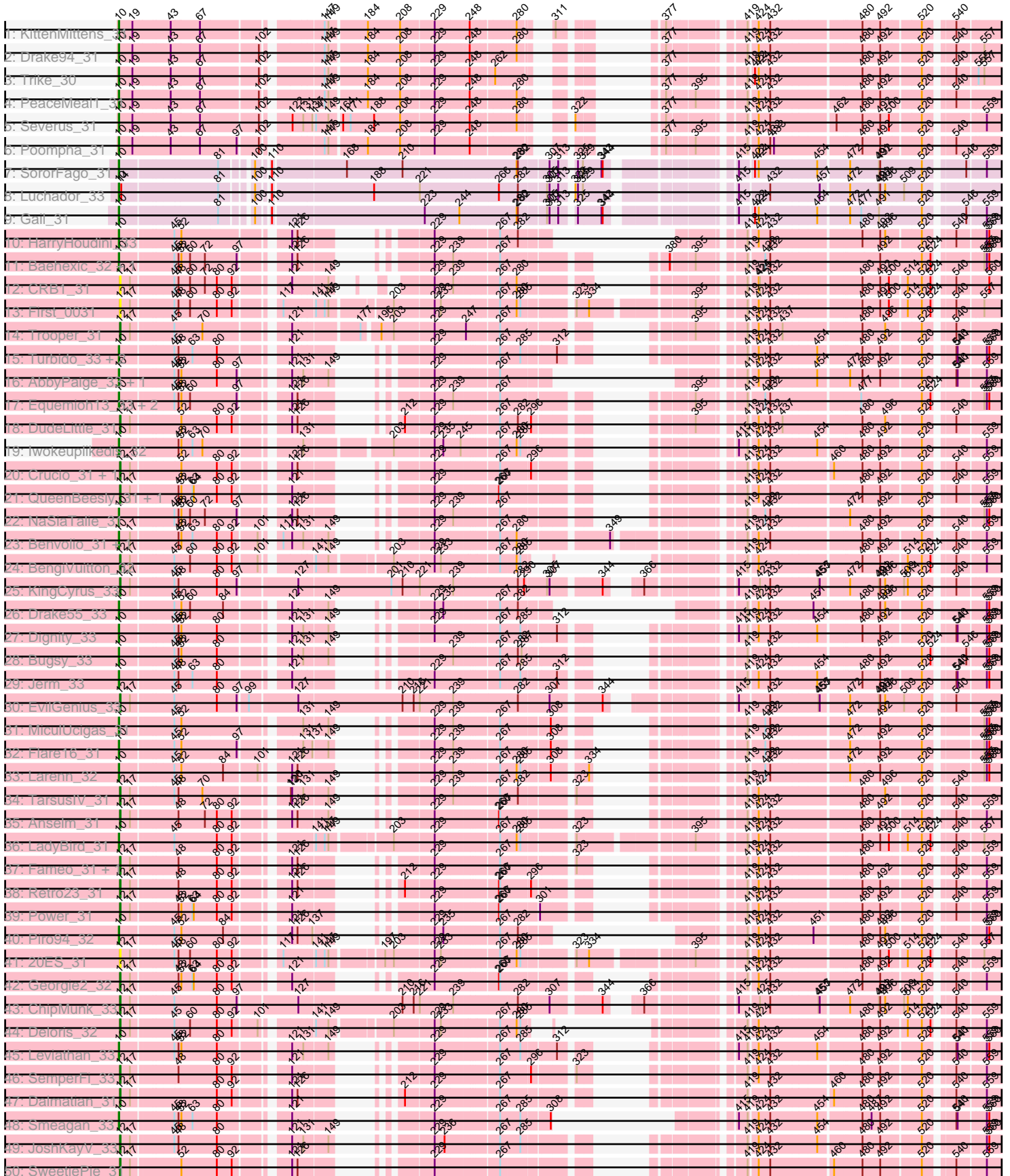
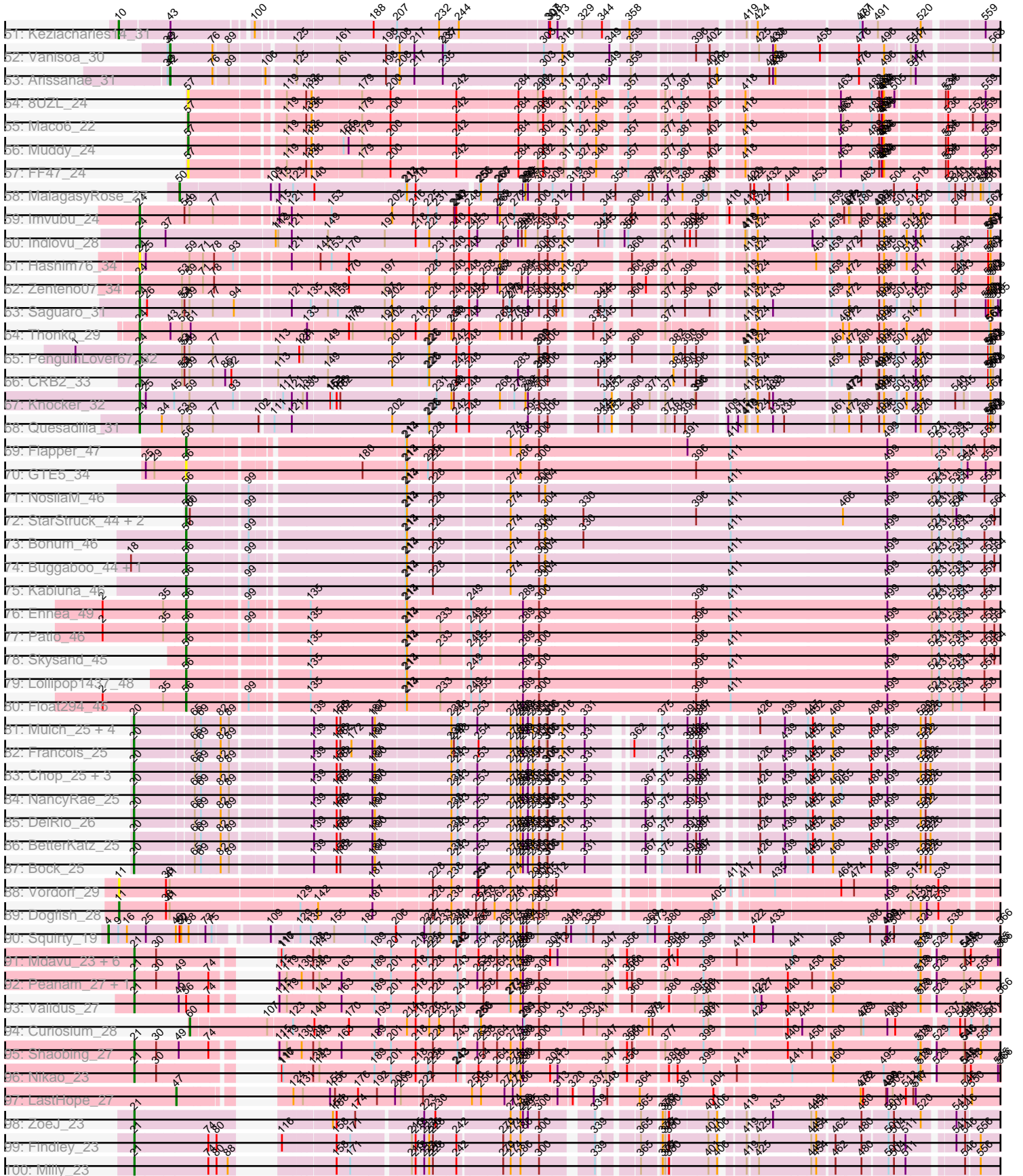


