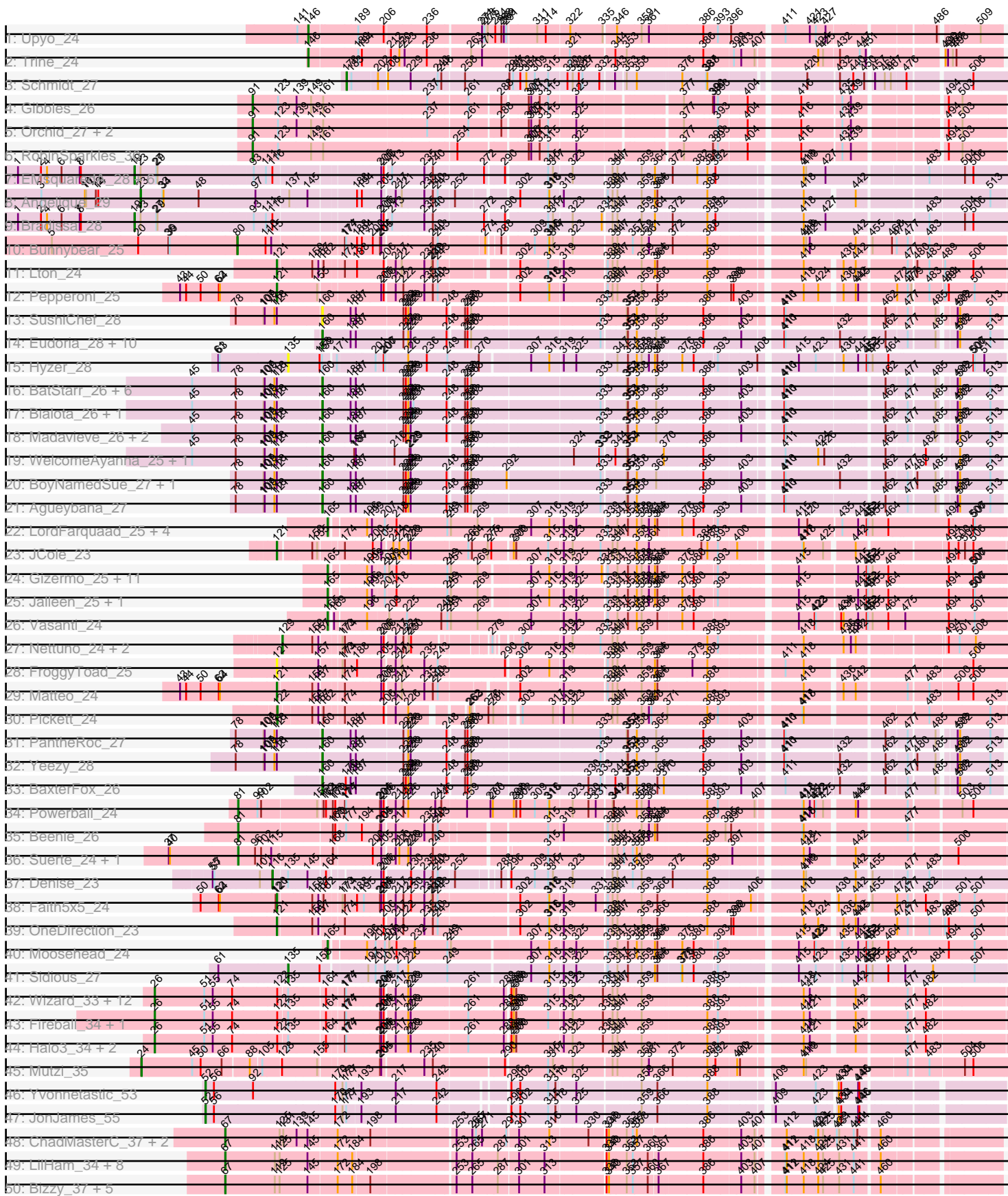


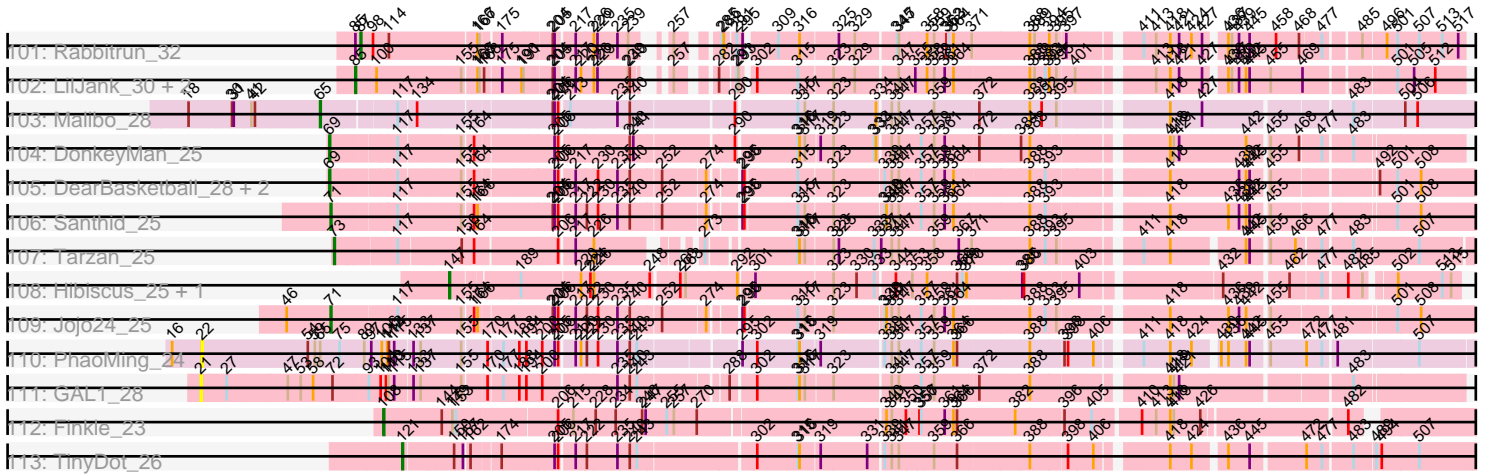
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51: Love_41 + 2	28	88	78	114	142	208	212	240	254	296	316	323	333	347	358	368	391	398	411
52: BrandonK123_39	28	88	78	114	142	208	212	240	254	296	316	323	333	347	358	368	391	398	411
53: Lennon_38 + 1	28	88	78	114	142	208	212	240	254	296	316	323	333	347	358	368	391	398	411
54: McKinley_40 + 2	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
55: Geodin_35 + 1	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
56: Barsten_37	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
57: RiverRaider_37	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
58: Gaea_36	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
59: BobBob_35 + 1	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
60: Fitzgerald_35	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
61: FuegoCuervo_39	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
62: Biowit_37 + 3	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
63: YorkOnyx_37	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
64: Sedona_38	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
65: Ashertheman_37	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
66: Charming_38	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
67: Paries_40	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
68: Ailee_35	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
69: Shivanihoia_38	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
70: Jabberwocky_35	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
71: JKSyngboy_34	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
72: Angelicage_36 + 1	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
73: Keitabear_38	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
74: Brawn1_33	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
75: Baumdotcom_36	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
76: Fosterous_36	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
77: MoontowerMania_36	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
78: Camerico_31	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
79: LilyPad_26	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
80: LittleFeia_27	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
81: Morkie_23 + 1	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
82: Lucky10_15	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
83: GodonK_92	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
84: Phendrix_89	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
85: Birdsong_28 + 3	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
86: Ecliptus_32	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
87: ODay_33	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
88: Whitney_30 + 4	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
89: Periwinkle_31 + 5	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
90: Phabuloso_28 + 2	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
91: LitmiVicQueen_28	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
92: Asapag_29	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
93: Squiddy_31 + 1	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
94: Crater_27 + 1	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
95: Sixama_f02	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
96: Forza_f04 + 2	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
97: BlueNGold_f03	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
98: Sephiroth_30	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
99: Syleon_30	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411
100: Kudeire_29	28	88	78	114	142	172	184	198	208	296	316	323	333	347	358	368	391	398	411

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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 304702 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304702 has 227 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Upyo\_24
- Track 2 : Trine\_24
- Track 3 : Schmidt\_27
- Track 4 : Gibbles\_26
- Track 5 : Orchid\_27, Kampe\_27, PatrickStar\_27
- Track 6 : RobinSparkles\_30
- Track 7 : EMSquaredA\_28, Pollux\_28, Marteena\_28, BritBrat\_28, Floral\_28, EnalisNailo\_28, Lilas\_28
- Track 8 : Angelique\_29
- Track 9 : Bradissa\_28
- Track 10 : Bunnybear\_25
- Track 11 : Lton\_24
- Track 12 : Pepperoni\_25
- Track 13 : SushiChef\_28
- Track 14 : Eudoria\_28, Polly\_25, Suscepit\_28, Zameen\_28, Antonio\_28, Neobush\_28, Maridalia\_27, Trumpet\_28, Tayonia\_28, Manasvini\_28, Kita\_28
- Track 15 : Hyzer\_28
- Track 16 : BatStarr\_26, Nymphadora\_26, Hugley\_26, TimTam\_26, Bosnia\_26, Herod\_26, Eviarto\_26
- Track 17 : Bialota\_26, Zirinka\_26
- Track 18 : Madavieve\_26, Madeline\_26, Ohgeesy\_26
- Track 19 : WelcomeAyanna\_25, ThankyouJordi\_25
- Track 20 : BoyNamedSue\_27, AlumE\_27
- Track 21 : Agueybana\_27
- Track 22 : LordFarquaad\_25, Attis\_25, Yeet412\_25, Bjaner7\_25, SoilAssassin\_25
- Track 23 : JCole\_23
- Track 24 : Gizermo\_25, Clap\_25, Savage\_25, GemG\_25, Haley23\_25, Cynthia\_25, Ebert\_25, Sproutie\_25, Yinzer\_25, Mocha12\_25, Whiteclaw\_25, TuertoX\_25
- Track 25 : Jalleen\_25, Sahara\_24
- Track 26 : Vasanti\_24
- Track 27 : Nettuno\_24, Lamberg\_24, EdnaMode\_24
- Track 28 : FroggyToad\_25
- Track 29 : Matteo\_24
- Track 30 : Pickett\_24
- Track 31 : PantheRoc\_27
- Track 32 : Yeezy\_28
- Track 33 : BaxterFox\_26

- Track 34 : Powerball\_24
- Track 35 : Beenie\_26
- Track 36 : Suerte\_24, Thimann\_26
- Track 37 : Denise\_23
- Track 38 : Faith5x5\_24
- Track 39 : OneDirection\_23
- Track 40 : Moosehead\_24
- Track 41 : Sidious\_27
- Track 42 : Wizard\_33, SmokingBunny\_33, Gezellig\_33, PullumCavea\_33, Jambalaya\_33, Sendy\_34, KimmyK\_35, CherryCola\_36, Phlop\_33, Valary\_36, Nubi\_33, Togo\_33, Savbucketdawg\_33
- Track 43 : Fireball\_34, TillyBobJoe\_33
- Track 44 : Halo3\_34, Salvador\_33, Evamon\_33
- Track 45 : Mutzi\_35
- Track 46 : Yvonnetastic\_53
- Track 47 : JonJames\_55
- Track 48 : ChadMasterC\_37, Kewpiedoll\_36, Stultus\_35
- Track 49 : LilHam\_34, Stichling\_34, Ribeye\_37, Derg\_32, Baddon\_36, StorminNorm\_36, Kwobi\_38, Tycho\_36, SchottB\_35
- Track 50 : Bizzy\_37, Saronaya\_36, Flatwoods\_37, Tangerine\_36, Kroos\_37, Gustavo\_36
- Track 51 : Love\_41, McCrothy\_38, Nordenberg\_32
- Track 52 : Brandonk123\_39
- Track 53 : Lennon\_38, Sitar\_38
- Track 54 : McKinley\_40, Vivi2\_40, Tangent\_38
- Track 55 : Geodirt\_35, Sanjuju\_35
- Track 56 : Barsten\_37
- Track 57 : RiverRaider\_37
- Track 58 : Gaea\_36
- Track 59 : BobBob\_35, Rofo\_38
- Track 60 : Fitzgerald\_35
- Track 61 : FuegoCuervo\_39
- Track 62 : Bibwit\_37, Galadriel\_38, Kamashten\_36, Thing3\_36
- Track 63 : YorkOnyx\_37
- Track 64 : Sedona\_38
- Track 65 : Ashertheman\_37
- Track 66 : Charming\_38
- Track 67 : Paries\_40
- Track 68 : Ailee\_35
- Track 69 : Shivanishola\_38
- Track 70 : Jabberwocky\_35
- Track 71 : JKSyngboy\_34
- Track 72 : Angelicage\_36, Affeca\_36
- Track 73 : Keitabear\_38
- Track 74 : Brawn1\_33
- Track 75 : Baumdotcom\_36
- Track 76 : Fosterous\_36
- Track 77 : MoontowerMania\_36
- Track 78 : Camerico\_31
- Track 79 : LilyPad\_26
- Track 80 : LittleFella\_27
- Track 81 : Morkie\_25, PhorbessPhlower\_25, InLimbo\_26
- Track 82 : Lucky10\_25

- Track 83 : GodonK\_92
- Track 84 : Phendrix\_89
- Track 85 : Birdsong\_28, BearBQ\_28, MortyNRick\_28, Kuwabara\_28
- Track 86 : Ecliptus\_32
- Track 87 : ODay\_33
- Track 88 : Whitney\_30, Kamaru\_29, Getalong\_30, Budski\_29, Holliday\_29
- Track 89 : Periwinkle\_31, Phistory\_30, Horus\_29, Frickyeah\_28, Apricot\_28, Leroy\_29
- Track 90 : Phabuloso\_28, Lutum\_29, Kenna\_28
- Track 91 : LitninMcQueen\_28
- Track 92 : Asapag\_29
- Track 93 : Squiddly\_31, Spooky\_29
- Track 94 : Crater\_27, ShawBrad\_29
- Track 95 : Sixama\_102
- Track 96 : Forza\_104, Boopy\_104, Mareelih\_102
- Track 97 : BlueNGold\_103
- Track 98 : Sephiroth\_30
- Track 99 : Syleon\_30
- Track 100 : Kudefre\_29
- Track 101 : Rabbitrun\_32
- Track 102 : LilJank\_30, Trax\_30, Neville\_30
- Track 103 : Malibo\_28
- Track 104 : DonkeyMan\_25
- Track 105 : DearBasketball\_28, DinoNuggs\_26, Reyja\_26
- Track 106 : Santhid\_25
- Track 107 : Tarzan\_25
- Track 108 : Hibiscus\_25, Heinz\_25
- Track 109 : Jojo24\_25
- Track 110 : PhaoMing\_24
- Track 111 : GAL1\_28
- Track 112 : Finkle\_23
- Track 113 : TinyDot\_26

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

The start number called the most often in the published annotations is 67, it was called in 30 of the 208 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ashertheman\_37, Baddon\_36, Barsten\_37, Baumdotcom\_36, Bizzy\_37, Brawn1\_33, ChadMasterC\_37, Derg\_32, Fitzgerald\_35, Flatwoods\_37, FuegoCuervo\_39, Gaea\_36, Geodirt\_35, Gustavo\_36, JKSyngboy\_34, Jabberwocky\_35, Kewpiedoll\_36, Kroos\_37, Kwobi\_38, LilHam\_34, MoontowerMania\_36, Ribeye\_37, RiverRaider\_37, Sanjuju\_35, Saronaya\_36, SchottB\_35, Stichling\_34, StorminNorm\_36, Stultus\_35, Tangerine\_36, Tycho\_36, YorkOnyx\_37,

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

-

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

- Affeca\_36, Agueybana\_27, Ailee\_35, AlumE\_27, Angelicage\_36, Angelique\_29, Antonio\_28, Apricot\_28, Asapag\_29, Attis\_25, BatStarr\_26, BaxterFox\_26, BearBQ\_28, Beenie\_26, Bialota\_26, Bibwit\_37, Birdsong\_28, Bjaner7\_25, BlueNGold\_103, BobBob\_35, Boopy\_104, Bosnia\_26, BoyNamedSue\_27, Bradissa\_28, Brandonk123\_39, BritBrat\_28, Budski\_29, Bunnybear\_25, Camerico\_31, Charming\_38, CherryCola\_36, Clap\_25, Crater\_27, Cynthia\_25, DearBasketball\_28, Denise\_23, DinoNuggs\_26, DonkeyMan\_25, EMSquaredA\_28, Ebert\_25, Ecliptus\_32, EdnaMode\_24, EnalisNailo\_28, Eudoria\_28, Evamon\_33, Eviarto\_26, Faith5x5\_24, Finkle\_23, Fireball\_34, Floral\_28, Forza\_104, Fosterous\_36, Frickyeh\_28, FroggyToad\_25, GAL1\_28, Galadriel\_38, GemG\_25, Getalong\_30, Gezellig\_33, Gibbles\_26, Gizermo\_25, GodonK\_92, Haley23\_25, Halo3\_34, Heinz\_25, Herod\_26, Hibiscus\_25, Holliday\_29, Horus\_29, Hugley\_26, Hyzer\_28, InLimbo\_26, JCole\_23, Jalleen\_25, Jambalaya\_33, Jojo24\_25, JonJames\_55, Kamaru\_29, Kamashten\_36, Kampe\_27, Keitabear\_38, Kenna\_28, KimmyK\_35, Kita\_28, Kudrefre\_29, Kuwabara\_28, Lamberg\_24, Lennon\_38, Leroy\_29, LilJank\_30, Lilas\_28, LilyPad\_26, LitninMcQueen\_28, LittleFella\_27, LordFarquaad\_25, Love\_41, Lton\_24, Lucky10\_25, Lutum\_29, Madavieve\_26, Madeline\_26, Malibo\_28, Manasvini\_28, Mareelih\_102, Maridalia\_27, Marteena\_28, Matteo\_24, McCrothy\_38, McKinley\_40, Mocha12\_25, Moosehead\_24, Morkie\_25, MortyNRick\_28, Mutzi\_35, Neobush\_28, Nettuno\_24, Neville\_30, Nordenberg\_32, Nubi\_33, Nymphadora\_26, ODay\_33, Ohgeesy\_26, OneDirection\_23, Orchid\_27, PantheRoc\_27, Paries\_40, PatrickStar\_27, Pepperoni\_25, Periwinkle\_31, Phabuloso\_28, PhaoMing\_24, Phendrix\_89, Phistory\_30, Phlop\_33, PhorbesPhlower\_25, Pickett\_24, Pollux\_28, Polly\_25, Powerball\_24, PullumCavea\_33, Rabbitrun\_32, Reyja\_26, RobinSparkles\_30, Rofo\_38, Sahara\_24, Salvador\_33, Santhid\_25, Savage\_25, Savbucketdawg\_33, Schmidt\_27, Sedona\_38, Sendy\_34, Sephiroth\_30, ShawBrad\_29, Shivanishola\_38, Sidious\_27, Sitar\_38, Sixama\_102, SmokingBunny\_33, SoilAssassin\_25, Spooky\_29, Sproutie\_25, Squiddly\_31, Suerte\_24, Suscepit\_28, SushiChef\_28, Syleon\_30, Tangent\_38, Tarzan\_25, Tayonia\_28, ThankyouJordi\_25, Thimann\_26, Thing3\_36, TillyBobJoe\_33, TimTam\_26, TinyDot\_26, Togo\_33, Trax\_30, Trine\_24, Trumpet\_28, TuertoX\_25, Upyo\_24, Valary\_36, Vasanti\_24, Vivi2\_40, WelcomeAyanna\_25, Whiteclaw\_25, Whitney\_30, Wizard\_33, Yeet412\_25, Yeezy\_28, Yinzer\_25, Yvonnestic\_53, Zameen\_28, Zirinka\_26,

### Summary by start number:

Start 19:

- Found in 8 of 227 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 8 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bradissa\_28 (CY1), BritBrat\_28 (CY2), EMSquaredA\_28 (CY1), EnalisNailo\_28 (CY1), Floral\_28 (CY1), Lilas\_28 (CY1), Marteena\_28 (CY1), Pollux\_28 (CY1),

Start 21:

- Found in 1 of 227 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GAL1\_28 (singleton),

Start 22:

- Found in 1 of 227 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PhaoMing\_24 (UNK),

#### Start 23:

- Found in 9 of 227 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Angelique\_29 (CY1),

#### Start 24:

- Found in 1 of 227 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mutzi\_35 (DC1),

#### Start 25:

- Found in 2 of 227 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spooky\_29 (DN2), Squiddly\_31 (DN2),

#### Start 26:

- Found in 18 of 227 ( 7.9% ) of genes in pham
- Manual Annotations of this start: 17 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CherryCola\_36 (DC1), Evamon\_33 (DC1), Fireball\_34 (DC1), Gezellig\_33 (DC1), Halo3\_34 (DC1), Jambalaya\_33 (DC1), KimmyK\_35 (DC1), Nubi\_33 (DC1), Phlop\_33 (DC1), PullumCavea\_33 (DC1), Salvador\_33 (DC1), Savbucketdawg\_33 (DC1), Sendy\_34 (DC1), SmokingBunny\_33 (DC1), TillyBobJoe\_33 (DC1), Togo\_33 (DC1), Valary\_36 (DC1), Wizard\_33 (DC1),

#### Start 28:

- Found in 24 of 227 ( 10.6% ) of genes in pham
- Manual Annotations of this start: 23 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Affeca\_36 (DE1), Ailee\_35 (DE1), Angelicage\_36 (DE1), Bibwit\_37 (DE1), BobBob\_35 (DE1), Brandonk123\_39 (DE1), Charming\_38 (DE1), Fosterous\_36 (DE1), Galadriel\_38 (DE1), Kamashten\_36 (DE1), Keitabear\_38 (DE1), Lennon\_38 (DE1), Love\_41 (DE1), McCrothy\_38 (DE1), McKinley\_40 (DE1), Nordenberg\_32 (DE1), Paries\_40 (DE1), Rofo\_38 (DE1), Sedona\_38 (DE1), Shivanishola\_38 (DE1), Sitar\_38 (DE1), Tangent\_38 (DE1), Thing3\_36 (DE1), Vivi2\_40 (DE1),

#### Start 32:

- Found in 24 of 227 ( 10.6% ) of genes in pham
- Manual Annotations of this start: 22 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apricot\_28 (DN3), Asapag\_29 (DN1), BearBQ\_28 (DN), Birdsong\_28 (DN), Budski\_29 (DN), Crater\_27 (DN3), Ecliptus\_32 (DN), Frickyeah\_28 (DN1), Getalong\_30 (DN1), Holliday\_29 (DN1), Horus\_29 (DN1), Kamaru\_29 (DN1), Kenna\_28 (DN1), Kuwabara\_28 (DN4), Leroy\_29 (DN1),

LitninMcQueen\_28 (DN1), Lutum\_29 (DN1), MortyNRick\_28 (DN), ODay\_33 (DN), Periwinkle\_31 (DN1), Phabuloso\_28 (DN1), Phistory\_30 (DN1), ShawBrad\_29 (DN1), Whitney\_30 (DN1),

Start 38:

- Found in 4 of 227 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 3 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: InLimbo\_26 (DH), Lucky10\_25 (DH), Morkie\_25 (DH), PhorbesPhlower\_25 (DH),

Start 51:

- Found in 20 of 227 ( 8.8% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 10.0% of time when present
- Phage (with cluster) where this start called: LilyPad\_26 (DG1), LittleFella\_27 (DG2),

Start 52:

- Found in 2 of 227 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JonJames\_55 (DD), Yvonnetastic\_53 (DD),

Start 65:

- Found in 7 of 227 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Malibo\_28 (DW),

Start 67:

- Found in 32 of 227 ( 14.1% ) of genes in pham
- Manual Annotations of this start: 30 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ashertheman\_37 (DE1), Baddon\_36 (DE1), Barsten\_37 (DE1), Baumdotcom\_36 (DE1), Bizzy\_37 (DE1), Brawn1\_33 (DE1), ChadMasterC\_37 (DE1), Derg\_32 (DE1), Fitzgerald\_35 (DE1), Flatwoods\_37 (DE1), FuegoCuervo\_39 (DE1), Gaea\_36 (DE1), Geodirt\_35 (DE1), Gustavo\_36 (DE1), JKSyngboy\_34 (DE1), Jabberwocky\_35 (DE1), Kewpiedoll\_36 (DE1), Kroos\_37 (DE1), Kwobi\_38 (DE1), LilHam\_34 (DE1), MoontowerMania\_36 (DE1), Ribeye\_37 (DE1), RiverRaider\_37 (DE1), Sanjuju\_35 (DE1), Saronaya\_36 (DE1), SchottB\_35 (DE1), Stichling\_34 (DE1), StorminNorm\_36 (DE1), Stultus\_35 (DE1), Tangerine\_36 (DE1), Tycho\_36 (DE1), YorkOnyx\_37 (DE1),

