



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 199995 Report

This analysis was run 01/18/25 on database version 583.

Pham number 199995 has 209 members, 27 are drafts.

Phages represented in each track:

- Track 1 : Settecandela\_46, Phrappuccino\_46
- Track 2 : EggyFarm\_98, Grasshills\_97, BigCity\_98
- Track 3 : Lethe\_90, Belieber\_84, JulietS\_83, Bxz1\_89, Shrimp\_90, Ngannou\_86, Iota\_84, Yucca\_90, Salacia\_94, Guwapp\_89, Lee7\_88, Ronan\_83, MikeLiesIn\_91, Amataga\_90, Caravan\_85, Pleione\_93, Naija\_89, Ghost\_89, Ewok\_91, ParkTD\_91, DTDevon\_91, Grungle\_77, Concombre\_97, EmToTheThree\_93, ValleyTerrace\_90, Blackdragon\_84, Kamryn\_90, LRRHood\_84, SilverDipper\_91, Audrick\_92, Babyland\_90, Sauce\_90, Cali\_85, Loanshark\_90, Willis\_91, NedWong\_91, Naval22\_95, Khaleesi\_89, InigoMontoya\_91, LinStu\_90, Erdmann\_91, GlutenPhree\_88, Tainan\_95, TinyTim\_90, DrPhinkDaddy\_89, Bipolarisk\_89, Pivoine\_89, Jessibeth14\_89, Momo\_89, Norm\_91, SrishMeg2525\_89, Izajani\_90, Lukilu\_81, Phusco\_90, QBert\_84, Delylah\_93, EmmaElysia\_89, Bonray\_90, Latch\_90, Tortoise16\_88, Gangam\_90, Zalkecks\_91, YemiJoy2021\_91, Megamind\_89, Koguma\_86, Issimir\_89, Shelob\_92, YoungMoneyMata\_90, Delilah\_90, Patter\_90, Zeenon\_92, Ava3\_91, FudgeTart\_90, Sprinklers\_85, Daffodil\_95, FoxtrotP1\_90, Halldule\_83, Breeniome\_90, Yassified\_86, Burrough\_90, ZygoTaiga\_89, Roots515\_89, Atlantean\_89, Dandelion\_97, CharlieB\_85, Phlegm\_92, Demodog\_97, Shaqnato\_82, Sebata\_91, MoMoMixon\_91, Gabriel\_92, McGee\_91
- Track 4 : Teardrop\_90, Bangla1971\_91, ArcherS7\_89, Specks\_96, Littleton\_90, Drazdys\_90, Astraea\_88, LolaVinca\_92, SmallFry\_90
- Track 5 : Chargie21\_86, Flabslab\_85, ChaylaJr\_85, ErnieJ\_86, Fludd\_90, BackyardAgain\_87, StubbySaigey\_92, Melpomini\_84, ScottMcG\_87, Phox\_87, Catera\_88, Ablatia\_86, ChickenPhender\_86, Basquiat\_86, Morizzled23\_90, HyRo\_82, Kboogie\_93, Spud\_90, Janiyra\_92, Alice\_83, Quasimodo\_90, Rabinovish\_87, Turret\_85, JustHall\_86, Blackbrain\_85, Trinitium\_86, Cactojaque\_85, Dietrick\_82, Stubby\_83, EasyJones\_93
- Track 6 : Ading\_90, Rahel\_89, Essence\_87, Tyke\_92, CindyLou\_91, LifeSavor\_89, Jaygup\_90, Derek\_90, ShiaLabeouf\_90, Jemmno\_90, Spec\_85, Adlitam\_90, JPickles\_88, Matsumoto\_88, Chomp\_89, Shnickers\_90
- Track 7 : I3\_96, FrayBell\_96, DirtMonster\_83, BananaFence\_89, IkeLoa\_84, Bigswole\_95, Nappy\_92, BadAgartude\_87, Domi\_84, StephanieG\_89, InterFolia\_99, NoodleTree\_98, Darko\_90, LordLeafolot\_95, Mikro\_88, NuevoMundo\_96, Jezreel\_88, RoMag\_85
- Track 8 : PurduePete\_90, Napoleon13\_86, Bread\_90, Asterius\_87, SVoro\_88, Capablanca\_92, McWolfish\_88, Maby2021\_90, Wally\_89, Nidhogg\_91, Rizal\_88
- Track 9 : JayJay\_92
- Track 10 : Shifa\_79

- Track 11 : Tonenili\_104
- Track 12 : Pier\_94, BeanWater\_82, Pio\_94
- Track 13 : Colt\_80
- Track 14 : Jedediah\_93
- Track 15 : Blubba\_79
- Track 16 : Pinkcreek\_81
- Track 17 : Gizmo\_94, ET08\_79
- Track 18 : JigglyPuff\_96
- Track 19 : Mangeria\_90
- Track 20 : Cane17\_79
- Track 21 : Phabba\_94
- Track 22 : Myrna\_89
- Track 23 : Greely\_91
- Track 24 : ScoobyDoobyDoo\_84
- Track 25 : SCentae\_87
- Track 26 : CherryTomatoes\_88
- Track 27 : Skog\_151
- Track 28 : Pupper\_88
- Track 29 : Stormageddon\_11, RedWattleHog\_11
- Track 30 : Finch\_15
- Track 31 : E3\_gp72
- Track 32 : JeanGrey\_27

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

The start number called the most often in the published annotations is 23, it was called in 152 of the 182 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Ablatia\_86, Alice\_83, Amataga\_90, ArcherS7\_89, Asterius\_87, Astraea\_88, Atlantean\_89, Audrick\_92, Ava3\_91, Babyland\_90, BackyardAgain\_87, BadAgartude\_87, BananaFence\_89, Bangla1971\_91, Basquiat\_86, Belieber\_84, BigCity\_98, Bigswole\_95, Bipolarisk\_89, Blackbrain\_85, Blackdragon\_84, Blubba\_79, Bonray\_90, Bread\_90, Breeniome\_90, Burrough\_90, Bxz1\_89, Cactojaque\_85, Cali\_85, Cane17\_79, Capablanca\_92, Caravan\_85, Catera\_88, Chargie21\_86, CharlieB\_85, ChaylaJr\_85, ChickenPhender\_86, Colt\_80, Concombre\_97, DTDevon\_91, Daffodil\_95, Dandelion\_97, Darko\_90, Delilah\_90, Delylah\_93, Demodog\_97, Dietrick\_82, DirtMonster\_83, Domi\_84, DrPhinkDaddy\_89, Drazdys\_90, ET08\_79, EasyJones\_93, EggyFarm\_98, EmToTheThree\_93, EmmaElysia\_89, Erdmann\_91, ErnieJ\_86, Ewok\_91, Flabslab\_85, Fludd\_90, FoxtrotP1\_90, FrayBell\_96, FudgeTart\_90, Gabriel\_92, Gamgam\_90, Ghost\_89, Gizmo\_94, GlutenPhree\_88, Grasshills\_97, Grungle\_77, Guwapp\_89, Halldule\_83, HyRo\_82, I3\_96, IkeLoa\_84, InigoMontoya\_91, InterFolia\_99, Iota\_84, Issimir\_89, Izajani\_90, Janiyra\_92, Jessibeth14\_89, Jezreel\_88, JigglyPuff\_96, JulietS\_83, JustHall\_86, Kamryn\_90, Kboogie\_93, Khaleesi\_89, Koguma\_86, LRRHood\_84, Latch\_90, Lee7\_88, Lethe\_90, LinStu\_90, Littleton\_90, Loanshark\_90, LolaVinca\_92, LordLeafolot\_95, Lukilu\_81, Maby2021\_90, Mangeria\_90, McGee\_91, McWolfish\_88, Megamind\_89, Melpomini\_84, MikeLiesIn\_91, Mikro\_88, MoMoMixon\_91, Momo\_89, Morizzled23\_90, Naija\_89, Napoleon13\_86, Nappy\_92, Naval22\_95, NedWong\_91, Ngannou\_86, Nidhogg\_91, NoodleTree\_98, Norm\_91, NuevoMundo\_96, ParkTD\_91,

Patter\_90, Phlegm\_92, Phox\_87, Phusco\_90, Pinkcreek\_81, Pivoine\_89, Pleione\_93, PurduePete\_90, QBert\_84, Quasimodo\_90, Rabinovish\_87, Rizal\_88, RoMag\_85, Ronan\_83, Roots515\_89, SVoro\_88, Salacia\_94, Sauce\_90, ScottMcG\_87, Sebata\_91, Shaqnato\_82, Shelob\_92, Shifa\_79, Shrimp\_90, SilverDipper\_91, SmallFry\_90, Specks\_96, Sprinklers\_85, Spud\_90, SrishMeg2525\_89, StephanieG\_89, StubbySaigey\_92, Stubby\_83, Tainan\_95, Teardrop\_90, TinyTim\_90, Tonenili\_104, Tortoise16\_88, Trinitium\_86, Turret\_85, ValleyTerrace\_90, Wally\_89, Willis\_91, Yassified\_86, YemiJoy2021\_91, YoungMoneyMata\_90, Yucca\_90, Zalkecks\_91, Zeenon\_92, ZygoTaiga\_89,

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

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

- Ading\_90, Adlitam\_90, BeanWater\_82, CherryTomatoes\_88, Chomp\_89, CindyLou\_91, Derek\_90, E3\_gp72, Essence\_87, Finch\_15, Greely\_91, JPickles\_88, JayJay\_92, Jaygup\_90, JeanGrey\_27, Jedediah\_93, Jemmno\_90, LifeSavor\_89, Matsumoto\_88, Myrna\_89, Phabba\_94, Phrappuccino\_46, Pier\_94, Pio\_94, Pupper\_88, Rahel\_89, RedWattleHog\_11, SCentae\_87, ScoobyDoobyDoo\_84, Settecandela\_46, ShiaLabeouf\_90, Shnickers\_90, Skog\_151, Spec\_85, Stormageddon\_11, Tyke\_92,

### Summary by start number:

Start 1:

- Found in 21 of 209 ( 10.0% ) of genes in pham
- Manual Annotations of this start: 18 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ading\_90 (C1), Adlitam\_90 (C1), BeanWater\_82 (C1), Chomp\_89 (C1), CindyLou\_91 (C1), Derek\_90 (C1), Essence\_87 (C1), JPickles\_88 (C1), JayJay\_92 (C1), Jaygup\_90 (C1), Jedediah\_93 (C1), Jemmno\_90 (C1), LifeSavor\_89 (C1), Matsumoto\_88 (C1), Pier\_94 (C1), Pio\_94 (C1), Rahel\_89 (C1), ShiaLabeouf\_90 (C1), Shnickers\_90 (C1), Spec\_85 (C1), Tyke\_92 (C1),

Start 2:

- Found in 22 of 209 ( 10.5% ) of genes in pham
- Manual Annotations of this start: 1 of 182
- Called 4.5% of time when present
- Phage (with cluster) where this start called: ScoobyDoobyDoo\_84 (C2),

Start 23:

- Found in 173 of 209 ( 82.8% ) of genes in pham
- Manual Annotations of this start: 152 of 182
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ablatia\_86 (C1), Alice\_83 (C1), Amataga\_90 (C1), ArcherS7\_89 (C1), Asterius\_87 (C1), Astraea\_88 (C1), Atlantean\_89 (C1), Audrick\_92 (C1), Ava3\_91 (C1), Babyland\_90 (C1), BackyardAgain\_87 (C1), BadAgartude\_87 (C1), BananaFence\_89 (C1), Bangla1971\_91 (C1), Basquiat\_86 (C1), Belieber\_84 (C1), BigCity\_98 (C1), Bigswole\_95 (C1), Bipolarisk\_89 (C1), Blackbrain\_85 (C1), Blackdragon\_84 (C1), Blubba\_79 (C1), Bonray\_90 (C1), Bread\_90 (C1), Breeniome\_90 (C1), Burrough\_90 (C1), Bxz1\_89 (C1), Cactojaque\_85 (C1), Cali\_85 (C1), Cane17\_79 (C1),

Capablanca\_92 (C1), Caravan\_85 (C1), Catera\_88 (C1), Chargie21\_86 (C1), CharlieB\_85 (C1), ChaylaJr\_85 (C1), ChickenPhender\_86 (C1), Colt\_80 (C1), Concombre\_97 (C1), DTDevon\_91 (C1), Daffodil\_95 (C1), Dandelion\_97 (C1), Darko\_90 (C1), Delilah\_90 (C1), Delylah\_93 (C1), Demodog\_97 (C1), Dietrick\_82 (C1), DirtMonster\_83 (C1), Domi\_84 (C1), DrPhinkDaddy\_89 (C1), Drazdys\_90 (C1), ET08\_79 (C1), EasyJones\_93 (C1), EggyFarm\_98 (C1), EmToTheThree\_93 (C1), EmmaElysia\_89 (C1), Erdmann\_91 (C1), ErnieJ\_86 (C1), Ewok\_91 (C1), Flabslab\_85 (C1), Fludd\_90 (C1), FoxtrotP1\_90 (C1), FrayBell\_96 (C1), FudgeTart\_90 (C1), Gabriel\_92 (C1), Gamgam\_90 (C1), Ghost\_89 (C1), Gizmo\_94 (C1), GlutenPhree\_88 (C1), Grasshills\_97 (C1), Grungle\_77 (C1), Guwapp\_89 (C1), Haldule\_83 (C1), HyRo\_82 (C1), I3\_96 (C1), IkeLoa\_84 (C1), InigoMontoya\_91 (C1), InterFolia\_99 (C1), Iota\_84 (C1), Issimir\_89 (C1), Izajani\_90 (C1), Janiyra\_92 (C1), Jessibeth14\_89 (C1), Jezreel\_88 (C1), JigglyPuff\_96 (C1), JulietS\_83 (C1), JustHall\_86 (C1), Kamryn\_90 (C1), Kboogie\_93 (C1), Khaleesi\_89 (C1), Koguma\_86 (C1), LRRHood\_84 (C1), Latch\_90 (C1), Lee7\_88 (C1), Lethe\_90 (C1), LinStu\_90 (C1), Littleton\_90 (C1), Loanshark\_90 (C1), LolaVinca\_92 (C1), LordLeafolot\_95 (C1), Lukilu\_81 (C1), Maby2021\_90 (C1), Mangeria\_90 (C1), McGee\_91 (C1), McWolfish\_88 (C1), Megamind\_89 (C1), Melpomini\_84 (C1), MikeLiesIn\_91 (C1), Mikro\_88 (C1), MoMoMixon\_91 (C1), Momo\_89 (C1), Morizzled23\_90 (C1), Naija\_89 (C1), Napoleon13\_86 (C1), Nappy\_92 (C1), Naval22\_95 (C1), NedWong\_91 (C1), Ngannou\_86 (C1), Nidhogg\_91 (C1), NoodleTree\_98 (C1), Norm\_91 (C1), NuevoMundo\_96 (C1), ParkTD\_91 (C1), Patter\_90 (C1), Phlegm\_92 (C1), Phox\_87 (C1), Phusco\_90 (C1), Pinkcreek\_81 (C1), Pivoine\_89 (C1), Pleione\_93 (C1), PurduePete\_90 (C1), QBert\_84 (C1), Quasimodo\_90 (C1), Rabinovich\_87 (C1), Rizal\_88 (C1), RoMag\_85 (C1), Ronan\_83 (C1), Roots515\_89 (C1), SVoro\_88 (C1), Salacia\_94 (C1), Sauce\_90 (C1), ScottMcG\_87 (C1), Sebata\_91 (C1), Shaqnato\_82 (C1), Shelob\_92 (C1), Shifa\_79 (C1), Shrimp\_90 (C1), SilverDipper\_91 (C1), SmallFry\_90 (C1), Specks\_96 (C1), Sprinklers\_85 (C1), Spud\_90 (C1), SrishMeg2525\_89 (C1), StephanieG\_89 (C1), StubbySaigey\_92 (C1), Stubby\_83 (C1), Tainan\_95 (C1), Teardrop\_90 (C1), TinyTim\_90 (C1), Tonerili\_104 (C1), Tortoise16\_88 (C1), Trinitium\_86 (C1), Turret\_85 (C1), ValleyTerrace\_90 (C1), Wally\_89 (C1), Willis\_91 (C1), Yassified\_86 (C1), YemiJoy2021\_91 (C1), YoungMoneyMata\_90 (C1), Yucca\_90 (C1), Zalkecks\_91 (C1), Zeenon\_92 (C1), ZyoTaiga\_89 (C1),

#### Start 26:

- Found in 19 of 209 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 2 of 182
- Called 10.5% of time when present
- Phage (with cluster) where this start called: Phrappuccino\_46 (AA), Settecandela\_46 (AA),

#### Start 28:

- Found in 4 of 209 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 3 of 182
- Called 75.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes\_88 (DO), SCentae\_87 (DO), Skog\_151 (DO),

#### Start 30:

- Found in 4 of 209 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 3 of 182
- Called 100.0% of time when present

- Phage (with cluster) where this start called: E3\_gp72 (singleton), Finch\_15 (singleton), RedWattleHog\_11 (DX), Stormageddon\_11 (DX),

Start 31:

- Found in 7 of 209 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 3 of 182
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Greely\_91 (C2), Myrna\_89 (C2), Phabba\_94 (C2), Pupper\_88 (DO),

Start 41:

- Found in 1 of 209 ( 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: JeanGrey\_27 (singleton),

### **Summary by clusters:**

There are 6 clusters represented in this pham: AA, DO, singleton, DX, C2, C1,

Info for manual annotations of cluster AA:

- Start number 26 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster C1:

- Start number 1 was manually annotated 18 times for cluster C1.
- Start number 23 was manually annotated 152 times for cluster C1.

Info for manual annotations of cluster C2:

- Start number 2 was manually annotated 1 time for cluster C2.
- Start number 31 was manually annotated 2 times for cluster C2.

Info for manual annotations of cluster DO:

- Start number 28 was manually annotated 3 times for cluster DO.
- Start number 31 was manually annotated 1 time for cluster DO.

Info for manual annotations of cluster DX:

- Start number 30 was manually annotated 2 times for cluster DX.

### **Gene Information:**

Gene: Ablatia\_86 Start: 34739, Stop: 37342, Start Num: 23

Candidate Starts for Ablatia\_86:

(Start: 23 @34739 has 152 MA's), (35, 34808), (36, 34814), (38, 34832), (47, 34868), (74, 34976), (77, 34988), (94, 35153), (95, 35159), (105, 35354), (108, 35375), (110, 35396), (111, 35405), (117, 35462), (119, 35504), (121, 35558), (122, 35603), (130, 35672), (132, 35708), (134, 35735), (136, 35762), (140, 35822), (143, 35855), (144, 35858), (147, 35879), (149, 35906), (153, 35978), (157, 36047), (162, 36098), (213, 36308), (214, 36314), (215, 36320), (218, 36353), (219, 36395), (221, 36407), (223, 36425), (246, 36599), (248, 36608), (250, 36611), (251, 36614), (252, 36626), (253, 36638), (254, 36641), (259, 36656), (273, 36722), (277, 36737), (293, 36881), (294, 36893), (308, 37073), (312, 37091), (322, 37172), (325, 37208), (328, 37229), (332, 37295),

Gene: Ading\_90 Start: 35182, Stop: 38610, Start Num: 1

Candidate Starts for Ading\_90:

(Start: 1 @35182 has 18 MA's), (Start: 2 @35251 has 1 MA's), (3, 35257), (4, 35275), (6, 35311), (10, 35419), (11, 35431), (13, 35554), (14, 35605), (15, 35659), (16, 35671), (17, 35692), (Start: 26 @35986 has 2 MA's), (32, 36031), (49, 36109), (56, 36145), (65, 36178), (70, 36193), (79, 36238), (81, 36247), (85, 36280), (88, 36316), (94, 36400), (95, 36406), (105, 36601), (108, 36622), (110, 36643), (111, 36652), (117, 36709), (119, 36751), (121, 36805), (122, 36850), (130, 36919), (132, 36955), (134, 36982), (136, 37009), (140, 37069), (143, 37102), (144, 37105), (148, 37135), (149, 37153), (157, 37294), (162, 37345), (213, 37555), (214, 37561), (218, 37600), (219, 37642), (221, 37654), (223, 37672), (246, 37846), (248, 37855), (250, 37858), (251, 37861), (252, 37873), (253, 37885), (254, 37888), (259, 37903), (273, 37990), (277, 38005), (293, 38149), (294, 38161), (308, 38341), (312, 38359), (322, 38440), (325, 38476), (328, 38497), (332, 38563),

Gene: Adlitam\_90 Start: 35199, Stop: 38627, Start Num: 1

Candidate Starts for Adlitam\_90:

(Start: 1 @35199 has 18 MA's), (Start: 2 @35268 has 1 MA's), (3, 35274), (4, 35292), (6, 35328), (10, 35436), (11, 35448), (13, 35571), (14, 35622), (15, 35676), (16, 35688), (17, 35709), (Start: 26 @36003 has 2 MA's), (32, 36048), (49, 36126), (56, 36162), (65, 36195), (70, 36210), (79, 36255), (81, 36264), (85, 36297), (88, 36333), (94, 36417), (95, 36423), (105, 36618), (108, 36639), (110, 36660), (111, 36669), (117, 36726), (119, 36768), (121, 36822), (122, 36867), (130, 36936), (132, 36972), (134, 36999), (136, 37026), (140, 37086), (143, 37119), (144, 37122), (148, 37152), (149, 37170), (157, 37311), (162, 37362), (213, 37572), (214, 37578), (218, 37617), (219, 37659), (221, 37671), (223, 37689), (246, 37863), (248, 37872), (250, 37875), (251, 37878), (252, 37890), (253, 37902), (254, 37905), (259, 37920), (273, 38007), (277, 38022), (293, 38166), (294, 38178), (308, 38358), (312, 38376), (322, 38457), (325, 38493), (328, 38514), (332, 38580),

Gene: Alice\_83 Start: 33887, Stop: 36490, Start Num: 23

Candidate Starts for Alice\_83:

(Start: 23 @33887 has 152 MA's), (35, 33956), (36, 33962), (38, 33980), (47, 34016), (74, 34124), (77, 34136), (94, 34301), (95, 34307), (105, 34502), (108, 34523), (110, 34544), (111, 34553), (117, 34610), (119, 34652), (121, 34706), (122, 34751), (130, 34820), (132, 34856), (134, 34883), (136, 34910), (140, 34970), (143, 35003), (144, 35006), (147, 35027), (149, 35054), (153, 35126), (157, 35195), (162, 35246), (213, 35456), (214, 35462), (215, 35468), (218, 35501), (219, 35543), (221, 35555), (223, 35573), (246, 35747), (248, 35756), (250, 35759), (251, 35762), (252, 35774), (253, 35786), (254, 35789), (259, 35804), (273, 35870), (277, 35885), (293, 36029), (294, 36041), (308, 36221), (312, 36239), (322, 36320), (325, 36356), (328, 36377), (332, 36443),

Gene: Amataga\_90 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for Amataga\_90:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: ArcherS7\_89 Start: 35566, Stop: 38190, Start Num: 23

Candidate Starts for ArcherS7\_89:

(Start: 23 @35566 has 152 MA's), (35, 35635), (36, 35641), (38, 35659), (47, 35695), (74, 35803), (77, 35815), (94, 35980), (95, 35986), (105, 36181), (108, 36202), (110, 36223), (111, 36232), (117, 36289), (119, 36331), (121, 36385), (122, 36430), (130, 36499), (132, 36535), (134, 36562), (136,

36589), (140, 36649), (141, 36661), (143, 36682), (144, 36685), (148, 36715), (149, 36733), (157, 36874), (162, 36925), (213, 37135), (214, 37141), (218, 37180), (219, 37222), (221, 37234), (223, 37252), (246, 37426), (248, 37435), (250, 37438), (251, 37441), (252, 37453), (253, 37465), (254, 37468), (259, 37483), (273, 37570), (277, 37585), (293, 37729), (294, 37741), (308, 37921), (312, 37939), (322, 38020), (325, 38056), (328, 38077), (332, 38143),

Gene: Asterius\_87 Start: 35551, Stop: 38175, Start Num: 23

Candidate Starts for Asterius\_87:

(Start: 23 @35551 has 152 MA's), (35, 35620), (36, 35626), (38, 35644), (47, 35680), (74, 35788), (77, 35800), (94, 35965), (95, 35971), (105, 36166), (108, 36187), (110, 36208), (111, 36217), (117, 36274), (119, 36316), (121, 36370), (122, 36415), (130, 36484), (132, 36520), (134, 36547), (136, 36574), (140, 36634), (143, 36667), (144, 36670), (147, 36691), (149, 36718), (153, 36790), (157, 36859), (162, 36910), (213, 37120), (214, 37126), (218, 37165), (219, 37207), (221, 37219), (223, 37237), (246, 37411), (248, 37420), (250, 37423), (251, 37426), (252, 37438), (253, 37450), (254, 37453), (259, 37468), (273, 37555), (277, 37570), (293, 37714), (294, 37726), (308, 37906), (312, 37924), (322, 38005), (325, 38041), (328, 38062), (332, 38128),

Gene: Astraea\_88 Start: 35427, Stop: 38051, Start Num: 23

Candidate Starts for Astraea\_88:

(Start: 23 @35427 has 152 MA's), (35, 35496), (36, 35502), (38, 35520), (47, 35556), (74, 35664), (77, 35676), (94, 35841), (95, 35847), (105, 36042), (108, 36063), (110, 36084), (111, 36093), (117, 36150), (119, 36192), (121, 36246), (122, 36291), (130, 36360), (132, 36396), (134, 36423), (136, 36450), (140, 36510), (141, 36522), (143, 36543), (144, 36546), (148, 36576), (149, 36594), (157, 36735), (162, 36786), (213, 36996), (214, 37002), (218, 37041), (219, 37083), (221, 37095), (223, 37113), (246, 37287), (248, 37296), (250, 37299), (251, 37302), (252, 37314), (253, 37326), (254, 37329), (259, 37344), (273, 37431), (277, 37446), (293, 37590), (294, 37602), (308, 37782), (312, 37800), (322, 37881), (325, 37917), (328, 37938), (332, 38004),

Gene: Atlantean\_89 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for Atlantean\_89:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Audrick\_92 Start: 35227, Stop: 37851, Start Num: 23

Candidate Starts for Audrick\_92:

(Start: 23 @35227 has 152 MA's), (35, 35296), (36, 35302), (38, 35320), (47, 35356), (74, 35464), (77, 35476), (94, 35641), (95, 35647), (105, 35842), (108, 35863), (110, 35884), (111, 35893), (117, 35950), (119, 35992), (121, 36046), (122, 36091), (130, 36160), (132, 36196), (134, 36223), (136, 36250), (140, 36310), (143, 36343), (144, 36346), (148, 36376), (149, 36394), (157, 36535), (162, 36586), (213, 36796), (214, 36802), (218, 36841), (219, 36883), (221, 36895), (223, 36913), (246, 37087), (248, 37096), (250, 37099), (251, 37102), (252, 37114), (253, 37126), (254, 37129), (259, 37144), (273, 37231), (277, 37246), (293, 37390), (294, 37402), (308, 37582), (312, 37600), (322, 37681), (325, 37717), (328, 37738), (332, 37804),

Gene: Ava3\_91 Start: 35924, Stop: 38548, Start Num: 23

Candidate Starts for Ava3\_91:



(Start: 23 @35924 has 152 MA's), (35, 35993), (36, 35999), (38, 36017), (47, 36053), (74, 36161), (77, 36173), (94, 36338), (95, 36344), (105, 36539), (108, 36560), (110, 36581), (111, 36590), (117, 36647), (119, 36689), (121, 36743), (122, 36788), (130, 36857), (132, 36893), (134, 36920), (136, 36947), (140, 37007), (143, 37040), (144, 37043), (148, 37073), (149, 37091), (157, 37232), (162, 37283), (213, 37493), (214, 37499), (218, 37538), (219, 37580), (221, 37592), (223, 37610), (246, 37784), (248, 37793), (250, 37796), (251, 37799), (252, 37811), (253, 37823), (254, 37826), (259, 37841), (273, 37928), (277, 37943), (293, 38087), (294, 38099), (308, 38279), (312, 38297), (322, 38378), (325, 38414), (328, 38435), (332, 38501),

Gene: Babyland\_90 Start: 34687, Stop: 37311, Start Num: 23

Candidate Starts for Babyland\_90:

(Start: 23 @34687 has 152 MA's), (35, 34756), (36, 34762), (38, 34780), (47, 34816), (74, 34924), (77, 34936), (94, 35101), (95, 35107), (105, 35302), (108, 35323), (110, 35344), (111, 35353), (117, 35410), (119, 35452), (121, 35506), (122, 35551), (130, 35620), (132, 35656), (134, 35683), (136, 35710), (140, 35770), (143, 35803), (144, 35806), (148, 35836), (149, 35854), (157, 35995), (162, 36046), (213, 36256), (214, 36262), (218, 36301), (219, 36343), (221, 36355), (223, 36373), (246, 36547), (248, 36556), (250, 36559), (251, 36562), (252, 36574), (253, 36586), (254, 36589), (259, 36604), (273, 36691), (277, 36706), (293, 36850), (294, 36862), (308, 37042), (312, 37060), (322, 37141), (325, 37177), (328, 37198), (332, 37264),

Gene: BackyardAgain\_87 Start: 34766, Stop: 37369, Start Num: 23

Candidate Starts for BackyardAgain\_87:

(Start: 23 @34766 has 152 MA's), (35, 34835), (36, 34841), (38, 34859), (47, 34895), (74, 35003), (77, 35015), (94, 35180), (95, 35186), (105, 35381), (108, 35402), (110, 35423), (111, 35432), (117, 35489), (119, 35531), (121, 35585), (122, 35630), (130, 35699), (132, 35735), (134, 35762), (136, 35789), (140, 35849), (143, 35882), (144, 35885), (147, 35906), (149, 35933), (153, 36005), (157, 36074), (162, 36125), (213, 36335), (214, 36341), (215, 36347), (218, 36380), (219, 36422), (221, 36434), (223, 36452), (246, 36626), (248, 36635), (250, 36638), (251, 36641), (252, 36653), (253, 36665), (254, 36668), (259, 36683), (273, 36749), (277, 36764), (293, 36908), (294, 36920), (308, 37100), (312, 37118), (322, 37199), (325, 37235), (328, 37256), (332, 37322),

Gene: BadAgartude\_87 Start: 36307, Stop: 38931, Start Num: 23

Candidate Starts for BadAgartude\_87:

(Start: 23 @36307 has 152 MA's), (35, 36376), (36, 36382), (38, 36400), (47, 36436), (74, 36544), (77, 36556), (94, 36721), (95, 36727), (105, 36922), (108, 36943), (110, 36964), (111, 36973), (117, 37030), (119, 37072), (121, 37126), (122, 37171), (130, 37240), (132, 37276), (134, 37303), (136, 37330), (140, 37390), (143, 37423), (144, 37426), (148, 37456), (149, 37474), (157, 37615), (162, 37666), (213, 37876), (214, 37882), (215, 37888), (218, 37921), (219, 37963), (221, 37975), (223, 37993), (246, 38167), (248, 38176), (250, 38179), (251, 38182), (252, 38194), (253, 38206), (254, 38209), (259, 38224), (273, 38311), (277, 38326), (293, 38470), (294, 38482), (308, 38662), (312, 38680), (322, 38761), (325, 38797), (328, 38818), (332, 38884),

Gene: BananaFence\_89 Start: 35789, Stop: 38413, Start Num: 23

Candidate Starts for BananaFence\_89:

(Start: 23 @35789 has 152 MA's), (35, 35858), (36, 35864), (38, 35882), (47, 35918), (74, 36026), (77, 36038), (94, 36203), (95, 36209), (105, 36404), (108, 36425), (110, 36446), (111, 36455), (117, 36512), (119, 36554), (121, 36608), (122, 36653), (130, 36722), (132, 36758), (134, 36785), (136, 36812), (140, 36872), (143, 36905), (144, 36908), (148, 36938), (149, 36956), (157, 37097), (162, 37148), (213, 37358), (214, 37364), (215, 37370), (218, 37403), (219, 37445), (221, 37457), (223, 37475), (246, 37649), (248, 37658), (250, 37661), (251, 37664), (252, 37676), (253, 37688), (254, 37691), (259, 37706), (273, 37793), (277, 37808), (293, 37952), (294, 37964), (308, 38144), (312, 38162), (322, 38243), (325, 38279), (328, 38300), (332, 38366),

Gene: Bangla1971\_91 Start: 35696, Stop: 38320, Start Num: 23

Candidate Starts for Bangla1971\_91:

(Start: 23 @35696 has 152 MA's), (35, 35765), (36, 35771), (38, 35789), (47, 35825), (74, 35933), (77, 35945), (94, 36110), (95, 36116), (105, 36311), (108, 36332), (110, 36353), (111, 36362), (117, 36419), (119, 36461), (121, 36515), (122, 36560), (130, 36629), (132, 36665), (134, 36692), (136, 36719), (140, 36779), (141, 36791), (143, 36812), (144, 36815), (148, 36845), (149, 36863), (157, 37004), (162, 37055), (213, 37265), (214, 37271), (218, 37310), (219, 37352), (221, 37364), (223, 37382), (246, 37556), (248, 37565), (250, 37568), (251, 37571), (252, 37583), (253, 37595), (254, 37598), (259, 37613), (273, 37700), (277, 37715), (293, 37859), (294, 37871), (308, 38051), (312, 38069), (322, 38150), (325, 38186), (328, 38207), (332, 38273),

Gene: Basquiat\_86 Start: 34263, Stop: 36866, Start Num: 23

Candidate Starts for Basquiat\_86:

(Start: 23 @34263 has 152 MA's), (35, 34332), (36, 34338), (38, 34356), (47, 34392), (74, 34500), (77, 34512), (94, 34677), (95, 34683), (105, 34878), (108, 34899), (110, 34920), (111, 34929), (117, 34986), (119, 35028), (121, 35082), (122, 35127), (130, 35196), (132, 35232), (134, 35259), (136, 35286), (140, 35346), (143, 35379), (144, 35382), (147, 35403), (149, 35430), (153, 35502), (157, 35571), (162, 35622), (213, 35832), (214, 35838), (215, 35844), (218, 35877), (219, 35919), (221, 35931), (223, 35949), (246, 36123), (248, 36132), (250, 36135), (251, 36138), (252, 36150), (253, 36162), (254, 36165), (259, 36180), (273, 36246), (277, 36261), (293, 36405), (294, 36417), (308, 36597), (312, 36615), (322, 36696), (325, 36732), (328, 36753), (332, 36819),

Gene: BeanWater\_82 Start: 34836, Stop: 38264, Start Num: 1

Candidate Starts for BeanWater\_82:

(Start: 1 @34836 has 18 MA's), (Start: 2 @34905 has 1 MA's), (3, 34911), (4, 34929), (6, 34965), (10, 35073), (11, 35085), (13, 35208), (14, 35259), (15, 35313), (16, 35325), (17, 35346), (25, 35640), (32, 35685), (49, 35763), (56, 35799), (65, 35832), (70, 35847), (79, 35892), (81, 35901), (85, 35934), (88, 35970), (94, 36054), (95, 36060), (105, 36255), (108, 36276), (110, 36297), (111, 36306), (117, 36363), (119, 36405), (121, 36459), (122, 36504), (130, 36573), (132, 36609), (134, 36636), (136, 36663), (140, 36723), (143, 36756), (144, 36759), (148, 36789), (149, 36807), (157, 36948), (162, 36999), (213, 37209), (214, 37215), (218, 37254), (219, 37296), (221, 37308), (223, 37326), (246, 37500), (248, 37509), (250, 37512), (251, 37515), (252, 37527), (253, 37539), (254, 37542), (259, 37557), (273, 37644), (277, 37659), (293, 37803), (294, 37815), (308, 37995), (312, 38013), (322, 38094), (325, 38130), (328, 38151), (332, 38217),

Gene: Belieber\_84 Start: 34600, Stop: 37224, Start Num: 23

Candidate Starts for Belieber\_84:

(Start: 23 @34600 has 152 MA's), (35, 34669), (36, 34675), (38, 34693), (47, 34729), (74, 34837), (77, 34849), (94, 35014), (95, 35020), (105, 35215), (108, 35236), (110, 35257), (111, 35266), (117, 35323), (119, 35365), (121, 35419), (122, 35464), (130, 35533), (132, 35569), (134, 35596), (136, 35623), (140, 35683), (143, 35716), (144, 35719), (148, 35749), (149, 35767), (157, 35908), (162, 35959), (213, 36169), (214, 36175), (218, 36214), (219, 36256), (221, 36268), (223, 36286), (246, 36460), (248, 36469), (250, 36472), (251, 36475), (252, 36487), (253, 36499), (254, 36502), (259, 36517), (273, 36604), (277, 36619), (293, 36763), (294, 36775), (308, 36955), (312, 36973), (322, 37054), (325, 37090), (328, 37111), (332, 37177),

Gene: BigCity\_98 Start: 38300, Stop: 40924, Start Num: 23

Candidate Starts for BigCity\_98:

(Start: 23 @38300 has 152 MA's), (35, 38369), (36, 38375), (38, 38393), (47, 38429), (74, 38537), (77, 38549), (95, 38720), (105, 38915), (108, 38936), (110, 38957), (111, 38966), (117, 39023), (119, 39065), (121, 39119), (122, 39164), (130, 39233), (132, 39269), (134, 39296), (136, 39323), (140, 39383), (143, 39416), (144, 39419), (148, 39449), (149, 39467), (157, 39608), (162, 39659), (213, 39869), (214, 39875), (215, 39881), (218, 39914), (219, 39956), (221, 39968), (223, 39986), (246,

40160), (248, 40169), (250, 40172), (251, 40175), (252, 40187), (253, 40199), (254, 40202), (259, 40217), (273, 40304), (277, 40319), (293, 40463), (294, 40475), (308, 40655), (312, 40673), (322, 40754), (325, 40790), (328, 40811), (332, 40877),

Gene: Bigswole\_95 Start: 38669, Stop: 41272, Start Num: 23

Candidate Starts for Bigswole\_95:

(Start: 23 @38669 has 152 MA's), (35, 38738), (36, 38744), (38, 38762), (47, 38798), (74, 38906), (77, 38918), (94, 39083), (95, 39089), (105, 39284), (108, 39305), (110, 39326), (111, 39335), (117, 39392), (119, 39434), (121, 39488), (122, 39533), (130, 39602), (132, 39638), (134, 39665), (136, 39692), (140, 39752), (143, 39785), (144, 39788), (148, 39818), (149, 39836), (157, 39977), (162, 40028), (213, 40238), (214, 40244), (215, 40250), (218, 40283), (219, 40325), (221, 40337), (223, 40355), (246, 40529), (248, 40538), (250, 40541), (251, 40544), (252, 40556), (253, 40568), (254, 40571), (259, 40586), (273, 40652), (277, 40667), (293, 40811), (294, 40823), (308, 41003), (312, 41021), (322, 41102), (325, 41138), (328, 41159), (332, 41225),

Gene: Bipolarisk\_89 Start: 35954, Stop: 38578, Start Num: 23

Candidate Starts for Bipolarisk\_89:

(Start: 23 @35954 has 152 MA's), (35, 36023), (36, 36029), (38, 36047), (47, 36083), (74, 36191), (77, 36203), (94, 36368), (95, 36374), (105, 36569), (108, 36590), (110, 36611), (111, 36620), (117, 36677), (119, 36719), (121, 36773), (122, 36818), (130, 36887), (132, 36923), (134, 36950), (136, 36977), (140, 37037), (143, 37070), (144, 37073), (148, 37103), (149, 37121), (157, 37262), (162, 37313), (213, 37523), (214, 37529), (218, 37568), (219, 37610), (221, 37622), (223, 37640), (246, 37814), (248, 37823), (250, 37826), (251, 37829), (252, 37841), (253, 37853), (254, 37856), (259, 37871), (273, 37958), (277, 37973), (293, 38117), (294, 38129), (308, 38309), (312, 38327), (322, 38408), (325, 38444), (328, 38465), (332, 38531),

Gene: Blackbrain\_85 Start: 34080, Stop: 36683, Start Num: 23

Candidate Starts for Blackbrain\_85:

(Start: 23 @34080 has 152 MA's), (35, 34149), (36, 34155), (38, 34173), (47, 34209), (74, 34317), (77, 34329), (94, 34494), (95, 34500), (105, 34695), (108, 34716), (110, 34737), (111, 34746), (117, 34803), (119, 34845), (121, 34899), (122, 34944), (130, 35013), (132, 35049), (134, 35076), (136, 35103), (140, 35163), (143, 35196), (144, 35199), (147, 35220), (149, 35247), (153, 35319), (157, 35388), (162, 35439), (213, 35649), (214, 35655), (215, 35661), (218, 35694), (219, 35736), (221, 35748), (223, 35766), (246, 35940), (248, 35949), (250, 35952), (251, 35955), (252, 35967), (253, 35979), (254, 35982), (259, 35997), (273, 36063), (277, 36078), (293, 36222), (294, 36234), (308, 36414), (312, 36432), (322, 36513), (325, 36549), (328, 36570), (332, 36636),

Gene: Blackdragon\_84 Start: 34772, Stop: 37396, Start Num: 23

Candidate Starts for Blackdragon\_84:

(Start: 23 @34772 has 152 MA's), (35, 34841), (36, 34847), (38, 34865), (47, 34901), (74, 35009), (77, 35021), (94, 35186), (95, 35192), (105, 35387), (108, 35408), (110, 35429), (111, 35438), (117, 35495), (119, 35537), (121, 35591), (122, 35636), (130, 35705), (132, 35741), (134, 35768), (136, 35795), (140, 35855), (143, 35888), (144, 35891), (148, 35921), (149, 35939), (157, 36080), (162, 36131), (213, 36341), (214, 36347), (218, 36386), (219, 36428), (221, 36440), (223, 36458), (246, 36632), (248, 36641), (250, 36644), (251, 36647), (252, 36659), (253, 36671), (254, 36674), (259, 36689), (273, 36776), (277, 36791), (293, 36935), (294, 36947), (308, 37127), (312, 37145), (322, 37226), (325, 37262), (328, 37283), (332, 37349),

Gene: Blubba\_79 Start: 32769, Stop: 36464, Start Num: 23

Candidate Starts for Blubba\_79:

(Start: 23 @32769 has 152 MA's), (35, 32838), (36, 32844), (38, 32862), (47, 32898), (74, 33006), (77, 33018), (94, 33183), (95, 33189), (105, 33384), (108, 33405), (110, 33426), (111, 33435), (117, 33492), (119, 33534), (121, 33588), (122, 33633), (130, 33702), (132, 33738), (134, 33765), (136,

33792), (140, 33852), (143, 33885), (144, 33888), (148, 33918), (149, 33936), (157, 34077), (162, 34128), (174, 34284), (180, 34437), (181, 34461), (182, 34506), (183, 34560), (184, 34596), (186, 34650), (188, 34677), (189, 34710), (191, 34755), (193, 34842), (194, 34872), (195, 34881), (196, 34884), (199, 35013), (200, 35046), (201, 35091), (203, 35109), (204, 35139), (206, 35196), (207, 35238), (210, 35262), (211, 35340), (213, 35409), (214, 35415), (218, 35454), (219, 35496), (221, 35508), (223, 35526), (246, 35700), (248, 35709), (250, 35712), (251, 35715), (252, 35727), (253, 35739), (254, 35742), (259, 35757), (273, 35844), (277, 35859), (293, 36003), (294, 36015), (308, 36195), (312, 36213), (322, 36294), (325, 36330), (328, 36351), (332, 36417),

Gene: Bonray\_90 Start: 36351, Stop: 38975, Start Num: 23

Candidate Starts for Bonray\_90:

(Start: 23 @36351 has 152 MA's), (35, 36420), (36, 36426), (38, 36444), (47, 36480), (74, 36588), (77, 36600), (94, 36765), (95, 36771), (105, 36966), (108, 36987), (110, 37008), (111, 37017), (117, 37074), (119, 37116), (121, 37170), (122, 37215), (130, 37284), (132, 37320), (134, 37347), (136, 37374), (140, 37434), (143, 37467), (144, 37470), (148, 37500), (149, 37518), (157, 37659), (162, 37710), (213, 37920), (214, 37926), (218, 37965), (219, 38007), (221, 38019), (223, 38037), (246, 38211), (248, 38220), (250, 38223), (251, 38226), (252, 38238), (253, 38250), (254, 38253), (259, 38268), (273, 38355), (277, 38370), (293, 38514), (294, 38526), (308, 38706), (312, 38724), (322, 38805), (325, 38841), (328, 38862), (332, 38928),

Gene: Bread\_90 Start: 35846, Stop: 38470, Start Num: 23

Candidate Starts for Bread\_90:

(Start: 23 @35846 has 152 MA's), (35, 35915), (36, 35921), (38, 35939), (47, 35975), (74, 36083), (77, 36095), (94, 36260), (95, 36266), (105, 36461), (108, 36482), (110, 36503), (111, 36512), (117, 36569), (119, 36611), (121, 36665), (122, 36710), (130, 36779), (132, 36815), (134, 36842), (136, 36869), (140, 36929), (143, 36962), (144, 36965), (147, 36986), (149, 37013), (153, 37085), (157, 37154), (162, 37205), (213, 37415), (214, 37421), (218, 37460), (219, 37502), (221, 37514), (223, 37532), (246, 37706), (248, 37715), (250, 37718), (251, 37721), (252, 37733), (253, 37745), (254, 37748), (259, 37763), (273, 37850), (277, 37865), (293, 38009), (294, 38021), (308, 38201), (312, 38219), (322, 38300), (325, 38336), (328, 38357), (332, 38423),

Gene: Breeniome\_90 Start: 35069, Stop: 37693, Start Num: 23

Candidate Starts for Breeniome\_90:

(Start: 23 @35069 has 152 MA's), (35, 35138), (36, 35144), (38, 35162), (47, 35198), (74, 35306), (77, 35318), (94, 35483), (95, 35489), (105, 35684), (108, 35705), (110, 35726), (111, 35735), (117, 35792), (119, 35834), (121, 35888), (122, 35933), (130, 36002), (132, 36038), (134, 36065), (136, 36092), (140, 36152), (143, 36185), (144, 36188), (148, 36218), (149, 36236), (157, 36377), (162, 36428), (213, 36638), (214, 36644), (218, 36683), (219, 36725), (221, 36737), (223, 36755), (246, 36929), (248, 36938), (250, 36941), (251, 36944), (252, 36956), (253, 36968), (254, 36971), (259, 36986), (273, 37073), (277, 37088), (293, 37232), (294, 37244), (308, 37424), (312, 37442), (322, 37523), (325, 37559), (328, 37580), (332, 37646),

Gene: Burrough\_90 Start: 36503, Stop: 39127, Start Num: 23

Candidate Starts for Burrough\_90:

(Start: 23 @36503 has 152 MA's), (35, 36572), (36, 36578), (38, 36596), (47, 36632), (74, 36740), (77, 36752), (94, 36917), (95, 36923), (105, 37118), (108, 37139), (110, 37160), (111, 37169), (117, 37226), (119, 37268), (121, 37322), (122, 37367), (130, 37436), (132, 37472), (134, 37499), (136, 37526), (140, 37586), (143, 37619), (144, 37622), (148, 37652), (149, 37670), (157, 37811), (162, 37862), (213, 38072), (214, 38078), (218, 38117), (219, 38159), (221, 38171), (223, 38189), (246, 38363), (248, 38372), (250, 38375), (251, 38378), (252, 38390), (253, 38402), (254, 38405), (259, 38420), (273, 38507), (277, 38522), (293, 38666), (294, 38678), (308, 38858), (312, 38876), (322, 38957), (325, 38993), (328, 39014), (332, 39080),

Gene: Bxz1\_89 Start: 37554, Stop: 40178, Start Num: 23

Candidate Starts for Bxz1\_89:

(Start: 23 @37554 has 152 MA's), (35, 37623), (36, 37629), (38, 37647), (47, 37683), (74, 37791), (77, 37803), (94, 37968), (95, 37974), (105, 38169), (108, 38190), (110, 38211), (111, 38220), (117, 38277), (119, 38319), (121, 38373), (122, 38418), (130, 38487), (132, 38523), (134, 38550), (136, 38577), (140, 38637), (143, 38670), (144, 38673), (148, 38703), (149, 38721), (157, 38862), (162, 38913), (213, 39123), (214, 39129), (218, 39168), (219, 39210), (221, 39222), (223, 39240), (246, 39414), (248, 39423), (250, 39426), (251, 39429), (252, 39441), (253, 39453), (254, 39456), (259, 39471), (273, 39558), (277, 39573), (293, 39717), (294, 39729), (308, 39909), (312, 39927), (322, 40008), (325, 40044), (328, 40065), (332, 40131),

Gene: Cactojaque\_85 Start: 34187, Stop: 36790, Start Num: 23

Candidate Starts for Cactojaque\_85:

(Start: 23 @34187 has 152 MA's), (35, 34256), (36, 34262), (38, 34280), (47, 34316), (74, 34424), (77, 34436), (94, 34601), (95, 34607), (105, 34802), (108, 34823), (110, 34844), (111, 34853), (117, 34910), (119, 34952), (121, 35006), (122, 35051), (130, 35120), (132, 35156), (134, 35183), (136, 35210), (140, 35270), (143, 35303), (144, 35306), (147, 35327), (149, 35354), (153, 35426), (157, 35495), (162, 35546), (213, 35756), (214, 35762), (215, 35768), (218, 35801), (219, 35843), (221, 35855), (223, 35873), (246, 36047), (248, 36056), (250, 36059), (251, 36062), (252, 36074), (253, 36086), (254, 36089), (259, 36104), (273, 36170), (277, 36185), (293, 36329), (294, 36341), (308, 36521), (312, 36539), (322, 36620), (325, 36656), (328, 36677), (332, 36743),

Gene: Cali\_85 Start: 36080, Stop: 38704, Start Num: 23

Candidate Starts for Cali\_85:

(Start: 23 @36080 has 152 MA's), (35, 36149), (36, 36155), (38, 36173), (47, 36209), (74, 36317), (77, 36329), (94, 36494), (95, 36500), (105, 36695), (108, 36716), (110, 36737), (111, 36746), (117, 36803), (119, 36845), (121, 36899), (122, 36944), (130, 37013), (132, 37049), (134, 37076), (136, 37103), (140, 37163), (143, 37196), (144, 37199), (148, 37229), (149, 37247), (157, 37388), (162, 37439), (213, 37649), (214, 37655), (218, 37694), (219, 37736), (221, 37748), (223, 37766), (246, 37940), (248, 37949), (250, 37952), (251, 37955), (252, 37967), (253, 37979), (254, 37982), (259, 37997), (273, 38084), (277, 38099), (293, 38243), (294, 38255), (308, 38435), (312, 38453), (322, 38534), (325, 38570), (328, 38591), (332, 38657),

Gene: Cane17\_79 Start: 32842, Stop: 36537, Start Num: 23

Candidate Starts for Cane17\_79:

(Start: 23 @32842 has 152 MA's), (35, 32911), (36, 32917), (38, 32935), (47, 32971), (74, 33079), (77, 33091), (95, 33262), (105, 33457), (108, 33478), (110, 33499), (111, 33508), (117, 33565), (119, 33607), (121, 33661), (122, 33706), (130, 33775), (132, 33811), (134, 33838), (136, 33865), (140, 33925), (143, 33958), (144, 33961), (148, 33991), (149, 34009), (157, 34150), (162, 34201), (174, 34357), (180, 34510), (181, 34534), (182, 34579), (183, 34633), (184, 34669), (186, 34723), (188, 34750), (189, 34783), (191, 34828), (193, 34915), (194, 34945), (195, 34954), (196, 34957), (199, 35086), (200, 35119), (201, 35164), (203, 35182), (204, 35212), (206, 35269), (207, 35311), (210, 35335), (211, 35413), (213, 35482), (214, 35488), (218, 35527), (219, 35569), (221, 35581), (223, 35599), (246, 35773), (248, 35782), (250, 35785), (251, 35788), (252, 35800), (253, 35812), (254, 35815), (259, 35830), (273, 35917), (277, 35932), (293, 36076), (294, 36088), (308, 36268), (312, 36286), (322, 36367), (325, 36403), (328, 36424), (332, 36490),

Gene: Capablanca\_92 Start: 36373, Stop: 38997, Start Num: 23

Candidate Starts for Capablanca\_92:

(Start: 23 @36373 has 152 MA's), (35, 36442), (36, 36448), (38, 36466), (47, 36502), (74, 36610), (77, 36622), (94, 36787), (95, 36793), (105, 36988), (108, 37009), (110, 37030), (111, 37039), (117, 37096), (119, 37138), (121, 37192), (122, 37237), (130, 37306), (132, 37342), (134, 37369), (136, 37396), (140, 37456), (143, 37489), (144, 37492), (147, 37513), (149, 37540), (153, 37612), (157,

37681), (162, 37732), (213, 37942), (214, 37948), (218, 37987), (219, 38029), (221, 38041), (223, 38059), (246, 38233), (248, 38242), (250, 38245), (251, 38248), (252, 38260), (253, 38272), (254, 38275), (259, 38290), (273, 38377), (277, 38392), (293, 38536), (294, 38548), (308, 38728), (312, 38746), (322, 38827), (325, 38863), (328, 38884), (332, 38950),

Gene: Caravan\_85 Start: 35898, Stop: 38501, Start Num: 23

Candidate Starts for Caravan\_85:

(Start: 23 @35898 has 152 MA's), (35, 35967), (36, 35973), (38, 35991), (47, 36027), (74, 36135), (77, 36147), (94, 36312), (95, 36318), (105, 36513), (108, 36534), (110, 36555), (111, 36564), (117, 36621), (119, 36663), (121, 36717), (122, 36762), (130, 36831), (132, 36867), (134, 36894), (136, 36921), (140, 36981), (143, 37014), (144, 37017), (148, 37047), (149, 37065), (157, 37206), (162, 37257), (213, 37467), (214, 37473), (218, 37512), (219, 37554), (221, 37566), (223, 37584), (246, 37758), (248, 37767), (250, 37770), (251, 37773), (252, 37785), (253, 37797), (254, 37800), (259, 37815), (273, 37881), (277, 37896), (293, 38040), (294, 38052), (308, 38232), (312, 38250), (322, 38331), (325, 38367), (328, 38388), (332, 38454),

Gene: Catera\_88 Start: 34352, Stop: 36955, Start Num: 23

Candidate Starts for Catera\_88:

(Start: 23 @34352 has 152 MA's), (35, 34421), (36, 34427), (38, 34445), (47, 34481), (74, 34589), (77, 34601), (94, 34766), (95, 34772), (105, 34967), (108, 34988), (110, 35009), (111, 35018), (117, 35075), (119, 35117), (121, 35171), (122, 35216), (130, 35285), (132, 35321), (134, 35348), (136, 35375), (140, 35435), (143, 35468), (144, 35471), (147, 35492), (149, 35519), (153, 35591), (157, 35660), (162, 35711), (213, 35921), (214, 35927), (215, 35933), (218, 35966), (219, 36008), (221, 36020), (223, 36038), (246, 36212), (248, 36221), (250, 36224), (251, 36227), (252, 36239), (253, 36251), (254, 36254), (259, 36269), (273, 36335), (277, 36350), (293, 36494), (294, 36506), (308, 36686), (312, 36704), (322, 36785), (325, 36821), (328, 36842), (332, 36908),

Gene: Chargie21\_86 Start: 34263, Stop: 36866, Start Num: 23

Candidate Starts for Chargie21\_86:

(Start: 23 @34263 has 152 MA's), (35, 34332), (36, 34338), (38, 34356), (47, 34392), (74, 34500), (77, 34512), (94, 34677), (95, 34683), (105, 34878), (108, 34899), (110, 34920), (111, 34929), (117, 34986), (119, 35028), (121, 35082), (122, 35127), (130, 35196), (132, 35232), (134, 35259), (136, 35286), (140, 35346), (143, 35379), (144, 35382), (147, 35403), (149, 35430), (153, 35502), (157, 35571), (162, 35622), (213, 35832), (214, 35838), (215, 35844), (218, 35877), (219, 35919), (221, 35931), (223, 35949), (246, 36123), (248, 36132), (250, 36135), (251, 36138), (252, 36150), (253, 36162), (254, 36165), (259, 36180), (273, 36246), (277, 36261), (293, 36405), (294, 36417), (308, 36597), (312, 36615), (322, 36696), (325, 36732), (328, 36753), (332, 36819),

Gene: CharlieB\_85 Start: 34078, Stop: 36702, Start Num: 23

Candidate Starts for CharlieB\_85:

(Start: 23 @34078 has 152 MA's), (35, 34147), (36, 34153), (38, 34171), (47, 34207), (74, 34315), (77, 34327), (94, 34492), (95, 34498), (105, 34693), (108, 34714), (110, 34735), (111, 34744), (117, 34801), (119, 34843), (121, 34897), (122, 34942), (130, 35011), (132, 35047), (134, 35074), (136, 35101), (140, 35161), (143, 35194), (144, 35197), (148, 35227), (149, 35245), (157, 35386), (162, 35437), (213, 35647), (214, 35653), (218, 35692), (219, 35734), (221, 35746), (223, 35764), (246, 35938), (248, 35947), (250, 35950), (251, 35953), (252, 35965), (253, 35977), (254, 35980), (259, 35995), (273, 36082), (277, 36097), (293, 36241), (294, 36253), (308, 36433), (312, 36451), (322, 36532), (325, 36568), (328, 36589), (332, 36655),

Gene: ChaylaJr\_85 Start: 33978, Stop: 36581, Start Num: 23

Candidate Starts for ChaylaJr\_85:

(Start: 23 @33978 has 152 MA's), (35, 34047), (36, 34053), (38, 34071), (47, 34107), (74, 34215), (77, 34227), (94, 34392), (95, 34398), (105, 34593), (108, 34614), (110, 34635), (111, 34644), (117,

34701), (119, 34743), (121, 34797), (122, 34842), (130, 34911), (132, 34947), (134, 34974), (136, 35001), (140, 35061), (143, 35094), (144, 35097), (147, 35118), (149, 35145), (153, 35217), (157, 35286), (162, 35337), (213, 35547), (214, 35553), (215, 35559), (218, 35592), (219, 35634), (221, 35646), (223, 35664), (246, 35838), (248, 35847), (250, 35850), (251, 35853), (252, 35865), (253, 35877), (254, 35880), (259, 35895), (273, 35961), (277, 35976), (293, 36120), (294, 36132), (308, 36312), (312, 36330), (322, 36411), (325, 36447), (328, 36468), (332, 36534),

Gene: CherryTomatoes\_88 Start: 36603, Stop: 39215, Start Num: 28

Candidate Starts for CherryTomatoes\_88:

(Start: 28 @36603 has 3 MA's), (Start: 31 @36621 has 3 MA's), (50, 36720), (59, 36759), (74, 36822), (77, 36834), (83, 36864), (97, 37053), (99, 37080), (105, 37200), (107, 37209), (108, 37221), (109, 37227), (110, 37242), (111, 37251), (112, 37263), (114, 37275), (120, 37389), (122, 37449), (125, 37476), (129, 37515), (130, 37518), (132, 37554), (133, 37578), (140, 37668), (149, 37752), (152, 37797), (155, 37881), (156, 37890), (157, 37893), (162, 37944), (163, 37947), (213, 38154), (214, 38160), (219, 38241), (220, 38250), (221, 38253), (223, 38271), (227, 38289), (231, 38340), (234, 38382), (239, 38424), (243, 38439), (246, 38448), (250, 38466), (251, 38469), (252, 38481), (253, 38493), (258, 38508), (259, 38511), (263, 38541), (280, 38637), (285, 38715), (290, 38760), (295, 38799), (307, 38901), (313, 38976), (317, 39000), (318, 39003), (325, 39075), (332, 39168), (333, 39177), (334, 39189),

Gene: ChickenPhender\_86 Start: 34311, Stop: 36914, Start Num: 23

Candidate Starts for ChickenPhender\_86:

(Start: 23 @34311 has 152 MA's), (35, 34380), (36, 34386), (38, 34404), (47, 34440), (74, 34548), (77, 34560), (94, 34725), (95, 34731), (105, 34926), (108, 34947), (110, 34968), (111, 34977), (117, 35034), (119, 35076), (121, 35130), (122, 35175), (130, 35244), (132, 35280), (134, 35307), (136, 35334), (140, 35394), (143, 35427), (144, 35430), (147, 35451), (149, 35478), (153, 35550), (157, 35619), (162, 35670), (213, 35880), (214, 35886), (215, 35892), (218, 35925), (219, 35967), (221, 35979), (223, 35997), (246, 36171), (248, 36180), (250, 36183), (251, 36186), (252, 36198), (253, 36210), (254, 36213), (259, 36228), (273, 36294), (277, 36309), (293, 36453), (294, 36465), (308, 36645), (312, 36663), (322, 36744), (325, 36780), (328, 36801), (332, 36867),

Gene: Chomp\_89 Start: 35732, Stop: 39160, Start Num: 1

Candidate Starts for Chomp\_89:

(Start: 1 @35732 has 18 MA's), (Start: 2 @35801 has 1 MA's), (3, 35807), (4, 35825), (6, 35861), (10, 35969), (11, 35981), (13, 36104), (14, 36155), (15, 36209), (16, 36221), (17, 36242), (Start: 26 @36536 has 2 MA's), (32, 36581), (49, 36659), (56, 36695), (65, 36728), (70, 36743), (79, 36788), (81, 36797), (85, 36830), (88, 36866), (94, 36950), (95, 36956), (105, 37151), (108, 37172), (110, 37193), (111, 37202), (117, 37259), (119, 37301), (121, 37355), (122, 37400), (130, 37469), (132, 37505), (134, 37532), (136, 37559), (140, 37619), (143, 37652), (144, 37655), (148, 37685), (149, 37703), (157, 37844), (162, 37895), (213, 38105), (214, 38111), (218, 38150), (219, 38192), (221, 38204), (223, 38222), (246, 38396), (248, 38405), (250, 38408), (251, 38411), (252, 38423), (253, 38435), (254, 38438), (259, 38453), (273, 38540), (277, 38555), (293, 38699), (294, 38711), (308, 38891), (312, 38909), (322, 38990), (325, 39026), (328, 39047), (332, 39113),

Gene: CindyLou\_91 Start: 35773, Stop: 39201, Start Num: 1

Candidate Starts for CindyLou\_91:

(Start: 1 @35773 has 18 MA's), (Start: 2 @35842 has 1 MA's), (3, 35848), (4, 35866), (6, 35902), (10, 36010), (11, 36022), (13, 36145), (14, 36196), (15, 36250), (16, 36262), (17, 36283), (Start: 26 @36577 has 2 MA's), (32, 36622), (49, 36700), (56, 36736), (65, 36769), (70, 36784), (79, 36829), (81, 36838), (85, 36871), (88, 36907), (94, 36991), (95, 36997), (105, 37192), (108, 37213), (110, 37234), (111, 37243), (117, 37300), (119, 37342), (121, 37396), (122, 37441), (130, 37510), (132, 37546), (134, 37573), (136, 37600), (140, 37660), (143, 37693), (144, 37696), (148, 37726), (149, 37744), (157, 37885), (162, 37936), (213, 38146), (214, 38152), (218, 38191), (219, 38233), (221, 38245),

(223, 38263), (246, 38437), (248, 38446), (250, 38449), (251, 38452), (252, 38464), (253, 38476), (254, 38479), (259, 38494), (273, 38581), (277, 38596), (293, 38740), (294, 38752), (308, 38932), (312, 38950), (322, 39031), (325, 39067), (328, 39088), (332, 39154),

Gene: Colt\_80 Start: 33441, Stop: 37133, Start Num: 23

Candidate Starts for Colt\_80:

(Start: 23 @33441 has 152 MA's), (35, 33510), (36, 33516), (38, 33534), (47, 33570), (74, 33678), (77, 33690), (94, 33855), (95, 33861), (105, 34056), (108, 34077), (110, 34098), (111, 34107), (117, 34164), (119, 34206), (121, 34260), (122, 34305), (130, 34374), (132, 34410), (134, 34437), (136, 34464), (140, 34524), (143, 34557), (144, 34560), (147, 34581), (149, 34608), (153, 34680), (157, 34749), (162, 34800), (174, 34956), (175, 34959), (176, 34974), (177, 35055), (178, 35058), (179, 35070), (180, 35109), (182, 35178), (185, 35271), (186, 35322), (187, 35334), (189, 35382), (190, 35388), (192, 35475), (193, 35514), (194, 35544), (196, 35556), (197, 35640), (198, 35667), (199, 35685), (201, 35763), (202, 35772), (204, 35811), (205, 35814), (206, 35868), (207, 35910), (208, 35925), (209, 35928), (210, 35934), (211, 36009), (213, 36078), (214, 36084), (218, 36123), (219, 36165), (221, 36177), (223, 36195), (246, 36369), (248, 36378), (250, 36381), (251, 36384), (252, 36396), (253, 36408), (254, 36411), (259, 36426), (273, 36513), (277, 36528), (293, 36672), (294, 36684), (308, 36864), (312, 36882), (322, 36963), (325, 36999), (328, 37020), (332, 37086),

Gene: Concombre\_97 Start: 38489, Stop: 41113, Start Num: 23

Candidate Starts for Concombre\_97:

(Start: 23 @38489 has 152 MA's), (35, 38558), (36, 38564), (38, 38582), (47, 38618), (74, 38726), (77, 38738), (94, 38903), (95, 38909), (105, 39104), (108, 39125), (110, 39146), (111, 39155), (117, 39212), (119, 39254), (121, 39308), (122, 39353), (130, 39422), (132, 39458), (134, 39485), (136, 39512), (140, 39572), (143, 39605), (144, 39608), (148, 39638), (149, 39656), (157, 39797), (162, 39848), (213, 40058), (214, 40064), (218, 40103), (219, 40145), (221, 40157), (223, 40175), (246, 40349), (248, 40358), (250, 40361), (251, 40364), (252, 40376), (253, 40388), (254, 40391), (259, 40406), (273, 40493), (277, 40508), (293, 40652), (294, 40664), (308, 40844), (312, 40862), (322, 40943), (325, 40979), (328, 41000), (332, 41066),

Gene: DTDevon\_91 Start: 36409, Stop: 39033, Start Num: 23

Candidate Starts for DTDevon\_91:

(Start: 23 @36409 has 152 MA's), (35, 36478), (36, 36484), (38, 36502), (47, 36538), (74, 36646), (77, 36658), (94, 36823), (95, 36829), (105, 37024), (108, 37045), (110, 37066), (111, 37075), (117, 37132), (119, 37174), (121, 37228), (122, 37273), (130, 37342), (132, 37378), (134, 37405), (136, 37432), (140, 37492), (143, 37525), (144, 37528), (148, 37558), (149, 37576), (157, 37717), (162, 37768), (213, 37978), (214, 37984), (218, 38023), (219, 38065), (221, 38077), (223, 38095), (246, 38269), (248, 38278), (250, 38281), (251, 38284), (252, 38296), (253, 38308), (254, 38311), (259, 38326), (273, 38413), (277, 38428), (293, 38572), (294, 38584), (308, 38764), (312, 38782), (322, 38863), (325, 38899), (328, 38920), (332, 38986),

Gene: Daffodil\_95 Start: 36242, Stop: 38866, Start Num: 23

Candidate Starts for Daffodil\_95:

(Start: 23 @36242 has 152 MA's), (35, 36311), (36, 36317), (38, 36335), (47, 36371), (74, 36479), (77, 36491), (94, 36656), (95, 36662), (105, 36857), (108, 36878), (110, 36899), (111, 36908), (117, 36965), (119, 37007), (121, 37061), (122, 37106), (130, 37175), (132, 37211), (134, 37238), (136, 37265), (140, 37325), (143, 37358), (144, 37361), (148, 37391), (149, 37409), (157, 37550), (162, 37601), (213, 37811), (214, 37817), (218, 37856), (219, 37898), (221, 37910), (223, 37928), (246, 38102), (248, 38111), (250, 38114), (251, 38117), (252, 38129), (253, 38141), (254, 38144), (259, 38159), (273, 38246), (277, 38261), (293, 38405), (294, 38417), (308, 38597), (312, 38615), (322, 38696), (325, 38732), (328, 38753), (332, 38819),

Gene: Dandelion\_97 Start: 38939, Stop: 41563, Start Num: 23



Candidate Starts for Dandelion\_97:

(Start: 23 @38939 has 152 MA's), (35, 39008), (36, 39014), (38, 39032), (47, 39068), (74, 39176), (77, 39188), (94, 39353), (95, 39359), (105, 39554), (108, 39575), (110, 39596), (111, 39605), (117, 39662), (119, 39704), (121, 39758), (122, 39803), (130, 39872), (132, 39908), (134, 39935), (136, 39962), (140, 40022), (143, 40055), (144, 40058), (148, 40088), (149, 40106), (157, 40247), (162, 40298), (213, 40508), (214, 40514), (218, 40553), (219, 40595), (221, 40607), (223, 40625), (246, 40799), (248, 40808), (250, 40811), (251, 40814), (252, 40826), (253, 40838), (254, 40841), (259, 40856), (273, 40943), (277, 40958), (293, 41102), (294, 41114), (308, 41294), (312, 41312), (322, 41393), (325, 41429), (328, 41450), (332, 41516),

Gene: Darko\_90 Start: 36177, Stop: 38801, Start Num: 23

Candidate Starts for Darko\_90:

(Start: 23 @36177 has 152 MA's), (35, 36246), (36, 36252), (38, 36270), (47, 36306), (74, 36414), (77, 36426), (94, 36591), (95, 36597), (105, 36792), (108, 36813), (110, 36834), (111, 36843), (117, 36900), (119, 36942), (121, 36996), (122, 37041), (130, 37110), (132, 37146), (134, 37173), (136, 37200), (140, 37260), (143, 37293), (144, 37296), (148, 37326), (149, 37344), (157, 37485), (162, 37536), (213, 37746), (214, 37752), (215, 37758), (218, 37791), (219, 37833), (221, 37845), (223, 37863), (246, 38037), (248, 38046), (250, 38049), (251, 38052), (252, 38064), (253, 38076), (254, 38079), (259, 38094), (273, 38181), (277, 38196), (293, 38340), (294, 38352), (308, 38532), (312, 38550), (322, 38631), (325, 38667), (328, 38688), (332, 38754),

Gene: Delilah\_90 Start: 36243, Stop: 38867, Start Num: 23

Candidate Starts for Delilah\_90:

(Start: 23 @36243 has 152 MA's), (35, 36312), (36, 36318), (38, 36336), (47, 36372), (74, 36480), (77, 36492), (94, 36657), (95, 36663), (105, 36858), (108, 36879), (110, 36900), (111, 36909), (117, 36966), (119, 37008), (121, 37062), (122, 37107), (130, 37176), (132, 37212), (134, 37239), (136, 37266), (140, 37326), (143, 37359), (144, 37362), (148, 37392), (149, 37410), (157, 37551), (162, 37602), (213, 37812), (214, 37818), (218, 37857), (219, 37899), (221, 37911), (223, 37929), (246, 38103), (248, 38112), (250, 38115), (251, 38118), (252, 38130), (253, 38142), (254, 38145), (259, 38160), (273, 38247), (277, 38262), (293, 38406), (294, 38418), (308, 38598), (312, 38616), (322, 38697), (325, 38733), (328, 38754), (332, 38820),

Gene: Delylah\_93 Start: 36036, Stop: 38660, Start Num: 23

Candidate Starts for Delylah\_93:

(Start: 23 @36036 has 152 MA's), (35, 36105), (36, 36111), (38, 36129), (47, 36165), (74, 36273), (77, 36285), (94, 36450), (95, 36456), (105, 36651), (108, 36672), (110, 36693), (111, 36702), (117, 36759), (119, 36801), (121, 36855), (122, 36900), (130, 36969), (132, 37005), (134, 37032), (136, 37059), (140, 37119), (143, 37152), (144, 37155), (148, 37185), (149, 37203), (157, 37344), (162, 37395), (213, 37605), (214, 37611), (218, 37650), (219, 37692), (221, 37704), (223, 37722), (246, 37896), (248, 37905), (250, 37908), (251, 37911), (252, 37923), (253, 37935), (254, 37938), (259, 37953), (273, 38040), (277, 38055), (293, 38199), (294, 38211), (308, 38391), (312, 38409), (322, 38490), (325, 38526), (328, 38547), (332, 38613),

Gene: Demodog\_97 Start: 38489, Stop: 41113, Start Num: 23

Candidate Starts for Demodog\_97:

(Start: 23 @38489 has 152 MA's), (35, 38558), (36, 38564), (38, 38582), (47, 38618), (74, 38726), (77, 38738), (94, 38903), (95, 38909), (105, 39104), (108, 39125), (110, 39146), (111, 39155), (117, 39212), (119, 39254), (121, 39308), (122, 39353), (130, 39422), (132, 39458), (134, 39485), (136, 39512), (140, 39572), (143, 39605), (144, 39608), (148, 39638), (149, 39656), (157, 39797), (162, 39848), (213, 40058), (214, 40064), (218, 40103), (219, 40145), (221, 40157), (223, 40175), (246, 40349), (248, 40358), (250, 40361), (251, 40364), (252, 40376), (253, 40388), (254, 40391), (259, 40406), (273, 40493), (277, 40508), (293, 40652), (294, 40664), (308, 40844), (312, 40862), (322, 40943), (325, 40979), (328, 41000), (332, 41066),

Gene: Derek\_90 Start: 35534, Stop: 38962, Start Num: 1

Candidate Starts for Derek\_90:

(Start: 1 @35534 has 18 MA's), (Start: 2 @35603 has 1 MA's), (3, 35609), (4, 35627), (6, 35663), (10, 35771), (11, 35783), (13, 35906), (14, 35957), (15, 36011), (16, 36023), (17, 36044), (Start: 26 @36338 has 2 MA's), (32, 36383), (49, 36461), (56, 36497), (65, 36530), (70, 36545), (79, 36590), (81, 36599), (85, 36632), (88, 36668), (94, 36752), (95, 36758), (105, 36953), (108, 36974), (110, 36995), (111, 37004), (117, 37061), (119, 37103), (121, 37157), (122, 37202), (130, 37271), (132, 37307), (134, 37334), (136, 37361), (140, 37421), (143, 37454), (144, 37457), (148, 37487), (149, 37505), (157, 37646), (162, 37697), (213, 37907), (214, 37913), (218, 37952), (219, 37994), (221, 38006), (223, 38024), (246, 38198), (248, 38207), (250, 38210), (251, 38213), (252, 38225), (253, 38237), (254, 38240), (259, 38255), (273, 38342), (277, 38357), (293, 38501), (294, 38513), (308, 38693), (312, 38711), (322, 38792), (325, 38828), (328, 38849), (332, 38915),

Gene: Dietrick\_82 Start: 34014, Stop: 36617, Start Num: 23

Candidate Starts for Dietrick\_82:

(Start: 23 @34014 has 152 MA's), (35, 34083), (36, 34089), (38, 34107), (47, 34143), (74, 34251), (77, 34263), (94, 34428), (95, 34434), (105, 34629), (108, 34650), (110, 34671), (111, 34680), (117, 34737), (119, 34779), (121, 34833), (122, 34878), (130, 34947), (132, 34983), (134, 35010), (136, 35037), (140, 35097), (143, 35130), (144, 35133), (147, 35154), (149, 35181), (153, 35253), (157, 35322), (162, 35373), (213, 35583), (214, 35589), (215, 35595), (218, 35628), (219, 35670), (221, 35682), (223, 35700), (246, 35874), (248, 35883), (250, 35886), (251, 35889), (252, 35901), (253, 35913), (254, 35916), (259, 35931), (273, 35997), (277, 36012), (293, 36156), (294, 36168), (308, 36348), (312, 36366), (322, 36447), (325, 36483), (328, 36504), (332, 36570),

Gene: DirtMonster\_83 Start: 34835, Stop: 37459, Start Num: 23

Candidate Starts for DirtMonster\_83:

(Start: 23 @34835 has 152 MA's), (35, 34904), (36, 34910), (38, 34928), (47, 34964), (74, 35072), (77, 35084), (94, 35249), (95, 35255), (105, 35450), (108, 35471), (110, 35492), (111, 35501), (117, 35558), (119, 35600), (121, 35654), (122, 35699), (130, 35768), (132, 35804), (134, 35831), (136, 35858), (140, 35918), (143, 35951), (144, 35954), (148, 35984), (149, 36002), (157, 36143), (162, 36194), (213, 36404), (214, 36410), (215, 36416), (218, 36449), (219, 36491), (221, 36503), (223, 36521), (246, 36695), (248, 36704), (250, 36707), (251, 36710), (252, 36722), (253, 36734), (254, 36737), (259, 36752), (273, 36839), (277, 36854), (293, 36998), (294, 37010), (308, 37190), (312, 37208), (322, 37289), (325, 37325), (328, 37346), (332, 37412),

Gene: Domi\_84 Start: 35571, Stop: 38195, Start Num: 23

Candidate Starts for Domi\_84:

(Start: 23 @35571 has 152 MA's), (35, 35640), (36, 35646), (38, 35664), (47, 35700), (74, 35808), (77, 35820), (94, 35985), (95, 35991), (105, 36186), (108, 36207), (110, 36228), (111, 36237), (117, 36294), (119, 36336), (121, 36390), (122, 36435), (130, 36504), (132, 36540), (134, 36567), (136, 36594), (140, 36654), (143, 36687), (144, 36690), (148, 36720), (149, 36738), (157, 36879), (162, 36930), (213, 37140), (214, 37146), (215, 37152), (218, 37185), (219, 37227), (221, 37239), (223, 37257), (246, 37431), (248, 37440), (250, 37443), (251, 37446), (252, 37458), (253, 37470), (254, 37473), (259, 37488), (273, 37575), (277, 37590), (293, 37734), (294, 37746), (308, 37926), (312, 37944), (322, 38025), (325, 38061), (328, 38082), (332, 38148),

Gene: DrPhinkDaddy\_89 Start: 36298, Stop: 38922, Start Num: 23

Candidate Starts for DrPhinkDaddy\_89:

(Start: 23 @36298 has 152 MA's), (35, 36367), (36, 36373), (38, 36391), (47, 36427), (74, 36535), (77, 36547), (94, 36712), (95, 36718), (105, 36913), (108, 36934), (110, 36955), (111, 36964), (117, 37021), (119, 37063), (121, 37117), (122, 37162), (130, 37231), (132, 37267), (134, 37294), (136, 37321), (140, 37381), (143, 37414), (144, 37417), (148, 37447), (149, 37465), (157, 37606), (162,

37657), (213, 37867), (214, 37873), (218, 37912), (219, 37954), (221, 37966), (223, 37984), (246, 38158), (248, 38167), (250, 38170), (251, 38173), (252, 38185), (253, 38197), (254, 38200), (259, 38215), (273, 38302), (277, 38317), (293, 38461), (294, 38473), (308, 38653), (312, 38671), (322, 38752), (325, 38788), (328, 38809), (332, 38875),

Gene: Drazdys\_90 Start: 36040, Stop: 38664, Start Num: 23

Candidate Starts for Drazdys\_90:

(Start: 23 @36040 has 152 MA's), (35, 36109), (36, 36115), (38, 36133), (47, 36169), (74, 36277), (77, 36289), (94, 36454), (95, 36460), (105, 36655), (108, 36676), (110, 36697), (111, 36706), (117, 36763), (119, 36805), (121, 36859), (122, 36904), (130, 36973), (132, 37009), (134, 37036), (136, 37063), (140, 37123), (141, 37135), (143, 37156), (144, 37159), (148, 37189), (149, 37207), (157, 37348), (162, 37399), (213, 37609), (214, 37615), (218, 37654), (219, 37696), (221, 37708), (223, 37726), (246, 37900), (248, 37909), (250, 37912), (251, 37915), (252, 37927), (253, 37939), (254, 37942), (259, 37957), (273, 38044), (277, 38059), (293, 38203), (294, 38215), (308, 38395), (312, 38413), (322, 38494), (325, 38530), (328, 38551), (332, 38617),

Gene: E3\_gp72 Start: 32680, Stop: 35169, Start Num: 30

Candidate Starts for E3\_gp72:

(24, 32617), (27, 32665), (Start: 30 @32680 has 3 MA's), (33, 32698), (39, 32737), (46, 32776), (64, 32887), (71, 32908), (87, 33019), (94, 33106), (95, 33112), (96, 33121), (97, 33163), (98, 33169), (107, 33313), (108, 33325), (110, 33346), (112, 33367), (123, 33532), (124, 33541), (127, 33574), (128, 33577), (130, 33598), (131, 33601), (140, 33748), (143, 33781), (144, 33784), (147, 33805), (148, 33814), (149, 33832), (152, 33877), (156, 33970), (157, 33973), (159, 33994), (170, 34141), (171, 34156), (223, 34351), (229, 34405), (234, 34462), (237, 34489), (238, 34495), (242, 34516), (250, 34537), (251, 34540), (254, 34558), (257, 34567), (259, 34573), (260, 34579), (278, 34678), (279, 34684), (281, 34705), (282, 34723), (287, 34768), (288, 34777), (292, 34813), (298, 34882), (301, 34894), (305, 34948), (306, 34954), (311, 35014), (326, 35143),

Gene: ET08\_79 Start: 33946, Stop: 37638, Start Num: 23

Candidate Starts for ET08\_79:

(Start: 23 @33946 has 152 MA's), (35, 34015), (36, 34021), (38, 34039), (47, 34075), (74, 34183), (77, 34195), (94, 34360), (95, 34366), (105, 34561), (108, 34582), (110, 34603), (111, 34612), (117, 34669), (119, 34711), (121, 34765), (122, 34810), (130, 34879), (132, 34915), (134, 34942), (136, 34969), (140, 35029), (143, 35062), (144, 35065), (148, 35095), (149, 35113), (157, 35254), (162, 35305), (174, 35461), (175, 35464), (176, 35479), (177, 35560), (178, 35563), (179, 35575), (180, 35614), (182, 35683), (185, 35776), (186, 35827), (187, 35839), (189, 35887), (190, 35893), (192, 35980), (193, 36019), (194, 36049), (196, 36061), (197, 36145), (198, 36172), (199, 36190), (201, 36268), (202, 36277), (204, 36316), (205, 36319), (206, 36373), (207, 36415), (208, 36430), (209, 36433), (210, 36439), (211, 36514), (213, 36583), (214, 36589), (218, 36628), (219, 36670), (221, 36682), (223, 36700), (246, 36874), (248, 36883), (250, 36886), (251, 36889), (252, 36901), (253, 36913), (254, 36916), (259, 36931), (273, 37018), (277, 37033), (293, 37177), (294, 37189), (308, 37369), (312, 37387), (322, 37468), (325, 37504), (328, 37525), (332, 37591),

Gene: EasyJones\_93 Start: 35370, Stop: 37973, Start Num: 23

Candidate Starts for EasyJones\_93:

(Start: 23 @35370 has 152 MA's), (35, 35439), (36, 35445), (38, 35463), (47, 35499), (74, 35607), (77, 35619), (94, 35784), (95, 35790), (105, 35985), (108, 36006), (110, 36027), (111, 36036), (117, 36093), (119, 36135), (121, 36189), (122, 36234), (130, 36303), (132, 36339), (134, 36366), (136, 36393), (140, 36453), (143, 36486), (144, 36489), (147, 36510), (149, 36537), (153, 36609), (157, 36678), (162, 36729), (213, 36939), (214, 36945), (215, 36951), (218, 36984), (219, 37026), (221, 37038), (223, 37056), (246, 37230), (248, 37239), (250, 37242), (251, 37245), (252, 37257), (253, 37269), (254, 37272), (259, 37287), (273, 37353), (277, 37368), (293, 37512), (294, 37524), (308, 37704), (312, 37722), (322, 37803), (325, 37839), (328, 37860), (332, 37926),

Gene: EggyFarm\_98 Start: 38300, Stop: 40924, Start Num: 23

Candidate Starts for EggyFarm\_98:

(Start: 23 @38300 has 152 MA's), (35, 38369), (36, 38375), (38, 38393), (47, 38429), (74, 38537), (77, 38549), (95, 38720), (105, 38915), (108, 38936), (110, 38957), (111, 38966), (117, 39023), (119, 39065), (121, 39119), (122, 39164), (130, 39233), (132, 39269), (134, 39296), (136, 39323), (140, 39383), (143, 39416), (144, 39419), (148, 39449), (149, 39467), (157, 39608), (162, 39659), (213, 39869), (214, 39875), (215, 39881), (218, 39914), (219, 39956), (221, 39968), (223, 39986), (246, 40160), (248, 40169), (250, 40172), (251, 40175), (252, 40187), (253, 40199), (254, 40202), (259, 40217), (273, 40304), (277, 40319), (293, 40463), (294, 40475), (308, 40655), (312, 40673), (322, 40754), (325, 40790), (328, 40811), (332, 40877),

Gene: EmToTheThree\_93 Start: 37694, Stop: 40318, Start Num: 23

Candidate Starts for EmToTheThree\_93:

(Start: 23 @37694 has 152 MA's), (35, 37763), (36, 37769), (38, 37787), (47, 37823), (74, 37931), (77, 37943), (94, 38108), (95, 38114), (105, 38309), (108, 38330), (110, 38351), (111, 38360), (117, 38417), (119, 38459), (121, 38513), (122, 38558), (130, 38627), (132, 38663), (134, 38690), (136, 38717), (140, 38777), (143, 38810), (144, 38813), (148, 38843), (149, 38861), (157, 39002), (162, 39053), (213, 39263), (214, 39269), (218, 39308), (219, 39350), (221, 39362), (223, 39380), (246, 39554), (248, 39563), (250, 39566), (251, 39569), (252, 39581), (253, 39593), (254, 39596), (259, 39611), (273, 39698), (277, 39713), (293, 39857), (294, 39869), (308, 40049), (312, 40067), (322, 40148), (325, 40184), (328, 40205), (332, 40271),

Gene: EmmaElysia\_89 Start: 34815, Stop: 37439, Start Num: 23

Candidate Starts for EmmaElysia\_89:

(Start: 23 @34815 has 152 MA's), (35, 34884), (36, 34890), (38, 34908), (47, 34944), (74, 35052), (77, 35064), (94, 35229), (95, 35235), (105, 35430), (108, 35451), (110, 35472), (111, 35481), (117, 35538), (119, 35580), (121, 35634), (122, 35679), (130, 35748), (132, 35784), (134, 35811), (136, 35838), (140, 35898), (143, 35931), (144, 35934), (148, 35964), (149, 35982), (157, 36123), (162, 36174), (213, 36384), (214, 36390), (218, 36429), (219, 36471), (221, 36483), (223, 36501), (246, 36675), (248, 36684), (250, 36687), (251, 36690), (252, 36702), (253, 36714), (254, 36717), (259, 36732), (273, 36819), (277, 36834), (293, 36978), (294, 36990), (308, 37170), (312, 37188), (322, 37269), (325, 37305), (328, 37326), (332, 37392),

Gene: Erdmann\_91 Start: 36243, Stop: 38867, Start Num: 23

Candidate Starts for Erdmann\_91:

(Start: 23 @36243 has 152 MA's), (35, 36312), (36, 36318), (38, 36336), (47, 36372), (74, 36480), (77, 36492), (94, 36657), (95, 36663), (105, 36858), (108, 36879), (110, 36900), (111, 36909), (117, 36966), (119, 37008), (121, 37062), (122, 37107), (130, 37176), (132, 37212), (134, 37239), (136, 37266), (140, 37326), (143, 37359), (144, 37362), (148, 37392), (149, 37410), (157, 37551), (162, 37602), (213, 37812), (214, 37818), (218, 37857), (219, 37899), (221, 37911), (223, 37929), (246, 38103), (248, 38112), (250, 38115), (251, 38118), (252, 38130), (253, 38142), (254, 38145), (259, 38160), (273, 38247), (277, 38262), (293, 38406), (294, 38418), (308, 38598), (312, 38616), (322, 38697), (325, 38733), (328, 38754), (332, 38820),

Gene: ErnieJ\_86 Start: 34292, Stop: 36895, Start Num: 23

Candidate Starts for ErnieJ\_86:

(Start: 23 @34292 has 152 MA's), (35, 34361), (36, 34367), (38, 34385), (47, 34421), (74, 34529), (77, 34541), (94, 34706), (95, 34712), (105, 34907), (108, 34928), (110, 34949), (111, 34958), (117, 35015), (119, 35057), (121, 35111), (122, 35156), (130, 35225), (132, 35261), (134, 35288), (136, 35315), (140, 35375), (143, 35408), (144, 35411), (147, 35432), (149, 35459), (153, 35531), (157, 35600), (162, 35651), (213, 35861), (214, 35867), (215, 35873), (218, 35906), (219, 35948), (221, 35960), (223, 35978), (246, 36152), (248, 36161), (250, 36164), (251, 36167), (252, 36179), (253,

36191), (254, 36194), (259, 36209), (273, 36275), (277, 36290), (293, 36434), (294, 36446), (308, 36626), (312, 36644), (322, 36725), (325, 36761), (328, 36782), (332, 36848),

Gene: Essence\_87 Start: 34998, Stop: 38426, Start Num: 1

Candidate Starts for Essence\_87:

(Start: 1 @34998 has 18 MA's), (Start: 2 @35067 has 1 MA's), (3, 35073), (4, 35091), (6, 35127), (10, 35235), (11, 35247), (13, 35370), (14, 35421), (15, 35475), (16, 35487), (17, 35508), (Start: 26 @35802 has 2 MA's), (32, 35847), (49, 35925), (56, 35961), (65, 35994), (70, 36009), (79, 36054), (81, 36063), (85, 36096), (88, 36132), (94, 36216), (95, 36222), (105, 36417), (108, 36438), (110, 36459), (111, 36468), (117, 36525), (119, 36567), (121, 36621), (122, 36666), (130, 36735), (132, 36771), (134, 36798), (136, 36825), (140, 36885), (143, 36918), (144, 36921), (148, 36951), (149, 36969), (157, 37110), (162, 37161), (213, 37371), (214, 37377), (218, 37416), (219, 37458), (221, 37470), (223, 37488), (246, 37662), (248, 37671), (250, 37674), (251, 37677), (252, 37689), (253, 37701), (254, 37704), (259, 37719), (273, 37806), (277, 37821), (293, 37965), (294, 37977), (308, 38157), (312, 38175), (322, 38256), (325, 38292), (328, 38313), (332, 38379),

Gene: Ewok\_91 Start: 35870, Stop: 38494, Start Num: 23

Candidate Starts for Ewok\_91:

(Start: 23 @35870 has 152 MA's), (35, 35939), (36, 35945), (38, 35963), (47, 35999), (74, 36107), (77, 36119), (94, 36284), (95, 36290), (105, 36485), (108, 36506), (110, 36527), (111, 36536), (117, 36593), (119, 36635), (121, 36689), (122, 36734), (130, 36803), (132, 36839), (134, 36866), (136, 36893), (140, 36953), (143, 36986), (144, 36989), (148, 37019), (149, 37037), (157, 37178), (162, 37229), (213, 37439), (214, 37445), (218, 37484), (219, 37526), (221, 37538), (223, 37556), (246, 37730), (248, 37739), (250, 37742), (251, 37745), (252, 37757), (253, 37769), (254, 37772), (259, 37787), (273, 37874), (277, 37889), (293, 38033), (294, 38045), (308, 38225), (312, 38243), (322, 38324), (325, 38360), (328, 38381), (332, 38447),

Gene: Finch\_15 Start: 10444, Stop: 13083, Start Num: 30

Candidate Starts for Finch\_15:

(Start: 30 @10444 has 3 MA's), (57, 10603), (67, 10642), (76, 10675), (81, 10702), (91, 10783), (97, 10900), (98, 10906), (107, 11050), (108, 11062), (112, 11104), (113, 11107), (116, 11134), (131, 11353), (132, 11386), (140, 11500), (143, 11533), (146, 11551), (148, 11566), (152, 11629), (156, 11722), (157, 11725), (169, 11863), (170, 11893), (173, 11923), (214, 11992), (216, 12007), (219, 12073), (223, 12103), (228, 12133), (233, 12196), (245, 12277), (247, 12292), (251, 12301), (255, 12334), (266, 12391), (276, 12457), (286, 12556), (296, 12649), (300, 12682), (301, 12688), (313, 12826), (315, 12835), (319, 12868), (321, 12892), (324, 12913), (330, 13024), (332, 13036),

Gene: Flabslab\_85 Start: 34048, Stop: 36651, Start Num: 23

Candidate Starts for Flabslab\_85:

(Start: 23 @34048 has 152 MA's), (35, 34117), (36, 34123), (38, 34141), (47, 34177), (74, 34285), (77, 34297), (94, 34462), (95, 34468), (105, 34663), (108, 34684), (110, 34705), (111, 34714), (117, 34771), (119, 34813), (121, 34867), (122, 34912), (130, 34981), (132, 35017), (134, 35044), (136, 35071), (140, 35131), (143, 35164), (144, 35167), (147, 35188), (149, 35215), (153, 35287), (157, 35356), (162, 35407), (213, 35617), (214, 35623), (215, 35629), (218, 35662), (219, 35704), (221, 35716), (223, 35734), (246, 35908), (248, 35917), (250, 35920), (251, 35923), (252, 35935), (253, 35947), (254, 35950), (259, 35965), (273, 36031), (277, 36046), (293, 36190), (294, 36202), (308, 36382), (312, 36400), (322, 36481), (325, 36517), (328, 36538), (332, 36604),

Gene: Fludd\_90 Start: 34710, Stop: 37313, Start Num: 23

Candidate Starts for Fludd\_90:

(Start: 23 @34710 has 152 MA's), (35, 34779), (36, 34785), (38, 34803), (47, 34839), (74, 34947), (77, 34959), (94, 35124), (95, 35130), (105, 35325), (108, 35346), (110, 35367), (111, 35376), (117, 35433), (119, 35475), (121, 35529), (122, 35574), (130, 35643), (132, 35679), (134, 35706), (136,

35733), (140, 35793), (143, 35826), (144, 35829), (147, 35850), (149, 35877), (153, 35949), (157, 36018), (162, 36069), (213, 36279), (214, 36285), (215, 36291), (218, 36324), (219, 36366), (221, 36378), (223, 36396), (246, 36570), (248, 36579), (250, 36582), (251, 36585), (252, 36597), (253, 36609), (254, 36612), (259, 36627), (273, 36693), (277, 36708), (293, 36852), (294, 36864), (308, 37044), (312, 37062), (322, 37143), (325, 37179), (328, 37200), (332, 37266),

Gene: FoxtrotP1\_90 Start: 36642, Stop: 39266, Start Num: 23

Candidate Starts for FoxtrotP1\_90:

(Start: 23 @36642 has 152 MA's), (35, 36711), (36, 36717), (38, 36735), (47, 36771), (74, 36879), (77, 36891), (94, 37056), (95, 37062), (105, 37257), (108, 37278), (110, 37299), (111, 37308), (117, 37365), (119, 37407), (121, 37461), (122, 37506), (130, 37575), (132, 37611), (134, 37638), (136, 37665), (140, 37725), (143, 37758), (144, 37761), (148, 37791), (149, 37809), (157, 37950), (162, 38001), (213, 38211), (214, 38217), (218, 38256), (219, 38298), (221, 38310), (223, 38328), (246, 38502), (248, 38511), (250, 38514), (251, 38517), (252, 38529), (253, 38541), (254, 38544), (259, 38559), (273, 38646), (277, 38661), (293, 38805), (294, 38817), (308, 38997), (312, 39015), (322, 39096), (325, 39132), (328, 39153), (332, 39219),

Gene: FrayBell\_96 Start: 37692, Stop: 40316, Start Num: 23

Candidate Starts for FrayBell\_96:

(Start: 23 @37692 has 152 MA's), (35, 37761), (36, 37767), (38, 37785), (47, 37821), (74, 37929), (77, 37941), (94, 38106), (95, 38112), (105, 38307), (108, 38328), (110, 38349), (111, 38358), (117, 38415), (119, 38457), (121, 38511), (122, 38556), (130, 38625), (132, 38661), (134, 38688), (136, 38715), (140, 38775), (143, 38808), (144, 38811), (148, 38841), (149, 38859), (157, 39000), (162, 39051), (213, 39261), (214, 39267), (215, 39273), (218, 39306), (219, 39348), (221, 39360), (223, 39378), (246, 39552), (248, 39561), (250, 39564), (251, 39567), (252, 39579), (253, 39591), (254, 39594), (259, 39609), (273, 39696), (277, 39711), (293, 39855), (294, 39867), (308, 40047), (312, 40065), (322, 40146), (325, 40182), (328, 40203), (332, 40269),

Gene: FudgeTart\_90 Start: 35436, Stop: 38060, Start Num: 23

Candidate Starts for FudgeTart\_90:

(Start: 23 @35436 has 152 MA's), (35, 35505), (36, 35511), (38, 35529), (47, 35565), (74, 35673), (77, 35685), (94, 35850), (95, 35856), (105, 36051), (108, 36072), (110, 36093), (111, 36102), (117, 36159), (119, 36201), (121, 36255), (122, 36300), (130, 36369), (132, 36405), (134, 36432), (136, 36459), (140, 36519), (143, 36552), (144, 36555), (148, 36585), (149, 36603), (157, 36744), (162, 36795), (213, 37005), (214, 37011), (218, 37050), (219, 37092), (221, 37104), (223, 37122), (246, 37296), (248, 37305), (250, 37308), (251, 37311), (252, 37323), (253, 37335), (254, 37338), (259, 37353), (273, 37440), (277, 37455), (293, 37599), (294, 37611), (308, 37791), (312, 37809), (322, 37890), (325, 37926), (328, 37947), (332, 38013),

Gene: Gabriel\_92 Start: 35478, Stop: 38102, Start Num: 23

Candidate Starts for Gabriel\_92:

(Start: 23 @35478 has 152 MA's), (35, 35547), (36, 35553), (38, 35571), (47, 35607), (74, 35715), (77, 35727), (94, 35892), (95, 35898), (105, 36093), (108, 36114), (110, 36135), (111, 36144), (117, 36201), (119, 36243), (121, 36297), (122, 36342), (130, 36411), (132, 36447), (134, 36474), (136, 36501), (140, 36561), (143, 36594), (144, 36597), (148, 36627), (149, 36645), (157, 36786), (162, 36837), (213, 37047), (214, 37053), (218, 37092), (219, 37134), (221, 37146), (223, 37164), (246, 37338), (248, 37347), (250, 37350), (251, 37353), (252, 37365), (253, 37377), (254, 37380), (259, 37395), (273, 37482), (277, 37497), (293, 37641), (294, 37653), (308, 37833), (312, 37851), (322, 37932), (325, 37968), (328, 37989), (332, 38055),

Gene: Gamgam\_90 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for Gamgam\_90:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Ghost\_89 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for Ghost\_89:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Gizmo\_94 Start: 35551, Stop: 39243, Start Num: 23

Candidate Starts for Gizmo\_94:

(Start: 23 @35551 has 152 MA's), (35, 35620), (36, 35626), (38, 35644), (47, 35680), (74, 35788), (77, 35800), (94, 35965), (95, 35971), (105, 36166), (108, 36187), (110, 36208), (111, 36217), (117, 36274), (119, 36316), (121, 36370), (122, 36415), (130, 36484), (132, 36520), (134, 36547), (136, 36574), (140, 36634), (143, 36667), (144, 36670), (148, 36700), (149, 36718), (157, 36859), (162, 36910), (174, 37066), (175, 37069), (176, 37084), (177, 37165), (178, 37168), (179, 37180), (180, 37219), (182, 37288), (185, 37381), (186, 37432), (187, 37444), (189, 37492), (190, 37498), (192, 37585), (193, 37624), (194, 37654), (196, 37666), (197, 37750), (198, 37777), (199, 37795), (201, 37873), (202, 37882), (204, 37921), (205, 37924), (206, 37978), (207, 38020), (208, 38035), (209, 38038), (210, 38044), (211, 38119), (213, 38188), (214, 38194), (218, 38233), (219, 38275), (221, 38287), (223, 38305), (246, 38479), (248, 38488), (250, 38491), (251, 38494), (252, 38506), (253, 38518), (254, 38521), (259, 38536), (273, 38623), (277, 38638), (293, 38782), (294, 38794), (308, 38974), (312, 38992), (322, 39073), (325, 39109), (328, 39130), (332, 39196),

Gene: GlutenPhree\_88 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for GlutenPhree\_88:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Grasshills\_97 Start: 38300, Stop: 40924, Start Num: 23

Candidate Starts for Grasshills\_97:

(Start: 23 @38300 has 152 MA's), (35, 38369), (36, 38375), (38, 38393), (47, 38429), (74, 38537), (77, 38549), (95, 38720), (105, 38915), (108, 38936), (110, 38957), (111, 38966), (117, 39023), (119, 39065), (121, 39119), (122, 39164), (130, 39233), (132, 39269), (134, 39296), (136, 39323), (140, 39383), (143, 39416), (144, 39419), (148, 39449), (149, 39467), (157, 39608), (162, 39659), (213, 39869), (214, 39875), (215, 39881), (218, 39914), (219, 39956), (221, 39968), (223, 39986), (246,

40160), (248, 40169), (250, 40172), (251, 40175), (252, 40187), (253, 40199), (254, 40202), (259, 40217), (273, 40304), (277, 40319), (293, 40463), (294, 40475), (308, 40655), (312, 40673), (322, 40754), (325, 40790), (328, 40811), (332, 40877),

Gene: Greely\_91 Start: 37183, Stop: 39693, Start Num: 31

Candidate Starts for Greely\_91:

(Start: 31 @37183 has 3 MA's), (34, 37189), (43, 37228), (48, 37246), (55, 37291), (61, 37312), (65, 37330), (69, 37339), (74, 37360), (92, 37498), (95, 37543), (97, 37591), (105, 37738), (108, 37759), (110, 37780), (111, 37789), (112, 37801), (113, 37804), (115, 37828), (122, 37987), (130, 38056), (132, 38092), (144, 38242), (148, 38272), (149, 38290), (155, 38419), (156, 38428), (157, 38431), (158, 38434), (164, 38530), (165, 38536), (170, 38599), (172, 38623), (213, 38692), (214, 38698), (215, 38704), (217, 38719), (218, 38737), (221, 38791), (223, 38809), (236, 38938), (241, 38971), (246, 38983), (250, 38995), (253, 39022), (259, 39040), (274, 39145), (309, 39448), (316, 39490), (334, 39667),

Gene: Grungle\_77 Start: 32630, Stop: 35254, Start Num: 23

Candidate Starts for Grungle\_77:

(Start: 23 @32630 has 152 MA's), (35, 32699), (36, 32705), (38, 32723), (47, 32759), (74, 32867), (77, 32879), (94, 33044), (95, 33050), (105, 33245), (108, 33266), (110, 33287), (111, 33296), (117, 33353), (119, 33395), (121, 33449), (122, 33494), (130, 33563), (132, 33599), (134, 33626), (136, 33653), (140, 33713), (143, 33746), (144, 33749), (148, 33779), (149, 33797), (157, 33938), (162, 33989), (213, 34199), (214, 34205), (218, 34244), (219, 34286), (221, 34298), (223, 34316), (246, 34490), (248, 34499), (250, 34502), (251, 34505), (252, 34517), (253, 34529), (254, 34532), (259, 34547), (273, 34634), (277, 34649), (293, 34793), (294, 34805), (308, 34985), (312, 35003), (322, 35084), (325, 35120), (328, 35141), (332, 35207),

Gene: Guwapp\_89 Start: 35343, Stop: 37967, Start Num: 23

Candidate Starts for Guwapp\_89:

(Start: 23 @35343 has 152 MA's), (35, 35412), (36, 35418), (38, 35436), (47, 35472), (74, 35580), (77, 35592), (94, 35757), (95, 35763), (105, 35958), (108, 35979), (110, 36000), (111, 36009), (117, 36066), (119, 36108), (121, 36162), (122, 36207), (130, 36276), (132, 36312), (134, 36339), (136, 36366), (140, 36426), (143, 36459), (144, 36462), (148, 36492), (149, 36510), (157, 36651), (162, 36702), (213, 36912), (214, 36918), (218, 36957), (219, 36999), (221, 37011), (223, 37029), (246, 37203), (248, 37212), (250, 37215), (251, 37218), (252, 37230), (253, 37242), (254, 37245), (259, 37260), (273, 37347), (277, 37362), (293, 37506), (294, 37518), (308, 37698), (312, 37716), (322, 37797), (325, 37833), (328, 37854), (332, 37920),

Gene: Halldule\_83 Start: 33660, Stop: 36284, Start Num: 23

Candidate Starts for Halldule\_83:

(Start: 23 @33660 has 152 MA's), (35, 33729), (36, 33735), (38, 33753), (47, 33789), (74, 33897), (77, 33909), (94, 34074), (95, 34080), (105, 34275), (108, 34296), (110, 34317), (111, 34326), (117, 34383), (119, 34425), (121, 34479), (122, 34524), (130, 34593), (132, 34629), (134, 34656), (136, 34683), (140, 34743), (143, 34776), (144, 34779), (148, 34809), (149, 34827), (157, 34968), (162, 35019), (213, 35229), (214, 35235), (218, 35274), (219, 35316), (221, 35328), (223, 35346), (246, 35520), (248, 35529), (250, 35532), (251, 35535), (252, 35547), (253, 35559), (254, 35562), (259, 35577), (273, 35664), (277, 35679), (293, 35823), (294, 35835), (308, 36015), (312, 36033), (322, 36114), (325, 36150), (328, 36171), (332, 36237),

Gene: HyRo\_82 Start: 34439, Stop: 37042, Start Num: 23

Candidate Starts for HyRo\_82:

(Start: 23 @34439 has 152 MA's), (35, 34508), (36, 34514), (38, 34532), (47, 34568), (74, 34676), (77, 34688), (94, 34853), (95, 34859), (105, 35054), (108, 35075), (110, 35096), (111, 35105), (117, 35162), (119, 35204), (121, 35258), (122, 35303), (130, 35372), (132, 35408), (134, 35435), (136,



35462), (140, 35522), (143, 35555), (144, 35558), (147, 35579), (149, 35606), (153, 35678), (157, 35747), (162, 35798), (213, 36008), (214, 36014), (215, 36020), (218, 36053), (219, 36095), (221, 36107), (223, 36125), (246, 36299), (248, 36308), (250, 36311), (251, 36314), (252, 36326), (253, 36338), (254, 36341), (259, 36356), (273, 36422), (277, 36437), (293, 36581), (294, 36593), (308, 36773), (312, 36791), (322, 36872), (325, 36908), (328, 36929), (332, 36995),

Gene: I3\_96 Start: 36210, Stop: 38834, Start Num: 23

Candidate Starts for I3\_96:

(Start: 23 @36210 has 152 MA's), (35, 36279), (36, 36285), (38, 36303), (47, 36339), (74, 36447), (77, 36459), (94, 36624), (95, 36630), (105, 36825), (108, 36846), (110, 36867), (111, 36876), (117, 36933), (119, 36975), (121, 37029), (122, 37074), (130, 37143), (132, 37179), (134, 37206), (136, 37233), (140, 37293), (143, 37326), (144, 37329), (148, 37359), (149, 37377), (157, 37518), (162, 37569), (213, 37779), (214, 37785), (215, 37791), (218, 37824), (219, 37866), (221, 37878), (223, 37896), (246, 38070), (248, 38079), (250, 38082), (251, 38085), (252, 38097), (253, 38109), (254, 38112), (259, 38127), (273, 38214), (277, 38229), (293, 38373), (294, 38385), (308, 38565), (312, 38583), (322, 38664), (325, 38700), (328, 38721), (332, 38787),

Gene: IkeLoa\_84 Start: 34608, Stop: 37232, Start Num: 23

Candidate Starts for IkeLoa\_84:

(Start: 23 @34608 has 152 MA's), (35, 34677), (36, 34683), (38, 34701), (47, 34737), (74, 34845), (77, 34857), (94, 35022), (95, 35028), (105, 35223), (108, 35244), (110, 35265), (111, 35274), (117, 35331), (119, 35373), (121, 35427), (122, 35472), (130, 35541), (132, 35577), (134, 35604), (136, 35631), (140, 35691), (143, 35724), (144, 35727), (148, 35757), (149, 35775), (157, 35916), (162, 35967), (213, 36177), (214, 36183), (215, 36189), (218, 36222), (219, 36264), (221, 36276), (223, 36294), (246, 36468), (248, 36477), (250, 36480), (251, 36483), (252, 36495), (253, 36507), (254, 36510), (259, 36525), (273, 36612), (277, 36627), (293, 36771), (294, 36783), (308, 36963), (312, 36981), (322, 37062), (325, 37098), (328, 37119), (332, 37185),

Gene: InigoMontoya\_91 Start: 35209, Stop: 37833, Start Num: 23

Candidate Starts for InigoMontoya\_91:

(Start: 23 @35209 has 152 MA's), (35, 35278), (36, 35284), (38, 35302), (47, 35338), (74, 35446), (77, 35458), (94, 35623), (95, 35629), (105, 35824), (108, 35845), (110, 35866), (111, 35875), (117, 35932), (119, 35974), (121, 36028), (122, 36073), (130, 36142), (132, 36178), (134, 36205), (136, 36232), (140, 36292), (143, 36325), (144, 36328), (148, 36358), (149, 36376), (157, 36517), (162, 36568), (213, 36778), (214, 36784), (218, 36823), (219, 36865), (221, 36877), (223, 36895), (246, 37069), (248, 37078), (250, 37081), (251, 37084), (252, 37096), (253, 37108), (254, 37111), (259, 37126), (273, 37213), (277, 37228), (293, 37372), (294, 37384), (308, 37564), (312, 37582), (322, 37663), (325, 37699), (328, 37720), (332, 37786),

Gene: InterFolia\_99 Start: 38630, Stop: 41254, Start Num: 23

Candidate Starts for InterFolia\_99:

(Start: 23 @38630 has 152 MA's), (35, 38699), (36, 38705), (38, 38723), (47, 38759), (74, 38867), (77, 38879), (94, 39044), (95, 39050), (105, 39245), (108, 39266), (110, 39287), (111, 39296), (117, 39353), (119, 39395), (121, 39449), (122, 39494), (130, 39563), (132, 39599), (134, 39626), (136, 39653), (140, 39713), (143, 39746), (144, 39749), (148, 39779), (149, 39797), (157, 39938), (162, 39989), (213, 40199), (214, 40205), (215, 40211), (218, 40244), (219, 40286), (221, 40298), (223, 40316), (246, 40490), (248, 40499), (250, 40502), (251, 40505), (252, 40517), (253, 40529), (254, 40532), (259, 40547), (273, 40634), (277, 40649), (293, 40793), (294, 40805), (308, 40985), (312, 41003), (322, 41084), (325, 41120), (328, 41141), (332, 41207),

Gene: Iota\_84 Start: 34989, Stop: 37613, Start Num: 23

Candidate Starts for Iota\_84:

(Start: 23 @34989 has 152 MA's), (35, 35058), (36, 35064), (38, 35082), (47, 35118), (74, 35226), (77, 35238), (94, 35403), (95, 35409), (105, 35604), (108, 35625), (110, 35646), (111, 35655), (117, 35712), (119, 35754), (121, 35808), (122, 35853), (130, 35922), (132, 35958), (134, 35985), (136, 36012), (140, 36072), (143, 36105), (144, 36108), (148, 36138), (149, 36156), (157, 36297), (162, 36348), (213, 36558), (214, 36564), (218, 36603), (219, 36645), (221, 36657), (223, 36675), (246, 36849), (248, 36858), (250, 36861), (251, 36864), (252, 36876), (253, 36888), (254, 36891), (259, 36906), (273, 36993), (277, 37008), (293, 37152), (294, 37164), (308, 37344), (312, 37362), (322, 37443), (325, 37479), (328, 37500), (332, 37566),

Gene: Issimir\_89 Start: 36186, Stop: 38810, Start Num: 23

Candidate Starts for Issimir\_89:

(Start: 23 @36186 has 152 MA's), (35, 36255), (36, 36261), (38, 36279), (47, 36315), (74, 36423), (77, 36435), (94, 36600), (95, 36606), (105, 36801), (108, 36822), (110, 36843), (111, 36852), (117, 36909), (119, 36951), (121, 37005), (122, 37050), (130, 37119), (132, 37155), (134, 37182), (136, 37209), (140, 37269), (143, 37302), (144, 37305), (148, 37335), (149, 37353), (157, 37494), (162, 37545), (213, 37755), (214, 37761), (218, 37800), (219, 37842), (221, 37854), (223, 37872), (246, 38046), (248, 38055), (250, 38058), (251, 38061), (252, 38073), (253, 38085), (254, 38088), (259, 38103), (273, 38190), (277, 38205), (293, 38349), (294, 38361), (308, 38541), (312, 38559), (322, 38640), (325, 38676), (328, 38697), (332, 38763),

Gene: Izajani\_90 Start: 36259, Stop: 38883, Start Num: 23

Candidate Starts for Izajani\_90:

(Start: 23 @36259 has 152 MA's), (35, 36328), (36, 36334), (38, 36352), (47, 36388), (74, 36496), (77, 36508), (94, 36673), (95, 36679), (105, 36874), (108, 36895), (110, 36916), (111, 36925), (117, 36982), (119, 37024), (121, 37078), (122, 37123), (130, 37192), (132, 37228), (134, 37255), (136, 37282), (140, 37342), (143, 37375), (144, 37378), (148, 37408), (149, 37426), (157, 37567), (162, 37618), (213, 37828), (214, 37834), (218, 37873), (219, 37915), (221, 37927), (223, 37945), (246, 38119), (248, 38128), (250, 38131), (251, 38134), (252, 38146), (253, 38158), (254, 38161), (259, 38176), (273, 38263), (277, 38278), (293, 38422), (294, 38434), (308, 38614), (312, 38632), (322, 38713), (325, 38749), (328, 38770), (332, 38836),

Gene: JPickles\_88 Start: 33675, Stop: 37103, Start Num: 1

Candidate Starts for JPickles\_88:

(Start: 1 @33675 has 18 MA's), (Start: 2 @33744 has 1 MA's), (3, 33750), (4, 33768), (6, 33804), (10, 33912), (11, 33924), (13, 34047), (14, 34098), (15, 34152), (16, 34164), (17, 34185), (Start: 26 @34479 has 2 MA's), (32, 34524), (49, 34602), (56, 34638), (65, 34671), (70, 34686), (79, 34731), (81, 34740), (85, 34773), (88, 34809), (94, 34893), (95, 34899), (105, 35094), (108, 35115), (110, 35136), (111, 35145), (117, 35202), (119, 35244), (121, 35298), (122, 35343), (130, 35412), (132, 35448), (134, 35475), (136, 35502), (140, 35562), (143, 35595), (144, 35598), (148, 35628), (149, 35646), (157, 35787), (162, 35838), (213, 36048), (214, 36054), (218, 36093), (219, 36135), (221, 36147), (223, 36165), (246, 36339), (248, 36348), (250, 36351), (251, 36354), (252, 36366), (253, 36378), (254, 36381), (259, 36396), (273, 36483), (277, 36498), (293, 36642), (294, 36654), (308, 36834), (312, 36852), (322, 36933), (325, 36969), (328, 36990), (332, 37056),

Gene: Janiyra\_92 Start: 35540, Stop: 38143, Start Num: 23

Candidate Starts for Janiyra\_92:

(Start: 23 @35540 has 152 MA's), (35, 35609), (36, 35615), (38, 35633), (47, 35669), (74, 35777), (77, 35789), (94, 35954), (95, 35960), (105, 36155), (108, 36176), (110, 36197), (111, 36206), (117, 36263), (119, 36305), (121, 36359), (122, 36404), (130, 36473), (132, 36509), (134, 36536), (136, 36563), (140, 36623), (143, 36656), (144, 36659), (147, 36680), (149, 36707), (153, 36779), (157, 36848), (162, 36899), (213, 37109), (214, 37115), (215, 37121), (218, 37154), (219, 37196), (221, 37208), (223, 37226), (246, 37400), (248, 37409), (250, 37412), (251, 37415), (252, 37427), (253, 37439), (254, 37442), (259, 37457), (273, 37523), (277, 37538), (293, 37682), (294, 37694), (308,

37874), (312, 37892), (322, 37973), (325, 38009), (328, 38030), (332, 38096),

Gene: JayJay\_92 Start: 36743, Stop: 40171, Start Num: 1

Candidate Starts for JayJay\_92:

(Start: 1 @36743 has 18 MA's), (Start: 2 @36812 has 1 MA's), (3, 36818), (4, 36836), (6, 36872), (10, 36980), (11, 36992), (13, 37115), (14, 37166), (15, 37220), (16, 37232), (17, 37253), (32, 37547), (40, 37592), (52, 37670), (58, 37706), (65, 37739), (70, 37754), (79, 37799), (81, 37808), (85, 37841), (88, 37877), (94, 37961), (95, 37967), (105, 38162), (108, 38183), (110, 38204), (111, 38213), (117, 38270), (119, 38312), (121, 38366), (122, 38411), (130, 38480), (132, 38516), (134, 38543), (136, 38570), (140, 38630), (143, 38663), (144, 38666), (148, 38696), (149, 38714), (157, 38855), (162, 38906), (213, 39116), (214, 39122), (218, 39161), (219, 39203), (221, 39215), (223, 39233), (246, 39407), (248, 39416), (250, 39419), (251, 39422), (252, 39434), (253, 39446), (254, 39449), (259, 39464), (273, 39551), (277, 39566), (293, 39710), (294, 39722), (308, 39902), (312, 39920), (322, 40001), (325, 40037), (328, 40058), (332, 40124),