# Zoomed Pham 171189

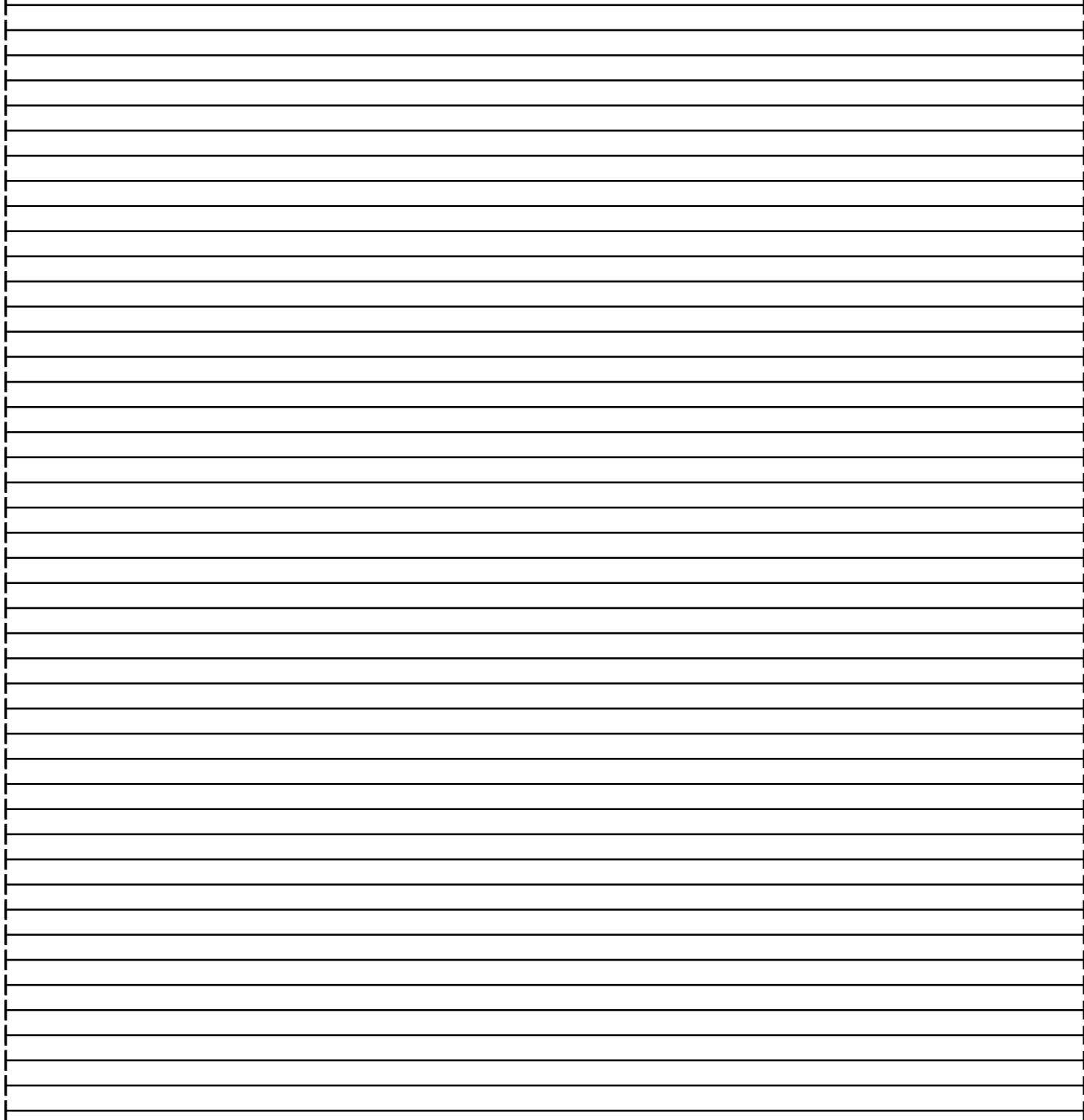
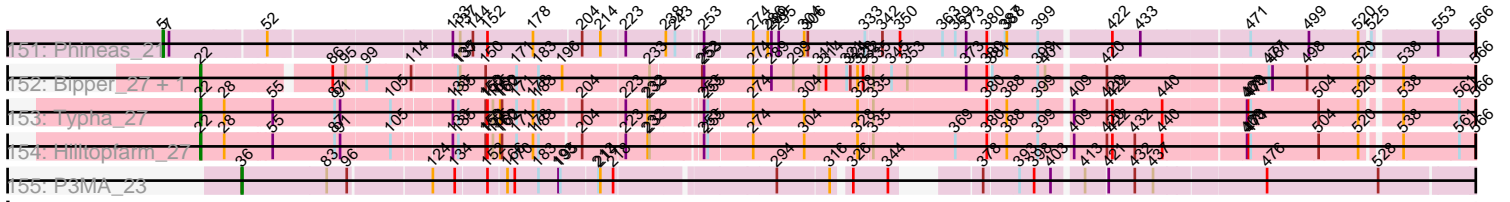


# Zoomed Pham 171189





# Zoomed Pham 171189



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 171189 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171189 has 217 members, 14 are drafts.

Phages represented in each track:

- Track 1 : KittenMittens\_31
- Track 2 : Drake94\_31
- Track 3 : Trike\_30
- Track 4 : PeaceMeal1\_31
- Track 5 : Severus\_31
- Track 6 : Poompha\_31
- Track 7 : SororFago\_31
- Track 8 : Luchador\_33
- Track 9 : Gail\_31
- Track 10 : HarryHoudini\_33
- Track 11 : Baehexic\_32, Centaur\_33
- Track 12 : CRB1\_31
- Track 13 : First\_0031
- Track 14 : Trooper\_31
- Track 15 : Turbido\_33, LiITurb\_33, Whabigail7\_33
- Track 16 : AbbyPaige\_33, Agape74\_33
- Track 17 : Equemioh13\_33, Updawg\_33, WideWale\_33
- Track 18 : DudeLittle\_31
- Track 19 : Iwokeuplikedis\_32
- Track 20 : Crucio\_31, SnapTap\_31
- Track 21 : QueenBeesly\_31, FiringLine\_31
- Track 22 : NaSiaTalie\_31
- Track 23 : Benvolio\_31, Echild\_31
- Track 24 : BengiVuitton\_32
- Track 25 : KingCyrus\_33
- Track 26 : Drake55\_33
- Track 27 : Dignity\_33
- Track 28 : Buggy\_33
- Track 29 : Jerm\_33
- Track 30 : EvilGenius\_33
- Track 31 : MiculUcigas\_31
- Track 32 : Flare16\_31
- Track 33 : Larenn\_32
- Track 34 : TarsusIV\_31
- Track 35 : Anselm\_31
- Track 36 : LadyBird\_31
- Track 37 : Fameo\_31, QueenB2\_31

- Track 38 : Retro23\_31
- Track 39 : Power\_31
- Track 40 : Piro94\_32
- Track 41 : 20ES\_31
- Track 42 : Georgie2\_32
- Track 43 : ChipMunk\_33
- Track 44 : Deloris\_32
- Track 45 : Leviathan\_33
- Track 46 : SemperFi\_33
- Track 47 : Dalmatian\_31
- Track 48 : Smeagan\_33
- Track 49 : JoshKayV\_33
- Track 50 : SweetiePie\_31
- Track 51 : Keziacharles14\_31
- Track 52 : Vanisoa\_30
- Track 53 : Arissanae\_31
- Track 54 : 8UZL\_24
- Track 55 : Maco6\_22
- Track 56 : Muddy\_24
- Track 57 : FF47\_24
- Track 58 : MalagasyRose\_27
- Track 59 : Imvubu\_24
- Track 60 : Indlovu\_28
- Track 61 : Hashim76\_34
- Track 62 : Zenteno07\_34
- Track 63 : Saguaro\_31
- Track 64 : Thonko\_29
- Track 65 : PenguinLover67\_32
- Track 66 : CRB2\_33
- Track 67 : Knocker\_32
- Track 68 : Quesadilla\_31
- Track 69 : Flapper\_47
- Track 70 : GTE5\_34
- Track 71 : NosilaM\_46
- Track 72 : StarStruck\_44, MerCougar\_44, Outis\_44
- Track 73 : Bonum\_46
- Track 74 : Buggaboo\_44, SuperSulley\_44
- Track 75 : Kabluna\_46
- Track 76 : Ennea\_49
- Track 77 : Patio\_46
- Track 78 : Skysand\_45
- Track 79 : Lollipop1437\_48
- Track 80 : Float294\_45
- Track 81 : Mulch\_25, Parada\_25, WheatThin\_25, Nadeem\_25, Brylie\_25
- Track 82 : Francois\_25
- Track 83 : Chop\_25, Ayotoya\_25, GrandSlam\_25, Hamood\_25
- Track 84 : NancyRae\_25
- Track 85 : DelRio\_26
- Track 86 : BetterKatz\_25
- Track 87 : Bock\_25
- Track 88 : Vordorf\_29
- Track 89 : Dogfish\_28
- Track 90 : Squirty\_19

- Track 91 : Mdavu\_23, Enkosi\_23, SgtBeansprout\_23, Biglebops\_23, Amelie\_23, LilPharaoh\_23, Nutello\_23
- Track 92 : Peanam\_27, Niklas\_27
- Track 93 : Validus\_27
- Track 94 : Curiosium\_28
- Track 95 : Shaobing\_27
- Track 96 : Nikao\_23
- Track 97 : LastHope\_27
- Track 98 : ZoeJ\_23
- Track 99 : Findley\_23
- Track 100 : Milly\_23
- Track 101 : Strobilo\_23
- Track 102 : DismalStressor\_23, DismalFunk\_23, Marcoliusprime\_23
- Track 103 : Mufasa\_23, BoostSeason\_23
- Track 104 : TM4\_23
- Track 105 : MacnCheese\_27
- Track 106 : Pharb\_26
- Track 107 : TBond007\_26, Pixie\_26
- Track 108 : Keshu\_26
- Track 109 : Hurricane\_26
- Track 110 : TribbleTrouble\_25
- Track 111 : ShedlockHolmes\_26
- Track 112 : MissDaisy\_28
- Track 113 : Slarp\_28, Chancellor\_28, Cheetobro\_28
- Track 114 : Wintermute\_28, Fionnbharth\_28, JF1\_28, Y2\_28, Malthus\_29, Y10\_28
- Track 115 : Mitti\_28
- Track 116 : OmniCritical\_28
- Track 117 : Patt\_28
- Track 118 : Reptar3000\_28
- Track 119 : Phrank\_26, Bryler\_26, Cain\_26
- Track 120 : Ekdilam\_24
- Track 121 : Krueger\_26
- Track 122 : Syra333\_26
- Track 123 : DarthP\_26
- Track 124 : Sunflower1121\_25
- Track 125 : TClif\_27
- Track 126 : Ximenita\_27
- Track 127 : Yuna\_28
- Track 128 : Amohnition\_26
- Track 129 : Amgine\_25
- Track 130 : Tierra\_26
- Track 131 : PhelpsODU\_26, Unicorn\_26
- Track 132 : Shadow1\_25
- Track 133 : Hammy\_26
- Track 134 : Ellie\_24
- Track 135 : Fefferhead\_26
- Track 136 : MiniLon\_21, MiniMac\_21, Lolly9\_21
- Track 137 : Snenia\_21, Lumos\_21, Nicholas\_21, Jobypre\_21, Jubie\_21, Clautastrophe\_21, Kingsolomon\_21, MsGreen\_21
- Track 138 : Samty\_21, Finnry\_21, Moostard\_21, Bellis\_21
- Track 139 : DuncansLeg\_21
- Track 140 : Whirlwind\_22, Krypton555\_21
- Track 141 : Ellson\_21

- Track 142 : Panchino\_20, SkinnyPete\_20
- Track 143 : Phloss\_20
- Track 144 : Shweta\_20
- Track 145 : Andies\_20
- Track 146 : Scitech\_20
- Track 147 : Xeno\_20
- Track 148 : Fulbright\_20
- Track 149 : StressBall\_21, Glaske\_21, KilKor\_21, Phalm\_21, Megiddo\_21, CactusJack\_21
- Track 150 : Dynamo\_21, Willsammy\_21
- Track 151 : Phineas\_21
- Track 152 : Bipper\_27, Cracklewink\_27
- Track 153 : Typha\_27
- Track 154 : Hilltopfarm\_27
- Track 155 : P3MA\_23

