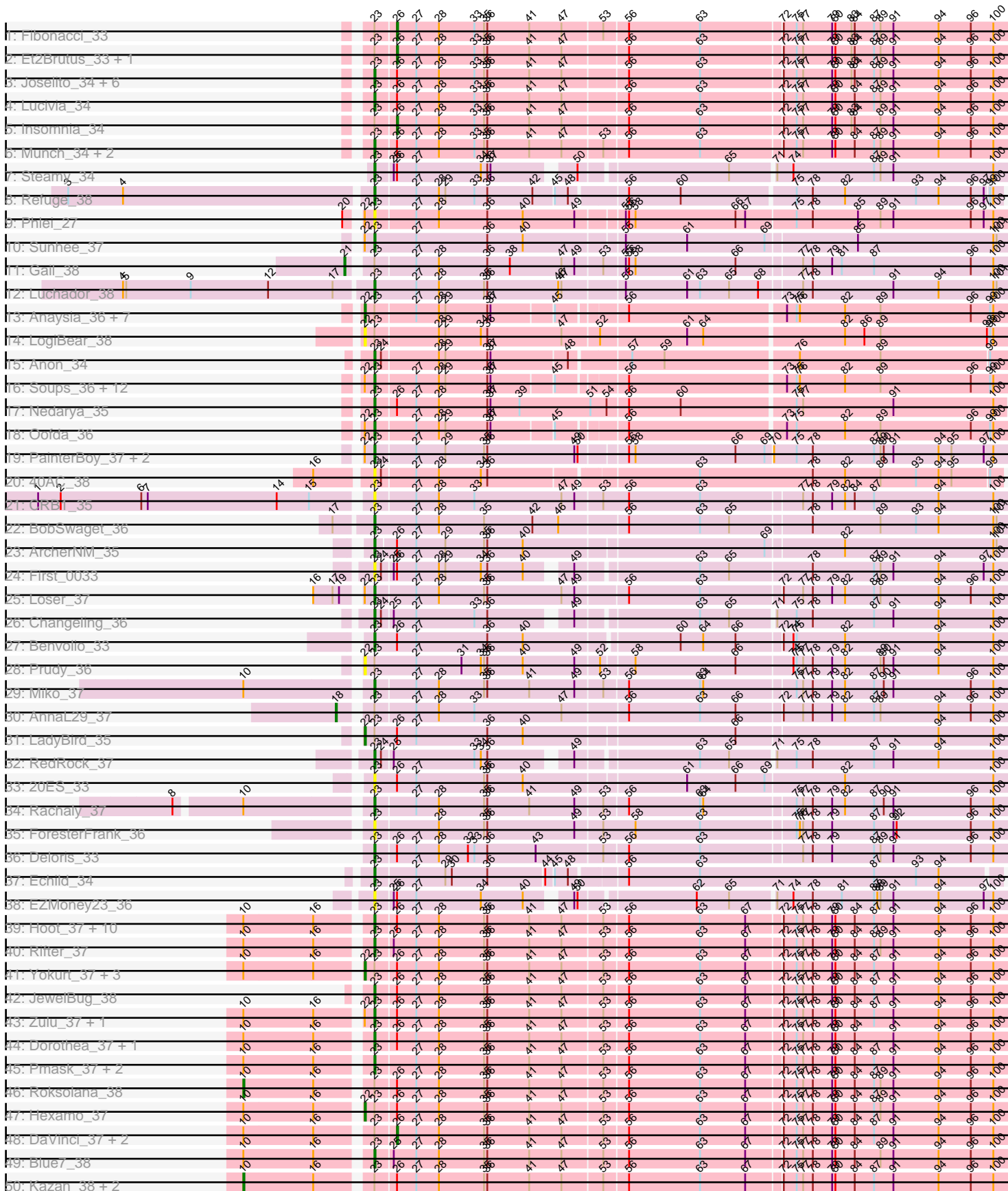


Pham 311338





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 311338 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311338 has 145 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Fibonacci\_33
- Track 2 : Et2Brutus\_33, TinyTimmy\_34
- Track 3 : Joselito\_34, Snape\_33, Ebony\_34, Orange\_33, Mulciber\_33, Salz\_34, Timothy\_34
- Track 4 : Lucivia\_34
- Track 5 : Insomnia\_34
- Track 6 : Munch\_34, Jabith\_34, Aneem\_34
- Track 7 : Steamy\_34
- Track 8 : Refuge\_38
- Track 9 : Phlei\_27
- Track 10 : Sunhee\_37
- Track 11 : Gail\_38
- Track 12 : Luchador\_38
- Track 13 : Anaysia\_36, Ravana\_36, MinecraftSteve\_37, Switzerland\_36, Boohoo\_36, DekHockey33\_36, Battleship\_37, Strosahl\_36
- Track 14 : LogiBear\_38
- Track 15 : Anon\_34
- Track 16 : Soups\_36, Warrior24\_36, LastResort\_36, Waits\_36, Remus\_36, KatherineG\_36, Rosalind\_36, Nebulosus\_36, Epsocamisio\_36, JSwag\_36, ReMo\_36, Looper\_37, ShayRa\_37
- Track 17 : Nedarya\_35
- Track 18 : Oofda\_36
- Track 19 : PainterBoy\_37, EagleEye\_38, Lucyedi\_37
- Track 20 : 40AC\_38
- Track 21 : CRB1\_35
- Track 22 : BobSwaget\_36
- Track 23 : ArcherNM\_35
- Track 24 : First\_0033
- Track 25 : Loser\_37
- Track 26 : Changeling\_36
- Track 27 : Benvolio\_33
- Track 28 : Prudy\_36
- Track 29 : Miko\_37
- Track 30 : AnnaL29\_37
- Track 31 : LadyBird\_35
- Track 32 : RedRock\_37
- Track 33 : 20ES\_33

- Track 34 : Rachaly\_37
- Track 35 : ForesterFrank\_36
- Track 36 : Deloris\_33
- Track 37 : Echild\_34
- Track 38 : EZMoney23\_36
- Track 39 : Hoot\_37, EricB\_37, BABullseye\_37, Helmet\_38, Newrala\_37, Chartreuse\_37, Indra\_39, Cookiedough\_37, Temprado\_37, BennyP\_37, Isiphiwo\_37
- Track 40 : Rifter\_37
- Track 41 : Yokurt\_37, CloudWang3\_37, Artemis2UCLA\_37, Zaka\_37
- Track 42 : JewelBug\_38
- Track 43 : Zulu\_37, Lilbunny\_36
- Track 44 : Dorothea\_37, Polyphemus\_37
- Track 45 : Pmask\_37, Gladiator\_37, SuperAwesome\_37
- Track 46 : Roksolana\_38
- Track 47 : Hexamo\_37
- Track 48 : DaVinci\_37, Neeharika16\_37, SmellyB\_37
- Track 49 : Blue7\_38
- Track 50 : Kazan\_38, VohminGhazi\_37, McFly\_37
- Track 51 : WunderPhul\_37
- Track 52 : Jordennis\_37
- Track 53 : Hammer\_37
- Track 54 : Jeffabunny\_37
- Track 55 : Koko\_37
- Track 56 : BogosyJay\_34, Maminiaina\_34
- Track 57 : Keziacharles14\_36
- Track 58 : Catalina\_37, PackMan\_35, Phaeder\_36, Aliter\_36, Eidsmoe\_36, Conquerage\_36, Myxus\_36, Tubs\_36, Priya\_36, HortumSL17\_36
- Track 59 : Elephantoon\_35
- Track 60 : Toaka\_34
- Track 61 : EdogawaKiddo\_33, Jiawan\_34, Onglai\_34, Hanray\_34
- Track 62 : Darrell\_37
- Track 63 : EmyBug\_35, Ugenie5\_32, Fayely\_36, Spouty\_36, Scherzo\_35, Qobbit\_36
- Track 64 : Arissanae\_36
- Track 65 : Lilleskat\_33, Halex\_34
- Track 66 : Rahalelujah\_34
- Track 67 : Minispark\_33
- Track 68 : LoneWolf\_35
- Track 69 : Alma\_36
- Track 70 : Phonnegut\_36, Beemo\_36
- Track 71 : Bellris\_33, CogOmlette\_33
- Track 72 : WorldCup\_33
- Track 73 : Vanisoa\_35

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

The start number called the most often in the published annotations is 23, it was called in 87 of the 126 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_33, 40AC\_38, Aliter\_36, Alma\_36, Aneem\_34, Anon\_34, ArcherNM\_35, Arissanae\_36, BABullseye\_37, Beemo\_36, BennyP\_37, Benvolio\_33, Blue7\_38, BobSwaget\_36, BogosyJay\_34, CRB1\_35, Catalina\_37, Changeling\_36, Chartreuse\_37, Conquerage\_36, Cookiedough\_37, Deloris\_33, Dorothea\_37, EZMoney23\_36, EagleEye\_38, Ebony\_34, Echild\_34, Eidsmoe\_36, Elephantoon\_35, Epsocamisio\_36, EricB\_37, First\_0033, ForesterFrank\_36, Gladiator\_37, Helmet\_38, Horex\_34, Hoot\_37, HortumSL17\_36, Indra\_39, Isiphiwo\_37, JSwag\_36, Jabith\_34, Jeffabunny\_37, JewelBug\_38, Joselito\_34, KatherineG\_36, Keziacharles14\_36, Koko\_37, LastResort\_36, Lilbunny\_36, Lilleskat\_33, Looper\_37, Loser\_37, Luchador\_38, Lucivia\_34, Lucyedi\_37, Maminiaina\_34, Miko\_37, Mulciber\_33, Munch\_34, Myxus\_36, Nebulosus\_36, Nedarya\_35, Newrala\_37, Oofda\_36, Orange\_33, PackMan\_35, PainterBoy\_37, Phaeder\_36, Phlei\_27, Phonnegut\_36, Pmask\_37, Polyphemus\_37, Priya\_36, Rachaly\_37, Rahalelujah\_34, ReMo\_36, RedRock\_37, Refuge\_38, Remus\_36, Rifter\_37, Rosalind\_36, Salz\_34, ShayRa\_37, Snape\_33, Soups\_36, Steamy\_34, Sunhee\_37, SuperAwesome\_37, Temprado\_37, Timothy\_34, Tubs\_36, Vanisoa\_35, Waits\_36, Warrior24\_36, Zulu\_37,

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

- Anaysia\_36, AnnaL29\_37, Artemis2UCLA\_37, Battleship\_37, Bellris\_33, Boohoo\_36, CloudWang3\_37, CogOmlette\_33, DaVinci\_37, Darrell\_37, DekHockey33\_36, EdogawaKiddo\_33, EmyBug\_35, Et2Brutus\_33, Fayely\_36, Fibonacci\_33, Gail\_38, Hammer\_37, Hanray\_34, Hexamo\_37, Insomnia\_34, Jiawan\_34, Jordennis\_37, Kazan\_38, LadyBird\_35, LogiBear\_38, LoneWolf\_35, McFly\_37, MinecraftSteve\_37, Minispark\_33, Neeharika16\_37, Onglai\_34, Prudy\_36, Qobbit\_36, Ravana\_36, Roksolana\_38, Scherzo\_35, SmellyB\_37, Spouty\_36, Strosahl\_36, Switzerland\_36, TinyTimmy\_34, Toaka\_34, Ugenie5\_32, VohminGhazi\_37, WorldCup\_33, WunderPhul\_37, Yokurt\_37, Zaka\_37,

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

- 

### Summary by start number:

Start 10:

- Found in 39 of 145 ( 26.9% ) of genes in pham
- Manual Annotations of this start: 7 of 126
- Called 17.9% of time when present
- Phage (with cluster) where this start called: Hammer\_37 (A6), Jordennis\_37 (A6), Kazan\_38 (A6), McFly\_37 (A6), Roksolana\_38 (A6), VohminGhazi\_37 (A6), WunderPhul\_37 (A6),

Start 11:

- Found in 6 of 145 ( 4.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: WorldCup\_33 (A9),

Start 16:

- Found in 73 of 145 ( 50.3% ) of genes in pham
- Manual Annotations of this start: 9 of 126
- Called 21.9% of time when present
- Phage (with cluster) where this start called: Bellris\_33 (A9), CogOmlette\_33 (A9), Darrell\_37 (A9), EdogawaKiddo\_33 (A9), EmyBug\_35 (A9), Fayely\_36 (A9),

Hanray\_34 (A9), Jiawan\_34 (A9), LoneWolf\_35 (A9), Minispark\_33 (A9), Onglai\_34 (A9), Qobbit\_36 (A9), Scherzo\_35 (A9), Spouty\_36 (A9), Toaka\_34 (A9), Ugenie5\_32 (A9),

Start 18:

- Found in 1 of 145 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 126
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnnaL29\_37 (A2),

Start 21:

- Found in 1 of 145 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 126
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gail\_38 (A14),

Start 22:

- Found in 48 of 145 ( 33.1% ) of genes in pham
- Manual Annotations of this start: 14 of 126
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Anaysia\_36 (A15), Artemis2UCLA\_37 (A6), Battleship\_37 (A15), Boohoo\_36 (A15), CloudWang3\_37 (A6), DekHockey33\_36 (A15), Hexamo\_37 (A6), LadyBird\_35 (A2), LogiBear\_38 (A15), MinecraftSteve\_37 (A15), Prudy\_36 (A2), Ravana\_36 (A15), Strosahl\_36 (A15), Switzerland\_36 (A15), Yokurt\_37 (A6), Zaka\_37 (A6),

Start 23:

- Found in 145 of 145 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 87 of 126
- Called 66.2% of time when present
- Phage (with cluster) where this start called: 20ES\_33 (A2), 40AC\_38 (A17), Aliter\_36 (A9), Alma\_36 (A9), Aneem\_34 (A11), Anon\_34 (A15), ArcherNM\_35 (A2), Arissanae\_36 (A9), BABullseye\_37 (A6), Beemo\_36 (A9), BennyP\_37 (A6), Benvolio\_33 (A2), Blue7\_38 (A6), BobSwaget\_36 (A2), BogosyJay\_34 (A9), CRB1\_35 (A2), Catalina\_37 (A9), Changeling\_36 (A2), Chartreuse\_37 (A6), Conquerage\_36 (A9), Cookiedough\_37 (A6), Deloris\_33 (A2), Dorothea\_37 (A6), EZMoney23\_36 (A2), EagleEye\_38 (A16), Ebony\_34 (A11), Echild\_34 (A2), Eidsmoe\_36 (A9), Elephantoon\_35 (A9), Epsocamisio\_36 (A15), EricB\_37 (A6), First\_0033 (A2), ForesterFrank\_36 (A2), Gladiator\_37 (A6), Helmet\_38 (A6), Horex\_34 (A9), Hoot\_37 (A6), HortumSL17\_36 (A9), Indra\_39 (A6), Isiphiwo\_37 (A6), JSwag\_36 (A15), Jabith\_34 (A11), Jeffabunny\_37 (A6), JewelBug\_38 (A6), Joselito\_34 (A11), KatherineG\_36 (A15), Keziacharles14\_36 (A9), Koko\_37 (A6), LastResort\_36 (A15), Lilbunny\_36 (A6), Lilleskat\_33 (A9), Looper\_37 (A15), Loser\_37 (A2), Luchador\_38 (A14), Lucivia\_34 (A11), Lucyedi\_37 (A16), Maminiaina\_34 (A9), Miko\_37 (A2), Mulciber\_33 (A11), Munch\_34 (A11), Myxus\_36 (A9), Nebulosus\_36 (A15), Nedarya\_35 (A15), Newrala\_37 (A6), Oofda\_36 (A15), Orange\_33 (A11), PackMan\_35 (A9), PainterBoy\_37 (A16), Phaeder\_36 (A9), Phlei\_27 (A13), Phonnegut\_36 (A9), Pmask\_37 (A6), Polyphemus\_37 (A6), Priya\_36 (A9), Rachaly\_37 (A2), Rahalelujah\_34 (A9), ReMo\_36 (A15), RedRock\_37 (A2), Refuge\_38 (A12), Remus\_36 (A15), Rifter\_37 (A6), Rosalind\_36 (A15), Salz\_34 (A11), ShayRa\_37 (A15), Snape\_33 (A11), Soups\_36 (A15), Steamy\_34 (A12), Sunhee\_37 (A14), SuperAwesome\_37 (A6), Temprado\_37 (A6), Timothy\_34 (A11), Tubs\_36 (A9), Vanisoa\_35 (A9), Waits\_36 (A15), Warrior24\_36 (A15), Zulu\_37 (A6),

Start 26:

- Found in 88 of 145 ( 60.7% ) of genes in pham
- Manual Annotations of this start: 7 of 126
- Called 8.0% of time when present
- Phage (with cluster) where this start called: DaVinci\_37 (A6), Et2Brutus\_33 (A11), Fibonacci\_33 (A11), Insomnia\_34 (A11), Neeharika16\_37 (A6), SmellyB\_37 (A6), TinyTimmy\_34 (A11),

### **Summary by clusters:**

There are 10 clusters represented in this pham: A15, A14, A17, A16, A11, A13, A12, A2, A6, A9,

Info for manual annotations of cluster A11:

- Start number 23 was manually annotated 11 times for cluster A11.
- Start number 26 was manually annotated 4 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 23 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 21 was manually annotated 1 time for cluster A14.
- Start number 23 was manually annotated 2 times for cluster A14.

Info for manual annotations of cluster A15:

- Start number 22 was manually annotated 8 times for cluster A15.
- Start number 23 was manually annotated 16 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 23 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A2:

- Start number 18 was manually annotated 1 time for cluster A2.
- Start number 22 was manually annotated 1 time for cluster A2.
- Start number 23 was manually annotated 10 times for cluster A2.

Info for manual annotations of cluster A6:

- Start number 10 was manually annotated 7 times for cluster A6.
- Start number 22 was manually annotated 5 times for cluster A6.
- Start number 23 was manually annotated 23 times for cluster A6.
- Start number 26 was manually annotated 3 times for cluster A6.

Info for manual annotations of cluster A9:

- Start number 16 was manually annotated 9 times for cluster A9.
- Start number 23 was manually annotated 20 times for cluster A9.

### **Gene Information:**

Gene: 20ES\_33 Start: 26076, Stop: 26657, Start Num: 23

Candidate Starts for 20ES\_33:

(Start: 23 @26076 has 87 MA's), (Start: 26 @26097 has 7 MA's), (27, 26115), (35, 26178), (36, 26181), (40, 26214), (61, 26358), (66, 26403), (69, 26430), (82, 26502), (100, 26640),

Gene: 40AC\_38 Start: 28399, Stop: 28962, Start Num: 23

Candidate Starts for 40AC\_38:

(Start: 16 @28351 has 9 MA's), (Start: 23 @28399 has 87 MA's), (24, 28405), (27, 28435), (28, 28456), (34, 28495), (36, 28501), (63, 28684), (78, 28789), (82, 28819), (89, 28852), (93, 28885), (94, 28906), (95, 28918), (99, 28951),

Gene: Aliter\_36 Start: 26941, Stop: 27522, Start Num: 23

Candidate Starts for Aliter\_36:

(Start: 16 @26896 has 9 MA's), (Start: 23 @26941 has 87 MA's), (Start: 26 @26962 has 7 MA's), (56, 27172), (64, 27241), (66, 27271), (69, 27298), (82, 27367), (100, 27505),

Gene: Alma\_36 Start: 27061, Stop: 27642, Start Num: 23

Candidate Starts for Alma\_36:

(Start: 16 @27016 has 9 MA's), (Start: 23 @27061 has 87 MA's), (Start: 26 @27082 has 7 MA's), (27, 27100), (40, 27199), (56, 27292), (64, 27361), (69, 27418), (82, 27487), (100, 27625),

Gene: Anaysia\_36 Start: 24673, Stop: 25248, Start Num: 22

Candidate Starts for Anaysia\_36:

(Start: 22 @24673 has 14 MA's), (Start: 23 @24682 has 87 MA's), (27, 24718), (28, 24739), (29, 24745), (36, 24784), (37, 24787), (45, 24841), (56, 24898), (73, 25039), (75, 25048), (76, 25051), (82, 25093), (89, 25126), (96, 25210), (99, 25228), (100, 25231),

Gene: Aneem\_34 Start: 26120, Stop: 26698, Start Num: 23

Candidate Starts for Aneem\_34:

(Start: 23 @26120 has 87 MA's), (Start: 26 @26138 has 7 MA's), (27, 26156), (28, 26177), (33, 26210), (35, 26219), (36, 26222), (41, 26261), (47, 26291), (53, 26327), (56, 26348), (63, 26414), (72, 26486), (75, 26498), (77, 26504), (79, 26531), (80, 26534), (84, 26552), (87, 26570), (89, 26576), (91, 26588), (94, 26630), (96, 26660), (100, 26681),

Gene: AnnaL29\_37 Start: 27751, Stop: 28353, Start Num: 18

Candidate Starts for AnnaL29\_37:

(Start: 18 @27751 has 1 MA's), (Start: 23 @27775 has 87 MA's), (27, 27811), (28, 27832), (33, 27865), (47, 27946), (56, 28003), (63, 28069), (66, 28102), (72, 28141), (77, 28159), (78, 28168), (79, 28186), (82, 28198), (87, 28225), (89, 28231), (94, 28285), (96, 28315), (100, 28336),

Gene: Anon\_34 Start: 24634, Stop: 25200, Start Num: 23

Candidate Starts for Anon\_34:

(Start: 23 @24634 has 87 MA's), (24, 24640), (28, 24691), (29, 24697), (36, 24736), (37, 24739), (48, 24808), (57, 24859), (59, 24889), (76, 25009), (89, 25084), (99, 25183),

Gene: ArcherNM\_35 Start: 27722, Stop: 28297, Start Num: 23

Candidate Starts for ArcherNM\_35:

(Start: 23 @27722 has 87 MA's), (Start: 26 @27740 has 7 MA's), (27, 27758), (29, 27785), (35, 27821), (36, 27824), (40, 27857), (69, 28073), (82, 28142), (100, 28280), (101, 28283),

Gene: Arissanae\_36 Start: 27790, Stop: 28368, Start Num: 23

Candidate Starts for Arissanae\_36:

(Start: 23 @27790 has 87 MA's), (27, 27826), (28, 27847), (42, 27934), (46, 27958), (47, 27961), (61, 28072), (63, 28084), (65, 28111), (67, 28126), (75, 28168), (78, 28183), (89, 28246), (91, 28258), (93, 28279), (94, 28300), (96, 28330), (100, 28351), (101, 28354),

Gene: Artemis2UCLA\_37 Start: 24740, Stop: 25327, Start Num: 22

Candidate Starts for Artemis2UCLA\_37:

(Start: 10 @24641 has 7 MA's), (Start: 16 @24704 has 9 MA's), (Start: 22 @24740 has 14 MA's), (Start: 23 @24749 has 87 MA's), (Start: 26 @24767 has 7 MA's), (27, 24785), (28, 24806), (35, 24848), (36, 24851), (41, 24890), (47, 24920), (53, 24956), (56, 24977), (63, 25043), (67, 25085), (72, 25115), (75, 25127), (77, 25133), (78, 25142), (79, 25160), (80, 25163), (84, 25181), (87, 25199), (91, 25217), (94, 25259), (96, 25289), (100, 25310),

Gene: BABullseye\_37 Start: 25152, Stop: 25730, Start Num: 23

Candidate Starts for BABullseye\_37:

(Start: 10 @25044 has 7 MA's), (Start: 16 @25107 has 9 MA's), (Start: 23 @25152 has 87 MA's), (Start: 26 @25170 has 7 MA's), (27, 25188), (28, 25209), (35, 25251), (36, 25254), (41, 25293), (47, 25323), (53, 25359), (56, 25380), (63, 25446), (67, 25488), (72, 25518), (75, 25530), (77, 25536), (78, 25545), (79, 25563), (80, 25566), (84, 25584), (87, 25602), (91, 25620), (94, 25662), (96, 25692), (100, 25713),