Gene: Jaygup\_90 Start: 35200, Stop: 38628, Start Num: 1

Candidate Starts for Jaygup\_90:

(Start: 1 @35200 has 18 MA's), (Start: 2 @35269 has 1 MA's), (3, 35275), (4, 35293), (6, 35329), (10, 35437), (11, 35449), (13, 35572), (14, 35623), (15, 35677), (16, 35689), (17, 35710), (Start: 26 @36004 has 2 MA's), (32, 36049), (49, 36127), (56, 36163), (65, 36196), (70, 36211), (79, 36256), (81, 36265), (85, 36298), (88, 36334), (94, 36418), (95, 36424), (105, 36619), (108, 36640), (110, 36661), (111, 36670), (117, 36727), (119, 36769), (121, 36823), (122, 36868), (130, 36937), (132, 36973), (134, 37000), (136, 37027), (140, 37087), (143, 37120), (144, 37123), (148, 37153), (149, 37171), (157, 37312), (162, 37363), (213, 37573), (214, 37579), (218, 37618), (219, 37660), (221, 37672), (223, 37690), (246, 37864), (248, 37873), (250, 37876), (251, 37879), (252, 37891), (253, 37903), (254, 37906), (259, 37921), (273, 38008), (277, 38023), (293, 38167), (294, 38179), (308, 38359), (312, 38377), (322, 38458), (325, 38494), (328, 38515), (332, 38581),

Gene: JeanGrey\_27 Start: 14251, Stop: 16443, Start Num: 41

Candidate Starts for JeanGrey\_27:

(41, 14251), (68, 14386), (75, 14410), (76, 14413), (89, 14503), (93, 14554), (95, 14590), (97, 14638), (100, 14671), (101, 14680), (103, 14740), (106, 14782), (122, 15013), (124, 15025), (127, 15058), (130, 15082), (131, 15085), (140, 15235), (143, 15268), (156, 15457), (157, 15460), (161, 15505), (166, 15574), (212, 15703), (213, 15721), (223, 15838), (224, 15841), (240, 15985), (244, 16000), (269, 16126), (283, 16207), (284, 16210), (303, 16408),

Gene: Jedediah\_93 Start: 35700, Stop: 39128, Start Num: 1

Candidate Starts for Jedediah\_93:

(Start: 1 @35700 has 18 MA's), (Start: 2 @35769 has 1 MA's), (3, 35775), (4, 35793), (6, 35829), (10, 35937), (11, 35949), (13, 36072), (14, 36123), (15, 36177), (16, 36189), (17, 36210), (Start: 26 @36504 has 2 MA's), (32, 36549), (49, 36627), (56, 36663), (65, 36696), (70, 36711), (79, 36756), (81, 36765), (85, 36798), (88, 36834), (94, 36918), (95, 36924), (105, 37119), (108, 37140), (110, 37161), (111, 37170), (117, 37227), (119, 37269), (121, 37323), (122, 37368), (130, 37437), (132, 37473), (134, 37500), (136, 37527), (140, 37587), (141, 37599), (143, 37620), (144, 37623), (148, 37653), (149, 37671), (157, 37812), (162, 37863), (213, 38073), (214, 38079), (218, 38118), (219, 38160), (221, 38172), (223, 38190), (246, 38364), (248, 38373), (250, 38376), (251, 38379), (252, 38391), (253, 38403), (254, 38406), (259, 38421), (273, 38508), (277, 38523), (293, 38667), (294, 38679), (308, 38859), (312, 38877), (322, 38958), (325, 38994), (328, 39015), (332, 39081),

Gene: Jemmno\_90 Start: 35150, Stop: 38578, Start Num: 1

Candidate Starts for Jemmno\_90:

(Start: 1 @35150 has 18 MA's), (Start: 2 @35219 has 1 MA's), (3, 35225), (4, 35243), (6, 35279), (10, 35387), (11, 35399), (13, 35522), (14, 35573), (15, 35627), (16, 35639), (17, 35660), (Start: 26

@35954 has 2 MA's), (32, 35999), (49, 36077), (56, 36113), (65, 36146), (70, 36161), (79, 36206), (81, 36215), (85, 36248), (88, 36284), (94, 36368), (95, 36374), (105, 36569), (108, 36590), (110, 36611), (111, 36620), (117, 36677), (119, 36719), (121, 36773), (122, 36818), (130, 36887), (132, 36923), (134, 36950), (136, 36977), (140, 37037), (143, 37070), (144, 37073), (148, 37103), (149, 37121), (157, 37262), (162, 37313), (213, 37523), (214, 37529), (218, 37568), (219, 37610), (221, 37622), (223, 37640), (246, 37814), (248, 37823), (250, 37826), (251, 37829), (252, 37841), (253, 37853), (254, 37856), (259, 37871), (273, 37958), (277, 37973), (293, 38117), (294, 38129), (308, 38309), (312, 38327), (322, 38408), (325, 38444), (328, 38465), (332, 38531),

Gene: Jessibeth14\_89 Start: 36028, Stop: 38652, Start Num: 23

Candidate Starts for Jessibeth14\_89:

(Start: 23 @36028 has 152 MA's), (35, 36097), (36, 36103), (38, 36121), (47, 36157), (74, 36265), (77, 36277), (94, 36442), (95, 36448), (105, 36643), (108, 36664), (110, 36685), (111, 36694), (117, 36751), (119, 36793), (121, 36847), (122, 36892), (130, 36961), (132, 36997), (134, 37024), (136, 37051), (140, 37111), (143, 37144), (144, 37147), (148, 37177), (149, 37195), (157, 37336), (162, 37387), (213, 37597), (214, 37603), (218, 37642), (219, 37684), (221, 37696), (223, 37714), (246, 37888), (248, 37897), (250, 37900), (251, 37903), (252, 37915), (253, 37927), (254, 37930), (259, 37945), (273, 38032), (277, 38047), (293, 38191), (294, 38203), (308, 38383), (312, 38401), (322, 38482), (325, 38518), (328, 38539), (332, 38605),

Gene: Jezreel\_88 Start: 35942, Stop: 38566, Start Num: 23

Candidate Starts for Jezreel\_88:

(Start: 23 @35942 has 152 MA's), (35, 36011), (36, 36017), (38, 36035), (47, 36071), (74, 36179), (77, 36191), (94, 36356), (95, 36362), (105, 36557), (108, 36578), (110, 36599), (111, 36608), (117, 36665), (119, 36707), (121, 36761), (122, 36806), (130, 36875), (132, 36911), (134, 36938), (136, 36965), (140, 37025), (143, 37058), (144, 37061), (148, 37091), (149, 37109), (157, 37250), (162, 37301), (213, 37511), (214, 37517), (215, 37523), (218, 37556), (219, 37598), (221, 37610), (223, 37628), (246, 37802), (248, 37811), (250, 37814), (251, 37817), (252, 37829), (253, 37841), (254, 37844), (259, 37859), (273, 37946), (277, 37961), (293, 38105), (294, 38117), (308, 38297), (312, 38315), (322, 38396), (325, 38432), (328, 38453), (332, 38519),

Gene: JigglyPuff\_96 Start: 37803, Stop: 40427, Start Num: 23

Candidate Starts for JigglyPuff\_96:

(22, 37755), (Start: 23 @37803 has 152 MA's), (35, 37872), (36, 37878), (38, 37896), (47, 37932), (74, 38040), (77, 38052), (94, 38217), (95, 38223), (105, 38418), (108, 38439), (110, 38460), (111, 38469), (117, 38526), (119, 38568), (121, 38622), (122, 38667), (130, 38736), (132, 38772), (134, 38799), (136, 38826), (140, 38886), (143, 38919), (144, 38922), (148, 38952), (149, 38970), (157, 39111), (162, 39162), (213, 39372), (214, 39378), (215, 39384), (218, 39417), (219, 39459), (221, 39471), (223, 39489), (246, 39663), (248, 39672), (250, 39675), (251, 39678), (252, 39690), (253, 39702), (254, 39705), (259, 39720), (273, 39807), (277, 39822), (293, 39966), (294, 39978), (308, 40158), (312, 40176), (322, 40257), (325, 40293), (328, 40314), (332, 40380),

Gene: JulietS\_83 Start: 33511, Stop: 36135, Start Num: 23

Candidate Starts for JulietS\_83:

(Start: 23 @33511 has 152 MA's), (35, 33580), (36, 33586), (38, 33604), (47, 33640), (74, 33748), (77, 33760), (94, 33925), (95, 33931), (105, 34126), (108, 34147), (110, 34168), (111, 34177), (117, 34234), (119, 34276), (121, 34330), (122, 34375), (130, 34444), (132, 34480), (134, 34507), (136, 34534), (140, 34594), (143, 34627), (144, 34630), (148, 34660), (149, 34678), (157, 34819), (162, 34870), (213, 35080), (214, 35086), (218, 35125), (219, 35167), (221, 35179), (223, 35197), (246, 35371), (248, 35380), (250, 35383), (251, 35386), (252, 35398), (253, 35410), (254, 35413), (259, 35428), (273, 35515), (277, 35530), (293, 35674), (294, 35686), (308, 35866), (312, 35884), (322, 35965), (325, 36001), (328, 36022), (332, 36088),

Gene: JustHall\_86 Start: 35178, Stop: 37781, Start Num: 23

Candidate Starts for JustHall\_86:

(Start: 23 @35178 has 152 MA's), (35, 35247), (36, 35253), (38, 35271), (47, 35307), (74, 35415), (77, 35427), (94, 35592), (95, 35598), (105, 35793), (108, 35814), (110, 35835), (111, 35844), (117, 35901), (119, 35943), (121, 35997), (122, 36042), (130, 36111), (132, 36147), (134, 36174), (136, 36201), (140, 36261), (143, 36294), (144, 36297), (147, 36318), (149, 36345), (153, 36417), (157, 36486), (162, 36537), (213, 36747), (214, 36753), (215, 36759), (218, 36792), (219, 36834), (221, 36846), (223, 36864), (246, 37038), (248, 37047), (250, 37050), (251, 37053), (252, 37065), (253, 37077), (254, 37080), (259, 37095), (273, 37161), (277, 37176), (293, 37320), (294, 37332), (308, 37512), (312, 37530), (322, 37611), (325, 37647), (328, 37668), (332, 37734),

Gene: Kamryn\_90 Start: 36767, Stop: 39391, Start Num: 23

Candidate Starts for Kamryn\_90:

(Start: 23 @36767 has 152 MA's), (35, 36836), (36, 36842), (38, 36860), (47, 36896), (74, 37004), (77, 37016), (94, 37181), (95, 37187), (105, 37382), (108, 37403), (110, 37424), (111, 37433), (117, 37490), (119, 37532), (121, 37586), (122, 37631), (130, 37700), (132, 37736), (134, 37763), (136, 37790), (140, 37850), (143, 37883), (144, 37886), (148, 37916), (149, 37934), (157, 38075), (162, 38126), (213, 38336), (214, 38342), (218, 38381), (219, 38423), (221, 38435), (223, 38453), (246, 38627), (248, 38636), (250, 38639), (251, 38642), (252, 38654), (253, 38666), (254, 38669), (259, 38684), (273, 38771), (277, 38786), (293, 38930), (294, 38942), (308, 39122), (312, 39140), (322, 39221), (325, 39257), (328, 39278), (332, 39344),

Gene: Kboogie\_93 Start: 34822, Stop: 37425, Start Num: 23

Candidate Starts for Kboogie\_93:

(Start: 23 @34822 has 152 MA's), (35, 34891), (36, 34897), (38, 34915), (47, 34951), (74, 35059), (77, 35071), (94, 35236), (95, 35242), (105, 35437), (108, 35458), (110, 35479), (111, 35488), (117, 35545), (119, 35587), (121, 35641), (122, 35686), (130, 35755), (132, 35791), (134, 35818), (136, 35845), (140, 35905), (143, 35938), (144, 35941), (147, 35962), (149, 35989), (153, 36061), (157, 36130), (162, 36181), (213, 36391), (214, 36397), (215, 36403), (218, 36436), (219, 36478), (221, 36490), (223, 36508), (246, 36682), (248, 36691), (250, 36694), (251, 36697), (252, 36709), (253, 36721), (254, 36724), (259, 36739), (273, 36805), (277, 36820), (293, 36964), (294, 36976), (308, 37156), (312, 37174), (322, 37255), (325, 37291), (328, 37312), (332, 37378),

Gene: Khaleesi\_89 Start: 35990, Stop: 38614, Start Num: 23

Candidate Starts for Khaleesi\_89:

(Start: 23 @35990 has 152 MA's), (35, 36059), (36, 36065), (38, 36083), (47, 36119), (74, 36227), (77, 36239), (94, 36404), (95, 36410), (105, 36605), (108, 36626), (110, 36647), (111, 36656), (117, 36713), (119, 36755), (121, 36809), (122, 36854), (130, 36923), (132, 36959), (134, 36986), (136, 37013), (140, 37073), (143, 37106), (144, 37109), (148, 37139), (149, 37157), (157, 37298), (162, 37349), (213, 37559), (214, 37565), (218, 37604), (219, 37646), (221, 37658), (223, 37676), (246, 37850), (248, 37859), (250, 37862), (251, 37865), (252, 37877), (253, 37889), (254, 37892), (259, 37907), (273, 37994), (277, 38009), (293, 38153), (294, 38165), (308, 38345), (312, 38363), (322, 38444), (325, 38480), (328, 38501), (332, 38567),

Gene: Koguma\_86 Start: 33731, Stop: 36355, Start Num: 23

Candidate Starts for Koguma\_86:

(Start: 23 @33731 has 152 MA's), (35, 33800), (36, 33806), (38, 33824), (47, 33860), (74, 33968), (77, 33980), (94, 34145), (95, 34151), (105, 34346), (108, 34367), (110, 34388), (111, 34397), (117, 34454), (119, 34496), (121, 34550), (122, 34595), (130, 34664), (132, 34700), (134, 34727), (136, 34754), (140, 34814), (143, 34847), (144, 34850), (148, 34880), (149, 34898), (157, 35039), (162, 35090), (213, 35300), (214, 35306), (218, 35345), (219, 35387), (221, 35399), (223, 35417), (246, 35591), (248, 35600), (250, 35603), (251, 35606), (252, 35618), (253, 35630), (254, 35633), (259, 35648), (273, 35735), (277, 35750), (293, 35894), (294, 35906), (308, 36086), (312, 36104), (322,

36185), (325, 36221), (328, 36242), (332, 36308),

Gene: LRRHood\_84 Start: 35550, Stop: 38174, Start Num: 23

Candidate Starts for LRRHood\_84:

(Start: 23 @35550 has 152 MA's), (35, 35619), (36, 35625), (38, 35643), (47, 35679), (74, 35787), (77, 35799), (94, 35964), (95, 35970), (105, 36165), (108, 36186), (110, 36207), (111, 36216), (117, 36273), (119, 36315), (121, 36369), (122, 36414), (130, 36483), (132, 36519), (134, 36546), (136, 36573), (140, 36633), (143, 36666), (144, 36669), (148, 36699), (149, 36717), (157, 36858), (162, 36909), (213, 37119), (214, 37125), (218, 37164), (219, 37206), (221, 37218), (223, 37236), (246, 37410), (248, 37419), (250, 37422), (251, 37425), (252, 37437), (253, 37449), (254, 37452), (259, 37467), (273, 37554), (277, 37569), (293, 37713), (294, 37725), (308, 37905), (312, 37923), (322, 38004), (325, 38040), (328, 38061), (332, 38127),

Gene: Latch\_90 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for Latch\_90:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Lee7\_88 Start: 35853, Stop: 38477, Start Num: 23

Candidate Starts for Lee7\_88:

(Start: 23 @35853 has 152 MA's), (35, 35922), (36, 35928), (38, 35946), (47, 35982), (74, 36090), (77, 36102), (94, 36267), (95, 36273), (105, 36468), (108, 36489), (110, 36510), (111, 36519), (117, 36576), (119, 36618), (121, 36672), (122, 36717), (130, 36786), (132, 36822), (134, 36849), (136, 36876), (140, 36936), (143, 36969), (144, 36972), (148, 37002), (149, 37020), (157, 37161), (162, 37212), (213, 37422), (214, 37428), (218, 37467), (219, 37509), (221, 37521), (223, 37539), (246, 37713), (248, 37722), (250, 37725), (251, 37728), (252, 37740), (253, 37752), (254, 37755), (259, 37770), (273, 37857), (277, 37872), (293, 38016), (294, 38028), (308, 38208), (312, 38226), (322, 38307), (325, 38343), (328, 38364), (332, 38430),

Gene: Lethe\_90 Start: 36438, Stop: 39062, Start Num: 23

Candidate Starts for Lethe\_90:

(Start: 23 @36438 has 152 MA's), (35, 36507), (36, 36513), (38, 36531), (47, 36567), (74, 36675), (77, 36687), (94, 36852), (95, 36858), (105, 37053), (108, 37074), (110, 37095), (111, 37104), (117, 37161), (119, 37203), (121, 37257), (122, 37302), (130, 37371), (132, 37407), (134, 37434), (136, 37461), (140, 37521), (143, 37554), (144, 37557), (148, 37587), (149, 37605), (157, 37746), (162, 37797), (213, 38007), (214, 38013), (218, 38052), (219, 38094), (221, 38106), (223, 38124), (246, 38298), (248, 38307), (250, 38310), (251, 38313), (252, 38325), (253, 38337), (254, 38340), (259, 38355), (273, 38442), (277, 38457), (293, 38601), (294, 38613), (308, 38793), (312, 38811), (322, 38892), (325, 38928), (328, 38949), (332, 39015),

Gene: LifeSavor\_89 Start: 34965, Stop: 38393, Start Num: 1

Candidate Starts for LifeSavor\_89:

(Start: 1 @34965 has 18 MA's), (Start: 2 @35034 has 1 MA's), (3, 35040), (4, 35058), (6, 35094), (10, 35202), (11, 35214), (13, 35337), (14, 35388), (15, 35442), (16, 35454), (17, 35475), (Start: 26 @35769 has 2 MA's), (32, 35814), (49, 35892), (56, 35928), (65, 35961), (70, 35976), (79, 36021), (81, 36030), (85, 36063), (88, 36099), (94, 36183), (95, 36189), (105, 36384), (108, 36405), (110, 36426), (111, 36435), (117, 36492), (119, 36534), (121, 36588), (122, 36633), (130, 36702), (132, 36738),

(134, 36765), (136, 36792), (140, 36852), (143, 36885), (144, 36888), (148, 36918), (149, 36936), (157, 37077), (162, 37128), (213, 37338), (214, 37344), (218, 37383), (219, 37425), (221, 37437), (223, 37455), (246, 37629), (248, 37638), (250, 37641), (251, 37644), (252, 37656), (253, 37668), (254, 37671), (259, 37686), (273, 37773), (277, 37788), (293, 37932), (294, 37944), (308, 38124), (312, 38142), (322, 38223), (325, 38259), (328, 38280), (332, 38346),

Gene: LinStu\_90 Start: 36614, Stop: 39238, Start Num: 23

Candidate Starts for LinStu\_90:

(Start: 23 @36614 has 152 MA's), (35, 36683), (36, 36689), (38, 36707), (47, 36743), (74, 36851), (77, 36863), (94, 37028), (95, 37034), (105, 37229), (108, 37250), (110, 37271), (111, 37280), (117, 37337), (119, 37379), (121, 37433), (122, 37478), (130, 37547), (132, 37583), (134, 37610), (136, 37637), (140, 37697), (143, 37730), (144, 37733), (148, 37763), (149, 37781), (157, 37922), (162, 37973), (213, 38183), (214, 38189), (218, 38228), (219, 38270), (221, 38282), (223, 38300), (246, 38474), (248, 38483), (250, 38486), (251, 38489), (252, 38501), (253, 38513), (254, 38516), (259, 38531), (273, 38618), (277, 38633), (293, 38777), (294, 38789), (308, 38969), (312, 38987), (322, 39068), (325, 39104), (328, 39125), (332, 39191),

Gene: Littleton\_90 Start: 35203, Stop: 37827, Start Num: 23

Candidate Starts for Littleton\_90:

(Start: 23 @35203 has 152 MA's), (35, 35272), (36, 35278), (38, 35296), (47, 35332), (74, 35440), (77, 35452), (94, 35617), (95, 35623), (105, 35818), (108, 35839), (110, 35860), (111, 35869), (117, 35926), (119, 35968), (121, 36022), (122, 36067), (130, 36136), (132, 36172), (134, 36199), (136, 36226), (140, 36286), (141, 36298), (143, 36319), (144, 36322), (148, 36352), (149, 36370), (157, 36511), (162, 36562), (213, 36772), (214, 36778), (218, 36817), (219, 36859), (221, 36871), (223, 36889), (246, 37063), (248, 37072), (250, 37075), (251, 37078), (252, 37090), (253, 37102), (254, 37105), (259, 37120), (273, 37207), (277, 37222), (293, 37366), (294, 37378), (308, 37558), (312, 37576), (322, 37657), (325, 37693), (328, 37714), (332, 37780),

Gene: Loanshark\_90 Start: 36243, Stop: 38867, Start Num: 23

Candidate Starts for Loanshark\_90:

(Start: 23 @36243 has 152 MA's), (35, 36312), (36, 36318), (38, 36336), (47, 36372), (74, 36480), (77, 36492), (94, 36657), (95, 36663), (105, 36858), (108, 36879), (110, 36900), (111, 36909), (117, 36966), (119, 37008), (121, 37062), (122, 37107), (130, 37176), (132, 37212), (134, 37239), (136, 37266), (140, 37326), (143, 37359), (144, 37362), (148, 37392), (149, 37410), (157, 37551), (162, 37602), (213, 37812), (214, 37818), (218, 37857), (219, 37899), (221, 37911), (223, 37929), (246, 38103), (248, 38112), (250, 38115), (251, 38118), (252, 38130), (253, 38142), (254, 38145), (259, 38160), (273, 38247), (277, 38262), (293, 38406), (294, 38418), (308, 38598), (312, 38616), (322, 38697), (325, 38733), (328, 38754), (332, 38820),

Gene: LolaVinca\_92 Start: 37349, Stop: 39973, Start Num: 23

Candidate Starts for LolaVinca\_92:

(Start: 23 @37349 has 152 MA's), (35, 37418), (36, 37424), (38, 37442), (47, 37478), (74, 37586), (77, 37598), (94, 37763), (95, 37769), (105, 37964), (108, 37985), (110, 38006), (111, 38015), (117, 38072), (119, 38114), (121, 38168), (122, 38213), (130, 38282), (132, 38318), (134, 38345), (136, 38372), (140, 38432), (141, 38444), (143, 38465), (144, 38468), (148, 38498), (149, 38516), (157, 38657), (162, 38708), (213, 38918), (214, 38924), (218, 38963), (219, 39005), (221, 39017), (223, 39035), (246, 39209), (248, 39218), (250, 39221), (251, 39224), (252, 39236), (253, 39248), (254, 39251), (259, 39266), (273, 39353), (277, 39368), (293, 39512), (294, 39524), (308, 39704), (312, 39722), (322, 39803), (325, 39839), (328, 39860), (332, 39926),

Gene: LordLeafolot\_95 Start: 38340, Stop: 40964, Start Num: 23

Candidate Starts for LordLeafolot\_95:

(Start: 23 @38340 has 152 MA's), (35, 38409), (36, 38415), (38, 38433), (47, 38469), (74, 38577), (77, 38589), (94, 38754), (95, 38760), (105, 38955), (108, 38976), (110, 38997), (111, 39006), (117, 39063), (119, 39105), (121, 39159), (122, 39204), (130, 39273), (132, 39309), (134, 39336), (136, 39363), (140, 39423), (143, 39456), (144, 39459), (148, 39489), (149, 39507), (157, 39648), (162, 39699), (213, 39909), (214, 39915), (215, 39921), (218, 39954), (219, 39996), (221, 40008), (223, 40026), (246, 40200), (248, 40209), (250, 40212), (251, 40215), (252, 40227), (253, 40239), (254, 40242), (259, 40257), (273, 40344), (277, 40359), (293, 40503), (294, 40515), (308, 40695), (312, 40713), (322, 40794), (325, 40830), (328, 40851), (332, 40917),

Gene: Lukilu\_81 Start: 35083, Stop: 37707, Start Num: 23

Candidate Starts for Lukilu\_81:

(Start: 23 @35083 has 152 MA's), (35, 35152), (36, 35158), (38, 35176), (47, 35212), (74, 35320), (77, 35332), (94, 35497), (95, 35503), (105, 35698), (108, 35719), (110, 35740), (111, 35749), (117, 35806), (119, 35848), (121, 35902), (122, 35947), (130, 36016), (132, 36052), (134, 36079), (136, 36106), (140, 36166), (143, 36199), (144, 36202), (148, 36232), (149, 36250), (157, 36391), (162, 36442), (213, 36652), (214, 36658), (218, 36697), (219, 36739), (221, 36751), (223, 36769), (246, 36943), (248, 36952), (250, 36955), (251, 36958), (252, 36970), (253, 36982), (254, 36985), (259, 37000), (273, 37087), (277, 37102), (293, 37246), (294, 37258), (308, 37438), (312, 37456), (322, 37537), (325, 37573), (328, 37594), (332, 37660),

Gene: Maby2021\_90 Start: 35924, Stop: 38548, Start Num: 23

Candidate Starts for Maby2021\_90:

(Start: 23 @35924 has 152 MA's), (35, 35993), (36, 35999), (38, 36017), (47, 36053), (74, 36161), (77, 36173), (94, 36338), (95, 36344), (105, 36539), (108, 36560), (110, 36581), (111, 36590), (117, 36647), (119, 36689), (121, 36743), (122, 36788), (130, 36857), (132, 36893), (134, 36920), (136, 36947), (140, 37007), (143, 37040), (144, 37043), (147, 37064), (149, 37091), (153, 37163), (157, 37232), (162, 37283), (213, 37493), (214, 37499), (218, 37538), (219, 37580), (221, 37592), (223, 37610), (246, 37784), (248, 37793), (250, 37796), (251, 37799), (252, 37811), (253, 37823), (254, 37826), (259, 37841), (273, 37928), (277, 37943), (293, 38087), (294, 38099), (308, 38279), (312, 38297), (322, 38378), (325, 38414), (328, 38435), (332, 38501),

Gene: Mangeria\_90 Start: 36205, Stop: 38829, Start Num: 23

Candidate Starts for Mangeria\_90:

(Start: 23 @36205 has 152 MA's), (35, 36274), (36, 36280), (38, 36298), (47, 36334), (74, 36442), (77, 36454), (94, 36619), (95, 36625), (105, 36820), (108, 36841), (110, 36862), (111, 36871), (117, 36928), (119, 36970), (121, 37024), (122, 37069), (130, 37138), (132, 37174), (134, 37201), (136, 37228), (140, 37288), (143, 37321), (144, 37324), (148, 37354), (149, 37372), (157, 37513), (162, 37564), (213, 37774), (214, 37780), (218, 37819), (219, 37861), (221, 37873), (223, 37891), (246, 38065), (250, 38077), (251, 38080), (252, 38092), (253, 38104), (254, 38107), (259, 38122), (273, 38209), (277, 38224), (293, 38368), (294, 38380), (308, 38560), (312, 38578), (322, 38659), (325, 38695), (328, 38716), (332, 38782),

Gene: Matsumoto\_88 Start: 35164, Stop: 38592, Start Num: 1

Candidate Starts for Matsumoto\_88:

(Start: 1 @35164 has 18 MA's), (Start: 2 @35233 has 1 MA's), (3, 35239), (4, 35257), (6, 35293), (10, 35401), (11, 35413), (13, 35536), (14, 35587), (15, 35641), (16, 35653), (17, 35674), (Start: 26 @35968 has 2 MA's), (32, 36013), (49, 36091), (56, 36127), (65, 36160), (70, 36175), (79, 36220), (81, 36229), (85, 36262), (88, 36298), (94, 36382), (95, 36388), (105, 36583), (108, 36604), (110, 36625), (111, 36634), (117, 36691), (119, 36733), (121, 36787), (122, 36832), (130, 36901), (132, 36937), (134, 36964), (136, 36991), (140, 37051), (143, 37084), (144, 37087), (148, 37117), (149, 37135), (157, 37276), (162, 37327), (213, 37537), (214, 37543), (218, 37582), (219, 37624), (221, 37636), (223, 37654), (246, 37828), (248, 37837), (250, 37840), (251, 37843), (252, 37855), (253, 37867), (254, 37870), (259, 37885), (273, 37972), (277, 37987), (293, 38131), (294, 38143), (308, 38323),



(312, 38341), (322, 38422), (325, 38458), (328, 38479), (332, 38545),

Gene: McGee\_91 Start: 34432, Stop: 37056, Start Num: 23

Candidate Starts for McGee\_91:

(Start: 23 @34432 has 152 MA's), (35, 34501), (36, 34507), (38, 34525), (47, 34561), (74, 34669), (77, 34681), (94, 34846), (95, 34852), (105, 35047), (108, 35068), (110, 35089), (111, 35098), (117, 35155), (119, 35197), (121, 35251), (122, 35296), (130, 35365), (132, 35401), (134, 35428), (136, 35455), (140, 35515), (143, 35548), (144, 35551), (148, 35581), (149, 35599), (157, 35740), (162, 35791), (213, 36001), (214, 36007), (218, 36046), (219, 36088), (221, 36100), (223, 36118), (246, 36292), (248, 36301), (250, 36304), (251, 36307), (252, 36319), (253, 36331), (254, 36334), (259, 36349), (273, 36436), (277, 36451), (293, 36595), (294, 36607), (308, 36787), (312, 36805), (322, 36886), (325, 36922), (328, 36943), (332, 37009),

