221, 55717),

Gene: Dynamo\_47 Start: 33026, Stop: 34018, Start Num: 56

Candidate Starts for Dynamo\_47:

(4, 32705), (17, 32873), (30, 32936), (Start: 56 @33026 has 58 MA's), (Start: 61 @33041 has 1 MA's), (76, 33089), (88, 33140), (112, 33236), (121, 33275), (154, 33410), (180, 33521), (181, 33524), (187, 33563), (193, 33587), (195, 33605), (204, 33650), (217, 33680), (220, 33692), (256, 33836), (270, 33935), (274, 33983), (276, 34007),

Gene: EGUunicorn\_46 Start: 32155, Stop: 33219, Start Num: 42

Candidate Starts for EGUunicorn\_46:

(19, 32041), (Start: 42 @32155 has 130 MA's), (49, 32167), (73, 32233), (74, 32236), (76, 32242), (83, 32266), (86, 32287), (88, 32293), (91, 32305), (92, 32308), (94, 32317), (106, 32359), (110, 32374), (149, 32566), (168, 32647), (171, 32659), (174, 32668), (181, 32701), (183, 32716), (188, 32743),

(195, 32797), (197, 32812), (201, 32827), (203, 32836), (212, 32866), (220, 32884), (221, 32890), (235, 32941), (245, 32998), (254, 33034), (256, 33040), (266, 33112), (269, 33130), (270, 33139), (274, 33187), (275, 33196),

Gene: EMoore\_47 Start: 42468, Stop: 43541, Start Num: 42

Candidate Starts for EMoore\_47:

(Start: 42 @42468 has 130 MA's), (Start: 59 @42504 has 20 MA's), (76, 42555), (83, 42579), (86, 42600), (89, 42609), (106, 42672), (110, 42687), (115, 42720), (136, 42804), (174, 42978), (177, 42999), (183, 43026), (195, 43107), (197, 43122), (206, 43164), (208, 43167), (220, 43194), (243, 43305), (263, 43401), (271, 43473), (274, 43509),

Gene: EastWest\_36 Start: 29042, Stop: 29902, Start Num: 42

Candidate Starts for EastWest\_36:

(Start: 42 @29042 has 130 MA's), (67, 29114), (77, 29150), (81, 29165), (83, 29171), (94, 29222), (110, 29279), (136, 29384), (146, 29435), (147, 29438), (161, 29501), (166, 29519), (181, 29579), (188, 29621), (193, 29660), (195, 29678), (198, 29696), (200, 29705), (203, 29717), (212, 29747), (220, 29765),

Gene: EdgarPoe\_47 Start: 37562, Stop: 38509, Start Num: 55

Candidate Starts for EdgarPoe\_47:

(Start: 55 @37562 has 19 MA's), (75, 37622), (113, 37796), (142, 37913), (145, 37925), (152, 37964), (165, 38021), (166, 38039), (167, 38042), (174, 38066), (176, 38081), (179, 38093), (195, 38186), (203, 38225), (217, 38267), (247, 38420),

Gene: EdmundFerry\_46 Start: 39437, Stop: 40492, Start Num: 42

Candidate Starts for EdmundFerry\_46:

(35, 39407), (Start: 42 @39437 has 130 MA's), (76, 39524), (83, 39548), (89, 39578), (106, 39641), (110, 39656), (115, 39689), (141, 39800), (147, 39827), (158, 39881), (174, 39947), (177, 39968), (181, 39980), (183, 39995), (195, 40079), (198, 40097), (202, 40115), (206, 40136), (220, 40166), (243, 40274), (264, 40379), (267, 40400), (273, 40457), (274, 40463),

Gene: Eesa\_38 Start: 27219, Stop: 28025, Start Num: 40

Candidate Starts for Eesa\_38:

(Start: 40 @27219 has 23 MA's), (73, 27315), (76, 27324), (84, 27360), (89, 27378), (135, 27579), (151, 27672), (169, 27753), (175, 27771), (195, 27879), (227, 27993),

Gene: Engineer\_92 Start: 56810, Stop: 57535, Start Num: 59

Candidate Starts for Engineer\_92:

(6, 56510), (8, 56537), (9, 56540), (10, 56543), (28, 56705), (Start: 59 @56810 has 20 MA's), (85, 56918), (90, 56936), (94, 56951), (95, 56954), (107, 57005), (119, 57068), (134, 57095), (140, 57128), (147, 57167), (155, 57206), (164, 57236), (168, 57263), (178, 57308), (195, 57389), (199, 57413), (213, 57458), (221, 57488),

Gene: Etoile\_46 Start: 32543, Stop: 33535, Start Num: 56

Candidate Starts for Etoile\_46:

(4, 32222), (17, 32390), (30, 32453), (Start: 56 @32543 has 58 MA's), (Start: 61 @32558 has 1 MA's), (76, 32606), (88, 32657), (112, 32753), (121, 32792), (154, 32927), (180, 33038), (181, 33041), (187, 33080), (193, 33104), (195, 33122), (204, 33167), (217, 33197), (220, 33209), (256, 33353), (270, 33452), (274, 33500), (276, 33524),

Gene: Fingolfin\_41 Start: 26017, Stop: 26814, Start Num: 44

Candidate Starts for Fingolfin\_41:

(Start: 44 @26017 has 29 MA's), (76, 26113), (89, 26167), (116, 26284), (125, 26320), (146, 26431), (161, 26503), (169, 26539), (171, 26548), (195, 26668), (200, 26695), (220, 26755),

Gene: FirstPlacePfu\_47 Start: 32575, Stop: 33567, Start Num: 56

Candidate Starts for FirstPlacePfu\_47:

(17, 32422), (30, 32485), (Start: 56 @32575 has 58 MA's), (Start: 61 @32590 has 1 MA's), (76, 32638), (88, 32689), (112, 32785), (121, 32824), (154, 32959), (180, 33070), (181, 33073), (187, 33112), (193, 33136), (195, 33154), (204, 33199), (217, 33229), (220, 33241), (256, 33385), (270, 33484), (274, 33532), (276, 33556),

Gene: Fishburne\_46 Start: 32543, Stop: 33535, Start Num: 56

Candidate Starts for Fishburne\_46:

(4, 32222), (17, 32390), (30, 32453), (Start: 56 @32543 has 58 MA's), (Start: 61 @32558 has 1 MA's), (76, 32606), (88, 32657), (112, 32753), (121, 32792), (154, 32927), (180, 33038), (181, 33041), (187, 33080), (193, 33104), (195, 33122), (204, 33167), (217, 33197), (220, 33209), (256, 33353), (270, 33452), (274, 33500), (276, 33524),

Gene: Fitzgerald\_50 Start: 43949, Stop: 44947, Start Num: 41

Candidate Starts for Fitzgerald\_50:

(20, 43865), (25, 43886), (Start: 41 @43949 has 9 MA's), (Start: 59 @43985 has 20 MA's), (76, 44036), (78, 44042), (83, 44060), (89, 44090), (106, 44153), (110, 44168), (141, 44312), (174, 44459), (181, 44492), (183, 44507), (195, 44576), (197, 44591), (215, 44648), (220, 44663), (266, 44840), (274, 44912),

Gene: Flatwoods\_50 Start: 42261, Stop: 43283, Start Num: 42

Candidate Starts for Flatwoods\_50:

(Start: 42 @42261 has 130 MA's), (Start: 59 @42297 has 20 MA's), (76, 42351), (83, 42375), (89, 42405), (97, 42435), (106, 42468), (110, 42483), (128, 42564), (139, 42612), (141, 42627), (142, 42630), (174, 42774), (181, 42807), (183, 42822), (195, 42891), (197, 42906), (215, 42963), (220, 42978),

Gene: Fosterous\_52 Start: 43368, Stop: 44420, Start Num: 31

Candidate Starts for Fosterous\_52:

(13, 43260), (15, 43281), (Start: 31 @43368 has 1 MA's), (Start: 42 @43422 has 130 MA's), (Start: 59 @43458 has 20 MA's), (76, 43509), (78, 43515), (83, 43533), (89, 43563), (106, 43626), (110, 43641), (120, 43692), (139, 43770), (174, 43932), (181, 43965), (183, 43980), (195, 44049), (197, 44064), (215, 44121), (220, 44136), (266, 44313), (274, 44385),

Gene: Franzy\_33 Start: 29485, Stop: 30330, Start Num: 42

Candidate Starts for Franzy\_33:

(Start: 42 @29485 has 130 MA's), (76, 29575), (81, 29593), (83, 29599), (86, 29620), (93, 29647), (110, 29707), (120, 29764), (136, 29812), (161, 29929), (181, 30007), (185, 30034), (188, 30049), (193, 30088), (195, 30106), (198, 30124), (203, 30145), (206, 30163), (225, 30208),

Gene: FuegoCuervo\_55 Start: 42559, Stop: 43557, Start Num: 41

Candidate Starts for FuegoCuervo\_55:

(29, 42508), (Start: 41 @42559 has 9 MA's), (Start: 59 @42595 has 20 MA's), (76, 42646), (78, 42652), (83, 42670), (89, 42700), (106, 42763), (110, 42778), (128, 42859), (133, 42874), (141, 42922), (174, 43069), (181, 43102), (183, 43117), (195, 43186), (197, 43201), (215, 43258), (220, 43273), (266, 43450), (274, 43522),

Gene: Fulbright\_47 Start: 32547, Stop: 33608, Start Num: 42

Candidate Starts for Fulbright\_47:

(Start: 42 @32547 has 130 MA's), (49, 32559), (73, 32625), (74, 32628), (76, 32634), (83, 32658), (86, 32679), (88, 32685), (91, 32697), (92, 32700), (94, 32709), (106, 32751), (110, 32766), (128, 32853), (149, 32958), (151, 32967), (161, 33012), (168, 33039), (171, 33051), (177, 33081), (181, 33093), (183, 33108), (188, 33135), (192, 33156), (195, 33189), (197, 33204), (198, 33207), (201, 33219), (203, 33228), (220, 33276), (221, 33282), (235, 33333), (239, 33357), (245, 33390), (246, 33393), (254, 33423), (256, 33429), (266, 33501), (269, 33519), (270, 33528), (274, 33576), (275, 33585),

Gene: GTE6\_47 Start: 39899, Stop: 40960, Start Num: 42

Candidate Starts for GTE6\_47:

(35, 39869), (Start: 42 @39899 has 130 MA's), (76, 39986), (83, 40010), (89, 40040), (106, 40103), (110, 40118), (115, 40151), (141, 40262), (147, 40289), (158, 40343), (174, 40409), (177, 40430), (181, 40442), (183, 40457), (195, 40541), (198, 40559), (202, 40577), (206, 40598), (220, 40628), (243, 40739), (264, 40847), (267, 40868), (273, 40925), (274, 40931),

Gene: Gaea\_49 Start: 41917, Stop: 42939, Start Num: 42

Candidate Starts for Gaea\_49:

(Start: 42 @41917 has 130 MA's), (Start: 59 @41953 has 20 MA's), (76, 42007), (83, 42031), (89, 42061), (97, 42091), (106, 42124), (110, 42139), (128, 42220), (139, 42268), (141, 42283), (142, 42286), (174, 42430), (181, 42463), (183, 42478), (195, 42547), (197, 42562), (215, 42619), (220, 42634),

Gene: Galadriel\_52 Start: 43406, Stop: 44413, Start Num: 38

Candidate Starts for Galadriel\_52:

(Start: 38 @43406 has 8 MA's), (Start: 41 @43415 has 9 MA's), (Start: 59 @43451 has 20 MA's), (76, 43502), (78, 43508), (83, 43526), (89, 43556), (106, 43619), (110, 43634), (141, 43778), (174, 43925), (181, 43958), (183, 43973), (195, 44042), (197, 44057), (215, 44114), (220, 44129), (274, 44378),

Gene: Galaxy\_38 Start: 26092, Stop: 26898, Start Num: 40

Candidate Starts for Galaxy\_38:

(Start: 40 @26092 has 23 MA's), (73, 26188), (76, 26197), (89, 26251), (135, 26452), (151, 26545), (169, 26626), (195, 26752), (227, 26866),

Gene: GaloreK\_46 Start: 32539, Stop: 33531, Start Num: 56

Candidate Starts for GaloreK\_46:

(4, 32218), (17, 32386), (30, 32449), (Start: 56 @32539 has 58 MA's), (Start: 61 @32554 has 1 MA's), (76, 32602), (88, 32653), (112, 32749), (121, 32788), (154, 32923), (180, 33034), (181, 33037), (187, 33076), (193, 33100), (195, 33118), (204, 33163), (217, 33193), (220, 33205), (256, 33349), (270, 33448), (274, 33496), (276, 33520),

Gene: Gavriela\_46 Start: 32800, Stop: 33774, Start Num: 56

Candidate Starts for Gavriela\_46:

(Start: 56 @32800 has 58 MA's), (Start: 61 @32818 has 1 MA's), (76, 32866), (88, 32917), (92, 32932), (94, 32941), (121, 33052), (154, 33187), (180, 33298), (181, 33301), (187, 33340), (193, 33364), (195, 33382), (204, 33427), (217, 33457), (220, 33469), (235, 33526), (256, 33595), (270, 33694), (274, 33742),

Gene: Geeche\_89 Start: 55875, Stop: 56600, Start Num: 59

Candidate Starts for Geeche\_89:

(Start: 59 @55875 has 20 MA's), (85, 55983), (90, 56001), (94, 56016), (95, 56019), (107, 56070), (119, 56133), (134, 56160), (140, 56193), (147, 56232), (155, 56271), (164, 56301), (168, 56328), (178, 56373), (195, 56454), (199, 56478), (213, 56523), (221, 56553),

Gene: Geodirt\_50 Start: 44037, Stop: 45035, Start Num: 41

Candidate Starts for Geodirt\_50:

(20, 43953), (25, 43974), (Start: 41 @44037 has 9 MA's), (Start: 59 @44073 has 20 MA's), (76, 44124), (78, 44130), (83, 44148), (89, 44178), (106, 44241), (110, 44256), (128, 44337), (137, 44376), (141, 44400), (174, 44547), (181, 44580), (183, 44595), (195, 44664), (197, 44679), (215, 44736), (220, 44751), (266, 44928), (274, 45000),

Gene: Gex\_48 Start: 33474, Stop: 34535, Start Num: 42

Candidate Starts for Gex\_48:

(Start: 42 @33474 has 130 MA's), (49, 33486), (73, 33552), (74, 33555), (76, 33561), (83, 33585), (86, 33606), (88, 33612), (91, 33624), (92, 33627), (94, 33636), (106, 33678), (110, 33693), (128, 33780), (149, 33885), (151, 33894), (161, 33939), (168, 33966), (171, 33978), (177, 34008), (181, 34020), (183, 34035), (188, 34062), (192, 34083), (195, 34116), (197, 34131), (198, 34134), (201, 34146), (203, 34155), (220, 34203), (221, 34209), (235, 34260), (239, 34284), (245, 34317), (246, 34320), (254, 34350), (256, 34356), (266, 34428), (269, 34446), (270, 34455), (274, 34503), (275, 34512),

Gene: Glaske\_46 Start: 32800, Stop: 33774, Start Num: 56

Candidate Starts for Glaske\_46:

(Start: 56 @32800 has 58 MA's), (Start: 61 @32818 has 1 MA's), (76, 32866), (88, 32917), (92, 32932), (94, 32941), (121, 33052), (154, 33187), (180, 33298), (181, 33301), (187, 33340), (193, 33364), (195, 33382), (204, 33427), (217, 33457), (220, 33469), (235, 33526), (256, 33595), (270, 33694), (274, 33742),

Gene: Glotell\_42 Start: 26173, Stop: 26970, Start Num: 44

Candidate Starts for Glotell\_42:

(Start: 44 @26173 has 29 MA's), (76, 26269), (89, 26323), (116, 26440), (125, 26476), (146, 26587), (161, 26659), (169, 26695), (171, 26704), (195, 26824), (220, 26911),

Gene: Gravel\_48 Start: 27192, Stop: 27998, Start Num: 40

Candidate Starts for Gravel\_48:

(Start: 40 @27192 has 23 MA's), (73, 27288), (76, 27297), (84, 27333), (89, 27351), (111, 27432), (151, 27645), (169, 27726), (175, 27744), (195, 27852), (227, 27966),

Gene: GravityBall\_35 Start: 29827, Stop: 30672, Start Num: 42

Candidate Starts for GravityBall\_35:

(Start: 42 @29827 has 130 MA's), (76, 29920), (77, 29923), (83, 29944), (89, 29974), (110, 30052), (120, 30109), (136, 30157), (146, 30208), (147, 30211), (149, 30226), (157, 30256), (161, 30274), (166, 30292), (181, 30352), (188, 30394), (193, 30433), (195, 30451), (198, 30469), (203, 30490), (206, 30508), (229, 30577), (232, 30589), (235, 30595),

Gene: GreaseLightnin\_47 Start: 32779, Stop: 33753, Start Num: 56

Candidate Starts for GreaseLightnin\_47:

(Start: 56 @32779 has 58 MA's), (Start: 61 @32797 has 1 MA's), (76, 32845), (88, 32896), (94, 32920), (121, 33031), (154, 33166), (180, 33277), (181, 33280), (187, 33319), (193, 33343), (195, 33361), (204, 33406), (217, 33436), (220, 33448), (235, 33505), (256, 33574), (270, 33673), (274, 33721),

Gene: Grekaycon\_35 Start: 29742, Stop: 30590, Start Num: 42

Candidate Starts for Grekaycon\_35:

(Start: 42 @29742 has 130 MA's), (76, 29832), (77, 29835), (83, 29856), (88, 29883), (89, 29886), (110, 29964), (120, 30021), (136, 30069), (146, 30120), (147, 30123), (161, 30186), (166, 30204), (181, 30264), (188, 30306), (193, 30345), (195, 30363), (198, 30381), (203, 30402), (206, 30420), (220, 30450), (232, 30501), (253, 30567),

Gene: Gustavo\_50 Start: 42537, Stop: 43559, Start Num: 42

Candidate Starts for Gustavo\_50:

(15, 42396), (Start: 31 @42483 has 1 MA's), (Start: 39 @42531 has 2 MA's), (Start: 42 @42537 has 130 MA's), (Start: 59 @42573 has 20 MA's), (76, 42627), (83, 42651), (89, 42681), (97, 42711), (106, 42744), (110, 42759), (139, 42888), (141, 42903), (142, 42906), (174, 43050), (181, 43083), (183, 43098), (195, 43167), (196, 43173), (197, 43182), (215, 43239), (220, 43254),

Gene: HC\_46 Start: 32186, Stop: 33181, Start Num: 56

Candidate Starts for HC\_46:

(21, 32051), (Start: 56 @32186 has 58 MA's), (Start: 61 @32201 has 1 MA's), (76, 32249), (88, 32300), (94, 32324), (121, 32435), (154, 32570), (180, 32681), (181, 32684), (187, 32723), (193, 32747), (195, 32765), (204, 32810), (217, 32840), (220, 32852), (240, 32930), (256, 32999), (270, 33098), (274, 33146), (276, 33170),

Gene: HUHilltop\_48 Start: 33058, Stop: 34032, Start Num: 56

Candidate Starts for HUHilltop\_48:

(Start: 56 @33058 has 58 MA's), (Start: 61 @33076 has 1 MA's), (76, 33124), (88, 33175), (94, 33199), (121, 33310), (154, 33445), (180, 33556), (181, 33559), (187, 33598), (193, 33622), (195, 33640), (204, 33685), (217, 33715), (220, 33727), (235, 33784), (256, 33853), (270, 33952), (274, 34000),

Gene: HamCheese\_41 Start: 26001, Stop: 26798, Start Num: 44

Candidate Starts for HamCheese\_41:

(Start: 44 @26001 has 29 MA's), (76, 26097), (89, 26151), (116, 26268), (125, 26304), (146, 26415), (161, 26487), (169, 26523), (171, 26532), (195, 26652), (200, 26679), (220, 26739),

Gene: Hanako\_52 Start: 34364, Stop: 35428, Start Num: 42

Candidate Starts for Hanako\_52:

(19, 34250), (Start: 42 @34364 has 130 MA's), (49, 34376), (73, 34442), (74, 34445), (76, 34451), (83, 34475), (86, 34496), (88, 34502), (91, 34514), (92, 34517), (94, 34526), (106, 34568), (110, 34583), (149, 34775), (168, 34856), (171, 34868), (174, 34877), (181, 34910), (183, 34925), (188, 34952), (195, 35006), (197, 35021), (201, 35036), (203, 35045), (212, 35075), (220, 35093), (221, 35099), (235, 35150), (245, 35207), (254, 35243), (256, 35249), (269, 35339), (270, 35348), (274, 35396), (275, 35405),

Gene: HannahPhantana\_42 Start: 26085, Stop: 26879, Start Num: 44

Candidate Starts for HannahPhantana\_42:

(Start: 44 @26085 has 29 MA's), (76, 26178), (84, 26214), (89, 26232), (98, 26265), (116, 26349), (146, 26496), (147, 26499), (171, 26613), (183, 26667), (195, 26733), (205, 26787), (224, 26832), (227, 26847),

Gene: Hans\_51 Start: 41907, Stop: 42968, Start Num: 42

Candidate Starts for Hans\_51:

(Start: 42 @41907 has 130 MA's), (Start: 59 @41943 has 20 MA's), (76, 41994), (83, 42018), (86, 42039), (96, 42075), (110, 42126), (115, 42159), (141, 42270), (174, 42417), (177, 42438), (181, 42450), (183, 42465), (195, 42546), (197, 42561), (206, 42603), (208, 42606), (243, 42735), (263, 42831), (271, 42903), (274, 42939),

Gene: HumptyDumpty\_47 Start: 37420, Stop: 38379, Start Num: 55

Candidate Starts for HumptyDumpty\_47:

(Start: 55 @37420 has 19 MA's), (62, 37447), (66, 37459), (75, 37492), (80, 37510), (92, 37570), (142, 37783), (145, 37795), (166, 37909), (174, 37936), (185, 37996), (195, 38056), (203, 38095), (217, 38137), (247, 38290),

Gene: Impisi\_53 Start: 34161, Stop: 35225, Start Num: 42

Candidate Starts for Impisi\_53:

(19, 34047), (Start: 42 @34161 has 130 MA's), (49, 34173), (73, 34239), (74, 34242), (76, 34248), (83, 34272), (86, 34293), (88, 34299), (91, 34311), (92, 34314), (94, 34323), (106, 34365), (110, 34380), (149, 34572), (168, 34653), (171, 34665), (174, 34674), (181, 34707), (183, 34722), (188, 34749), (195, 34803), (197, 34818), (201, 34833), (203, 34842), (212, 34872), (220, 34890), (221, 34896), (235, 34947), (245, 35004), (254, 35040), (256, 35046), (269, 35136), (270, 35145), (274, 35193), (275, 35202),

Gene: Inspectinfecti\_50 Start: 42353, Stop: 43414, Start Num: 42

Candidate Starts for Inspectinfecti\_50:

(Start: 42 @42353 has 130 MA's), (Start: 59 @42389 has 20 MA's), (76, 42440), (83, 42464), (86, 42485), (96, 42521), (110, 42572), (115, 42605), (141, 42716), (174, 42863), (177, 42884), (181, 42896), (183, 42911), (195, 42992), (197, 43007), (206, 43049), (208, 43052), (243, 43181), (263, 43277), (271, 43349), (274, 43385),

Gene: Island3\_49 Start: 34787, Stop: 35854, Start Num: 42

Candidate Starts for Island3\_49:

(Start: 42 @34787 has 130 MA's), (49, 34799), (73, 34865), (76, 34874), (83, 34898), (86, 34919), (88, 34925), (92, 34940), (94, 34949), (106, 34991), (110, 35006), (128, 35093), (171, 35291), (181, 35333), (183, 35348), (188, 35375), (192, 35396), (195, 35429), (197, 35444), (201, 35459), (203, 35468), (212, 35498), (220, 35516), (221, 35522), (230, 35555), (235, 35573), (255, 35666), (256, 35672), (270, 35771), (274, 35819), (276, 35843),

Gene: JKSyngboy\_48 Start: 43130, Stop: 44158, Start Num: 39

Candidate Starts for JKSyngboy\_48:

(15, 42995), (Start: 31 @43082 has 1 MA's), (Start: 39 @43130 has 2 MA's), (Start: 42 @43136 has 130 MA's), (Start: 59 @43172 has 20 MA's), (76, 43226), (83, 43250), (89, 43280), (97, 43310), (106, 43343), (110, 43358), (128, 43439), (139, 43487), (141, 43502), (174, 43649), (181, 43682), (183, 43697), (195, 43766), (197, 43781), (215, 43838),

Gene: JKerns\_35 Start: 29691, Stop: 30554, Start Num: 42

Candidate Starts for JKerns\_35:

(Start: 42 @29691 has 130 MA's), (76, 29781), (77, 29784), (83, 29805), (94, 29856), (110, 29913), (136, 30018), (156, 30108), (158, 30120), (161, 30135), (181, 30213), (185, 30240), (188, 30255), (193, 30297), (195, 30315), (198, 30333), (203, 30354), (206, 30372), (229, 30441), (235, 30459), (253, 30531),

Gene: JaNo\_47 Start: 37420, Stop: 38379, Start Num: 55

Candidate Starts for JaNo\_47:

(Start: 55 @37420 has 19 MA's), (62, 37447), (66, 37459), (75, 37492), (80, 37510), (92, 37570), (142, 37783), (145, 37795), (166, 37909), (174, 37936), (185, 37996), (195, 38056), (203, 38095), (217, 38137), (247, 38290),

Gene: Jabberwocky\_49 Start: 44097, Stop: 45095, Start Num: 41

Candidate Starts for Jabberwocky\_49:

(Start: 41 @44097 has 9 MA's), (Start: 59 @44133 has 20 MA's), (76, 44184), (78, 44190), (83, 44208), (89, 44238), (106, 44301), (110, 44316), (128, 44397), (133, 44412), (137, 44436), (141, 44460), (150, 44508), (174, 44607), (181, 44640), (183, 44655), (195, 44724), (197, 44739), (215, 44796), (220, 44811), (266, 44988), (274, 45060),

Gene: Jace\_32 Start: 26355, Stop: 27233, Start Num: 33

Candidate Starts for Jace\_32:

(Start: 33 @26355 has 1 MA's), (64, 26445), (76, 26478), (83, 26502), (92, 26544), (106, 26595), (110, 26610), (115, 26643), (161, 26847), (167, 26871), (171, 26886), (172, 26889), (179, 26922), (183, 26940), (195, 27024), (203, 27063), (206, 27081),

Gene: Jamie19\_46 Start: 32655, Stop: 33719, Start Num: 42

Candidate Starts for Jamie19\_46:

(19, 32541), (Start: 42 @32655 has 130 MA's), (49, 32667), (73, 32733), (74, 32736), (76, 32742), (83, 32766), (86, 32787), (88, 32793), (91, 32805), (92, 32808), (94, 32817), (106, 32859), (110, 32874), (149, 33066), (168, 33147), (171, 33159), (174, 33168), (181, 33201), (183, 33216), (188, 33243), (195, 33297), (197, 33312), (201, 33327), (203, 33336), (212, 33366), (220, 33384), (221, 33390), (235, 33441), (245, 33498), (254, 33534), (256, 33540), (269, 33630), (270, 33639), (274, 33687), (275, 33696),

Gene: Jamun\_38 Start: 26377, Stop: 27183, Start Num: 40

Candidate Starts for Jamun\_38:

(Start: 40 @26377 has 23 MA's), (73, 26473), (76, 26482), (89, 26536), (135, 26737), (151, 26830), (169, 26911), (195, 27037), (227, 27151),

Gene: Jawnski\_33 Start: 29492, Stop: 30337, Start Num: 42

Candidate Starts for Jawnski\_33:

(Start: 42 @29492 has 130 MA's), (76, 29579), (81, 29597), (83, 29603), (86, 29624), (110, 29711), (120, 29768), (136, 29816), (161, 29933), (181, 30011), (185, 30038), (188, 30053), (195, 30110), (198, 30128), (203, 30149), (206, 30167),

Gene: JayCookie\_47 Start: 37556, Stop: 38515, Start Num: 55

Candidate Starts for JayCookie\_47:

(Start: 55 @37556 has 19 MA's), (62, 37583), (66, 37595), (75, 37628), (80, 37646), (92, 37706), (142, 37919), (145, 37931), (158, 37994), (166, 38045), (174, 38072), (185, 38132), (195, 38192), (203, 38231), (217, 38273), (247, 38426),

Gene: Jebeks\_48 Start: 32603, Stop: 33595, Start Num: 56

Candidate Starts for Jebeks\_48:

(4, 32282), (17, 32450), (30, 32513), (Start: 56 @32603 has 58 MA's), (Start: 61 @32618 has 1 MA's), (76, 32666), (88, 32717), (112, 32813), (121, 32852), (154, 32987), (180, 33098), (181, 33101), (187, 33140), (193, 33164), (195, 33182), (204, 33227), (217, 33257), (220, 33269), (256, 33413), (270, 33512), (274, 33560), (276, 33584),

Gene: Jerole\_42 Start: 26209, Stop: 27003, Start Num: 44

Candidate Starts for Jerole\_42:

(Start: 44 @26209 has 29 MA's), (76, 26302), (84, 26338), (89, 26356), (98, 26389), (116, 26473), (146, 26620), (147, 26623), (171, 26737), (183, 26791), (195, 26857), (205, 26911), (224, 26956), (227, 26971),

Gene: JohnLord\_66 Start: 49043, Stop: 50026, Start Num: 56

Candidate Starts for JohnLord\_66:

(Start: 56 @49043 has 58 MA's), (68, 49085), (83, 49130), (84, 49142), (88, 49157), (92, 49172), (93, 49178), (109, 49235), (110, 49238), (112, 49253), (117, 49274), (121, 49292), (129, 49310), (134, 49319), (141, 49364), (142, 49367), (147, 49391), (159, 49448), (169, 49484), (179, 49526), (180, 49529), (181, 49532), (182, 49538), (183, 49547), (193, 49595), (195, 49613), (198, 49631), (203, 49652), (217, 49688), (220, 49700), (228, 49733), (244, 49793), (251, 49817), (256, 49847), (259, 49865), (270, 49946), (275, 50003),

Gene: JonJames\_109 Start: 63983, Stop: 64675, Start Num: 59

Candidate Starts for JonJames\_109:

(Start: 59 @63983 has 20 MA's), (73, 64037), (82, 64070), (90, 64109), (100, 64145), (102, 64154), (107, 64178), (109, 64187), (110, 64190), (136, 64286), (145, 64328), (147, 64340), (159, 64397), (173, 64457), (178, 64484), (180, 64490), (195, 64565), (203, 64604), (207, 64625),

Gene: Jordan\_35 Start: 29741, Stop: 30604, Start Num: 42

Candidate Starts for Jordan\_35:

(Start: 42 @29741 has 130 MA's), (76, 29831), (77, 29834), (83, 29855), (94, 29906), (110, 29963), (136, 30068), (156, 30158), (158, 30170), (161, 30185), (181, 30263), (185, 30290), (188, 30305), (193, 30347), (195, 30365), (198, 30383), (203, 30404), (206, 30422), (229, 30491), (235, 30509), (253, 30581),

Gene: Journey\_47 Start: 31920, Stop: 32912, Start Num: 56

Candidate Starts for Journey\_47:

(4, 31599), (17, 31767), (30, 31830), (Start: 56 @31920 has 58 MA's), (Start: 61 @31935 has 1 MA's), (76, 31983), (88, 32034), (112, 32130), (121, 32169), (154, 32304), (180, 32415), (181, 32418), (187, 32457), (193, 32481), (195, 32499), (204, 32544), (217, 32574), (220, 32586), (256, 32730), (270, 32829), (274, 32877), (276, 32901),

Gene: JrWilcox\_100 Start: 55770, Stop: 56687, Start Num: 44

Candidate Starts for JrWilcox\_100:

(Start: 44 @55770 has 29 MA's), (78, 55878), (92, 55944), (106, 55995), (109, 56007), (111, 56013), (112, 56025), (147, 56199), (153, 56229), (167, 56301), (177, 56346), (195, 56466), (200, 56493), (229, 56592),

Gene: Jung\_45 Start: 32501, Stop: 33496, Start Num: 56

Candidate Starts for Jung\_45:

(4, 32180), (17, 32348), (30, 32411), (Start: 56 @32501 has 58 MA's), (Start: 61 @32516 has 1 MA's), (76, 32564), (88, 32615), (112, 32711), (121, 32750), (154, 32885), (180, 32996), (181, 32999), (187, 33038), (193, 33062), (195, 33080), (204, 33125), (217, 33155), (220, 33167), (256, 33314), (270, 33413), (274, 33461), (276, 33485),

Gene: Juniormint\_47 Start: 32572, Stop: 33546, Start Num: 56

Candidate Starts for Juniormint\_47:

(Start: 56 @32572 has 58 MA's), (Start: 61 @32590 has 1 MA's), (76, 32638), (88, 32689), (92, 32704), (94, 32713), (121, 32824), (154, 32959), (180, 33070), (181, 33073), (187, 33112), (193, 33136), (195, 33154), (204, 33199), (217, 33229), (220, 33241), (235, 33298), (256, 33367), (270, 33466), (274, 33514),

Gene: Juno112\_40 Start: 26017, Stop: 26814, Start Num: 44

Candidate Starts for Juno112\_40:

(Start: 44 @26017 has 29 MA's), (76, 26113), (89, 26167), (116, 26284), (125, 26320), (146, 26431), (161, 26503), (169, 26539), (171, 26548), (195, 26668), (200, 26695), (220, 26755),

Gene: KBurrousTX\_47 Start: 38672, Stop: 39619, Start Num: 55

Candidate Starts for KBurrousTX\_47:

(Start: 55 @38672 has 19 MA's), (113, 38906), (118, 38933), (132, 38972), (142, 39026), (145, 39038), (146, 39047), (152, 39077), (154, 39086), (166, 39152), (174, 39179), (176, 39194), (195, 39299), (198, 39317), (207, 39359), (217, 39380), (226, 39419), (247, 39533), (250, 39554), (252, 39572),

Gene: KHumphrey\_41 Start: 26016, Stop: 26813, Start Num: 44

Candidate Starts for KHumphrey\_41:

(Start: 44 @26016 has 29 MA's), (76, 26112), (89, 26166), (116, 26283), (125, 26319), (146, 26430), (161, 26502), (169, 26538), (171, 26547), (195, 26667), (220, 26754),

Gene: Kabreeze\_47 Start: 37420, Stop: 38379, Start Num: 55

Candidate Starts for Kabreeze\_47:

(Start: 55 @37420 has 19 MA's), (62, 37447), (66, 37459), (75, 37492), (80, 37510), (92, 37570), (142, 37783), (145, 37795), (166, 37909), (174, 37936), (185, 37996), (195, 38056), (203, 38095), (217, 38137), (247, 38290),

Gene: Kamashten\_50 Start: 42629, Stop: 43627, Start Num: 42

Candidate Starts for Kamashten\_50:

(7, 42386), (15, 42488), (Start: 31 @42575 has 1 MA's), (Start: 42 @42629 has 130 MA's), (Start: 59 @42665 has 20 MA's), (76, 42716), (78, 42722), (83, 42740), (89, 42770), (106, 42833), (110, 42848), (128, 42929), (137, 42968), (141, 42992), (174, 43139), (181, 43172), (183, 43187), (195, 43256), (197, 43271), (215, 43328), (220, 43343), (266, 43520), (274, 43592),

Gene: Kari\_46 Start: 32540, Stop: 33532, Start Num: 56

Candidate Starts for Kari\_46:

(4, 32219), (17, 32387), (30, 32450), (Start: 56 @32540 has 58 MA's), (Start: 61 @32555 has 1 MA's), (76, 32603), (88, 32654), (112, 32750), (121, 32789), (154, 32924), (180, 33035), (181, 33038), (187, 33077), (193, 33101), (195, 33119), (204, 33164), (217, 33194), (220, 33206), (256, 33350), (270, 33449), (274, 33497), (276, 33521),

Gene: Keitabear\_51 Start: 44151, Stop: 45146, Start Num: 42

Candidate Starts for Keitabear\_51:

(7, 43908), (15, 44010), (Start: 31 @44097 has 1 MA's), (Start: 42 @44151 has 130 MA's), (Start: 59 @44187 has 20 MA's), (76, 44238), (78, 44244), (83, 44262), (89, 44292), (106, 44355), (110, 44370), (128, 44451), (133, 44466), (137, 44490), (141, 44514), (174, 44661), (181, 44694), (183, 44709), (195, 44778), (197, 44793), (215, 44850), (220, 44865), (266, 45039), (274, 45111),

Gene: KendraB23\_49 Start: 27385, Stop: 28191, Start Num: 40

Candidate Starts for KendraB23\_49:

(Start: 40 @27385 has 23 MA's), (73, 27481), (76, 27490), (83, 27514), (84, 27526), (89, 27544), (151, 27838), (169, 27919), (175, 27937), (195, 28045), (200, 28072), (227, 28159),

Gene: Kepler\_43 Start: 26833, Stop: 27627, Start Num: 44

Candidate Starts for Kepler\_43:

(Start: 44 @26833 has 29 MA's), (76, 26926), (84, 26962), (89, 26980), (98, 27013), (116, 27097), (146, 27244), (147, 27247), (171, 27361), (176, 27385), (195, 27481), (205, 27535), (224, 27580), (227, 27595),

Gene: Kevin1\_50 Start: 33499, Stop: 34563, Start Num: 42

Candidate Starts for Kevin1\_50:

(Start: 42 @33499 has 130 MA's), (49, 33511), (73, 33577), (76, 33586), (83, 33610), (86, 33631), (88, 33637), (92, 33652), (94, 33661), (106, 33703), (110, 33718), (128, 33805), (171, 34003), (181, 34045), (183, 34060), (188, 34087), (192, 34108), (195, 34141), (197, 34156), (201, 34171), (203, 34180), (212, 34210), (220, 34228), (221, 34234), (230, 34267), (235, 34285), (255, 34378), (256, 34384), (269, 34474), (270, 34483), (274, 34531), (275, 34540),

Gene: Kewpiedoll\_52 Start: 43580, Stop: 44578, Start Num: 42

Candidate Starts for Kewpiedoll\_52:

(2, 43229), (7, 43337), (15, 43439), (Start: 31 @43526 has 1 MA's), (Start: 42 @43580 has 130 MA's), (Start: 59 @43616 has 20 MA's), (76, 43667), (78, 43673), (83, 43691), (89, 43721), (106, 43784),

(110, 43799), (128, 43880), (133, 43895), (137, 43919), (141, 43943), (150, 43991), (174, 44090), (181, 44123), (183, 44138), (195, 44207), (197, 44222), (215, 44279), (220, 44294), (266, 44471), (274, 44543),

Gene: KilKor\_46 Start: 32800, Stop: 33774, Start Num: 56

Candidate Starts for KilKor\_46:

(Start: 56 @32800 has 58 MA's), (Start: 61 @32818 has 1 MA's), (76, 32866), (88, 32917), (92, 32932), (94, 32941), (121, 33052), (154, 33187), (180, 33298), (181, 33301), (187, 33340), (193, 33364), (195, 33382), (204, 33427), (217, 33457), (220, 33469), (235, 33526), (256, 33595), (270, 33694), (274, 33742),

Gene: King2\_33 Start: 29481, Stop: 30326, Start Num: 42

Candidate Starts for King2\_33:

(Start: 42 @29481 has 130 MA's), (76, 29571), (81, 29589), (83, 29595), (86, 29616), (93, 29643), (110, 29703), (120, 29760), (136, 29808), (161, 29925), (177, 29991), (181, 30003), (185, 30030), (188, 30045), (193, 30084), (195, 30102), (198, 30120), (203, 30141), (206, 30159), (220, 30189), (225, 30204),

Gene: Klevey\_38 Start: 29418, Stop: 30272, Start Num: 40

Candidate Starts for Klevey\_38:

(Start: 40 @29418 has 23 MA's), (76, 29508), (83, 29532), (110, 29640), (136, 29745), (161, 29865), (195, 30042), (200, 30069), (203, 30081), (238, 30198),

Gene: Kroos\_50 Start: 42820, Stop: 43842, Start Num: 42

Candidate Starts for Kroos\_50:

(Start: 42 @42820 has 130 MA's), (Start: 59 @42856 has 20 MA's), (76, 42910), (83, 42934), (89, 42964), (97, 42994), (106, 43027), (110, 43042), (128, 43123), (139, 43171), (141, 43186), (142, 43189), (174, 43333), (181, 43366), (183, 43381), (195, 43450), (197, 43465), (215, 43522), (220, 43537),

Gene: Ksquared\_46 Start: 32550, Stop: 33524, Start Num: 56

Candidate Starts for Ksquared\_46:

(Start: 56 @32550 has 58 MA's), (Start: 61 @32568 has 1 MA's), (76, 32616), (88, 32667), (92, 32682), (94, 32691), (121, 32802), (154, 32937), (180, 33048), (181, 33051), (187, 33090), (193, 33114), (195, 33132), (204, 33177), (217, 33207), (220, 33219), (235, 33276), (256, 33345), (270, 33444), (274, 33492),

Gene: Kuleana\_43 Start: 26408, Stop: 27208, Start Num: 44

Candidate Starts for Kuleana\_43:

(Start: 44 @26408 has 29 MA's), (76, 26504), (84, 26540), (89, 26558), (116, 26675), (125, 26711), (146, 26825), (147, 26828), (161, 26897), (171, 26942), (195, 27062), (205, 27116), (227, 27176),

Gene: Kwekel\_47 Start: 39327, Stop: 40385, Start Num: 42

Candidate Starts for Kwekel\_47:

(35, 39297), (Start: 42 @39327 has 130 MA's), (76, 39414), (83, 39438), (89, 39468), (106, 39531), (110, 39546), (115, 39579), (141, 39690), (147, 39717), (158, 39771), (174, 39837), (177, 39858), (181, 39870), (183, 39885), (195, 39969), (198, 39987), (202, 40005), (206, 40026), (220, 40056), (243, 40167), (264, 40272), (267, 40293), (273, 40350), (274, 40356),

Gene: Kwobi\_52 Start: 43246, Stop: 44268, Start Num: 42

Candidate Starts for Kwobi\_52:

(7, 43003), (15, 43105), (Start: 31 @43192 has 1 MA's), (Start: 42 @43246 has 130 MA's), (Start: 59 @43282 has 20 MA's), (76, 43336), (83, 43360), (89, 43390), (97, 43420), (106, 43453), (110, 43468),

(128, 43549), (139, 43597), (141, 43612), (142, 43615), (174, 43759), (181, 43792), (183, 43807), (195, 43876), (197, 43891), (215, 43948), (220, 43963),

Gene: Langerak\_47 Start: 32559, Stop: 33551, Start Num: 56

Candidate Starts for Langerak\_47:

(4, 32238), (17, 32406), (30, 32469), (Start: 56 @32559 has 58 MA's), (Start: 61 @32574 has 1 MA's), (76, 32622), (88, 32673), (112, 32769), (121, 32808), (154, 32943), (180, 33054), (181, 33057), (187, 33096), (193, 33120), (195, 33138), (204, 33183), (217, 33213), (220, 33225), (256, 33369), (270, 33468), (274, 33516), (276, 33540),

Gene: Laphuphu24k\_40 Start: 26001, Stop: 26798, Start Num: 44

Candidate Starts for Laphuphu24k\_40:

(Start: 44 @26001 has 29 MA's), (76, 26097), (89, 26151), (116, 26268), (125, 26304), (146, 26415), (161, 26487), (169, 26523), (171, 26532), (195, 26652), (200, 26679), (220, 26739),

Gene: LeeroyJ\_35 Start: 29826, Stop: 30671, Start Num: 42

Candidate Starts for LeeroyJ\_35:

(Start: 42 @29826 has 130 MA's), (76, 29919), (77, 29922), (83, 29943), (89, 29973), (110, 30051), (120, 30108), (136, 30156), (146, 30207), (147, 30210), (149, 30225), (161, 30273), (166, 30291), (181, 30351), (188, 30393), (193, 30432), (195, 30450), (198, 30468), (203, 30489), (206, 30507), (220, 30537), (229, 30576), (232, 30588), (235, 30594),

Gene: Lennon\_51 Start: 44231, Stop: 45241, Start Num: 42

Candidate Starts for Lennon\_51:

(2, 43880), (7, 43988), (15, 44090), (Start: 31 @44177 has 1 MA's), (Start: 42 @44231 has 130 MA's), (Start: 59 @44267 has 20 MA's), (76, 44318), (78, 44324), (83, 44342), (89, 44372), (106, 44435), (110, 44450), (128, 44531), (141, 44594), (174, 44741), (181, 44774), (183, 44789), (195, 44858), (197, 44873), (215, 44930), (220, 44945), (266, 45134), (274, 45206),

Gene: Leona\_40 Start: 26088, Stop: 26888, Start Num: 44

Candidate Starts for Leona\_40:

(Start: 44 @26088 has 29 MA's), (76, 26184), (89, 26238), (92, 26250), (111, 26319), (116, 26355), (122, 26385), (161, 26577), (171, 26622), (195, 26742), (220, 26829),

Gene: Leonard\_49 Start: 42000, Stop: 43061, Start Num: 42

Candidate Starts for Leonard\_49:

(27, 41934), (Start: 42 @42000 has 130 MA's), (Start: 59 @42036 has 20 MA's), (76, 42087), (83, 42111), (86, 42132), (96, 42168), (110, 42219), (115, 42252), (141, 42363), (174, 42510), (177, 42531), (181, 42543), (183, 42558), (195, 42639), (197, 42654), (206, 42696), (208, 42699), (243, 42828), (263, 42924), (271, 42996), (274, 43032),

Gene: LilHam\_47 Start: 41425, Stop: 42447, Start Num: 42

Candidate Starts for LilHam\_47:

(Start: 42 @41425 has 130 MA's), (Start: 59 @41461 has 20 MA's), (76, 41515), (83, 41539), (89, 41569), (97, 41599), (106, 41632), (110, 41647), (128, 41728), (139, 41776), (141, 41791), (142, 41794), (174, 41938), (181, 41971), (183, 41986), (195, 42055), (197, 42070), (215, 42127), (220, 42142),

Gene: Lilbeanie\_53 Start: 38965, Stop: 40047, Start Num: 42

Candidate Starts for Lilbeanie\_53:

(Start: 42 @38965 has 130 MA's), (76, 39055), (83, 39079), (84, 39091), (86, 39100), (96, 39136), (110, 39187), (124, 39247), (130, 39271), (143, 39340), (158, 39412), (167, 39451), (181, 39508), (183, 39523), (189, 39550), (195, 39604), (264, 39937), (266, 39949), (268, 39961), (274, 40018),

Gene: Lilmac1015\_40 Start: 29991, Stop: 30845, Start Num: 40

Candidate Starts for Lilmac1015\_40:

(Start: 40 @29991 has 23 MA's), (76, 30081), (83, 30105), (110, 30213), (136, 30318), (161, 30438), (195, 30615), (203, 30654), (238, 30771),

Gene: Linus\_47 Start: 37553, Stop: 38500, Start Num: 55

Candidate Starts for Linus\_47:

(Start: 55 @37553 has 19 MA's), (75, 37613), (113, 37787), (142, 37904), (145, 37916), (152, 37955), (165, 38012), (166, 38030), (167, 38033), (174, 38057), (176, 38072), (179, 38084), (195, 38177), (203, 38216), (217, 38258), (247, 38411),

Gene: LittleTokyo\_41 Start: 25961, Stop: 26755, Start Num: 44

Candidate Starts for LittleTokyo\_41:

(Start: 44 @25961 has 29 MA's), (72, 26048), (76, 26060), (89, 26114), (94, 26135), (111, 26195), (116, 26231), (135, 26309), (146, 26372), (155, 26414), (161, 26444), (171, 26489), (183, 26543), (195, 26609), (220, 26696), (227, 26723),

Gene: LordVader\_59 Start: 36796, Stop: 37779, Start Num: 56

Candidate Starts for LordVader\_59:

(Start: 56 @36796 has 58 MA's), (68, 36838), (83, 36883), (84, 36895), (88, 36910), (92, 36925), (93, 36931), (110, 36991), (112, 37006), (121, 37045), (129, 37063), (134, 37072), (142, 37120), (147, 37144), (159, 37201), (169, 37237), (179, 37279), (180, 37282), (181, 37285), (182, 37291), (183, 37300), (193, 37348), (195, 37366), (198, 37384), (203, 37405), (217, 37441), (220, 37453), (228, 37486), (244, 37546), (251, 37570), (256, 37600), (259, 37618), (270, 37699), (272, 37723), (275, 37756),

Gene: Love\_56 Start: 44855, Stop: 45853, Start Num: 42

Candidate Starts for Love\_56:

(7, 44612), (15, 44714), (Start: 31 @44801 has 1 MA's), (Start: 42 @44855 has 130 MA's), (Start: 59 @44891 has 20 MA's), (76, 44942), (78, 44948), (83, 44966), (89, 44996), (106, 45059), (110, 45074), (128, 45155), (133, 45170), (137, 45194), (141, 45218), (174, 45365), (181, 45398), (183, 45413), (195, 45482), (197, 45497), (215, 45554), (220, 45569), (266, 45746), (274, 45818),

Gene: Lozinak\_91 Start: 56648, Stop: 57373, Start Num: 59

Candidate Starts for Lozinak\_91:

(6, 56348), (8, 56375), (9, 56378), (10, 56381), (28, 56543), (Start: 59 @56648 has 20 MA's), (85, 56756), (90, 56774), (94, 56789), (95, 56792), (107, 56843), (119, 56906), (134, 56933), (140, 56966), (147, 57005), (155, 57044), (164, 57074), (168, 57101), (178, 57146), (195, 57227), (199, 57251), (213, 57296), (221, 57326),

Gene: Lukepolites\_37 Start: 29627, Stop: 30544, Start Num: 52

Candidate Starts for Lukepolites\_37:

(Start: 40 @29600 has 23 MA's), (Start: 52 @29627 has 4 MA's), (72, 29696), (76, 29708), (83, 29732), (84, 29744), (92, 29774), (104, 29825), (110, 29846), (136, 29951), (147, 30005), (158, 30056), (161, 30071), (166, 30092), (181, 30149), (183, 30164), (195, 30230), (197, 30245), (224, 30329), (265, 30533),

Gene: Lunar\_43 Start: 26749, Stop: 27543, Start Num: 44

Candidate Starts for Lunar\_43:

(Start: 44 @26749 has 29 MA's), (76, 26842), (84, 26878), (89, 26896), (98, 26929), (116, 27013), (146, 27160), (147, 27163), (171, 27277), (176, 27301), (195, 27397), (205, 27451), (224, 27496), (227, 27511),

Gene: Lymara\_47 Start: 37380, Stop: 38327, Start Num: 55

Candidate Starts for Lymara\_47:

(Start: 55 @37380 has 19 MA's), (75, 37440), (142, 37731), (145, 37743), (152, 37782), (165, 37839), (166, 37857), (167, 37860), (174, 37884), (184, 37941), (195, 38004), (203, 38043), (217, 38085),

Gene: Magsby\_48 Start: 33475, Stop: 34536, Start Num: 42

Candidate Starts for Magsby\_48:

(Start: 42 @33475 has 130 MA's), (49, 33487), (73, 33553), (74, 33556), (76, 33562), (83, 33586), (86, 33607), (88, 33613), (91, 33625), (92, 33628), (94, 33637), (106, 33679), (110, 33694), (128, 33781), (149, 33886), (151, 33895), (161, 33940), (168, 33967), (171, 33979), (177, 34009), (181, 34021), (183, 34036), (188, 34063), (192, 34084), (195, 34117), (197, 34132), (198, 34135), (201, 34147), (203, 34156), (220, 34204), (221, 34210), (235, 34261), (239, 34285), (245, 34318), (246, 34321), (254, 34351), (256, 34357), (266, 34429), (269, 34447), (270, 34456), (274, 34504), (275, 34513),

Gene: Majeke\_47 Start: 32584, Stop: 33576, Start Num: 56

Candidate Starts for Majeke\_47:

(4, 32263), (17, 32431), (30, 32494), (Start: 56 @32584 has 58 MA's), (Start: 61 @32599 has 1 MA's), (76, 32647), (88, 32698), (112, 32794), (121, 32833), (154, 32968), (180, 33079), (181, 33082), (187, 33121), (193, 33145), (195, 33163), (204, 33208), (217, 33238), (220, 33250), (256, 33394), (270, 33493), (274, 33541), (276, 33565),

Gene: Malithi\_47 Start: 32459, Stop: 33451, Start Num: 56

Candidate Starts for Malithi\_47:

(4, 32138), (17, 32306), (30, 32369), (Start: 56 @32459 has 58 MA's), (Start: 61 @32474 has 1 MA's), (76, 32522), (88, 32573), (112, 32669), (121, 32708), (154, 32843), (180, 32954), (181, 32957), (187, 32996), (193, 33020), (195, 33038), (204, 33083), (217, 33113), (220, 33125), (256, 33269), (270, 33368), (274, 33416), (276, 33440),

Gene: Mangethe\_47 Start: 32584, Stop: 33576, Start Num: 56

Candidate Starts for Mangethe\_47:

(4, 32263), (17, 32431), (30, 32494), (Start: 56 @32584 has 58 MA's), (Start: 61 @32599 has 1 MA's), (76, 32647), (88, 32698), (112, 32794), (121, 32833), (154, 32968), (180, 33079), (181, 33082), (187, 33121), (193, 33145), (195, 33163), (204, 33208), (217, 33238), (220, 33250), (256, 33394), (270, 33493), (274, 33541), (276, 33565),