Start 69:

- Found in 4 of 227 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DearBasketball\_28 (DY), DinoNuggs\_26 (DY), DonkeyMan\_25 (DY), Reyja\_26 (DY),

Start 71:

- Found in 8 of 227 ( 3.5% ) of genes in pham

- Manual Annotations of this start: 7 of 208
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Boopy\_104 (DS), Forza\_104 (DS), GodonK\_92 (DK), Jojo24\_25 (DY), Mareelih\_102 (DS), Phendrix\_89 (DK), Santhid\_25 (DY),

#### Start 72:

- Found in 39 of 227 ( 17.2% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 2.6% of time when present
- Phage (with cluster) where this start called: Sixama\_102 (DS),

#### Start 73:

- Found in 1 of 227 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tarzan\_25 (DY),

#### Start 80:

- Found in 3 of 227 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Bunnybear\_25 (CZ),

#### Start 81:

- Found in 4 of 227 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 4 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beenie\_26 (CZ4), Powerball\_24 (CZ4), Suerte\_24 (CZ4), Thimann\_26 (CZ4),

#### Start 85:

- Found in 7 of 227 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 5 of 208
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Kudrefre\_29 (DU1), LilJank\_30 (DU2), Neville\_30 (DU2), Sephiroth\_30 (DU1), Syleon\_30 (DU1), Trax\_30 (DU2),

#### Start 86:

- Found in 5 of 227 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 20.0% of time when present
- Phage (with cluster) where this start called: BlueNGold\_103 (DS),

#### Start 87:

- Found in 1 of 227 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rabbitrun\_32 (DU2),

#### Start 91:

- Found in 5 of 227 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 5 of 208

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gibbles\_26 (CX), Kampe\_27 (CX), Orchid\_27 (CX), PatrickStar\_27 (CX), RobinSparkles\_30 (CX),

#### Start 108:

- Found in 1 of 227 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Finkle\_23 (singleton),

#### Start 116:

- Found in 29 of 227 ( 12.8% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 3.4% of time when present
- Phage (with cluster) where this start called: Denise\_23 (CZ5),

#### Start 121:

- Found in 28 of 227 ( 12.3% ) of genes in pham
- Manual Annotations of this start: 7 of 208
- Called 28.6% of time when present
- Phage (with cluster) where this start called: Faith5x5\_24 (CZ6), FroggyToad\_25 (CZ2), JCole\_23 (CZ2), Lton\_24 (CZ), Matteo\_24 (CZ2), OneDirection\_23 (CZ6), Pepperoni\_25 (CZ), TinyDot\_26 (singleton),

#### Start 122:

- Found in 19 of 227 ( 8.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Pickett\_24 (CZ2),

#### Start 129:

- Found in 3 of 227 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 3 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EdnaMode\_24 (CZ2), Lamberg\_24 (CZ2), Nettuno\_24 (CZ2),

#### Start 135:

- Found in 21 of 227 ( 9.3% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 9.5% of time when present
- Phage (with cluster) where this start called: Hyzer\_28 (CZ1), Sidious\_27 (CZ7),

#### Start 146:

- Found in 2 of 227 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trine\_24 (CD), Upyo\_24 (CD),

#### Start 147:

- Found in 2 of 227 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Heinz\_25 (DY), Hibiscus\_25 (DY),

Start 152:

- Found in 1 of 227 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Camerico\_31 (DF4),

Start 160:

- Found in 32 of 227 ( 14.1% ) of genes in pham
- Manual Annotations of this start: 29 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agueybana\_27 (CZ1), AlumE\_27 (CZ1), Antonio\_28 (CZ1), BatStarr\_26 (CZ1), BaxterFox\_26 (CZ3), Bialota\_26 (CZ1), Bosnia\_26 (CZ1), BoyNamedSue\_27 (CZ1), Eudoria\_28 (CZ1), Eviarto\_26 (CZ1), Herod\_26 (CZ1), Hugley\_26 (CZ1), Kita\_28 (CZ1), Madavieve\_26 (CZ1), Madeline\_26 (CZ1), Manasvini\_28 (CZ1), Maridalia\_27 (CZ1), Neobush\_28 (CZ1), Nymphadora\_26 (CZ1), Ohgeesy\_26 (CZ), PantheRoc\_27 (CZ3), Polly\_25 (CZ1), Suscepit\_28 (CZ1), SushiChef\_28 (CZ), Tayonia\_28 (CZ1), ThankyouJordi\_25 (CZ1), TimTam\_26 (CZ1), Trumpet\_28 (CZ1), WelcomeAyanna\_25 (CZ1), Yeezy\_28 (CZ3), Zameen\_28 (CZ1), Zirinka\_26 (CZ1),

Start 165:

- Found in 21 of 227 ( 9.3% ) of genes in pham
- Manual Annotations of this start: 19 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attis\_25 (CZ2), Bjaner7\_25 (CZ2), Clap\_25 (CZ2), Cynthia\_25 (CZ2), Ebert\_25 (CZ2), GemG\_25 (CZ2), Gizermo\_25 (CZ2), Haley23\_25 (CZ2), Jalleen\_25 (CZ2), LordFarquaad\_25 (CZ2), Mocha12\_25 (CZ2), Moosehead\_24 (CZ6), Sahara\_24 (CZ2), Savage\_25 (CZ2), SoilAssassin\_25 (CZ2), Sproutie\_25 (CZ2), TuertoX\_25 (CZ2), Vasanti\_24 (CZ2), Whiteclaw\_25 (CZ2), Yeet412\_25 (CZ2), Yinzer\_25 (CZ2),

Start 178:

- Found in 1 of 227 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Schmidt\_27 (CU4),

### Summary by clusters:

There are 33 clusters represented in this pham: DN, singleton, DK, DH, CZ2, CZ3, DD, CZ1, CZ6, CZ7, CZ4, CZ5, DY, DW, DS, CU4, DF4, DN4, DN1, DN3, DN2, DU1, DU2, CY2, CY1, CD, DG2, CZ, CX, UNK, DC1, DE1, DG1,

Info for manual annotations of cluster CD:

- Start number 146 was manually annotated 2 times for cluster CD.

Info for manual annotations of cluster CU4:

- Start number 178 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CX:

- Start number 91 was manually annotated 5 times for cluster CX.

Info for manual annotations of cluster CY1:

- Start number 19 was manually annotated 7 times for cluster CY1.
- Start number 23 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 19 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ:

- Start number 80 was manually annotated 1 time for cluster CZ.
- Start number 121 was manually annotated 2 times for cluster CZ.
- Start number 160 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 160 was manually annotated 25 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 121 was manually annotated 2 times for cluster CZ2.
- Start number 122 was manually annotated 1 time for cluster CZ2.
- Start number 129 was manually annotated 3 times for cluster CZ2.
- Start number 165 was manually annotated 18 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 160 was manually annotated 3 times for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 81 was manually annotated 4 times for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 116 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ6:

- Start number 121 was manually annotated 2 times for cluster CZ6.
- Start number 165 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster CZ7:

- Start number 135 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster DC1:

- Start number 24 was manually annotated 1 time for cluster DC1.
- Start number 26 was manually annotated 17 times for cluster DC1.

Info for manual annotations of cluster DD:

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

Info for manual annotations of cluster DE1:

- Start number 28 was manually annotated 23 times for cluster DE1.
- Start number 67 was manually annotated 30 times for cluster DE1.

Info for manual annotations of cluster DF4:

- Start number 152 was manually annotated 1 time for cluster DF4.

Info for manual annotations of cluster DG1:

- Start number 51 was manually annotated 1 time for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 51 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DH:

- Start number 38 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster DK:

- Start number 71 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DN:

- Start number 32 was manually annotated 6 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 32 was manually annotated 13 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 25 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 32 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 32 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DS:

- Start number 71 was manually annotated 3 times for cluster DS.
- Start number 72 was manually annotated 1 time for cluster DS.
- Start number 86 was manually annotated 1 time for cluster DS.

Info for manual annotations of cluster DU1:

- Start number 85 was manually annotated 3 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 85 was manually annotated 2 times for cluster DU2.
- Start number 87 was manually annotated 1 time for cluster DU2.

Info for manual annotations of cluster DW:

- Start number 65 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster DY:

- Start number 69 was manually annotated 2 times for cluster DY.
- Start number 71 was manually annotated 2 times for cluster DY.
- Start number 73 was manually annotated 1 time for cluster DY.
- Start number 147 was manually annotated 2 times for cluster DY.

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

Gene: Affeca\_36 Start: 33574, Stop: 35496, Start Num: 28

Candidate Starts for Affeca\_36:

(Start: 28 @33574 has 23 MA's), (54, 33709), (58, 33718), (Start: 72 @33751 has 1 MA's), (82, 33775), (114, 33844), (142, 33919), (205, 34111), (206, 34117), (217, 34138), (222, 34156), (226, 34168), (240, 34228), (254, 34282), (296, 34396), (315, 34483), (323, 34537), (333, 34603), (341, 34633), (347, 34645), (358, 34690), (359, 34702), (361, 34720), (368, 34747), (381, 34825), (388, 34852), (393, 34876), (411, 34999), (417, 35041), (436, 35125), (442, 35155), (470, 35236), (478, 35266), (489, 35338), (494, 35347),

Gene: Agueybana\_27 Start: 22803, Stop: 24308, Start Num: 160

Candidate Starts for Agueybana\_27:

(78, 22596), (107, 22665), (109, 22668), (118, 22692), (Start: 121 @22698 has 7 MA's), (Start: 160 @22803 has 29 MA's), (181, 22872), (187, 22884), (222, 22995), (224, 23001), (226, 23007), (229, 23013), (248, 23100), (258, 23136), (260, 23142), (263, 23151), (333, 23445), (353, 23499), (354, 23502), (358, 23523), (386, 23673), (403, 23757), (410, 23838), (411, 23841), (462, 24060), (477, 24108), (485, 24168), (499, 24201), (502, 24207), (513, 24279),

Gene: Ailee\_35 Start: 33459, Stop: 35381, Start Num: 28

Candidate Starts for Ailee\_35:

(Start: 28 @33459 has 23 MA's), (54, 33594), (Start: 72 @33636 has 1 MA's), (82, 33660), (142, 33804), (205, 33996), (206, 34002), (217, 34023), (222, 34041), (226, 34053), (240, 34113), (254, 34167), (296, 34281), (315, 34368), (323, 34422), (331, 34476), (333, 34488), (341, 34518), (347, 34530), (358, 34575), (359, 34587), (361, 34605), (368, 34632), (381, 34710), (388, 34737), (393, 34761), (411, 34884), (417, 34926), (436, 35010), (442, 35040), (470, 35121), (478, 35151), (489, 35223), (494, 35232),

Gene: AlumE\_27 Start: 22802, Stop: 24307, Start Num: 160

Candidate Starts for AlumE\_27:

(78, 22595), (107, 22664), (109, 22667), (118, 22691), (Start: 121 @22697 has 7 MA's), (Start: 160 @22802 has 29 MA's), (181, 22871), (187, 22883), (222, 22994), (224, 23000), (226, 23006), (229, 23012), (248, 23099), (258, 23135), (260, 23141), (263, 23150), (292, 23234), (333, 23444), (353, 23498), (354, 23501), (358, 23522), (365, 23567), (386, 23672), (403, 23756), (410, 23837), (411, 23840), (432, 23963), (462, 24059), (477, 24107), (480, 24122), (485, 24167), (499, 24200), (502, 24206), (513, 24278),

Gene: Angelicage\_36 Start: 33992, Stop: 35914, Start Num: 28

Candidate Starts for Angelicage\_36:

(Start: 28 @33992 has 23 MA's), (54, 34127), (58, 34136), (Start: 72 @34169 has 1 MA's), (82, 34193), (114, 34262), (142, 34337), (205, 34529), (206, 34535), (217, 34556), (222, 34574), (226, 34586), (240, 34646), (254, 34700), (296, 34814), (315, 34901), (323, 34955), (333, 35021), (341, 35051), (347, 35063), (358, 35108), (359, 35120), (361, 35138), (368, 35165), (381, 35243), (388, 35270), (393, 35294), (411, 35417), (417, 35459), (436, 35543), (442, 35573), (470, 35654), (478, 35684), (489, 35756), (494, 35765),

Gene: Angelique\_29 Start: 23414, Stop: 25348, Start Num: 23

Candidate Starts for Angelique\_29:

(3, 23168), (10, 23276), (11, 23279), (12, 23303), (14, 23309), (Start: 23 @23414 has 1 MA's), (33, 23468), (34, 23471), (48, 23558), (97, 23699), (137, 23777), (145, 23816), (188, 23918), (194, 23930), (205, 23975), (217, 24002), (221, 24017), (235, 24071), (240, 24092), (243, 24104), (252, 24140), (302, 24269), (315, 24335), (316, 24338), (319, 24368), (339, 24467), (341, 24479), (347, 24491), (359, 24548), (364, 24581), (366, 24587), (388, 24698), (418, 24890), (442, 25001), (513, 25301),

Gene: Antonio\_28 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Antonio\_28:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: Apricot\_28 Start: 21679, Stop: 23514, Start Num: 32

Candidate Starts for Apricot\_28:

(Start: 32 @21679 has 22 MA's), (70, 21841), (83, 21871), (103, 21925), (114, 21940), (Start: 116 @21952 has 1 MA's), (117, 21955), (125, 21970), (126, 21973), (133, 21976), (164, 22066), (167, 22075), (168, 22078), (200, 22165), (205, 22186), (206, 22192), (217, 22213), (220, 22222), (226, 22243), (229, 22249), (262, 22351), (263, 22354), (276, 22384), (281, 22396), (296, 22420), (299, 22429), (315, 22495), (317, 22507), (323, 22549), (328, 22582), (333, 22615), (336, 22621), (341, 22645), (347, 22657), (359, 22714), (361, 22732), (388, 22864), (393, 22888), (395, 22906), (418, 23059), (421, 23074), (423, 23089), (424, 23095), (436, 23140), (439, 23158), (442, 23170), (445, 23176), (450, 23188), (455, 23197), (470, 23251), (483, 23320), (489, 23353), (492, 23359), (506, 23422), (507, 23425), (510, 23443), (513, 23464), (514, 23473),

Gene: Asapag\_29 Start: 22121, Stop: 23956, Start Num: 32

Candidate Starts for Asapag\_29:

(Start: 32 @22121 has 22 MA's), (70, 22283), (83, 22313), (103, 22367), (114, 22382), (Start: 116 @22394 has 1 MA's), (117, 22397), (125, 22412), (126, 22415), (133, 22418), (164, 22508), (167, 22517), (168, 22520), (200, 22607), (205, 22628), (206, 22634), (217, 22655), (226, 22685), (229, 22691), (262, 22793), (263, 22796), (276, 22826), (281, 22838), (296, 22862), (299, 22871), (315, 22937), (317, 22949), (323, 22991), (328, 23024), (333, 23057), (336, 23063), (341, 23087), (347, 23099), (359, 23156), (361, 23174), (388, 23306), (393, 23330), (395, 23348), (418, 23501), (421, 23516), (423, 23531), (424, 23537), (436, 23582), (439, 23600), (442, 23612), (445, 23618), (450, 23630), (455, 23639), (470, 23693), (483, 23762), (489, 23795), (492, 23801), (506, 23864), (507, 23867), (510, 23885), (513, 23906), (514, 23915),

Gene: Ashertheman\_37 Start: 32252, Stop: 33973, Start Num: 67

Candidate Starts for Ashertheman\_37:

(Start: 67 @32252 has 30 MA's), (125, 32387), (144, 32444), (145, 32453), (172, 32522), (253, 32783), (265, 32822), (287, 32882), (301, 32927), (313, 32987), (338, 33122), (340, 33128), (353, 33170), (357, 33185), (360, 33221), (367, 33242), (385, 33338), (386, 33341), (403, 33425), (407, 33458), (411, 33503), (412, 33506), (418, 33542), (424, 33578), (425, 33590), (431, 33626), (460, 33716),

Gene: Attis\_25 Start: 20498, Stop: 22021, Start Num: 165

Candidate Starts for Attis\_25:

(Start: 165 @20498 has 19 MA's), (196, 20570), (199, 20582), (207, 20609), (218, 20633), (249, 20753), (251, 20762), (269, 20828), (307, 20942), (316, 20984), (319, 21014), (325, 21044), (339, 21110), (347, 21134), (354, 21158), (358, 21176), (359, 21188), (361, 21206), (364, 21221), (366, 21227), (376, 21278), (380, 21305), (393, 21356), (415, 21524), (420, 21545), (435, 21623), (445, 21662), (452, 21683), (453, 21686), (455, 21698), (464, 21737), (494, 21884), (506, 21944), (507, 21947),

Gene: Baddon\_36 Start: 33049, Stop: 34770, Start Num: 67

Candidate Starts for Baddon\_36:

(Start: 67 @33049 has 30 MA's), (119, 33172), (125, 33184), (145, 33250), (172, 33319), (184, 33355), (253, 33580), (265, 33619), (287, 33679), (301, 33724), (313, 33784), (338, 33919), (340, 33925), (353, 33967), (357, 33982), (360, 34018), (367, 34039), (386, 34138), (403, 34222), (407, 34255), (411, 34300), (412, 34303), (418, 34339), (424, 34375), (425, 34387), (431, 34423), (441, 34459), (460, 34513),

Gene: Barsten\_37 Start: 32600, Stop: 34321, Start Num: 67

Candidate Starts for Barsten\_37:

(Start: 67 @32600 has 30 MA's), (125, 32735), (131, 32744), (139, 32777), (145, 32801), (172, 32870), (179, 32900), (198, 32945), (253, 33131), (265, 33170), (267, 33179), (291, 33251), (301, 33275), (316, 33347), (330, 33434), (338, 33470), (340, 33476), (353, 33518), (357, 33533), (358, 33542), (386, 33689), (403, 33773), (407, 33806), (412, 33854), (423, 33920), (424, 33926), (425, 33938), (429, 33968), (431, 33974), (441, 34010), (444, 34019), (460, 34064),

Gene: BatStarr\_26 Start: 22926, Stop: 24431, Start Num: 160

Candidate Starts for BatStarr\_26:

(45, 22611), (78, 22719), (107, 22788), (109, 22791), (118, 22815), (Start: 121 @22821 has 7 MA's), (Start: 160 @22926 has 29 MA's), (181, 22995), (187, 23007), (222, 23118), (224, 23124), (226, 23130), (229, 23136), (248, 23223), (258, 23259), (260, 23265), (263, 23274), (333, 23568), (353, 23622), (354, 23625), (358, 23646), (365, 23691), (386, 23796), (403, 23880), (410, 23961), (411, 23964), (462, 24183), (477, 24231), (485, 24291), (499, 24324), (502, 24330), (513, 24402),

Gene: Baumdotcom\_36 Start: 31904, Stop: 33625, Start Num: 67

Candidate Starts for Baumdotcom\_36:

(Start: 67 @31904 has 30 MA's), (119, 32027), (125, 32039), (145, 32105), (172, 32174), (253, 32435), (256, 32444), (265, 32474), (287, 32534), (301, 32579), (313, 32639), (338, 32774), (340, 32780), (353, 32822), (357, 32837), (360, 32873), (367, 32894), (386, 32993), (403, 33077), (407, 33110), (411, 33155), (412, 33158), (418, 33194), (424, 33230), (425, 33242), (431, 33278), (460, 33368),

Gene: BaxterFox\_26 Start: 22126, Stop: 23631, Start Num: 160

Candidate Starts for BaxterFox\_26:

(Start: 160 @22126 has 29 MA's), (176, 22183), (181, 22195), (187, 22207), (222, 22318), (224, 22324), (226, 22330), (229, 22336), (248, 22423), (258, 22459), (260, 22465), (263, 22474), (330, 22738), (333, 22768), (344, 22795), (353, 22822), (354, 22825), (358, 22846), (366, 22894), (370, 22906), (386, 22996), (403, 23080), (411, 23164), (432, 23287), (462, 23383), (477, 23431), (485, 23491), (499, 23524), (502, 23530), (513, 23602),

Gene: BearBQ\_28 Start: 22958, Stop: 24742, Start Num: 32

Candidate Starts for BearBQ\_28:

(Start: 32 @22958 has 22 MA's), (35, 22973), (44, 23000), (49, 23030), (Start: 72 @23102 has 1 MA's), (75, 23114), (106, 23177), (114, 23189), (136, 23231), (151, 23270), (154, 23279), (188, 23357), (205, 23414), (206, 23420), (217, 23441), (220, 23450), (226, 23471), (229, 23477), (262, 23579), (263, 23582), (276, 23612), (281, 23624), (296, 23648), (299, 23657), (315, 23723), (317, 23735), (323, 23777), (328, 23810), (333, 23843), (336, 23849), (341, 23873), (347, 23885), (359, 23942), (361, 23960), (388, 24092), (393, 24116), (395, 24134), (418, 24287), (421, 24302), (423, 24317), (424, 24323), (436, 24368), (439, 24386), (442, 24398), (445, 24404), (450, 24416), (455, 24425), (470, 24479), (483, 24548), (489, 24581), (492, 24587), (506, 24650), (507, 24653), (510, 24671), (513, 24692), (514, 24701),

Gene: Beenie\_26 Start: 22391, Stop: 24076, Start Num: 81

Candidate Starts for Beenie\_26:

(Start: 81 @22391 has 4 MA's), (168, 22601), (170, 22607), (177, 22628), (194, 22664), (204, 22706), (205, 22709), (217, 22736), (235, 22805), (240, 22826), (243, 22838), (315, 23066), (319, 23099), (339, 23198), (341, 23210), (347, 23222), (359, 23279), (361, 23297), (364, 23312), (366, 23318), (388, 23429), (395, 23471), (396, 23480), (417, 23618), (418, 23621), (477, 23843),

Gene: Bialota\_26 Start: 22938, Stop: 24443, Start Num: 160

Candidate Starts for Bialota\_26:

(45, 22623), (78, 22731), (107, 22800), (109, 22803), (118, 22827), (Start: 121 @22833 has 7 MA's), (Start: 160 @22938 has 29 MA's), (181, 23007), (187, 23019), (222, 23130), (224, 23136), (226, 23142), (229, 23148), (231, 23154), (248, 23235), (258, 23271), (260, 23277), (263, 23286), (333, 23580), (353, 23634), (354, 23637), (358, 23658), (365, 23703), (386, 23808), (403, 23892), (410, 23973), (411, 23976), (462, 24195), (477, 24243), (485, 24303), (499, 24336), (502, 24342), (513, 24414),

Gene: Bibwit\_37 Start: 33393, Stop: 35315, Start Num: 28

Candidate Starts for Bibwit\_37:

(Start: 28 @33393 has 23 MA's), (54, 33528), (58, 33537), (Start: 72 @33570 has 1 MA's), (82, 33594), (114, 33663), (142, 33738), (205, 33930), (206, 33936), (217, 33957), (222, 33975), (226, 33987), (240, 34047), (254, 34101), (296, 34215), (315, 34302), (323, 34356), (331, 34410), (333, 34422), (341, 34452), (347, 34464), (358, 34509), (359, 34521), (361, 34539), (368, 34566), (381, 34644), (388, 34671), (393, 34695), (411, 34818), (417, 34860), (436, 34944), (442, 34974), (455, 35001), (470, 35055), (478, 35085), (489, 35157), (494, 35166),

Gene: Birdsong\_28 Start: 21851, Stop: 23635, Start Num: 32

Candidate Starts for Birdsong\_28:

(Start: 32 @21851 has 22 MA's), (35, 21866), (44, 21893), (49, 21923), (Start: 72 @21995 has 1 MA's), (75, 22007), (106, 22070), (114, 22082), (136, 22124), (151, 22163), (154, 22172), (188, 22250), (205, 22307), (206, 22313), (217, 22334), (220, 22343), (226, 22364), (229, 22370), (262, 22472), (263, 22475), (276, 22505), (281, 22517), (296, 22541), (299, 22550), (315, 22616), (317, 22628), (323, 22670), (328, 22703), (333, 22736), (336, 22742), (341, 22766), (347, 22778), (359, 22835), (361, 22853), (388, 22985), (393, 23009), (395, 23027), (418, 23180), (421, 23195), (423, 23210), (424, 23216), (436, 23261), (439, 23279), (442, 23291), (445, 23297), (450, 23309), (455, 23318), (470, 23372), (483, 23441), (489, 23474), (492, 23480), (506, 23543), (507, 23546), (510, 23564), (513, 23585), (514, 23594),

Gene: Bizzy\_37 Start: 32196, Stop: 33917, Start Num: 67

Candidate Starts for Bizzy\_37:

(Start: 67 @32196 has 30 MA's), (119, 32319), (125, 32331), (145, 32397), (172, 32466), (184, 32502), (198, 32541), (253, 32727), (265, 32766), (287, 32826), (301, 32871), (313, 32931), (338, 33066), (340, 33072), (353, 33114), (357, 33129), (360, 33165), (367, 33186), (386, 33285), (403, 33369), (407, 33402), (411, 33447), (412, 33450), (418, 33486), (424, 33522), (425, 33534), (431, 33570), (441, 33606), (460, 33660),

Gene: Bjan7\_25 Start: 20498, Stop: 22021, Start Num: 165

Candidate Starts for Bjan7\_25:

(Start: 165 @20498 has 19 MA's), (196, 20570), (199, 20582), (207, 20609), (218, 20633), (249, 20753), (251, 20762), (269, 20828), (307, 20942), (316, 20984), (319, 21014), (325, 21044), (339, 21110), (347, 21134), (354, 21158), (358, 21176), (359, 21188), (361, 21206), (364, 21221), (366, 21227), (376, 21278), (380, 21305), (393, 21356), (415, 21524), (420, 21545), (435, 21623), (445, 21662), (452, 21683), (453, 21686), (455, 21698), (464, 21737), (494, 21884), (506, 21944), (507, 21947),

Gene: BlueNGold\_103 Start: 62535, Stop: 64172, Start Num: 86

Candidate Starts for BlueNGold\_103:

(Start: 65 @62475 has 1 MA's), (Start: 71 @62493 has 7 MA's), (Start: 86 @62535 has 1 MA's), (89, 62544), (127, 62610), (130, 62613), (140, 62634), (173, 62745), (194, 62787), (234, 62925), (240, 62949), (316, 63195), (333, 63312), (343, 63339), (347, 63345), (359, 63399), (366, 63438), (388, 63549), (391, 63564), (393, 63573), (420, 63744), (423, 63765), (445, 63858), (477, 63966), (514, 64143),

Gene: BobBob\_35 Start: 32673, Stop: 34526, Start Num: 28

Candidate Starts for BobBob\_35:

(Start: 28 @32673 has 23 MA's), (54, 32808), (58, 32817), (Start: 72 @32850 has 1 MA's), (82, 32874), (114, 32943), (125, 32973), (142, 33018), (205, 33210), (206, 33216), (217, 33237), (222, 33255), (226, 33267), (240, 33327), (273, 33393), (315, 33513), (319, 33546), (333, 33633), (341, 33663), (347, 33675), (358, 33720), (359, 33732), (361, 33750), (364, 33765), (371, 33789), (381, 33855), (388, 33882), (393, 33906), (411, 34029), (417, 34071), (436, 34155), (442, 34185), (455, 34212), (470, 34266), (478, 34296), (489, 34368), (494, 34377),

Gene: Boopy\_104 Start: 62505, Stop: 64184, Start Num: 71

Candidate Starts for Boopy\_104:

(Start: 65 @62487 has 1 MA's), (Start: 71 @62505 has 7 MA's), (Start: 86 @62547 has 1 MA's), (89, 62556), (127, 62622), (130, 62625), (140, 62646), (173, 62757), (194, 62799), (234, 62937), (240, 62961), (316, 63207), (333, 63324), (343, 63351), (347, 63357), (359, 63411), (366, 63450), (388, 63561), (391, 63576), (393, 63585), (420, 63756), (423, 63777), (445, 63870), (477, 63978), (514, 64155),

Gene: Bosnia\_26 Start: 22926, Stop: 24431, Start Num: 160

Candidate Starts for Bosnia\_26:

(45, 22611), (78, 22719), (107, 22788), (109, 22791), (118, 22815), (Start: 121 @22821 has 7 MA's), (Start: 160 @22926 has 29 MA's), (181, 22995), (187, 23007), (222, 23118), (224, 23124), (226, 23130), (229, 23136), (248, 23223), (258, 23259), (260, 23265), (263, 23274), (333, 23568), (353, 23622), (354, 23625), (358, 23646), (365, 23691), (386, 23796), (403, 23880), (410, 23961), (411, 23964), (462, 24183), (477, 24231), (485, 24291), (499, 24324), (502, 24330), (513, 24402),

Gene: BoyNamedSue\_27 Start: 22802, Stop: 24307, Start Num: 160

Candidate Starts for BoyNamedSue\_27:

(78, 22595), (107, 22664), (109, 22667), (118, 22691), (Start: 121 @22697 has 7 MA's), (Start: 160 @22802 has 29 MA's), (181, 22871), (187, 22883), (222, 22994), (224, 23000), (226, 23006), (229, 23012), (248, 23099), (258, 23135), (260, 23141), (263, 23150), (292, 23234), (333, 23444), (353, 23498), (354, 23501), (358, 23522), (365, 23567), (386, 23672), (403, 23756), (410, 23837), (411, 23840), (432, 23963), (462, 24059), (477, 24107), (480, 24122), (485, 24167), (499, 24200), (502, 24206), (513, 24278),

Gene: Bradissa\_28 Start: 22770, Stop: 24722, Start Num: 19

Candidate Starts for Bradissa\_28:

(1, 22482), (2, 22539), (4, 22554), (6, 22590), (7, 22635), (8, 22638), (Start: 19 @22770 has 8 MA's), (Start: 23 @22785 has 1 MA's), (27, 22824), (29, 22827), (93, 23055), (111, 23082), (Start: 116 @23097 has 1 MA's), (205, 23331), (206, 23337), (213, 23349), (235, 23427), (240, 23448), (272, 23568), (290, 23610), (315, 23703), (317, 23715), (323, 23757), (334, 23829), (341, 23847), (347, 23859), (359, 23916), (364, 23949), (372, 23982), (388, 24066), (392, 24084), (418, 24258), (427, 24312), (483, 24534), (504, 24615), (506, 24636),

Gene: Brandonk123\_39 Start: 33739, Stop: 35661, Start Num: 28

Candidate Starts for Brandonk123\_39:

(Start: 28 @33739 has 23 MA's), (54, 33874), (58, 33883), (Start: 72 @33916 has 1 MA's), (82, 33940), (114, 34009), (125, 34039), (142, 34084), (205, 34276), (206, 34282), (217, 34303), (222, 34321), (226, 34333), (240, 34393), (254, 34447), (296, 34561), (315, 34648), (323, 34702), (331, 34756), (333, 34768), (341, 34798), (347, 34810), (358, 34855), (359, 34867), (361, 34885), (368, 34912), (381, 34990), (388, 35017), (393, 35041), (411, 35164), (417, 35206), (436, 35290), (442, 35320), (455, 35347), (470, 35401), (478, 35431), (489, 35503), (494, 35512),

Gene: Brawn1\_33 Start: 31942, Stop: 33663, Start Num: 67

Candidate Starts for Brawn1\_33:

(Start: 67 @31942 has 30 MA's), (125, 32077), (139, 32119), (145, 32143), (198, 32287), (253, 32473), (265, 32512), (267, 32521), (291, 32593), (301, 32617), (330, 32776), (338, 32812), (340, 32818), (353, 32860), (357, 32875), (358, 32884), (386, 33031), (403, 33115), (407, 33148), (412, 33196), (423, 33262), (424, 33268), (425, 33280), (429, 33310), (431, 33316), (441, 33352), (444, 33361), (460, 33406),

Gene: BritBrat\_28 Start: 22623, Stop: 24575, Start Num: 19

Candidate Starts for BritBrat\_28:

(1, 22335), (2, 22392), (4, 22407), (6, 22443), (7, 22488), (8, 22491), (Start: 19 @22623 has 8 MA's), (Start: 23 @22638 has 1 MA's), (27, 22677), (29, 22680), (93, 22908), (111, 22935), (Start: 116 @22950 has 1 MA's), (205, 23184), (206, 23190), (213, 23202), (235, 23280), (240, 23301), (272, 23421), (290, 23463), (315, 23556), (317, 23568), (323, 23610), (341, 23700), (347, 23712), (359, 23769), (364, 23802), (372, 23835), (382, 23895), (388, 23919), (392, 23937), (418, 24111), (419, 24117), (427, 24165), (483, 24387), (504, 24468), (506, 24489),

Gene: Budski\_29 Start: 22226, Stop: 24061, Start Num: 32

Candidate Starts for Budski\_29:

(Start: 32 @22226 has 22 MA's), (70, 22388), (83, 22418), (103, 22472), (114, 22487), (Start: 116 @22499 has 1 MA's), (117, 22502), (125, 22517), (126, 22520), (133, 22523), (164, 22613), (167, 22622), (168, 22625), (200, 22712), (205, 22733), (206, 22739), (217, 22760), (220, 22769), (226, 22790), (229, 22796), (262, 22898), (263, 22901), (276, 22931), (281, 22943), (296, 22967), (315, 23042), (317, 23054), (323, 23096), (328, 23129), (333, 23162), (336, 23168), (341, 23192), (347, 23204), (359, 23261), (361, 23279), (388, 23411), (393, 23435), (395, 23453), (418, 23606), (421, 23621), (422, 23633), (423, 23636), (424, 23642), (436, 23687), (439, 23705), (442, 23717), (445, 23723), (450, 23735), (455, 23744), (470, 23798), (483, 23867), (489, 23900), (492, 23906), (506, 23969), (507, 23972), (510, 23990), (513, 24011), (514, 24020),

Gene: Bunnybear\_25 Start: 23020, Stop: 24708, Start Num: 80

Candidate Starts for Bunnybear\_25:

(5, 22567), (20, 22780), (36, 22852), (39, 22855), (Start: 80 @23020 has 1 MA's), (110, 23089), (115, 23101), (174, 23254), (177, 23257), (188, 23281), (194, 23293), (200, 23317), (204, 23335), (205, 23338), (240, 23455), (243, 23467), (274, 23569), (288, 23593), (309, 23665), (315, 23695), (316, 23698), (317, 23707), (323, 23755), (341, 23845), (347, 23857), (357, 23893), (359, 23914), (361, 23932), (372, 23980), (388, 24064), (418, 24256), (419, 24262), (421, 24271), (442, 24382), (455, 24409), (468, 24457), (471, 24460), (477, 24487), (483, 24532),

Gene: Camerico\_31 Start: 38003, Stop: 39535, Start Num: 152

Candidate Starts for Camerico\_31:

(Start: 152 @38003 has 1 MA's), (210, 38162), (220, 38186), (245, 38288), (268, 38372), (305, 38495), (308, 38510), (309, 38513), (319, 38579), (340, 38681), (341, 38690), (343, 38696), (363, 38777), (391, 38921), (406, 38999), (421, 39122), (438, 39212), (465, 39299), (504, 39440), (505, 39455),

Gene: ChadMasterC\_37 Start: 33999, Stop: 35720, Start Num: 67

Candidate Starts for ChadMasterC\_37:

(Start: 67 @33999 has 30 MA's), (125, 34134), (131, 34143), (139, 34176), (145, 34200), (172, 34269), (198, 34344), (253, 34530), (265, 34569), (267, 34578), (271, 34593), (291, 34650), (301, 34674), (316, 34746), (330, 34833), (338, 34869), (340, 34875), (353, 34917), (357, 34932), (358, 34941), (386, 35088), (403, 35172), (407, 35205), (412, 35253), (423, 35319), (424, 35325), (425, 35337), (429, 35367), (431, 35373), (441, 35409), (444, 35418), (460, 35463),

Gene: Charming\_38 Start: 33240, Stop: 35162, Start Num: 28

Candidate Starts for Charming\_38:

(Start: 28 @33240 has 23 MA's), (54, 33375), (Start: 72 @33417 has 1 MA's), (82, 33441), (114, 33510), (125, 33540), (142, 33585), (205, 33777), (206, 33783), (217, 33804), (222, 33822), (226, 33834), (240, 33894), (254, 33948), (296, 34062), (315, 34149), (323, 34203), (333, 34269), (341, 34299), (347, 34311), (358, 34356), (359, 34368), (361, 34386), (368, 34413), (381, 34491), (388, 34518), (393, 34542), (411, 34665), (417, 34707), (436, 34791), (442, 34821), (455, 34848), (470, 34902), (478, 34932), (489, 35004), (494, 35013),

Gene: CherryCola\_36 Start: 29154, Stop: 31076, Start Num: 26

Candidate Starts for CherryCola\_36:

(Start: 26 @29154 has 17 MA's), (Start: 51 @29277 has 2 MA's), (55, 29298), (74, 29346), (Start: 122 @29454 has 1 MA's), (Start: 135 @29475 has 1 MA's), (164, 29556), (174, 29592), (177, 29595), (204, 29673), (205, 29676), (206, 29682), (217, 29703), (226, 29733), (229, 29739), (261, 29874), (289, 29961), (296, 29970), (298, 29976), (300, 29982), (315, 30057), (319, 30090), (323, 30111), (336, 30183), (341, 30207), (347, 30219), (359, 30276), (388, 30426), (393, 30450), (418, 30618), (421, 30633), (442, 30729), (477, 30840), (482, 30876),

Gene: Clap\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Clap\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: Crater\_27 Start: 21679, Stop: 23514, Start Num: 32

Candidate Starts for Crater\_27:

(Start: 32 @21679 has 22 MA's), (70, 21841), (83, 21871), (103, 21925), (114, 21940), (Start: 116 @21952 has 1 MA's), (117, 21955), (125, 21970), (126, 21973), (133, 21976), (164, 22066), (167, 22075), (168, 22078), (200, 22165), (205, 22186), (206, 22192), (217, 22213), (220, 22222), (226, 22243), (229, 22249), (262, 22351), (263, 22354), (276, 22384), (281, 22396), (296, 22420), (315, 22495), (317, 22507), (323, 22549), (328, 22582), (333, 22615), (336, 22621), (341, 22645), (347, 22657), (359, 22714), (361, 22732), (388, 22864), (393, 22888), (395, 22906), (418, 23059), (421, 23074), (423, 23089), (424, 23095), (436, 23140), (439, 23158), (442, 23170), (445, 23176), (450, 23188), (455, 23197), (470, 23251), (477, 23275), (483, 23320), (489, 23353), (492, 23359), (506, 23422), (507, 23425), (510, 23443), (513, 23464), (514, 23473),

Gene: Cynthia\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Cynthia\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: DearBasketball\_28 Start: 19898, Stop: 21595, Start Num: 69

Candidate Starts for DearBasketball\_28:

(Start: 69 @19898 has 2 MA's), (117, 19997), (155, 20093), (164, 20108), (205, 20228), (206, 20234), (217, 20255), (230, 20291), (235, 20324), (240, 20345), (252, 20393), (274, 20462), (295, 20498), (296, 20501), (315, 20582), (323, 20636), (339, 20717), (341, 20729), (347, 20741), (357, 20777), (359, 20798), (361, 20816), (364, 20831), (388, 20948), (393, 20972), (418, 21143), (439, 21260), (442, 21272), (445, 21278), (455, 21299), (492, 21446), (501, 21476), (508, 21515),

Gene: Denise\_23 Start: 19509, Stop: 21110, Start Num: 116

Candidate Starts for Denise\_23:

(55, 19368), (57, 19371), (101, 19479), (Start: 116 @19509 has 1 MA's), (Start: 135 @19542 has 1 MA's), (145, 19581), (164, 19620), (205, 19728), (206, 19734), (230, 19791), (235, 19824), (240, 19845), (243, 19857), (252, 19893), (288, 19983), (296, 19998), (309, 20055), (315, 20085), (317, 20097), (323, 20145), (341, 20235), (347, 20247), (357, 20283), (359, 20304), (372, 20370), (388, 20454), (418, 20646), (419, 20652), (442, 20772), (455, 20799), (477, 20877), (483, 20922),

Gene: Derg\_32 Start: 31792, Stop: 33513, Start Num: 67

Candidate Starts for Derg\_32:

(Start: 67 @31792 has 30 MA's), (119, 31915), (125, 31927), (145, 31993), (172, 32062), (184, 32098), (253, 32323), (265, 32362), (287, 32422), (301, 32467), (313, 32527), (338, 32662), (340, 32668), (353, 32710), (357, 32725), (360, 32761), (367, 32782), (386, 32881), (403, 32965), (407, 32998), (411, 33043), (412, 33046), (418, 33082), (424, 33118), (425, 33130), (431, 33166), (441, 33202), (460, 33256),

Gene: DinoNuggs\_26 Start: 19864, Stop: 21561, Start Num: 69

Candidate Starts for DinoNuggs\_26:

(Start: 69 @19864 has 2 MA's), (117, 19963), (155, 20059), (164, 20074), (205, 20194), (206, 20200), (217, 20221), (230, 20257), (235, 20290), (240, 20311), (252, 20359), (274, 20428), (295, 20464), (296, 20467), (315, 20548), (323, 20602), (339, 20683), (341, 20695), (347, 20707), (357, 20743), (359, 20764), (361, 20782), (364, 20797), (388, 20914), (393, 20938), (418, 21109), (439, 21226), (442, 21238), (445, 21244), (455, 21265), (492, 21412), (501, 21442), (508, 21481),

Gene: DonkeyMan\_25 Start: 19656, Stop: 21356, Start Num: 69

Candidate Starts for DonkeyMan\_25:

(Start: 69 @19656 has 2 MA's), (117, 19755), (155, 19851), (164, 19866), (205, 19986), (206, 19992), (240, 20103), (241, 20109), (290, 20262), (315, 20355), (316, 20358), (317, 20367), (319, 20388), (323, 20409), (333, 20478), (334, 20481), (341, 20499), (347, 20511), (357, 20547), (359, 20568), (361, 20586), (372, 20634), (384, 20703), (388, 20718), (418, 20910), (419, 20916), (421, 20925), (442, 21036), (455, 21063), (468, 21111), (477, 21141), (483, 21186),

Gene: EMSquaredA\_28 Start: 22623, Stop: 24575, Start Num: 19

Candidate Starts for EMSquaredA\_28:

(1, 22335), (2, 22392), (4, 22407), (6, 22443), (7, 22488), (8, 22491), (Start: 19 @22623 has 8 MA's), (Start: 23 @22638 has 1 MA's), (27, 22677), (29, 22680), (93, 22908), (111, 22935), (Start: 116 @22950 has 1 MA's), (205, 23184), (206, 23190), (213, 23202), (235, 23280), (240, 23301), (272, 23421), (290, 23463), (315, 23556), (317, 23568), (323, 23610), (341, 23700), (347, 23712), (359, 23769), (364, 23802), (372, 23835), (382, 23895), (388, 23919), (392, 23937), (418, 24111), (419, 24117), (427, 24165), (483, 24387), (504, 24468), (506, 24489),

Gene: Ebert\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Ebert\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: Ecliptus\_32 Start: 23700, Stop: 25484, Start Num: 32

Candidate Starts for Ecliptus\_32:

(Start: 32 @23700 has 22 MA's), (35, 23715), (44, 23742), (49, 23772), (Start: 72 @23844 has 1 MA's), (75, 23856), (106, 23919), (114, 23931), (136, 23973), (151, 24012), (154, 24021), (188, 24099), (205, 24156), (206, 24162), (217, 24183), (220, 24192), (226, 24213), (229, 24219), (262, 24321), (263, 24324), (276, 24354), (281, 24366), (296, 24390), (315, 24465), (317, 24477), (323, 24519), (328, 24552), (333, 24585), (336, 24591), (341, 24615), (347, 24627), (359, 24684), (361, 24702), (388, 24834), (393, 24858), (395, 24876), (418, 25029), (421, 25044), (423, 25059), (424, 25065), (436, 25110), (439, 25128), (442, 25140), (445, 25146), (450, 25158), (455, 25167), (470, 25221), (483, 25290), (489, 25323), (492, 25329), (506, 25392), (507, 25395), (510, 25413), (513, 25434), (514, 25443),

Gene: EdnaMode\_24 Start: 19408, Stop: 20961, Start Num: 129

Candidate Starts for EdnaMode\_24:

(Start: 129 @19408 has 3 MA's), (150, 19477), (157, 19492), (173, 19534), (174, 19540), (205, 19624), (206, 19630), (217, 19651), (222, 19669), (227, 19681), (230, 19687), (279, 19843), (303, 19885), (319, 19978), (323, 19999), (333, 20065), (341, 20095), (347, 20107), (359, 20164), (388, 20314), (393, 20338), (418, 20506), (436, 20605), (439, 20623), (442, 20635), (494, 20812), (501, 20839), (508, 20878),

Gene: EnalisNailo\_28 Start: 22772, Stop: 24724, Start Num: 19

Candidate Starts for EnalisNailo\_28:

(1, 22484), (2, 22541), (4, 22556), (6, 22592), (7, 22637), (8, 22640), (Start: 19 @22772 has 8 MA's), (Start: 23 @22787 has 1 MA's), (27, 22826), (29, 22829), (93, 23057), (111, 23084), (Start: 116 @23099 has 1 MA's), (205, 23333), (206, 23339), (213, 23351), (235, 23429), (240, 23450), (272, 23570), (290, 23612), (315, 23705), (317, 23717), (323, 23759), (341, 23849), (347, 23861), (359, 23918), (364, 23951), (372, 23984), (382, 24044), (388, 24068), (392, 24086), (418, 24260), (419, 24266), (427, 24314), (483, 24536), (504, 24617), (506, 24638),

Gene: Eudoria\_28 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Eudoria\_28:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: Evamon\_33 Start: 28220, Stop: 30142, Start Num: 26

Candidate Starts for Evamon\_33:

(Start: 26 @28220 has 17 MA's), (Start: 51 @28343 has 2 MA's), (55, 28364), (74, 28412), (Start: 122 @28520 has 1 MA's), (Start: 135 @28541 has 1 MA's), (164, 28622), (174, 28658), (177, 28661), (204, 28739), (205, 28742), (206, 28748), (217, 28769), (226, 28799), (229, 28805), (261, 28940), (289, 29027), (296, 29036), (298, 29042), (300, 29048), (319, 29156), (323, 29177), (336, 29249), (341, 29273), (347, 29285), (359, 29342), (388, 29492), (393, 29516), (418, 29684), (421, 29699), (442, 29795), (477, 29906), (482, 29942),

Gene: Eviarto\_26 Start: 22926, Stop: 24431, Start Num: 160

Candidate Starts for Eviarto\_26:

(45, 22611), (78, 22719), (107, 22788), (109, 22791), (118, 22815), (Start: 121 @22821 has 7 MA's), (Start: 160 @22926 has 29 MA's), (181, 22995), (187, 23007), (222, 23118), (224, 23124), (226, 23130), (229, 23136), (248, 23223), (258, 23259), (260, 23265), (263, 23274), (333, 23568), (353, 23622), (354, 23625), (358, 23646), (365, 23691), (386, 23796), (403, 23880), (410, 23961), (411, 23964), (462, 24183), (477, 24231), (485, 24291), (499, 24324), (502, 24330), (513, 24402),

Gene: Faith5x5\_24 Start: 19344, Stop: 20945, Start Num: 121

Candidate Starts for Faith5x5\_24:

(50, 19161), (62, 19206), (64, 19209), (120, 19341), (Start: 121 @19344 has 7 MA's), (150, 19416), (157, 19431), (162, 19437), (173, 19473), (174, 19479), (188, 19506), (195, 19521), (204, 19560), (205, 19563), (206, 19569), (217, 19590), (222, 19608), (230, 19626), (235, 19659), (239, 19677), (240, 19680), (243, 19692), (302, 19878), (315, 19944), (316, 19947), (319, 19977), (331, 20055), (339, 20076), (341, 20088), (347, 20100), (359, 20157), (366, 20196), (388, 20307), (406, 20403), (418, 20499), (430, 20568), (442, 20610), (455, 20637), (472, 20691), (477, 20715), (482, 20751), (501, 20823), (507, 20859),

Gene: Finkle\_23 Start: 19627, Stop: 21318, Start Num: 108

Candidate Starts for Finkle\_23:

(Start: 108 @19627 has 1 MA's), (144, 19726), (149, 19744), (153, 19750), (206, 19909), (215, 19930), (228, 19963), (234, 19996), (246, 20038), (247, 20044), (255, 20080), (257, 20092), (270, 20131), (340, 20422), (341, 20431), (350, 20455), (356, 20473), (357, 20476), (361, 20512), (364, 20527), (366, 20533), (382, 20632), (396, 20707), (405, 20752), (410, 20818), (413, 20842), (418, 20866), (419, 20872), (426, 20917), (482, 21133),

Gene: Fireball\_34 Start: 28343, Stop: 30265, Start Num: 26

Candidate Starts for Fireball\_34:

(Start: 26 @28343 has 17 MA's), (Start: 51 @28466 has 2 MA's), (55, 28487), (74, 28535), (Start: 122 @28643 has 1 MA's), (Start: 135 @28664 has 1 MA's), (164, 28745), (174, 28781), (177, 28784), (204, 28862), (205, 28865), (206, 28871), (217, 28892), (226, 28922), (229, 28928), (261, 29063), (289, 29150), (296, 29159), (298, 29165), (300, 29171), (315, 29246), (319, 29279), (323, 29300), (336, 29372), (341, 29396), (347, 29408), (359, 29465), (388, 29615), (393, 29639), (418, 29807), (421, 29822), (442, 29918), (477, 30029), (482, 30065),

Gene: Fitzgerald\_35 Start: 33217, Stop: 34938, Start Num: 67

Candidate Starts for Fitzgerald\_35:

(Start: 67 @33217 has 30 MA's), (125, 33352), (131, 33361), (139, 33394), (145, 33418), (172, 33487), (253, 33748), (265, 33787), (267, 33796), (271, 33811), (291, 33868), (301, 33892), (316, 33964), (330, 34051), (338, 34087), (340, 34093), (353, 34135), (357, 34150), (358, 34159), (386, 34306), (403, 34390), (407, 34423), (412, 34471), (423, 34537), (424, 34543), (425, 34555), (429, 34585), (431, 34591), (441, 34627), (444, 34636), (460, 34681),

Gene: Flatwoods\_37 Start: 32153, Stop: 33874, Start Num: 67

Candidate Starts for Flatwoods\_37:

(Start: 67 @32153 has 30 MA's), (119, 32276), (125, 32288), (145, 32354), (172, 32423), (184, 32459), (198, 32498), (253, 32684), (265, 32723), (287, 32783), (301, 32828), (313, 32888), (338, 33023), (340, 33029), (353, 33071), (357, 33086), (360, 33122), (367, 33143), (386, 33242), (403, 33326), (407, 33359), (411, 33404), (412, 33407), (418, 33443), (424, 33479), (425, 33491), (431, 33527), (441, 33563), (460, 33617),

Gene: Floral\_28 Start: 22623, Stop: 24575, Start Num: 19

Candidate Starts for Floral\_28:

(1, 22335), (2, 22392), (4, 22407), (6, 22443), (7, 22488), (8, 22491), (Start: 19 @22623 has 8 MA's), (Start: 23 @22638 has 1 MA's), (27, 22677), (29, 22680), (93, 22908), (111, 22935), (Start: 116 @22950 has 1 MA's), (205, 23184), (206, 23190), (213, 23202), (235, 23280), (240, 23301), (272, 23421), (290, 23463), (315, 23556), (317, 23568), (323, 23610), (341, 23700), (347, 23712), (359, 23769), (364, 23802), (372, 23835), (382, 23895), (388, 23919), (392, 23937), (418, 24111), (419, 24117), (427, 24165), (483, 24387), (504, 24468), (506, 24489),

Gene: Forza\_104 Start: 62421, Stop: 64100, Start Num: 71

Candidate Starts for Forza\_104:

(Start: 65 @62403 has 1 MA's), (Start: 71 @62421 has 7 MA's), (Start: 86 @62463 has 1 MA's), (89, 62472), (127, 62538), (130, 62541), (140, 62562), (173, 62673), (194, 62715), (234, 62853), (240, 62877), (316, 63123), (333, 63240), (343, 63267), (347, 63273), (359, 63327), (366, 63366), (388, 63477), (391, 63492), (393, 63501), (420, 63672), (423, 63693), (445, 63786), (477, 63894), (514, 64071),

Gene: Fosterous\_36 Start: 33665, Stop: 35518, Start Num: 28

Candidate Starts for Fosterous\_36:

(Start: 28 @33665 has 23 MA's), (54, 33800), (58, 33809), (Start: 72 @33842 has 1 MA's), (82, 33866), (114, 33935), (142, 34010), (205, 34202), (206, 34208), (217, 34229), (222, 34247), (226, 34259), (240, 34319), (283, 34400), (315, 34505), (316, 34508), (319, 34538), (331, 34613), (333, 34625), (341, 34655), (347, 34667), (358, 34712), (359, 34724), (361, 34742), (368, 34769), (381, 34847), (388, 34874), (393, 34898), (411, 35021), (417, 35063), (436, 35147), (442, 35177), (455, 35204), (470, 35258), (478, 35288), (489, 35360), (494, 35369),

Gene: Frickyeah\_28 Start: 21884, Stop: 23719, Start Num: 32

Candidate Starts for Frickyeah\_28:

(Start: 32 @21884 has 22 MA's), (70, 22046), (83, 22076), (103, 22130), (114, 22145), (Start: 116 @22157 has 1 MA's), (117, 22160), (125, 22175), (126, 22178), (133, 22181), (164, 22271), (167, 22280), (168, 22283), (200, 22370), (205, 22391), (206, 22397), (217, 22418), (220, 22427), (226, 22448), (229, 22454), (262, 22556), (263, 22559), (276, 22589), (281, 22601), (296, 22625), (299, 22634), (315, 22700), (317, 22712), (323, 22754), (328, 22787), (333, 22820), (336, 22826), (341, 22850), (347, 22862), (359, 22919), (361, 22937), (388, 23069), (393, 23093), (395, 23111), (418, 23264), (421, 23279), (423, 23294), (424, 23300), (436, 23345), (439, 23363), (442, 23375), (445, 23381), (450, 23393), (455, 23402), (470, 23456), (483, 23525), (489, 23558), (492, 23564), (506, 23627), (507, 23630), (510, 23648), (513, 23669), (514, 23678),

Gene: FroggyToad\_25 Start: 20570, Stop: 22192, Start Num: 121

Candidate Starts for FroggyToad\_25:

(Start: 121 @20570 has 7 MA's), (157, 20657), (173, 20699), (174, 20705), (188, 20732), (205, 20789), (217, 20816), (221, 20831), (235, 20885), (243, 20918), (290, 21077), (302, 21104), (316, 21173), (319, 21203), (339, 21302), (341, 21314), (347, 21326), (359, 21383), (364, 21416), (366, 21422), (379, 21497), (388, 21533), (411, 21683), (418, 21728), (506, 22097),

Gene: FuegoCuervo\_39 Start: 31604, Stop: 33325, Start Num: 67

Candidate Starts for FuegoCuervo\_39:

(Start: 67 @31604 has 30 MA's), (125, 31739), (131, 31748), (139, 31781), (145, 31805), (172, 31874), (179, 31904), (253, 32135), (265, 32174), (267, 32183), (271, 32198), (291, 32255), (301, 32279), (316, 32351), (330, 32438), (338, 32474), (340, 32480), (352, 32516), (353, 32522), (357, 32537), (385, 32690), (386, 32693), (403, 32777), (407, 32810), (412, 32858), (423, 32924), (424, 32930), (425, 32942), (429, 32972), (431, 32978), (441, 33014), (444, 33023), (460, 33068), (491, 33197),

Gene: GAL1\_28 Start: 22722, Stop: 24629, Start Num: 21

Candidate Starts for GAL1\_28:

(21, 22722), (27, 22764), (47, 22866), (53, 22887), (58, 22908), (Start: 72 @22941 has 1 MA's), (93, 22995), (104, 23013), (110, 23022), (113, 23025), (115, 23034), (133, 23061), (137, 23073), (155, 23136), (170, 23169), (177, 23190), (188, 23214), (194, 23226), (200, 23250), (235, 23367), (240, 23388), (243, 23400), (288, 23526), (302, 23562), (315, 23628), (316, 23631), (317, 23640), (323, 23682), (341, 23772), (347, 23784), (357, 23820), (359, 23841), (372, 23907), (388, 23991), (418, 24183), (419, 24189), (421, 24198), (483, 24459),

Gene: Gaea\_36 Start: 31801, Stop: 33522, Start Num: 67

Candidate Starts for Gaea\_36:

(Start: 67 @31801 has 30 MA's), (119, 31924), (125, 31936), (145, 32002), (172, 32071), (184, 32107), (253, 32332), (265, 32371), (287, 32431), (301, 32476), (313, 32536), (338, 32671), (340, 32677), (353, 32719), (357, 32734), (360, 32770), (367, 32791), (386, 32890), (403, 32974), (407, 33007), (412, 33055), (418, 33091), (424, 33127), (425, 33139), (428, 33154), (431, 33175), (460, 33265),

Gene: Galadriel\_38 Start: 34154, Stop: 36079, Start Num: 28

Candidate Starts for Galadriel\_38:

(Start: 28 @34154 has 23 MA's), (54, 34289), (58, 34298), (Start: 72 @34331 has 1 MA's), (82, 34355), (114, 34424), (142, 34499), (205, 34691), (206, 34697), (217, 34718), (222, 34736), (226, 34748), (240, 34808), (254, 34862), (296, 34979), (315, 35066), (323, 35120), (331, 35174), (333, 35186), (341, 35216), (347, 35228), (358, 35273), (359, 35285), (361, 35303), (368, 35330), (381, 35408), (388, 35435), (393, 35459), (411, 35582), (417, 35624), (436, 35708), (442, 35738), (455, 35765), (470, 35819), (478, 35849), (489, 35921), (494, 35930),

Gene: GemG\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for GemG\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: Geodirt\_35 Start: 33142, Stop: 34863, Start Num: 67

Candidate Starts for Geodirt\_35:

(Start: 67 @33142 has 30 MA's), (125, 33277), (131, 33286), (139, 33319), (145, 33343), (172, 33412), (198, 33487), (253, 33673), (265, 33712), (267, 33721), (291, 33793), (301, 33817), (316, 33889), (330, 33976), (338, 34012), (340, 34018), (353, 34060), (357, 34075), (358, 34084), (386, 34231), (403, 34315), (407, 34348), (412, 34396), (423, 34462), (424, 34468), (425, 34480), (429, 34510), (431, 34516), (441, 34552), (444, 34561), (460, 34606),

Gene: Getalong\_30 Start: 22921, Stop: 24756, Start Num: 32

Candidate Starts for Getalong\_30:

(Start: 32 @22921 has 22 MA's), (70, 23083), (83, 23113), (103, 23167), (114, 23182), (Start: 116 @23194 has 1 MA's), (117, 23197), (125, 23212), (126, 23215), (133, 23218), (164, 23308), (167, 23317), (168, 23320), (200, 23407), (205, 23428), (206, 23434), (217, 23455), (220, 23464), (226, 23485), (229, 23491), (262, 23593), (263, 23596), (276, 23626), (281, 23638), (296, 23662), (315, 23737), (317, 23749), (323, 23791), (328, 23824), (333, 23857), (336, 23863), (341, 23887), (347, 23899), (359, 23956), (361, 23974), (388, 24106), (393, 24130), (395, 24148), (418, 24301), (421, 24316), (422, 24328), (423, 24331), (424, 24337), (436, 24382), (439, 24400), (442, 24412), (445, 24418), (450, 24430), (455, 24439), (470, 24493), (483, 24562), (489, 24595), (492, 24601), (506, 24664), (507, 24667), (510, 24685), (513, 24706), (514, 24715),

Gene: Gezellig\_33 Start: 28352, Stop: 30274, Start Num: 26

Candidate Starts for Gezellig\_33:

(Start: 26 @28352 has 17 MA's), (Start: 51 @28475 has 2 MA's), (55, 28496), (74, 28544), (Start: 122 @28652 has 1 MA's), (Start: 135 @28673 has 1 MA's), (164, 28754), (174, 28790), (177, 28793), (204, 28871), (205, 28874), (206, 28880), (217, 28901), (226, 28931), (229, 28937), (261, 29072), (289, 29159), (296, 29168), (298, 29174), (300, 29180), (315, 29255), (319, 29288), (323, 29309), (336, 29381), (341, 29405), (347, 29417), (359, 29474), (388, 29624), (393, 29648), (418, 29816), (421, 29831), (442, 29927), (477, 30038), (482, 30074),

Gene: Gibbles\_26 Start: 31491, Stop: 33176, Start Num: 91

Candidate Starts for Gibbles\_26:

(Start: 91 @31491 has 5 MA's), (123, 31554), (139, 31599), (149, 31635), (161, 31665), (237, 31914), (261, 32007), (288, 32076), (306, 32133), (307, 32139), (312, 32160), (315, 32178), (325, 32241), (377, 32469), (390, 32538), (391, 32541), (393, 32550), (404, 32616), (416, 32727), (435, 32820), (439, 32841), (494, 33039), (503, 33072),

Gene: Gizermo\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Gizermo\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: GodonK\_92 Start: 54828, Stop: 56522, Start Num: 71

Candidate Starts for GodonK\_92:

(Start: 71 @54828 has 7 MA's), (77, 54846), (Start: 80 @54852 has 1 MA's), (124, 54942), (127, 54948), (130, 54951), (140, 54972), (194, 55125), (195, 55128), (204, 55167), (234, 55263), (235, 55266), (243, 55299), (278, 55404), (300, 55455), (315, 55530), (323, 55584), (329, 55620), (340, 55662), (343, 55677), (388, 55887), (393, 55911), (411, 56043), (423, 56115), (443, 56205), (454, 56229), (457, 56238), (459, 56244), (461, 56262), (477, 56313),

Gene: Gustavo\_36 Start: 31956, Stop: 33677, Start Num: 67

Candidate Starts for Gustavo\_36:

(Start: 67 @31956 has 30 MA's), (119, 32079), (125, 32091), (145, 32157), (172, 32226), (184, 32262), (198, 32301), (253, 32487), (265, 32526), (287, 32586), (301, 32631), (313, 32691), (338, 32826), (340, 32832), (353, 32874), (357, 32889), (360, 32925), (367, 32946), (386, 33045), (403, 33129), (407, 33162), (411, 33207), (412, 33210), (418, 33246), (424, 33282), (425, 33294), (431, 33330), (441, 33366), (460, 33420),

Gene: Haley23\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Haley23\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: Halo3\_34 Start: 28645, Stop: 30567, Start Num: 26

Candidate Starts for Halo3\_34:

(Start: 26 @28645 has 17 MA's), (Start: 51 @28768 has 2 MA's), (55, 28789), (74, 28837), (Start: 122 @28945 has 1 MA's), (Start: 135 @28966 has 1 MA's), (164, 29047), (174, 29083), (177, 29086), (204, 29164), (205, 29167), (206, 29173), (217, 29194), (226, 29224), (229, 29230), (261, 29365), (289, 29452), (296, 29461), (298, 29467), (300, 29473), (319, 29581), (323, 29602), (336, 29674), (341, 29698), (347, 29710), (359, 29767), (388, 29917), (393, 29941), (418, 30109), (421, 30124), (442, 30220), (477, 30331), (482, 30367),

Gene: Heinz\_25 Start: 19746, Stop: 21263, Start Num: 147

Candidate Starts for Heinz\_25:

(Start: 147 @19746 has 2 MA's), (189, 19845), (220, 19941), (224, 19956), (226, 19962), (248, 20055), (260, 20097), (263, 20106), (292, 20190), (301, 20211), (323, 20331), (330, 20370), (333, 20400),

(344, 20427), (353, 20454), (358, 20478), (366, 20526), (369, 20535), (370, 20538), (385, 20625), (386, 20628), (403, 20712), (432, 20919), (462, 21015), (477, 21063), (482, 21099), (485, 21123), (502, 21162), (513, 21234), (515, 21249),

Gene: Herod\_26 Start: 22926, Stop: 24431, Start Num: 160

Candidate Starts for Herod\_26:

(45, 22611), (78, 22719), (107, 22788), (109, 22791), (118, 22815), (Start: 121 @22821 has 7 MA's), (Start: 160 @22926 has 29 MA's), (181, 22995), (187, 23007), (222, 23118), (224, 23124), (226, 23130), (229, 23136), (248, 23223), (258, 23259), (260, 23265), (263, 23274), (333, 23568), (353, 23622), (354, 23625), (358, 23646), (365, 23691), (386, 23796), (403, 23880), (410, 23961), (411, 23964), (462, 24183), (477, 24231), (485, 24291), (499, 24324), (502, 24330), (513, 24402),

Gene: Hibiscus\_25 Start: 19694, Stop: 21211, Start Num: 147

Candidate Starts for Hibiscus\_25:

(Start: 147 @19694 has 2 MA's), (189, 19793), (220, 19889), (224, 19904), (226, 19910), (248, 20003), (260, 20045), (263, 20054), (292, 20138), (301, 20159), (323, 20279), (330, 20318), (333, 20348), (344, 20375), (353, 20402), (358, 20426), (366, 20474), (369, 20483), (370, 20486), (385, 20573), (386, 20576), (403, 20660), (432, 20867), (462, 20963), (477, 21011), (482, 21047), (485, 21071), (502, 21110), (513, 21182), (515, 21197),

Gene: Holliday\_29 Start: 22226, Stop: 24061, Start Num: 32

Candidate Starts for Holliday\_29:

(Start: 32 @22226 has 22 MA's), (70, 22388), (83, 22418), (103, 22472), (114, 22487), (Start: 116 @22499 has 1 MA's), (117, 22502), (125, 22517), (126, 22520), (133, 22523), (164, 22613), (167, 22622), (168, 22625), (200, 22712), (205, 22733), (206, 22739), (217, 22760), (220, 22769), (226, 22790), (229, 22796), (262, 22898), (263, 22901), (276, 22931), (281, 22943), (296, 22967), (315, 23042), (317, 23054), (323, 23096), (328, 23129), (333, 23162), (336, 23168), (341, 23192), (347, 23204), (359, 23261), (361, 23279), (388, 23411), (393, 23435), (395, 23453), (418, 23606), (421, 23621), (422, 23633), (423, 23636), (424, 23642), (436, 23687), (439, 23705), (442, 23717), (445, 23723), (450, 23735), (455, 23744), (470, 23798), (483, 23867), (489, 23900), (492, 23906), (506, 23969), (507, 23972), (510, 23990), (513, 24011), (514, 24020),

Gene: Horus\_29 Start: 22143, Stop: 23978, Start Num: 32

Candidate Starts for Horus\_29:

(Start: 32 @22143 has 22 MA's), (70, 22305), (83, 22335), (103, 22389), (114, 22404), (Start: 116 @22416 has 1 MA's), (117, 22419), (125, 22434), (126, 22437), (133, 22440), (164, 22530), (167, 22539), (168, 22542), (200, 22629), (205, 22650), (206, 22656), (217, 22677), (220, 22686), (226, 22707), (229, 22713), (262, 22815), (263, 22818), (276, 22848), (281, 22860), (296, 22884), (299, 22893), (315, 22959), (317, 22971), (323, 23013), (328, 23046), (333, 23079), (336, 23085), (341, 23109), (347, 23121), (359, 23178), (361, 23196), (388, 23328), (393, 23352), (395, 23370), (418, 23523), (421, 23538), (423, 23553), (424, 23559), (436, 23604), (439, 23622), (442, 23634), (445, 23640), (450, 23652), (455, 23661), (470, 23715), (483, 23784), (489, 23817), (492, 23823), (506, 23886), (507, 23889), (510, 23907), (513, 23928), (514, 23937),

Gene: Hugley\_26 Start: 22926, Stop: 24431, Start Num: 160

Candidate Starts for Hugley\_26:

(45, 22611), (78, 22719), (107, 22788), (109, 22791), (118, 22815), (Start: 121 @22821 has 7 MA's), (Start: 160 @22926 has 29 MA's), (181, 22995), (187, 23007), (222, 23118), (224, 23124), (226, 23130), (229, 23136), (248, 23223), (258, 23259), (260, 23265), (263, 23274), (333, 23568), (353, 23622), (354, 23625), (358, 23646), (365, 23691), (386, 23796), (403, 23880), (410, 23961), (411, 23964), (462, 24183), (477, 24231), (485, 24291), (499, 24324), (502, 24330), (513, 24402),

Gene: Hyzer\_28 Start: 23631, Stop: 25250, Start Num: 135

Candidate Starts for Hyzer\_28:

(61, 23460), (63, 23463), (Start: 135 @23631 has 1 MA's), (158, 23709), (159, 23712), (171, 23739), (201, 23823), (206, 23838), (207, 23841), (226, 23892), (236, 23937), (249, 23985), (270, 24063), (307, 24174), (316, 24216), (319, 24246), (325, 24276), (347, 24366), (354, 24390), (358, 24408), (359, 24420), (361, 24438), (364, 24453), (366, 24459), (376, 24510), (380, 24537), (393, 24588), (408, 24678), (415, 24756), (423, 24798), (436, 24858), (445, 24894), (452, 24915), (453, 24918), (455, 24930), (464, 24969), (506, 25176), (507, 25179), (511, 25203),

Gene: InLimbo\_26 Start: 20143, Stop: 21978, Start Num: 38

Candidate Starts for InLimbo\_26:

(Start: 38 @20143 has 3 MA's), (Start: 72 @20287 has 1 MA's), (75, 20299), (88, 20332), (90, 20338), (106, 20362), (114, 20374), (138, 20419), (148, 20449), (151, 20455), (205, 20599), (206, 20605), (222, 20644), (226, 20656), (229, 20662), (240, 20716), (315, 20971), (316, 20974), (323, 21025), (329, 21061), (333, 21091), (336, 21097), (341, 21121), (347, 21133), (359, 21190), (361, 21208), (388, 21340), (389, 21346), (393, 21364), (418, 21532), (436, 21613), (448, 21655), (455, 21670), (477, 21751), (482, 21787), (505, 21886),

Gene: JCole\_23 Start: 19364, Stop: 20980, Start Num: 121

Candidate Starts for JCole\_23:

(Start: 121 @19364 has 7 MA's), (150, 19436), (155, 19448), (174, 19496), (200, 19559), (205, 19580), (214, 19601), (220, 19616), (226, 19637), (229, 19643), (261, 19778), (264, 19787), (275, 19826), (278, 19835), (298, 19880), (300, 19886), (315, 19961), (319, 19994), (323, 20015), (333, 20081), (341, 20111), (347, 20123), (358, 20168), (361, 20198), (384, 20315), (388, 20330), (393, 20354), (400, 20396), (417, 20522), (418, 20525), (425, 20573), (442, 20636), (494, 20831), (500, 20855), (504, 20870), (506, 20891),

Gene: JKSyngboy\_34 Start: 32531, Stop: 34252, Start Num: 67

Candidate Starts for JKSyngboy\_34:

(Start: 67 @32531 has 30 MA's), (119, 32654), (125, 32666), (145, 32732), (172, 32801), (184, 32837), (253, 33062), (265, 33101), (287, 33161), (301, 33206), (313, 33266), (332, 33392), (338, 33401), (340, 33407), (353, 33449), (357, 33464), (358, 33473), (360, 33500), (367, 33521), (386, 33620), (403, 33704), (424, 33857), (425, 33869), (428, 33884), (431, 33905), (460, 33995), (482, 34088),

Gene: Jabberwocky\_35 Start: 33678, Stop: 35399, Start Num: 67

Candidate Starts for Jabberwocky\_35:

(Start: 67 @33678 has 30 MA's), (125, 33813), (139, 33855), (145, 33879), (198, 34023), (253, 34209), (265, 34248), (267, 34257), (291, 34329), (301, 34353), (316, 34425), (330, 34512), (338, 34548), (340, 34554), (353, 34596), (357, 34611), (358, 34620), (386, 34767), (403, 34851), (407, 34884), (412, 34932), (423, 34998), (424, 35004), (425, 35016), (429, 35046), (431, 35052), (441, 35088), (444, 35097), (460, 35142),

Gene: Jalleen\_25 Start: 20144, Stop: 21667, Start Num: 165

Candidate Starts for Jalleen\_25:

(Start: 165 @20144 has 19 MA's), (196, 20216), (199, 20228), (207, 20255), (218, 20279), (249, 20399), (251, 20408), (269, 20474), (307, 20588), (316, 20630), (319, 20660), (325, 20690), (339, 20756), (347, 20780), (354, 20804), (358, 20822), (359, 20834), (361, 20852), (364, 20867), (366, 20873), (376, 20924), (380, 20951), (393, 21002), (415, 21170), (445, 21308), (452, 21329), (453, 21332), (455, 21344), (464, 21383), (494, 21530), (506, 21590), (507, 21593),

Gene: Jambalaya\_33 Start: 27999, Stop: 29921, Start Num: 26

Candidate Starts for Jambalaya\_33:

(Start: 26 @27999 has 17 MA's), (Start: 51 @28122 has 2 MA's), (55, 28143), (74, 28191), (Start: 122 @28299 has 1 MA's), (Start: 135 @28320 has 1 MA's), (164, 28401), (174, 28437), (177, 28440), (204,

28518), (205, 28521), (206, 28527), (217, 28548), (226, 28578), (229, 28584), (261, 28719), (289, 28806), (296, 28815), (298, 28821), (300, 28827), (315, 28902), (319, 28935), (323, 28956), (336, 29028), (341, 29052), (347, 29064), (359, 29121), (388, 29271), (393, 29295), (418, 29463), (421, 29478), (442, 29574), (477, 29685), (482, 29721),