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

The start number called the most often in the published annotations is 21, it was called in 49 of the 203 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amelie\_23, Amgine\_25, Amohnition\_26, Biglebops\_23, BoostSeason\_23, Bryler\_26, Cain\_26, DarthP\_26, DismalFunk\_23, DismalStressor\_23, Ekdilam\_24, Ellie\_24, Enkosi\_23, Fefferhead\_26, Findley\_23, Hammy\_26, Hurricane\_26, Keshu\_26, Krueger\_26, LilPharaoh\_23, MacnCheese\_27, Marcoliusprime\_23, Mdavu\_23, Milly\_23, Mufasa\_23, Nikao\_23, Niklas\_27, Nutello\_23, Peanam\_27, Pharb\_26, PhelpsODU\_26, Phrank\_26, Pixie\_26, SgtBeansprout\_23, Shadow1\_25, Shaobing\_27, ShedlockHolmes\_26, Strobilo\_23, Sunflower1121\_25, Syra333\_26, TBond007\_26, TClif\_27, TM4\_23, Tierra\_26, TribbleTrouble\_25, Unicorn\_26, Validus\_27, Ximenita\_27, Yuna\_28, ZoeJ\_23,

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

- 

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

- 20ES\_31, 8UZL\_24, AbbyPaige\_33, Agape74\_33, Andies\_20, Anselm\_31, Arissanae\_31, Ayotoya\_25, Baehexic\_32, Bellis\_21, BengiVuitton\_32, Benvolio\_31, BetterKatz\_25, Bipper\_27, Bock\_25, Bonum\_46, Brylie\_25, Buggaboo\_44, Buggy\_33, CRB1\_31, CRB2\_33, CactusJack\_21, Centaur\_33, Chancellor\_28, Cheetobro\_28, ChipMunk\_33, Chop\_25, Clautastrophe\_21, Cracklewink\_27, Crucio\_31, Curiosium\_28, Dalmatian\_31, DelRio\_26, Deloris\_32, Dignity\_33, Dogfish\_28, Drake55\_33, Drake94\_31, DudeLittle\_31, DuncansLeg\_21, Dynamo\_21, Echild\_31, Ellson\_21, Ennea\_49, Equemioh13\_33, EvilGenius\_33, FF47\_24, Fameo\_31, Finnry\_21, Fionnbharth\_28, FiringLine\_31, First\_0031, Flapper\_47, Flare16\_31, Float294\_45, Francois\_25, Fulbright\_20, GTE5\_34, Gail\_31, Georgie2\_32, Glaske\_21, GrandSlam\_25, Hamood\_25, HarryHoudini\_33, Hashim76\_34, Hilltopfarm\_27, Imvubu\_24, Indlovu\_28, Iwokeuplikedis\_32, JF1\_28, Jerm\_33, Jobypre\_21, JoshKayV\_33, Jubie\_21, Kabluna\_46, Keziacharles14\_31, KilKor\_21, KingCyrus\_33, Kingsolomon\_21, KittenMittens\_31, Knocker\_32,



Krypton555\_21, LadyBird\_31, Larenn\_32, LastHope\_27, Leviathan\_33, LilTurb\_33, Lollipop1437\_48, Lolly9\_21, Luchador\_33, Lumos\_21, Maco6\_22, MalagasyRose\_27, Malthus\_29, Megiddo\_21, MerCougar\_44, MiculUcigas\_31, MiniLon\_21, MiniMac\_21, MissDaisy\_28, Mitti\_28, Moostard\_21, MsGreen\_21, Muddy\_24, Mulch\_25, NaSiaTalie\_31, Nadeem\_25, NancyRae\_25, Nicholas\_21, NosilaM\_46, OmniCritical\_28, Outis\_44, P3MA\_23, Panchino\_20, Parada\_25, Patio\_46, Patt\_28, PeaceMeal1\_31, PenguinLover67\_32, Phalm\_21, Phineas\_21, Phloss\_20, Piro94\_32, Poompha\_31, Power\_31, QueenB2\_31, QueenBeesly\_31, Quesadilla\_31, Reptar3000\_28, Retro23\_31, Saguaro\_31, Samty\_21, Scitech\_20, SemperFi\_33, Severus\_31, Shweta\_20, SkinnyPete\_20, Skysand\_45, Slarp\_28, Smeagan\_33, SnapTap\_31, Snenia\_21, SororFago\_31, Squirty\_19, StarStruck\_44, StressBall\_21, SuperSulley\_44, SweetiePie\_31, TarsusIV\_31, Thonko\_29, Trike\_30, Trooper\_31, Turbido\_33, Typha\_27, Updawg\_33, Vanisoa\_30, Vordorf\_29, Whabigail7\_33, WheatThin\_25, Whirlwind\_22, WideWale\_33, Willsammy\_21, Wintermute\_28, Xeno\_20, Y10\_28, Y2\_28, Zenteno07\_34,

### Summary by start number:

#### Start 3:

- Found in 19 of 217 ( 8.8% ) of genes in pham
- Manual Annotations of this start: 16 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bellis\_21 (L3), Clautastrophe\_21 (L3), DuncansLeg\_21 (L3), Ellson\_21 (L3), Finnry\_21 (L3), Jobypre\_21 (L3), Jubie\_21 (L3), Kingsolomon\_21 (L3), Krypton555\_21 (L3), Lolly9\_21 (L3), Lumos\_21 (L3), MiniLon\_21 (L3), MiniMac\_21 (L3), Moostard\_21 (L3), MsGreen\_21 (L3), Nicholas\_21 (L3), Samty\_21 (L3), Snenia\_21 (L3), Whirlwind\_22 (L3),

#### Start 4:

- Found in 9 of 217 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 1 of 203
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Squirty\_19 (F3),

#### Start 5:

- Found in 7 of 217 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 7 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CactusJack\_21 (P1), Glaske\_21 (P1), KilKor\_21 (P1), Megiddo\_21 (P1), Phalm\_21 (P1), Phineas\_21 (P1), StressBall\_21 (P1),

#### Start 6:

- Found in 10 of 217 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 9 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Andies\_20 (N), Dynamo\_21 (P1), Fulbright\_20 (N), Panchino\_20 (N), Phloss\_20 (N), Scitech\_20 (N), Shweta\_20 (N), SkinnyPete\_20 (N), Willsammy\_21 (P1), Xeno\_20 (N),

#### Start 10:

- Found in 36 of 217 ( 16.6% ) of genes in pham
- Manual Annotations of this start: 36 of 203

- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyPaige\_33 (A2), Agape74\_33 (A2), Baehexic\_32 (A2), Benvolio\_31 (A2), Buggy\_33 (A2), Centaur\_33 (A2), Dignity\_33 (A2), Drake55\_33 (A2), Drake94\_31 (A10), Echild\_31 (A2), Equemioh13\_33 (A2), Flare16\_31 (A2), Gail\_31 (A14), HarryHoudini\_33 (A2), Iwokeuplikedis\_32 (A2), Jerm\_33 (A2), Keziacharles14\_31 (A9), KittenMittens\_31 (A10), LadyBird\_31 (A2), Larenn\_32 (A2), Leviathan\_33 (A2), LiITurb\_33 (A2), Luchador\_33 (A14), MiculUcigas\_31 (A2), NaSiaTalie\_31 (A2), PeaceMeal1\_31 (A10), Piro94\_32 (A2), Poompha\_31 (A10), Severus\_31 (A10), Smeagan\_33 (A2), SororFago\_31 (A14), Trike\_30 (A10), Turbido\_33 (A2), Updawn\_33 (A2), Whabigail7\_33 (A2), WideWale\_33 (A2),

#### Start 11:

- Found in 2 of 217 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dogfish\_28 (DT), Vordorf\_29 (DT),

#### Start 12:

- Found in 25 of 217 ( 11.5% ) of genes in pham
- Manual Annotations of this start: 22 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 20ES\_31 (A2), Anselm\_31 (A2), BengiVuitton\_32 (A2), CRB1\_31 (A2), ChipMunk\_33 (A2), Crucio\_31 (A2), Dalmatian\_31 (A2), Deloris\_32 (A2), DudeLittle\_31 (A2), EvilGenius\_33 (A2), Fameo\_31 (A2), FiringLine\_31 (A2), First\_0031 (A2), Georgie2\_32 (A2), JoshKayV\_33 (A2), KingCyrus\_33 (A2), Power\_31 (A2), QueenB2\_31 (A2), QueenBeesly\_31 (A2), Retro23\_31 (A2), SemperFi\_33 (A2), SnapTap\_31 (A2), SweetiePie\_31 (A2), TarsusIV\_31 (A2), Trooper\_31 (A2),

#### Start 20:

- Found in 14 of 217 ( 6.5% ) of genes in pham
- Manual Annotations of this start: 13 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ayotoya\_25 (DI), BetterKatz\_25 (DI), Bock\_25 (DI), Brylie\_25 (DI), Chop\_25 (DI), DelRio\_26 (DI), Francois\_25 (DI), GrandSlam\_25 (DI), Hamood\_25 (DI), Mulch\_25 (DI), Nadeem\_25 (DI), NancyRae\_25 (DI), Parada\_25 (DI), WheatThin\_25 (DI),

#### Start 21:

- Found in 50 of 217 ( 23.0% ) of genes in pham
- Manual Annotations of this start: 49 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amelie\_23 (K1), Amgine\_25 (K6), Amohntion\_26 (K6), Biglebops\_23 (K1), BoostSeason\_23 (K2), Bryler\_26 (K6), Cain\_26 (K6), DARTH\_26 (K6), DismalFunk\_23 (K2), DismalStressor\_23 (K2), Ekdilam\_24 (K6), Ellie\_24 (K6), Enkosi\_23 (K1), Fefferhead\_26 (K6), Findley\_23 (K2), Hammy\_26 (K6), Hurricane\_26 (K3), Keshu\_26 (K3), Krueger\_26 (K6), LilPharaoh\_23 (K1), MacnCheese\_27 (K3), Marcoliusprime\_23 (K2), Mdavu\_23 (K1), Milly\_23 (K2), Mufasa\_23 (K2), Nikao\_23 (K1), Niklas\_27 (K1), Nutello\_23 (K1), Peanam\_27 (K1), Pharb\_26 (K3), PhelpsODU\_26 (K6), Phrank\_26 (K6), Pixie\_26 (K3), SgtBeansprout\_23 (K1), Shadow1\_25 (K6), Shaobing\_27 (K1), ShedlockHolmes\_26 (K3), Strobilo\_23 (K2), Sunflower1121\_25 (K6), Syra333\_26