Gene: Mao1\_65 Start: 48471, Stop: 49460, Start Num: 56

Candidate Starts for Mao1\_65:

(26, 48357), (Start: 56 @48471 has 58 MA's), (68, 48516), (76, 48537), (84, 48573), (88, 48588), (110, 48669), (121, 48723), (129, 48741), (159, 48879), (169, 48915), (179, 48957), (180, 48960), (181, 48963), (193, 49026), (195, 49044), (198, 49062), (200, 49071), (203, 49083), (217, 49119), (220, 49131), (226, 49155), (228, 49164), (235, 49191), (243, 49227), (244, 49230), (251, 49251), (256, 49281), (270, 49380), (272, 49404), (275, 49437),

Gene: Martha\_35 Start: 29743, Stop: 30591, Start Num: 42

Candidate Starts for Martha\_35:

(Start: 42 @29743 has 130 MA's), (76, 29833), (77, 29836), (83, 29857), (88, 29884), (89, 29887), (110, 29965), (120, 30022), (136, 30070), (146, 30121), (147, 30124), (161, 30187), (166, 30205), (181, 30265), (188, 30307), (193, 30346), (195, 30364), (198, 30382), (203, 30403), (206, 30421), (220, 30451), (232, 30502), (253, 30568),

Gene: Mask\_64 Start: 50876, Stop: 51961, Start Num: 42

Candidate Starts for Mask\_64:

(Start: 42 @50876 has 130 MA's), (58, 50912), (73, 50951), (76, 50960), (83, 50984), (86, 51005), (92, 51026), (94, 51035), (99, 51053), (104, 51086), (110, 51107), (112, 51122), (113, 51128), (117, 51149), (133, 51209), (144, 51269), (147, 51284), (162, 51356), (163, 51359), (181, 51443), (183, 51458), (188, 51485), (195, 51542), (197, 51557), (198, 51560), (201, 51572), (202, 51578), (203, 51581), (212, 51611), (220, 51629), (221, 51635), (235, 51686), (239, 51710), (245, 51743), (246, 51746), (254, 51776), (256, 51782), (262, 51815), (270, 51881), (272, 51905), (275, 51938),

Gene: McCrothy\_52 Start: 43985, Stop: 44983, Start Num: 42

Candidate Starts for McCrothy\_52:

(7, 43742), (15, 43844), (Start: 31 @43931 has 1 MA's), (Start: 42 @43985 has 130 MA's), (Start: 59 @44021 has 20 MA's), (76, 44072), (78, 44078), (83, 44096), (89, 44126), (106, 44189), (110, 44204), (141, 44348), (174, 44495), (181, 44528), (183, 44543), (195, 44612), (197, 44627), (215, 44684), (220, 44699), (274, 44948),

Gene: McKinley\_54 Start: 43977, Stop: 44984, Start Num: 38

Candidate Starts for McKinley\_54:

(Start: 38 @43977 has 8 MA's), (Start: 41 @43986 has 9 MA's), (Start: 59 @44022 has 20 MA's), (76, 44073), (78, 44079), (83, 44097), (89, 44127), (106, 44190), (110, 44205), (128, 44286), (133, 44301), (137, 44325), (141, 44349), (174, 44496), (181, 44529), (183, 44544), (195, 44613), (197, 44628), (215, 44685), (220, 44700), (266, 44877), (274, 44949),

Gene: Megiddo\_46 Start: 32800, Stop: 33774, Start Num: 56

Candidate Starts for Megiddo\_46:

(Start: 56 @32800 has 58 MA's), (Start: 61 @32818 has 1 MA's), (76, 32866), (88, 32917), (92, 32932), (94, 32941), (121, 33052), (154, 33187), (180, 33298), (181, 33301), (187, 33340), (193, 33364), (195, 33382), (204, 33427), (217, 33457), (220, 33469), (235, 33526), (256, 33595), (270, 33694), (274, 33742),

Gene: MelBins\_50 Start: 42252, Stop: 43313, Start Num: 42

Candidate Starts for MelBins\_50:

(Start: 42 @42252 has 130 MA's), (Start: 59 @42288 has 20 MA's), (76, 42339), (83, 42363), (86, 42384), (96, 42420), (106, 42456), (110, 42471), (115, 42504), (141, 42615), (174, 42762), (177, 42783), (181, 42795), (183, 42810), (195, 42891), (197, 42906), (206, 42948), (208, 42951), (231, 43020), (243, 43080), (263, 43176), (271, 43248), (274, 43284),

Gene: Melons\_43 Start: 26563, Stop: 27357, Start Num: 44

Candidate Starts for Melons\_43:

(Start: 44 @26563 has 29 MA's), (76, 26656), (84, 26692), (89, 26710), (98, 26743), (116, 26827), (146, 26974), (147, 26977), (171, 27091), (176, 27115), (195, 27211), (205, 27265), (224, 27310), (227, 27325),

Gene: Melville\_51 Start: 33459, Stop: 34520, Start Num: 42

Candidate Starts for Melville\_51:

(Start: 42 @33459 has 130 MA's), (49, 33471), (73, 33537), (74, 33540), (76, 33546), (83, 33570), (86, 33591), (88, 33597), (91, 33609), (92, 33612), (94, 33621), (106, 33663), (110, 33678), (128, 33765), (149, 33870), (151, 33879), (161, 33924), (168, 33951), (171, 33963), (177, 33993), (181, 34005), (183, 34020), (188, 34047), (192, 34068), (195, 34101), (197, 34116), (198, 34119), (201, 34131), (203, 34140), (220, 34188), (221, 34194), (235, 34245), (239, 34269), (245, 34302), (246, 34305), (254, 34335), (256, 34341), (266, 34413), (269, 34431), (270, 34440), (274, 34488), (275, 34497),

Gene: MichelleMyBell\_48 Start: 32199, Stop: 33182, Start Num: 56

Candidate Starts for MichelleMyBell\_48:

(Start: 56 @32199 has 58 MA's), (83, 32286), (84, 32298), (88, 32313), (92, 32328), (93, 32334), (110, 32394), (121, 32448), (129, 32466), (134, 32475), (142, 32523), (147, 32547), (159, 32604), (169, 32640), (179, 32682), (180, 32685), (181, 32688), (182, 32694), (183, 32703), (193, 32751), (195, 32769), (198, 32787), (203, 32808), (217, 32844), (220, 32856), (228, 32889), (244, 32949), (251, 32973), (256, 33003), (259, 33021), (270, 33102), (272, 33126), (275, 33159),

Gene: Miskis\_83 Start: 54557, Stop: 55282, Start Num: 59

Candidate Starts for Miskis\_83:

(3, 54224), (6, 54257), (8, 54284), (9, 54287), (10, 54290), (18, 54398), (Start: 59 @54557 has 20 MA's), (85, 54665), (90, 54683), (94, 54698), (95, 54701), (107, 54752), (119, 54815), (134, 54842), (140, 54875), (147, 54914), (155, 54953), (158, 54965), (164, 54983), (168, 55010), (178, 55055), (195, 55136), (199, 55160), (213, 55205), (221, 55235),

Gene: ModicumRichard\_40 Start: 33410, Stop: 34294, Start Num: 47

Candidate Starts for ModicumRichard\_40:

(Start: 47 @33410 has 5 MA's), (69, 33482), (76, 33500), (79, 33512), (84, 33539), (89, 33557), (110, 33644), (139, 33809), (167, 33941), (174, 33965), (179, 33992), (181, 33998), (194, 34079), (195, 34085), (203, 34124), (234, 34226),

Gene: Mollymur\_94 Start: 63842, Stop: 63024, Start Num: 46

Candidate Starts for Mollymur\_94:

(Start: 46 @63842 has 7 MA's), (73, 63752), (83, 63716), (90, 63680), (107, 63611), (136, 63503), (168, 63332), (173, 63314), (186, 63245), (195, 63206), (198, 63188), (199, 63182), (207, 63146), (218, 63125), (231, 63071),

Gene: MoontowerMania\_51 Start: 43863, Stop: 44861, Start Num: 42

Candidate Starts for MoontowerMania\_51:

(7, 43620), (15, 43722), (Start: 31 @43809 has 1 MA's), (Start: 42 @43863 has 130 MA's), (Start: 59 @43899 has 20 MA's), (76, 43950), (78, 43956), (83, 43974), (89, 44004), (106, 44067), (110, 44082), (128, 44163), (133, 44178), (137, 44202), (141, 44226), (174, 44373), (181, 44406), (183, 44421), (195, 44490), (197, 44505), (215, 44562), (220, 44577), (266, 44754), (274, 44826),

Gene: Mordred\_47 Start: 37420, Stop: 38379, Start Num: 55

Candidate Starts for Mordred\_47:

(Start: 55 @37420 has 19 MA's), (62, 37447), (66, 37459), (75, 37492), (80, 37510), (92, 37570), (142, 37783), (145, 37795), (166, 37909), (174, 37936), (185, 37996), (195, 38056), (203, 38095), (217, 38137), (247, 38290),

Gene: Morgana\_40 Start: 33361, Stop: 34245, Start Num: 47

Candidate Starts for Morgana\_40:

(45, 33355), (Start: 47 @33361 has 5 MA's), (69, 33433), (76, 33451), (79, 33463), (84, 33490), (89, 33508), (110, 33595), (139, 33760), (154, 33838), (167, 33892), (174, 33916), (179, 33943), (181, 33949), (194, 34030), (195, 34036), (203, 34075), (234, 34177),

Gene: MoyaNatalis\_47 Start: 37413, Stop: 38360, Start Num: 55

Candidate Starts for MoyaNatalis\_47:

(Start: 55 @37413 has 19 MA's), (75, 37473), (113, 37647), (142, 37764), (145, 37776), (152, 37815), (165, 37872), (166, 37890), (167, 37893), (174, 37917), (176, 37932), (179, 37944), (195, 38037), (203, 38076), (217, 38118), (247, 38271),

Gene: Nandito\_38 Start: 29682, Stop: 30548, Start Num: 40

Candidate Starts for Nandito\_38:

(Start: 40 @29682 has 23 MA's), (76, 29772), (83, 29796), (110, 29904), (136, 30009), (161, 30129), (195, 30306), (203, 30345),

Gene: NathanVaag\_33 Start: 29495, Stop: 30340, Start Num: 42

Candidate Starts for NathanVaag\_33:

(Start: 42 @29495 has 130 MA's), (76, 29582), (81, 29600), (83, 29606), (86, 29627), (110, 29714), (120, 29771), (136, 29819), (161, 29936), (181, 30014), (185, 30041), (188, 30056), (195, 30113), (198, 30131), (203, 30152), (206, 30170), (220, 30200),

Gene: Natkenzie\_51 Start: 43588, Stop: 44628, Start Num: 42

Candidate Starts for Natkenzie\_51:

(Start: 42 @43588 has 130 MA's), (76, 43678), (83, 43702), (84, 43714), (89, 43732), (110, 43810), (115, 43843), (158, 44017), (174, 44083), (183, 44131), (195, 44203), (197, 44218), (202, 44239), (206, 44260), (208, 44263), (239, 44368), (243, 44401), (248, 44413), (271, 44560), (274, 44596),

Gene: Nazo\_49 Start: 34648, Stop: 35700, Start Num: 52

Candidate Starts for Nazo\_49:

(Start: 44 @34630 has 29 MA's), (Start: 52 @34648 has 4 MA's), (64, 34687), (76, 34723), (83, 34744), (84, 34756), (91, 34783), (121, 34936), (128, 34963), (137, 35002), (153, 35083), (154, 35089), (174, 35164), (180, 35191), (195, 35272), (200, 35299), (255, 35515), (256, 35521), (270, 35620), (274, 35668),

Gene: Necropolis\_46 Start: 32615, Stop: 33607, Start Num: 56

Candidate Starts for Necropolis\_46:

(4, 32294), (17, 32462), (30, 32525), (Start: 56 @32615 has 58 MA's), (Start: 61 @32630 has 1 MA's), (76, 32678), (88, 32729), (112, 32825), (121, 32864), (154, 32999), (180, 33110), (181, 33113), (187, 33152), (193, 33176), (195, 33194), (204, 33239), (217, 33269), (220, 33281), (256, 33425), (270, 33524), (274, 33572), (276, 33596),

Gene: Nenae\_52 Start: 34366, Stop: 35430, Start Num: 42

Candidate Starts for Nenae\_52:

(19, 34252), (Start: 42 @34366 has 130 MA's), (49, 34378), (73, 34444), (74, 34447), (76, 34453), (83, 34477), (86, 34498), (88, 34504), (91, 34516), (92, 34519), (94, 34528), (106, 34570), (110, 34585), (149, 34777), (168, 34858), (171, 34870), (174, 34879), (181, 34912), (183, 34927), (188, 34954), (195, 35008), (197, 35023), (201, 35038), (203, 35047), (212, 35077), (220, 35095), (221, 35101), (235, 35152), (245, 35209), (254, 35245), (256, 35251), (269, 35341), (270, 35350), (274, 35398), (275, 35407),

Gene: Niblet\_42 Start: 26767, Stop: 27573, Start Num: 40

Candidate Starts for Niblet\_42:

(Start: 40 @26767 has 23 MA's), (73, 26863), (76, 26872), (89, 26926), (135, 27127), (151, 27220), (169, 27301), (175, 27319), (195, 27427), (224, 27526), (227, 27541),

Gene: Nordenberg\_47 Start: 42762, Stop: 43769, Start Num: 38

Candidate Starts for Nordenberg\_47:

(Start: 38 @42762 has 8 MA's), (Start: 41 @42771 has 9 MA's), (Start: 59 @42807 has 20 MA's), (76, 42858), (78, 42864), (83, 42882), (89, 42912), (106, 42975), (110, 42990), (120, 43041), (139, 43119), (174, 43281), (181, 43314), (183, 43329), (195, 43398), (197, 43413), (215, 43470), (220, 43485), (274, 43734),

Gene: Norvs\_91 Start: 56033, Stop: 56758, Start Num: 59

Candidate Starts for Norvs\_91:

(6, 55733), (8, 55760), (9, 55763), (10, 55766), (18, 55874), (Start: 59 @56033 has 20 MA's), (85, 56141), (90, 56159), (94, 56174), (95, 56177), (107, 56228), (119, 56291), (134, 56318), (140, 56351), (147, 56390), (155, 56429), (164, 56459), (168, 56486), (178, 56531), (195, 56612), (199, 56636), (213, 56681), (221, 56711),

Gene: Nostromo\_34 Start: 28820, Stop: 29710, Start Num: 42

Candidate Starts for Nostromo\_34:

(Start: 42 @28820 has 130 MA's), (81, 28925), (83, 28931), (86, 28952), (106, 29024), (110, 29039), (112, 29054), (136, 29144), (161, 29261), (181, 29342), (183, 29357), (188, 29384), (195, 29441), (198, 29459), (201, 29471), (220, 29528), (232, 29579), (260, 29684),

Gene: ObLaDi\_40 Start: 33395, Stop: 34282, Start Num: 47

Candidate Starts for ObLaDi\_40:

(45, 33389), (Start: 47 @33395 has 5 MA's), (69, 33467), (76, 33485), (79, 33497), (84, 33524), (89, 33542), (110, 33629), (139, 33794), (167, 33929), (174, 33953), (179, 33980), (181, 33986), (194, 34067), (195, 34073), (203, 34112),

Gene: OneUp\_81 Start: 54043, Stop: 54768, Start Num: 59

Candidate Starts for OneUp\_81:

(Start: 59 @54043 has 20 MA's), (82, 54130), (85, 54151), (90, 54169), (95, 54187), (107, 54238), (109, 54247), (119, 54301), (134, 54328), (140, 54361), (155, 54439), (164, 54469), (195, 54622), (199, 54646), (201, 54652), (213, 54691),

Gene: Oppalora\_40 Start: 26015, Stop: 26812, Start Num: 44

Candidate Starts for Oppalora\_40:

(Start: 44 @26015 has 29 MA's), (76, 26111), (89, 26165), (116, 26282), (125, 26318), (146, 26429), (161, 26501), (169, 26537), (171, 26546), (195, 26666), (200, 26693), (220, 26753),

Gene: Orcanus\_39 Start: 26742, Stop: 27548, Start Num: 40

Candidate Starts for Orcanus\_39:

(Start: 40 @26742 has 23 MA's), (73, 26838), (76, 26847), (83, 26871), (84, 26883), (89, 26901), (135, 27102), (151, 27195), (169, 27276), (175, 27294), (195, 27402), (227, 27516),

Gene: OtsoOtso\_42 Start: 25939, Stop: 26733, Start Num: 44

Candidate Starts for OtsoOtso\_42:

(Start: 44 @25939 has 29 MA's), (76, 26032), (84, 26068), (89, 26086), (98, 26119), (116, 26203), (146, 26350), (147, 26353), (171, 26467), (176, 26491), (195, 26587), (205, 26641), (224, 26686), (227, 26701),

Gene: PFR1\_36 Start: 27536, Stop: 28372, Start Num: 57

Candidate Starts for PFR1\_36:

(57, 27536), (62, 27557), (82, 27620), (87, 27653), (100, 27695), (107, 27728), (123, 27794), (130, 27824), (132, 27836), (138, 27869), (166, 28004), (174, 28031), (180, 28061), (187, 28103), (195, 28151), (198, 28169), (203, 28190), (211, 28220), (217, 28232), (237, 28277), (241, 28304), (247, 28334),

Gene: PFR2\_38 Start: 29105, Stop: 29941, Start Num: 57

Candidate Starts for PFR2\_38:

(57, 29105), (62, 29126), (82, 29189), (87, 29222), (100, 29264), (107, 29297), (123, 29363), (130, 29393), (132, 29405), (138, 29438), (166, 29573), (174, 29600), (180, 29630), (187, 29672), (195, 29720), (198, 29738), (203, 29759), (211, 29789), (217, 29801), (237, 29846), (241, 29873), (247, 29903),

Gene: PaintedDog\_53 Start: 35373, Stop: 36371, Start Num: 56

Candidate Starts for PaintedDog\_53:

(21, 35238), (Start: 56 @35373 has 58 MA's), (Start: 61 @35388 has 1 MA's), (76, 35436), (88, 35487), (121, 35622), (181, 35871), (187, 35910), (193, 35934), (195, 35952), (198, 35970), (217, 36027), (220, 36039), (235, 36096), (245, 36138), (255, 36180), (256, 36186), (270, 36285), (274, 36333),

Gene: Panchino\_45 Start: 34001, Stop: 35065, Start Num: 42

Candidate Starts for Panchino\_45:

(19, 33887), (Start: 42 @34001 has 130 MA's), (49, 34013), (73, 34079), (74, 34082), (76, 34088), (83, 34112), (86, 34133), (88, 34139), (91, 34151), (92, 34154), (94, 34163), (106, 34205), (110, 34220), (149, 34412), (168, 34493), (171, 34505), (174, 34514), (181, 34547), (183, 34562), (188, 34589), (195, 34643), (197, 34658), (201, 34673), (203, 34682), (212, 34712), (220, 34730), (221, 34736), (235, 34787), (245, 34844), (254, 34880), (256, 34886), (269, 34976), (270, 34985), (274, 35033), (275, 35042),

Gene: Paries\_55 Start: 44233, Stop: 45240, Start Num: 38

Candidate Starts for Paries\_55:

(Start: 38 @44233 has 8 MA's), (Start: 41 @44242 has 9 MA's), (Start: 59 @44278 has 20 MA's), (76, 44329), (78, 44335), (83, 44353), (89, 44383), (106, 44446), (110, 44461), (141, 44605), (174, 44752), (181, 44785), (183, 44800), (195, 44869), (197, 44884), (215, 44941), (220, 44956), (274, 45205),

Gene: Parmesanjohn\_48 Start: 33478, Stop: 34539, Start Num: 42

Candidate Starts for Parmesanjohn\_48:

(Start: 42 @33478 has 130 MA's), (49, 33490), (73, 33556), (74, 33559), (76, 33565), (83, 33589), (86, 33610), (88, 33616), (91, 33628), (92, 33631), (94, 33640), (106, 33682), (110, 33697), (128, 33784), (149, 33889), (151, 33898), (161, 33943), (168, 33970), (171, 33982), (177, 34012), (181, 34024), (183, 34039), (188, 34066), (192, 34087), (195, 34120), (197, 34135), (198, 34138), (201, 34150), (203, 34159), (220, 34207), (221, 34213), (235, 34264), (239, 34288), (245, 34321), (246, 34324), (254, 34354), (256, 34360), (266, 34432), (269, 34450), (270, 34459), (274, 34507), (275, 34516),

Gene: PeanutPie\_47 Start: 32535, Stop: 33509, Start Num: 56

Candidate Starts for PeanutPie\_47:

(Start: 56 @32535 has 58 MA's), (Start: 61 @32553 has 1 MA's), (76, 32601), (88, 32652), (92, 32667), (94, 32676), (121, 32787), (154, 32922), (180, 33033), (181, 33036), (187, 33075), (193, 33099), (195, 33117), (204, 33162), (217, 33192), (220, 33204), (235, 33261), (256, 33330), (270, 33429), (274, 33477),

Gene: Pelletreau\_48 Start: 27192, Stop: 27998, Start Num: 40

Candidate Starts for Pelletreau\_48:

(Start: 40 @27192 has 23 MA's), (73, 27288), (76, 27297), (84, 27333), (89, 27351), (111, 27432), (151, 27645), (169, 27726), (175, 27744), (195, 27852), (227, 27966),

Gene: Phalm\_46 Start: 32800, Stop: 33774, Start Num: 56

Candidate Starts for Phalm\_46:

(Start: 56 @32800 has 58 MA's), (Start: 61 @32818 has 1 MA's), (76, 32866), (88, 32917), (92, 32932), (94, 32941), (121, 33052), (154, 33187), (180, 33298), (181, 33301), (187, 33340), (193, 33364), (195, 33382), (204, 33427), (217, 33457), (220, 33469), (235, 33526), (256, 33595), (270, 33694), (274, 33742),

Gene: PhancyPhin\_52 Start: 34360, Stop: 35424, Start Num: 42

Candidate Starts for PhancyPhin\_52:

(19, 34246), (Start: 42 @34360 has 130 MA's), (49, 34372), (73, 34438), (74, 34441), (76, 34447), (83, 34471), (86, 34492), (88, 34498), (91, 34510), (92, 34513), (94, 34522), (106, 34564), (110, 34579),

(149, 34771), (168, 34852), (171, 34864), (174, 34873), (181, 34906), (183, 34921), (188, 34948), (195, 35002), (197, 35017), (201, 35032), (203, 35041), (212, 35071), (220, 35089), (221, 35095), (235, 35146), (245, 35203), (254, 35239), (256, 35245), (269, 35335), (270, 35344), (274, 35392), (275, 35401),

Gene: Phauci\_42 Start: 38921, Stop: 39982, Start Num: 42

Candidate Starts for Phauci\_42:

(5, 38648), (11, 38732), (Start: 42 @38921 has 130 MA's), (Start: 59 @38957 has 20 MA's), (76, 39008), (83, 39032), (96, 39089), (110, 39140), (141, 39284), (174, 39431), (177, 39452), (181, 39464), (183, 39479), (195, 39560), (197, 39575), (206, 39617), (208, 39620), (231, 39689), (243, 39749), (263, 39845), (271, 39917), (274, 39953),

Gene: Phayonce\_47 Start: 34633, Stop: 35622, Start Num: 56

Candidate Starts for Phayonce\_47:

(26, 34519), (Start: 56 @34633 has 58 MA's), (68, 34678), (76, 34699), (84, 34735), (88, 34750), (110, 34831), (121, 34885), (129, 34903), (159, 35041), (169, 35077), (179, 35119), (180, 35122), (181, 35125), (193, 35188), (195, 35206), (198, 35224), (200, 35233), (203, 35245), (217, 35281), (220, 35293), (226, 35317), (228, 35326), (235, 35353), (243, 35389), (244, 35392), (251, 35413), (256, 35443), (270, 35542), (272, 35566), (275, 35599),

Gene: Pegasus\_47 Start: 32551, Stop: 33543, Start Num: 56

Candidate Starts for Pegasus\_47:

(4, 32230), (17, 32398), (30, 32461), (Start: 56 @32551 has 58 MA's), (Start: 61 @32566 has 1 MA's), (76, 32614), (88, 32665), (112, 32761), (121, 32800), (154, 32935), (180, 33046), (181, 33049), (187, 33088), (193, 33112), (195, 33130), (204, 33175), (217, 33205), (220, 33217), (256, 33361), (270, 33460), (274, 33508), (276, 33532),

Gene: Philonius\_48 Start: 31652, Stop: 32644, Start Num: 56

Candidate Starts for Philonius\_48:

(Start: 56 @31652 has 58 MA's), (Start: 61 @31670 has 1 MA's), (76, 31718), (88, 31769), (92, 31784), (94, 31793), (121, 31904), (154, 32039), (180, 32150), (181, 32153), (187, 32192), (193, 32216), (195, 32234), (204, 32279), (217, 32309), (220, 32321), (256, 32465), (270, 32564), (274, 32612),

Gene: Phinally\_49 Start: 41997, Stop: 43058, Start Num: 42

Candidate Starts for Phinally\_49:

(27, 41931), (Start: 42 @41997 has 130 MA's), (Start: 59 @42033 has 20 MA's), (76, 42084), (83, 42108), (86, 42129), (96, 42165), (110, 42216), (115, 42249), (141, 42360), (174, 42507), (177, 42528), (181, 42540), (183, 42555), (195, 42636), (197, 42651), (206, 42693), (208, 42696), (243, 42825), (263, 42921), (271, 42993), (274, 43029),

Gene: Phineas\_48 Start: 33393, Stop: 34367, Start Num: 56

Candidate Starts for Phineas\_48:

(Start: 56 @33393 has 58 MA's), (Start: 61 @33411 has 1 MA's), (76, 33459), (88, 33510), (94, 33534), (121, 33645), (154, 33780), (180, 33891), (181, 33894), (187, 33933), (193, 33957), (195, 33975), (204, 34020), (217, 34050), (220, 34062), (235, 34119), (256, 34188), (270, 34287), (274, 34335),

Gene: PhinkBoden\_90 Start: 56438, Stop: 57163, Start Num: 59

Candidate Starts for PhinkBoden\_90:

(6, 56138), (8, 56165), (9, 56168), (10, 56171), (28, 56333), (Start: 59 @56438 has 20 MA's), (85, 56546), (90, 56564), (94, 56579), (95, 56582), (107, 56633), (119, 56696), (134, 56723), (140, 56756), (147, 56795), (155, 56834), (164, 56864), (168, 56891), (178, 56936), (195, 57017), (199, 57041), (213, 57086), (221, 57116),

Gene: PhirstandPhine\_50 Start: 26709, Stop: 27503, Start Num: 44

Candidate Starts for PhirstandPhine\_50:

(Start: 44 @26709 has 29 MA's), (76, 26802), (84, 26838), (89, 26856), (98, 26889), (116, 26973), (146, 27120), (147, 27123), (171, 27237), (176, 27261), (195, 27357), (205, 27411), (224, 27456), (227, 27471),

Gene: Phloss\_46 Start: 32885, Stop: 33946, Start Num: 42

Candidate Starts for Phloss\_46:

(Start: 42 @32885 has 130 MA's), (49, 32897), (73, 32963), (74, 32966), (76, 32972), (83, 32996), (86, 33017), (88, 33023), (91, 33035), (92, 33038), (94, 33047), (106, 33089), (110, 33104), (128, 33191), (149, 33296), (151, 33305), (161, 33350), (168, 33377), (171, 33389), (177, 33419), (181, 33431), (183, 33446), (188, 33473), (192, 33494), (195, 33527), (197, 33542), (198, 33545), (201, 33557), (203, 33566), (220, 33614), (221, 33620), (235, 33671), (239, 33695), (245, 33728), (246, 33731), (254, 33761), (256, 33767), (266, 33839), (269, 33857), (270, 33866), (274, 33914), (275, 33923),

Gene: PhluffyCoco\_41 Start: 26013, Stop: 26810, Start Num: 44

Candidate Starts for PhluffyCoco\_41:

(Start: 44 @26013 has 29 MA's), (76, 26109), (89, 26163), (116, 26280), (125, 26316), (146, 26427), (161, 26499), (169, 26535), (171, 26544), (195, 26664), (200, 26691), (220, 26751),

Gene: Phrann\_49 Start: 34643, Stop: 35707, Start Num: 42

Candidate Starts for Phrann\_49:

(19, 34529), (Start: 42 @34643 has 130 MA's), (49, 34655), (73, 34721), (74, 34724), (76, 34730), (83, 34754), (86, 34775), (88, 34781), (91, 34793), (92, 34796), (94, 34805), (106, 34847), (110, 34862), (149, 35054), (168, 35135), (171, 35147), (174, 35156), (181, 35189), (183, 35204), (188, 35231), (195, 35285), (197, 35300), (201, 35315), (203, 35324), (212, 35354), (220, 35372), (221, 35378), (235, 35429), (245, 35486), (254, 35522), (256, 35528), (269, 35618), (270, 35627), (274, 35675), (275, 35684),

Gene: Piccoletto\_33 Start: 29496, Stop: 30341, Start Num: 42

Candidate Starts for Piccoletto\_33:

(Start: 42 @29496 has 130 MA's), (76, 29583), (81, 29601), (83, 29607), (86, 29628), (110, 29715), (120, 29772), (136, 29820), (138, 29829), (161, 29937), (181, 30015), (185, 30042), (188, 30057), (193, 30096), (195, 30114), (198, 30132), (203, 30153), (206, 30171), (220, 30201),

Gene: Pineda\_44 Start: 26235, Stop: 27029, Start Num: 44

Candidate Starts for Pineda\_44:

(Start: 44 @26235 has 29 MA's), (76, 26328), (84, 26364), (89, 26382), (98, 26415), (116, 26499), (146, 26646), (147, 26649), (171, 26763), (183, 26817), (195, 26883), (205, 26937), (224, 26982), (227, 26997),

Gene: Pippa\_35 Start: 29870, Stop: 30733, Start Num: 42

Candidate Starts for Pippa\_35:

(Start: 42 @29870 has 130 MA's), (76, 29960), (77, 29963), (83, 29984), (94, 30035), (110, 30092), (136, 30197), (156, 30287), (158, 30299), (161, 30314), (181, 30392), (185, 30419), (188, 30434), (193, 30476), (195, 30494), (198, 30512), (203, 30533), (206, 30551), (229, 30620), (235, 30638), (253, 30710),

Gene: Pipsqueaks\_48 Start: 33455, Stop: 34516, Start Num: 42

Candidate Starts for Pipsqueaks\_48:

(Start: 42 @33455 has 130 MA's), (49, 33467), (73, 33533), (74, 33536), (76, 33542), (83, 33566), (86, 33587), (88, 33593), (91, 33605), (92, 33608), (94, 33617), (106, 33659), (110, 33674), (128, 33761), (149, 33866), (151, 33875), (161, 33920), (168, 33947), (171, 33959), (177, 33989), (181, 34001),

(183, 34016), (188, 34043), (192, 34064), (195, 34097), (197, 34112), (198, 34115), (201, 34127), (203, 34136), (220, 34184), (221, 34190), (235, 34241), (239, 34265), (245, 34298), (246, 34301), (254, 34331), (256, 34337), (266, 34409), (269, 34427), (270, 34436), (274, 34484), (275, 34493),

Gene: Polka\_41 Start: 25939, Stop: 26733, Start Num: 44

Candidate Starts for Polka\_41:

(Start: 44 @25939 has 29 MA's), (76, 26032), (84, 26068), (89, 26086), (98, 26119), (116, 26203), (146, 26350), (147, 26353), (171, 26467), (176, 26491), (195, 26587), (205, 26641), (224, 26686), (227, 26701),

Gene: Polkaroo\_47 Start: 32547, Stop: 33539, Start Num: 56

Candidate Starts for Polkaroo\_47:

(4, 32226), (17, 32394), (30, 32457), (Start: 56 @32547 has 58 MA's), (Start: 61 @32562 has 1 MA's), (76, 32610), (88, 32661), (112, 32757), (121, 32796), (154, 32931), (180, 33042), (181, 33045), (187, 33084), (193, 33108), (195, 33126), (204, 33171), (217, 33201), (220, 33213), (256, 33357), (270, 33456), (274, 33504), (276, 33528),

Gene: Prairie\_37 Start: 29334, Stop: 30188, Start Num: 40

Candidate Starts for Prairie\_37:

(Start: 40 @29334 has 23 MA's), (76, 29424), (83, 29448), (110, 29556), (136, 29661), (161, 29781), (195, 29958), (203, 29997), (238, 30114),

Gene: PrincessTrina\_47 Start: 37556, Stop: 38503, Start Num: 55

Candidate Starts for PrincessTrina\_47:

(Start: 55 @37556 has 19 MA's), (75, 37616), (113, 37790), (142, 37907), (145, 37919), (152, 37958), (165, 38015), (166, 38033), (167, 38036), (174, 38060), (176, 38075), (179, 38087), (195, 38180), (203, 38219), (217, 38261), (247, 38414),

Gene: Pumpkiney\_52 Start: 40925, Stop: 41965, Start Num: 42

Candidate Starts for Pumpkiney\_52:

(22, 40826), (26, 40844), (Start: 42 @40925 has 130 MA's), (76, 41015), (83, 41039), (84, 41051), (89, 41069), (110, 41147), (158, 41354), (174, 41420), (183, 41468), (195, 41540), (197, 41555), (202, 41576), (206, 41597), (208, 41600), (239, 41705), (243, 41738), (248, 41750), (267, 41870), (271, 41897), (274, 41933),

Gene: Purgamenstris\_52 Start: 34364, Stop: 35428, Start Num: 42

Candidate Starts for Purgamenstris\_52:

(19, 34250), (Start: 42 @34364 has 130 MA's), (49, 34376), (73, 34442), (74, 34445), (76, 34451), (83, 34475), (86, 34496), (88, 34502), (91, 34514), (92, 34517), (94, 34526), (106, 34568), (110, 34583), (149, 34775), (168, 34856), (171, 34868), (174, 34877), (181, 34910), (183, 34925), (188, 34952), (195, 35006), (197, 35021), (201, 35036), (203, 35045), (212, 35075), (220, 35093), (221, 35099), (235, 35150), (245, 35207), (254, 35243), (256, 35249), (269, 35339), (270, 35348), (274, 35396), (275, 35405),

Gene: Purky\_52 Start: 35044, Stop: 36114, Start Num: 52

Candidate Starts for Purky\_52:

(Start: 44 @35026 has 29 MA's), (Start: 52 @35044 has 4 MA's), (71, 35104), (74, 35113), (76, 35119), (83, 35140), (84, 35152), (91, 35179), (121, 35332), (128, 35359), (153, 35479), (159, 35506), (174, 35560), (180, 35587), (184, 35614), (195, 35668), (200, 35695), (255, 35929), (256, 35935), (270, 36034), (274, 36082),

Gene: Pygmy\_50 Start: 34875, Stop: 35831, Start Num: 61

Candidate Starts for Pygmy\_50:

(Start: 56 @34857 has 58 MA's), (Start: 61 @34875 has 1 MA's), (76, 34923), (88, 34974), (94, 34998), (121, 35109), (154, 35244), (180, 35355), (181, 35358), (187, 35397), (193, 35421), (195, 35439), (204, 35484), (217, 35514), (220, 35526), (235, 35583), (256, 35652), (270, 35751), (274, 35799),

Gene: QueenHazel\_44 Start: 32701, Stop: 33696, Start Num: 56

Candidate Starts for QueenHazel\_44:

(21, 32566), (Start: 56 @32701 has 58 MA's), (Start: 61 @32716 has 1 MA's), (76, 32764), (88, 32815), (94, 32839), (121, 32950), (154, 33085), (180, 33196), (181, 33199), (187, 33238), (193, 33262), (195, 33280), (204, 33325), (217, 33355), (220, 33367), (235, 33424), (256, 33514), (270, 33613), (274, 33661), (276, 33685),