Gene: Jojo24\_25 Start: 19691, Stop: 21388, Start Num: 71

Candidate Starts for Jojo24\_25:

(46, 19616), (Start: 71 @19691 has 7 MA's), (117, 19790), (155, 19886), (164, 19901), (166, 19907), (204, 20018), (205, 20021), (206, 20027), (217, 20048), (222, 20066), (230, 20084), (235, 20117), (240, 20138), (252, 20186), (274, 20255), (295, 20291), (296, 20294), (315, 20375), (317, 20387), (323, 20429), (339, 20510), (340, 20513), (341, 20522), (347, 20534), (357, 20570), (359, 20591), (361, 20609), (364, 20624), (388, 20741), (393, 20765), (395, 20783), (418, 20936), (436, 21035), (439, 21053), (442, 21065), (455, 21092), (501, 21269), (508, 21308),

Gene: JonJames\_55 Start: 39392, Stop: 41158, Start Num: 52

Candidate Starts for JonJames\_55:

(Start: 52 @39392 has 2 MA's), (56, 39413), (170, 39707), (173, 39725), (177, 39734), (193, 39767), (217, 39851), (242, 39950), (296, 40097), (302, 40118), (315, 40184), (318, 40202), (325, 40247), (359, 40391), (366, 40430), (388, 40541), (409, 40667), (423, 40763), (430, 40805), (434, 40811), (445, 40853), (446, 40856),

Gene: Kamaru\_29 Start: 22226, Stop: 24061, Start Num: 32

Candidate Starts for Kamaru\_29:

(Start: 32 @22226 has 22 MA's), (70, 22388), (83, 22418), (103, 22472), (114, 22487), (Start: 116 @22499 has 1 MA's), (117, 22502), (125, 22517), (126, 22520), (133, 22523), (164, 22613), (167, 22622), (168, 22625), (200, 22712), (205, 22733), (206, 22739), (217, 22760), (220, 22769), (226, 22790), (229, 22796), (262, 22898), (263, 22901), (276, 22931), (281, 22943), (296, 22967), (315, 23042), (317, 23054), (323, 23096), (328, 23129), (333, 23162), (336, 23168), (341, 23192), (347, 23204), (359, 23261), (361, 23279), (388, 23411), (393, 23435), (395, 23453), (418, 23606), (421, 23621), (422, 23633), (423, 23636), (424, 23642), (436, 23687), (439, 23705), (442, 23717), (445, 23723), (450, 23735), (455, 23744), (470, 23798), (483, 23867), (489, 23900), (492, 23906), (506, 23969), (507, 23972), (510, 23990), (513, 24011), (514, 24020),

Gene: Kamashten\_36 Start: 33130, Stop: 35052, Start Num: 28

Candidate Starts for Kamashten\_36:

(Start: 28 @33130 has 23 MA's), (54, 33265), (58, 33274), (Start: 72 @33307 has 1 MA's), (82, 33331), (114, 33400), (142, 33475), (205, 33667), (206, 33673), (217, 33694), (222, 33712), (226, 33724), (240, 33784), (254, 33838), (296, 33952), (315, 34039), (323, 34093), (331, 34147), (333, 34159), (341, 34189), (347, 34201), (358, 34246), (359, 34258), (361, 34276), (368, 34303), (381, 34381), (388, 34408), (393, 34432), (411, 34555), (417, 34597), (436, 34681), (442, 34711), (455, 34738), (470, 34792), (478, 34822), (489, 34894), (494, 34903),

Gene: Kampe\_27 Start: 31352, Stop: 33037, Start Num: 91

Candidate Starts for Kampe\_27:

(Start: 91 @31352 has 5 MA's), (123, 31415), (139, 31460), (149, 31496), (161, 31526), (237, 31775), (261, 31868), (288, 31937), (306, 31994), (307, 32000), (312, 32021), (315, 32039), (325, 32102), (377, 32330), (393, 32411), (404, 32477), (416, 32588), (435, 32681), (439, 32702), (494, 32900), (503, 32933),

Gene: Keitabear\_38 Start: 35100, Stop: 37022, Start Num: 28

Candidate Starts for Keitabear\_38:

(Start: 28 @35100 has 23 MA's), (54, 35235), (Start: 72 @35277 has 1 MA's), (82, 35301), (114, 35370), (142, 35445), (205, 35637), (206, 35643), (217, 35664), (222, 35682), (226, 35694), (240,

35754), (254, 35808), (296, 35922), (315, 36009), (323, 36063), (333, 36129), (341, 36159), (347, 36171), (358, 36216), (359, 36228), (361, 36246), (368, 36273), (381, 36351), (388, 36378), (393, 36402), (411, 36525), (417, 36567), (436, 36651), (442, 36681), (470, 36762), (478, 36792), (489, 36864), (494, 36873),

Gene: Kenna\_28 Start: 22119, Stop: 23954, Start Num: 32

Candidate Starts for Kenna\_28:

(Start: 32 @22119 has 22 MA's), (70, 22281), (83, 22311), (103, 22365), (114, 22380), (Start: 116 @22392 has 1 MA's), (117, 22395), (125, 22410), (126, 22413), (133, 22416), (164, 22506), (167, 22515), (168, 22518), (200, 22605), (205, 22626), (206, 22632), (217, 22653), (220, 22662), (226, 22683), (229, 22689), (262, 22791), (263, 22794), (276, 22824), (281, 22836), (296, 22860), (315, 22935), (317, 22947), (323, 22989), (328, 23022), (333, 23055), (336, 23061), (341, 23085), (347, 23097), (359, 23154), (361, 23172), (388, 23304), (393, 23328), (395, 23346), (418, 23499), (421, 23514), (423, 23529), (424, 23535), (436, 23580), (439, 23598), (442, 23610), (445, 23616), (450, 23628), (455, 23637), (470, 23691), (483, 23760), (489, 23793), (492, 23799), (506, 23862), (507, 23865), (510, 23883), (513, 23904), (514, 23913),

Gene: Kewpiedoll\_36 Start: 32537, Stop: 34258, Start Num: 67

Candidate Starts for Kewpiedoll\_36:

(Start: 67 @32537 has 30 MA's), (125, 32672), (131, 32681), (139, 32714), (145, 32738), (172, 32807), (198, 32882), (253, 33068), (265, 33107), (267, 33116), (271, 33131), (291, 33188), (301, 33212), (316, 33284), (330, 33371), (338, 33407), (340, 33413), (353, 33455), (357, 33470), (358, 33479), (386, 33626), (403, 33710), (407, 33743), (412, 33791), (423, 33857), (424, 33863), (425, 33875), (429, 33905), (431, 33911), (441, 33947), (444, 33956), (460, 34001),

Gene: KimmyK\_35 Start: 28934, Stop: 30856, Start Num: 26

Candidate Starts for KimmyK\_35:

(Start: 26 @28934 has 17 MA's), (Start: 51 @29057 has 2 MA's), (55, 29078), (74, 29126), (Start: 122 @29234 has 1 MA's), (Start: 135 @29255 has 1 MA's), (164, 29336), (174, 29372), (177, 29375), (204, 29453), (205, 29456), (206, 29462), (217, 29483), (226, 29513), (229, 29519), (261, 29654), (289, 29741), (296, 29750), (298, 29756), (300, 29762), (315, 29837), (319, 29870), (323, 29891), (336, 29963), (341, 29987), (347, 29999), (359, 30056), (388, 30206), (393, 30230), (418, 30398), (421, 30413), (442, 30509), (477, 30620), (482, 30656),

Gene: Kita\_28 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Kita\_28:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: Kroos\_37 Start: 32709, Stop: 34430, Start Num: 67

Candidate Starts for Kroos\_37:

(Start: 67 @32709 has 30 MA's), (119, 32832), (125, 32844), (145, 32910), (172, 32979), (184, 33015), (198, 33054), (253, 33240), (265, 33279), (287, 33339), (301, 33384), (313, 33444), (338, 33579), (340, 33585), (353, 33627), (357, 33642), (360, 33678), (367, 33699), (386, 33798), (403, 33882), (407, 33915), (411, 33960), (412, 33963), (418, 33999), (424, 34035), (425, 34047), (431, 34083), (441, 34119), (460, 34173),

Gene: Kudrefre\_29 Start: 24004, Stop: 25656, Start Num: 85

Candidate Starts for Kudrefre\_29:

(Start: 72 @23965 has 1 MA's), (Start: 85 @24004 has 5 MA's), (94, 24025), (157, 24178), (162, 24184), (163, 24187), (168, 24202), (180, 24235), (185, 24244), (191, 24256), (204, 24298), (205,

24301), (206, 24307), (213, 24319), (217, 24328), (222, 24346), (226, 24358), (229, 24364), (243, 24430), (247, 24445), (248, 24451), (293, 24586), (302, 24613), (303, 24619), (319, 24712), (347, 24832), (358, 24874), (359, 24886), (388, 25036), (393, 25060), (395, 25078), (407, 25141), (418, 25228), (421, 25243), (424, 25264), (436, 25309), (439, 25327), (446, 25348), (458, 25390), (463, 25414), (477, 25462), (496, 25537), (506, 25588), (516, 25651),

Gene: Kuwabara\_28 Start: 21545, Stop: 23329, Start Num: 32

Candidate Starts for Kuwabara\_28:

(Start: 32 @21545 has 22 MA's), (35, 21560), (44, 21587), (49, 21617), (Start: 72 @21689 has 1 MA's), (75, 21701), (106, 21764), (114, 21776), (136, 21818), (151, 21857), (154, 21866), (188, 21944), (205, 22001), (206, 22007), (217, 22028), (220, 22037), (226, 22058), (229, 22064), (262, 22166), (263, 22169), (276, 22199), (281, 22211), (296, 22235), (299, 22244), (315, 22310), (317, 22322), (323, 22364), (328, 22397), (333, 22430), (336, 22436), (341, 22460), (347, 22472), (359, 22529), (361, 22547), (388, 22679), (393, 22703), (395, 22721), (418, 22874), (421, 22889), (423, 22904), (424, 22910), (436, 22955), (439, 22973), (442, 22985), (445, 22991), (450, 23003), (455, 23012), (470, 23066), (483, 23135), (489, 23168), (492, 23174), (506, 23237), (507, 23240), (510, 23258), (513, 23279), (514, 23288),

Gene: Kwobi\_38 Start: 32695, Stop: 34416, Start Num: 67

Candidate Starts for Kwobi\_38:

(Start: 67 @32695 has 30 MA's), (119, 32818), (125, 32830), (145, 32896), (172, 32965), (184, 33001), (253, 33226), (265, 33265), (287, 33325), (301, 33370), (313, 33430), (338, 33565), (340, 33571), (353, 33613), (357, 33628), (360, 33664), (367, 33685), (386, 33784), (403, 33868), (407, 33901), (411, 33946), (412, 33949), (418, 33985), (424, 34021), (425, 34033), (431, 34069), (441, 34105), (460, 34159),

Gene: Lamberg\_24 Start: 19408, Stop: 20961, Start Num: 129

Candidate Starts for Lamberg\_24:

(Start: 129 @19408 has 3 MA's), (150, 19477), (157, 19492), (173, 19534), (174, 19540), (205, 19624), (206, 19630), (217, 19651), (222, 19669), (227, 19681), (230, 19687), (279, 19843), (303, 19885), (319, 19978), (323, 19999), (333, 20065), (341, 20095), (347, 20107), (359, 20164), (388, 20314), (393, 20338), (418, 20506), (436, 20605), (439, 20623), (442, 20635), (494, 20812), (501, 20839), (508, 20878),

Gene: Lennon\_38 Start: 34887, Stop: 36809, Start Num: 28

Candidate Starts for Lennon\_38:

(Start: 28 @34887 has 23 MA's), (54, 35022), (58, 35031), (Start: 72 @35064 has 1 MA's), (82, 35088), (114, 35157), (142, 35232), (205, 35424), (206, 35430), (217, 35451), (222, 35469), (226, 35481), (240, 35541), (254, 35595), (296, 35709), (315, 35796), (323, 35850), (331, 35904), (333, 35916), (341, 35946), (347, 35958), (358, 36003), (359, 36015), (361, 36033), (368, 36060), (381, 36138), (388, 36165), (393, 36189), (411, 36312), (417, 36354), (436, 36438), (442, 36468), (470, 36549), (478, 36579), (489, 36651), (494, 36660),

Gene: Leroy\_29 Start: 22144, Stop: 23979, Start Num: 32

Candidate Starts for Leroy\_29:

(Start: 32 @22144 has 22 MA's), (70, 22306), (83, 22336), (103, 22390), (114, 22405), (Start: 116 @22417 has 1 MA's), (117, 22420), (125, 22435), (126, 22438), (133, 22441), (164, 22531), (167, 22540), (168, 22543), (200, 22630), (205, 22651), (206, 22657), (217, 22678), (220, 22687), (226, 22708), (229, 22714), (262, 22816), (263, 22819), (276, 22849), (281, 22861), (296, 22885), (299, 22894), (315, 22960), (317, 22972), (323, 23014), (328, 23047), (333, 23080), (336, 23086), (341, 23110), (347, 23122), (359, 23179), (361, 23197), (388, 23329), (393, 23353), (395, 23371), (418, 23524), (421, 23539), (423, 23554), (424, 23560), (436, 23605), (439, 23623), (442, 23635), (445, 23641), (450, 23653), (455, 23662), (470, 23716), (483, 23785), (489, 23818), (492, 23824), (506,

23887), (507, 23890), (510, 23908), (513, 23929), (514, 23938),

Gene: LilHam\_34 Start: 31298, Stop: 33019, Start Num: 67

Candidate Starts for LilHam\_34:

(Start: 67 @31298 has 30 MA's), (119, 31421), (125, 31433), (145, 31499), (172, 31568), (184, 31604), (253, 31829), (265, 31868), (287, 31928), (301, 31973), (313, 32033), (338, 32168), (340, 32174), (353, 32216), (357, 32231), (360, 32267), (367, 32288), (386, 32387), (403, 32471), (407, 32504), (411, 32549), (412, 32552), (418, 32588), (424, 32624), (425, 32636), (431, 32672), (441, 32708), (460, 32762),

Gene: LilJank\_30 Start: 25864, Stop: 27450, Start Num: 85

Candidate Starts for LilJank\_30:

(Start: 85 @25864 has 5 MA's), (100, 25900), (155, 26044), (166, 26065), (167, 26068), (168, 26071), (175, 26095), (190, 26125), (191, 26128), (204, 26170), (205, 26173), (217, 26200), (220, 26209), (226, 26230), (229, 26236), (239, 26287), (240, 26290), (257, 26311), (282, 26353), (291, 26374), (293, 26377), (302, 26389), (315, 26455), (323, 26509), (329, 26545), (347, 26608), (355, 26632), (358, 26650), (359, 26662), (361, 26680), (364, 26695), (388, 26812), (389, 26818), (393, 26836), (394, 26842), (395, 26854), (401, 26881), (413, 26980), (418, 27004), (421, 27019), (427, 27058), (436, 27085), (437, 27091), (439, 27103), (442, 27115), (445, 27121), (455, 27157), (469, 27211), (501, 27340), (505, 27367), (512, 27400),

Gene: Lilas\_28 Start: 22772, Stop: 24724, Start Num: 19

Candidate Starts for Lilas\_28:

(1, 22484), (2, 22541), (4, 22556), (6, 22592), (7, 22637), (8, 22640), (Start: 19 @22772 has 8 MA's), (Start: 23 @22787 has 1 MA's), (27, 22826), (29, 22829), (93, 23057), (111, 23084), (Start: 116 @23099 has 1 MA's), (205, 23333), (206, 23339), (213, 23351), (235, 23429), (240, 23450), (272, 23570), (290, 23612), (315, 23705), (317, 23717), (323, 23759), (341, 23849), (347, 23861), (359, 23918), (364, 23951), (372, 23984), (382, 24044), (388, 24068), (392, 24086), (418, 24260), (419, 24266), (427, 24314), (483, 24536), (504, 24617), (506, 24638),

Gene: LilyPad\_26 Start: 21924, Stop: 23648, Start Num: 51

Candidate Starts for LilyPad\_26:

(Start: 51 @21924 has 2 MA's), (76, 21999), (79, 22005), (84, 22014), (99, 22056), (149, 22188), (173, 22266), (174, 22272), (192, 22308), (219, 22392), (238, 22467), (244, 22488), (250, 22512), (266, 22566), (291, 22620), (310, 22674), (313, 22683), (314, 22686), (348, 22821), (349, 22824), (364, 22908), (373, 22959), (374, 22962), (378, 22980), (383, 23016), (394, 23055), (407, 23133), (423, 23247), (433, 23292), (449, 23346), (454, 23355), (456, 23361), (488, 23505), (495, 23523),

Gene: LitninMcQueen\_28 Start: 21875, Stop: 23710, Start Num: 32

Candidate Starts for LitninMcQueen\_28:

(Start: 32 @21875 has 22 MA's), (70, 22037), (83, 22067), (103, 22121), (114, 22136), (Start: 116 @22148 has 1 MA's), (117, 22151), (125, 22166), (126, 22169), (133, 22172), (164, 22262), (167, 22271), (168, 22274), (200, 22361), (205, 22382), (206, 22388), (217, 22409), (220, 22418), (226, 22439), (229, 22445), (262, 22547), (263, 22550), (276, 22580), (281, 22592), (296, 22616), (315, 22691), (317, 22703), (323, 22745), (328, 22778), (333, 22811), (336, 22817), (341, 22841), (347, 22853), (359, 22910), (361, 22928), (388, 23060), (393, 23084), (395, 23102), (418, 23255), (421, 23270), (422, 23282), (423, 23285), (424, 23291), (436, 23336), (439, 23354), (442, 23366), (445, 23372), (450, 23384), (455, 23393), (470, 23447), (477, 23471), (489, 23549), (492, 23555), (506, 23618), (507, 23621), (510, 23639), (513, 23660), (514, 23669),

Gene: LittleFella\_27 Start: 23800, Stop: 25635, Start Num: 51

Candidate Starts for LittleFella\_27:

(Start: 51 @23800 has 2 MA's), (76, 23875), (79, 23881), (84, 23890), (93, 23923), (99, 23932), (132, 23998), (173, 24130), (174, 24136), (192, 24172), (211, 24238), (219, 24256), (249, 24370), (269, 24445), (270, 24448), (307, 24559), (325, 24661), (340, 24730), (343, 24745), (347, 24751), (354, 24775), (366, 24844), (376, 24895), (383, 24940), (393, 24973), (414, 25153), (426, 25225), (474, 25408), (482, 25468),

Gene: LordFarquaad\_25 Start: 20498, Stop: 22021, Start Num: 165

Candidate Starts for LordFarquaad\_25:

(Start: 165 @20498 has 19 MA's), (196, 20570), (199, 20582), (207, 20609), (218, 20633), (249, 20753), (251, 20762), (269, 20828), (307, 20942), (316, 20984), (319, 21014), (325, 21044), (339, 21110), (347, 21134), (354, 21158), (358, 21176), (359, 21188), (361, 21206), (364, 21221), (366, 21227), (376, 21278), (380, 21305), (393, 21356), (415, 21524), (420, 21545), (435, 21623), (445, 21662), (452, 21683), (453, 21686), (455, 21698), (464, 21737), (494, 21884), (506, 21944), (507, 21947),

Gene: Love\_41 Start: 34670, Stop: 36595, Start Num: 28

Candidate Starts for Love\_41:

(Start: 28 @34670 has 23 MA's), (54, 34805), (58, 34814), (Start: 72 @34847 has 1 MA's), (82, 34871), (114, 34940), (142, 35015), (205, 35207), (206, 35213), (217, 35234), (222, 35252), (226, 35264), (240, 35324), (254, 35378), (296, 35495), (315, 35582), (323, 35636), (333, 35702), (341, 35732), (347, 35744), (358, 35789), (359, 35801), (361, 35819), (368, 35846), (381, 35924), (388, 35951), (393, 35975), (411, 36098), (417, 36140), (436, 36224), (442, 36254), (455, 36281), (470, 36335), (478, 36365), (489, 36437), (494, 36446),

Gene: Lton\_24 Start: 19437, Stop: 21029, Start Num: 121

Candidate Starts for Lton\_24:

(Start: 121 @19437 has 7 MA's), (150, 19506), (157, 19521), (162, 19527), (174, 19569), (188, 19596), (206, 19659), (217, 19680), (221, 19695), (235, 19749), (239, 19767), (240, 19770), (243, 19782), (302, 19947), (315, 20013), (319, 20046), (339, 20145), (341, 20157), (347, 20169), (359, 20226), (364, 20259), (366, 20265), (388, 20376), (418, 20571), (436, 20652), (442, 20682), (477, 20793), (480, 20808), (483, 20838), (489, 20871), (506, 20940),

Gene: Lucky10\_25 Start: 20304, Stop: 22139, Start Num: 38

Candidate Starts for Lucky10\_25:

(9, 20088), (13, 20124), (15, 20169), (17, 20184), (Start: 38 @20304 has 3 MA's), (45, 20361), (Start: 72 @20448 has 1 MA's), (75, 20460), (88, 20493), (90, 20499), (106, 20523), (114, 20535), (138, 20580), (148, 20610), (151, 20616), (154, 20625), (167, 20649), (182, 20691), (205, 20760), (206, 20766), (217, 20787), (222, 20805), (226, 20817), (229, 20823), (240, 20877), (315, 21132), (316, 21135), (323, 21186), (329, 21222), (333, 21252), (336, 21258), (341, 21282), (347, 21294), (359, 21351), (361, 21369), (388, 21501), (389, 21507), (393, 21525), (418, 21693), (436, 21774), (448, 21816), (455, 21831), (477, 21912), (482, 21948), (505, 22047),

Gene: Lutum\_29 Start: 22119, Stop: 23954, Start Num: 32

Candidate Starts for Lutum\_29:

(Start: 32 @22119 has 22 MA's), (70, 22281), (83, 22311), (103, 22365), (114, 22380), (Start: 116 @22392 has 1 MA's), (117, 22395), (125, 22410), (126, 22413), (133, 22416), (164, 22506), (167, 22515), (168, 22518), (200, 22605), (205, 22626), (206, 22632), (217, 22653), (220, 22662), (226, 22683), (229, 22689), (262, 22791), (263, 22794), (276, 22824), (281, 22836), (296, 22860), (315, 22935), (317, 22947), (323, 22989), (328, 23022), (333, 23055), (336, 23061), (341, 23085), (347, 23097), (359, 23154), (361, 23172), (388, 23304), (393, 23328), (395, 23346), (418, 23499), (421, 23514), (423, 23529), (424, 23535), (436, 23580), (439, 23598), (442, 23610), (445, 23616), (450, 23628), (455, 23637), (470, 23691), (483, 23760), (489, 23793), (492, 23799), (506, 23862), (507, 23865), (510, 23883), (513, 23904), (514, 23913),

Gene: Madavieve\_26 Start: 23206, Stop: 24711, Start Num: 160

Candidate Starts for Madavieve\_26:

(45, 22891), (78, 22999), (107, 23068), (109, 23071), (118, 23095), (Start: 121 @23101 has 7 MA's), (Start: 160 @23206 has 29 MA's), (181, 23275), (187, 23287), (222, 23398), (224, 23404), (226, 23410), (229, 23416), (248, 23503), (258, 23539), (260, 23545), (263, 23554), (333, 23848), (353, 23902), (354, 23905), (358, 23926), (365, 23971), (386, 24076), (403, 24160), (410, 24241), (411, 24244), (462, 24463), (477, 24511), (485, 24571), (499, 24604), (502, 24610), (513, 24682),

Gene: Madeline\_26 Start: 23224, Stop: 24729, Start Num: 160

Candidate Starts for Madeline\_26:

(45, 22909), (78, 23017), (107, 23086), (109, 23089), (118, 23113), (Start: 121 @23119 has 7 MA's), (Start: 160 @23224 has 29 MA's), (181, 23293), (187, 23305), (222, 23416), (224, 23422), (226, 23428), (229, 23434), (248, 23521), (258, 23557), (260, 23563), (263, 23572), (333, 23866), (353, 23920), (354, 23923), (358, 23944), (365, 23989), (386, 24094), (403, 24178), (410, 24259), (411, 24262), (462, 24481), (477, 24529), (485, 24589), (499, 24622), (502, 24628), (513, 24700),

Gene: Malibo\_28 Start: 21996, Stop: 23735, Start Num: 65

Candidate Starts for Malibo\_28:

(18, 21789), (30, 21858), (31, 21861), (41, 21885), (42, 21891), (Start: 65 @21996 has 1 MA's), (117, 22107), (134, 22134), (204, 22335), (205, 22338), (206, 22344), (213, 22356), (235, 22434), (240, 22455), (290, 22617), (315, 22710), (317, 22722), (323, 22770), (334, 22842), (341, 22860), (347, 22872), (359, 22929), (372, 22995), (388, 23079), (392, 23097), (395, 23121), (418, 23271), (427, 23325), (483, 23547), (504, 23628), (506, 23649),

Gene: Manasvini\_28 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Manasvini\_28:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: Mareelih\_102 Start: 61923, Stop: 63602, Start Num: 71

Candidate Starts for Mareelih\_102:

(Start: 65 @61905 has 1 MA's), (Start: 71 @61923 has 7 MA's), (Start: 86 @61965 has 1 MA's), (89, 61974), (127, 62040), (130, 62043), (140, 62064), (173, 62175), (194, 62217), (234, 62355), (240, 62379), (316, 62625), (333, 62742), (343, 62769), (347, 62775), (359, 62829), (366, 62868), (388, 62979), (391, 62994), (393, 63003), (420, 63174), (423, 63195), (445, 63288), (477, 63396), (514, 63573),

Gene: Maridalia\_27 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Maridalia\_27:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: Marteena\_28 Start: 22623, Stop: 24575, Start Num: 19

Candidate Starts for Marteena\_28:

(1, 22335), (2, 22392), (4, 22407), (6, 22443), (7, 22488), (8, 22491), (Start: 19 @22623 has 8 MA's), (Start: 23 @22638 has 1 MA's), (27, 22677), (29, 22680), (93, 22908), (111, 22935), (Start: 116 @22950 has 1 MA's), (205, 23184), (206, 23190), (213, 23202), (235, 23280), (240, 23301), (272, 23421), (290, 23463), (315, 23556), (317, 23568), (323, 23610), (341, 23700), (347, 23712), (359,

23769), (364, 23802), (372, 23835), (382, 23895), (388, 23919), (392, 23937), (418, 24111), (419, 24117), (427, 24165), (483, 24387), (504, 24468), (506, 24489),

Gene: Matteo\_24 Start: 19369, Stop: 20961, Start Num: 121

Candidate Starts for Matteo\_24:

(43, 19135), (44, 19150), (50, 19186), (62, 19231), (64, 19234), (Start: 121 @19369 has 7 MA's), (150, 19438), (157, 19453), (174, 19501), (205, 19585), (206, 19591), (217, 19612), (221, 19627), (235, 19681), (240, 19702), (243, 19714), (302, 19879), (319, 19978), (339, 20077), (341, 20089), (347, 20101), (359, 20158), (364, 20191), (366, 20197), (388, 20308), (418, 20503), (436, 20584), (442, 20614), (477, 20725), (483, 20770), (500, 20836), (506, 20872),

Gene: McCrothy\_38 Start: 34478, Stop: 36403, Start Num: 28

Candidate Starts for McCrothy\_38:

(Start: 28 @34478 has 23 MA's), (54, 34613), (58, 34622), (Start: 72 @34655 has 1 MA's), (82, 34679), (114, 34748), (142, 34823), (205, 35015), (206, 35021), (217, 35042), (222, 35060), (226, 35072), (240, 35132), (254, 35186), (296, 35303), (315, 35390), (323, 35444), (333, 35510), (341, 35540), (347, 35552), (358, 35597), (359, 35609), (361, 35627), (368, 35654), (381, 35732), (388, 35759), (393, 35783), (411, 35906), (417, 35948), (436, 36032), (442, 36062), (455, 36089), (470, 36143), (478, 36173), (489, 36245), (494, 36254),

Gene: McKinley\_40 Start: 34696, Stop: 36618, Start Num: 28

Candidate Starts for McKinley\_40:

(Start: 28 @34696 has 23 MA's), (54, 34831), (58, 34840), (Start: 72 @34873 has 1 MA's), (82, 34897), (114, 34966), (125, 34996), (142, 35041), (205, 35233), (206, 35239), (217, 35260), (222, 35278), (226, 35290), (240, 35350), (254, 35404), (296, 35518), (315, 35605), (323, 35659), (333, 35725), (341, 35755), (347, 35767), (358, 35812), (359, 35824), (361, 35842), (368, 35869), (381, 35947), (388, 35974), (393, 35998), (411, 36121), (417, 36163), (436, 36247), (442, 36277), (455, 36304), (470, 36358), (478, 36388), (489, 36460), (494, 36469),

Gene: Mocha12\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Mocha12\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: MoontowerMania\_36 Start: 32904, Stop: 34625, Start Num: 67

Candidate Starts for MoontowerMania\_36:

(Start: 67 @32904 has 30 MA's), (125, 33039), (131, 33048), (139, 33081), (145, 33105), (172, 33174), (179, 33204), (198, 33249), (253, 33435), (265, 33474), (267, 33483), (271, 33498), (291, 33555), (301, 33579), (316, 33651), (330, 33738), (338, 33774), (340, 33780), (353, 33822), (357, 33837), (385, 33990), (386, 33993), (392, 34020), (403, 34077), (407, 34110), (412, 34158), (423, 34224), (424, 34230), (425, 34242), (429, 34272), (431, 34278), (441, 34314), (444, 34323), (460, 34368), (491, 34497),

Gene: Moosehead\_24 Start: 19352, Stop: 20872, Start Num: 165

Candidate Starts for Moosehead\_24:

(Start: 165 @19352 has 19 MA's), (196, 19421), (201, 19442), (207, 19460), (209, 19466), (218, 19484), (232, 19526), (249, 19604), (251, 19613), (307, 19793), (316, 19835), (319, 19865), (325, 19895), (339, 19961), (347, 19985), (354, 20009), (358, 20027), (359, 20039), (364, 20072), (366, 20078), (376, 20129), (380, 20156), (393, 20207), (415, 20375), (422, 20414), (423, 20417), (435,

20474), (445, 20513), (452, 20534), (453, 20537), (455, 20549), (464, 20588), (494, 20735), (507, 20798),

Gene: Morkie\_25 Start: 20143, Stop: 21978, Start Num: 38

Candidate Starts for Morkie\_25:

(Start: 38 @20143 has 3 MA's), (Start: 72 @20287 has 1 MA's), (75, 20299), (88, 20332), (90, 20338), (106, 20362), (114, 20374), (138, 20419), (148, 20449), (151, 20455), (205, 20599), (206, 20605), (222, 20644), (226, 20656), (229, 20662), (240, 20716), (315, 20971), (316, 20974), (323, 21025), (329, 21061), (333, 21091), (336, 21097), (341, 21121), (347, 21133), (359, 21190), (361, 21208), (388, 21340), (389, 21346), (393, 21364), (418, 21532), (436, 21613), (448, 21655), (455, 21670), (477, 21751), (482, 21787), (505, 21886),

Gene: MortyNRick\_28 Start: 21851, Stop: 23635, Start Num: 32

Candidate Starts for MortyNRick\_28:

(Start: 32 @21851 has 22 MA's), (35, 21866), (44, 21893), (49, 21923), (Start: 72 @21995 has 1 MA's), (75, 22007), (106, 22070), (114, 22082), (136, 22124), (151, 22163), (154, 22172), (188, 22250), (205, 22307), (206, 22313), (217, 22334), (220, 22343), (226, 22364), (229, 22370), (262, 22472), (263, 22475), (276, 22505), (281, 22517), (296, 22541), (299, 22550), (315, 22616), (317, 22628), (323, 22670), (328, 22703), (333, 22736), (336, 22742), (341, 22766), (347, 22778), (359, 22835), (361, 22853), (388, 22985), (393, 23009), (395, 23027), (418, 23180), (421, 23195), (423, 23210), (424, 23216), (436, 23261), (439, 23279), (442, 23291), (445, 23297), (450, 23309), (455, 23318), (470, 23372), (483, 23441), (489, 23474), (492, 23480), (506, 23543), (507, 23546), (510, 23564), (513, 23585), (514, 23594),

Gene: Mutzi\_35 Start: 28649, Stop: 30571, Start Num: 24

Candidate Starts for Mutzi\_35:

(Start: 24 @28649 has 1 MA's), (45, 28772), (50, 28793), (66, 28841), (88, 28895), (105, 28916), (128, 28958), (155, 29039), (204, 29171), (205, 29174), (235, 29270), (240, 29291), (290, 29453), (315, 29546), (317, 29558), (323, 29606), (341, 29696), (347, 29708), (359, 29765), (361, 29783), (372, 29831), (388, 29915), (392, 29933), (400, 29981), (402, 29987), (418, 30107), (419, 30113), (477, 30338), (483, 30383), (504, 30464), (506, 30485),

Gene: Neobush\_28 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Neobush\_28:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: Nettuno\_24 Start: 19408, Stop: 20961, Start Num: 129

Candidate Starts for Nettuno\_24:

(Start: 129 @19408 has 3 MA's), (150, 19477), (157, 19492), (173, 19534), (174, 19540), (205, 19624), (206, 19630), (217, 19651), (222, 19669), (227, 19681), (230, 19687), (279, 19843), (303, 19885), (319, 19978), (323, 19999), (333, 20065), (341, 20095), (347, 20107), (359, 20164), (388, 20314), (393, 20338), (418, 20506), (436, 20605), (439, 20623), (442, 20635), (494, 20812), (501, 20839), (508, 20878),

Gene: Neville\_30 Start: 25504, Stop: 27090, Start Num: 85

Candidate Starts for Neville\_30:

(Start: 85 @25504 has 5 MA's), (100, 25540), (155, 25684), (166, 25705), (167, 25708), (168, 25711), (175, 25735), (190, 25765), (191, 25768), (204, 25810), (205, 25813), (217, 25840), (220, 25849), (226, 25870), (229, 25876), (239, 25927), (240, 25930), (257, 25951), (282, 25993), (291, 26014), (293, 26017), (302, 26029), (315, 26095), (323, 26149), (329, 26185), (347, 26248), (355, 26272),

(358, 26290), (359, 26302), (361, 26320), (364, 26335), (388, 26452), (389, 26458), (393, 26476), (394, 26482), (395, 26494), (401, 26521), (413, 26620), (418, 26644), (421, 26659), (427, 26698), (436, 26725), (437, 26731), (439, 26743), (442, 26755), (445, 26761), (455, 26797), (469, 26851), (501, 26980), (505, 27007), (512, 27040),

Gene: Nordenberg\_32 Start: 32866, Stop: 34788, Start Num: 28

Candidate Starts for Nordenberg\_32:

(Start: 28 @32866 has 23 MA's), (54, 33001), (58, 33010), (Start: 72 @33043 has 1 MA's), (82, 33067), (114, 33136), (142, 33211), (205, 33403), (206, 33409), (217, 33430), (222, 33448), (226, 33460), (240, 33520), (254, 33574), (296, 33688), (315, 33775), (323, 33829), (333, 33895), (341, 33925), (347, 33937), (358, 33982), (359, 33994), (361, 34012), (368, 34039), (381, 34117), (388, 34144), (393, 34168), (411, 34291), (417, 34333), (436, 34417), (442, 34447), (455, 34474), (470, 34528), (478, 34558), (489, 34630), (494, 34639),

Gene: Nubi\_33 Start: 28222, Stop: 30144, Start Num: 26

Candidate Starts for Nubi\_33:

(Start: 26 @28222 has 17 MA's), (Start: 51 @28345 has 2 MA's), (55, 28366), (74, 28414), (Start: 122 @28522 has 1 MA's), (Start: 135 @28543 has 1 MA's), (164, 28624), (174, 28660), (177, 28663), (204, 28741), (205, 28744), (206, 28750), (217, 28771), (226, 28801), (229, 28807), (261, 28942), (289, 29029), (296, 29038), (298, 29044), (300, 29050), (315, 29125), (319, 29158), (323, 29179), (336, 29251), (341, 29275), (347, 29287), (359, 29344), (388, 29494), (393, 29518), (418, 29686), (421, 29701), (442, 29797), (477, 29908), (482, 29944),

Gene: Nymphadora\_26 Start: 22926, Stop: 24431, Start Num: 160

Candidate Starts for Nymphadora\_26:

(45, 22611), (78, 22719), (107, 22788), (109, 22791), (118, 22815), (Start: 121 @22821 has 7 MA's), (Start: 160 @22926 has 29 MA's), (181, 22995), (187, 23007), (222, 23118), (224, 23124), (226, 23130), (229, 23136), (248, 23223), (258, 23259), (260, 23265), (263, 23274), (333, 23568), (353, 23622), (354, 23625), (358, 23646), (365, 23691), (386, 23796), (403, 23880), (410, 23961), (411, 23964), (462, 24183), (477, 24231), (485, 24291), (499, 24324), (502, 24330), (513, 24402),

Gene: ODay\_33 Start: 23997, Stop: 25781, Start Num: 32

Candidate Starts for ODay\_33:

(Start: 32 @23997 has 22 MA's), (49, 24069), (Start: 72 @24141 has 1 MA's), (75, 24153), (95, 24198), (114, 24228), (136, 24270), (138, 24273), (151, 24309), (154, 24318), (164, 24333), (167, 24342), (188, 24396), (200, 24432), (205, 24453), (206, 24459), (217, 24480), (220, 24489), (226, 24510), (229, 24516), (262, 24618), (263, 24621), (276, 24651), (281, 24663), (296, 24687), (315, 24762), (317, 24774), (323, 24816), (328, 24849), (333, 24882), (336, 24888), (341, 24912), (347, 24924), (359, 24981), (361, 24999), (388, 25131), (393, 25155), (395, 25173), (418, 25326), (421, 25341), (423, 25356), (424, 25362), (436, 25407), (439, 25425), (442, 25437), (445, 25443), (450, 25455), (455, 25464), (470, 25518), (477, 25542), (483, 25587), (489, 25620), (492, 25626), (506, 25689), (507, 25692), (510, 25710), (513, 25731), (514, 25740),

Gene: Ohgeesy\_26 Start: 22549, Stop: 24054, Start Num: 160

Candidate Starts for Ohgeesy\_26:

(45, 22234), (78, 22342), (107, 22411), (109, 22414), (118, 22438), (Start: 121 @22444 has 7 MA's), (Start: 160 @22549 has 29 MA's), (181, 22618), (187, 22630), (222, 22741), (224, 22747), (226, 22753), (229, 22759), (248, 22846), (258, 22882), (260, 22888), (263, 22897), (333, 23191), (353, 23245), (354, 23248), (358, 23269), (365, 23314), (386, 23419), (403, 23503), (410, 23584), (411, 23587), (462, 23806), (477, 23854), (485, 23914), (499, 23947), (502, 23953), (513, 24025),

Gene: OneDirection\_23 Start: 19380, Stop: 20984, Start Num: 121

Candidate Starts for OneDirection\_23:

(Start: 121 @19380 has 7 MA's), (150, 19449), (157, 19464), (174, 19512), (206, 19602), (217, 19623), (222, 19641), (235, 19692), (240, 19713), (243, 19725), (302, 19911), (315, 19977), (316, 19980), (319, 20010), (339, 20109), (341, 20121), (347, 20133), (359, 20190), (366, 20229), (388, 20340), (396, 20391), (398, 20397), (418, 20532), (424, 20568), (436, 20613), (442, 20643), (445, 20649), (472, 20724), (477, 20748), (483, 20793), (489, 20826), (494, 20835), (507, 20898),

Gene: Orchid\_27 Start: 31352, Stop: 33037, Start Num: 91

Candidate Starts for Orchid\_27:

(Start: 91 @31352 has 5 MA's), (123, 31415), (139, 31460), (149, 31496), (161, 31526), (237, 31775), (261, 31868), (288, 31937), (306, 31994), (307, 32000), (312, 32021), (315, 32039), (325, 32102), (377, 32330), (393, 32411), (404, 32477), (416, 32588), (435, 32681), (439, 32702), (494, 32900), (503, 32933),

Gene: PantheRoc\_27 Start: 22121, Stop: 23626, Start Num: 160

Candidate Starts for PantheRoc\_27:

(78, 21914), (107, 21983), (109, 21986), (118, 22010), (Start: 121 @22016 has 7 MA's), (Start: 160 @22121 has 29 MA's), (181, 22190), (187, 22202), (222, 22313), (226, 22325), (229, 22331), (248, 22418), (258, 22454), (260, 22460), (263, 22469), (333, 22763), (353, 22817), (354, 22820), (358, 22841), (365, 22886), (386, 22991), (403, 23075), (410, 23156), (411, 23159), (462, 23378), (477, 23426), (485, 23486), (499, 23519), (502, 23525), (513, 23597),

Gene: Paries\_40 Start: 34332, Stop: 36257, Start Num: 28

Candidate Starts for Paries\_40:

(Start: 28 @34332 has 23 MA's), (54, 34467), (58, 34476), (Start: 72 @34509 has 1 MA's), (82, 34533), (114, 34602), (142, 34677), (205, 34869), (206, 34875), (217, 34896), (222, 34914), (226, 34926), (240, 34986), (254, 35040), (296, 35157), (315, 35244), (323, 35298), (331, 35352), (333, 35364), (341, 35394), (347, 35406), (358, 35451), (359, 35463), (361, 35481), (368, 35508), (381, 35586), (388, 35613), (393, 35637), (411, 35760), (417, 35802), (436, 35886), (442, 35916), (455, 35943), (470, 35997), (478, 36027), (489, 36099), (494, 36108),

Gene: PatrickStar\_27 Start: 31352, Stop: 33037, Start Num: 91

Candidate Starts for PatrickStar\_27:

(Start: 91 @31352 has 5 MA's), (123, 31415), (139, 31460), (149, 31496), (161, 31526), (237, 31775), (261, 31868), (288, 31937), (306, 31994), (307, 32000), (312, 32021), (315, 32039), (325, 32102), (377, 32330), (393, 32411), (404, 32477), (416, 32588), (435, 32681), (439, 32702), (494, 32900), (503, 32933),

Gene: Pepperoni\_25 Start: 20244, Stop: 21851, Start Num: 121

Candidate Starts for Pepperoni\_25:

(43, 20010), (44, 20025), (50, 20061), (62, 20106), (64, 20109), (Start: 121 @20244 has 7 MA's), (155, 20331), (205, 20463), (206, 20469), (217, 20490), (222, 20508), (235, 20559), (240, 20580), (243, 20592), (302, 20778), (315, 20844), (316, 20847), (319, 20877), (339, 20976), (341, 20988), (347, 21000), (359, 21057), (366, 21096), (388, 21207), (396, 21258), (398, 21264), (418, 21399), (424, 21435), (436, 21480), (442, 21510), (445, 21516), (472, 21591), (477, 21615), (479, 21624), (483, 21660), (489, 21693), (494, 21702), (507, 21765),

Gene: Periwinkle\_31 Start: 22588, Stop: 24423, Start Num: 32

Candidate Starts for Periwinkle\_31:

(Start: 32 @22588 has 22 MA's), (70, 22750), (83, 22780), (103, 22834), (114, 22849), (Start: 116 @22861 has 1 MA's), (117, 22864), (125, 22879), (126, 22882), (133, 22885), (164, 22975), (167, 22984), (168, 22987), (200, 23074), (205, 23095), (206, 23101), (217, 23122), (220, 23131), (226, 23152), (229, 23158), (262, 23260), (263, 23263), (276, 23293), (281, 23305), (296, 23329), (299, 23338), (315, 23404), (317, 23416), (323, 23458), (328, 23491), (333, 23524), (336, 23530), (341,

23554), (347, 23566), (359, 23623), (361, 23641), (388, 23773), (393, 23797), (395, 23815), (418, 23968), (421, 23983), (423, 23998), (424, 24004), (436, 24049), (439, 24067), (442, 24079), (445, 24085), (450, 24097), (455, 24106), (470, 24160), (483, 24229), (489, 24262), (492, 24268), (506, 24331), (507, 24334), (510, 24352), (513, 24373), (514, 24382),

Gene: Phabuloso\_28 Start: 21875, Stop: 23710, Start Num: 32

Candidate Starts for Phabuloso\_28:

(Start: 32 @21875 has 22 MA's), (70, 22037), (83, 22067), (103, 22121), (114, 22136), (Start: 116 @22148 has 1 MA's), (117, 22151), (125, 22166), (126, 22169), (133, 22172), (164, 22262), (167, 22271), (168, 22274), (200, 22361), (205, 22382), (206, 22388), (217, 22409), (220, 22418), (226, 22439), (229, 22445), (262, 22547), (263, 22550), (276, 22580), (281, 22592), (296, 22616), (315, 22691), (317, 22703), (323, 22745), (328, 22778), (333, 22811), (336, 22817), (341, 22841), (347, 22853), (359, 22910), (361, 22928), (388, 23060), (393, 23084), (395, 23102), (418, 23255), (421, 23270), (423, 23285), (424, 23291), (436, 23336), (439, 23354), (442, 23366), (445, 23372), (450, 23384), (455, 23393), (470, 23447), (483, 23516), (489, 23549), (492, 23555), (506, 23618), (507, 23621), (510, 23639), (513, 23660), (514, 23669),

Gene: PhaoMing\_24 Start: 21371, Stop: 23308, Start Num: 22

Candidate Starts for PhaoMing\_24:

(16, 21320), (22, 21371), (54, 21551), (59, 21563), (Start: 65 @21572 has 1 MA's), (75, 21605), (89, 21647), (97, 21659), (106, 21677), (112, 21686), (114, 21689), (115, 21698), (133, 21725), (137, 21737), (155, 21800), (170, 21833), (177, 21854), (188, 21878), (194, 21890), (200, 21914), (205, 21935), (206, 21941), (217, 21962), (220, 21971), (222, 21980), (230, 21998), (235, 22031), (240, 22052), (243, 22064), (295, 22211), (302, 22235), (315, 22301), (316, 22304), (319, 22334), (339, 22433), (341, 22445), (347, 22457), (357, 22493), (359, 22514), (364, 22547), (366, 22553), (388, 22664), (396, 22715), (398, 22721), (406, 22760), (411, 22811), (418, 22856), (424, 22892), (430, 22925), (436, 22937), (442, 22967), (445, 22973), (455, 22994), (472, 23048), (477, 23072), (481, 23090), (507, 23222),

Gene: Phendrix\_89 Start: 54539, Stop: 56233, Start Num: 71

Candidate Starts for Phendrix\_89:

(Start: 71 @54539 has 7 MA's), (77, 54557), (Start: 80 @54563 has 1 MA's), (124, 54653), (127, 54659), (130, 54662), (140, 54683), (194, 54836), (195, 54839), (204, 54878), (234, 54974), (235, 54977), (243, 55010), (278, 55115), (300, 55166), (315, 55241), (323, 55295), (329, 55331), (340, 55373), (343, 55388), (388, 55598), (393, 55622), (411, 55754), (423, 55826), (425, 55844), (443, 55916), (457, 55949), (459, 55955), (461, 55973),

Gene: Phistory\_30 Start: 22909, Stop: 24744, Start Num: 32

Candidate Starts for Phistory\_30:

(Start: 32 @22909 has 22 MA's), (70, 23071), (83, 23101), (103, 23155), (114, 23170), (Start: 116 @23182 has 1 MA's), (117, 23185), (125, 23200), (126, 23203), (133, 23206), (164, 23296), (167, 23305), (168, 23308), (200, 23395), (205, 23416), (206, 23422), (217, 23443), (220, 23452), (226, 23473), (229, 23479), (262, 23581), (263, 23584), (276, 23614), (281, 23626), (296, 23650), (299, 23659), (315, 23725), (317, 23737), (323, 23779), (328, 23812), (333, 23845), (336, 23851), (341, 23875), (347, 23887), (359, 23944), (361, 23962), (388, 24094), (393, 24118), (395, 24136), (418, 24289), (421, 24304), (423, 24319), (424, 24325), (436, 24370), (439, 24388), (442, 24400), (445, 24406), (450, 24418), (455, 24427), (470, 24481), (483, 24550), (489, 24583), (492, 24589), (506, 24652), (507, 24655), (510, 24673), (513, 24694), (514, 24703),

Gene: Phlop\_33 Start: 28304, Stop: 30226, Start Num: 26

Candidate Starts for Phlop\_33:

(Start: 26 @28304 has 17 MA's), (Start: 51 @28427 has 2 MA's), (55, 28448), (74, 28496), (Start: 122 @28604 has 1 MA's), (Start: 135 @28625 has 1 MA's), (164, 28706), (174, 28742), (177, 28745), (204,

28823), (205, 28826), (206, 28832), (217, 28853), (226, 28883), (229, 28889), (261, 29024), (289, 29111), (296, 29120), (298, 29126), (300, 29132), (315, 29207), (319, 29240), (323, 29261), (336, 29333), (341, 29357), (347, 29369), (359, 29426), (388, 29576), (393, 29600), (418, 29768), (421, 29783), (442, 29879), (477, 29990), (482, 30026),

Gene: PhorbesPhlower\_25 Start: 20143, Stop: 21978, Start Num: 38

Candidate Starts for PhorbesPhlower\_25:

(Start: 38 @20143 has 3 MA's), (Start: 72 @20287 has 1 MA's), (75, 20299), (88, 20332), (90, 20338), (106, 20362), (114, 20374), (138, 20419), (148, 20449), (151, 20455), (205, 20599), (206, 20605), (222, 20644), (226, 20656), (229, 20662), (240, 20716), (315, 20971), (316, 20974), (323, 21025), (329, 21061), (333, 21091), (336, 21097), (341, 21121), (347, 21133), (359, 21190), (361, 21208), (388, 21340), (389, 21346), (393, 21364), (418, 21532), (436, 21613), (448, 21655), (455, 21670), (477, 21751), (482, 21787), (505, 21886),

Gene: Pickett\_24 Start: 19332, Stop: 20870, Start Num: 122

Candidate Starts for Pickett\_24:

(Start: 122 @19332 has 1 MA's), (150, 19401), (157, 19416), (162, 19422), (174, 19464), (206, 19554), (217, 19575), (226, 19605), (262, 19713), (263, 19716), (276, 19746), (281, 19758), (303, 19797), (317, 19869), (319, 19890), (323, 19911), (341, 20007), (347, 20019), (359, 20076), (361, 20094), (363, 20100), (371, 20133), (388, 20226), (393, 20250), (417, 20415), (418, 20418), (483, 20679), (513, 20823),

Gene: Pollux\_28 Start: 22623, Stop: 24575, Start Num: 19

Candidate Starts for Pollux\_28:

(1, 22335), (2, 22392), (4, 22407), (6, 22443), (7, 22488), (8, 22491), (Start: 19 @22623 has 8 MA's), (Start: 23 @22638 has 1 MA's), (27, 22677), (29, 22680), (93, 22908), (111, 22935), (Start: 116 @22950 has 1 MA's), (205, 23184), (206, 23190), (213, 23202), (235, 23280), (240, 23301), (272, 23421), (290, 23463), (315, 23556), (317, 23568), (323, 23610), (341, 23700), (347, 23712), (359, 23769), (364, 23802), (372, 23835), (382, 23895), (388, 23919), (392, 23937), (418, 24111), (419, 24117), (427, 24165), (483, 24387), (504, 24468), (506, 24489),

Gene: Polly\_25 Start: 22366, Stop: 23871, Start Num: 160

Candidate Starts for Polly\_25:

(Start: 160 @22366 has 29 MA's), (181, 22435), (187, 22447), (222, 22558), (226, 22570), (229, 22576), (248, 22663), (258, 22699), (260, 22705), (263, 22714), (333, 23008), (353, 23062), (354, 23065), (358, 23086), (365, 23131), (386, 23236), (403, 23320), (410, 23401), (411, 23404), (432, 23527), (462, 23623), (477, 23671), (485, 23731), (499, 23764), (502, 23770), (513, 23842),

Gene: Powerball\_24 Start: 20546, Stop: 22255, Start Num: 81

Candidate Starts for Powerball\_24:

(Start: 81 @20546 has 4 MA's), (99, 20594), (102, 20603), (155, 20729), (162, 20738), (164, 20744), (168, 20756), (170, 20762), (174, 20780), (177, 20783), (204, 20861), (205, 20864), (206, 20870), (217, 20891), (222, 20909), (226, 20921), (241, 20987), (246, 21002), (259, 21059), (277, 21113), (280, 21119), (298, 21170), (300, 21176), (302, 21185), (309, 21221), (315, 21251), (316, 21254), (323, 21305), (330, 21341), (331, 21359), (341, 21392), (342, 21395), (358, 21449), (359, 21461), (361, 21479), (388, 21611), (393, 21635), (407, 21716), (417, 21800), (418, 21803), (421, 21818), (422, 21830), (423, 21833), (425, 21851), (442, 21914), (445, 21920), (477, 22022), (503, 22136), (506, 22163),

Gene: PullumCavea\_33 Start: 28304, Stop: 30226, Start Num: 26

Candidate Starts for PullumCavea\_33:

(Start: 26 @28304 has 17 MA's), (Start: 51 @28427 has 2 MA's), (55, 28448), (74, 28496), (Start: 122 @28604 has 1 MA's), (Start: 135 @28625 has 1 MA's), (164, 28706), (174, 28742), (177, 28745), (204,

28823), (205, 28826), (206, 28832), (217, 28853), (226, 28883), (229, 28889), (261, 29024), (289, 29111), (296, 29120), (298, 29126), (300, 29132), (315, 29207), (319, 29240), (323, 29261), (336, 29333), (341, 29357), (347, 29369), (359, 29426), (388, 29576), (393, 29600), (418, 29768), (421, 29783), (442, 29879), (477, 29990), (482, 30026),

Gene: Rabbitrun\_32 Start: 25825, Stop: 27402, Start Num: 87

Candidate Starts for Rabbitrun\_32:

(Start: 85 @25816 has 5 MA's), (Start: 87 @25825 has 1 MA's), (98, 25846), (114, 25873), (166, 26017), (167, 26020), (175, 26044), (204, 26119), (205, 26122), (217, 26149), (226, 26179), (229, 26185), (235, 26218), (239, 26236), (257, 26266), (285, 26314), (286, 26317), (291, 26332), (295, 26338), (309, 26383), (316, 26416), (325, 26476), (329, 26503), (345, 26563), (347, 26566), (358, 26608), (359, 26620), (362, 26641), (363, 26644), (364, 26653), (371, 26677), (388, 26770), (389, 26776), (394, 26800), (395, 26812), (397, 26824), (411, 26917), (413, 26938), (418, 26962), (421, 26977), (424, 26998), (427, 27016), (436, 27043), (437, 27049), (439, 27061), (445, 27079), (458, 27124), (468, 27163), (477, 27196), (485, 27244), (496, 27277), (501, 27295), (507, 27331), (513, 27367), (517, 27391),

Gene: Reyja\_26 Start: 19864, Stop: 21561, Start Num: 69

Candidate Starts for Reyja\_26:

(Start: 69 @19864 has 2 MA's), (117, 19963), (155, 20059), (164, 20074), (205, 20194), (206, 20200), (217, 20221), (230, 20257), (235, 20290), (240, 20311), (252, 20359), (274, 20428), (295, 20464), (296, 20467), (315, 20548), (323, 20602), (339, 20683), (341, 20695), (347, 20707), (357, 20743), (359, 20764), (361, 20782), (364, 20797), (388, 20914), (393, 20938), (418, 21109), (439, 21226), (442, 21238), (445, 21244), (455, 21265), (492, 21412), (501, 21442), (508, 21481),

Gene: Ribeye\_37 Start: 33113, Stop: 34834, Start Num: 67

Candidate Starts for Ribeye\_37:

(Start: 67 @33113 has 30 MA's), (119, 33236), (125, 33248), (145, 33314), (172, 33383), (184, 33419), (253, 33644), (265, 33683), (287, 33743), (301, 33788), (313, 33848), (338, 33983), (340, 33989), (353, 34031), (357, 34046), (360, 34082), (367, 34103), (386, 34202), (403, 34286), (407, 34319), (411, 34364), (412, 34367), (418, 34403), (424, 34439), (425, 34451), (431, 34487), (441, 34523), (460, 34577),

Gene: RiverRaider\_37 Start: 31407, Stop: 33125, Start Num: 67

Candidate Starts for RiverRaider\_37:

(Start: 67 @31407 has 30 MA's), (125, 31542), (145, 31608), (172, 31677), (184, 31713), (198, 31752), (233, 31866), (253, 31938), (265, 31977), (267, 31986), (289, 32052), (291, 32058), (333, 32271), (338, 32277), (340, 32283), (353, 32325), (357, 32340), (358, 32349), (386, 32493), (392, 32520), (403, 32577), (409, 32634), (411, 32655), (418, 32694), (424, 32730), (425, 32742), (428, 32757), (429, 32772), (460, 32868),

Gene: RobinSparkles\_30 Start: 32266, Stop: 33954, Start Num: 91

Candidate Starts for RobinSparkles\_30:

(Start: 91 @32266 has 5 MA's), (123, 32329), (149, 32410), (161, 32440), (254, 32755), (306, 32911), (307, 32917), (312, 32938), (315, 32956), (325, 33019), (377, 33247), (390, 33316), (393, 33328), (404, 33394), (416, 33505), (435, 33598), (439, 33619), (494, 33817), (503, 33850),

Gene: Rofo\_38 Start: 33730, Stop: 35583, Start Num: 28

Candidate Starts for Rofo\_38:

(Start: 28 @33730 has 23 MA's), (54, 33865), (58, 33874), (Start: 72 @33907 has 1 MA's), (82, 33931), (114, 34000), (125, 34030), (142, 34075), (205, 34267), (206, 34273), (217, 34294), (222, 34312), (226, 34324), (240, 34384), (273, 34450), (315, 34570), (319, 34603), (333, 34690), (341, 34720), (347, 34732), (358, 34777), (359, 34789), (361, 34807), (364, 34822), (371, 34846), (381, 34912),

(388, 34939), (393, 34963), (411, 35086), (417, 35128), (436, 35212), (442, 35242), (455, 35269), (470, 35323), (478, 35353), (489, 35425), (494, 35434),

Gene: Sahara\_24 Start: 20177, Stop: 21700, Start Num: 165

Candidate Starts for Sahara\_24:

(Start: 165 @20177 has 19 MA's), (196, 20249), (199, 20261), (207, 20288), (218, 20312), (249, 20432), (251, 20441), (269, 20507), (307, 20621), (316, 20663), (319, 20693), (325, 20723), (339, 20789), (347, 20813), (354, 20837), (358, 20855), (359, 20867), (361, 20885), (364, 20900), (366, 20906), (376, 20957), (380, 20984), (393, 21035), (415, 21203), (445, 21341), (452, 21362), (453, 21365), (455, 21377), (464, 21416), (494, 21563), (506, 21623), (507, 21626),

Gene: Salvador\_33 Start: 28218, Stop: 30140, Start Num: 26

Candidate Starts for Salvador\_33:

(Start: 26 @28218 has 17 MA's), (Start: 51 @28341 has 2 MA's), (55, 28362), (74, 28410), (Start: 122 @28518 has 1 MA's), (Start: 135 @28539 has 1 MA's), (164, 28620), (174, 28656), (177, 28659), (204, 28737), (205, 28740), (206, 28746), (217, 28767), (226, 28797), (229, 28803), (261, 28938), (289, 29025), (296, 29034), (298, 29040), (300, 29046), (319, 29154), (323, 29175), (336, 29247), (341, 29271), (347, 29283), (359, 29340), (388, 29490), (393, 29514), (418, 29682), (421, 29697), (442, 29793), (477, 29904), (482, 29940),

Gene: Sanjuju\_35 Start: 33293, Stop: 35014, Start Num: 67

Candidate Starts for Sanjuju\_35:

(Start: 67 @33293 has 30 MA's), (125, 33428), (131, 33437), (139, 33470), (145, 33494), (172, 33563), (198, 33638), (253, 33824), (265, 33863), (267, 33872), (291, 33944), (301, 33968), (316, 34040), (330, 34127), (338, 34163), (340, 34169), (353, 34211), (357, 34226), (358, 34235), (386, 34382), (403, 34466), (407, 34499), (412, 34547), (423, 34613), (424, 34619), (425, 34631), (429, 34661), (431, 34667), (441, 34703), (444, 34712), (460, 34757),

Gene: Santhid\_25 Start: 19699, Stop: 21399, Start Num: 71

Candidate Starts for Santhid\_25:

(Start: 71 @19699 has 7 MA's), (117, 19798), (155, 19894), (164, 19909), (166, 19915), (204, 20026), (205, 20029), (206, 20035), (217, 20056), (222, 20074), (230, 20092), (235, 20125), (240, 20146), (252, 20194), (274, 20263), (295, 20299), (296, 20302), (315, 20383), (317, 20395), (323, 20437), (339, 20518), (340, 20521), (341, 20530), (347, 20542), (357, 20578), (359, 20599), (361, 20617), (364, 20632), (388, 20749), (393, 20773), (418, 20944), (436, 21043), (439, 21061), (442, 21073), (445, 21079), (455, 21100), (501, 21277), (508, 21316),

Gene: Saronaya\_36 Start: 31956, Stop: 33677, Start Num: 67

Candidate Starts for Saronaya\_36:

(Start: 67 @31956 has 30 MA's), (119, 32079), (125, 32091), (145, 32157), (172, 32226), (184, 32262), (198, 32301), (253, 32487), (265, 32526), (287, 32586), (301, 32631), (313, 32691), (338, 32826), (340, 32832), (353, 32874), (357, 32889), (360, 32925), (367, 32946), (386, 33045), (403, 33129), (407, 33162), (411, 33207), (412, 33210), (418, 33246), (424, 33282), (425, 33294), (431, 33330), (441, 33366), (460, 33420),

Gene: Savage\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Savage\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: Savbucketdawg\_33 Start: 27999, Stop: 29921, Start Num: 26

Candidate Starts for Savbucketdawg\_33:

(Start: 26 @27999 has 17 MA's), (Start: 51 @28122 has 2 MA's), (55, 28143), (74, 28191), (Start: 122 @28299 has 1 MA's), (Start: 135 @28320 has 1 MA's), (164, 28401), (174, 28437), (177, 28440), (204, 28518), (205, 28521), (206, 28527), (217, 28548), (226, 28578), (229, 28584), (261, 28719), (289, 28806), (296, 28815), (298, 28821), (300, 28827), (315, 28902), (319, 28935), (323, 28956), (336, 29028), (341, 29052), (347, 29064), (359, 29121), (388, 29271), (393, 29295), (418, 29463), (421, 29478), (442, 29574), (477, 29685), (482, 29721),

Gene: Schmidt\_27 Start: 20153, Stop: 21607, Start Num: 178

Candidate Starts for Schmidt\_27:

(Start: 178 @20153 has 1 MA's), (183, 20165), (202, 20222), (208, 20240), (229, 20294), (243, 20360), (246, 20369), (258, 20420), (294, 20525), (297, 20534), (302, 20552), (304, 20567), (309, 20588), (315, 20618), (320, 20660), (323, 20672), (326, 20684), (327, 20693), (332, 20732), (343, 20762), (353, 20783), (358, 20807), (376, 20906), (387, 20963), (388, 20966), (420, 21170), (432, 21242), (440, 21275), (450, 21302), (457, 21314), (461, 21338), (467, 21353), (476, 21386), (506, 21524),

Gene: SchottB\_35 Start: 32971, Stop: 34692, Start Num: 67

Candidate Starts for SchottB\_35:

(Start: 67 @32971 has 30 MA's), (119, 33094), (125, 33106), (145, 33172), (172, 33241), (184, 33277), (253, 33502), (265, 33541), (287, 33601), (301, 33646), (313, 33706), (338, 33841), (340, 33847), (353, 33889), (357, 33904), (360, 33940), (367, 33961), (386, 34060), (403, 34144), (407, 34177), (411, 34222), (412, 34225), (418, 34261), (424, 34297), (425, 34309), (431, 34345), (441, 34381), (460, 34435),

Gene: Sedona\_38 Start: 34836, Stop: 36758, Start Num: 28

Candidate Starts for Sedona\_38:

(Start: 28 @34836 has 23 MA's), (54, 34971), (58, 34980), (Start: 72 @35013 has 1 MA's), (82, 35037), (114, 35106), (142, 35181), (205, 35373), (206, 35379), (217, 35400), (222, 35418), (226, 35430), (240, 35490), (254, 35544), (296, 35658), (315, 35745), (323, 35799), (333, 35865), (341, 35895), (347, 35907), (358, 35952), (359, 35964), (361, 35982), (368, 36009), (381, 36087), (388, 36114), (393, 36138), (411, 36261), (417, 36303), (436, 36387), (442, 36417), (455, 36444), (470, 36498), (478, 36528), (489, 36600), (494, 36609),

Gene: Sendy\_34 Start: 28424, Stop: 30346, Start Num: 26

Candidate Starts for Sendy\_34:

(Start: 26 @28424 has 17 MA's), (Start: 51 @28547 has 2 MA's), (55, 28568), (74, 28616), (Start: 122 @28724 has 1 MA's), (Start: 135 @28745 has 1 MA's), (164, 28826), (174, 28862), (177, 28865), (204, 28943), (205, 28946), (206, 28952), (217, 28973), (226, 29003), (229, 29009), (261, 29144), (289, 29231), (296, 29240), (298, 29246), (300, 29252), (315, 29327), (319, 29360), (323, 29381), (336, 29453), (341, 29477), (347, 29489), (359, 29546), (388, 29696), (393, 29720), (418, 29888), (421, 29903), (442, 29999), (477, 30110), (482, 30146),

Gene: Sephiroth\_30 Start: 24175, Stop: 25827, Start Num: 85

Candidate Starts for Sephiroth\_30:

(Start: 85 @24175 has 5 MA's), (157, 24349), (162, 24355), (163, 24358), (168, 24373), (185, 24415), (191, 24427), (204, 24469), (205, 24472), (206, 24478), (213, 24490), (217, 24499), (222, 24517), (226, 24529), (229, 24535), (243, 24601), (247, 24616), (248, 24622), (293, 24757), (302, 24784), (303, 24790), (319, 24883), (347, 25003), (358, 25045), (359, 25057), (388, 25207), (393, 25231), (395, 25249), (407, 25312), (418, 25399), (421, 25414), (424, 25435), (436, 25480), (439, 25498), (446, 25519), (458, 25561), (463, 25585), (477, 25633), (496, 25708), (506, 25759), (516, 25822),

Gene: ShawBrad\_29 Start: 22131, Stop: 23966, Start Num: 32

Candidate Starts for ShawBrad\_29:

(Start: 32 @22131 has 22 MA's), (70, 22293), (83, 22323), (103, 22377), (114, 22392), (Start: 116 @22404 has 1 MA's), (117, 22407), (125, 22422), (126, 22425), (133, 22428), (164, 22518), (167, 22527), (168, 22530), (200, 22617), (205, 22638), (206, 22644), (217, 22665), (220, 22674), (226, 22695), (229, 22701), (262, 22803), (263, 22806), (276, 22836), (281, 22848), (296, 22872), (315, 22947), (317, 22959), (323, 23001), (328, 23034), (333, 23067), (336, 23073), (341, 23097), (347, 23109), (359, 23166), (361, 23184), (388, 23316), (393, 23340), (395, 23358), (418, 23511), (421, 23526), (423, 23541), (424, 23547), (436, 23592), (439, 23610), (442, 23622), (445, 23628), (450, 23640), (455, 23649), (470, 23703), (477, 23727), (483, 23772), (489, 23805), (492, 23811), (506, 23874), (507, 23877), (510, 23895), (513, 23916), (514, 23925),

Gene: Shivanishola\_38 Start: 33192, Stop: 35114, Start Num: 28

Candidate Starts for Shivanishola\_38:

(Start: 28 @33192 has 23 MA's), (54, 33327), (58, 33336), (Start: 72 @33369 has 1 MA's), (82, 33393), (114, 33462), (125, 33492), (142, 33537), (205, 33729), (206, 33735), (217, 33756), (222, 33774), (226, 33786), (240, 33846), (254, 33900), (296, 34014), (315, 34101), (323, 34155), (333, 34221), (341, 34251), (347, 34263), (358, 34308), (359, 34320), (361, 34338), (368, 34365), (381, 34443), (388, 34470), (393, 34494), (411, 34617), (417, 34659), (436, 34743), (442, 34773), (470, 34854), (478, 34884), (489, 34956), (494, 34965),

Gene: Sidious\_27 Start: 22956, Stop: 24578, Start Num: 135

Candidate Starts for Sidious\_27:

(61, 22788), (Start: 135 @22956 has 1 MA's), (158, 23034), (197, 23130), (201, 23148), (207, 23166), (219, 23193), (226, 23217), (249, 23310), (307, 23499), (316, 23541), (319, 23571), (325, 23601), (339, 23667), (347, 23691), (354, 23715), (359, 23745), (364, 23778), (366, 23784), (375, 23832), (376, 23835), (380, 23862), (393, 23913), (415, 24081), (423, 24123), (435, 24180), (445, 24219), (452, 24240), (453, 24243), (455, 24255), (464, 24294), (475, 24333), (484, 24402), (507, 24504),

Gene: Sitar\_38 Start: 34887, Stop: 36809, Start Num: 28

Candidate Starts for Sitar\_38:

(Start: 28 @34887 has 23 MA's), (54, 35022), (58, 35031), (Start: 72 @35064 has 1 MA's), (82, 35088), (114, 35157), (142, 35232), (205, 35424), (206, 35430), (217, 35451), (222, 35469), (226, 35481), (240, 35541), (254, 35595), (296, 35709), (315, 35796), (323, 35850), (331, 35904), (333, 35916), (341, 35946), (347, 35958), (358, 36003), (359, 36015), (361, 36033), (368, 36060), (381, 36138), (388, 36165), (393, 36189), (411, 36312), (417, 36354), (436, 36438), (442, 36468), (470, 36549), (478, 36579), (489, 36651), (494, 36660),

Gene: Sixama\_102 Start: 61915, Stop: 63603, Start Num: 72

Candidate Starts for Sixama\_102:

(60, 61888), (Start: 65 @61894 has 1 MA's), (68, 61909), (Start: 72 @61915 has 1 MA's), (Start: 86 @61957 has 1 MA's), (127, 62032), (130, 62035), (140, 62056), (143, 62068), (203, 62248), (222, 62299), (234, 62347), (300, 62539), (388, 62971), (393, 62995), (419, 63175), (420, 63178), (423, 63199), (448, 63298), (473, 63376), (487, 63457),

Gene: SmokingBunny\_33 Start: 28209, Stop: 30131, Start Num: 26

Candidate Starts for SmokingBunny\_33:

(Start: 26 @28209 has 17 MA's), (Start: 51 @28332 has 2 MA's), (55, 28353), (74, 28401), (Start: 122 @28509 has 1 MA's), (Start: 135 @28530 has 1 MA's), (164, 28611), (174, 28647), (177, 28650), (204, 28728), (205, 28731), (206, 28737), (217, 28758), (226, 28788), (229, 28794), (261, 28929), (289, 29016), (296, 29025), (298, 29031), (300, 29037), (315, 29112), (319, 29145), (323, 29166), (336, 29238), (341, 29262), (347, 29274), (359, 29331), (388, 29481), (393, 29505), (418, 29673), (421, 29688), (442, 29784), (477, 29895), (482, 29931),

Gene: SoilAssassin\_25 Start: 20498, Stop: 22021, Start Num: 165

Candidate Starts for SoilAssassin\_25:

(Start: 165 @20498 has 19 MA's), (196, 20570), (199, 20582), (207, 20609), (218, 20633), (249, 20753), (251, 20762), (269, 20828), (307, 20942), (316, 20984), (319, 21014), (325, 21044), (339, 21110), (347, 21134), (354, 21158), (358, 21176), (359, 21188), (361, 21206), (364, 21221), (366, 21227), (376, 21278), (380, 21305), (393, 21356), (415, 21524), (420, 21545), (435, 21623), (445, 21662), (452, 21683), (453, 21686), (455, 21698), (464, 21737), (494, 21884), (506, 21944), (507, 21947),

Gene: Spooky\_29 Start: 22210, Stop: 24102, Start Num: 25

Candidate Starts for Spooky\_29:

(Start: 25 @22210 has 2 MA's), (58, 22372), (Start: 72 @22402 has 1 MA's), (Start: 116 @22483 has 1 MA's), (117, 22486), (125, 22501), (126, 22504), (156, 22582), (167, 22606), (200, 22696), (206, 22723), (217, 22744), (222, 22762), (226, 22774), (240, 22834), (254, 22888), (296, 23002), (303, 23029), (315, 23089), (316, 23092), (319, 23122), (341, 23239), (347, 23251), (359, 23308), (361, 23326), (388, 23458), (393, 23482), (398, 23515), (417, 23647), (418, 23650), (436, 23731), (442, 23761), (470, 23842), (494, 23953), (505, 24007),

Gene: Sproutie\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Sproutie\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: Squiddly\_31 Start: 23622, Stop: 25514, Start Num: 25

Candidate Starts for Squiddly\_31:

(Start: 25 @23622 has 2 MA's), (58, 23784), (Start: 72 @23814 has 1 MA's), (Start: 116 @23895 has 1 MA's), (117, 23898), (125, 23913), (126, 23916), (156, 23994), (167, 24018), (200, 24108), (206, 24135), (217, 24156), (222, 24174), (226, 24186), (240, 24246), (254, 24300), (296, 24414), (303, 24441), (315, 24501), (316, 24504), (319, 24534), (341, 24651), (347, 24663), (359, 24720), (361, 24738), (388, 24870), (393, 24894), (398, 24927), (417, 25059), (418, 25062), (436, 25143), (442, 25173), (470, 25254), (494, 25365), (505, 25419),