Gene: Battleship\_37 Start: 24785, Stop: 25360, Start Num: 22

Candidate Starts for Battleship\_37:

(Start: 22 @24785 has 14 MA's), (Start: 23 @24794 has 87 MA's), (27, 24830), (28, 24851), (29, 24857), (36, 24896), (37, 24899), (45, 24953), (56, 25010), (73, 25151), (75, 25160), (76, 25163), (82, 25205), (89, 25238), (96, 25322), (99, 25340), (100, 25343),

Gene: Beemo\_36 Start: 27041, Stop: 27619, Start Num: 23

Candidate Starts for Beemo\_36:

(Start: 23 @27041 has 87 MA's), (27, 27077), (28, 27098), (53, 27248), (56, 27269), (63, 27335), (66, 27368), (72, 27407), (77, 27425), (79, 27452), (87, 27491), (89, 27497), (94, 27551), (96, 27581), (97, 27593), (100, 27602), (101, 27605),

Gene: Bellris\_33 Start: 26070, Stop: 26690, Start Num: 16

Candidate Starts for Bellris\_33:

(11, 26031), (Start: 16 @26070 has 9 MA's), (Start: 22 @26106 has 14 MA's), (Start: 23 @26115 has 87 MA's), (Start: 26 @26133 has 7 MA's), (27, 26151), (36, 26217), (40, 26250), (64, 26409), (69, 26466), (85, 26547), (91, 26580), (100, 26673),

Gene: BennyP\_37 Start: 25074, Stop: 25652, Start Num: 23

Candidate Starts for BennyP\_37:

(Start: 10 @24966 has 7 MA's), (Start: 16 @25029 has 9 MA's), (Start: 23 @25074 has 87 MA's), (Start: 26 @25092 has 7 MA's), (27, 25110), (28, 25131), (35, 25173), (36, 25176), (41, 25215), (47, 25245), (53, 25281), (56, 25302), (63, 25368), (67, 25410), (72, 25440), (75, 25452), (77, 25458), (78, 25467), (79, 25485), (80, 25488), (84, 25506), (87, 25524), (91, 25542), (94, 25584), (96, 25614), (100, 25635),

Gene: Benvolio\_33 Start: 26067, Stop: 26642, Start Num: 23

Candidate Starts for Benvolio\_33:

(Start: 23 @26067 has 87 MA's), (Start: 26 @26088 has 7 MA's), (27, 26106), (36, 26172), (40, 26205), (60, 26340), (64, 26361), (66, 26391), (72, 26430), (74, 26439), (75, 26442), (82, 26487), (94, 26574), (100, 26625),

Gene: Blue7\_38 Start: 25064, Stop: 25642, Start Num: 23

Candidate Starts for Blue7\_38:

(Start: 10 @24956 has 7 MA's), (Start: 16 @25019 has 9 MA's), (Start: 23 @25064 has 87 MA's), (25, 25079), (27, 25100), (28, 25121), (35, 25163), (36, 25166), (41, 25205), (47, 25235), (53, 25271), (56, 25292), (63, 25358), (67, 25400), (72, 25430), (75, 25442), (77, 25448), (78, 25457), (79, 25475), (80, 25478), (84, 25496), (89, 25520), (91, 25532), (94, 25574), (96, 25604), (100, 25625),

Gene: BobSwaget\_36 Start: 27033, Stop: 27614, Start Num: 23

Candidate Starts for BobSwaget\_36:

(17, 27000), (Start: 23 @27033 has 87 MA's), (27, 27072), (28, 27093), (35, 27135), (42, 27180), (46, 27204), (56, 27264), (63, 27330), (65, 27357), (78, 27429), (89, 27492), (93, 27525), (94, 27546), (100, 27597), (101, 27600),

Gene: BogosyJay\_34 Start: 26586, Stop: 27164, Start Num: 23

Candidate Starts for BogosyJay\_34:

(Start: 23 @26586 has 87 MA's), (27, 26622), (28, 26643), (53, 26793), (56, 26814), (63, 26880), (66, 26913), (77, 26970), (79, 26997), (80, 27000), (87, 27036), (89, 27042), (94, 27096), (96, 27126), (97, 27138), (100, 27147), (101, 27150),

Gene: Boohoo\_36 Start: 24673, Stop: 25248, Start Num: 22

Candidate Starts for Boohoo\_36:

(Start: 22 @24673 has 14 MA's), (Start: 23 @24682 has 87 MA's), (27, 24718), (28, 24739), (29, 24745), (36, 24784), (37, 24787), (45, 24841), (56, 24898), (73, 25039), (75, 25048), (76, 25051), (82, 25093), (89, 25126), (96, 25210), (99, 25228), (100, 25231),

Gene: CRB1\_35 Start: 26733, Stop: 27314, Start Num: 23

Candidate Starts for CRB1\_35:

(1, 26433), (2, 26454), (6, 26529), (7, 26535), (14, 26655), (15, 26685), (Start: 23 @26733 has 87 MA's), (27, 26769), (28, 26790), (33, 26823), (47, 26904), (49, 26916), (53, 26940), (56, 26964), (63, 27030), (77, 27120), (78, 27129), (79, 27147), (82, 27159), (84, 27168), (87, 27186), (94, 27246), (100, 27297),

Gene: Catalina\_37 Start: 27014, Stop: 27595, Start Num: 23

Candidate Starts for Catalina\_37:

(Start: 16 @26969 has 9 MA's), (Start: 23 @27014 has 87 MA's), (Start: 26 @27035 has 7 MA's), (56, 27245), (64, 27314), (66, 27344), (69, 27371), (82, 27440), (100, 27578),

Gene: Changeling\_36 Start: 27759, Stop: 28316, Start Num: 23

Candidate Starts for Changeling\_36:

(Start: 23 @27759 has 87 MA's), (24, 27765), (25, 27774), (27, 27795), (33, 27849), (36, 27861), (49, 27927), (63, 28032), (65, 28059), (71, 28098), (75, 28116), (78, 28131), (87, 28188), (91, 28206), (94, 28248), (100, 28299),

Gene: Chartreuse\_37 Start: 25021, Stop: 25599, Start Num: 23

Candidate Starts for Chartreuse\_37:

(Start: 10 @24913 has 7 MA's), (Start: 16 @24976 has 9 MA's), (Start: 23 @25021 has 87 MA's), (Start: 26 @25039 has 7 MA's), (27, 25057), (28, 25078), (35, 25120), (36, 25123), (41, 25162), (47, 25192), (53, 25228), (56, 25249), (63, 25315), (67, 25357), (72, 25387), (75, 25399), (77, 25405), (78, 25414), (79, 25432), (80, 25435), (84, 25453), (87, 25471), (91, 25489), (94, 25531), (96, 25561), (100, 25582),

Gene: CloudWang3\_37 Start: 24840, Stop: 25427, Start Num: 22

Candidate Starts for CloudWang3\_37:

(Start: 10 @24741 has 7 MA's), (Start: 16 @24804 has 9 MA's), (Start: 22 @24840 has 14 MA's), (Start: 23 @24849 has 87 MA's), (Start: 26 @24867 has 7 MA's), (27, 24885), (28, 24906), (35, 24948), (36, 24951), (41, 24990), (47, 25020), (53, 25056), (56, 25077), (63, 25143), (67, 25185), (72, 25215), (75, 25227), (77, 25233), (78, 25242), (79, 25260), (80, 25263), (84, 25281), (87, 25299), (91, 25317), (94, 25359), (96, 25389), (100, 25410),

Gene: CogOmlette\_33 Start: 26070, Stop: 26690, Start Num: 16

Candidate Starts for CogOmlette\_33:

(11, 26031), (Start: 16 @26070 has 9 MA's), (Start: 22 @26106 has 14 MA's), (Start: 23 @26115 has 87 MA's), (Start: 26 @26133 has 7 MA's), (27, 26151), (36, 26217), (40, 26250), (64, 26409), (69, 26466), (85, 26547), (91, 26580), (100, 26673),

Gene: Conquerage\_36 Start: 27043, Stop: 27624, Start Num: 23

Candidate Starts for Conquerage\_36:

(Start: 16 @26998 has 9 MA's), (Start: 23 @27043 has 87 MA's), (Start: 26 @27064 has 7 MA's), (56, 27274), (64, 27343), (66, 27373), (69, 27400), (82, 27469), (100, 27607),

Gene: Cookiedough\_37 Start: 25068, Stop: 25646, Start Num: 23

Candidate Starts for Cookiedough\_37:

(Start: 10 @24960 has 7 MA's), (Start: 16 @25023 has 9 MA's), (Start: 23 @25068 has 87 MA's), (Start: 26 @25086 has 7 MA's), (27, 25104), (28, 25125), (35, 25167), (36, 25170), (41, 25209), (47, 25239), (53, 25275), (56, 25296), (63, 25362), (67, 25404), (72, 25434), (75, 25446), (77, 25452), (78, 25461), (79, 25479), (80, 25482), (84, 25500), (87, 25518), (91, 25536), (94, 25578), (96, 25608), (100, 25629),

Gene: DaVinci\_37 Start: 25093, Stop: 25653, Start Num: 26

Candidate Starts for DaVinci\_37:

(Start: 10 @24967 has 7 MA's), (Start: 16 @25030 has 9 MA's), (Start: 23 @25075 has 87 MA's), (Start: 26 @25093 has 7 MA's), (27, 25111), (28, 25132), (35, 25174), (36, 25177), (41, 25216), (47, 25246), (53, 25282), (56, 25303), (63, 25369), (67, 25411), (72, 25441), (75, 25453), (77, 25459), (78, 25468), (79, 25486), (80, 25489), (84, 25507), (87, 25525), (91, 25543), (94, 25585), (96, 25615), (100, 25636),

Gene: Darrell\_37 Start: 27413, Stop: 28033, Start Num: 16

Candidate Starts for Darrell\_37:

(11, 27374), (Start: 16 @27413 has 9 MA's), (Start: 22 @27449 has 14 MA's), (Start: 23 @27458 has 87 MA's), (Start: 26 @27476 has 7 MA's), (27, 27494), (36, 27560), (40, 27593), (56, 27683), (69, 27809), (91, 27923), (100, 28016),

Gene: DekHockey33\_36 Start: 24792, Stop: 25367, Start Num: 22

Candidate Starts for DekHockey33\_36:

(Start: 22 @24792 has 14 MA's), (Start: 23 @24801 has 87 MA's), (27, 24837), (28, 24858), (29, 24864), (36, 24903), (37, 24906), (45, 24960), (56, 25017), (73, 25158), (75, 25167), (76, 25170), (82, 25212), (89, 25245), (96, 25329), (99, 25347), (100, 25350),

Gene: Deloris\_33 Start: 26086, Stop: 26664, Start Num: 23

Candidate Starts for Deloris\_33:

(Start: 23 @26086 has 87 MA's), (Start: 26 @26104 has 7 MA's), (27, 26122), (28, 26143), (32, 26170), (33, 26176), (36, 26188), (43, 26233), (53, 26293), (56, 26314), (63, 26380), (77, 26470), (78, 26479), (79, 26497), (87, 26536), (89, 26542), (91, 26554), (96, 26626), (100, 26647),

Gene: Dorothea\_37 Start: 25075, Stop: 25653, Start Num: 23

Candidate Starts for Dorothea\_37:

(Start: 10 @24967 has 7 MA's), (Start: 16 @25030 has 9 MA's), (Start: 23 @25075 has 87 MA's), (Start: 26 @25093 has 7 MA's), (27, 25111), (28, 25132), (35, 25174), (36, 25177), (41, 25216), (47, 25246), (53, 25282), (56, 25303), (63, 25369), (67, 25411), (72, 25441), (75, 25453), (77, 25459), (78, 25468), (79, 25486), (80, 25489), (84, 25507), (91, 25543), (94, 25585), (96, 25615), (100, 25636),