Gene: McWolfish\_88 Start: 35671, Stop: 38274, Start Num: 23

Candidate Starts for McWolfish\_88:

(Start: 23 @35671 has 152 MA's), (35, 35740), (36, 35746), (38, 35764), (47, 35800), (74, 35908), (77, 35920), (94, 36085), (95, 36091), (105, 36286), (108, 36307), (110, 36328), (111, 36337), (117, 36394), (119, 36436), (121, 36490), (122, 36535), (130, 36604), (132, 36640), (134, 36667), (136, 36694), (140, 36754), (143, 36787), (144, 36790), (147, 36811), (149, 36838), (153, 36910), (157, 36979), (162, 37030), (213, 37240), (214, 37246), (218, 37285), (219, 37327), (221, 37339), (223, 37357), (246, 37531), (248, 37540), (250, 37543), (251, 37546), (252, 37558), (253, 37570), (254, 37573), (259, 37588), (273, 37654), (277, 37669), (293, 37813), (294, 37825), (308, 38005), (312, 38023), (322, 38104), (325, 38140), (328, 38161), (332, 38227),

Gene: Megamind\_89 Start: 35909, Stop: 38533, Start Num: 23

Candidate Starts for Megamind\_89:

(Start: 23 @35909 has 152 MA's), (35, 35978), (36, 35984), (38, 36002), (47, 36038), (74, 36146), (77, 36158), (94, 36323), (95, 36329), (105, 36524), (108, 36545), (110, 36566), (111, 36575), (117, 36632), (119, 36674), (121, 36728), (122, 36773), (130, 36842), (132, 36878), (134, 36905), (136, 36932), (140, 36992), (143, 37025), (144, 37028), (148, 37058), (149, 37076), (157, 37217), (162, 37268), (213, 37478), (214, 37484), (218, 37523), (219, 37565), (221, 37577), (223, 37595), (246, 37769), (248, 37778), (250, 37781), (251, 37784), (252, 37796), (253, 37808), (254, 37811), (259, 37826), (273, 37913), (277, 37928), (293, 38072), (294, 38084), (308, 38264), (312, 38282), (322, 38363), (325, 38399), (328, 38420), (332, 38486),

Gene: Melpomini\_84 Start: 33455, Stop: 36058, Start Num: 23

Candidate Starts for Melpomini\_84:

(Start: 23 @33455 has 152 MA's), (35, 33524), (36, 33530), (38, 33548), (47, 33584), (74, 33692), (77, 33704), (94, 33869), (95, 33875), (105, 34070), (108, 34091), (110, 34112), (111, 34121), (117, 34178), (119, 34220), (121, 34274), (122, 34319), (130, 34388), (132, 34424), (134, 34451), (136, 34478), (140, 34538), (143, 34571), (144, 34574), (147, 34595), (149, 34622), (153, 34694), (157, 34763), (162, 34814), (213, 35024), (214, 35030), (215, 35036), (218, 35069), (219, 35111), (221, 35123), (223, 35141), (246, 35315), (248, 35324), (250, 35327), (251, 35330), (252, 35342), (253, 35354), (254, 35357), (259, 35372), (273, 35438), (277, 35453), (293, 35597), (294, 35609), (308, 35789), (312, 35807), (322, 35888), (325, 35924), (328, 35945), (332, 36011),

Gene: MikeLiesIn\_91 Start: 36256, Stop: 38880, Start Num: 23

Candidate Starts for MikeLiesIn\_91:

(Start: 23 @36256 has 152 MA's), (35, 36325), (36, 36331), (38, 36349), (47, 36385), (74, 36493), (77, 36505), (94, 36670), (95, 36676), (105, 36871), (108, 36892), (110, 36913), (111, 36922), (117, 36979), (119, 37021), (121, 37075), (122, 37120), (130, 37189), (132, 37225), (134, 37252), (136, 37279), (140, 37339), (143, 37372), (144, 37375), (148, 37405), (149, 37423), (157, 37564), (162, 37615), (213, 37825), (214, 37831), (218, 37870), (219, 37912), (221, 37924), (223, 37942), (246,

38116), (248, 38125), (250, 38128), (251, 38131), (252, 38143), (253, 38155), (254, 38158), (259, 38173), (273, 38260), (277, 38275), (293, 38419), (294, 38431), (308, 38611), (312, 38629), (322, 38710), (325, 38746), (328, 38767), (332, 38833),

Gene: Mikro\_88 Start: 37167, Stop: 39791, Start Num: 23

Candidate Starts for Mikro\_88:

(Start: 23 @37167 has 152 MA's), (35, 37236), (36, 37242), (38, 37260), (47, 37296), (74, 37404), (77, 37416), (94, 37581), (95, 37587), (105, 37782), (108, 37803), (110, 37824), (111, 37833), (117, 37890), (119, 37932), (121, 37986), (122, 38031), (130, 38100), (132, 38136), (134, 38163), (136, 38190), (140, 38250), (143, 38283), (144, 38286), (148, 38316), (149, 38334), (157, 38475), (162, 38526), (213, 38736), (214, 38742), (215, 38748), (218, 38781), (219, 38823), (221, 38835), (223, 38853), (246, 39027), (248, 39036), (250, 39039), (251, 39042), (252, 39054), (253, 39066), (254, 39069), (259, 39084), (273, 39171), (277, 39186), (293, 39330), (294, 39342), (308, 39522), (312, 39540), (322, 39621), (325, 39657), (328, 39678), (332, 39744),

Gene: MoMoMixon\_91 Start: 36002, Stop: 38605, Start Num: 23

Candidate Starts for MoMoMixon\_91:

(Start: 23 @36002 has 152 MA's), (35, 36071), (36, 36077), (38, 36095), (47, 36131), (74, 36239), (77, 36251), (94, 36416), (95, 36422), (105, 36617), (108, 36638), (110, 36659), (111, 36668), (117, 36725), (119, 36767), (121, 36821), (122, 36866), (130, 36935), (132, 36971), (134, 36998), (136, 37025), (140, 37085), (143, 37118), (144, 37121), (148, 37151), (149, 37169), (157, 37310), (162, 37361), (213, 37571), (214, 37577), (218, 37616), (219, 37658), (221, 37670), (223, 37688), (246, 37862), (248, 37871), (250, 37874), (251, 37877), (252, 37889), (253, 37901), (254, 37904), (259, 37919), (273, 37985), (277, 38000), (293, 38144), (294, 38156), (308, 38336), (312, 38354), (322, 38435), (325, 38471), (328, 38492), (332, 38558),

Gene: Momo\_89 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for Momo\_89:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Morizzled23\_90 Start: 34975, Stop: 37578, Start Num: 23

Candidate Starts for Morizzled23\_90:

(Start: 23 @34975 has 152 MA's), (35, 35044), (36, 35050), (38, 35068), (47, 35104), (74, 35212), (77, 35224), (94, 35389), (95, 35395), (105, 35590), (108, 35611), (110, 35632), (111, 35641), (117, 35698), (119, 35740), (121, 35794), (122, 35839), (130, 35908), (132, 35944), (134, 35971), (136, 35998), (140, 36058), (143, 36091), (144, 36094), (147, 36115), (149, 36142), (153, 36214), (157, 36283), (162, 36334), (213, 36544), (214, 36550), (215, 36556), (218, 36589), (219, 36631), (221, 36643), (223, 36661), (246, 36835), (248, 36844), (250, 36847), (251, 36850), (252, 36862), (253, 36874), (254, 36877), (259, 36892), (273, 36958), (277, 36973), (293, 37117), (294, 37129), (308, 37309), (312, 37327), (322, 37408), (325, 37444), (328, 37465), (332, 37531),

Gene: Myrna\_89 Start: 37944, Stop: 40463, Start Num: 31

Candidate Starts for Myrna\_89:

(Start: 31 @37944 has 3 MA's), (34, 37947), (48, 38004), (54, 38040), (55, 38049), (61, 38070), (65, 38088), (69, 38097), (74, 38118), (77, 38130), (78, 38139), (92, 38256), (95, 38301), (97, 38349), (105, 38496), (108, 38517), (110, 38538), (111, 38547), (112, 38559), (113, 38562), (115, 38586), (122,

38745), (130, 38814), (132, 38850), (144, 39000), (148, 39030), (149, 39048), (156, 39186), (157, 39189), (158, 39192), (164, 39288), (165, 39294), (170, 39357), (172, 39381), (213, 39450), (214, 39456), (215, 39462), (217, 39477), (218, 39495), (221, 39549), (223, 39567), (241, 39729), (246, 39741), (250, 39753), (253, 39780), (259, 39798), (260, 39804), (267, 39864), (271, 39894), (289, 40056), (294, 40080), (309, 40218), (312, 40233), (316, 40260), (320, 40284), (334, 40437),

Gene: Naija\_89 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for Naija\_89:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Napoleon13\_86 Start: 34051, Stop: 36675, Start Num: 23

Candidate Starts for Napoleon13\_86:

(Start: 23 @34051 has 152 MA's), (35, 34120), (36, 34126), (38, 34144), (47, 34180), (74, 34288), (77, 34300), (94, 34465), (95, 34471), (105, 34666), (108, 34687), (110, 34708), (111, 34717), (117, 34774), (119, 34816), (121, 34870), (122, 34915), (130, 34984), (132, 35020), (134, 35047), (136, 35074), (140, 35134), (143, 35167), (144, 35170), (147, 35191), (149, 35218), (153, 35290), (157, 35359), (162, 35410), (213, 35620), (214, 35626), (218, 35665), (219, 35707), (221, 35719), (223, 35737), (246, 35911), (248, 35920), (250, 35923), (251, 35926), (252, 35938), (253, 35950), (254, 35953), (259, 35968), (273, 36055), (277, 36070), (293, 36214), (294, 36226), (308, 36406), (312, 36424), (322, 36505), (325, 36541), (328, 36562), (332, 36628),

Gene: Nappy\_92 Start: 36807, Stop: 39431, Start Num: 23

Candidate Starts for Nappy\_92:

(Start: 23 @36807 has 152 MA's), (35, 36876), (36, 36882), (38, 36900), (47, 36936), (74, 37044), (77, 37056), (94, 37221), (95, 37227), (105, 37422), (108, 37443), (110, 37464), (111, 37473), (117, 37530), (119, 37572), (121, 37626), (122, 37671), (130, 37740), (132, 37776), (134, 37803), (136, 37830), (140, 37890), (143, 37923), (144, 37926), (148, 37956), (149, 37974), (157, 38115), (162, 38166), (213, 38376), (214, 38382), (215, 38388), (218, 38421), (219, 38463), (221, 38475), (223, 38493), (246, 38667), (248, 38676), (250, 38679), (251, 38682), (252, 38694), (253, 38706), (254, 38709), (259, 38724), (273, 38811), (277, 38826), (293, 38970), (294, 38982), (308, 39162), (312, 39180), (322, 39261), (325, 39297), (328, 39318), (332, 39384),

Gene: Naval22\_95 Start: 37847, Stop: 40471, Start Num: 23

Candidate Starts for Naval22\_95:

(Start: 23 @37847 has 152 MA's), (35, 37916), (36, 37922), (38, 37940), (47, 37976), (74, 38084), (77, 38096), (94, 38261), (95, 38267), (105, 38462), (108, 38483), (110, 38504), (111, 38513), (117, 38570), (119, 38612), (121, 38666), (122, 38711), (130, 38780), (132, 38816), (134, 38843), (136, 38870), (140, 38930), (143, 38963), (144, 38966), (148, 38996), (149, 39014), (157, 39155), (162, 39206), (213, 39416), (214, 39422), (218, 39461), (219, 39503), (221, 39515), (223, 39533), (246, 39707), (248, 39716), (250, 39719), (251, 39722), (252, 39734), (253, 39746), (254, 39749), (259, 39764), (273, 39851), (277, 39866), (293, 40010), (294, 40022), (308, 40202), (312, 40220), (322, 40301), (325, 40337), (328, 40358), (332, 40424),

Gene: NedWong\_91 Start: 36243, Stop: 38867, Start Num: 23

Candidate Starts for NedWong\_91:

(Start: 23 @36243 has 152 MA's), (35, 36312), (36, 36318), (38, 36336), (47, 36372), (74, 36480), (77, 36492), (94, 36657), (95, 36663), (105, 36858), (108, 36879), (110, 36900), (111, 36909), (117, 36966), (119, 37008), (121, 37062), (122, 37107), (130, 37176), (132, 37212), (134, 37239), (136, 37266), (140, 37326), (143, 37359), (144, 37362), (148, 37392), (149, 37410), (157, 37551), (162, 37602), (213, 37812), (214, 37818), (218, 37857), (219, 37899), (221, 37911), (223, 37929), (246, 38103), (248, 38112), (250, 38115), (251, 38118), (252, 38130), (253, 38142), (254, 38145), (259, 38160), (273, 38247), (277, 38262), (293, 38406), (294, 38418), (308, 38598), (312, 38616), (322, 38697), (325, 38733), (328, 38754), (332, 38820),

Gene: Ngannou\_86 Start: 34230, Stop: 36854, Start Num: 23

Candidate Starts for Ngannou\_86:

(Start: 23 @34230 has 152 MA's), (35, 34299), (36, 34305), (38, 34323), (47, 34359), (74, 34467), (77, 34479), (94, 34644), (95, 34650), (105, 34845), (108, 34866), (110, 34887), (111, 34896), (117, 34953), (119, 34995), (121, 35049), (122, 35094), (130, 35163), (132, 35199), (134, 35226), (136, 35253), (140, 35313), (143, 35346), (144, 35349), (148, 35379), (149, 35397), (157, 35538), (162, 35589), (213, 35799), (214, 35805), (218, 35844), (219, 35886), (221, 35898), (223, 35916), (246, 36090), (248, 36099), (250, 36102), (251, 36105), (252, 36117), (253, 36129), (254, 36132), (259, 36147), (273, 36234), (277, 36249), (293, 36393), (294, 36405), (308, 36585), (312, 36603), (322, 36684), (325, 36720), (328, 36741), (332, 36807),

Gene: Nidhogg\_91 Start: 36097, Stop: 38721, Start Num: 23

Candidate Starts for Nidhogg\_91:

(Start: 23 @36097 has 152 MA's), (35, 36166), (36, 36172), (38, 36190), (47, 36226), (74, 36334), (77, 36346), (94, 36511), (95, 36517), (105, 36712), (108, 36733), (110, 36754), (111, 36763), (117, 36820), (119, 36862), (121, 36916), (122, 36961), (130, 37030), (132, 37066), (134, 37093), (136, 37120), (140, 37180), (143, 37213), (144, 37216), (147, 37237), (149, 37264), (153, 37336), (157, 37405), (162, 37456), (213, 37666), (214, 37672), (218, 37711), (219, 37753), (221, 37765), (223, 37783), (246, 37957), (248, 37966), (250, 37969), (251, 37972), (252, 37984), (253, 37996), (254, 37999), (259, 38014), (273, 38101), (277, 38116), (293, 38260), (294, 38272), (308, 38452), (312, 38470), (322, 38551), (325, 38587), (328, 38608), (332, 38674),

Gene: NoodleTree\_98 Start: 37274, Stop: 39898, Start Num: 23

Candidate Starts for NoodleTree\_98:

(Start: 23 @37274 has 152 MA's), (35, 37343), (36, 37349), (38, 37367), (47, 37403), (74, 37511), (77, 37523), (94, 37688), (95, 37694), (105, 37889), (108, 37910), (110, 37931), (111, 37940), (117, 37997), (119, 38039), (121, 38093), (122, 38138), (130, 38207), (132, 38243), (134, 38270), (136, 38297), (140, 38357), (143, 38390), (144, 38393), (148, 38423), (149, 38441), (157, 38582), (162, 38633), (213, 38843), (214, 38849), (215, 38855), (218, 38888), (219, 38930), (221, 38942), (223, 38960), (246, 39134), (248, 39143), (250, 39146), (251, 39149), (252, 39161), (253, 39173), (254, 39176), (259, 39191), (273, 39278), (277, 39293), (293, 39437), (294, 39449), (308, 39629), (312, 39647), (322, 39728), (325, 39764), (328, 39785), (332, 39851),

Gene: Norm\_91 Start: 36245, Stop: 38869, Start Num: 23

Candidate Starts for Norm\_91:

(Start: 23 @36245 has 152 MA's), (35, 36314), (36, 36320), (38, 36338), (47, 36374), (74, 36482), (77, 36494), (94, 36659), (95, 36665), (105, 36860), (108, 36881), (110, 36902), (111, 36911), (117, 36968), (119, 37010), (121, 37064), (122, 37109), (130, 37178), (132, 37214), (134, 37241), (136, 37268), (140, 37328), (143, 37361), (144, 37364), (148, 37394), (149, 37412), (157, 37553), (162, 37604), (213, 37814), (214, 37820), (218, 37859), (219, 37901), (221, 37913), (223, 37931), (246, 38105), (248, 38114), (250, 38117), (251, 38120), (252, 38132), (253, 38144), (254, 38147), (259, 38162), (273, 38249), (277, 38264), (293, 38408), (294, 38420), (308, 38600), (312, 38618), (322, 38699), (325, 38735), (328, 38756), (332, 38822),

Gene: NuevoMundo\_96 Start: 38204, Stop: 40828, Start Num: 23

Candidate Starts for NuevoMundo\_96:

(Start: 23 @38204 has 152 MA's), (35, 38273), (36, 38279), (38, 38297), (47, 38333), (74, 38441), (77, 38453), (94, 38618), (95, 38624), (105, 38819), (108, 38840), (110, 38861), (111, 38870), (117, 38927), (119, 38969), (121, 39023), (122, 39068), (130, 39137), (132, 39173), (134, 39200), (136, 39227), (140, 39287), (143, 39320), (144, 39323), (148, 39353), (149, 39371), (157, 39512), (162, 39563), (213, 39773), (214, 39779), (215, 39785), (218, 39818), (219, 39860), (221, 39872), (223, 39890), (246, 40064), (248, 40073), (250, 40076), (251, 40079), (252, 40091), (253, 40103), (254, 40106), (259, 40121), (273, 40208), (277, 40223), (293, 40367), (294, 40379), (308, 40559), (312, 40577), (322, 40658), (325, 40694), (328, 40715), (332, 40781),

Gene: ParkTD\_91 Start: 36239, Stop: 38863, Start Num: 23

Candidate Starts for ParkTD\_91:

(Start: 23 @36239 has 152 MA's), (35, 36308), (36, 36314), (38, 36332), (47, 36368), (74, 36476), (77, 36488), (94, 36653), (95, 36659), (105, 36854), (108, 36875), (110, 36896), (111, 36905), (117, 36962), (119, 37004), (121, 37058), (122, 37103), (130, 37172), (132, 37208), (134, 37235), (136, 37262), (140, 37322), (143, 37355), (144, 37358), (148, 37388), (149, 37406), (157, 37547), (162, 37598), (213, 37808), (214, 37814), (218, 37853), (219, 37895), (221, 37907), (223, 37925), (246, 38099), (248, 38108), (250, 38111), (251, 38114), (252, 38126), (253, 38138), (254, 38141), (259, 38156), (273, 38243), (277, 38258), (293, 38402), (294, 38414), (308, 38594), (312, 38612), (322, 38693), (325, 38729), (328, 38750), (332, 38816),

Gene: Patter\_90 Start: 35265, Stop: 37889, Start Num: 23

Candidate Starts for Patter\_90:

(Start: 23 @35265 has 152 MA's), (35, 35334), (36, 35340), (38, 35358), (47, 35394), (74, 35502), (77, 35514), (94, 35679), (95, 35685), (105, 35880), (108, 35901), (110, 35922), (111, 35931), (117, 35988), (119, 36030), (121, 36084), (122, 36129), (130, 36198), (132, 36234), (134, 36261), (136, 36288), (140, 36348), (143, 36381), (144, 36384), (148, 36414), (149, 36432), (157, 36573), (162, 36624), (213, 36834), (214, 36840), (218, 36879), (219, 36921), (221, 36933), (223, 36951), (246, 37125), (248, 37134), (250, 37137), (251, 37140), (252, 37152), (253, 37164), (254, 37167), (259, 37182), (273, 37269), (277, 37284), (293, 37428), (294, 37440), (308, 37620), (312, 37638), (322, 37719), (325, 37755), (328, 37776), (332, 37842),

Gene: Phabba\_94 Start: 37026, Stop: 39536, Start Num: 31

Candidate Starts for Phabba\_94:

(Start: 31 @37026 has 3 MA's), (34, 37032), (43, 37071), (48, 37089), (55, 37134), (61, 37155), (65, 37173), (69, 37182), (74, 37203), (77, 37215), (78, 37224), (92, 37341), (95, 37386), (97, 37434), (105, 37581), (108, 37602), (110, 37623), (111, 37632), (112, 37644), (113, 37647), (115, 37671), (130, 37899), (132, 37935), (144, 38085), (148, 38115), (149, 38133), (156, 38271), (157, 38274), (158, 38277), (164, 38373), (165, 38379), (170, 38442), (171, 38457), (213, 38535), (214, 38541), (215, 38547), (217, 38562), (218, 38580), (221, 38634), (223, 38652), (236, 38781), (241, 38814), (246, 38826), (250, 38838), (253, 38865), (259, 38883), (309, 39291), (316, 39333), (330, 39477), (334, 39510),

Gene: Phlegm\_92 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for Phlegm\_92:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322,

37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Phox\_87 Start: 36133, Stop: 38736, Start Num: 23

Candidate Starts for Phox\_87:

(Start: 23 @36133 has 152 MA's), (35, 36202), (36, 36208), (38, 36226), (47, 36262), (74, 36370), (77, 36382), (94, 36547), (95, 36553), (105, 36748), (108, 36769), (110, 36790), (111, 36799), (117, 36856), (119, 36898), (121, 36952), (122, 36997), (130, 37066), (132, 37102), (134, 37129), (136, 37156), (140, 37216), (143, 37249), (144, 37252), (147, 37273), (149, 37300), (153, 37372), (157, 37441), (162, 37492), (213, 37702), (214, 37708), (215, 37714), (218, 37747), (219, 37789), (221, 37801), (223, 37819), (246, 37993), (248, 38002), (250, 38005), (251, 38008), (252, 38020), (253, 38032), (254, 38035), (259, 38050), (273, 38116), (277, 38131), (293, 38275), (294, 38287), (308, 38467), (312, 38485), (322, 38566), (325, 38602), (328, 38623), (332, 38689),

Gene: Phrappuccino\_46 Start: 26549, Stop: 28942, Start Num: 26

Candidate Starts for Phrappuccino\_46:

(Start: 26 @26549 has 2 MA's), (37, 26636), (42, 26660), (47, 26681), (51, 26708), (52, 26717), (60, 26759), (62, 26771), (65, 26786), (77, 26828), (78, 26837), (84, 26873), (90, 26918), (91, 26930), (92, 26954), (97, 27047), (107, 27200), (110, 27233), (111, 27242), (112, 27254), (128, 27473), (131, 27497), (132, 27530), (135, 27560), (136, 27584), (137, 27614), (140, 27644), (142, 27659), (145, 27689), (149, 27728), (151, 27764), (152, 27773), (154, 27860), (157, 27875), (167, 27998), (170, 28043), (215, 28148), (217, 28163), (219, 28223), (220, 28232), (222, 28250), (223, 28253), (226, 28268), (230, 28313), (232, 28331), (235, 28358), (238, 28388), (242, 28409), (243, 28412), (251, 28433), (253, 28457), (256, 28466), (259, 28475), (264, 28511), (268, 28535), (272, 28568), (275, 28580), (291, 28718), (294, 28733), (299, 28796), (301, 28805), (308, 28892), (314, 28928),

Gene: Phusco\_90 Start: 36013, Stop: 38637, Start Num: 23

Candidate Starts for Phusco\_90:

(Start: 23 @36013 has 152 MA's), (35, 36082), (36, 36088), (38, 36106), (47, 36142), (74, 36250), (77, 36262), (94, 36427), (95, 36433), (105, 36628), (108, 36649), (110, 36670), (111, 36679), (117, 36736), (119, 36778), (121, 36832), (122, 36877), (130, 36946), (132, 36982), (134, 37009), (136, 37036), (140, 37096), (143, 37129), (144, 37132), (148, 37162), (149, 37180), (157, 37321), (162, 37372), (213, 37582), (214, 37588), (218, 37627), (219, 37669), (221, 37681), (223, 37699), (246, 37873), (248, 37882), (250, 37885), (251, 37888), (252, 37900), (253, 37912), (254, 37915), (259, 37930), (273, 38017), (277, 38032), (293, 38176), (294, 38188), (308, 38368), (312, 38386), (322, 38467), (325, 38503), (328, 38524), (332, 38590),

Gene: Pier\_94 Start: 36440, Stop: 39868, Start Num: 1

Candidate Starts for Pier\_94:

(Start: 1 @36440 has 18 MA's), (Start: 2 @36509 has 1 MA's), (3, 36515), (4, 36533), (6, 36569), (10, 36677), (11, 36689), (13, 36812), (14, 36863), (15, 36917), (16, 36929), (17, 36950), (25, 37244), (32, 37289), (49, 37367), (56, 37403), (65, 37436), (70, 37451), (79, 37496), (81, 37505), (85, 37538), (88, 37574), (94, 37658), (95, 37664), (105, 37859), (108, 37880), (110, 37901), (111, 37910), (117, 37967), (119, 38009), (121, 38063), (122, 38108), (130, 38177), (132, 38213), (134, 38240), (136, 38267), (140, 38327), (143, 38360), (144, 38363), (148, 38393), (149, 38411), (157, 38552), (162, 38603), (213, 38813), (214, 38819), (218, 38858), (219, 38900), (221, 38912), (223, 38930), (246, 39104), (248, 39113), (250, 39116), (251, 39119), (252, 39131), (253, 39143), (254, 39146), (259, 39161), (273, 39248), (277, 39263), (293, 39407), (294, 39419), (308, 39599), (312, 39617), (322, 39698), (325, 39734), (328, 39755), (332, 39821),

Gene: Pinkcreek\_81 Start: 33219, Stop: 35822, Start Num: 23

Candidate Starts for Pinkcreek\_81:

(Start: 23 @33219 has 152 MA's), (35, 33288), (36, 33294), (38, 33312), (47, 33348), (74, 33456), (77, 33468), (92, 33594), (95, 33639), (105, 33834), (108, 33855), (110, 33876), (111, 33885), (117,

33942), (119, 33984), (121, 34038), (122, 34083), (130, 34152), (132, 34188), (134, 34215), (136, 34242), (140, 34302), (143, 34335), (144, 34338), (147, 34359), (149, 34386), (153, 34458), (157, 34527), (162, 34578), (213, 34788), (214, 34794), (215, 34800), (218, 34833), (219, 34875), (221, 34887), (223, 34905), (246, 35079), (248, 35088), (250, 35091), (251, 35094), (252, 35106), (253, 35118), (254, 35121), (259, 35136), (273, 35202), (277, 35217), (293, 35361), (294, 35373), (308, 35553), (312, 35571), (322, 35652), (325, 35688), (328, 35709), (332, 35775),

Gene: Pio\_94 Start: 37172, Stop: 40600, Start Num: 1

Candidate Starts for Pio\_94:

(Start: 1 @37172 has 18 MA's), (Start: 2 @37241 has 1 MA's), (3, 37247), (4, 37265), (6, 37301), (10, 37409), (11, 37421), (13, 37544), (14, 37595), (15, 37649), (16, 37661), (17, 37682), (25, 37976), (32, 38021), (49, 38099), (56, 38135), (65, 38168), (70, 38183), (79, 38228), (81, 38237), (85, 38270), (88, 38306), (94, 38390), (95, 38396), (105, 38591), (108, 38612), (110, 38633), (111, 38642), (117, 38699), (119, 38741), (121, 38795), (122, 38840), (130, 38909), (132, 38945), (134, 38972), (136, 38999), (140, 39059), (143, 39092), (144, 39095), (148, 39125), (149, 39143), (157, 39284), (162, 39335), (213, 39545), (214, 39551), (218, 39590), (219, 39632), (221, 39644), (223, 39662), (246, 39836), (248, 39845), (250, 39848), (251, 39851), (252, 39863), (253, 39875), (254, 39878), (259, 39893), (273, 39980), (277, 39995), (293, 40139), (294, 40151), (308, 40331), (312, 40349), (322, 40430), (325, 40466), (328, 40487), (332, 40553),

Gene: Pivoine\_89 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for Pivoine\_89:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Pleione\_93 Start: 36242, Stop: 38866, Start Num: 23

Candidate Starts for Pleione\_93:

(Start: 23 @36242 has 152 MA's), (35, 36311), (36, 36317), (38, 36335), (47, 36371), (74, 36479), (77, 36491), (94, 36656), (95, 36662), (105, 36857), (108, 36878), (110, 36899), (111, 36908), (117, 36965), (119, 37007), (121, 37061), (122, 37106), (130, 37175), (132, 37211), (134, 37238), (136, 37265), (140, 37325), (143, 37358), (144, 37361), (148, 37391), (149, 37409), (157, 37550), (162, 37601), (213, 37811), (214, 37817), (218, 37856), (219, 37898), (221, 37910), (223, 37928), (246, 38102), (248, 38111), (250, 38114), (251, 38117), (252, 38129), (253, 38141), (254, 38144), (259, 38159), (273, 38246), (277, 38261), (293, 38405), (294, 38417), (308, 38597), (312, 38615), (322, 38696), (325, 38732), (328, 38753), (332, 38819),

Gene: Pupper\_88 Start: 36748, Stop: 39342, Start Num: 31

Candidate Starts for Pupper\_88:

(Start: 28 @36730 has 3 MA's), (Start: 31 @36748 has 3 MA's), (50, 36847), (59, 36886), (74, 36949), (77, 36961), (83, 36991), (97, 37180), (99, 37207), (105, 37327), (107, 37336), (108, 37348), (109, 37354), (110, 37369), (111, 37378), (112, 37390), (114, 37402), (120, 37516), (122, 37576), (125, 37603), (129, 37642), (130, 37645), (132, 37681), (133, 37705), (140, 37795), (149, 37879), (152, 37924), (155, 38008), (156, 38017), (157, 38020), (162, 38071), (163, 38074), (213, 38281), (214, 38287), (219, 38368), (220, 38377), (221, 38380), (223, 38398), (227, 38416), (231, 38467), (234, 38509), (239, 38551), (243, 38566), (246, 38575), (250, 38593), (251, 38596), (252, 38608), (253, 38620), (258, 38635), (259, 38638), (263, 38668), (280, 38764), (285, 38842), (290, 38887), (295, 38926), (307, 39028), (313, 39103), (317, 39127), (318, 39130), (325, 39202), (332, 39295), (333,

39304), (334, 39316),

Gene: PurduePete\_90 Start: 36287, Stop: 38911, Start Num: 23

Candidate Starts for PurduePete\_90:

(Start: 23 @36287 has 152 MA's), (35, 36356), (36, 36362), (38, 36380), (47, 36416), (74, 36524), (77, 36536), (94, 36701), (95, 36707), (105, 36902), (108, 36923), (110, 36944), (111, 36953), (117, 37010), (119, 37052), (121, 37106), (122, 37151), (130, 37220), (132, 37256), (134, 37283), (136, 37310), (140, 37370), (143, 37403), (144, 37406), (147, 37427), (149, 37454), (153, 37526), (157, 37595), (162, 37646), (213, 37856), (214, 37862), (218, 37901), (219, 37943), (221, 37955), (223, 37973), (246, 38147), (248, 38156), (250, 38159), (251, 38162), (252, 38174), (253, 38186), (254, 38189), (259, 38204), (273, 38291), (277, 38306), (293, 38450), (294, 38462), (308, 38642), (312, 38660), (322, 38741), (325, 38777), (328, 38798), (332, 38864),

Gene: QBert\_84 Start: 35743, Stop: 38367, Start Num: 23

Candidate Starts for QBert\_84:

(Start: 23 @35743 has 152 MA's), (35, 35812), (36, 35818), (38, 35836), (47, 35872), (74, 35980), (77, 35992), (94, 36157), (95, 36163), (105, 36358), (108, 36379), (110, 36400), (111, 36409), (117, 36466), (119, 36508), (121, 36562), (122, 36607), (130, 36676), (132, 36712), (134, 36739), (136, 36766), (140, 36826), (143, 36859), (144, 36862), (148, 36892), (149, 36910), (157, 37051), (162, 37102), (213, 37312), (214, 37318), (218, 37357), (219, 37399), (221, 37411), (223, 37429), (246, 37603), (248, 37612), (250, 37615), (251, 37618), (252, 37630), (253, 37642), (254, 37645), (259, 37660), (273, 37747), (277, 37762), (293, 37906), (294, 37918), (308, 38098), (312, 38116), (322, 38197), (325, 38233), (328, 38254), (332, 38320),

Gene: Quasimodo\_90 Start: 35799, Stop: 38402, Start Num: 23

Candidate Starts for Quasimodo\_90:

(Start: 23 @35799 has 152 MA's), (35, 35868), (36, 35874), (38, 35892), (47, 35928), (74, 36036), (77, 36048), (94, 36213), (95, 36219), (105, 36414), (108, 36435), (110, 36456), (111, 36465), (117, 36522), (119, 36564), (121, 36618), (122, 36663), (130, 36732), (132, 36768), (134, 36795), (136, 36822), (140, 36882), (143, 36915), (144, 36918), (147, 36939), (149, 36966), (153, 37038), (157, 37107), (162, 37158), (213, 37368), (214, 37374), (215, 37380), (218, 37413), (219, 37455), (221, 37467), (223, 37485), (246, 37659), (248, 37668), (250, 37671), (251, 37674), (252, 37686), (253, 37698), (254, 37701), (259, 37716), (273, 37782), (277, 37797), (293, 37941), (294, 37953), (308, 38133), (312, 38151), (322, 38232), (325, 38268), (328, 38289), (332, 38355),

Gene: Rabinovish\_87 Start: 36106, Stop: 38709, Start Num: 23

Candidate Starts for Rabinovish\_87:

(Start: 23 @36106 has 152 MA's), (35, 36175), (36, 36181), (38, 36199), (47, 36235), (74, 36343), (77, 36355), (94, 36520), (95, 36526), (105, 36721), (108, 36742), (110, 36763), (111, 36772), (117, 36829), (119, 36871), (121, 36925), (122, 36970), (130, 37039), (132, 37075), (134, 37102), (136, 37129), (140, 37189), (143, 37222), (144, 37225), (147, 37246), (149, 37273), (153, 37345), (157, 37414), (162, 37465), (213, 37675), (214, 37681), (215, 37687), (218, 37720), (219, 37762), (221, 37774), (223, 37792), (246, 37966), (248, 37975), (250, 37978), (251, 37981), (252, 37993), (253, 38005), (254, 38008), (259, 38023), (273, 38089), (277, 38104), (293, 38248), (294, 38260), (308, 38440), (312, 38458), (322, 38539), (325, 38575), (328, 38596), (332, 38662),

Gene: Rahel\_89 Start: 34801, Stop: 38229, Start Num: 1

Candidate Starts for Rahel\_89:

(Start: 1 @34801 has 18 MA's), (Start: 2 @34870 has 1 MA's), (3, 34876), (4, 34894), (6, 34930), (10, 35038), (11, 35050), (13, 35173), (14, 35224), (15, 35278), (16, 35290), (17, 35311), (Start: 26 @35605 has 2 MA's), (32, 35650), (49, 35728), (56, 35764), (65, 35797), (70, 35812), (79, 35857), (81, 35866), (85, 35899), (88, 35935), (94, 36019), (95, 36025), (105, 36220), (108, 36241), (110, 36262), (111, 36271), (117, 36328), (119, 36370), (121, 36424), (122, 36469), (130, 36538), (132, 36574),



(134, 36601), (136, 36628), (140, 36688), (143, 36721), (144, 36724), (148, 36754), (149, 36772), (157, 36913), (162, 36964), (213, 37174), (214, 37180), (218, 37219), (219, 37261), (221, 37273), (223, 37291), (246, 37465), (248, 37474), (250, 37477), (251, 37480), (252, 37492), (253, 37504), (254, 37507), (259, 37522), (273, 37609), (277, 37624), (293, 37768), (294, 37780), (308, 37960), (312, 37978), (322, 38059), (325, 38095), (328, 38116), (332, 38182),

Gene: RedWattleHog\_11 Start: 9594, Stop: 12170, Start Num: 30

Candidate Starts for RedWattleHog\_11:

(29, 9585), (Start: 30 @9594 has 3 MA's), (53, 9702), (65, 9765), (72, 9783), (76, 9810), (78, 9825), (81, 9837), (95, 9987), (97, 10035), (98, 10041), (104, 10143), (108, 10197), (110, 10218), (112, 10239), (118, 10302), (123, 10416), (124, 10425), (130, 10482), (131, 10485), (132, 10518), (139, 10629), (140, 10632), (143, 10665), (148, 10698), (149, 10716), (152, 10761), (156, 10854), (157, 10857), (159, 10878), (160, 10890), (166, 10971), (168, 10983), (214, 11124), (223, 11235), (255, 11451), (302, 11775), (310, 11889), (313, 11910), (325, 12024), (327, 12036), (329, 12045), (331, 12111), (332, 12120),

Gene: Rizal\_88 Start: 35160, Stop: 37784, Start Num: 23

Candidate Starts for Rizal\_88:

(Start: 23 @35160 has 152 MA's), (35, 35229), (36, 35235), (38, 35253), (47, 35289), (74, 35397), (77, 35409), (94, 35574), (95, 35580), (105, 35775), (108, 35796), (110, 35817), (111, 35826), (117, 35883), (119, 35925), (121, 35979), (122, 36024), (130, 36093), (132, 36129), (134, 36156), (136, 36183), (140, 36243), (143, 36276), (144, 36279), (147, 36300), (149, 36327), (153, 36399), (157, 36468), (162, 36519), (213, 36729), (214, 36735), (218, 36774), (219, 36816), (221, 36828), (223, 36846), (246, 37020), (248, 37029), (250, 37032), (251, 37035), (252, 37047), (253, 37059), (254, 37062), (259, 37077), (273, 37164), (277, 37179), (293, 37323), (294, 37335), (308, 37515), (312, 37533), (322, 37614), (325, 37650), (328, 37671), (332, 37737),

Gene: RoMag\_85 Start: 35602, Stop: 38226, Start Num: 23

Candidate Starts for RoMag\_85:

(Start: 23 @35602 has 152 MA's), (35, 35671), (36, 35677), (38, 35695), (47, 35731), (74, 35839), (77, 35851), (94, 36016), (95, 36022), (105, 36217), (108, 36238), (110, 36259), (111, 36268), (117, 36325), (119, 36367), (121, 36421), (122, 36466), (130, 36535), (132, 36571), (134, 36598), (136, 36625), (140, 36685), (143, 36718), (144, 36721), (148, 36751), (149, 36769), (157, 36910), (162, 36961), (213, 37171), (214, 37177), (215, 37183), (218, 37216), (219, 37258), (221, 37270), (223, 37288), (246, 37462), (248, 37471), (250, 37474), (251, 37477), (252, 37489), (253, 37501), (254, 37504), (259, 37519), (273, 37606), (277, 37621), (293, 37765), (294, 37777), (308, 37957), (312, 37975), (322, 38056), (325, 38092), (328, 38113), (332, 38179),

Gene: Ronan\_83 Start: 33049, Stop: 35673, Start Num: 23

Candidate Starts for Ronan\_83:

(Start: 23 @33049 has 152 MA's), (35, 33118), (36, 33124), (38, 33142), (47, 33178), (74, 33286), (77, 33298), (94, 33463), (95, 33469), (105, 33664), (108, 33685), (110, 33706), (111, 33715), (117, 33772), (119, 33814), (121, 33868), (122, 33913), (130, 33982), (132, 34018), (134, 34045), (136, 34072), (140, 34132), (143, 34165), (144, 34168), (148, 34198), (149, 34216), (157, 34357), (162, 34408), (213, 34618), (214, 34624), (218, 34663), (219, 34705), (221, 34717), (223, 34735), (246, 34909), (248, 34918), (250, 34921), (251, 34924), (252, 34936), (253, 34948), (254, 34951), (259, 34966), (273, 35053), (277, 35068), (293, 35212), (294, 35224), (308, 35404), (312, 35422), (322, 35503), (325, 35539), (328, 35560), (332, 35626),

Gene: Roots515\_89 Start: 35665, Stop: 38289, Start Num: 23

Candidate Starts for Roots515\_89:

(Start: 23 @35665 has 152 MA's), (35, 35734), (36, 35740), (38, 35758), (47, 35794), (74, 35902), (77, 35914), (94, 36079), (95, 36085), (105, 36280), (108, 36301), (110, 36322), (111, 36331), (117,

36388), (119, 36430), (121, 36484), (122, 36529), (130, 36598), (132, 36634), (134, 36661), (136, 36688), (140, 36748), (143, 36781), (144, 36784), (148, 36814), (149, 36832), (157, 36973), (162, 37024), (213, 37234), (214, 37240), (218, 37279), (219, 37321), (221, 37333), (223, 37351), (246, 37525), (248, 37534), (250, 37537), (251, 37540), (252, 37552), (253, 37564), (254, 37567), (259, 37582), (273, 37669), (277, 37684), (293, 37828), (294, 37840), (308, 38020), (312, 38038), (322, 38119), (325, 38155), (328, 38176), (332, 38242),

Gene: SCentae\_87 Start: 36876, Stop: 39488, Start Num: 28

Candidate Starts for SCentae\_87:

(20, 36738), (21, 36747), (Start: 28 @36876 has 3 MA's), (Start: 31 @36894 has 3 MA's), (50, 36993), (59, 37032), (74, 37095), (77, 37107), (83, 37137), (97, 37326), (99, 37353), (105, 37473), (107, 37482), (108, 37494), (109, 37500), (110, 37515), (111, 37524), (112, 37536), (114, 37548), (120, 37662), (122, 37722), (125, 37749), (129, 37788), (130, 37791), (132, 37827), (133, 37851), (140, 37941), (149, 38025), (152, 38070), (155, 38154), (156, 38163), (157, 38166), (162, 38217), (163, 38220), (213, 38427), (214, 38433), (219, 38514), (220, 38523), (221, 38526), (223, 38544), (227, 38562), (231, 38613), (234, 38655), (239, 38697), (243, 38712), (246, 38721), (250, 38739), (251, 38742), (252, 38754), (253, 38766), (258, 38781), (259, 38784), (263, 38814), (280, 38910), (285, 38988), (290, 39033), (295, 39072), (307, 39174), (313, 39249), (317, 39273), (318, 39276), (325, 39348), (332, 39441), (333, 39450), (334, 39462),

Gene: SVoro\_88 Start: 36237, Stop: 38861, Start Num: 23

Candidate Starts for SVoro\_88:

(Start: 23 @36237 has 152 MA's), (35, 36306), (36, 36312), (38, 36330), (47, 36366), (74, 36474), (77, 36486), (94, 36651), (95, 36657), (105, 36852), (108, 36873), (110, 36894), (111, 36903), (117, 36960), (119, 37002), (121, 37056), (122, 37101), (130, 37170), (132, 37206), (134, 37233), (136, 37260), (140, 37320), (143, 37353), (144, 37356), (147, 37377), (149, 37404), (153, 37476), (157, 37545), (162, 37596), (213, 37806), (214, 37812), (218, 37851), (219, 37893), (221, 37905), (223, 37923), (246, 38097), (248, 38106), (250, 38109), (251, 38112), (252, 38124), (253, 38136), (254, 38139), (259, 38154), (273, 38241), (277, 38256), (293, 38400), (294, 38412), (308, 38592), (312, 38610), (322, 38691), (325, 38727), (328, 38748), (332, 38814),

Gene: Salacia\_94 Start: 36357, Stop: 38981, Start Num: 23

Candidate Starts for Salacia\_94:

(Start: 23 @36357 has 152 MA's), (35, 36426), (36, 36432), (38, 36450), (47, 36486), (74, 36594), (77, 36606), (94, 36771), (95, 36777), (105, 36972), (108, 36993), (110, 37014), (111, 37023), (117, 37080), (119, 37122), (121, 37176), (122, 37221), (130, 37290), (132, 37326), (134, 37353), (136, 37380), (140, 37440), (143, 37473), (144, 37476), (148, 37506), (149, 37524), (157, 37665), (162, 37716), (213, 37926), (214, 37932), (218, 37971), (219, 38013), (221, 38025), (223, 38043), (246, 38217), (248, 38226), (250, 38229), (251, 38232), (252, 38244), (253, 38256), (254, 38259), (259, 38274), (273, 38361), (277, 38376), (293, 38520), (294, 38532), (308, 38712), (312, 38730), (322, 38811), (325, 38847), (328, 38868), (332, 38934),

Gene: Sauce\_90 Start: 35097, Stop: 37721, Start Num: 23

Candidate Starts for Sauce\_90:

(Start: 23 @35097 has 152 MA's), (35, 35166), (36, 35172), (38, 35190), (47, 35226), (74, 35334), (77, 35346), (94, 35511), (95, 35517), (105, 35712), (108, 35733), (110, 35754), (111, 35763), (117, 35820), (119, 35862), (121, 35916), (122, 35961), (130, 36030), (132, 36066), (134, 36093), (136, 36120), (140, 36180), (143, 36213), (144, 36216), (148, 36246), (149, 36264), (157, 36405), (162, 36456), (213, 36666), (214, 36672), (218, 36711), (219, 36753), (221, 36765), (223, 36783), (246, 36957), (248, 36966), (250, 36969), (251, 36972), (252, 36984), (253, 36996), (254, 36999), (259, 37014), (273, 37101), (277, 37116), (293, 37260), (294, 37272), (308, 37452), (312, 37470), (322, 37551), (325, 37587), (328, 37608), (332, 37674),

Gene: ScoobyDoobyDoo\_84 Start: 34152, Stop: 37481, Start Num: 2

Candidate Starts for ScoobyDoobyDoo\_84:

(Start: 2 @34152 has 1 MA's), (5, 34191), (7, 34230), (8, 34257), (9, 34299), (10, 34320), (11, 34332), (12, 34371), (13, 34455), (14, 34506), (15, 34560), (18, 34665), (19, 34752), (44, 34989), (45, 34998), (49, 35010), (63, 35079), (70, 35094), (73, 35109), (80, 35139), (82, 35148), (86, 35181), (97, 35355), (105, 35502), (108, 35523), (110, 35544), (111, 35553), (112, 35565), (115, 35592), (117, 35610), (122, 35751), (126, 35787), (130, 35820), (133, 35880), (143, 36003), (149, 36054), (150, 36084), (152, 36099), (155, 36183), (156, 36192), (157, 36195), (158, 36198), (213, 36456), (214, 36462), (217, 36483), (218, 36501), (221, 36555), (223, 36573), (225, 36582), (231, 36642), (241, 36735), (246, 36747), (250, 36759), (253, 36786), (259, 36804), (266, 36849), (270, 36885), (293, 37071), (312, 37239), (313, 37251), (316, 37266), (323, 37314), (332, 37434), (335, 37464),

Gene: ScottMcG\_87 Start: 35250, Stop: 37853, Start Num: 23

Candidate Starts for ScottMcG\_87:

(Start: 23 @35250 has 152 MA's), (35, 35319), (36, 35325), (38, 35343), (47, 35379), (74, 35487), (77, 35499), (94, 35664), (95, 35670), (105, 35865), (108, 35886), (110, 35907), (111, 35916), (117, 35973), (119, 36015), (121, 36069), (122, 36114), (130, 36183), (132, 36219), (134, 36246), (136, 36273), (140, 36333), (143, 36366), (144, 36369), (147, 36390), (149, 36417), (153, 36489), (157, 36558), (162, 36609), (213, 36819), (214, 36825), (215, 36831), (218, 36864), (219, 36906), (221, 36918), (223, 36936), (246, 37110), (248, 37119), (250, 37122), (251, 37125), (252, 37137), (253, 37149), (254, 37152), (259, 37167), (273, 37233), (277, 37248), (293, 37392), (294, 37404), (308, 37584), (312, 37602), (322, 37683), (325, 37719), (328, 37740), (332, 37806),

Gene: Sebata\_91 Start: 36733, Stop: 39357, Start Num: 23

Candidate Starts for Sebata\_91:

(Start: 23 @36733 has 152 MA's), (35, 36802), (36, 36808), (38, 36826), (47, 36862), (74, 36970), (77, 36982), (94, 37147), (95, 37153), (105, 37348), (108, 37369), (110, 37390), (111, 37399), (117, 37456), (119, 37498), (121, 37552), (122, 37597), (130, 37666), (132, 37702), (134, 37729), (136, 37756), (140, 37816), (143, 37849), (144, 37852), (148, 37882), (149, 37900), (157, 38041), (162, 38092), (213, 38302), (214, 38308), (218, 38347), (219, 38389), (221, 38401), (223, 38419), (246, 38593), (248, 38602), (250, 38605), (251, 38608), (252, 38620), (253, 38632), (254, 38635), (259, 38650), (273, 38737), (277, 38752), (293, 38896), (294, 38908), (308, 39088), (312, 39106), (322, 39187), (325, 39223), (328, 39244), (332, 39310),

Gene: Settecandela\_46 Start: 26549, Stop: 28942, Start Num: 26

Candidate Starts for Settecandela\_46:

(Start: 26 @26549 has 2 MA's), (37, 26636), (42, 26660), (47, 26681), (51, 26708), (52, 26717), (60, 26759), (62, 26771), (65, 26786), (77, 26828), (78, 26837), (84, 26873), (90, 26918), (91, 26930), (92, 26954), (97, 27047), (107, 27200), (110, 27233), (111, 27242), (112, 27254), (128, 27473), (131, 27497), (132, 27530), (135, 27560), (136, 27584), (137, 27614), (140, 27644), (142, 27659), (145, 27689), (149, 27728), (151, 27764), (152, 27773), (154, 27860), (157, 27875), (167, 27998), (170, 28043), (215, 28148), (217, 28163), (219, 28223), (220, 28232), (222, 28250), (223, 28253), (226, 28268), (230, 28313), (232, 28331), (235, 28358), (238, 28388), (242, 28409), (243, 28412), (251, 28433), (253, 28457), (256, 28466), (259, 28475), (264, 28511), (268, 28535), (272, 28568), (275, 28580), (291, 28718), (294, 28733), (299, 28796), (301, 28805), (308, 28892), (314, 28928),

Gene: Shaqnato\_82 Start: 33972, Stop: 36596, Start Num: 23

Candidate Starts for Shaqnato\_82:

(Start: 23 @33972 has 152 MA's), (35, 34041), (36, 34047), (38, 34065), (47, 34101), (74, 34209), (77, 34221), (94, 34386), (95, 34392), (105, 34587), (108, 34608), (110, 34629), (111, 34638), (117, 34695), (119, 34737), (121, 34791), (122, 34836), (130, 34905), (132, 34941), (134, 34968), (136, 34995), (140, 35055), (143, 35088), (144, 35091), (148, 35121), (149, 35139), (157, 35280), (162, 35331), (213, 35541), (214, 35547), (218, 35586), (219, 35628), (221, 35640), (223, 35658), (246,

35832), (248, 35841), (250, 35844), (251, 35847), (252, 35859), (253, 35871), (254, 35874), (259, 35889), (273, 35976), (277, 35991), (293, 36135), (294, 36147), (308, 36327), (312, 36345), (322, 36426), (325, 36462), (328, 36483), (332, 36549),

Gene: Shelob\_92 Start: 37235, Stop: 39859, Start Num: 23

Candidate Starts for Shelob\_92:

(Start: 23 @37235 has 152 MA's), (35, 37304), (36, 37310), (38, 37328), (47, 37364), (74, 37472), (77, 37484), (94, 37649), (95, 37655), (105, 37850), (108, 37871), (110, 37892), (111, 37901), (117, 37958), (119, 38000), (121, 38054), (122, 38099), (130, 38168), (132, 38204), (134, 38231), (136, 38258), (140, 38318), (143, 38351), (144, 38354), (148, 38384), (149, 38402), (157, 38543), (162, 38594), (213, 38804), (214, 38810), (218, 38849), (219, 38891), (221, 38903), (223, 38921), (246, 39095), (248, 39104), (250, 39107), (251, 39110), (252, 39122), (253, 39134), (254, 39137), (259, 39152), (273, 39239), (277, 39254), (293, 39398), (294, 39410), (308, 39590), (312, 39608), (322, 39689), (325, 39725), (328, 39746), (332, 39812),

Gene: ShiaLabeouf\_90 Start: 35640, Stop: 39068, Start Num: 1

Candidate Starts for ShiaLabeouf\_90:

(Start: 1 @35640 has 18 MA's), (Start: 2 @35709 has 1 MA's), (3, 35715), (4, 35733), (6, 35769), (10, 35877), (11, 35889), (13, 36012), (14, 36063), (15, 36117), (16, 36129), (17, 36150), (Start: 26 @36444 has 2 MA's), (32, 36489), (49, 36567), (56, 36603), (65, 36636), (70, 36651), (79, 36696), (81, 36705), (85, 36738), (88, 36774), (94, 36858), (95, 36864), (105, 37059), (108, 37080), (110, 37101), (111, 37110), (117, 37167), (119, 37209), (121, 37263), (122, 37308), (130, 37377), (132, 37413), (134, 37440), (136, 37467), (140, 37527), (143, 37560), (144, 37563), (148, 37593), (149, 37611), (157, 37752), (162, 37803), (213, 38013), (214, 38019), (218, 38058), (219, 38100), (221, 38112), (223, 38130), (246, 38304), (248, 38313), (250, 38316), (251, 38319), (252, 38331), (253, 38343), (254, 38346), (259, 38361), (273, 38448), (277, 38463), (293, 38607), (294, 38619), (308, 38799), (312, 38817), (322, 38898), (325, 38934), (328, 38955), (332, 39021),

Gene: Shifa\_79 Start: 33706, Stop: 36309, Start Num: 23

Candidate Starts for Shifa\_79:

(Start: 23 @33706 has 152 MA's), (35, 33775), (36, 33781), (38, 33799), (47, 33835), (74, 33943), (77, 33955), (92, 34081), (95, 34126), (105, 34321), (108, 34342), (110, 34363), (111, 34372), (117, 34429), (119, 34471), (121, 34525), (122, 34570), (130, 34639), (132, 34675), (134, 34702), (136, 34729), (140, 34789), (143, 34822), (144, 34825), (149, 34873), (153, 34945), (157, 35014), (162, 35065), (213, 35275), (214, 35281), (215, 35287), (218, 35320), (219, 35362), (221, 35374), (223, 35392), (246, 35566), (248, 35575), (250, 35578), (251, 35581), (252, 35593), (253, 35605), (254, 35608), (259, 35623), (273, 35689), (277, 35704), (293, 35848), (294, 35860), (308, 36040), (312, 36058), (322, 36139), (325, 36175), (328, 36196), (332, 36262),

Gene: Shnickers\_90 Start: 35200, Stop: 38628, Start Num: 1

Candidate Starts for Shnickers\_90:

(Start: 1 @35200 has 18 MA's), (Start: 2 @35269 has 1 MA's), (3, 35275), (4, 35293), (6, 35329), (10, 35437), (11, 35449), (13, 35572), (14, 35623), (15, 35677), (16, 35689), (17, 35710), (Start: 26 @36004 has 2 MA's), (32, 36049), (49, 36127), (56, 36163), (65, 36196), (70, 36211), (79, 36256), (81, 36265), (85, 36298), (88, 36334), (94, 36418), (95, 36424), (105, 36619), (108, 36640), (110, 36661), (111, 36670), (117, 36727), (119, 36769), (121, 36823), (122, 36868), (130, 36937), (132, 36973), (134, 37000), (136, 37027), (140, 37087), (143, 37120), (144, 37123), (148, 37153), (149, 37171), (157, 37312), (162, 37363), (213, 37573), (214, 37579), (218, 37618), (219, 37660), (221, 37672), (223, 37690), (246, 37864), (248, 37873), (250, 37876), (251, 37879), (252, 37891), (253, 37903), (254, 37906), (259, 37921), (273, 38008), (277, 38023), (293, 38167), (294, 38179), (308, 38359), (312, 38377), (322, 38458), (325, 38494), (328, 38515), (332, 38581),

Gene: Shrimp\_90 Start: 36247, Stop: 38871, Start Num: 23

Candidate Starts for Shrimp\_90:

(Start: 23 @36247 has 152 MA's), (35, 36316), (36, 36322), (38, 36340), (47, 36376), (74, 36484), (77, 36496), (94, 36661), (95, 36667), (105, 36862), (108, 36883), (110, 36904), (111, 36913), (117, 36970), (119, 37012), (121, 37066), (122, 37111), (130, 37180), (132, 37216), (134, 37243), (136, 37270), (140, 37330), (143, 37363), (144, 37366), (148, 37396), (149, 37414), (157, 37555), (162, 37606), (213, 37816), (214, 37822), (218, 37861), (219, 37903), (221, 37915), (223, 37933), (246, 38107), (248, 38116), (250, 38119), (251, 38122), (252, 38134), (253, 38146), (254, 38149), (259, 38164), (273, 38251), (277, 38266), (293, 38410), (294, 38422), (308, 38602), (312, 38620), (322, 38701), (325, 38737), (328, 38758), (332, 38824),

Gene: SilverDipper\_91 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for SilverDipper\_91:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Skog\_151 Start: 66444, Stop: 69053, Start Num: 28

Candidate Starts for Skog\_151:

(Start: 28 @66444 has 3 MA's), (Start: 31 @66462 has 3 MA's), (50, 66561), (59, 66600), (77, 66657), (83, 66687), (97, 66876), (99, 66903), (105, 67023), (107, 67032), (108, 67044), (109, 67050), (110, 67065), (111, 67074), (112, 67086), (122, 67272), (130, 67341), (132, 67377), (133, 67401), (138, 67479), (140, 67491), (149, 67575), (152, 67620), (155, 67704), (156, 67713), (157, 67716), (213, 67977), (214, 67983), (219, 68064), (220, 68073), (221, 68076), (223, 68094), (227, 68112), (233, 68187), (234, 68205), (239, 68247), (243, 68262), (246, 68271), (249, 68289), (250, 68295), (251, 68298), (261, 68352), (262, 68367), (279, 68463), (280, 68466), (285, 68544), (290, 68589), (295, 68628), (297, 68652), (298, 68667), (302, 68685), (304, 68724), (307, 68742), (312, 68805), (313, 68817), (320, 68868), (325, 68913), (330, 68994), (332, 69006), (334, 69027),

Gene: SmallFry\_90 Start: 35199, Stop: 37823, Start Num: 23

Candidate Starts for SmallFry\_90:

(Start: 23 @35199 has 152 MA's), (35, 35268), (36, 35274), (38, 35292), (47, 35328), (74, 35436), (77, 35448), (94, 35613), (95, 35619), (105, 35814), (108, 35835), (110, 35856), (111, 35865), (117, 35922), (119, 35964), (121, 36018), (122, 36063), (130, 36132), (132, 36168), (134, 36195), (136, 36222), (140, 36282), (141, 36294), (143, 36315), (144, 36318), (148, 36348), (149, 36366), (157, 36507), (162, 36558), (213, 36768), (214, 36774), (218, 36813), (219, 36855), (221, 36867), (223, 36885), (246, 37059), (248, 37068), (250, 37071), (251, 37074), (252, 37086), (253, 37098), (254, 37101), (259, 37116), (273, 37203), (277, 37218), (293, 37362), (294, 37374), (308, 37554), (312, 37572), (322, 37653), (325, 37689), (328, 37710), (332, 37776),

Gene: Spec\_85 Start: 34965, Stop: 38393, Start Num: 1

Candidate Starts for Spec\_85:

(Start: 1 @34965 has 18 MA's), (Start: 2 @35034 has 1 MA's), (3, 35040), (4, 35058), (6, 35094), (10, 35202), (11, 35214), (13, 35337), (14, 35388), (15, 35442), (16, 35454), (17, 35475), (Start: 26 @35769 has 2 MA's), (32, 35814), (49, 35892), (56, 35928), (65, 35961), (70, 35976), (79, 36021), (81, 36030), (85, 36063), (88, 36099), (94, 36183), (95, 36189), (105, 36384), (108, 36405), (110, 36426), (111, 36435), (117, 36492), (119, 36534), (121, 36588), (122, 36633), (130, 36702), (132, 36738), (134, 36765), (136, 36792), (140, 36852), (143, 36885), (144, 36888), (148, 36918), (149, 36936), (157, 37077), (162, 37128), (213, 37338), (214, 37344), (218, 37383), (219, 37425), (221, 37437),

(223, 37455), (246, 37629), (248, 37638), (250, 37641), (251, 37644), (252, 37656), (253, 37668), (254, 37671), (259, 37686), (273, 37773), (277, 37788), (293, 37932), (294, 37944), (308, 38124), (312, 38142), (322, 38223), (325, 38259), (328, 38280), (332, 38346),

Gene: Specks\_96 Start: 37983, Stop: 40607, Start Num: 23

Candidate Starts for Specks\_96:

(Start: 23 @37983 has 152 MA's), (35, 38052), (36, 38058), (38, 38076), (47, 38112), (74, 38220), (77, 38232), (94, 38397), (95, 38403), (105, 38598), (108, 38619), (110, 38640), (111, 38649), (117, 38706), (119, 38748), (121, 38802), (122, 38847), (130, 38916), (132, 38952), (134, 38979), (136, 39006), (140, 39066), (141, 39078), (143, 39099), (144, 39102), (148, 39132), (149, 39150), (157, 39291), (162, 39342), (213, 39552), (214, 39558), (218, 39597), (219, 39639), (221, 39651), (223, 39669), (246, 39843), (248, 39852), (250, 39855), (251, 39858), (252, 39870), (253, 39882), (254, 39885), (259, 39900), (273, 39987), (277, 40002), (293, 40146), (294, 40158), (308, 40338), (312, 40356), (322, 40437), (325, 40473), (328, 40494), (332, 40560),

Gene: Sprinklers\_85 Start: 34469, Stop: 37093, Start Num: 23

Candidate Starts for Sprinklers\_85:

(Start: 23 @34469 has 152 MA's), (35, 34538), (36, 34544), (38, 34562), (47, 34598), (74, 34706), (77, 34718), (94, 34883), (95, 34889), (105, 35084), (108, 35105), (110, 35126), (111, 35135), (117, 35192), (119, 35234), (121, 35288), (122, 35333), (130, 35402), (132, 35438), (134, 35465), (136, 35492), (140, 35552), (143, 35585), (144, 35588), (148, 35618), (149, 35636), (157, 35777), (162, 35828), (213, 36038), (214, 36044), (218, 36083), (219, 36125), (221, 36137), (223, 36155), (246, 36329), (248, 36338), (250, 36341), (251, 36344), (252, 36356), (253, 36368), (254, 36371), (259, 36386), (273, 36473), (277, 36488), (293, 36632), (294, 36644), (308, 36824), (312, 36842), (322, 36923), (325, 36959), (328, 36980), (332, 37046),

Gene: Spud\_90 Start: 36211, Stop: 38814, Start Num: 23

Candidate Starts for Spud\_90:

(Start: 23 @36211 has 152 MA's), (35, 36280), (36, 36286), (38, 36304), (47, 36340), (74, 36448), (77, 36460), (94, 36625), (95, 36631), (105, 36826), (108, 36847), (110, 36868), (111, 36877), (117, 36934), (119, 36976), (121, 37030), (122, 37075), (130, 37144), (132, 37180), (134, 37207), (136, 37234), (140, 37294), (143, 37327), (144, 37330), (147, 37351), (149, 37378), (153, 37450), (157, 37519), (162, 37570), (213, 37780), (214, 37786), (215, 37792), (218, 37825), (219, 37867), (221, 37879), (223, 37897), (246, 38071), (248, 38080), (250, 38083), (251, 38086), (252, 38098), (253, 38110), (254, 38113), (259, 38128), (273, 38194), (277, 38209), (293, 38353), (294, 38365), (308, 38545), (312, 38563), (322, 38644), (325, 38680), (328, 38701), (332, 38767),

Gene: SrishMeg2525\_89 Start: 35579, Stop: 38203, Start Num: 23

Candidate Starts for SrishMeg2525\_89:

(Start: 23 @35579 has 152 MA's), (35, 35648), (36, 35654), (38, 35672), (47, 35708), (74, 35816), (77, 35828), (94, 35993), (95, 35999), (105, 36194), (108, 36215), (110, 36236), (111, 36245), (117, 36302), (119, 36344), (121, 36398), (122, 36443), (130, 36512), (132, 36548), (134, 36575), (136, 36602), (140, 36662), (143, 36695), (144, 36698), (148, 36728), (149, 36746), (157, 36887), (162, 36938), (213, 37148), (214, 37154), (218, 37193), (219, 37235), (221, 37247), (223, 37265), (246, 37439), (248, 37448), (250, 37451), (251, 37454), (252, 37466), (253, 37478), (254, 37481), (259, 37496), (273, 37583), (277, 37598), (293, 37742), (294, 37754), (308, 37934), (312, 37952), (322, 38033), (325, 38069), (328, 38090), (332, 38156),

Gene: StephanieG\_89 Start: 37059, Stop: 39683, Start Num: 23

Candidate Starts for StephanieG\_89:

(Start: 23 @37059 has 152 MA's), (35, 37128), (36, 37134), (38, 37152), (47, 37188), (74, 37296), (77, 37308), (94, 37473), (95, 37479), (105, 37674), (108, 37695), (110, 37716), (111, 37725), (117, 37782), (119, 37824), (121, 37878), (122, 37923), (130, 37992), (132, 38028), (134, 38055), (136,

38082), (140, 38142), (143, 38175), (144, 38178), (148, 38208), (149, 38226), (157, 38367), (162, 38418), (213, 38628), (214, 38634), (215, 38640), (218, 38673), (219, 38715), (221, 38727), (223, 38745), (246, 38919), (248, 38928), (250, 38931), (251, 38934), (252, 38946), (253, 38958), (254, 38961), (259, 38976), (273, 39063), (277, 39078), (293, 39222), (294, 39234), (308, 39414), (312, 39432), (322, 39513), (325, 39549), (328, 39570), (332, 39636),

Gene: Stormageddon\_11 Start: 9594, Stop: 12167, Start Num: 30

Candidate Starts for Stormageddon\_11:

(29, 9585), (Start: 30 @9594 has 3 MA's), (53, 9702), (65, 9765), (72, 9783), (76, 9810), (78, 9825), (81, 9837), (95, 9987), (97, 10035), (98, 10041), (104, 10143), (108, 10197), (110, 10218), (112, 10239), (118, 10302), (123, 10416), (124, 10425), (130, 10482), (131, 10485), (132, 10518), (139, 10629), (140, 10632), (143, 10665), (148, 10698), (149, 10716), (152, 10761), (156, 10854), (157, 10857), (159, 10878), (160, 10890), (166, 10971), (168, 10983), (214, 11124), (223, 11235), (255, 11451), (302, 11772), (310, 11886), (313, 11907), (325, 12021), (327, 12033), (329, 12042), (331, 12108), (332, 12117),

Gene: Stubby\_83 Start: 34297, Stop: 36900, Start Num: 23

Candidate Starts for Stubby\_83:

(Start: 23 @34297 has 152 MA's), (35, 34366), (36, 34372), (38, 34390), (47, 34426), (74, 34534), (77, 34546), (94, 34711), (95, 34717), (105, 34912), (108, 34933), (110, 34954), (111, 34963), (117, 35020), (119, 35062), (121, 35116), (122, 35161), (130, 35230), (132, 35266), (134, 35293), (136, 35320), (140, 35380), (143, 35413), (144, 35416), (147, 35437), (149, 35464), (153, 35536), (157, 35605), (162, 35656), (213, 35866), (214, 35872), (215, 35878), (218, 35911), (219, 35953), (221, 35965), (223, 35983), (246, 36157), (248, 36166), (250, 36169), (251, 36172), (252, 36184), (253, 36196), (254, 36199), (259, 36214), (273, 36280), (277, 36295), (293, 36439), (294, 36451), (308, 36631), (312, 36649), (322, 36730), (325, 36766), (328, 36787), (332, 36853),

Gene: StubbySaigey\_92 Start: 34536, Stop: 37160, Start Num: 23

Candidate Starts for StubbySaigey\_92:

(Start: 23 @34536 has 152 MA's), (35, 34605), (36, 34611), (38, 34629), (47, 34665), (74, 34773), (77, 34785), (94, 34950), (95, 34956), (105, 35151), (108, 35172), (110, 35193), (111, 35202), (117, 35259), (119, 35301), (121, 35355), (122, 35400), (130, 35469), (132, 35505), (134, 35532), (136, 35559), (140, 35619), (143, 35652), (144, 35655), (147, 35676), (149, 35703), (153, 35775), (157, 35844), (162, 35895), (213, 36105), (214, 36111), (215, 36117), (218, 36150), (219, 36192), (221, 36204), (223, 36222), (246, 36396), (248, 36405), (250, 36408), (251, 36411), (252, 36423), (253, 36435), (254, 36438), (259, 36453), (273, 36540), (277, 36555), (293, 36699), (294, 36711), (308, 36891), (312, 36909), (322, 36990), (325, 37026), (328, 37047), (332, 37113),

Gene: Tainan\_95 Start: 37633, Stop: 40257, Start Num: 23

Candidate Starts for Tainan\_95:

(Start: 23 @37633 has 152 MA's), (35, 37702), (36, 37708), (38, 37726), (47, 37762), (74, 37870), (77, 37882), (94, 38047), (95, 38053), (105, 38248), (108, 38269), (110, 38290), (111, 38299), (117, 38356), (119, 38398), (121, 38452), (122, 38497), (130, 38566), (132, 38602), (134, 38629), (136, 38656), (140, 38716), (143, 38749), (144, 38752), (148, 38782), (149, 38800), (157, 38941), (162, 38992), (213, 39202), (214, 39208), (218, 39247), (219, 39289), (221, 39301), (223, 39319), (246, 39493), (248, 39502), (250, 39505), (251, 39508), (252, 39520), (253, 39532), (254, 39535), (259, 39550), (273, 39637), (277, 39652), (293, 39796), (294, 39808), (308, 39988), (312, 40006), (322, 40087), (325, 40123), (328, 40144), (332, 40210),

Gene: Teardrop\_90 Start: 35307, Stop: 37931, Start Num: 23

Candidate Starts for Teardrop\_90:

(Start: 23 @35307 has 152 MA's), (35, 35376), (36, 35382), (38, 35400), (47, 35436), (74, 35544), (77, 35556), (94, 35721), (95, 35727), (105, 35922), (108, 35943), (110, 35964), (111, 35973), (117,

36030), (119, 36072), (121, 36126), (122, 36171), (130, 36240), (132, 36276), (134, 36303), (136, 36330), (140, 36390), (141, 36402), (143, 36423), (144, 36426), (148, 36456), (149, 36474), (157, 36615), (162, 36666), (213, 36876), (214, 36882), (218, 36921), (219, 36963), (221, 36975), (223, 36993), (246, 37167), (248, 37176), (250, 37179), (251, 37182), (252, 37194), (253, 37206), (254, 37209), (259, 37224), (273, 37311), (277, 37326), (293, 37470), (294, 37482), (308, 37662), (312, 37680), (322, 37761), (325, 37797), (328, 37818), (332, 37884),

Gene: TinyTim\_90 Start: 36243, Stop: 38867, Start Num: 23

Candidate Starts for TinyTim\_90:

(Start: 23 @36243 has 152 MA's), (35, 36312), (36, 36318), (38, 36336), (47, 36372), (74, 36480), (77, 36492), (94, 36657), (95, 36663), (105, 36858), (108, 36879), (110, 36900), (111, 36909), (117, 36966), (119, 37008), (121, 37062), (122, 37107), (130, 37176), (132, 37212), (134, 37239), (136, 37266), (140, 37326), (143, 37359), (144, 37362), (148, 37392), (149, 37410), (157, 37551), (162, 37602), (213, 37812), (214, 37818), (218, 37857), (219, 37899), (221, 37911), (223, 37929), (246, 38103), (248, 38112), (250, 38115), (251, 38118), (252, 38130), (253, 38142), (254, 38145), (259, 38160), (273, 38247), (277, 38262), (293, 38406), (294, 38418), (308, 38598), (312, 38616), (322, 38697), (325, 38733), (328, 38754), (332, 38820),

Gene: Tonenili\_104 Start: 40235, Stop: 42874, Start Num: 23

Candidate Starts for Tonenili\_104:

(Start: 23 @40235 has 152 MA's), (35, 40304), (36, 40310), (47, 40364), (66, 40457), (74, 40487), (77, 40499), (81, 40520), (94, 40664), (95, 40670), (102, 40796), (105, 40865), (107, 40874), (111, 40916), (117, 40973), (119, 41015), (121, 41069), (122, 41114), (128, 41162), (130, 41183), (132, 41219), (134, 41246), (136, 41273), (138, 41321), (140, 41333), (143, 41366), (144, 41369), (147, 41390), (149, 41417), (153, 41489), (157, 41558), (162, 41609), (213, 41819), (214, 41825), (215, 41831), (218, 41864), (219, 41906), (221, 41918), (223, 41936), (246, 42110), (250, 42122), (252, 42137), (254, 42152), (259, 42167), (265, 42203), (273, 42257), (277, 42272), (293, 42416), (294, 42428), (312, 42623), (325, 42740), (328, 42761), (332, 42827),

Gene: Tortoise16\_88 Start: 36101, Stop: 38725, Start Num: 23

Candidate Starts for Tortoise16\_88:

(Start: 23 @36101 has 152 MA's), (35, 36170), (36, 36176), (38, 36194), (47, 36230), (74, 36338), (77, 36350), (94, 36515), (95, 36521), (105, 36716), (108, 36737), (110, 36758), (111, 36767), (117, 36824), (119, 36866), (121, 36920), (122, 36965), (130, 37034), (132, 37070), (134, 37097), (136, 37124), (140, 37184), (143, 37217), (144, 37220), (148, 37250), (149, 37268), (157, 37409), (162, 37460), (213, 37670), (214, 37676), (218, 37715), (219, 37757), (221, 37769), (223, 37787), (246, 37961), (248, 37970), (250, 37973), (251, 37976), (252, 37988), (253, 38000), (254, 38003), (259, 38018), (273, 38105), (277, 38120), (293, 38264), (294, 38276), (308, 38456), (312, 38474), (322, 38555), (325, 38591), (328, 38612), (332, 38678),

Gene: Trinitium\_86 Start: 34296, Stop: 36899, Start Num: 23

Candidate Starts for Trinitium\_86:

(Start: 23 @34296 has 152 MA's), (35, 34365), (36, 34371), (38, 34389), (47, 34425), (74, 34533), (77, 34545), (94, 34710), (95, 34716), (105, 34911), (108, 34932), (110, 34953), (111, 34962), (117, 35019), (119, 35061), (121, 35115), (122, 35160), (130, 35229), (132, 35265), (134, 35292), (136, 35319), (140, 35379), (143, 35412), (144, 35415), (147, 35436), (149, 35463), (153, 35535), (157, 35604), (162, 35655), (213, 35865), (214, 35871), (215, 35877), (218, 35910), (219, 35952), (221, 35964), (223, 35982), (246, 36156), (248, 36165), (250, 36168), (251, 36171), (252, 36183), (253, 36195), (254, 36198), (259, 36213), (273, 36279), (277, 36294), (293, 36438), (294, 36450), (308, 36630), (312, 36648), (322, 36729), (325, 36765), (328, 36786), (332, 36852),

Gene: Turret\_85 Start: 33962, Stop: 36565, Start Num: 23

Candidate Starts for Turret\_85:



(Start: 23 @33962 has 152 MA's), (35, 34031), (36, 34037), (38, 34055), (47, 34091), (74, 34199), (77, 34211), (94, 34376), (95, 34382), (105, 34577), (108, 34598), (110, 34619), (111, 34628), (117, 34685), (119, 34727), (121, 34781), (122, 34826), (130, 34895), (132, 34931), (134, 34958), (136, 34985), (140, 35045), (143, 35078), (144, 35081), (147, 35102), (149, 35129), (153, 35201), (157, 35270), (162, 35321), (213, 35531), (214, 35537), (215, 35543), (218, 35576), (219, 35618), (221, 35630), (223, 35648), (246, 35822), (248, 35831), (250, 35834), (251, 35837), (252, 35849), (253, 35861), (254, 35864), (259, 35879), (273, 35945), (277, 35960), (293, 36104), (294, 36116), (308, 36296), (312, 36314), (322, 36395), (325, 36431), (328, 36452), (332, 36518),

Gene: Tyke\_92 Start: 37005, Stop: 40433, Start Num: 1

Candidate Starts for Tyke\_92:

(Start: 1 @37005 has 18 MA's), (Start: 2 @37074 has 1 MA's), (3, 37080), (4, 37098), (6, 37134), (10, 37242), (11, 37254), (13, 37377), (14, 37428), (15, 37482), (16, 37494), (17, 37515), (Start: 26 @37809 has 2 MA's), (32, 37854), (49, 37932), (56, 37968), (65, 38001), (70, 38016), (79, 38061), (81, 38070), (85, 38103), (88, 38139), (94, 38223), (95, 38229), (105, 38424), (108, 38445), (110, 38466), (111, 38475), (117, 38532), (119, 38574), (121, 38628), (122, 38673), (130, 38742), (132, 38778), (134, 38805), (136, 38832), (140, 38892), (143, 38925), (144, 38928), (148, 38958), (149, 38976), (157, 39117), (162, 39168), (213, 39378), (214, 39384), (218, 39423), (219, 39465), (221, 39477), (223, 39495), (246, 39669), (248, 39678), (250, 39681), (251, 39684), (252, 39696), (253, 39708), (254, 39711), (259, 39726), (273, 39813), (277, 39828), (293, 39972), (294, 39984), (308, 40164), (312, 40182), (322, 40263), (325, 40299), (328, 40320), (332, 40386),

Gene: ValleyTerrace\_90 Start: 35248, Stop: 37872, Start Num: 23

Candidate Starts for ValleyTerrace\_90:

(Start: 23 @35248 has 152 MA's), (35, 35317), (36, 35323), (38, 35341), (47, 35377), (74, 35485), (77, 35497), (94, 35662), (95, 35668), (105, 35863), (108, 35884), (110, 35905), (111, 35914), (117, 35971), (119, 36013), (121, 36067), (122, 36112), (130, 36181), (132, 36217), (134, 36244), (136, 36271), (140, 36331), (143, 36364), (144, 36367), (148, 36397), (149, 36415), (157, 36556), (162, 36607), (213, 36817), (214, 36823), (218, 36862), (219, 36904), (221, 36916), (223, 36934), (246, 37108), (248, 37117), (250, 37120), (251, 37123), (252, 37135), (253, 37147), (254, 37150), (259, 37165), (273, 37252), (277, 37267), (293, 37411), (294, 37423), (308, 37603), (312, 37621), (322, 37702), (325, 37738), (328, 37759), (332, 37825),

Gene: Wally\_89 Start: 34798, Stop: 37422, Start Num: 23

Candidate Starts for Wally\_89:

(Start: 23 @34798 has 152 MA's), (35, 34867), (36, 34873), (38, 34891), (47, 34927), (74, 35035), (77, 35047), (94, 35212), (95, 35218), (105, 35413), (108, 35434), (110, 35455), (111, 35464), (117, 35521), (119, 35563), (121, 35617), (122, 35662), (130, 35731), (132, 35767), (134, 35794), (136, 35821), (140, 35881), (143, 35914), (144, 35917), (147, 35938), (149, 35965), (153, 36037), (157, 36106), (162, 36157), (213, 36367), (214, 36373), (218, 36412), (219, 36454), (221, 36466), (223, 36484), (246, 36658), (248, 36667), (250, 36670), (251, 36673), (252, 36685), (253, 36697), (254, 36700), (259, 36715), (273, 36802), (277, 36817), (293, 36961), (294, 36973), (308, 37153), (312, 37171), (322, 37252), (325, 37288), (328, 37309), (332, 37375),

Gene: Willis\_91 Start: 36138, Stop: 38762, Start Num: 23

Candidate Starts for Willis\_91:

(Start: 23 @36138 has 152 MA's), (35, 36207), (36, 36213), (38, 36231), (47, 36267), (74, 36375), (77, 36387), (94, 36552), (95, 36558), (105, 36753), (108, 36774), (110, 36795), (111, 36804), (117, 36861), (119, 36903), (121, 36957), (122, 37002), (130, 37071), (132, 37107), (134, 37134), (136, 37161), (140, 37221), (143, 37254), (144, 37257), (148, 37287), (149, 37305), (157, 37446), (162, 37497), (213, 37707), (214, 37713), (218, 37752), (219, 37794), (221, 37806), (223, 37824), (246, 37998), (248, 38007), (250, 38010), (251, 38013), (252, 38025), (253, 38037), (254, 38040), (259, 38055), (273, 38142), (277, 38157), (293, 38301), (294, 38313), (308, 38493), (312, 38511), (322,

38592), (325, 38628), (328, 38649), (332, 38715),

Gene: Yassified\_86 Start: 34529, Stop: 37132, Start Num: 23

Candidate Starts for Yassified\_86:

(Start: 23 @34529 has 152 MA's), (35, 34598), (36, 34604), (38, 34622), (47, 34658), (74, 34766), (77, 34778), (94, 34943), (95, 34949), (105, 35144), (108, 35165), (110, 35186), (111, 35195), (117, 35252), (119, 35294), (121, 35348), (122, 35393), (130, 35462), (132, 35498), (134, 35525), (136, 35552), (140, 35612), (143, 35645), (144, 35648), (148, 35678), (149, 35696), (157, 35837), (162, 35888), (213, 36098), (214, 36104), (218, 36143), (219, 36185), (221, 36197), (223, 36215), (246, 36389), (248, 36398), (250, 36401), (251, 36404), (252, 36416), (253, 36428), (254, 36431), (259, 36446), (273, 36512), (277, 36527), (293, 36671), (294, 36683), (308, 36863), (312, 36881), (322, 36962), (325, 36998), (328, 37019), (332, 37085),

Gene: YemiJoy2021\_91 Start: 36240, Stop: 38864, Start Num: 23

Candidate Starts for YemiJoy2021\_91:

(Start: 23 @36240 has 152 MA's), (35, 36309), (36, 36315), (38, 36333), (47, 36369), (74, 36477), (77, 36489), (94, 36654), (95, 36660), (105, 36855), (108, 36876), (110, 36897), (111, 36906), (117, 36963), (119, 37005), (121, 37059), (122, 37104), (130, 37173), (132, 37209), (134, 37236), (136, 37263), (140, 37323), (143, 37356), (144, 37359), (148, 37389), (149, 37407), (157, 37548), (162, 37599), (213, 37809), (214, 37815), (218, 37854), (219, 37896), (221, 37908), (223, 37926), (246, 38100), (248, 38109), (250, 38112), (251, 38115), (252, 38127), (253, 38139), (254, 38142), (259, 38157), (273, 38244), (277, 38259), (293, 38403), (294, 38415), (308, 38595), (312, 38613), (322, 38694), (325, 38730), (328, 38751), (332, 38817),

Gene: YoungMoneyMata\_90 Start: 34999, Stop: 37623, Start Num: 23

Candidate Starts for YoungMoneyMata\_90:

(Start: 23 @34999 has 152 MA's), (35, 35068), (36, 35074), (38, 35092), (47, 35128), (74, 35236), (77, 35248), (94, 35413), (95, 35419), (105, 35614), (108, 35635), (110, 35656), (111, 35665), (117, 35722), (119, 35764), (121, 35818), (122, 35863), (130, 35932), (132, 35968), (134, 35995), (136, 36022), (140, 36082), (143, 36115), (144, 36118), (148, 36148), (149, 36166), (157, 36307), (162, 36358), (213, 36568), (214, 36574), (218, 36613), (219, 36655), (221, 36667), (223, 36685), (246, 36859), (248, 36868), (250, 36871), (251, 36874), (252, 36886), (253, 36898), (254, 36901), (259, 36916), (273, 37003), (277, 37018), (293, 37162), (294, 37174), (308, 37354), (312, 37372), (322, 37453), (325, 37489), (328, 37510), (332, 37576),

Gene: Yucca\_90 Start: 36162, Stop: 38786, Start Num: 23

Candidate Starts for Yucca\_90:

(Start: 23 @36162 has 152 MA's), (35, 36231), (36, 36237), (38, 36255), (47, 36291), (74, 36399), (77, 36411), (94, 36576), (95, 36582), (105, 36777), (108, 36798), (110, 36819), (111, 36828), (117, 36885), (119, 36927), (121, 36981), (122, 37026), (130, 37095), (132, 37131), (134, 37158), (136, 37185), (140, 37245), (143, 37278), (144, 37281), (148, 37311), (149, 37329), (157, 37470), (162, 37521), (213, 37731), (214, 37737), (218, 37776), (219, 37818), (221, 37830), (223, 37848), (246, 38022), (248, 38031), (250, 38034), (251, 38037), (252, 38049), (253, 38061), (254, 38064), (259, 38079), (273, 38166), (277, 38181), (293, 38325), (294, 38337), (308, 38517), (312, 38535), (322, 38616), (325, 38652), (328, 38673), (332, 38739),

Gene: Zalkecks\_91 Start: 35928, Stop: 38552, Start Num: 23

Candidate Starts for Zalkecks\_91:

(Start: 23 @35928 has 152 MA's), (35, 35997), (36, 36003), (38, 36021), (47, 36057), (74, 36165), (77, 36177), (94, 36342), (95, 36348), (105, 36543), (108, 36564), (110, 36585), (111, 36594), (117, 36651), (119, 36693), (121, 36747), (122, 36792), (130, 36861), (132, 36897), (134, 36924), (136, 36951), (140, 37011), (143, 37044), (144, 37047), (148, 37077), (149, 37095), (157, 37236), (162, 37287), (213, 37497), (214, 37503), (218, 37542), (219, 37584), (221, 37596), (223, 37614), (246,

37788), (248, 37797), (250, 37800), (251, 37803), (252, 37815), (253, 37827), (254, 37830), (259, 37845), (273, 37932), (277, 37947), (293, 38091), (294, 38103), (308, 38283), (312, 38301), (322, 38382), (325, 38418), (328, 38439), (332, 38505),

Gene: Zeenon\_92 Start: 35855, Stop: 38479, Start Num: 23

Candidate Starts for Zeenon\_92:

(Start: 23 @35855 has 152 MA's), (35, 35924), (36, 35930), (38, 35948), (47, 35984), (74, 36092), (77, 36104), (94, 36269), (95, 36275), (105, 36470), (108, 36491), (110, 36512), (111, 36521), (117, 36578), (119, 36620), (121, 36674), (122, 36719), (130, 36788), (132, 36824), (134, 36851), (136, 36878), (140, 36938), (143, 36971), (144, 36974), (148, 37004), (149, 37022), (157, 37163), (162, 37214), (213, 37424), (214, 37430), (218, 37469), (219, 37511), (221, 37523), (223, 37541), (246, 37715), (248, 37724), (250, 37727), (251, 37730), (252, 37742), (253, 37754), (254, 37757), (259, 37772), (273, 37859), (277, 37874), (293, 38018), (294, 38030), (308, 38210), (312, 38228), (322, 38309), (325, 38345), (328, 38366), (332, 38432),

Gene: ZygoTaiga\_89 Start: 36244, Stop: 38868, Start Num: 23

Candidate Starts for ZygoTaiga\_89:

(Start: 23 @36244 has 152 MA's), (35, 36313), (36, 36319), (38, 36337), (47, 36373), (74, 36481), (77, 36493), (94, 36658), (95, 36664), (105, 36859), (108, 36880), (110, 36901), (111, 36910), (117, 36967), (119, 37009), (121, 37063), (122, 37108), (130, 37177), (132, 37213), (134, 37240), (136, 37267), (140, 37327), (143, 37360), (144, 37363), (148, 37393), (149, 37411), (157, 37552), (162, 37603), (213, 37813), (214, 37819), (218, 37858), (219, 37900), (221, 37912), (223, 37930), (246, 38104), (248, 38113), (250, 38116), (251, 38119), (252, 38131), (253, 38143), (254, 38146), (259, 38161), (273, 38248), (277, 38263), (293, 38407), (294, 38419), (308, 38599), (312, 38617), (322, 38698), (325, 38734), (328, 38755), (332, 38821),