Gene: Stichling\_34 Start: 31491, Stop: 33212, Start Num: 67

Candidate Starts for Stichling\_34:

(Start: 67 @31491 has 30 MA's), (119, 31614), (125, 31626), (145, 31692), (172, 31761), (184, 31797), (253, 32022), (265, 32061), (287, 32121), (301, 32166), (313, 32226), (338, 32361), (340, 32367), (353, 32409), (357, 32424), (360, 32460), (367, 32481), (386, 32580), (403, 32664), (407, 32697), (411, 32742), (412, 32745), (418, 32781), (424, 32817), (425, 32829), (431, 32865), (441, 32901), (460, 32955),

Gene: StorminNorm\_36 Start: 31838, Stop: 33559, Start Num: 67

Candidate Starts for StorminNorm\_36:

(Start: 67 @31838 has 30 MA's), (119, 31961), (125, 31973), (145, 32039), (172, 32108), (184, 32144), (253, 32369), (265, 32408), (287, 32468), (301, 32513), (313, 32573), (338, 32708), (340, 32714), (353, 32756), (357, 32771), (360, 32807), (367, 32828), (386, 32927), (403, 33011), (407, 33044), (411, 33089), (412, 33092), (418, 33128), (424, 33164), (425, 33176), (431, 33212), (441, 33248), (460, 33302),

Gene: Stultus\_35 Start: 32209, Stop: 33930, Start Num: 67

Candidate Starts for Stultus\_35:

(Start: 67 @32209 has 30 MA's), (125, 32344), (131, 32353), (139, 32386), (145, 32410), (172, 32479), (198, 32554), (253, 32740), (265, 32779), (267, 32788), (271, 32803), (291, 32860), (301, 32884), (316, 32956), (330, 33043), (338, 33079), (340, 33085), (353, 33127), (357, 33142), (358, 33151), (386, 33298), (403, 33382), (407, 33415), (412, 33463), (423, 33529), (424, 33535), (425, 33547), (429, 33577), (431, 33583), (441, 33619), (444, 33628), (460, 33673),

Gene: Suerte\_24 Start: 21509, Stop: 23182, Start Num: 81

Candidate Starts for Suerte\_24:

(37, 21338), (40, 21341), (Start: 81 @21509 has 4 MA's), (96, 21551), (102, 21566), (115, 21590), (168, 21719), (200, 21806), (205, 21827), (217, 21854), (220, 21863), (226, 21884), (229, 21890), (240, 21944), (315, 22187), (341, 22331), (347, 22343), (351, 22358), (357, 22379), (358, 22388), (359, 22400), (388, 22550), (397, 22604), (418, 22742), (421, 22757), (442, 22853), (500, 23060),

Gene: Suscepit\_28 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Suscepit\_28:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: SushiChef\_28 Start: 23125, Stop: 24630, Start Num: 160

Candidate Starts for SushiChef\_28:

(78, 22918), (107, 22987), (109, 22990), (118, 23014), (Start: 121 @23020 has 7 MA's), (Start: 160 @23125 has 29 MA's), (181, 23194), (187, 23206), (222, 23317), (224, 23323), (226, 23329), (229, 23335), (248, 23422), (258, 23458), (260, 23464), (263, 23473), (333, 23767), (353, 23821), (354, 23824), (358, 23845), (365, 23890), (386, 23995), (403, 24079), (410, 24160), (411, 24163), (462, 24382), (477, 24430), (485, 24490), (499, 24523), (502, 24529), (513, 24601),

Gene: Syleon\_30 Start: 24097, Stop: 25749, Start Num: 85

Candidate Starts for Syleon\_30:

(Start: 85 @24097 has 5 MA's), (157, 24271), (162, 24277), (163, 24280), (168, 24295), (185, 24337), (191, 24349), (204, 24391), (205, 24394), (206, 24400), (213, 24412), (217, 24421), (222, 24439), (226, 24451), (229, 24457), (243, 24523), (247, 24538), (248, 24544), (293, 24679), (302, 24706), (303, 24712), (319, 24805), (347, 24925), (358, 24967), (359, 24979), (388, 25129), (393, 25153), (395, 25171), (407, 25234), (418, 25321), (421, 25336), (436, 25402), (439, 25420), (446, 25441), (458, 25483), (463, 25507), (477, 25555), (496, 25630), (506, 25681), (516, 25744),

Gene: Tangent\_38 Start: 33252, Stop: 35174, Start Num: 28

Candidate Starts for Tangent\_38:

(Start: 28 @33252 has 23 MA's), (54, 33387), (58, 33396), (Start: 72 @33429 has 1 MA's), (82, 33453), (114, 33522), (125, 33552), (142, 33597), (205, 33789), (206, 33795), (217, 33816), (222, 33834), (226, 33846), (240, 33906), (254, 33960), (296, 34074), (315, 34161), (323, 34215), (333, 34281), (341, 34311), (347, 34323), (358, 34368), (359, 34380), (361, 34398), (368, 34425), (381, 34503), (388, 34530), (393, 34554), (411, 34677), (417, 34719), (436, 34803), (442, 34833), (455, 34860), (470, 34914), (478, 34944), (489, 35016), (494, 35025),

Gene: Tangerine\_36 Start: 31841, Stop: 33562, Start Num: 67

Candidate Starts for Tangerine\_36:

(Start: 67 @31841 has 30 MA's), (119, 31964), (125, 31976), (145, 32042), (172, 32111), (184, 32147), (198, 32186), (253, 32372), (265, 32411), (287, 32471), (301, 32516), (313, 32576), (338, 32711), (340, 32717), (353, 32759), (357, 32774), (360, 32810), (367, 32831), (386, 32930), (403, 33014),

(407, 33047), (411, 33092), (412, 33095), (418, 33131), (424, 33167), (425, 33179), (431, 33215), (441, 33251), (460, 33305),

Gene: Tarzan\_25 Start: 19667, Stop: 21313, Start Num: 73

Candidate Starts for Tarzan\_25:

(Start: 73 @19667 has 1 MA's), (117, 19766), (156, 19862), (164, 19877), (206, 20003), (217, 20024), (226, 20054), (273, 20180), (315, 20300), (316, 20303), (317, 20312), (323, 20354), (325, 20363), (333, 20420), (337, 20432), (341, 20450), (347, 20462), (359, 20519), (367, 20561), (371, 20576), (388, 20669), (393, 20693), (395, 20711), (411, 20819), (418, 20864), (442, 20975), (445, 20981), (455, 21002), (466, 21044), (477, 21080), (483, 21125), (507, 21230),

Gene: Tayonia\_28 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Tayonia\_28:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: ThankyouJordi\_25 Start: 22901, Stop: 24409, Start Num: 160

Candidate Starts for ThankyouJordi\_25:

(45, 22586), (78, 22694), (107, 22763), (109, 22766), (118, 22790), (Start: 121 @22796 has 7 MA's), (Start: 160 @22901 has 29 MA's), (186, 22979), (187, 22982), (216, 23072), (228, 23108), (229, 23111), (258, 23234), (260, 23240), (263, 23249), (324, 23480), (332, 23543), (333, 23546), (344, 23573), (353, 23600), (354, 23603), (370, 23684), (386, 23774), (411, 23942), (424, 24017), (426, 24032), (462, 24161), (482, 24245), (502, 24308), (513, 24380),

Gene: Thimann\_26 Start: 21977, Stop: 23650, Start Num: 81

Candidate Starts for Thimann\_26:

(37, 21806), (40, 21809), (Start: 81 @21977 has 4 MA's), (96, 22019), (102, 22034), (115, 22058), (168, 22187), (200, 22274), (205, 22295), (217, 22322), (220, 22331), (226, 22352), (229, 22358), (240, 22412), (315, 22655), (341, 22799), (347, 22811), (351, 22826), (357, 22847), (358, 22856), (359, 22868), (388, 23018), (397, 23072), (418, 23210), (421, 23225), (442, 23321), (500, 23528),

Gene: Thing3\_36 Start: 33130, Stop: 35052, Start Num: 28

Candidate Starts for Thing3\_36:

(Start: 28 @33130 has 23 MA's), (54, 33265), (58, 33274), (Start: 72 @33307 has 1 MA's), (82, 33331), (114, 33400), (142, 33475), (205, 33667), (206, 33673), (217, 33694), (222, 33712), (226, 33724), (240, 33784), (254, 33838), (296, 33952), (315, 34039), (323, 34093), (331, 34147), (333, 34159), (341, 34189), (347, 34201), (358, 34246), (359, 34258), (361, 34276), (368, 34303), (381, 34381), (388, 34408), (393, 34432), (411, 34555), (417, 34597), (436, 34681), (442, 34711), (455, 34738), (470, 34792), (478, 34822), (489, 34894), (494, 34903),

Gene: TillyBobJoe\_33 Start: 28008, Stop: 29942, Start Num: 26

Candidate Starts for TillyBobJoe\_33:

(Start: 26 @28008 has 17 MA's), (Start: 51 @28131 has 2 MA's), (55, 28152), (74, 28200), (Start: 122 @28308 has 1 MA's), (Start: 135 @28329 has 1 MA's), (164, 28410), (174, 28446), (177, 28449), (204, 28527), (205, 28530), (206, 28536), (217, 28557), (226, 28587), (229, 28593), (261, 28728), (289, 28815), (296, 28824), (298, 28830), (300, 28836), (315, 28911), (319, 28944), (323, 28965), (336, 29037), (341, 29061), (347, 29073), (359, 29130), (388, 29280), (393, 29304), (418, 29472), (421, 29487), (442, 29583), (477, 29694), (482, 29730),

Gene: TimTam\_26 Start: 22926, Stop: 24431, Start Num: 160

Candidate Starts for TimTam\_26:

(45, 22611), (78, 22719), (107, 22788), (109, 22791), (118, 22815), (Start: 121 @22821 has 7 MA's), (Start: 160 @22926 has 29 MA's), (181, 22995), (187, 23007), (222, 23118), (224, 23124), (226, 23130), (229, 23136), (248, 23223), (258, 23259), (260, 23265), (263, 23274), (333, 23568), (353, 23622), (354, 23625), (358, 23646), (365, 23691), (386, 23796), (403, 23880), (410, 23961), (411, 23964), (462, 24183), (477, 24231), (485, 24291), (499, 24324), (502, 24330), (513, 24402),

Gene: TinyDot\_26 Start: 19859, Stop: 21466, Start Num: 121

Candidate Starts for TinyDot\_26:

(Start: 121 @19859 has 7 MA's), (150, 19928), (157, 19943), (162, 19949), (174, 19991), (205, 20075), (206, 20081), (217, 20102), (222, 20120), (235, 20171), (240, 20192), (243, 20204), (302, 20390), (315, 20456), (316, 20459), (319, 20489), (331, 20567), (339, 20588), (341, 20600), (347, 20612), (359, 20669), (366, 20708), (388, 20819), (398, 20876), (406, 20915), (418, 21011), (424, 21047), (436, 21092), (445, 21128), (472, 21203), (477, 21227), (483, 21272), (489, 21305), (494, 21314), (507, 21377),

Gene: Togo\_33 Start: 28209, Stop: 30131, Start Num: 26

Candidate Starts for Togo\_33:

(Start: 26 @28209 has 17 MA's), (Start: 51 @28332 has 2 MA's), (55, 28353), (74, 28401), (Start: 122 @28509 has 1 MA's), (Start: 135 @28530 has 1 MA's), (164, 28611), (174, 28647), (177, 28650), (204, 28728), (205, 28731), (206, 28737), (217, 28758), (226, 28788), (229, 28794), (261, 28929), (289, 29016), (296, 29025), (298, 29031), (300, 29037), (315, 29112), (319, 29145), (323, 29166), (336, 29238), (341, 29262), (347, 29274), (359, 29331), (388, 29481), (393, 29505), (418, 29673), (421, 29688), (442, 29784), (477, 29895), (482, 29931),

Gene: Trax\_30 Start: 25810, Stop: 27396, Start Num: 85

Candidate Starts for Trax\_30:

(Start: 85 @25810 has 5 MA's), (100, 25846), (155, 25990), (166, 26011), (167, 26014), (168, 26017), (175, 26041), (190, 26071), (191, 26074), (204, 26116), (205, 26119), (217, 26146), (220, 26155), (226, 26176), (229, 26182), (239, 26233), (240, 26236), (257, 26257), (282, 26299), (291, 26320), (293, 26323), (302, 26335), (315, 26401), (323, 26455), (329, 26491), (347, 26554), (355, 26578), (358, 26596), (359, 26608), (361, 26626), (364, 26641), (388, 26758), (389, 26764), (393, 26782), (394, 26788), (395, 26800), (401, 26827), (413, 26926), (418, 26950), (421, 26965), (427, 27004), (436, 27031), (437, 27037), (439, 27049), (442, 27061), (445, 27067), (455, 27103), (469, 27157), (501, 27286), (505, 27313), (512, 27346),

Gene: Trine\_24 Start: 19054, Stop: 20592, Start Num: 146

Candidate Starts for Trine\_24:

(Start: 146 @19054 has 2 MA's), (189, 19165), (194, 19174), (212, 19240), (220, 19261), (223, 19273), (236, 19327), (263, 19426), (271, 19453), (321, 19648), (344, 19750), (353, 19777), (386, 19951), (399, 20017), (403, 20035), (407, 20068), (424, 20191), (425, 20203), (432, 20239), (447, 20287), (451, 20302), (490, 20455), (493, 20461), (497, 20473), (498, 20482),

Gene: Trumpet\_28 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Trumpet\_28:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: TuertoX\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for TuertoX\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325,

21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: Tycho\_36 Start: 31930, Stop: 33651, Start Num: 67

Candidate Starts for Tycho\_36:

(Start: 67 @31930 has 30 MA's), (119, 32053), (125, 32065), (145, 32131), (172, 32200), (184, 32236), (253, 32461), (265, 32500), (287, 32560), (301, 32605), (313, 32665), (338, 32800), (340, 32806), (353, 32848), (357, 32863), (360, 32899), (367, 32920), (386, 33019), (403, 33103), (407, 33136), (411, 33181), (412, 33184), (418, 33220), (424, 33256), (425, 33268), (431, 33304), (441, 33340), (460, 33394),

Gene: Upyo\_24 Start: 19301, Stop: 20836, Start Num: 146

Candidate Starts for Upyo\_24:

(141, 19277), (Start: 146 @19301 has 2 MA's), (189, 19412), (206, 19475), (236, 19574), (271, 19700), (273, 19706), (275, 19712), (284, 19730), (288, 19745), (289, 19751), (291, 19757), (311, 19826), (314, 19844), (322, 19898), (335, 19976), (346, 20003), (359, 20063), (361, 20081), (386, 20201), (393, 20234), (396, 20261), (411, 20369), (421, 20426), (423, 20441), (427, 20465), (486, 20699), (509, 20786),

Gene: Valary\_36 Start: 29154, Stop: 31076, Start Num: 26

Candidate Starts for Valary\_36:

(Start: 26 @29154 has 17 MA's), (Start: 51 @29277 has 2 MA's), (55, 29298), (74, 29346), (Start: 122 @29454 has 1 MA's), (Start: 135 @29475 has 1 MA's), (164, 29556), (174, 29592), (177, 29595), (204, 29673), (205, 29676), (206, 29682), (217, 29703), (226, 29733), (229, 29739), (261, 29874), (289, 29961), (296, 29970), (298, 29976), (300, 29982), (315, 30057), (319, 30090), (323, 30111), (336, 30183), (341, 30207), (347, 30219), (359, 30276), (388, 30426), (393, 30450), (418, 30618), (421, 30633), (442, 30729), (477, 30840), (482, 30876),

Gene: Vasanti\_24 Start: 20059, Stop: 21591, Start Num: 165

Candidate Starts for Vasanti\_24:

(Start: 165 @20059 has 19 MA's), (169, 20065), (196, 20131), (209, 20176), (225, 20215), (246, 20296), (249, 20311), (251, 20320), (269, 20386), (307, 20512), (319, 20584), (325, 20614), (339, 20680), (347, 20704), (354, 20728), (358, 20746), (359, 20758), (366, 20797), (376, 20848), (380, 20875), (415, 21094), (422, 21133), (423, 21136), (434, 21190), (436, 21196), (445, 21232), (452, 21253), (453, 21256), (455, 21268), (464, 21307), (475, 21346), (494, 21454), (507, 21517),

Gene: Vivi2\_40 Start: 34410, Stop: 36332, Start Num: 28

Candidate Starts for Vivi2\_40:

(Start: 28 @34410 has 23 MA's), (54, 34545), (58, 34554), (Start: 72 @34587 has 1 MA's), (82, 34611), (114, 34680), (125, 34710), (142, 34755), (205, 34947), (206, 34953), (217, 34974), (222, 34992), (226, 35004), (240, 35064), (254, 35118), (296, 35232), (315, 35319), (323, 35373), (333, 35439), (341, 35469), (347, 35481), (358, 35526), (359, 35538), (361, 35556), (368, 35583), (381, 35661), (388, 35688), (393, 35712), (411, 35835), (417, 35877), (436, 35961), (442, 35991), (455, 36018), (470, 36072), (478, 36102), (489, 36174), (494, 36183),

Gene: WelcomeAyanna\_25 Start: 22901, Stop: 24409, Start Num: 160

Candidate Starts for WelcomeAyanna\_25:

(45, 22586), (78, 22694), (107, 22763), (109, 22766), (118, 22790), (Start: 121 @22796 has 7 MA's), (Start: 160 @22901 has 29 MA's), (186, 22979), (187, 22982), (216, 23072), (228, 23108), (229, 23111), (258, 23234), (260, 23240), (263, 23249), (324, 23480), (332, 23543), (333, 23546), (344, 23573), (353, 23600), (354, 23603), (370, 23684), (386, 23774), (411, 23942), (424, 24017), (426,

24032), (462, 24161), (482, 24245), (502, 24308), (513, 24380),

Gene: Whiteclaw\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Whiteclaw\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325, 21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: Whitney\_30 Start: 23030, Stop: 24865, Start Num: 32

Candidate Starts for Whitney\_30:

(Start: 32 @23030 has 22 MA's), (70, 23192), (83, 23222), (103, 23276), (114, 23291), (Start: 116 @23303 has 1 MA's), (117, 23306), (125, 23321), (126, 23324), (133, 23327), (164, 23417), (167, 23426), (168, 23429), (200, 23516), (205, 23537), (206, 23543), (217, 23564), (220, 23573), (226, 23594), (229, 23600), (262, 23702), (263, 23705), (276, 23735), (281, 23747), (296, 23771), (315, 23846), (317, 23858), (323, 23900), (328, 23933), (333, 23966), (336, 23972), (341, 23996), (347, 24008), (359, 24065), (361, 24083), (388, 24215), (393, 24239), (395, 24257), (418, 24410), (421, 24425), (422, 24437), (423, 24440), (424, 24446), (436, 24491), (439, 24509), (442, 24521), (445, 24527), (450, 24539), (455, 24548), (470, 24602), (483, 24671), (489, 24704), (492, 24710), (506, 24773), (507, 24776), (510, 24794), (513, 24815), (514, 24824),

Gene: Wizard\_33 Start: 28352, Stop: 30274, Start Num: 26

Candidate Starts for Wizard\_33:

(Start: 26 @28352 has 17 MA's), (Start: 51 @28475 has 2 MA's), (55, 28496), (74, 28544), (Start: 122 @28652 has 1 MA's), (Start: 135 @28673 has 1 MA's), (164, 28754), (174, 28790), (177, 28793), (204, 28871), (205, 28874), (206, 28880), (217, 28901), (226, 28931), (229, 28937), (261, 29072), (289, 29159), (296, 29168), (298, 29174), (300, 29180), (315, 29255), (319, 29288), (323, 29309), (336, 29381), (341, 29405), (347, 29417), (359, 29474), (388, 29624), (393, 29648), (418, 29816), (421, 29831), (442, 29927), (477, 30038), (482, 30074),

Gene: Yeet412\_25 Start: 20498, Stop: 22021, Start Num: 165

Candidate Starts for Yeet412\_25:

(Start: 165 @20498 has 19 MA's), (196, 20570), (199, 20582), (207, 20609), (218, 20633), (249, 20753), (251, 20762), (269, 20828), (307, 20942), (316, 20984), (319, 21014), (325, 21044), (339, 21110), (347, 21134), (354, 21158), (358, 21176), (359, 21188), (361, 21206), (364, 21221), (366, 21227), (376, 21278), (380, 21305), (393, 21356), (415, 21524), (420, 21545), (435, 21623), (445, 21662), (452, 21683), (453, 21686), (455, 21698), (464, 21737), (494, 21884), (506, 21944), (507, 21947),

Gene: Yeezy\_28 Start: 22145, Stop: 23650, Start Num: 160

Candidate Starts for Yeezy\_28:

(78, 21938), (107, 22007), (109, 22010), (118, 22034), (Start: 121 @22040 has 7 MA's), (Start: 160 @22145 has 29 MA's), (181, 22214), (187, 22226), (222, 22337), (226, 22349), (229, 22355), (248, 22442), (258, 22478), (260, 22484), (263, 22493), (333, 22787), (353, 22841), (354, 22844), (358, 22865), (365, 22910), (386, 23015), (403, 23099), (410, 23180), (411, 23183), (432, 23306), (462, 23402), (477, 23450), (480, 23465), (485, 23510), (499, 23543), (502, 23549), (513, 23621),

Gene: Yinzer\_25 Start: 20505, Stop: 22028, Start Num: 165

Candidate Starts for Yinzer\_25:

(Start: 165 @20505 has 19 MA's), (196, 20577), (199, 20589), (207, 20616), (209, 20622), (218, 20640), (249, 20760), (251, 20769), (269, 20835), (307, 20949), (316, 20991), (319, 21021), (325,

21051), (334, 21111), (339, 21117), (347, 21141), (354, 21165), (358, 21183), (359, 21195), (361, 21213), (364, 21228), (366, 21234), (376, 21285), (380, 21312), (393, 21363), (415, 21531), (445, 21669), (452, 21690), (453, 21693), (455, 21705), (464, 21744), (494, 21891), (506, 21951), (507, 21954),

Gene: YorkOnyx\_37 Start: 32189, Stop: 33910, Start Num: 67

Candidate Starts for YorkOnyx\_37:

(Start: 67 @32189 has 30 MA's), (119, 32312), (125, 32324), (145, 32390), (172, 32459), (184, 32495), (198, 32534), (253, 32720), (265, 32759), (287, 32819), (301, 32864), (313, 32924), (338, 33059), (340, 33065), (353, 33107), (357, 33122), (360, 33158), (367, 33179), (386, 33278), (403, 33362), (407, 33395), (411, 33440), (412, 33443), (424, 33515), (425, 33527), (431, 33563), (441, 33599), (460, 33653),

Gene: Yvonnetastic\_53 Start: 36927, Stop: 38693, Start Num: 52

Candidate Starts for Yvonnetastic\_53:

(Start: 52 @36927 has 2 MA's), (56, 36948), (92, 37044), (170, 37242), (173, 37260), (177, 37269), (193, 37302), (217, 37386), (242, 37485), (296, 37632), (302, 37653), (315, 37719), (318, 37737), (325, 37782), (359, 37926), (366, 37965), (388, 38076), (409, 38202), (423, 38298), (430, 38340), (434, 38346), (445, 38388), (446, 38391),

Gene: Zameen\_28 Start: 22923, Stop: 24428, Start Num: 160

Candidate Starts for Zameen\_28:

(Start: 160 @22923 has 29 MA's), (181, 22992), (187, 23004), (222, 23115), (226, 23127), (229, 23133), (248, 23220), (258, 23256), (260, 23262), (263, 23271), (333, 23565), (353, 23619), (354, 23622), (358, 23643), (365, 23688), (386, 23793), (403, 23877), (410, 23958), (411, 23961), (432, 24084), (462, 24180), (477, 24228), (485, 24288), (499, 24321), (502, 24327), (513, 24399),

Gene: Zirinka\_26 Start: 22938, Stop: 24443, Start Num: 160

Candidate Starts for Zirinka\_26:

(45, 22623), (78, 22731), (107, 22800), (109, 22803), (118, 22827), (Start: 121 @22833 has 7 MA's), (Start: 160 @22938 has 29 MA's), (181, 23007), (187, 23019), (222, 23130), (224, 23136), (226, 23142), (229, 23148), (231, 23154), (248, 23235), (258, 23271), (260, 23277), (263, 23286), (333, 23580), (353, 23634), (354, 23637), (358, 23658), (365, 23703), (386, 23808), (403, 23892), (410, 23973), (411, 23976), (462, 24195), (477, 24243), (485, 24303), (499, 24336), (502, 24342), (513, 24414),