Gene: EZMoney23\_36 Start: 27269, Stop: 27826, Start Num: 23

Candidate Starts for EZMoney23\_36:

(Start: 23 @27269 has 87 MA's), (25, 27284), (Start: 26 @27287 has 7 MA's), (27, 27305), (34, 27365), (40, 27404), (49, 27437), (50, 27440), (62, 27539), (65, 27569), (71, 27608), (74, 27623), (78, 27641), (81, 27668), (87, 27698), (88, 27701), (89, 27704), (91, 27716), (94, 27758), (97, 27800), (100, 27809),

Gene: EagleEye\_38 Start: 26541, Stop: 27119, Start Num: 23

Candidate Starts for EagleEye\_38:

(Start: 22 @26532 has 14 MA's), (Start: 23 @26541 has 87 MA's), (27, 26577), (29, 26604), (35, 26640), (36, 26643), (49, 26724), (50, 26727), (56, 26766), (58, 26772), (66, 26865), (69, 26892), (70, 26898), (75, 26919), (78, 26934), (87, 26991), (89, 26997), (90, 27000), (91, 27009), (94, 27051), (95, 27063), (97, 27093), (100, 27102),

Gene: Ebony\_34 Start: 26075, Stop: 26653, Start Num: 23

Candidate Starts for Ebony\_34:

(Start: 23 @26075 has 87 MA's), (Start: 26 @26093 has 7 MA's), (27, 26111), (28, 26132), (33, 26165), (35, 26174), (36, 26177), (41, 26216), (47, 26246), (56, 26303), (63, 26369), (72, 26441), (75, 26453), (77, 26459), (79, 26486), (80, 26489), (83, 26504), (84, 26507), (87, 26525), (89, 26531), (91, 26543), (94, 26585), (96, 26615), (100, 26636),

Gene: Echild\_34 Start: 26075, Stop: 26632, Start Num: 23

Candidate Starts for Echild\_34:

(Start: 23 @26075 has 87 MA's), (27, 26111), (29, 26138), (30, 26144), (36, 26177), (44, 26228), (45, 26234), (48, 26246), (56, 26291), (63, 26357), (87, 26519), (93, 26558), (94, 26579),

Gene: EdogawaKiddo\_33 Start: 26975, Stop: 27601, Start Num: 16

Candidate Starts for EdogawaKiddo\_33:

(Start: 16 @26975 has 9 MA's), (Start: 23 @27020 has 87 MA's), (Start: 26 @27041 has 7 MA's), (27, 27059), (40, 27158), (56, 27251), (64, 27320), (66, 27350), (69, 27377), (82, 27446), (100, 27584),

Gene: Eidsmoe\_36 Start: 27077, Stop: 27658, Start Num: 23

Candidate Starts for Eidsmoe\_36:

(Start: 16 @27032 has 9 MA's), (Start: 23 @27077 has 87 MA's), (Start: 26 @27098 has 7 MA's), (56, 27308), (64, 27377), (66, 27407), (69, 27434), (82, 27503), (100, 27641),

Gene: Elephantoon\_35 Start: 26446, Stop: 27027, Start Num: 23

Candidate Starts for Elephantoon\_35:

(Start: 16 @26401 has 9 MA's), (Start: 22 @26437 has 14 MA's), (Start: 23 @26446 has 87 MA's), (27, 26485), (36, 26551), (40, 26584), (56, 26677), (64, 26746), (69, 26803), (82, 26872), (100, 27010),

Gene: EmyBug\_35 Start: 27034, Stop: 27660, Start Num: 16

Candidate Starts for EmyBug\_35:

(Start: 16 @27034 has 9 MA's), (Start: 23 @27079 has 87 MA's), (Start: 26 @27100 has 7 MA's), (56, 27310), (64, 27379), (66, 27409), (69, 27436), (82, 27505), (100, 27643),

Gene: Epsocamisio\_36 Start: 24680, Stop: 25246, Start Num: 23

Candidate Starts for Epsocamisio\_36:

(Start: 22 @24671 has 14 MA's), (Start: 23 @24680 has 87 MA's), (27, 24716), (28, 24737), (29, 24743), (36, 24782), (37, 24785), (45, 24839), (56, 24896), (73, 25037), (75, 25046), (76, 25049), (82, 25091), (89, 25124), (96, 25208), (99, 25226), (100, 25229),

Gene: EricB\_37 Start: 25067, Stop: 25645, Start Num: 23

Candidate Starts for EricB\_37:

(Start: 10 @24959 has 7 MA's), (Start: 16 @25022 has 9 MA's), (Start: 23 @25067 has 87 MA's), (Start: 26 @25085 has 7 MA's), (27, 25103), (28, 25124), (35, 25166), (36, 25169), (41, 25208), (47, 25238), (53, 25274), (56, 25295), (63, 25361), (67, 25403), (72, 25433), (75, 25445), (77, 25451), (78, 25460), (79, 25478), (80, 25481), (84, 25499), (87, 25517), (91, 25535), (94, 25577), (96, 25607), (100, 25628),

Gene: Et2Brutus\_33 Start: 26053, Stop: 26613, Start Num: 26

Candidate Starts for Et2Brutus\_33:

(Start: 23 @26035 has 87 MA's), (Start: 26 @26053 has 7 MA's), (27, 26071), (28, 26092), (33, 26125), (35, 26134), (36, 26137), (41, 26176), (47, 26206), (56, 26263), (63, 26329), (72, 26401), (75, 26413), (77, 26419), (79, 26446), (80, 26449), (83, 26464), (84, 26467), (87, 26485), (89, 26491), (91, 26503), (94, 26545), (96, 26575), (100, 26596),

Gene: Fayely\_36 Start: 27001, Stop: 27627, Start Num: 16

Candidate Starts for Fayely\_36:

(Start: 16 @27001 has 9 MA's), (Start: 23 @27046 has 87 MA's), (Start: 26 @27067 has 7 MA's), (56, 27277), (64, 27346), (66, 27376), (69, 27403), (82, 27472), (100, 27610),

Gene: Fibonacci\_33 Start: 25684, Stop: 26244, Start Num: 26

Candidate Starts for Fibonacci\_33:

(Start: 23 @25666 has 87 MA's), (Start: 26 @25684 has 7 MA's), (27, 25702), (28, 25723), (33, 25756), (35, 25765), (36, 25768), (41, 25807), (47, 25837), (53, 25873), (56, 25894), (63, 25960), (72, 26032), (75, 26044), (77, 26050), (79, 26077), (80, 26080), (83, 26095), (84, 26098), (87, 26116), (89, 26122), (91, 26134), (94, 26176), (96, 26206), (100, 26227),

Gene: First\_0033 Start: 26162, Stop: 26722, Start Num: 23

Candidate Starts for First\_0033:

(Start: 23 @26162 has 87 MA's), (24, 26168), (25, 26177), (Start: 26 @26180 has 7 MA's), (27, 26198), (28, 26219), (29, 26225), (34, 26258), (36, 26264), (40, 26297), (49, 26330), (63, 26435), (65, 26462), (78, 26537), (87, 26594), (89, 26600), (91, 26612), (94, 26654), (97, 26696), (100, 26705),

Gene: ForesterFrank\_36 Start: 28004, Stop: 28585, Start Num: 23

Candidate Starts for ForesterFrank\_36:

(Start: 23 @28004 has 87 MA's), (28, 28061), (35, 28103), (36, 28106), (49, 28187), (53, 28211), (58, 28241), (63, 28301), (75, 28385), (76, 28388), (77, 28391), (78, 28400), (79, 28418), (87, 28457), (91, 28475), (92, 28478), (96, 28547), (100, 28568),

Gene: Gail\_38 Start: 27949, Stop: 28542, Start Num: 21

Candidate Starts for Gail\_38:

(Start: 21 @27949 has 1 MA's), (Start: 23 @27964 has 87 MA's), (27, 28000), (28, 28021), (36, 28066), (38, 28087), (47, 28135), (49, 28147), (53, 28171), (55, 28189), (56, 28192), (58, 28198), (66, 28291), (77, 28348), (78, 28357), (79, 28375), (81, 28384), (87, 28414), (96, 28504), (100, 28525),

Gene: Gladiator\_37 Start: 25063, Stop: 25641, Start Num: 23

Candidate Starts for Gladiator\_37:

(Start: 10 @24955 has 7 MA's), (Start: 16 @25018 has 9 MA's), (Start: 23 @25063 has 87 MA's), (27, 25099), (28, 25120), (35, 25162), (36, 25165), (41, 25204), (47, 25234), (53, 25270), (56, 25291), (63,

25357), (67, 25399), (72, 25429), (75, 25441), (77, 25447), (78, 25456), (79, 25474), (80, 25477), (84, 25495), (87, 25513), (91, 25531), (94, 25573), (96, 25603), (100, 25624),

Gene: Hammer\_37 Start: 24767, Stop: 25453, Start Num: 10

Candidate Starts for Hammer\_37:

(Start: 10 @24767 has 7 MA's), (Start: 16 @24830 has 9 MA's), (Start: 23 @24875 has 87 MA's), (25, 24890), (27, 24911), (28, 24932), (35, 24974), (36, 24977), (41, 25016), (47, 25046), (53, 25082), (56, 25103), (63, 25169), (67, 25211), (72, 25241), (75, 25253), (77, 25259), (78, 25268), (79, 25286), (80, 25289), (84, 25307), (87, 25325), (89, 25331), (91, 25343), (94, 25385), (96, 25415), (100, 25436),

Gene: Hanray\_34 Start: 26979, Stop: 27605, Start Num: 16

Candidate Starts for Hanray\_34:

(Start: 16 @26979 has 9 MA's), (Start: 23 @27024 has 87 MA's), (Start: 26 @27045 has 7 MA's), (27, 27063), (40, 27162), (56, 27255), (64, 27324), (66, 27354), (69, 27381), (82, 27450), (100, 27588),

Gene: Helmet\_38 Start: 25075, Stop: 25653, Start Num: 23

Candidate Starts for Helmet\_38:

(Start: 10 @24967 has 7 MA's), (Start: 16 @25030 has 9 MA's), (Start: 23 @25075 has 87 MA's), (Start: 26 @25093 has 7 MA's), (27, 25111), (28, 25132), (35, 25174), (36, 25177), (41, 25216), (47, 25246), (53, 25282), (56, 25303), (63, 25369), (67, 25411), (72, 25441), (75, 25453), (77, 25459), (78, 25468), (79, 25486), (80, 25489), (84, 25507), (87, 25525), (91, 25543), (94, 25585), (96, 25615), (100, 25636),

Gene: Hexamo\_37 Start: 24812, Stop: 25399, Start Num: 22

Candidate Starts for Hexamo\_37:

(Start: 10 @24713 has 7 MA's), (Start: 16 @24776 has 9 MA's), (Start: 22 @24812 has 14 MA's), (Start: 23 @24821 has 87 MA's), (Start: 26 @24839 has 7 MA's), (27, 24857), (28, 24878), (35, 24920), (36, 24923), (41, 24962), (47, 24992), (53, 25028), (56, 25049), (63, 25115), (67, 25157), (72, 25187), (75, 25199), (77, 25205), (78, 25214), (79, 25232), (80, 25235), (84, 25253), (87, 25271), (89, 25277), (91, 25289), (94, 25331), (96, 25361), (100, 25382),

Gene: Horex\_34 Start: 27037, Stop: 27618, Start Num: 23

Candidate Starts for Horex\_34:

(Start: 16 @26980 has 9 MA's), (Start: 23 @27037 has 87 MA's), (Start: 26 @27058 has 7 MA's), (27, 27076), (40, 27175), (56, 27268), (64, 27337), (66, 27367), (69, 27394), (82, 27463), (100, 27601),

Gene: Hoot\_37 Start: 25052, Stop: 25630, Start Num: 23

Candidate Starts for Hoot\_37:

(Start: 10 @24944 has 7 MA's), (Start: 16 @25007 has 9 MA's), (Start: 23 @25052 has 87 MA's), (Start: 26 @25070 has 7 MA's), (27, 25088), (28, 25109), (35, 25151), (36, 25154), (41, 25193), (47, 25223), (53, 25259), (56, 25280), (63, 25346), (67, 25388), (72, 25418), (75, 25430), (77, 25436), (78, 25445), (79, 25463), (80, 25466), (84, 25484), (87, 25502), (91, 25520), (94, 25562), (96, 25592), (100, 25613),

Gene: HortumSL17\_36 Start: 27013, Stop: 27594, Start Num: 23

Candidate Starts for HortumSL17\_36:

(Start: 16 @26968 has 9 MA's), (Start: 23 @27013 has 87 MA's), (Start: 26 @27034 has 7 MA's), (56, 27244), (64, 27313), (66, 27343), (69, 27370), (82, 27439), (100, 27577),

Gene: Indra\_39 Start: 25076, Stop: 25654, Start Num: 23

Candidate Starts for Indra\_39:

(Start: 10 @24968 has 7 MA's), (Start: 16 @25031 has 9 MA's), (Start: 23 @25076 has 87 MA's), (Start: 26 @25094 has 7 MA's), (27, 25112), (28, 25133), (35, 25175), (36, 25178), (41, 25217), (47,

25247), (53, 25283), (56, 25304), (63, 25370), (67, 25412), (72, 25442), (75, 25454), (77, 25460), (78, 25469), (79, 25487), (80, 25490), (84, 25508), (87, 25526), (91, 25544), (94, 25586), (96, 25616), (100, 25637),

Gene: Insomnia\_34 Start: 26190, Stop: 26750, Start Num: 26

Candidate Starts for Insomnia\_34:

(Start: 23 @26172 has 87 MA's), (Start: 26 @26190 has 7 MA's), (27, 26208), (28, 26229), (33, 26262), (35, 26271), (36, 26274), (41, 26313), (47, 26343), (56, 26400), (63, 26466), (72, 26538), (75, 26550), (77, 26556), (79, 26583), (80, 26586), (83, 26601), (84, 26604), (89, 26628), (91, 26640), (94, 26682), (96, 26712), (100, 26733),

Gene: Isiphiwo\_37 Start: 25146, Stop: 25724, Start Num: 23

Candidate Starts for Isiphiwo\_37:

(Start: 10 @25038 has 7 MA's), (Start: 16 @25101 has 9 MA's), (Start: 23 @25146 has 87 MA's), (Start: 26 @25164 has 7 MA's), (27, 25182), (28, 25203), (35, 25245), (36, 25248), (41, 25287), (47, 25317), (53, 25353), (56, 25374), (63, 25440), (67, 25482), (72, 25512), (75, 25524), (77, 25530), (78, 25539), (79, 25557), (80, 25560), (84, 25578), (87, 25596), (91, 25614), (94, 25656), (96, 25686), (100, 25707),

Gene: JSwag\_36 Start: 24665, Stop: 25231, Start Num: 23

Candidate Starts for JSwag\_36:

(Start: 22 @24656 has 14 MA's), (Start: 23 @24665 has 87 MA's), (27, 24701), (28, 24722), (29, 24728), (36, 24767), (37, 24770), (45, 24824), (56, 24881), (73, 25022), (75, 25031), (76, 25034), (82, 25076), (89, 25109), (96, 25193), (99, 25211), (100, 25214),

Gene: Jabith\_34 Start: 26172, Stop: 26750, Start Num: 23

Candidate Starts for Jabith\_34:

(Start: 23 @26172 has 87 MA's), (Start: 26 @26190 has 7 MA's), (27, 26208), (28, 26229), (33, 26262), (35, 26271), (36, 26274), (41, 26313), (47, 26343), (53, 26379), (56, 26400), (63, 26466), (72, 26538), (75, 26550), (77, 26556), (79, 26583), (80, 26586), (84, 26604), (87, 26622), (89, 26628), (91, 26640), (94, 26682), (96, 26712), (100, 26733),

Gene: Jeffabunny\_37 Start: 24873, Stop: 25451, Start Num: 23

Candidate Starts for Jeffabunny\_37:

(Start: 10 @24765 has 7 MA's), (Start: 16 @24828 has 9 MA's), (Start: 22 @24864 has 14 MA's), (Start: 23 @24873 has 87 MA's), (Start: 26 @24891 has 7 MA's), (27, 24909), (28, 24930), (35, 24972), (36, 24975), (41, 25014), (47, 25044), (53, 25080), (56, 25101), (63, 25167), (67, 25209), (72, 25239), (75, 25251), (77, 25257), (78, 25266), (79, 25284), (80, 25287), (84, 25305), (87, 25323), (89, 25329), (91, 25341), (94, 25383), (96, 25413), (100, 25434),

Gene: JewelBug\_38 Start: 25080, Stop: 25658, Start Num: 23

Candidate Starts for JewelBug\_38:

(Start: 23 @25080 has 87 MA's), (Start: 26 @25098 has 7 MA's), (27, 25116), (28, 25137), (35, 25179), (36, 25182), (41, 25221), (47, 25251), (53, 25287), (56, 25308), (63, 25374), (67, 25416), (72, 25446), (75, 25458), (77, 25464), (78, 25473), (79, 25491), (80, 25494), (84, 25512), (87, 25530), (91, 25548), (94, 25590), (96, 25620), (100, 25641),

Gene: Jiawan\_34 Start: 27011, Stop: 27637, Start Num: 16

Candidate Starts for Jiawan\_34:

(Start: 16 @27011 has 9 MA's), (Start: 23 @27056 has 87 MA's), (Start: 26 @27077 has 7 MA's), (27, 27095), (40, 27194), (56, 27287), (64, 27356), (66, 27386), (69, 27413), (82, 27482), (100, 27620),

Gene: Jordennis\_37 Start: 24956, Stop: 25642, Start Num: 10

Candidate Starts for Jordennis\_37:

(Start: 10 @24956 has 7 MA's), (Start: 16 @25019 has 9 MA's), (Start: 23 @25064 has 87 MA's), (Start: 26 @25082 has 7 MA's), (27, 25100), (28, 25121), (35, 25163), (36, 25166), (41, 25205), (47, 25235), (53, 25271), (56, 25292), (63, 25358), (67, 25400), (72, 25430), (75, 25442), (77, 25448), (78, 25457), (79, 25475), (80, 25478), (84, 25496), (91, 25532), (94, 25574), (96, 25604), (100, 25625),

Gene: Joselito\_34 Start: 26120, Stop: 26698, Start Num: 23

Candidate Starts for Joselito\_34:

(Start: 23 @26120 has 87 MA's), (Start: 26 @26138 has 7 MA's), (27, 26156), (28, 26177), (33, 26210), (35, 26219), (36, 26222), (41, 26261), (47, 26291), (56, 26348), (63, 26414), (72, 26486), (75, 26498), (77, 26504), (79, 26531), (80, 26534), (83, 26549), (84, 26552), (87, 26570), (89, 26576), (91, 26588), (94, 26630), (96, 26660), (100, 26681),

Gene: KatherineG\_36 Start: 24801, Stop: 25367, Start Num: 23

Candidate Starts for KatherineG\_36:

(Start: 22 @24792 has 14 MA's), (Start: 23 @24801 has 87 MA's), (27, 24837), (28, 24858), (29, 24864), (36, 24903), (37, 24906), (45, 24960), (56, 25017), (73, 25158), (75, 25167), (76, 25170), (82, 25212), (89, 25245), (96, 25329), (99, 25347), (100, 25350),

Gene: Kazan\_38 Start: 24972, Stop: 25658, Start Num: 10

Candidate Starts for Kazan\_38:

(Start: 10 @24972 has 7 MA's), (Start: 16 @25035 has 9 MA's), (Start: 23 @25080 has 87 MA's), (Start: 26 @25098 has 7 MA's), (27, 25116), (28, 25137), (35, 25179), (36, 25182), (41, 25221), (47, 25251), (53, 25287), (56, 25308), (63, 25374), (67, 25416), (72, 25446), (75, 25458), (77, 25464), (78, 25473), (79, 25491), (80, 25494), (84, 25512), (87, 25530), (91, 25548), (94, 25590), (96, 25620), (100, 25641),

Gene: Keziacharles14\_36 Start: 27979, Stop: 28554, Start Num: 23

Candidate Starts for Keziacharles14\_36:

(Start: 16 @27934 has 9 MA's), (Start: 22 @27970 has 14 MA's), (Start: 23 @27979 has 87 MA's), (Start: 26 @27997 has 7 MA's), (27, 28015), (36, 28081), (40, 28114), (64, 28273), (66, 28303), (69, 28330), (82, 28399), (100, 28537), (101, 28540),

Gene: Koko\_37 Start: 25413, Stop: 25991, Start Num: 23

Candidate Starts for Koko\_37:

(Start: 10 @25305 has 7 MA's), (Start: 16 @25368 has 9 MA's), (Start: 23 @25413 has 87 MA's), (Start: 26 @25431 has 7 MA's), (27, 25449), (28, 25470), (35, 25512), (36, 25515), (41, 25554), (47, 25584), (53, 25620), (56, 25641), (63, 25707), (67, 25749), (72, 25779), (75, 25791), (77, 25797), (78, 25806), (79, 25824), (80, 25827), (84, 25845), (87, 25863), (89, 25869), (91, 25881), (94, 25923), (96, 25953), (100, 25974),

Gene: LadyBird\_35 Start: 26523, Stop: 27110, Start Num: 22

Candidate Starts for LadyBird\_35:

(Start: 22 @26523 has 14 MA's), (Start: 23 @26532 has 87 MA's), (Start: 26 @26553 has 7 MA's), (27, 26571), (36, 26637), (40, 26670), (66, 26859), (94, 27042), (100, 27093),

Gene: LastResort\_36 Start: 24682, Stop: 25248, Start Num: 23

Candidate Starts for LastResort\_36:

(Start: 22 @24673 has 14 MA's), (Start: 23 @24682 has 87 MA's), (27, 24718), (28, 24739), (29, 24745), (36, 24784), (37, 24787), (45, 24841), (56, 24898), (73, 25039), (75, 25048), (76, 25051), (82, 25093), (89, 25126), (96, 25210), (99, 25228), (100, 25231),

Gene: Lilbunny\_36 Start: 24847, Stop: 25425, Start Num: 23

Candidate Starts for Lilbunny\_36:

(Start: 10 @24739 has 7 MA's), (Start: 16 @24802 has 9 MA's), (Start: 22 @24838 has 14 MA's), (Start: 23 @24847 has 87 MA's), (Start: 26 @24865 has 7 MA's), (27, 24883), (28, 24904), (35, 24946), (36, 24949), (41, 24988), (47, 25018), (53, 25054), (56, 25075), (63, 25141), (67, 25183), (72, 25213), (75, 25225), (77, 25231), (78, 25240), (79, 25258), (80, 25261), (84, 25279), (87, 25297), (91, 25315), (94, 25357), (96, 25387), (100, 25408),

Gene: Lilleskat\_33 Start: 27032, Stop: 27613, Start Num: 23

Candidate Starts for Lilleskat\_33:

(Start: 16 @26975 has 9 MA's), (Start: 23 @27032 has 87 MA's), (Start: 26 @27053 has 7 MA's), (27, 27071), (40, 27170), (56, 27263), (64, 27332), (66, 27362), (69, 27389), (82, 27458), (100, 27596),

Gene: LogiBear\_38 Start: 25606, Stop: 26193, Start Num: 22

Candidate Starts for LogiBear\_38:

(Start: 22 @25606 has 14 MA's), (Start: 23 @25615 has 87 MA's), (28, 25672), (29, 25678), (34, 25711), (36, 25717), (47, 25786), (52, 25819), (61, 25897), (64, 25912), (82, 26038), (86, 26056), (89, 26071), (98, 26170), (99, 26173), (100, 26176),

Gene: LoneWolf\_35 Start: 26563, Stop: 27189, Start Num: 16

Candidate Starts for LoneWolf\_35:

(Start: 16 @26563 has 9 MA's), (Start: 22 @26599 has 14 MA's), (Start: 23 @26608 has 87 MA's), (Start: 26 @26629 has 7 MA's), (27, 26647), (36, 26713), (40, 26746), (56, 26839), (64, 26908), (69, 26965), (82, 27034), (100, 27172),

Gene: Looper\_37 Start: 24679, Stop: 25245, Start Num: 23

Candidate Starts for Looper\_37:

(Start: 22 @24670 has 14 MA's), (Start: 23 @24679 has 87 MA's), (27, 24715), (28, 24736), (29, 24742), (36, 24781), (37, 24784), (45, 24838), (56, 24895), (73, 25036), (75, 25045), (76, 25048), (82, 25090), (89, 25123), (96, 25207), (99, 25225), (100, 25228),

Gene: Loser\_37 Start: 27695, Stop: 28273, Start Num: 23

Candidate Starts for Loser\_37:

(Start: 16 @27650 has 9 MA's), (17, 27668), (19, 27674), (Start: 22 @27686 has 14 MA's), (Start: 23 @27695 has 87 MA's), (27, 27731), (28, 27752), (35, 27794), (36, 27797), (47, 27866), (49, 27878), (56, 27923), (63, 27989), (72, 28061), (77, 28079), (78, 28088), (79, 28106), (82, 28118), (87, 28145), (89, 28151), (94, 28205), (96, 28235), (100, 28256),

Gene: Luchador\_38 Start: 28694, Stop: 29275, Start Num: 23

Candidate Starts for Luchador\_38:

(4, 28466), (5, 28469), (9, 28529), (12, 28601), (17, 28661), (Start: 23 @28694 has 87 MA's), (27, 28733), (28, 28754), (35, 28796), (36, 28799), (46, 28865), (47, 28868), (55, 28922), (61, 28979), (63, 28991), (65, 29018), (68, 29045), (77, 29081), (78, 29090), (91, 29165), (94, 29207), (100, 29258), (101, 29261),

Gene: Lucivia\_34 Start: 26169, Stop: 26747, Start Num: 23

Candidate Starts for Lucivia\_34:

(Start: 23 @26169 has 87 MA's), (Start: 26 @26187 has 7 MA's), (27, 26205), (28, 26226), (33, 26259), (35, 26268), (36, 26271), (41, 26310), (47, 26340), (56, 26397), (63, 26463), (72, 26535), (75, 26547), (77, 26553), (79, 26580), (80, 26583), (84, 26601), (87, 26619), (89, 26625), (91, 26637), (94, 26679), (96, 26709), (100, 26730),

Gene: Lucyedi\_37 Start: 26542, Stop: 27120, Start Num: 23

Candidate Starts for Lucyedi\_37:

(Start: 22 @26533 has 14 MA's), (Start: 23 @26542 has 87 MA's), (27, 26578), (29, 26605), (35, 26641), (36, 26644), (49, 26725), (50, 26728), (56, 26767), (58, 26773), (66, 26866), (69, 26893), (70, 26899), (75, 26920), (78, 26935), (87, 26992), (89, 26998), (90, 27001), (91, 27010), (94, 27052), (95, 27064), (97, 27094), (100, 27103),

Gene: Maminiaina\_34 Start: 26568, Stop: 27146, Start Num: 23

Candidate Starts for Maminiaina\_34:

(Start: 23 @26568 has 87 MA's), (27, 26604), (28, 26625), (53, 26775), (56, 26796), (63, 26862), (66, 26895), (77, 26952), (79, 26979), (80, 26982), (87, 27018), (89, 27024), (94, 27078), (96, 27108), (97, 27120), (100, 27129), (101, 27132),

Gene: McFly\_37 Start: 24966, Stop: 25652, Start Num: 10

Candidate Starts for McFly\_37:

(Start: 10 @24966 has 7 MA's), (Start: 16 @25029 has 9 MA's), (Start: 23 @25074 has 87 MA's), (Start: 26 @25092 has 7 MA's), (27, 25110), (28, 25131), (35, 25173), (36, 25176), (41, 25215), (47, 25245), (53, 25281), (56, 25302), (63, 25368), (67, 25410), (72, 25440), (75, 25452), (77, 25458), (78, 25467), (79, 25485), (80, 25488), (84, 25506), (87, 25524), (91, 25542), (94, 25584), (96, 25614), (100, 25635),

Gene: Miko\_37 Start: 27726, Stop: 28304, Start Num: 23

Candidate Starts for Miko\_37:

(Start: 10 @27618 has 7 MA's), (Start: 23 @27726 has 87 MA's), (27, 27762), (28, 27783), (35, 27825), (36, 27828), (41, 27867), (49, 27909), (53, 27933), (56, 27954), (63, 28020), (64, 28023), (75, 28104), (77, 28110), (78, 28119), (79, 28137), (82, 28149), (87, 28176), (90, 28185), (91, 28194), (96, 28266), (100, 28287),

Gene: MinecraftSteve\_37 Start: 24792, Stop: 25367, Start Num: 22

Candidate Starts for MinecraftSteve\_37:

(Start: 22 @24792 has 14 MA's), (Start: 23 @24801 has 87 MA's), (27, 24837), (28, 24858), (29, 24864), (36, 24903), (37, 24906), (45, 24960), (56, 25017), (73, 25158), (75, 25167), (76, 25170), (82, 25212), (89, 25245), (96, 25329), (99, 25347), (100, 25350),

Gene: Minispark\_33 Start: 26070, Stop: 26690, Start Num: 16

Candidate Starts for Minispark\_33:

(11, 26031), (Start: 16 @26070 has 9 MA's), (Start: 22 @26106 has 14 MA's), (Start: 23 @26115 has 87 MA's), (Start: 26 @26133 has 7 MA's), (27, 26151), (36, 26217), (40, 26250), (64, 26409), (69, 26466), (91, 26580), (100, 26673),

Gene: Mulciber\_33 Start: 25663, Stop: 26241, Start Num: 23

Candidate Starts for Mulciber\_33:

(Start: 23 @25663 has 87 MA's), (Start: 26 @25681 has 7 MA's), (27, 25699), (28, 25720), (33, 25753), (35, 25762), (36, 25765), (41, 25804), (47, 25834), (56, 25891), (63, 25957), (72, 26029), (75, 26041), (77, 26047), (79, 26074), (80, 26077), (83, 26092), (84, 26095), (87, 26113), (89, 26119), (91, 26131), (94, 26173), (96, 26203), (100, 26224),

Gene: Munch\_34 Start: 26120, Stop: 26698, Start Num: 23

Candidate Starts for Munch\_34:

(Start: 23 @26120 has 87 MA's), (Start: 26 @26138 has 7 MA's), (27, 26156), (28, 26177), (33, 26210), (35, 26219), (36, 26222), (41, 26261), (47, 26291), (53, 26327), (56, 26348), (63, 26414), (72, 26486), (75, 26498), (77, 26504), (79, 26531), (80, 26534), (84, 26552), (87, 26570), (89, 26576), (91, 26588), (94, 26630), (96, 26660), (100, 26681),

Gene: Myxus\_36 Start: 27013, Stop: 27594, Start Num: 23

Candidate Starts for Myxus\_36:

(Start: 16 @26968 has 9 MA's), (Start: 23 @27013 has 87 MA's), (Start: 26 @27034 has 7 MA's), (56, 27244), (64, 27313), (66, 27343), (69, 27370), (82, 27439), (100, 27577),

Gene: Nebulosus\_36 Start: 24679, Stop: 25245, Start Num: 23

Candidate Starts for Nebulosus\_36:

(Start: 22 @24670 has 14 MA's), (Start: 23 @24679 has 87 MA's), (27, 24715), (28, 24736), (29, 24742), (36, 24781), (37, 24784), (45, 24838), (56, 24895), (73, 25036), (75, 25045), (76, 25048), (82, 25090), (89, 25123), (96, 25207), (99, 25225), (100, 25228),

Gene: Nedarya\_35 Start: 25262, Stop: 25837, Start Num: 23

Candidate Starts for Nedarya\_35:

(Start: 23 @25262 has 87 MA's), (Start: 26 @25280 has 7 MA's), (27, 25298), (28, 25319), (36, 25364), (37, 25367), (39, 25394), (51, 25460), (54, 25475), (56, 25493), (60, 25541), (75, 25643), (77, 25649), (91, 25733), (100, 25826),

Gene: Neeharika16\_37 Start: 25085, Stop: 25645, Start Num: 26

Candidate Starts for Neeharika16\_37:

(Start: 10 @24959 has 7 MA's), (Start: 16 @25022 has 9 MA's), (Start: 23 @25067 has 87 MA's), (Start: 26 @25085 has 7 MA's), (27, 25103), (28, 25124), (35, 25166), (36, 25169), (41, 25208), (47, 25238), (53, 25274), (56, 25295), (63, 25361), (67, 25403), (72, 25433), (75, 25445), (77, 25451), (78, 25460), (79, 25478), (80, 25481), (84, 25499), (87, 25517), (91, 25535), (94, 25577), (96, 25607), (100, 25628),

Gene: Newrala\_37 Start: 25067, Stop: 25645, Start Num: 23

Candidate Starts for Newrala\_37:

(Start: 10 @24959 has 7 MA's), (Start: 16 @25022 has 9 MA's), (Start: 23 @25067 has 87 MA's), (Start: 26 @25085 has 7 MA's), (27, 25103), (28, 25124), (35, 25166), (36, 25169), (41, 25208), (47, 25238), (53, 25274), (56, 25295), (63, 25361), (67, 25403), (72, 25433), (75, 25445), (77, 25451), (78, 25460), (79, 25478), (80, 25481), (84, 25499), (87, 25517), (91, 25535), (94, 25577), (96, 25607), (100, 25628),

Gene: Onglai\_34 Start: 25309, Stop: 25935, Start Num: 16

Candidate Starts for Onglai\_34:

(Start: 16 @25309 has 9 MA's), (Start: 23 @25354 has 87 MA's), (Start: 26 @25375 has 7 MA's), (27, 25393), (40, 25492), (56, 25585), (64, 25654), (66, 25684), (69, 25711), (82, 25780), (100, 25918),

Gene: Oofda\_36 Start: 24653, Stop: 25219, Start Num: 23

Candidate Starts for Oofda\_36:

(Start: 22 @24644 has 14 MA's), (Start: 23 @24653 has 87 MA's), (27, 24689), (28, 24710), (29, 24716), (36, 24755), (37, 24758), (45, 24812), (56, 24869), (73, 25010), (75, 25019), (82, 25064), (89, 25097), (96, 25181), (99, 25199), (100, 25202),

Gene: Orange\_33 Start: 25669, Stop: 26247, Start Num: 23

Candidate Starts for Orange\_33:

(Start: 23 @25669 has 87 MA's), (Start: 26 @25687 has 7 MA's), (27, 25705), (28, 25726), (33, 25759), (35, 25768), (36, 25771), (41, 25810), (47, 25840), (56, 25897), (63, 25963), (72, 26035), (75, 26047), (77, 26053), (79, 26080), (80, 26083), (83, 26098), (84, 26101), (87, 26119), (89, 26125), (91, 26137), (94, 26179), (96, 26209), (100, 26230),

Gene: PackMan\_35 Start: 27013, Stop: 27594, Start Num: 23

Candidate Starts for PackMan\_35:

(Start: 16 @26968 has 9 MA's), (Start: 23 @27013 has 87 MA's), (Start: 26 @27034 has 7 MA's), (56, 27244), (64, 27313), (66, 27343), (69, 27370), (82, 27439), (100, 27577),

Gene: PainterBoy\_37 Start: 26478, Stop: 27056, Start Num: 23

Candidate Starts for PainterBoy\_37:

(Start: 22 @26469 has 14 MA's), (Start: 23 @26478 has 87 MA's), (27, 26514), (29, 26541), (35, 26577), (36, 26580), (49, 26661), (50, 26664), (56, 26703), (58, 26709), (66, 26802), (69, 26829), (70, 26835), (75, 26856), (78, 26871), (87, 26928), (89, 26934), (90, 26937), (91, 26946), (94, 26988), (95, 27000), (97, 27030), (100, 27039),