(K6), TBond007\_26 (K3), TClif\_27 (K6), TM4\_23 (K2), Tierra\_26 (K6),  
TribleTrouble\_25 (K3), Unicorn\_26 (K6), Validus\_27 (K1), Ximenita\_27 (K6),  
Yuna\_28 (K6), ZoeJ\_23 (K2),

Start 22:

- Found in 4 of 217 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 4 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bipper\_27 (Y), Cracklewink\_27 (Y), Hilltopfarm\_27 (Y), Typha\_27 (Y),

Start 24:

- Found in 10 of 217 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 9 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CRB2\_33 (B9), Hashim76\_34 (B13), Imvubu\_24 (B10), Indlovu\_28 (B11), Knocker\_32 (B9), PenguinLover67\_32 (B9), Quesadilla\_31 (B9), Saguaro\_31 (B7), Thonko\_29 (B8), Zenteno07\_34 (B13),

Start 36:

- Found in 1 of 217 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: P3MA\_23 (singleton),

Start 42:

- Found in 2 of 217 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arissanee\_31 (A9), Vanisoa\_30 (A9),

Start 47:

- Found in 15 of 217 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 15 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chancellor\_28 (K4), Cheetobro\_28 (K4), Fionnbharth\_28 (K4), JF1\_28 (K4), LastHope\_27 (K1), Malthus\_29 (K4), MissDaisy\_28 (K4), Mitti\_28 (K4), OmniCritical\_28 (K4), Patt\_28 (K4), Reptar3000\_28 (K4), Slarp\_28 (K4), Wintermute\_28 (K4), Y10\_28 (K4), Y2\_28 (K4),

Start 50:

- Found in 10 of 217 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 1 of 203
- Called 10.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_27 (AG),

Start 56:

- Found in 17 of 217 ( 7.8% ) of genes in pham
- Manual Annotations of this start: 14 of 203
- Called 88.2% of time when present
- Phage (with cluster) where this start called: Bonum\_46 (CR2), Buggaboo\_44 (CR2), Ennea\_49 (CR3), Flapper\_47 (CR1), Float294\_45 (CR3), GTE5\_34 (CR1), Kabluna\_46 (CR2), Lollipop1437\_48 (CR3), MerCougar\_44 (CR2), NosilaM\_46

(CR2), Outis\_44 (CR2), Patio\_46 (CR3), Skysand\_45 (CR3), StarStruck\_44 (CR2), SuperSulley\_44 (CR2),

Start 57:

- Found in 4 of 217 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 2 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 8UZL\_24 (AB), FF47\_24 (AB), Maco6\_22 (AB), Muddy\_24 (AB),

Start 60:

- Found in 16 of 217 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 1 of 203
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Curiosium\_28 (K1),

### **Summary by clusters:**

There are 28 clusters represented in this pham: singleton, DI, K4, K3, K2, K1, P1, B13, B10, B11, DT, A14, A10, A2, A9, AB, AG, N, F3, L3, Y, CR2, CR3, CR1, B7, B8, B9, K6,

Info for manual annotations of cluster A10:

- Start number 10 was manually annotated 6 times for cluster A10.

Info for manual annotations of cluster A14:

- Start number 10 was manually annotated 3 times for cluster A14.

Info for manual annotations of cluster A2:

- Start number 10 was manually annotated 26 times for cluster A2.
- Start number 12 was manually annotated 22 times for cluster A2.

Info for manual annotations of cluster A9:

- Start number 10 was manually annotated 1 time for cluster A9.
- Start number 42 was manually annotated 2 times for cluster A9.

Info for manual annotations of cluster AB:

- Start number 57 was manually annotated 2 times for cluster AB.

Info for manual annotations of cluster AG:

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

Info for manual annotations of cluster B10:

- Start number 24 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 24 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B13:

- Start number 24 was manually annotated 1 time for cluster B13.

Info for manual annotations of cluster B7:

- Start number 24 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 24 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 24 was manually annotated 4 times for cluster B9.

Info for manual annotations of cluster CR1:

- Start number 56 was manually annotated 1 time for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 56 was manually annotated 8 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 56 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster DI:

- Start number 20 was manually annotated 13 times for cluster DI.

Info for manual annotations of cluster DT:

- Start number 11 was manually annotated 1 time for cluster DT.

Info for manual annotations of cluster F3:

- Start number 4 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster K1:

- Start number 21 was manually annotated 12 times for cluster K1.
- Start number 47 was manually annotated 1 time for cluster K1.
- Start number 60 was manually annotated 1 time for cluster K1.

Info for manual annotations of cluster K2:

- Start number 21 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 21 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 47 was manually annotated 14 times for cluster K4.

Info for manual annotations of cluster K6:

- Start number 21 was manually annotated 19 times for cluster K6.

Info for manual annotations of cluster L3:

- Start number 3 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster N:

- Start number 6 was manually annotated 7 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 5 was manually annotated 7 times for cluster P1.
- Start number 6 was manually annotated 2 times for cluster P1.

Info for manual annotations of cluster Y:

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

### **Gene Information:**

Gene: 20ES\_31 Start: 22797, Stop: 25202, Start Num: 12

Candidate Starts for 20ES\_31:

(Start: 12 @22797 has 22 MA's), (17, 22818), (45, 22908), (48, 22917), (Start: 60 @22938 has 1 MA's), (80, 23001), (92, 23037), (117, 23118), (141, 23187), (147, 23208), (149, 23217), (197, 23328), (203, 23349), (229, 23439), (233, 23454), (267, 23574), (280, 23607), (285, 23616), (323, 23715), (334, 23742), (395, 23955), (419, 24045), (424, 24063), (432, 24087), (480, 24288), (492, 24327), (500, 24348), (514, 24384), (520, 24417), (524, 24438), (540, 24474), (557, 24528), (569, 24579), (573, 24600), (593, 24705), (598, 24720), (651, 24930), (697, 24999), (762, 25170), (764, 25179), (766, 25185),

Gene: 8UZL\_24 Start: 19399, Stop: 21717, Start Num: 57

Candidate Starts for 8UZL\_24:

(Start: 57 @19399 has 2 MA's), (119, 19600), (132, 19645), (136, 19657), (179, 19768), (200, 19834), (242, 19975), (284, 20107), (299, 20146), (302, 20158), (317, 20197), (327, 20215), (340, 20251), (357, 20311), (377, 20386), (387, 20413), (402, 20476), (418, 20533), (463, 20728), (489, 20797), (492, 20815), (493, 20821), (494, 20824), (496, 20827), (505, 20851), (534, 20944), (536, 20950), (559, 21028), (570, 21076), (571, 21079), (585, 21157), (598, 21223), (600, 21235), (614, 21298), (620, 21319), (629, 21340), (643, 21397), (644, 21418), (663, 21457), (689, 21499), (706, 21532), (709, 21538), (714, 21553), (741, 21637),

Gene: AbbyPaige\_33 Start: 23268, Stop: 25358, Start Num: 10

Candidate Starts for AbbyPaige\_33:

(Start: 10 @23268 has 36 MA's), (45, 23382), (48, 23391), (52, 23397), (80, 23481), (97, 23529), (121, 23619), (131, 23643), (149, 23697), (229, 23808), (267, 23943), (419, 24180), (424, 24198), (432, 24222), (454, 24330), (472, 24393), (480, 24423), (492, 24462), (520, 24552), (540, 24609), (541, 24612), (559, 24669), (569, 24714), (573, 24735), (610, 24912), (611, 24924), (620, 24951), (645, 25056), (698, 25146), (743, 25269), (747, 25281), (759, 25305), (766, 25335), (770, 25350),

Gene: Agape74\_33 Start: 23244, Stop: 25334, Start Num: 10

Candidate Starts for Agape74\_33:

(Start: 10 @23244 has 36 MA's), (45, 23358), (48, 23367), (52, 23373), (80, 23457), (97, 23505), (121, 23595), (131, 23619), (149, 23673), (229, 23784), (267, 23919), (419, 24156), (424, 24174), (432, 24198), (454, 24306), (472, 24369), (480, 24399), (492, 24438), (520, 24528), (540, 24585), (541, 24588), (559, 24645), (569, 24690), (573, 24711), (610, 24888), (611, 24900), (620, 24927), (645, 25032), (698, 25122), (743, 25245), (747, 25257), (759, 25281), (766, 25311), (770, 25326),

Gene: Amelie\_23 Start: 20414, Stop: 22900, Start Num: 21

Candidate Starts for Amelie\_23:

(Start: 21 @20414 has 49 MA's), (30, 20462), (116, 20642), (117, 20645), (138, 20708), (143, 20720), (189, 20852), (201, 20891), (218, 20948), (225, 20972), (228, 20984), (242, 21032), (243, 21035), (254, 21068), (264, 21107), (274, 21140), (281, 21152), (286, 21161), (289, 21167), (308, 21233), (313, 21248), (347, 21359), (356, 21392), (380, 21476), (386, 21491), (399, 21551), (414, 21620), (441, 21740), (460, 21833), (495, 21947), (519, 22025), (520, 22031), (529, 22055), (545, 22118), (546, 22121), (548, 22133), (565, 22199), (566, 22205), (575, 22247), (578, 22268), (580, 22277), (586, 22310), (590, 22328), (603, 22397), (631, 22496), (632, 22502), (636, 22520), (644, 22574), (649, 22589), (662, 22616), (702, 22673),

Gene: Amgine\_25 Start: 20975, Stop: 23359, Start Num: 21

Candidate Starts for Amgine\_25:

(Start: 21 @20975 has 49 MA's), (26, 21005), (30, 21023), (63, 21107), (143, 21281), (189, 21413), (216, 21503), (228, 21545), (243, 21596), (257, 21638), (258, 21641), (274, 21698), (286, 21722), (289, 21728), (300, 21767), (317, 21824), (347, 21920), (380, 22037), (400, 22106), (415, 22145), (418, 22163), (422, 22175), (456, 22319), (497, 22454), (498, 22457), (499, 22460), (513, 22499), (529, 22553), (565, 22694), (566, 22700), (571, 22715), (572, 22727), (578, 22757), (593, 22844), (595, 22850), (635, 23000), (646, 23063), (657, 23090), (661, 23099), (719, 23201), (731, 23222), (732, 23225), (767, 23333),

Gene: Amohnition\_26 Start: 21373, Stop: 23781, Start Num: 21

Candidate Starts for Amohnition\_26:

(Start: 21 @21373 has 49 MA's), (23, 21382), (30, 21421), (74, 21544), (116, 21601), (119, 21613), (143, 21679), (146, 21688), (163, 21733), (189, 21811), (216, 21901), (218, 21907), (228, 21943), (243, 21994), (257, 22036), (258, 22039), (263, 22060), (286, 22120), (289, 22126), (347, 22318), (380, 22435), (400, 22504), (415, 22543), (418, 22561), (422, 22573), (456, 22717), (497, 22852), (499, 22858), (513, 22897), (529, 22951), (543, 23005), (565, 23092), (566, 23098), (571, 23113), (572, 23125), (578, 23155), (593, 23242), (595, 23248), (635, 23398), (644, 23452), (726, 23611), (731, 23626), (732, 23629), (767, 23755),

Gene: Andies\_20 Start: 17553, Stop: 20192, Start Num: 6

Candidate Starts for Andies\_20:

(Start: 4 @17541 has 1 MA's), (Start: 6 @17553 has 9 MA's), (9, 17565), (15, 17577), (27, 17631), (Start: 50 @17700 has 1 MA's), (52, 17703), (55, 17712), (62, 17727), (107, 17904), (133, 17985), (135, 17994), (155, 18051), (162, 18066), (178, 18117), (204, 18189), (214, 18219), (223, 18255), (238, 18318), (243, 18333), (251, 18360), (253, 18366), (274, 18441), (286, 18465), (289, 18471), (304, 18525), (306, 18531), (333, 18618), (369, 18750), (373, 18768), (380, 18801), (388, 18828), (399, 18879), (443, 19089), (459, 19155), (471, 19191), (501, 19290), (504, 19302), (520, 19365), (566, 19527), (571, 19542), (580, 19593), (603, 19710), (612, 19755), (626, 19797), (636, 19833), (645, 19887), (672, 19935), (739, 20079), (756, 20136), (766, 20175), (769, 20184),

Gene: Anselm\_31 Start: 22873, Stop: 25074, Start Num: 12

Candidate Starts for Anselm\_31:

(Start: 12 @22873 has 22 MA's), (17, 22894), (48, 22993), (72, 23056), (80, 23083), (92, 23119), (121, 23221), (126, 23233), (149, 23299), (229, 23410), (266, 23542), (267, 23545), (419, 23899), (424, 23917), (432, 23941), (480, 24142), (492, 24181), (520, 24271), (540, 24328), (559, 24388), (569, 24433), (573, 24454), (593, 24559), (598, 24574), (611, 24643), (620, 24670), (635, 24715), (645, 24775), (657, 24799), (734, 24949), (747, 24997), (759, 25021),

Gene: Arissanae\_31 Start: 22459, Stop: 24807, Start Num: 42

Candidate Starts for Arissanae\_31:

(39, 22453), (Start: 42 @22459 has 2 MA's), (76, 22558), (89, 22591), (106, 22666), (125, 22726), (161, 22816), (198, 22918), (208, 22945), (217, 22981), (235, 23050), (303, 23266), (316, 23308), (349, 23398), (359, 23425), (402, 23572), (406, 23590), (432, 23674), (433, 23683), (436, 23689), (476, 23869), (496, 23929), (515, 23977), (517, 23989), (569, 24169), (572, 24187), (580, 24226), (587, 24256), (594, 24301), (603, 24337), (604, 24340), (618, 24403), (663, 24547), (701, 24613), (741, 24727), (761, 24772), (764, 24784),

Gene: Ayotoya\_25 Start: 21393, Stop: 23903, Start Num: 20

Candidate Starts for Ayotoya\_25:

(Start: 20 @21393 has 13 MA's), (65, 21525), (69, 21540), (82, 21585), (89, 21603), (139, 21768), (158, 21822), (162, 21831), (187, 21909), (190, 21915), (238, 22080), (243, 22095), (253, 22131), (274, 22206), (281, 22218), (286, 22227), (295, 22245), (298, 22257), (305, 22290), (306, 22293),

(316, 22329), (331, 22383), (375, 22506), (391, 22560), (396, 22581), (397, 22590), (426, 22692), (439, 22752), (447, 22800), (452, 22812), (460, 22857), (488, 22944), (499, 22983), (520, 23052), (522, 23064), (526, 23076), (598, 23364), (604, 23394), (623, 23475), (631, 23496), (637, 23523), (641, 23547), (705, 23712), (723, 23757), (751, 23856), (769, 23895),

Gene: Baehexic\_32 Start: 23237, Stop: 25444, Start Num: 10

Candidate Starts for Baehexic\_32:

(Start: 10 @23237 has 36 MA's), (45, 23351), (48, 23360), (52, 23366), (Start: 60 @23387 has 1 MA's), (72, 23423), (97, 23498), (121, 23588), (126, 23600), (229, 23777), (239, 23816), (267, 23912), (380, 24125), (395, 24173), (419, 24263), (429, 24293), (432, 24305), (492, 24545), (520, 24644), (524, 24665), (557, 24755), (559, 24761), (560, 24767), (569, 24806), (573, 24827), (579, 24863), (580, 24866), (593, 24932), (645, 25148), (674, 25196), (712, 25259), (734, 25319), (747, 25367), (766, 25421),

Gene: Bellis\_21 Start: 19726, Stop: 22239, Start Num: 3

Candidate Starts for Bellis\_21:

(Start: 3 @19726 has 16 MA's), (19, 19789), (34, 19861), (68, 19951), (71, 19957), (93, 20029), (152, 20221), (157, 20233), (167, 20251), (181, 20290), (191, 20320), (211, 20377), (218, 20407), (220, 20413), (233, 20467), (235, 20473), (277, 20620), (278, 20623), (284, 20632), (293, 20650), (310, 20710), (313, 20719), (316, 20731), (336, 20782), (338, 20785), (389, 20950), (402, 21007), (428, 21091), (432, 21109), (433, 21118), (444, 21181), (476, 21301), (491, 21346), (496, 21361), (502, 21379), (515, 21409), (541, 21499), (562, 21568), (569, 21601), (573, 21622), (580, 21658), (588, 21694), (596, 21739), (602, 21763), (603, 21769), (607, 21784), (610, 21802), (618, 21835), (636, 21889), (641, 21913), (646, 21949), (649, 21955), (663, 21979), (738, 22144), (740, 22153), (741, 22159),

Gene: BengiVuitton\_32 Start: 23191, Stop: 25377, Start Num: 12

Candidate Starts for BengiVuitton\_32:

(Start: 12 @23191 has 22 MA's), (17, 23212), (45, 23302), (Start: 60 @23332 has 1 MA's), (80, 23395), (92, 23431), (101, 23485), (141, 23581), (149, 23611), (203, 23743), (229, 23833), (233, 23848), (267, 23968), (280, 24001), (285, 24010), (419, 24205), (424, 24223), (480, 24451), (492, 24490), (514, 24547), (520, 24580), (524, 24601), (540, 24637), (559, 24697), (569, 24742), (573, 24763), (574, 24772), (598, 24883), (603, 24907), (607, 24922), (608, 24928), (643, 25060), (659, 25114), (691, 25162), (697, 25174), (716, 25213), (764, 25354), (767, 25363),

Gene: Benvolio\_31 Start: 22854, Stop: 25181, Start Num: 10

Candidate Starts for Benvolio\_31:

(Start: 10 @22854 has 36 MA's), (17, 22878), (48, 22977), (52, 22983), (63, 23010), (80, 23067), (92, 23103), (101, 23157), (117, 23184), (121, 23205), (131, 23229), (149, 23283), (229, 23394), (267, 23529), (280, 23562), (349, 23748), (419, 24000), (424, 24018), (432, 24042), (480, 24243), (492, 24282), (520, 24372), (540, 24429), (559, 24489), (569, 24534), (573, 24555), (598, 24675), (603, 24699), (611, 24744), (620, 24777), (676, 24933), (731, 25044), (747, 25104), (766, 25158), (769, 25167),

Gene: BetterKatz\_25 Start: 20866, Stop: 23376, Start Num: 20

Candidate Starts for BetterKatz\_25:

(Start: 20 @20866 has 13 MA's), (65, 20998), (69, 21013), (82, 21058), (89, 21076), (139, 21241), (158, 21295), (162, 21304), (187, 21382), (190, 21388), (238, 21553), (243, 21568), (253, 21604), (274, 21679), (281, 21691), (286, 21700), (289, 21706), (295, 21718), (298, 21730), (300, 21745), (305, 21763), (306, 21766), (316, 21802), (331, 21856), (367, 21961), (375, 21979), (391, 22033), (396, 22054), (397, 22063), (426, 22165), (439, 22225), (447, 22273), (452, 22285), (460, 22330), (488, 22417), (499, 22456), (520, 22525), (522, 22537), (526, 22549), (598, 22837), (604, 22867), (623, 22948), (631, 22969), (637, 22996), (641, 23020), (705, 23185), (723, 23230), (751, 23329),



(769, 23368),

Gene: Biglebops\_23 Start: 20414, Stop: 22900, Start Num: 21

Candidate Starts for Biglebops\_23:

(Start: 21 @20414 has 49 MA's), (30, 20462), (116, 20642), (117, 20645), (138, 20708), (143, 20720), (189, 20852), (201, 20891), (218, 20948), (225, 20972), (228, 20984), (242, 21032), (243, 21035), (254, 21068), (264, 21107), (274, 21140), (281, 21152), (286, 21161), (289, 21167), (308, 21233), (313, 21248), (347, 21359), (356, 21392), (380, 21476), (386, 21491), (399, 21551), (414, 21620), (441, 21740), (460, 21833), (495, 21947), (519, 22025), (520, 22031), (529, 22055), (545, 22118), (546, 22121), (548, 22133), (565, 22199), (566, 22205), (575, 22247), (578, 22268), (580, 22277), (586, 22310), (590, 22328), (603, 22397), (631, 22496), (632, 22502), (636, 22520), (644, 22574), (649, 22589), (662, 22616), (702, 22673),

Gene: Bipper\_27 Start: 23567, Stop: 26155, Start Num: 22

Candidate Starts for Bipper\_27:

(Start: 22 @23567 has 4 MA's), (86, 23756), (95, 23777), (99, 23807), (114, 23870), (135, 23936), (137, 23939), (150, 23981), (171, 24032), (183, 24068), (196, 24107), (233, 24242), (252, 24320), (253, 24323), (274, 24404), (289, 24434), (299, 24470), (311, 24509), (314, 24521), (321, 24551), (324, 24557), (328, 24569), (332, 24578), (335, 24590), (345, 24614), (353, 24638), (373, 24731), (380, 24764), (381, 24767), (399, 24842), (401, 24854), (420, 24938), (477, 25184), (481, 25190), (498, 25247), (520, 25328), (538, 25376), (566, 25490), (580, 25556), (597, 25643), (603, 25673), (614, 25724), (636, 25796), (641, 25820), (643, 25826), (644, 25847), (650, 25865), (693, 25934), (730, 26009), (740, 26048), (741, 26054), (743, 26060), (766, 26138), (769, 26147),

Gene: Bock\_25 Start: 20616, Stop: 23126, Start Num: 20

Candidate Starts for Bock\_25:

(Start: 20 @20616 has 13 MA's), (65, 20748), (69, 20763), (82, 20808), (89, 20826), (139, 20991), (158, 21045), (162, 21054), (187, 21132), (190, 21138), (238, 21303), (243, 21318), (253, 21354), (274, 21429), (281, 21441), (286, 21450), (289, 21456), (295, 21468), (298, 21480), (300, 21495), (305, 21513), (306, 21516), (331, 21606), (367, 21711), (375, 21729), (391, 21783), (396, 21804), (397, 21813), (426, 21915), (439, 21975), (447, 22023), (452, 22035), (460, 22080), (488, 22167), (499, 22206), (520, 22275), (522, 22287), (526, 22299), (598, 22587), (604, 22617), (623, 22698), (631, 22719), (637, 22746), (641, 22770), (705, 22935), (723, 22980), (751, 23079), (769, 23118),

Gene: Bonum\_46 Start: 32908, Stop: 35466, Start Num: 56

Candidate Starts for Bonum\_46:

(Start: 56 @32908 has 14 MA's), (99, 33037), (213, 33376), (214, 33379), (228, 33436), (274, 33589), (300, 33655), (304, 33670), (330, 33760), (411, 34111), (499, 34489), (527, 34594), (531, 34612), (539, 34645), (543, 34666), (558, 34720), (573, 34789), (580, 34825), (585, 34852), (586, 34858), (603, 34948), (627, 35044), (628, 35047), (643, 35110), (648, 35143), (654, 35161), (655, 35164), (669, 35200), (680, 35224), (692, 35245), (729, 35335), (732, 35347),

Gene: BoostSeason\_23 Start: 18687, Stop: 21026, Start Num: 21

Candidate Starts for BoostSeason\_23:

(Start: 21 @18687 has 49 MA's), (116, 18927), (154, 19035), (158, 19044), (167, 19065), (174, 19089), (219, 19218), (223, 19230), (242, 19299), (286, 19434), (295, 19452), (300, 19479), (339, 19581), (365, 19653), (376, 19695), (377, 19701), (380, 19710), (383, 19716), (401, 19797), (406, 19818), (419, 19860), (425, 19881), (433, 19911), (449, 19998), (454, 20007), (462, 20043), (480, 20097), (501, 20151), (504, 20163), (520, 20223), (541, 20283), (546, 20301), (556, 20328), (569, 20385), (608, 20574), (613, 20604), (639, 20682), (643, 20703), (652, 20745), (667, 20778), (673, 20787), (690, 20808), (704, 20835), (739, 20916), (745, 20940),

Gene: Bryler\_26 Start: 20070, Stop: 22406, Start Num: 21

Candidate Starts for Bryler\_26:

(Start: 21 @20070 has 49 MA's), (30, 20118), (31, 20127), (74, 20241), (80, 20259), (119, 20310), (154, 20406), (158, 20415), (189, 20505), (194, 20517), (223, 20616), (225, 20625), (251, 20718), (274, 20799), (289, 20829), (295, 20841), (300, 20868), (304, 20883), (313, 20907), (339, 20967), (356, 21012), (365, 21039), (374, 21078), (380, 21096), (385, 21105), (401, 21174), (402, 21177), (406, 21195), (419, 21237), (425, 21258), (433, 21288), (449, 21375), (468, 21438), (476, 21471), (484, 21480), (504, 21543), (517, 21591), (520, 21603), (543, 21672), (554, 21696), (560, 21726), (569, 21765), (608, 21954), (631, 22029), (643, 22083), (673, 22167), (688, 22185), (733, 22272), (739, 22296), (753, 22338), (771, 22398),

Gene: Brylie\_25 Start: 20607, Stop: 23117, Start Num: 20

Candidate Starts for Brylie\_25:

(Start: 20 @20607 has 13 MA's), (65, 20739), (69, 20754), (82, 20799), (89, 20817), (139, 20982), (158, 21036), (162, 21045), (187, 21123), (190, 21129), (238, 21294), (243, 21309), (253, 21345), (274, 21420), (281, 21432), (286, 21441), (289, 21447), (295, 21459), (298, 21471), (300, 21486), (305, 21504), (306, 21507), (316, 21543), (331, 21597), (375, 21720), (391, 21774), (396, 21795), (397, 21804), (426, 21906), (439, 21966), (447, 22014), (452, 22026), (460, 22071), (488, 22158), (499, 22197), (520, 22266), (522, 22278), (526, 22290), (598, 22578), (604, 22608), (623, 22689), (631, 22710), (637, 22737), (641, 22761), (705, 22926), (723, 22971), (751, 23070), (769, 23109),

Gene: Buggaboo\_44 Start: 33387, Stop: 35945, Start Num: 56

Candidate Starts for Buggaboo\_44:

(18, 33258), (Start: 56 @33387 has 14 MA's), (99, 33516), (213, 33855), (214, 33858), (228, 33915), (274, 34068), (300, 34134), (304, 34149), (411, 34590), (499, 34968), (527, 35073), (531, 35091), (539, 35124), (543, 35145), (558, 35199), (564, 35223), (580, 35304), (585, 35331), (586, 35337), (603, 35427), (627, 35523), (628, 35526), (643, 35589), (648, 35622), (654, 35640), (655, 35643), (669, 35679), (680, 35703), (692, 35724), (729, 35814), (732, 35826), (769, 35937),

Gene: Buggy\_33 Start: 23267, Stop: 25489, Start Num: 10

Candidate Starts for Buggy\_33:

(Start: 10 @23267 has 36 MA's), (45, 23381), (48, 23390), (52, 23396), (80, 23480), (121, 23618), (131, 23642), (149, 23696), (239, 23846), (267, 23942), (282, 23978), (287, 23987), (419, 24293), (432, 24335), (492, 24575), (520, 24674), (524, 24695), (546, 24752), (559, 24791), (560, 24797), (579, 24893), (580, 24896), (593, 24962), (611, 25046), (635, 25118), (674, 25238), (730, 25349), (743, 25400), (747, 25412),

Gene: CRB1\_31 Start: 22754, Stop: 24937, Start Num: 12

Candidate Starts for CRB1\_31:

(Start: 12 @22754 has 22 MA's), (17, 22775), (45, 22865), (48, 22874), (Start: 60 @22895 has 1 MA's), (72, 22931), (80, 22958), (92, 22994), (121, 23096), (149, 23174), (229, 23285), (239, 23324), (267, 23420), (280, 23453), (419, 23774), (424, 23792), (425, 23795), (432, 23816), (480, 24017), (492, 24056), (500, 24077), (514, 24113), (520, 24146), (524, 24167), (540, 24203), (560, 24269), (569, 24308), (573, 24329), (593, 24434), (598, 24449), (619, 24542), (643, 24623), (651, 24665), (697, 24734), (716, 24773), (722, 24782), (764, 24914), (766, 24920),

Gene: CRB2\_33 Start: 31730, Stop: 34225, Start Num: 24

Candidate Starts for CRB2\_33:

(Start: 24 @31730 has 9 MA's), (53, 31832), (54, 31838), (59, 31850), (77, 31907), (85, 31937), (92, 31952), (113, 32057), (149, 32171), (202, 32324), (225, 32405), (226, 32408), (242, 32468), (248, 32495), (283, 32603), (299, 32651), (300, 32654), (306, 32675), (342, 32774), (345, 32789), (382, 32915), (390, 32939), (396, 32960), (419, 33047), (424, 33065), (459, 33224), (480, 33290), (491, 33326), (492, 33329), (496, 33341), (507, 33371), (517, 33407), (520, 33419), (560, 33542), (561, 33545), (562, 33548), (563, 33554), (582, 33656), (593, 33707), (598, 33722), (603, 33746), (614,

33797), (620, 33818), (643, 33899), (645, 33923), (678, 33977), (718, 34049), (733, 34091), (741, 34127), (747, 34145), (759, 34172), (766, 34202),

Gene: CactusJack\_21 Start: 18926, Stop: 21559, Start Num: 5

Candidate Starts for CactusJack\_21:

(Start: 5 @18926 has 7 MA's), (7, 18935), (52, 19079), (133, 19352), (137, 19364), (144, 19385), (152, 19409), (178, 19484), (204, 19556), (214, 19586), (223, 19622), (238, 19685), (243, 19700), (251, 19727), (253, 19733), (274, 19808), (286, 19832), (289, 19838), (295, 19850), (304, 19892), (306, 19898), (333, 19985), (342, 20006), (350, 20030), (363, 20096), (369, 20117), (373, 20135), (380, 20168), (387, 20192), (388, 20195), (399, 20246), (422, 20351), (433, 20393), (471, 20558), (499, 20654), (520, 20732), (525, 20744), (553, 20834), (566, 20894), (569, 20903), (578, 20951), (580, 20960), (603, 21077), (612, 21122), (626, 21164), (643, 21230), (645, 21254), (672, 21302), (676, 21308), (678, 21314), (730, 21413), (733, 21422), (740, 21452), (766, 21542), (769, 21551),

Gene: Cain\_26 Start: 20058, Stop: 22394, Start Num: 21

Candidate Starts for Cain\_26:

(Start: 21 @20058 has 49 MA's), (30, 20106), (31, 20115), (74, 20229), (80, 20247), (119, 20298), (154, 20394), (158, 20403), (189, 20493), (194, 20505), (223, 20604), (225, 20613), (251, 20706), (274, 20787), (289, 20817), (295, 20829), (300, 20856), (304, 20871), (313, 20895), (339, 20955), (356, 21000), (365, 21027), (374, 21066), (380, 21084), (385, 21093), (401, 21162), (402, 21165), (406, 21183), (419, 21225), (425, 21246), (433, 21276), (449, 21363), (468, 21426), (476, 21459), (484, 21468), (504, 21531), (517, 21579), (520, 21591), (543, 21660), (554, 21684), (560, 21714), (569, 21753), (608, 21942), (631, 22017), (643, 22071), (673, 22155), (688, 22173), (733, 22260), (739, 22284), (753, 22326), (771, 22386),

Gene: Centaur\_33 Start: 23215, Stop: 25422, Start Num: 10

Candidate Starts for Centaur\_33:

(Start: 10 @23215 has 36 MA's), (45, 23329), (48, 23338), (52, 23344), (Start: 60 @23365 has 1 MA's), (72, 23401), (97, 23476), (121, 23566), (126, 23578), (229, 23755), (239, 23794), (267, 23890), (380, 24103), (395, 24151), (419, 24241), (429, 24271), (432, 24283), (492, 24523), (520, 24622), (524, 24643), (557, 24733), (559, 24739), (560, 24745), (569, 24784), (573, 24805), (579, 24841), (580, 24844), (593, 24910), (645, 25126), (674, 25174), (712, 25237), (734, 25297), (747, 25345), (766, 25399),

Gene: Chancellor\_28 Start: 22283, Stop: 24592, Start Num: 47

Candidate Starts for Chancellor\_28:

(Start: 47 @22283 has 15 MA's), (90, 22394), (117, 22418), (158, 22535), (201, 22664), (216, 22715), (219, 22724), (228, 22757), (239, 22796), (242, 22805), (259, 22862), (261, 22871), (274, 22922), (281, 22934), (289, 22949), (292, 22955), (300, 22988), (315, 23036), (337, 23090), (365, 23162), (374, 23201), (378, 23213), (385, 23228), (396, 23273), (412, 23342), (434, 23423), (468, 23576), (499, 23675), (503, 23687), (529, 23792), (546, 23858), (550, 23873), (573, 23969), (603, 24122), (607, 24137), (608, 24143), (611, 24167), (620, 24206), (626, 24218), (646, 24314), (673, 24368), (691, 24389), (733, 24476), (740, 24506), (769, 24584),

Gene: Cheetobro\_28 Start: 22280, Stop: 24589, Start Num: 47

Candidate Starts for Cheetobro\_28:

(Start: 47 @22280 has 15 MA's), (90, 22391), (117, 22415), (158, 22532), (201, 22661), (216, 22712), (219, 22721), (228, 22754), (239, 22793), (242, 22802), (259, 22859), (261, 22868), (274, 22919), (281, 22931), (289, 22946), (292, 22952), (300, 22985), (315, 23033), (337, 23087), (365, 23159), (374, 23198), (378, 23210), (385, 23225), (396, 23270), (412, 23339), (434, 23420), (468, 23573), (499, 23672), (503, 23684), (529, 23789), (546, 23855), (550, 23870), (573, 23966), (603, 24119), (607, 24134), (608, 24140), (611, 24164), (620, 24203), (626, 24215), (646, 24311), (673, 24365), (691, 24386), (733, 24473), (740, 24503), (769, 24581),

Gene: ChipMunk\_33 Start: 23177, Stop: 25654, Start Num: 12

Candidate Starts for ChipMunk\_33:

(Start: 12 @23177 has 22 MA's), (17, 23198), (45, 23288), (80, 23387), (97, 23435), (127, 23567), (210, 23813), (216, 23840), (221, 23855), (239, 23930), (282, 24071), (307, 24143), (344, 24245), (366, 24287), (415, 24455), (425, 24497), (432, 24518), (455, 24629), (457, 24632), (472, 24689), (491, 24755), (492, 24758), (496, 24770), (509, 24812), (514, 24821), (520, 24854), (540, 24911), (569, 25016), (573, 25037), (580, 25076), (611, 25226), (614, 25232), (618, 25247), (620, 25253), (633, 25286), (635, 25298), (638, 25307), (641, 25328), (669, 25397), (725, 25496), (732, 25523), (733, 25526), (747, 25580), (759, 25607),

Gene: Chop\_25 Start: 21141, Stop: 23651, Start Num: 20

Candidate Starts for Chop\_25:

(Start: 20 @21141 has 13 MA's), (65, 21273), (69, 21288), (82, 21333), (89, 21351), (139, 21516), (158, 21570), (162, 21579), (187, 21657), (190, 21663), (238, 21828), (243, 21843), (253, 21879), (274, 21954), (281, 21966), (286, 21975), (295, 21993), (298, 22005), (305, 22038), (306, 22041), (316, 22077), (331, 22131), (375, 22254), (391, 22308), (396, 22329), (397, 22338), (426, 22440), (439, 22500), (447, 22548), (452, 22560), (460, 22605), (488, 22692), (499, 22731), (520, 22800), (522, 22812), (526, 22824), (598, 23112), (604, 23142), (623, 23223), (631, 23244), (637, 23271), (641, 23295), (705, 23460), (723, 23505), (751, 23604), (769, 23643),

Gene: Clautastrophe\_21 Start: 19724, Stop: 22237, Start Num: 3

Candidate Starts for Clautastrophe\_21:

(Start: 3 @19724 has 16 MA's), (19, 19787), (34, 19859), (68, 19949), (71, 19955), (93, 20027), (118, 20114), (152, 20219), (157, 20231), (167, 20249), (181, 20288), (191, 20318), (211, 20375), (218, 20405), (220, 20411), (233, 20465), (235, 20471), (277, 20618), (278, 20621), (284, 20630), (293, 20648), (310, 20708), (313, 20717), (316, 20729), (336, 20780), (338, 20783), (389, 20948), (402, 21005), (428, 21089), (432, 21107), (433, 21116), (444, 21179), (476, 21299), (485, 21323), (491, 21344), (496, 21359), (502, 21377), (515, 21407), (541, 21497), (562, 21566), (569, 21599), (573, 21620), (580, 21656), (588, 21692), (596, 21737), (602, 21761), (603, 21767), (607, 21782), (610, 21800), (636, 21887), (641, 21911), (646, 21947), (649, 21953), (663, 21977), (706, 22052), (708, 22055), (738, 22142), (740, 22151), (741, 22157),

Gene: Cracklewink\_27 Start: 23567, Stop: 26155, Start Num: 22

Candidate Starts for Cracklewink\_27:

(Start: 22 @23567 has 4 MA's), (86, 23756), (95, 23777), (99, 23807), (114, 23870), (135, 23936), (137, 23939), (150, 23981), (171, 24032), (183, 24068), (196, 24107), (233, 24242), (252, 24320), (253, 24323), (274, 24404), (289, 24434), (299, 24470), (311, 24509), (314, 24521), (321, 24551), (324, 24557), (328, 24569), (332, 24578), (335, 24590), (345, 24614), (353, 24638), (373, 24731), (380, 24764), (381, 24767), (399, 24842), (401, 24854), (420, 24938), (477, 25184), (481, 25190), (498, 25247), (520, 25328), (538, 25376), (566, 25490), (580, 25556), (597, 25643), (603, 25673), (614, 25724), (636, 25796), (641, 25820), (643, 25826), (644, 25847), (650, 25865), (693, 25934), (730, 26009), (740, 26048), (741, 26054), (743, 26060), (766, 26138), (769, 26147),

Gene: Crucio\_31 Start: 22638, Stop: 24842, Start Num: 12

Candidate Starts for Crucio\_31:

(Start: 12 @22638 has 22 MA's), (17, 22659), (52, 22764), (80, 22848), (92, 22884), (121, 22986), (126, 22998), (229, 23175), (267, 23310), (296, 23373), (419, 23664), (424, 23682), (432, 23706), (460, 23844), (480, 23907), (492, 23946), (520, 24036), (540, 24093), (559, 24153), (569, 24198), (573, 24219), (598, 24339), (603, 24363), (611, 24408), (635, 24480), (645, 24540), (733, 24711), (747, 24765), (760, 24792), (766, 24819),

Gene: Curiosium\_28 Start: 20582, Stop: 23062, Start Num: 60

Candidate Starts for Curiosium\_28:

(Start: 60 @20582 has 1 MA's), (107, 20753), (123, 20810), (140, 20861), (170, 20945), (193, 21017), (214, 21077), (218, 21098), (226, 21125), (232, 21149), (240, 21185), (255, 21230), (256, 21233), (289, 21332), (291, 21335), (300, 21371), (315, 21422), (330, 21476), (341, 21509), (370, 21635), (372, 21644), (399, 21767), (401, 21779), (423, 21878), (440, 21947), (445, 21980), (479, 22109), (483, 22115), (499, 22172), (506, 22190), (537, 22304), (542, 22331), (546, 22343), (549, 22358), (557, 22385), (561, 22400), (569, 22436), (570, 22439), (591, 22556), (593, 22571), (622, 22712), (646, 22820), (682, 22859), (684, 22862), (699, 22886), (738, 22964), (752, 23009), (761, 23027),