Gene: Rattail\_41 Start: 26099, Stop: 26896, Start Num: 44

Candidate Starts for Rattail\_41:

(Start: 44 @26099 has 29 MA's), (76, 26195), (89, 26249), (116, 26366), (125, 26402), (146, 26513), (161, 26585), (169, 26621), (171, 26630), (195, 26750), (200, 26777), (220, 26837),

Gene: Raymond7\_46 Start: 34152, Stop: 35216, Start Num: 42

Candidate Starts for Raymond7\_46:

(19, 34038), (Start: 42 @34152 has 130 MA's), (49, 34164), (73, 34230), (74, 34233), (76, 34239), (83, 34263), (86, 34284), (88, 34290), (91, 34302), (92, 34305), (94, 34314), (106, 34356), (110, 34371), (149, 34563), (168, 34644), (171, 34656), (174, 34665), (181, 34698), (183, 34713), (188, 34740), (195, 34794), (197, 34809), (201, 34824), (203, 34833), (212, 34863), (220, 34881), (221, 34887), (235, 34938), (245, 34995), (254, 35031), (256, 35037), (269, 35127), (270, 35136), (274, 35184), (275, 35193),

Gene: Rebel\_44 Start: 30494, Stop: 31558, Start Num: 42

Candidate Starts for Rebel\_44:

(19, 30380), (Start: 42 @30494 has 130 MA's), (49, 30506), (73, 30572), (74, 30575), (76, 30581), (83, 30605), (86, 30626), (88, 30632), (91, 30644), (92, 30647), (94, 30656), (106, 30698), (110, 30713), (149, 30905), (168, 30986), (171, 30998), (174, 31007), (181, 31040), (183, 31055), (188, 31082), (195, 31136), (197, 31151), (201, 31166), (203, 31175), (212, 31205), (220, 31223), (221, 31229), (235, 31280), (245, 31337), (254, 31373), (256, 31379), (269, 31469), (270, 31478), (274, 31526), (275, 31535),

Gene: RedFox\_41 Start: 26012, Stop: 26809, Start Num: 44

Candidate Starts for RedFox\_41:

(Start: 44 @26012 has 29 MA's), (76, 26108), (89, 26162), (116, 26279), (125, 26315), (146, 26426), (161, 26498), (169, 26534), (171, 26543), (195, 26663), (200, 26690), (220, 26750),

Gene: Redi\_52 Start: 34363, Stop: 35427, Start Num: 42

Candidate Starts for Redi\_52:

(19, 34249), (Start: 42 @34363 has 130 MA's), (49, 34375), (73, 34441), (74, 34444), (76, 34450), (83, 34474), (86, 34495), (88, 34501), (91, 34513), (92, 34516), (94, 34525), (106, 34567), (110, 34582), (149, 34774), (168, 34855), (171, 34867), (174, 34876), (181, 34909), (183, 34924), (188, 34951), (195, 35005), (197, 35020), (201, 35035), (203, 35044), (212, 35074), (220, 35092), (221, 35098), (235, 35149), (245, 35206), (254, 35242), (256, 35248), (269, 35338), (270, 35347), (274, 35395), (275, 35404),

Gene: Renna12\_40 Start: 26070, Stop: 26870, Start Num: 44

Candidate Starts for Renna12\_40:

(Start: 44 @26070 has 29 MA's), (76, 26166), (89, 26220), (92, 26232), (111, 26301), (116, 26337), (122, 26367), (161, 26559), (171, 26604), (195, 26724), (200, 26751), (220, 26811),

Gene: Ribeye\_50 Start: 43238, Stop: 44260, Start Num: 42

Candidate Starts for Ribeye\_50:

(Start: 42 @43238 has 130 MA's), (Start: 59 @43274 has 20 MA's), (76, 43328), (83, 43352), (89, 43382), (97, 43412), (106, 43445), (110, 43460), (128, 43541), (139, 43589), (141, 43604), (142, 43607), (174, 43751), (181, 43784), (183, 43799), (195, 43868), (197, 43883), (215, 43940), (220, 43955),

Gene: RiverRaider\_52 Start: 41929, Stop: 42948, Start Num: 42

Candidate Starts for RiverRaider\_52:

(Start: 31 @41884 has 1 MA's), (Start: 42 @41929 has 130 MA's), (76, 42016), (83, 42040), (89, 42070), (106, 42133), (110, 42148), (139, 42277), (174, 42439), (181, 42472), (183, 42487), (195, 42556), (197, 42571), (215, 42628), (220, 42643), (236, 42706), (261, 42796), (275, 42925),

Gene: RoadKill\_45 Start: 38932, Stop: 39990, Start Num: 42

Candidate Starts for RoadKill\_45:

(35, 38902), (Start: 42 @38932 has 130 MA's), (76, 39019), (83, 39043), (89, 39073), (106, 39136), (110, 39151), (115, 39184), (141, 39295), (147, 39322), (158, 39376), (174, 39442), (177, 39463), (181, 39475), (183, 39490), (195, 39574), (198, 39592), (202, 39610), (206, 39631), (220, 39661), (243, 39772), (264, 39877), (267, 39898), (273, 39955), (274, 39961),

Gene: Rofo\_51 Start: 43335, Stop: 44345, Start Num: 38

Candidate Starts for Rofo\_51:

(Start: 38 @43335 has 8 MA's), (Start: 41 @43344 has 9 MA's), (Start: 59 @43380 has 20 MA's), (76, 43434), (78, 43440), (83, 43458), (89, 43488), (106, 43551), (110, 43566), (128, 43647), (141, 43710), (174, 43857), (181, 43890), (183, 43905), (195, 43974), (197, 43989), (215, 44046), (220, 44061), (264, 44226), (274, 44310),

Gene: RosiePosie\_47 Start: 37423, Stop: 38382, Start Num: 55

Candidate Starts for RosiePosie\_47:

(Start: 55 @37423 has 19 MA's), (62, 37450), (66, 37462), (75, 37495), (80, 37513), (92, 37573), (142, 37786), (145, 37798), (166, 37912), (174, 37939), (185, 37999), (195, 38059), (203, 38098), (217, 38140), (247, 38293),

Gene: Rubeelu\_51 Start: 34063, Stop: 35127, Start Num: 42

Candidate Starts for Rubeelu\_51:

(Start: 42 @34063 has 130 MA's), (49, 34075), (73, 34141), (76, 34150), (83, 34174), (86, 34195), (88, 34201), (92, 34216), (94, 34225), (106, 34267), (110, 34282), (128, 34369), (171, 34567), (181, 34609), (183, 34624), (188, 34651), (192, 34672), (195, 34705), (197, 34720), (201, 34735), (203, 34744), (212, 34774), (220, 34792), (221, 34798), (230, 34831), (235, 34849), (255, 34942), (256, 34948), (269, 35038), (270, 35047), (274, 35095), (275, 35104),

Gene: Ruchi\_38 Start: 26786, Stop: 27592, Start Num: 40

Candidate Starts for Ruchi\_38:

(Start: 40 @26786 has 23 MA's), (73, 26882), (76, 26891), (84, 26927), (89, 26945), (151, 27239), (159, 27275), (181, 27365), (195, 27446), (227, 27560),

Gene: Sampson\_51 Start: 43533, Stop: 44573, Start Num: 42

Candidate Starts for Sampson\_51:

(Start: 42 @43533 has 130 MA's), (76, 43623), (83, 43647), (84, 43659), (89, 43677), (110, 43755), (115, 43788), (158, 43962), (174, 44028), (183, 44076), (195, 44148), (197, 44163), (202, 44184), (206, 44205), (208, 44208), (239, 44313), (243, 44346), (248, 44358), (271, 44505), (274, 44541),

Gene: Sanjuju\_50 Start: 44082, Stop: 45080, Start Num: 41

Candidate Starts for Sanjuju\_50:

(20, 43998), (25, 44019), (Start: 41 @44082 has 9 MA's), (Start: 59 @44118 has 20 MA's), (76, 44169), (78, 44175), (83, 44193), (89, 44223), (106, 44286), (110, 44301), (141, 44445), (174, 44592), (181, 44625), (183, 44640), (195, 44709), (197, 44724), (215, 44781), (220, 44796), (266, 44973), (274, 45045),

Gene: Saronaya\_50 Start: 42531, Stop: 43559, Start Num: 39

Candidate Starts for Saronaya\_50:

(15, 42396), (Start: 31 @42483 has 1 MA's), (Start: 39 @42531 has 2 MA's), (Start: 42 @42537 has 130 MA's), (Start: 59 @42573 has 20 MA's), (76, 42627), (83, 42651), (89, 42681), (97, 42711), (106, 42744), (110, 42759), (139, 42888), (141, 42903), (142, 42906), (174, 43050), (181, 43083), (183, 43098), (195, 43167), (196, 43173), (197, 43182), (215, 43239), (220, 43254),

Gene: Sbash\_58 Start: 41406, Stop: 42380, Start Num: 56

Candidate Starts for Sbash\_58:

(Start: 56 @41406 has 58 MA's), (Start: 61 @41421 has 1 MA's), (76, 41469), (80, 41481), (88, 41520), (93, 41541), (94, 41544), (101, 41562), (138, 41709), (149, 41769), (151, 41778), (169, 41850), (171, 41859), (181, 41898), (187, 41937), (193, 41961), (195, 41979), (198, 41997), (203, 42018), (204, 42024), (217, 42054), (255, 42195), (256, 42201), (274, 42348),

Gene: Scavito\_47 Start: 37421, Stop: 38380, Start Num: 55

Candidate Starts for Scavito\_47:

(Start: 55 @37421 has 19 MA's), (62, 37448), (66, 37460), (75, 37493), (80, 37511), (92, 37571), (142, 37784), (145, 37796), (166, 37910), (174, 37937), (185, 37997), (195, 38057), (203, 38096), (217, 38138), (247, 38291),

Gene: Schnauzer\_49 Start: 33478, Stop: 34539, Start Num: 42

Candidate Starts for Schnauzer\_49:

(Start: 42 @33478 has 130 MA's), (49, 33490), (73, 33556), (74, 33559), (76, 33565), (83, 33589), (86, 33610), (88, 33616), (91, 33628), (92, 33631), (94, 33640), (106, 33682), (110, 33697), (128, 33784), (149, 33889), (151, 33898), (161, 33943), (168, 33970), (171, 33982), (177, 34012), (181, 34024), (183, 34039), (188, 34066), (192, 34087), (195, 34120), (197, 34135), (198, 34138), (201, 34150), (203, 34159), (220, 34207), (221, 34213), (235, 34264), (239, 34288), (245, 34321), (246, 34324), (254, 34354), (256, 34360), (266, 34432), (269, 34450), (270, 34459), (274, 34507), (275, 34516),

Gene: SchottB\_48 Start: 43080, Stop: 44102, Start Num: 42

Candidate Starts for SchottB\_48:

(Start: 42 @43080 has 130 MA's), (Start: 59 @43116 has 20 MA's), (76, 43170), (83, 43194), (89, 43224), (97, 43254), (106, 43287), (110, 43302), (128, 43383), (139, 43431), (141, 43446), (142, 43449), (174, 43593), (181, 43626), (183, 43641), (195, 43710), (197, 43725), (215, 43782), (220, 43797),

Gene: Scioto\_52 Start: 43589, Stop: 44629, Start Num: 42

Candidate Starts for Scioto\_52:

(Start: 42 @43589 has 130 MA's), (76, 43679), (83, 43703), (84, 43715), (89, 43733), (110, 43811), (115, 43844), (158, 44018), (174, 44084), (183, 44132), (195, 44204), (197, 44219), (202, 44240), (206, 44261), (208, 44264), (239, 44369), (243, 44402), (248, 44414), (271, 44561), (274, 44597),

Gene: Scitech\_45 Start: 31494, Stop: 32558, Start Num: 42

Candidate Starts for Scitech\_45:

(Start: 42 @31494 has 130 MA's), (49, 31506), (73, 31572), (74, 31575), (76, 31581), (83, 31605), (86, 31626), (88, 31632), (91, 31644), (92, 31647), (94, 31656), (106, 31698), (110, 31713), (128, 31800), (149, 31905), (151, 31914), (161, 31959), (168, 31986), (171, 31998), (177, 32028), (181, 32040),

(183, 32055), (188, 32082), (192, 32103), (195, 32136), (197, 32151), (198, 32154), (201, 32166), (203, 32175), (220, 32223), (221, 32229), (235, 32280), (239, 32304), (245, 32337), (246, 32340), (254, 32370), (256, 32376), (269, 32469), (270, 32478), (272, 32502), (275, 32535),

Gene: Sedona\_51 Start: 43831, Stop: 44826, Start Num: 42

Candidate Starts for Sedona\_51:

(7, 43588), (15, 43690), (Start: 31 @43777 has 1 MA's), (Start: 42 @43831 has 130 MA's), (Start: 59 @43867 has 20 MA's), (76, 43918), (78, 43924), (83, 43942), (89, 43972), (106, 44035), (110, 44050), (128, 44131), (133, 44146), (137, 44170), (141, 44194), (174, 44341), (181, 44374), (183, 44389), (195, 44458), (197, 44473), (215, 44530), (220, 44545), (266, 44719), (274, 44791),

Gene: Sejanus\_64 Start: 49582, Stop: 50574, Start Num: 56

Candidate Starts for Sejanus\_64:

(26, 49468), (Start: 56 @49582 has 58 MA's), (68, 49627), (76, 49648), (83, 49672), (84, 49684), (88, 49699), (109, 49777), (110, 49780), (121, 49834), (129, 49852), (154, 49969), (159, 49990), (169, 50026), (179, 50068), (180, 50071), (181, 50074), (193, 50137), (195, 50155), (198, 50173), (203, 50194), (217, 50230), (220, 50242), (235, 50302), (243, 50338), (244, 50341), (251, 50365), (256, 50395), (259, 50413), (270, 50494), (272, 50518), (275, 50551),

Gene: Shade\_35 Start: 29715, Stop: 30578, Start Num: 42

Candidate Starts for Shade\_35:

(Start: 42 @29715 has 130 MA's), (76, 29805), (77, 29808), (83, 29829), (94, 29880), (110, 29937), (136, 30042), (156, 30132), (158, 30144), (161, 30159), (181, 30237), (185, 30264), (188, 30279), (193, 30321), (195, 30339), (198, 30357), (203, 30378), (206, 30396), (229, 30465), (235, 30483), (253, 30555),

Gene: Shen\_38 Start: 25299, Stop: 26105, Start Num: 40

Candidate Starts for Shen\_38:

(Start: 40 @25299 has 23 MA's), (73, 25395), (76, 25404), (83, 25428), (84, 25440), (89, 25458), (151, 25752), (169, 25833), (175, 25851), (195, 25959), (200, 25986), (227, 26073),

Gene: Shipwreck\_50 Start: 34832, Stop: 35806, Start Num: 56

Candidate Starts for Shipwreck\_50:

(Start: 56 @34832 has 58 MA's), (Start: 61 @34850 has 1 MA's), (76, 34898), (88, 34949), (94, 34973), (121, 35084), (154, 35219), (180, 35330), (181, 35333), (187, 35372), (193, 35396), (195, 35414), (204, 35459), (217, 35489), (220, 35501), (235, 35558), (256, 35627), (270, 35726), (274, 35774),

Gene: Shivanishola\_51 Start: 42552, Stop: 43547, Start Num: 42

Candidate Starts for Shivanishola\_51:

(7, 42309), (15, 42411), (Start: 31 @42498 has 1 MA's), (Start: 42 @42552 has 130 MA's), (Start: 59 @42588 has 20 MA's), (76, 42639), (78, 42645), (83, 42663), (89, 42693), (106, 42756), (110, 42771), (128, 42852), (133, 42867), (137, 42891), (141, 42915), (174, 43062), (181, 43095), (183, 43110), (195, 43179), (197, 43194), (215, 43251), (220, 43266), (266, 43440), (274, 43512),

Gene: ShrimpFriedEgg\_52 Start: 34363, Stop: 35427, Start Num: 42

Candidate Starts for ShrimpFriedEgg\_52:

(19, 34249), (Start: 42 @34363 has 130 MA's), (49, 34375), (73, 34441), (74, 34444), (76, 34450), (83, 34474), (86, 34495), (88, 34501), (91, 34513), (92, 34516), (94, 34525), (106, 34567), (110, 34582), (149, 34774), (168, 34855), (171, 34867), (174, 34876), (181, 34909), (183, 34924), (188, 34951), (195, 35005), (197, 35020), (201, 35035), (203, 35044), (212, 35074), (220, 35092), (221, 35098), (235, 35149), (245, 35206), (254, 35242), (256, 35248), (269, 35338), (270, 35347), (274, 35395), (275, 35404),

Gene: Shweta\_46 Start: 32422, Stop: 33489, Start Num: 42

Candidate Starts for Shweta\_46:

(19, 32308), (Start: 42 @32422 has 130 MA's), (49, 32434), (73, 32500), (74, 32503), (76, 32509), (83, 32533), (86, 32554), (88, 32560), (91, 32572), (92, 32575), (94, 32584), (106, 32626), (110, 32641), (149, 32833), (168, 32914), (171, 32926), (174, 32935), (181, 32968), (183, 32983), (188, 33010), (195, 33064), (197, 33079), (201, 33094), (203, 33103), (212, 33133), (220, 33151), (221, 33157), (235, 33208), (245, 33265), (256, 33307), (270, 33406), (274, 33454), (276, 33478),

Gene: Sicarius2\_36 Start: 29347, Stop: 30198, Start Num: 42

Candidate Starts for Sicarius2\_36:

(Start: 42 @29347 has 130 MA's), (77, 29440), (81, 29455), (83, 29461), (89, 29491), (94, 29512), (110, 29569), (136, 29674), (147, 29728), (161, 29791), (181, 29869), (188, 29911), (193, 29950), (195, 29968), (198, 29986), (203, 30007), (206, 30025), (220, 30055),