Gene: Phaeder\_36 Start: 27013, Stop: 27594, Start Num: 23

Candidate Starts for Phaeder\_36:

(Start: 16 @26968 has 9 MA's), (Start: 23 @27013 has 87 MA's), (Start: 26 @27034 has 7 MA's), (56, 27244), (64, 27313), (66, 27343), (69, 27370), (82, 27439), (100, 27577),

Gene: Phlei\_27 Start: 26952, Stop: 27530, Start Num: 23

Candidate Starts for Phlei\_27:

(20, 26934), (Start: 22 @26943 has 14 MA's), (Start: 23 @26952 has 87 MA's), (27, 26988), (28, 27009), (36, 27054), (40, 27087), (49, 27135), (55, 27174), (56, 27177), (58, 27183), (66, 27276), (67, 27285), (75, 27330), (78, 27345), (85, 27387), (89, 27408), (91, 27420), (96, 27492), (97, 27504), (100, 27513),

Gene: Phonnegut\_36 Start: 27040, Stop: 27618, Start Num: 23

Candidate Starts for Phonnegut\_36:

(Start: 23 @27040 has 87 MA's), (27, 27076), (28, 27097), (53, 27247), (56, 27268), (63, 27334), (66, 27367), (72, 27406), (77, 27424), (79, 27451), (87, 27490), (89, 27496), (94, 27550), (96, 27580), (97, 27592), (100, 27601), (101, 27604),

Gene: Pmask\_37 Start: 25068, Stop: 25646, Start Num: 23

Candidate Starts for Pmask\_37:

(Start: 10 @24960 has 7 MA's), (Start: 16 @25023 has 9 MA's), (Start: 23 @25068 has 87 MA's), (27, 25104), (28, 25125), (35, 25167), (36, 25170), (41, 25209), (47, 25239), (53, 25275), (56, 25296), (63, 25362), (67, 25404), (72, 25434), (75, 25446), (77, 25452), (78, 25461), (79, 25479), (80, 25482), (84, 25500), (87, 25518), (91, 25536), (94, 25578), (96, 25608), (100, 25629),

Gene: Polyphemus\_37 Start: 25066, Stop: 25644, Start Num: 23

Candidate Starts for Polyphemus\_37:

(Start: 10 @24958 has 7 MA's), (Start: 16 @25021 has 9 MA's), (Start: 23 @25066 has 87 MA's), (Start: 26 @25084 has 7 MA's), (27, 25102), (28, 25123), (35, 25165), (36, 25168), (41, 25207), (47, 25237), (53, 25273), (56, 25294), (63, 25360), (67, 25402), (72, 25432), (75, 25444), (77, 25450), (78, 25459), (79, 25477), (80, 25480), (84, 25498), (91, 25534), (94, 25576), (96, 25606), (100, 25627),

Gene: Priya\_36 Start: 27080, Stop: 27661, Start Num: 23

Candidate Starts for Priya\_36:

(Start: 16 @27035 has 9 MA's), (Start: 23 @27080 has 87 MA's), (Start: 26 @27101 has 7 MA's), (56, 27311), (64, 27380), (66, 27410), (69, 27437), (82, 27506), (100, 27644),

Gene: Prudy\_36 Start: 27742, Stop: 28332, Start Num: 22

Candidate Starts for Prudy\_36:

(Start: 22 @27742 has 14 MA's), (Start: 23 @27751 has 87 MA's), (27, 27790), (31, 27832), (34, 27850), (35, 27853), (36, 27856), (40, 27889), (49, 27937), (52, 27958), (58, 27985), (66, 28078), (74, 28129), (75, 28132), (77, 28138), (78, 28147), (79, 28165), (82, 28177), (89, 28210), (90, 28213), (91, 28222), (94, 28264), (100, 28315),

Gene: Qobbit\_36 Start: 26997, Stop: 27623, Start Num: 16

Candidate Starts for Qobbit\_36:

(Start: 16 @26997 has 9 MA's), (Start: 23 @27042 has 87 MA's), (Start: 26 @27063 has 7 MA's), (56, 27273), (64, 27342), (66, 27372), (69, 27399), (82, 27468), (100, 27606),

Gene: Rachaly\_37 Start: 27592, Stop: 28170, Start Num: 23

Candidate Starts for Rachaly\_37:

(8, 27427), (Start: 10 @27484 has 7 MA's), (Start: 23 @27592 has 87 MA's), (27, 27628), (28, 27649), (35, 27691), (36, 27694), (41, 27733), (49, 27775), (53, 27799), (56, 27820), (63, 27886), (64, 27889), (75, 27970), (77, 27976), (78, 27985), (79, 28003), (82, 28015), (87, 28042), (90, 28051), (91, 28060), (96, 28132), (100, 28153),

Gene: Rahalelujah\_34 Start: 26115, Stop: 26690, Start Num: 23

Candidate Starts for Rahalelujah\_34:

(11, 26031), (Start: 16 @26070 has 9 MA's), (Start: 22 @26106 has 14 MA's), (Start: 23 @26115 has 87 MA's), (Start: 26 @26133 has 7 MA's), (27, 26151), (36, 26217), (40, 26250), (64, 26409), (69, 26466), (85, 26547), (100, 26673),

Gene: Ravana\_36 Start: 24634, Stop: 25209, Start Num: 22

Candidate Starts for Ravana\_36:

(Start: 22 @24634 has 14 MA's), (Start: 23 @24643 has 87 MA's), (27, 24679), (28, 24700), (29, 24706), (36, 24745), (37, 24748), (45, 24802), (56, 24859), (73, 25000), (75, 25009), (76, 25012), (82, 25054), (89, 25087), (96, 25171), (99, 25189), (100, 25192),

Gene: ReMo\_36 Start: 24679, Stop: 25245, Start Num: 23

Candidate Starts for ReMo\_36:

(Start: 22 @24670 has 14 MA's), (Start: 23 @24679 has 87 MA's), (27, 24715), (28, 24736), (29, 24742), (36, 24781), (37, 24784), (45, 24838), (56, 24895), (73, 25036), (75, 25045), (76, 25048), (82, 25090), (89, 25123), (96, 25207), (99, 25225), (100, 25228),

Gene: RedRock\_37 Start: 27898, Stop: 28455, Start Num: 23

Candidate Starts for RedRock\_37:

(Start: 23 @27898 has 87 MA's), (24, 27904), (25, 27913), (33, 27988), (34, 27994), (36, 28000), (49, 28066), (63, 28171), (65, 28198), (71, 28237), (75, 28255), (78, 28270), (87, 28327), (91, 28345), (94, 28387), (100, 28438),

Gene: Refuge\_38 Start: 28887, Stop: 29447, Start Num: 23

Candidate Starts for Refuge\_38:

(3, 28611), (4, 28662), (Start: 23 @28887 has 87 MA's), (27, 28923), (28, 28944), (29, 28950), (33, 28977), (36, 28989), (42, 29031), (45, 29049), (48, 29061), (56, 29109), (60, 29157), (75, 29259), (78, 29274), (82, 29304), (93, 29370), (94, 29391), (96, 29421), (97, 29433), (99, 29436), (100, 29439),

Gene: Remus\_36 Start: 24643, Stop: 25209, Start Num: 23

Candidate Starts for Remus\_36:

(Start: 22 @24634 has 14 MA's), (Start: 23 @24643 has 87 MA's), (27, 24679), (28, 24700), (29, 24706), (36, 24745), (37, 24748), (45, 24802), (56, 24859), (73, 25000), (75, 25009), (76, 25012), (82, 25054), (89, 25087), (96, 25171), (99, 25189), (100, 25192),

Gene: Rifter\_37 Start: 24837, Stop: 25415, Start Num: 23

Candidate Starts for Rifter\_37:

(Start: 10 @24729 has 7 MA's), (Start: 16 @24792 has 9 MA's), (Start: 23 @24837 has 87 MA's), (25, 24852), (27, 24873), (28, 24894), (35, 24936), (36, 24939), (41, 24978), (47, 25008), (53, 25044), (56,

25065), (63, 25131), (67, 25173), (72, 25203), (75, 25215), (77, 25221), (78, 25230), (79, 25248), (80, 25251), (84, 25269), (87, 25287), (89, 25293), (91, 25305), (94, 25347), (96, 25377), (100, 25398),

Gene: Roksolana\_38 Start: 24980, Stop: 25666, Start Num: 10

Candidate Starts for Roksolana\_38:

(Start: 10 @24980 has 7 MA's), (Start: 16 @25043 has 9 MA's), (Start: 23 @25088 has 87 MA's), (Start: 26 @25106 has 7 MA's), (27, 25124), (28, 25145), (35, 25187), (36, 25190), (41, 25229), (47, 25259), (53, 25295), (56, 25316), (63, 25382), (67, 25424), (72, 25454), (75, 25466), (77, 25472), (78, 25481), (79, 25499), (80, 25502), (84, 25520), (87, 25538), (89, 25544), (91, 25556), (94, 25598), (96, 25628), (100, 25649),

Gene: Rosalind\_36 Start: 24801, Stop: 25367, Start Num: 23

Candidate Starts for Rosalind\_36:

(Start: 22 @24792 has 14 MA's), (Start: 23 @24801 has 87 MA's), (27, 24837), (28, 24858), (29, 24864), (36, 24903), (37, 24906), (45, 24960), (56, 25017), (73, 25158), (75, 25167), (76, 25170), (82, 25212), (89, 25245), (96, 25329), (99, 25347), (100, 25350),

Gene: Salz\_34 Start: 26023, Stop: 26601, Start Num: 23

Candidate Starts for Salz\_34:

(Start: 23 @26023 has 87 MA's), (Start: 26 @26041 has 7 MA's), (27, 26059), (28, 26080), (33, 26113), (35, 26122), (36, 26125), (41, 26164), (47, 26194), (56, 26251), (63, 26317), (72, 26389), (75, 26401), (77, 26407), (79, 26434), (80, 26437), (83, 26452), (84, 26455), (87, 26473), (89, 26479), (91, 26491), (94, 26533), (96, 26563), (100, 26584),

Gene: Scherzo\_35 Start: 26980, Stop: 27606, Start Num: 16

Candidate Starts for Scherzo\_35:

(Start: 16 @26980 has 9 MA's), (Start: 23 @27025 has 87 MA's), (Start: 26 @27046 has 7 MA's), (56, 27256), (64, 27325), (66, 27355), (69, 27382), (82, 27451), (100, 27589),

Gene: ShayRa\_37 Start: 24801, Stop: 25367, Start Num: 23

Candidate Starts for ShayRa\_37:

(Start: 22 @24792 has 14 MA's), (Start: 23 @24801 has 87 MA's), (27, 24837), (28, 24858), (29, 24864), (36, 24903), (37, 24906), (45, 24960), (56, 25017), (73, 25158), (75, 25167), (76, 25170), (82, 25212), (89, 25245), (96, 25329), (99, 25347), (100, 25350),

Gene: SmellyB\_37 Start: 25092, Stop: 25652, Start Num: 26

Candidate Starts for SmellyB\_37:

(Start: 10 @24966 has 7 MA's), (Start: 16 @25029 has 9 MA's), (Start: 23 @25074 has 87 MA's), (Start: 26 @25092 has 7 MA's), (27, 25110), (28, 25131), (35, 25173), (36, 25176), (41, 25215), (47, 25245), (53, 25281), (56, 25302), (63, 25368), (67, 25410), (72, 25440), (75, 25452), (77, 25458), (78, 25467), (79, 25485), (80, 25488), (84, 25506), (87, 25524), (91, 25542), (94, 25584), (96, 25614), (100, 25635),

Gene: Snape\_33 Start: 25666, Stop: 26244, Start Num: 23

Candidate Starts for Snape\_33:

(Start: 23 @25666 has 87 MA's), (Start: 26 @25684 has 7 MA's), (27, 25702), (28, 25723), (33, 25756), (35, 25765), (36, 25768), (41, 25807), (47, 25837), (56, 25894), (63, 25960), (72, 26032), (75, 26044), (77, 26050), (79, 26077), (80, 26080), (83, 26095), (84, 26098), (87, 26116), (89, 26122), (91, 26134), (94, 26176), (96, 26206), (100, 26227),

Gene: Soups\_36 Start: 24801, Stop: 25367, Start Num: 23

Candidate Starts for Soups\_36:

(Start: 22 @24792 has 14 MA's), (Start: 23 @24801 has 87 MA's), (27, 24837), (28, 24858), (29, 24864), (36, 24903), (37, 24906), (45, 24960), (56, 25017), (73, 25158), (75, 25167), (76, 25170), (82, 25212), (89, 25245), (96, 25329), (99, 25347), (100, 25350),

Gene: Spouty\_36 Start: 27034, Stop: 27660, Start Num: 16

Candidate Starts for Spouty\_36:

(Start: 16 @27034 has 9 MA's), (Start: 23 @27079 has 87 MA's), (Start: 26 @27100 has 7 MA's), (56, 27310), (64, 27379), (66, 27409), (69, 27436), (82, 27505), (100, 27643),

Gene: Steamy\_34 Start: 26828, Stop: 27385, Start Num: 23

Candidate Starts for Steamy\_34:

(Start: 23 @26828 has 87 MA's), (25, 26843), (Start: 26 @26846 has 7 MA's), (27, 26864), (34, 26924), (36, 26930), (37, 26933), (50, 26999), (65, 27128), (71, 27167), (74, 27182), (87, 27257), (89, 27263), (91, 27275), (100, 27368),

Gene: Strosahl\_36 Start: 24634, Stop: 25209, Start Num: 22

Candidate Starts for Strosahl\_36:

(Start: 22 @24634 has 14 MA's), (Start: 23 @24643 has 87 MA's), (27, 24679), (28, 24700), (29, 24706), (36, 24745), (37, 24748), (45, 24802), (56, 24859), (73, 25000), (75, 25009), (76, 25012), (82, 25054), (89, 25087), (96, 25171), (99, 25189), (100, 25192),

Gene: Sunhee\_37 Start: 26471, Stop: 27049, Start Num: 23

Candidate Starts for Sunhee\_37:

(Start: 22 @26462 has 14 MA's), (Start: 23 @26471 has 87 MA's), (27, 26510), (36, 26576), (40, 26609), (55, 26696), (61, 26753), (69, 26825), (85, 26906), (100, 27032), (101, 27035),

Gene: SuperAwesome\_37 Start: 25067, Stop: 25645, Start Num: 23

Candidate Starts for SuperAwesome\_37:

(Start: 10 @24959 has 7 MA's), (Start: 16 @25022 has 9 MA's), (Start: 23 @25067 has 87 MA's), (27, 25103), (28, 25124), (35, 25166), (36, 25169), (41, 25208), (47, 25238), (53, 25274), (56, 25295), (63, 25361), (67, 25403), (72, 25433), (75, 25445), (77, 25451), (78, 25460), (79, 25478), (80, 25481), (84, 25499), (87, 25517), (91, 25535), (94, 25577), (96, 25607), (100, 25628),

Gene: Switzerland\_36 Start: 24786, Stop: 25361, Start Num: 22

Candidate Starts for Switzerland\_36:

(Start: 22 @24786 has 14 MA's), (Start: 23 @24795 has 87 MA's), (27, 24831), (28, 24852), (29, 24858), (36, 24897), (37, 24900), (45, 24954), (56, 25011), (73, 25152), (75, 25161), (76, 25164), (82, 25206), (89, 25239), (96, 25323), (99, 25341), (100, 25344),

Gene: Temprado\_37 Start: 25075, Stop: 25653, Start Num: 23

Candidate Starts for Temprado\_37:

(Start: 10 @24967 has 7 MA's), (Start: 16 @25030 has 9 MA's), (Start: 23 @25075 has 87 MA's), (Start: 26 @25093 has 7 MA's), (27, 25111), (28, 25132), (35, 25174), (36, 25177), (41, 25216), (47, 25246), (53, 25282), (56, 25303), (63, 25369), (67, 25411), (72, 25441), (75, 25453), (77, 25459), (78, 25468), (79, 25486), (80, 25489), (84, 25507), (87, 25525), (91, 25543), (94, 25585), (96, 25615), (100, 25636),

Gene: Timothy\_34 Start: 26026, Stop: 26604, Start Num: 23

Candidate Starts for Timothy\_34:

(Start: 23 @26026 has 87 MA's), (Start: 26 @26044 has 7 MA's), (27, 26062), (28, 26083), (33, 26116), (35, 26125), (36, 26128), (41, 26167), (47, 26197), (56, 26254), (63, 26320), (72, 26392), (75, 26404), (77, 26410), (79, 26437), (80, 26440), (83, 26455), (84, 26458), (87, 26476), (89, 26482), (91, 26494), (94, 26536), (96, 26566), (100, 26587),

Gene: TinyTimmy\_34 Start: 26087, Stop: 26647, Start Num: 26

Candidate Starts for TinyTimmy\_34:

(Start: 23 @26069 has 87 MA's), (Start: 26 @26087 has 7 MA's), (27, 26105), (28, 26126), (33, 26159), (35, 26168), (36, 26171), (41, 26210), (47, 26240), (56, 26297), (63, 26363), (72, 26435), (75, 26447), (77, 26453), (79, 26480), (80, 26483), (83, 26498), (84, 26501), (87, 26519), (89, 26525), (91, 26537), (94, 26579), (96, 26609), (100, 26630),

Gene: Toaka\_34 Start: 26261, Stop: 26884, Start Num: 16

Candidate Starts for Toaka\_34:

(9, 26147), (Start: 16 @26261 has 9 MA's), (Start: 23 @26306 has 87 MA's), (Start: 26 @26327 has 7 MA's), (27, 26345), (36, 26411), (40, 26444), (64, 26603), (69, 26660), (82, 26729), (100, 26867),

Gene: Tubs\_36 Start: 27013, Stop: 27594, Start Num: 23

Candidate Starts for Tubs\_36:

(Start: 16 @26968 has 9 MA's), (Start: 23 @27013 has 87 MA's), (Start: 26 @27034 has 7 MA's), (56, 27244), (64, 27313), (66, 27343), (69, 27370), (82, 27439), (100, 27577),

Gene: Ugenie5\_32 Start: 26979, Stop: 27605, Start Num: 16

Candidate Starts for Ugenie5\_32:

(Start: 16 @26979 has 9 MA's), (Start: 23 @27024 has 87 MA's), (Start: 26 @27045 has 7 MA's), (56, 27255), (64, 27324), (66, 27354), (69, 27381), (82, 27450), (100, 27588),

Gene: Vanisoa\_35 Start: 27553, Stop: 28128, Start Num: 23

Candidate Starts for Vanisoa\_35:

(13, 27469), (Start: 16 @27508 has 9 MA's), (Start: 23 @27553 has 87 MA's), (Start: 26 @27571 has 7 MA's), (27, 27589), (36, 27655), (40, 27688), (64, 27847), (69, 27904), (82, 27973), (100, 28111), (101, 28114),

Gene: VohminGhazi\_37 Start: 24966, Stop: 25652, Start Num: 10

Candidate Starts for VohminGhazi\_37:

(Start: 10 @24966 has 7 MA's), (Start: 16 @25029 has 9 MA's), (Start: 23 @25074 has 87 MA's), (Start: 26 @25092 has 7 MA's), (27, 25110), (28, 25131), (35, 25173), (36, 25176), (41, 25215), (47, 25245), (53, 25281), (56, 25302), (63, 25368), (67, 25410), (72, 25440), (75, 25452), (77, 25458), (78, 25467), (79, 25485), (80, 25488), (84, 25506), (87, 25524), (91, 25542), (94, 25584), (96, 25614), (100, 25635),

Gene: Waits\_36 Start: 24649, Stop: 25215, Start Num: 23

Candidate Starts for Waits\_36:

(Start: 22 @24640 has 14 MA's), (Start: 23 @24649 has 87 MA's), (27, 24685), (28, 24706), (29, 24712), (36, 24751), (37, 24754), (45, 24808), (56, 24865), (73, 25006), (75, 25015), (76, 25018), (82, 25060), (89, 25093), (96, 25177), (99, 25195), (100, 25198),

Gene: Warrior24\_36 Start: 24641, Stop: 25207, Start Num: 23

Candidate Starts for Warrior24\_36:

(Start: 22 @24632 has 14 MA's), (Start: 23 @24641 has 87 MA's), (27, 24677), (28, 24698), (29, 24704), (36, 24743), (37, 24746), (45, 24800), (56, 24857), (73, 24998), (75, 25007), (76, 25010), (82, 25052), (89, 25085), (96, 25169), (99, 25187), (100, 25190),

Gene: WorldCup\_33 Start: 26031, Stop: 26690, Start Num: 11

Candidate Starts for WorldCup\_33:

(11, 26031), (Start: 16 @26070 has 9 MA's), (Start: 22 @26106 has 14 MA's), (Start: 23 @26115 has 87 MA's), (Start: 26 @26133 has 7 MA's), (27, 26151), (36, 26217), (40, 26250), (64, 26409), (69,

26466), (91, 26580), (100, 26673),

Gene: WunderPhul\_37 Start: 24737, Stop: 25423, Start Num: 10

Candidate Starts for WunderPhul\_37:

(Start: 10 @24737 has 7 MA's), (Start: 16 @24800 has 9 MA's), (Start: 23 @24845 has 87 MA's), (25, 24860), (27, 24881), (28, 24902), (35, 24944), (36, 24947), (41, 24986), (47, 25016), (53, 25052), (56, 25073), (63, 25139), (67, 25181), (72, 25211), (75, 25223), (77, 25229), (78, 25238), (79, 25256), (80, 25259), (84, 25277), (87, 25295), (91, 25313), (94, 25355), (96, 25385), (100, 25406),

Gene: Yokurt\_37 Start: 24838, Stop: 25425, Start Num: 22

Candidate Starts for Yokurt\_37:

(Start: 10 @24739 has 7 MA's), (Start: 16 @24802 has 9 MA's), (Start: 22 @24838 has 14 MA's), (Start: 23 @24847 has 87 MA's), (Start: 26 @24865 has 7 MA's), (27, 24883), (28, 24904), (35, 24946), (36, 24949), (41, 24988), (47, 25018), (53, 25054), (56, 25075), (63, 25141), (67, 25183), (72, 25213), (75, 25225), (77, 25231), (78, 25240), (79, 25258), (80, 25261), (84, 25279), (87, 25297), (91, 25315), (94, 25357), (96, 25387), (100, 25408),

Gene: Zaka\_37 Start: 24838, Stop: 25425, Start Num: 22

Candidate Starts for Zaka\_37:

(Start: 10 @24739 has 7 MA's), (Start: 16 @24802 has 9 MA's), (Start: 22 @24838 has 14 MA's), (Start: 23 @24847 has 87 MA's), (Start: 26 @24865 has 7 MA's), (27, 24883), (28, 24904), (35, 24946), (36, 24949), (41, 24988), (47, 25018), (53, 25054), (56, 25075), (63, 25141), (67, 25183), (72, 25213), (75, 25225), (77, 25231), (78, 25240), (79, 25258), (80, 25261), (84, 25279), (87, 25297), (91, 25315), (94, 25357), (96, 25387), (100, 25408),

Gene: Zulu\_37 Start: 24846, Stop: 25424, Start Num: 23

Candidate Starts for Zulu\_37:

(Start: 10 @24738 has 7 MA's), (Start: 16 @24801 has 9 MA's), (Start: 22 @24837 has 14 MA's), (Start: 23 @24846 has 87 MA's), (Start: 26 @24864 has 7 MA's), (27, 24882), (28, 24903), (35, 24945), (36, 24948), (41, 24987), (47, 25017), (53, 25053), (56, 25074), (63, 25140), (67, 25182), (72, 25212), (75, 25224), (77, 25230), (78, 25239), (79, 25257), (80, 25260), (84, 25278), (87, 25296), (91, 25314), (94, 25356), (96, 25386), (100, 25407),