Gene: Silvafighter\_49 Start: 33451, Stop: 34512, Start Num: 42

Candidate Starts for Silvafighter\_49:

(Start: 42 @33451 has 130 MA's), (49, 33463), (73, 33529), (74, 33532), (76, 33538), (83, 33562), (86, 33583), (88, 33589), (91, 33601), (92, 33604), (94, 33613), (106, 33655), (110, 33670), (128, 33757), (149, 33862), (151, 33871), (161, 33916), (168, 33943), (171, 33955), (177, 33985), (181, 33997), (183, 34012), (188, 34039), (192, 34060), (195, 34093), (197, 34108), (198, 34111), (201, 34123), (203, 34132), (220, 34180), (221, 34186), (235, 34237), (239, 34261), (245, 34294), (246, 34297), (254, 34327), (256, 34333), (266, 34405), (269, 34423), (270, 34432), (274, 34480), (275, 34489),

Gene: Silvy\_46 Start: 32126, Stop: 33115, Start Num: 56

Candidate Starts for Silvy\_46:

(4, 31805), (17, 31973), (30, 32036), (Start: 56 @32126 has 58 MA's), (Start: 61 @32141 has 1 MA's), (76, 32189), (88, 32240), (112, 32336), (121, 32375), (154, 32510), (180, 32621), (181, 32624), (187, 32663), (193, 32687), (195, 32705), (204, 32750), (217, 32780), (220, 32792), (256, 32936), (270, 33035), (274, 33083),

Gene: Sitar\_51 Start: 44231, Stop: 45241, Start Num: 42

Candidate Starts for Sitar\_51:

(2, 43880), (7, 43988), (15, 44090), (Start: 31 @44177 has 1 MA's), (Start: 42 @44231 has 130 MA's), (Start: 59 @44267 has 20 MA's), (76, 44318), (78, 44324), (83, 44342), (89, 44372), (106, 44435), (110, 44450), (128, 44531), (141, 44594), (174, 44741), (181, 44774), (183, 44789), (195, 44858), (197, 44873), (215, 44930), (220, 44945), (266, 45134), (274, 45206),

Gene: SkinnyPete\_45 Start: 31602, Stop: 32585, Start Num: 56

Candidate Starts for SkinnyPete\_45:

(Start: 56 @31602 has 58 MA's), (76, 31668), (80, 31680), (88, 31719), (101, 31761), (121, 31854), (154, 31989), (179, 32097), (180, 32100), (181, 32103), (187, 32142), (193, 32166), (195, 32184), (200, 32211), (203, 32223), (217, 32259), (220, 32271), (235, 32328), (256, 32403), (270, 32505), (274, 32553),

Gene: Smoothie\_92 Start: 56648, Stop: 57373, Start Num: 59

Candidate Starts for Smoothie\_92:

(6, 56348), (8, 56375), (9, 56378), (10, 56381), (28, 56543), (Start: 59 @56648 has 20 MA's), (85, 56756), (90, 56774), (94, 56789), (95, 56792), (107, 56843), (119, 56906), (134, 56933), (140, 56966), (147, 57005), (155, 57044), (164, 57074), (168, 57101), (178, 57146), (195, 57227), (199, 57251), (213, 57296), (221, 57326),

Gene: Smurph\_48 Start: 33478, Stop: 34539, Start Num: 42

Candidate Starts for Smurph\_48:

(Start: 42 @33478 has 130 MA's), (49, 33490), (73, 33556), (74, 33559), (76, 33565), (83, 33589), (86, 33610), (88, 33616), (91, 33628), (92, 33631), (94, 33640), (106, 33682), (110, 33697), (128, 33784), (149, 33889), (151, 33898), (161, 33943), (168, 33970), (171, 33982), (177, 34012), (181, 34024), (183, 34039), (188, 34066), (192, 34087), (195, 34120), (197, 34135), (198, 34138), (201, 34150), (203, 34159), (220, 34207), (221, 34213), (235, 34264), (239, 34288), (245, 34321), (246, 34324), (254, 34354), (256, 34360), (266, 34432), (269, 34450), (270, 34459), (274, 34507), (275, 34516),

Gene: Snekmaggedon\_46 Start: 32655, Stop: 33719, Start Num: 42

Candidate Starts for Snekmaggedon\_46:

(19, 32541), (Start: 42 @32655 has 130 MA's), (49, 32667), (73, 32733), (74, 32736), (76, 32742), (83, 32766), (86, 32787), (88, 32793), (91, 32805), (92, 32808), (94, 32817), (106, 32859), (110, 32874), (149, 33066), (168, 33147), (171, 33159), (174, 33168), (181, 33201), (183, 33216), (188, 33243), (195, 33297), (197, 33312), (201, 33327), (203, 33336), (212, 33366), (220, 33384), (221, 33390), (235, 33441), (245, 33498), (254, 33534), (256, 33540), (269, 33630), (270, 33639), (274, 33687), (275, 33696),

Gene: Sonah\_47 Start: 32529, Stop: 33503, Start Num: 56

Candidate Starts for Sonah\_47:

(Start: 56 @32529 has 58 MA's), (Start: 61 @32547 has 1 MA's), (76, 32595), (88, 32646), (94, 32670), (121, 32781), (154, 32916), (180, 33027), (181, 33030), (187, 33069), (193, 33093), (195, 33111), (204, 33156), (217, 33186), (220, 33198), (235, 33255), (256, 33324), (270, 33423), (274, 33471),

Gene: Sonny\_35 Start: 29745, Stop: 30608, Start Num: 42

Candidate Starts for Sonny\_35:

(Start: 42 @29745 has 130 MA's), (76, 29835), (77, 29838), (83, 29859), (94, 29910), (110, 29967), (136, 30072), (156, 30162), (158, 30174), (161, 30189), (181, 30267), (185, 30294), (188, 30309), (193, 30351), (195, 30369), (198, 30387), (203, 30408), (206, 30426), (229, 30495), (235, 30513), (253, 30585),

Gene: SpeedDemon\_950 Start: 64954, Stop: 64124, Start Num: 46

Candidate Starts for SpeedDemon\_950:

(Start: 46 @64954 has 7 MA's), (83, 64831), (90, 64795), (107, 64726), (136, 64618), (168, 64453), (173, 64435), (195, 64327), (207, 64267), (232, 64183),

Gene: Spinach\_52 Start: 34363, Stop: 35427, Start Num: 42

Candidate Starts for Spinach\_52:

(19, 34249), (Start: 42 @34363 has 130 MA's), (49, 34375), (73, 34441), (74, 34444), (76, 34450), (83, 34474), (86, 34495), (88, 34501), (91, 34513), (92, 34516), (94, 34525), (106, 34567), (110, 34582), (149, 34774), (168, 34855), (171, 34867), (174, 34876), (181, 34909), (183, 34924), (188, 34951), (195, 35005), (197, 35020), (201, 35035), (203, 35044), (212, 35074), (220, 35092), (221, 35098), (235, 35149), (245, 35206), (254, 35242), (256, 35248), (269, 35338), (270, 35347), (274, 35395), (275, 35404),

Gene: SpongeBob\_46 Start: 32655, Stop: 33719, Start Num: 42

Candidate Starts for SpongeBob\_46:

(19, 32541), (Start: 42 @32655 has 130 MA's), (49, 32667), (73, 32733), (74, 32736), (76, 32742), (83, 32766), (86, 32787), (88, 32793), (91, 32805), (92, 32808), (94, 32817), (106, 32859), (110, 32874), (149, 33066), (168, 33147), (171, 33159), (174, 33168), (181, 33201), (183, 33216), (188, 33243), (195, 33297), (197, 33312), (201, 33327), (203, 33336), (212, 33366), (220, 33384), (221, 33390), (235, 33441), (245, 33498), (254, 33534), (256, 33540), (269, 33630), (270, 33639), (274, 33687), (275, 33696),

Gene: StevieBAY\_35 Start: 29827, Stop: 30672, Start Num: 42

Candidate Starts for StevieBAY\_35:

(Start: 42 @29827 has 130 MA's), (76, 29920), (77, 29923), (83, 29944), (89, 29974), (110, 30052), (120, 30109), (136, 30157), (146, 30208), (147, 30211), (149, 30226), (157, 30256), (161, 30274), (166, 30292), (181, 30352), (188, 30394), (193, 30433), (195, 30451), (198, 30469), (203, 30490), (206, 30508), (229, 30577), (232, 30589), (235, 30595),

Gene: StevieRay\_46 Start: 32502, Stop: 33476, Start Num: 56

Candidate Starts for StevieRay\_46:

(Start: 56 @32502 has 58 MA's), (Start: 61 @32520 has 1 MA's), (76, 32568), (88, 32619), (92, 32634), (94, 32643), (121, 32754), (154, 32889), (180, 33000), (181, 33003), (187, 33042), (193, 33066), (195, 33084), (204, 33129), (217, 33159), (220, 33171), (235, 33228), (256, 33297), (270, 33396), (274, 33444),

Gene: StorminNorm\_49 Start: 42171, Stop: 43193, Start Num: 42

Candidate Starts for StorminNorm\_49:

(Start: 42 @42171 has 130 MA's), (Start: 59 @42207 has 20 MA's), (76, 42261), (83, 42285), (89, 42315), (97, 42345), (106, 42378), (110, 42393), (128, 42474), (139, 42522), (141, 42537), (142, 42540), (174, 42684), (181, 42717), (183, 42732), (195, 42801), (197, 42816), (215, 42873), (220, 42888),

Gene: StressBall\_46 Start: 32800, Stop: 33774, Start Num: 56

Candidate Starts for StressBall\_46:

(Start: 56 @32800 has 58 MA's), (Start: 61 @32818 has 1 MA's), (76, 32866), (88, 32917), (92, 32932), (94, 32941), (121, 33052), (154, 33187), (180, 33298), (181, 33301), (187, 33340), (193, 33364), (195, 33382), (204, 33427), (217, 33457), (220, 33469), (235, 33526), (256, 33595), (270, 33694), (274, 33742),

Gene: StuartMinion\_33 Start: 23080, Stop: 23877, Start Num: 44

Candidate Starts for StuartMinion\_33:

(Start: 44 @23080 has 29 MA's), (76, 23176), (89, 23230), (116, 23347), (146, 23494), (161, 23566), (171, 23611), (195, 23731), (220, 23818),

Gene: Stuck\_62 Start: 42896, Stop: 43942, Start Num: 42

Candidate Starts for Stuck\_62:

(Start: 42 @42896 has 130 MA's), (49, 42908), (73, 42974), (76, 42983), (83, 43007), (86, 43028), (91, 43046), (92, 43049), (94, 43058), (106, 43100), (110, 43115), (181, 43442), (183, 43457), (188, 43484), (195, 43538), (197, 43553), (201, 43568), (203, 43577), (224, 43637), (230, 43664), (235, 43682), (246, 43736), (254, 43757), (256, 43763), (274, 43910),

Gene: Stultus\_49 Start: 42729, Stop: 43727, Start Num: 41

Candidate Starts for Stultus\_49:

(Start: 41 @42729 has 9 MA's), (Start: 59 @42765 has 20 MA's), (76, 42816), (78, 42822), (83, 42840), (89, 42870), (106, 42933), (110, 42948), (128, 43029), (133, 43044), (137, 43068), (141, 43092), (174, 43239), (181, 43272), (183, 43287), (195, 43356), (197, 43371), (215, 43428), (220, 43443), (266, 43620), (274, 43692),

Gene: TaeYoung\_35 Start: 29743, Stop: 30591, Start Num: 42

Candidate Starts for TaeYoung\_35:

(Start: 42 @29743 has 130 MA's), (76, 29833), (77, 29836), (83, 29857), (88, 29884), (89, 29887), (110, 29965), (120, 30022), (136, 30070), (146, 30121), (147, 30124), (161, 30187), (166, 30205), (181, 30265), (188, 30307), (193, 30346), (195, 30364), (198, 30382), (203, 30403), (206, 30421), (220, 30451), (232, 30502), (253, 30568),

Gene: Tangent\_52 Start: 42958, Stop: 43968, Start Num: 38

Candidate Starts for Tangent\_52:

(Start: 38 @42958 has 8 MA's), (Start: 41 @42967 has 9 MA's), (Start: 59 @43003 has 20 MA's), (76, 43057), (78, 43063), (83, 43081), (89, 43111), (106, 43174), (110, 43189), (128, 43270), (141, 43333), (174, 43480), (181, 43513), (183, 43528), (195, 43597), (197, 43612), (215, 43669), (220, 43684), (264, 43849), (274, 43933),

Gene: Tangerine\_49 Start: 41949, Stop: 42971, Start Num: 42

Candidate Starts for Tangerine\_49:

(Start: 42 @41949 has 130 MA's), (76, 42039), (83, 42063), (89, 42093), (97, 42123), (106, 42156), (110, 42171), (139, 42300), (141, 42315), (142, 42318), (174, 42462), (181, 42495), (183, 42510), (195, 42579), (196, 42585), (197, 42594), (215, 42651), (220, 42666),

Gene: Tapioca\_50 Start: 33444, Stop: 34505, Start Num: 42

Candidate Starts for Tapioca\_50:

(Start: 42 @33444 has 130 MA's), (49, 33456), (73, 33522), (74, 33525), (76, 33531), (83, 33555), (86, 33576), (88, 33582), (91, 33594), (92, 33597), (94, 33606), (106, 33648), (110, 33663), (128, 33750), (149, 33855), (151, 33864), (161, 33909), (168, 33936), (171, 33948), (177, 33978), (181, 33990), (183, 34005), (188, 34032), (192, 34053), (195, 34086), (197, 34101), (198, 34104), (201, 34116), (203, 34125), (220, 34173), (221, 34179), (235, 34230), (239, 34254), (245, 34287), (246, 34290), (254, 34320), (256, 34326), (266, 34398), (269, 34416), (270, 34425), (274, 34473), (275, 34482),

Gene: Tardus\_53 Start: 43285, Stop: 44328, Start Num: 42

Candidate Starts for Tardus\_53:

(Start: 42 @43285 has 130 MA's), (76, 43375), (83, 43399), (84, 43411), (89, 43429), (110, 43507), (137, 43609), (158, 43714), (174, 43780), (183, 43828), (195, 43900), (197, 43915), (202, 43936), (206, 43957), (208, 43960), (239, 44065), (243, 44098), (248, 44110), (271, 44260), (274, 44296),

Gene: TaylorSipt\_39 Start: 26156, Stop: 26953, Start Num: 40

Candidate Starts for TaylorSipt\_39:

(Start: 40 @26156 has 23 MA's), (72, 26246), (73, 26249), (76, 26258), (89, 26312), (116, 26429), (161, 26642), (171, 26687), (195, 26807), (200, 26834), (215, 26879), (216, 26882), (224, 26906),

Gene: Techage\_46 Start: 32569, Stop: 33561, Start Num: 56

Candidate Starts for Techage\_46:

(4, 32248), (17, 32416), (30, 32479), (Start: 56 @32569 has 58 MA's), (Start: 61 @32584 has 1 MA's), (76, 32632), (88, 32683), (112, 32779), (121, 32818), (154, 32953), (180, 33064), (181, 33067), (187, 33106), (193, 33130), (195, 33148), (204, 33193), (217, 33223), (220, 33235), (256, 33379), (270, 33478), (274, 33526), (276, 33550),

Gene: Tessdabest\_49 Start: 33475, Stop: 34536, Start Num: 42

Candidate Starts for Tessdabest\_49:

(Start: 42 @33475 has 130 MA's), (49, 33487), (73, 33553), (74, 33556), (76, 33562), (83, 33586), (86, 33607), (88, 33613), (91, 33625), (92, 33628), (94, 33637), (106, 33679), (110, 33694), (128, 33781), (149, 33886), (151, 33895), (161, 33940), (168, 33967), (171, 33979), (177, 34009), (181, 34021), (183, 34036), (188, 34063), (192, 34084), (195, 34117), (197, 34132), (198, 34135), (201, 34147), (203, 34156), (220, 34204), (221, 34210), (235, 34261), (239, 34285), (245, 34318), (246, 34321), (254, 34351), (256, 34357), (266, 34429), (269, 34447), (270, 34456), (274, 34504), (275, 34513),

Gene: Thespis\_46 Start: 32536, Stop: 33510, Start Num: 56

Candidate Starts for Thespis\_46:

(Start: 56 @32536 has 58 MA's), (Start: 61 @32554 has 1 MA's), (76, 32602), (88, 32653), (92, 32668), (94, 32677), (121, 32788), (154, 32923), (180, 33034), (181, 33037), (187, 33076), (193, 33100), (195,

33118), (204, 33163), (217, 33193), (220, 33205), (235, 33262), (256, 33331), (270, 33430), (274, 33478),

Gene: Thing3\_50 Start: 42629, Stop: 43627, Start Num: 42

Candidate Starts for Thing3\_50:

(7, 42386), (15, 42488), (Start: 31 @42575 has 1 MA's), (Start: 42 @42629 has 130 MA's), (Start: 59 @42665 has 20 MA's), (76, 42716), (78, 42722), (83, 42740), (89, 42770), (106, 42833), (110, 42848), (128, 42929), (137, 42968), (141, 42992), (174, 43139), (181, 43172), (183, 43187), (195, 43256), (197, 43271), (215, 43328), (220, 43343), (266, 43520), (274, 43592),

Gene: ThulaThula\_53 Start: 37120, Stop: 38187, Start Num: 42

Candidate Starts for ThulaThula\_53:

(19, 37006), (Start: 42 @37120 has 130 MA's), (49, 37132), (76, 37207), (83, 37231), (86, 37252), (92, 37273), (94, 37282), (106, 37324), (110, 37339), (115, 37372), (149, 37531), (151, 37540), (171, 37624), (181, 37666), (183, 37681), (188, 37708), (192, 37729), (195, 37762), (197, 37777), (201, 37792), (203, 37801), (212, 37831), (220, 37849), (230, 37888), (235, 37906), (255, 38002), (256, 38008), (270, 38107),

Gene: Tiamoceli\_48 Start: 40223, Stop: 41281, Start Num: 42

Candidate Starts for Tiamoceli\_48:

(35, 40193), (Start: 42 @40223 has 130 MA's), (76, 40310), (83, 40334), (89, 40364), (106, 40427), (110, 40442), (115, 40475), (141, 40586), (147, 40613), (158, 40667), (174, 40733), (177, 40754), (181, 40766), (183, 40781), (195, 40865), (198, 40883), (202, 40901), (206, 40922), (220, 40952), (243, 41063), (264, 41168), (267, 41189), (273, 41246), (274, 41252),

Gene: Timinator\_35 Start: 29826, Stop: 30671, Start Num: 42

Candidate Starts for Timinator\_35:

(Start: 42 @29826 has 130 MA's), (76, 29919), (77, 29922), (83, 29943), (89, 29973), (110, 30051), (120, 30108), (136, 30156), (146, 30207), (147, 30210), (149, 30225), (161, 30273), (166, 30291), (181, 30351), (188, 30393), (193, 30432), (195, 30450), (198, 30468), (203, 30489), (206, 30507), (220, 30537), (229, 30576), (232, 30588), (235, 30594),

Gene: Toad24\_41 Start: 27438, Stop: 28244, Start Num: 40

Candidate Starts for Toad24\_41:

(Start: 40 @27438 has 23 MA's), (73, 27534), (76, 27543), (83, 27567), (84, 27579), (89, 27597), (151, 27891), (169, 27972), (175, 27990), (195, 28098), (200, 28125), (227, 28212),

Gene: Toniann\_91 Start: 55976, Stop: 56701, Start Num: 59

Candidate Starts for Toniann\_91:

(6, 55676), (8, 55703), (9, 55706), (10, 55709), (18, 55817), (Start: 59 @55976 has 20 MA's), (85, 56084), (90, 56102), (94, 56117), (95, 56120), (107, 56171), (119, 56234), (134, 56261), (140, 56294), (147, 56333), (155, 56372), (164, 56402), (168, 56429), (178, 56474), (195, 56555), (199, 56579), (213, 56624), (221, 56654),

Gene: Tophat\_47 Start: 37422, Stop: 38381, Start Num: 55

Candidate Starts for Tophat\_47:

(Start: 55 @37422 has 19 MA's), (62, 37449), (66, 37461), (75, 37494), (80, 37512), (92, 37572), (142, 37785), (145, 37797), (166, 37911), (174, 37938), (185, 37998), (195, 38058), (203, 38097), (217, 38139), (247, 38292),

Gene: Tortoise12\_47 Start: 32161, Stop: 33222, Start Num: 42

Candidate Starts for Tortoise12\_47:

(Start: 42 @32161 has 130 MA's), (49, 32173), (73, 32239), (74, 32242), (76, 32248), (83, 32272), (86, 32293), (88, 32299), (91, 32311), (92, 32314), (94, 32323), (106, 32365), (110, 32380), (128, 32467), (149, 32572), (151, 32581), (161, 32626), (168, 32653), (171, 32665), (177, 32695), (181, 32707), (183, 32722), (188, 32749), (192, 32770), (195, 32803), (197, 32818), (198, 32821), (201, 32833), (203, 32842), (220, 32890), (221, 32896), (235, 32947), (239, 32971), (245, 33004), (246, 33007), (254, 33037), (256, 33043), (266, 33115), (269, 33133), (270, 33142), (274, 33190), (275, 33199),

Gene: Towmatter\_83 Start: 58781, Stop: 57948, Start Num: 46

Candidate Starts for Towmatter\_83:

(Start: 46 @58781 has 7 MA's), (73, 58691), (90, 58619), (107, 58550), (136, 58442), (148, 58385), (168, 58277), (173, 58259), (195, 58151), (232, 58010), (242, 57956),

Gene: TripleJ\_55 Start: 33927, Stop: 34802, Start Num: 46

Candidate Starts for TripleJ\_55:

(Start: 46 @33927 has 7 MA's), (76, 34017), (84, 34053), (93, 34089), (104, 34128), (110, 34149), (121, 34203), (142, 34278), (163, 34368), (169, 34395), (171, 34404), (172, 34407), (175, 34416), (181, 34443), (182, 34449), (193, 34506), (195, 34524), (202, 34560), (203, 34563), (224, 34632), (249, 34716),

Gene: Twonlo\_45 Start: 38853, Stop: 39911, Start Num: 42

Candidate Starts for Twonlo\_45:

(35, 38823), (Start: 42 @38853 has 130 MA's), (76, 38940), (83, 38964), (89, 38994), (106, 39057), (110, 39072), (115, 39105), (141, 39216), (147, 39243), (158, 39297), (174, 39363), (177, 39384), (181, 39396), (183, 39411), (195, 39495), (198, 39513), (202, 39531), (206, 39552), (220, 39582), (243, 39693), (264, 39798), (267, 39819), (273, 39876), (274, 39882),

Gene: Tycho\_49 Start: 42039, Stop: 43061, Start Num: 42

Candidate Starts for Tycho\_49:

(Start: 42 @42039 has 130 MA's), (Start: 59 @42075 has 20 MA's), (76, 42129), (83, 42153), (89, 42183), (97, 42213), (106, 42246), (110, 42261), (128, 42342), (139, 42390), (141, 42405), (142, 42408), (174, 42552), (181, 42585), (183, 42600), (195, 42669), (197, 42684), (215, 42741), (220, 42756),

Gene: ValentiniPuff\_98 Start: 56073, Stop: 56969, Start Num: 44

Candidate Starts for ValentiniPuff\_98:

(Start: 44 @56073 has 29 MA's), (72, 56163), (109, 56310), (112, 56328), (167, 56592), (171, 56607), (177, 56637), (191, 56721), (195, 56757), (198, 56775), (228, 56877),

Gene: VanLee\_37 Start: 30355, Stop: 31278, Start Num: 51

Candidate Starts for VanLee\_37:

(Start: 51 @30355 has 1 MA's), (53, 30361), (65, 30400), (75, 30439), (89, 30499), (100, 30541), (108, 30580), (110, 30586), (114, 30610), (139, 30757), (147, 30799), (154, 30835), (166, 30889), (174, 30916), (180, 30946), (181, 30949), (195, 31048), (200, 31075), (203, 31087), (233, 31186), (238, 31210),

Gene: Venti\_47 Start: 32543, Stop: 33535, Start Num: 56

Candidate Starts for Venti\_47:

(4, 32222), (17, 32390), (30, 32453), (Start: 56 @32543 has 58 MA's), (Start: 61 @32558 has 1 MA's), (76, 32606), (88, 32657), (112, 32753), (121, 32792), (154, 32927), (180, 33038), (181, 33041), (187, 33080), (193, 33104), (195, 33122), (204, 33167), (217, 33197), (220, 33209), (256, 33353), (270, 33452), (274, 33500), (276, 33524),

Gene: Verity\_51 Start: 44353, Stop: 45396, Start Num: 42

Candidate Starts for Verity\_51:

(Start: 42 @44353 has 130 MA's), (76, 44443), (83, 44467), (84, 44479), (110, 44575), (158, 44782), (174, 44848), (183, 44896), (195, 44968), (197, 44983), (202, 45004), (206, 45025), (208, 45028), (220, 45055), (239, 45133), (243, 45166), (248, 45178), (267, 45301), (271, 45328), (274, 45364),

Gene: ViaConlectus\_51 Start: 42237, Stop: 43280, Start Num: 42

Candidate Starts for ViaConlectus\_51:

(Start: 42 @42237 has 130 MA's), (76, 42330), (83, 42354), (84, 42366), (89, 42384), (110, 42462), (115, 42495), (158, 42669), (174, 42735), (183, 42783), (195, 42855), (197, 42870), (202, 42891), (206, 42912), (208, 42915), (239, 43020), (243, 43053), (248, 43065), (271, 43212), (274, 43248),

Gene: Vidya\_46 Start: 32576, Stop: 33568, Start Num: 56

Candidate Starts for Vidya\_46:

(4, 32255), (17, 32423), (30, 32486), (Start: 56 @32576 has 58 MA's), (Start: 61 @32591 has 1 MA's), (76, 32639), (88, 32690), (112, 32786), (121, 32825), (154, 32960), (180, 33071), (181, 33074), (187, 33113), (193, 33137), (195, 33155), (204, 33200), (217, 33230), (220, 33242), (256, 33386), (270, 33485), (274, 33533), (276, 33557),

Gene: Vivi2\_55 Start: 44459, Stop: 45457, Start Num: 42

Candidate Starts for Vivi2\_55:

(7, 44216), (15, 44318), (Start: 31 @44405 has 1 MA's), (Start: 42 @44459 has 130 MA's), (Start: 59 @44495 has 20 MA's), (76, 44546), (78, 44552), (83, 44570), (89, 44600), (106, 44663), (110, 44678), (120, 44729), (139, 44807), (174, 44969), (181, 45002), (183, 45017), (195, 45086), (197, 45101), (215, 45158), (220, 45173), (266, 45350), (274, 45422),

Gene: Vulpecula\_38 Start: 26463, Stop: 27269, Start Num: 40

Candidate Starts for Vulpecula\_38:

(Start: 40 @26463 has 23 MA's), (73, 26559), (76, 26568), (84, 26604), (89, 26622), (151, 26916), (159, 26952), (181, 27042), (195, 27123), (227, 27237),

Gene: Westrich\_47 Start: 27116, Stop: 27922, Start Num: 40

Candidate Starts for Westrich\_47:

(Start: 40 @27116 has 23 MA's), (73, 27212), (76, 27221), (84, 27257), (89, 27275), (111, 27356), (151, 27569), (169, 27650), (175, 27668), (195, 27776), (227, 27890),

Gene: WileyE\_40 Start: 26337, Stop: 27143, Start Num: 40

Candidate Starts for WileyE\_40:

(Start: 40 @26337 has 23 MA's), (73, 26433), (76, 26442), (89, 26496), (99, 26535), (110, 26574), (169, 26871), (195, 26997), (226, 27108),

Gene: WilliamBoone\_90 Start: 54745, Stop: 55467, Start Num: 59

Candidate Starts for WilliamBoone\_90:

(10, 54469), (12, 54514), (32, 54655), (Start: 59 @54745 has 20 MA's), (85, 54853), (90, 54871), (94, 54886), (95, 54889), (107, 54940), (134, 55030), (140, 55063), (155, 55141), (164, 55171), (190, 55300), (195, 55324), (198, 55342), (213, 55393), (221, 55423), (228, 55450),

Gene: Willsammy\_45 Start: 32283, Stop: 33257, Start Num: 56

Candidate Starts for Willsammy\_45:

(Start: 56 @32283 has 58 MA's), (Start: 61 @32301 has 1 MA's), (76, 32349), (88, 32400), (92, 32415), (94, 32424), (121, 32535), (154, 32670), (180, 32781), (181, 32784), (187, 32823), (193, 32847), (195, 32865), (204, 32910), (217, 32940), (220, 32952), (235, 33009), (256, 33078), (270, 33177), (274, 33225),

Gene: Wyborn\_36 Start: 29985, Stop: 30836, Start Num: 42

Candidate Starts for Wyborn\_36:

(Start: 42 @29985 has 130 MA's), (77, 30078), (81, 30093), (83, 30099), (89, 30129), (94, 30150), (110, 30207), (136, 30312), (147, 30366), (161, 30429), (181, 30507), (188, 30549), (195, 30606), (198, 30624), (203, 30645), (206, 30663), (220, 30693), (224, 30705),

Gene: Xavia\_54 Start: 39834, Stop: 40823, Start Num: 59

Candidate Starts for Xavia\_54:

(21, 39696), (23, 39705), (34, 39759), (36, 39768), (Start: 59 @39834 has 20 MA's), (68, 39873), (76, 39894), (82, 39915), (84, 39930), (88, 39945), (93, 39966), (101, 39987), (107, 40014), (110, 40026), (113, 40047), (117, 40062), (121, 40083), (127, 40098), (142, 40158), (154, 40218), (169, 40284), (180, 40329), (181, 40332), (182, 40338), (183, 40347), (195, 40413), (214, 40482), (220, 40500), (228, 40530), (232, 40545), (244, 40590), (251, 40614), (256, 40644), (259, 40662), (270, 40743), (275, 40800),

Gene: Xeno\_48 Start: 31878, Stop: 32852, Start Num: 56

Candidate Starts for Xeno\_48:

(Start: 56 @31878 has 58 MA's), (Start: 61 @31896 has 1 MA's), (76, 31944), (88, 31995), (92, 32010), (94, 32019), (121, 32130), (154, 32265), (180, 32376), (181, 32379), (187, 32418), (193, 32442), (195, 32460), (204, 32505), (217, 32535), (220, 32547), (235, 32604), (256, 32673), (270, 32772), (274, 32820),

Gene: Xerxes\_48 Start: 33475, Stop: 34536, Start Num: 42

Candidate Starts for Xerxes\_48:

(Start: 42 @33475 has 130 MA's), (49, 33487), (73, 33553), (74, 33556), (76, 33562), (83, 33586), (86, 33607), (88, 33613), (91, 33625), (92, 33628), (94, 33637), (106, 33679), (110, 33694), (128, 33781), (149, 33886), (151, 33895), (161, 33940), (168, 33967), (171, 33979), (177, 34009), (181, 34021), (183, 34036), (188, 34063), (192, 34084), (195, 34117), (197, 34132), (198, 34135), (201, 34147), (203, 34156), (220, 34204), (221, 34210), (235, 34261), (239, 34285), (245, 34318), (246, 34321), (254, 34351), (256, 34357), (266, 34429), (269, 34447), (270, 34456), (274, 34504), (275, 34513),

Gene: Xula\_43 Start: 32303, Stop: 33298, Start Num: 56

Candidate Starts for Xula\_43:

(21, 32168), (Start: 56 @32303 has 58 MA's), (Start: 61 @32318 has 1 MA's), (76, 32366), (88, 32417), (94, 32441), (121, 32552), (154, 32687), (180, 32798), (181, 32801), (187, 32840), (193, 32864), (195, 32882), (204, 32927), (217, 32957), (220, 32969), (235, 33026), (256, 33116), (270, 33215), (274, 33263), (276, 33287),

Gene: YorkOnyx\_51 Start: 42735, Stop: 43757, Start Num: 42

Candidate Starts for YorkOnyx\_51:

(7, 42492), (15, 42594), (Start: 31 @42681 has 1 MA's), (Start: 42 @42735 has 130 MA's), (Start: 59 @42771 has 20 MA's), (76, 42825), (83, 42849), (89, 42879), (97, 42909), (106, 42942), (110, 42957), (128, 43038), (139, 43086), (141, 43101), (142, 43104), (174, 43248), (181, 43281), (183, 43296), (195, 43365), (197, 43380), (215, 43437),

Gene: Yvonnetastic\_106 Start: 61147, Stop: 61839, Start Num: 59

Candidate Starts for Yvonnetastic\_106:

(Start: 59 @61147 has 20 MA's), (73, 61201), (82, 61234), (90, 61273), (100, 61309), (102, 61318), (107, 61342), (109, 61351), (110, 61354), (136, 61450), (147, 61504), (159, 61561), (166, 61597), (173, 61621), (178, 61648), (180, 61654), (195, 61729), (203, 61768), (205, 61783), (207, 61789),

Gene: Zartrosa\_35 Start: 29654, Stop: 30517, Start Num: 42

Candidate Starts for Zartrosa\_35:

(Start: 42 @29654 has 130 MA's), (76, 29744), (77, 29747), (83, 29768), (94, 29819), (110, 29876), (136, 29981), (156, 30071), (158, 30083), (161, 30098), (181, 30176), (185, 30203), (188, 30218), (193, 30260), (195, 30278), (198, 30296), (203, 30317), (206, 30335), (229, 30404), (235, 30422), (253, 30494),

Gene: Zhuangyuan\_43 Start: 26808, Stop: 27620, Start Num: 40

Candidate Starts for Zhuangyuan\_43:

(Start: 40 @26808 has 23 MA's), (Start: 59 @26853 has 20 MA's), (63, 26871), (76, 26916), (89, 26970), (116, 27087), (122, 27117), (142, 27216), (146, 27237), (161, 27309), (170, 27348), (195, 27474), (220, 27561),

Gene: Zilizebeth\_47 Start: 32575, Stop: 33567, Start Num: 56

Candidate Starts for Zilizebeth\_47:

(4, 32254), (17, 32422), (30, 32485), (Start: 56 @32575 has 58 MA's), (Start: 61 @32590 has 1 MA's), (76, 32638), (88, 32689), (112, 32785), (121, 32824), (154, 32959), (180, 33070), (181, 33073), (187, 33112), (193, 33136), (195, 33154), (204, 33199), (217, 33229), (220, 33241), (256, 33385), (270, 33484), (274, 33532), (276, 33556),

Gene: Zipp\_52 Start: 44268, Stop: 45311, Start Num: 42

Candidate Starts for Zipp\_52:

(Start: 42 @44268 has 130 MA's), (76, 44358), (83, 44382), (84, 44394), (110, 44490), (158, 44697), (174, 44763), (183, 44811), (195, 44883), (197, 44898), (202, 44919), (206, 44940), (208, 44943), (220, 44970), (239, 45048), (243, 45081), (248, 45093), (267, 45216), (271, 45243), (274, 45279),

Gene: Zitch\_54 Start: 42394, Stop: 43437, Start Num: 42

Candidate Starts for Zitch\_54:

(Start: 42 @42394 has 130 MA's), (76, 42484), (83, 42508), (84, 42520), (89, 42538), (110, 42616), (115, 42649), (158, 42823), (174, 42889), (183, 42937), (195, 43009), (197, 43024), (202, 43045), (206, 43066), (208, 43069), (239, 43174), (243, 43207), (248, 43219), (271, 43369),

Gene: Zixiang\_42 Start: 26803, Stop: 27609, Start Num: 40

Candidate Starts for Zixiang\_42:

(Start: 40 @26803 has 23 MA's), (73, 26899), (76, 26908), (83, 26932), (84, 26944), (89, 26962), (151, 27256), (169, 27337), (175, 27355), (195, 27463), (200, 27490), (227, 27577),