Gene: Dalmatian\_31 Start: 22845, Stop: 25049, Start Num: 12

Candidate Starts for Dalmatian\_31:

(Start: 12 @22845 has 22 MA's), (17, 22866), (80, 23055), (92, 23091), (121, 23193), (126, 23205), (212, 23316), (229, 23382), (267, 23517), (419, 23871), (432, 23913), (460, 24051), (480, 24114), (492, 24153), (520, 24243), (540, 24300), (559, 24360), (569, 24405), (573, 24426), (598, 24546), (603, 24570), (611, 24615), (635, 24687), (645, 24747), (733, 24918), (747, 24972), (760, 24999), (766, 25026),

Gene: DarthP\_26 Start: 21319, Stop: 23703, Start Num: 21

Candidate Starts for DarthP\_26:

(Start: 21 @21319 has 49 MA's), (23, 21328), (30, 21367), (74, 21490), (116, 21547), (119, 21559), (143, 21625), (163, 21679), (189, 21757), (216, 21847), (228, 21889), (243, 21940), (257, 21982), (258, 21985), (263, 22006), (286, 22066), (289, 22072), (347, 22264), (380, 22381), (400, 22450), (415, 22489), (422, 22519), (456, 22663), (497, 22798), (498, 22801), (499, 22804), (513, 22843), (529, 22897), (565, 23038), (566, 23044), (571, 23059), (593, 23188), (595, 23194), (617, 23290), (620, 23299), (631, 23323), (635, 23344), (726, 23551), (731, 23566), (732, 23569), (767, 23677),

Gene: DelRio\_26 Start: 21615, Stop: 24125, Start Num: 20

Candidate Starts for DelRio\_26:

(Start: 20 @21615 has 13 MA's), (65, 21747), (69, 21762), (82, 21807), (89, 21825), (139, 21990), (158, 22044), (162, 22053), (187, 22131), (190, 22137), (238, 22302), (243, 22317), (253, 22353), (274, 22428), (281, 22440), (286, 22449), (295, 22467), (298, 22479), (300, 22494), (305, 22512), (306, 22515), (316, 22551), (331, 22605), (367, 22710), (375, 22728), (391, 22782), (397, 22812), (426, 22914), (439, 22974), (447, 23022), (452, 23034), (460, 23079), (488, 23166), (499, 23205), (520, 23274), (522, 23286), (585, 23520), (598, 23586), (604, 23616), (623, 23697), (641, 23769), (705, 23934), (723, 23979), (751, 24078), (769, 24117),

Gene: Deloris\_32 Start: 23191, Stop: 25377, Start Num: 12

Candidate Starts for Deloris\_32:

(Start: 12 @23191 has 22 MA's), (17, 23212), (45, 23302), (Start: 60 @23332 has 1 MA's), (80, 23395), (92, 23431), (101, 23485), (141, 23581), (149, 23611), (203, 23743), (229, 23833), (233, 23848), (267, 23968), (280, 24001), (285, 24010), (419, 24205), (424, 24223), (480, 24451), (492, 24490), (514, 24547), (520, 24580), (524, 24601), (540, 24637), (559, 24697), (569, 24742), (573, 24763), (574, 24772), (598, 24883), (603, 24907), (607, 24922), (608, 24928), (643, 25060), (691, 25162), (697, 25174), (716, 25213), (764, 25354), (767, 25363),

Gene: Dignity\_33 Start: 23212, Stop: 25416, Start Num: 10

Candidate Starts for Dignity\_33:

(Start: 10 @23212 has 36 MA's), (45, 23326), (48, 23335), (52, 23341), (80, 23425), (121, 23563), (131, 23587), (149, 23641), (229, 23752), (267, 23887), (285, 23929), (312, 24001), (415, 24220), (419, 24241), (424, 24259), (432, 24283), (454, 24391), (480, 24484), (492, 24523), (520, 24613), (540, 24670), (541, 24673), (559, 24730), (560, 24736), (569, 24775), (573, 24796), (611, 24985), (620, 25012), (675, 25165), (689, 25189), (717, 25243), (719, 25246), (733, 25285), (734, 25291), (747, 25339),

Gene: DismalFunk\_23 Start: 18661, Stop: 21000, Start Num: 21

Candidate Starts for DismalFunk\_23:

(Start: 21 @18661 has 49 MA's), (74, 18832), (80, 18850), (88, 18874), (158, 19018), (171, 19051), (215, 19180), (218, 19189), (223, 19204), (226, 19216), (228, 19225), (242, 19273), (270, 19369), (274, 19387), (286, 19408), (300, 19453), (339, 19555), (365, 19627), (376, 19669), (377, 19675), (380, 19684), (401, 19771), (406, 19792), (419, 19834), (425, 19855), (449, 19972), (454, 19981), (480, 20071), (501, 20125), (504, 20137), (511, 20161), (546, 20275), (556, 20302), (569, 20359), (580, 20416), (608, 20548), (613, 20578), (632, 20629), (636, 20647), (643, 20677), (658, 20731), (673, 20761), (690, 20782), (745, 20914),

Gene: DismalStressor\_23 Start: 18661, Stop: 21000, Start Num: 21

Candidate Starts for DismalStressor\_23:

(Start: 21 @18661 has 49 MA's), (74, 18832), (80, 18850), (88, 18874), (158, 19018), (171, 19051), (215, 19180), (218, 19189), (223, 19204), (226, 19216), (228, 19225), (242, 19273), (270, 19369), (274, 19387), (286, 19408), (300, 19453), (339, 19555), (365, 19627), (376, 19669), (377, 19675), (380, 19684), (401, 19771), (406, 19792), (419, 19834), (425, 19855), (449, 19972), (454, 19981), (480, 20071), (501, 20125), (504, 20137), (511, 20161), (546, 20275), (556, 20302), (569, 20359), (580, 20416), (608, 20548), (613, 20578), (632, 20629), (636, 20647), (643, 20677), (658, 20731), (673, 20761), (690, 20782), (745, 20914),

Gene: Dogfish\_28 Start: 23683, Stop: 26286, Start Num: 11

Candidate Starts for Dogfish\_28:

(Start: 11 @23683 has 1 MA's), (38, 23797), (41, 23806), (129, 24109), (142, 24151), (187, 24283), (228, 24418), (238, 24454), (252, 24502), (258, 24520), (262, 24544), (274, 24580), (281, 24592), (298, 24631), (300, 24646), (305, 24664), (405, 24997), (499, 25360), (515, 25402), (520, 25423), (523, 25438), (530, 25465), (569, 25591), (571, 25597), (605, 25774), (623, 25855), (634, 25894), (641, 25927), (713, 26113), (721, 26134), (769, 26278),

Gene: Drake55\_33 Start: 23226, Stop: 25310, Start Num: 10

Candidate Starts for Drake55\_33:

(Start: 10 @23226 has 36 MA's), (45, 23340), (52, 23355), (Start: 60 @23376 has 1 MA's), (84, 23454), (121, 23577), (149, 23655), (229, 23766), (235, 23787), (267, 23901), (282, 23937), (419, 24138), (424, 24156), (432, 24180), (451, 24279), (480, 24381), (492, 24420), (496, 24432), (520, 24510), (559, 24627), (560, 24633), (573, 24693), (593, 24798), (598, 24813), (635, 24954), (636, 24957), (644, 25008), (649, 25023), (664, 25047), (694, 25101), (707, 25125), (741, 25230), (767, 25296),

Gene: Drake94\_31 Start: 21398, Stop: 23680, Start Num: 10

Candidate Starts for Drake94\_31:

(Start: 10 @21398 has 36 MA's), (19, 21431), (43, 21515), (67, 21581), (102, 21713), (147, 21827), (149, 21836), (184, 21920), (208, 21995), (229, 22073), (248, 22148), (280, 22238), (377, 22364), (419, 22511), (424, 22529), (432, 22553), (480, 22754), (492, 22793), (520, 22883), (540, 22940), (557, 22994), (569, 23045), (573, 23066), (574, 23075), (578, 23093), (580, 23105), (603, 23210), (607, 23225), (608, 23231), (614, 23264), (643, 23363), (644, 23384), (645, 23387), (677, 23444), (689, 23462), (691, 23465), (697, 23477), (716, 23516), (731, 23558), (732, 23561), (766, 23663),

Gene: DudeLittle\_31 Start: 22847, Stop: 25045, Start Num: 12

Candidate Starts for DudeLittle\_31:

(Start: 12 @22847 has 22 MA's), (17, 22868), (52, 22973), (80, 23057), (92, 23093), (121, 23195), (126, 23207), (212, 23318), (229, 23384), (267, 23519), (282, 23555), (296, 23582), (395, 23780), (419, 23867), (424, 23885), (432, 23909), (437, 23939), (480, 24110), (496, 24161), (520, 24239), (540, 24296), (569, 24401), (573, 24422), (576, 24434), (593, 24527), (598, 24542), (611, 24611),

(620, 24638), (674, 24791), (689, 24815), (747, 24968), (762, 25007),

Gene: DuncansLeg\_21 Start: 19709, Stop: 22222, Start Num: 3

Candidate Starts for DuncansLeg\_21:

(Start: 3 @19709 has 16 MA's), (19, 19772), (32, 19841), (34, 19844), (93, 20012), (152, 20204), (167, 20234), (181, 20273), (191, 20303), (211, 20360), (218, 20390), (220, 20396), (233, 20450), (235, 20456), (277, 20603), (278, 20606), (284, 20615), (293, 20633), (310, 20693), (316, 20714), (336, 20765), (338, 20768), (346, 20795), (389, 20933), (402, 20990), (428, 21074), (432, 21092), (433, 21101), (444, 21164), (460, 21230), (476, 21284), (491, 21329), (496, 21344), (515, 21392), (541, 21482), (546, 21500), (560, 21545), (562, 21551), (569, 21584), (572, 21602), (580, 21641), (588, 21677), (596, 21722), (602, 21746), (607, 21767), (610, 21785), (618, 21818), (641, 21896), (646, 21932), (663, 21962), (706, 22037), (724, 22073), (740, 22136), (741, 22142),

Gene: Dynamo\_21 Start: 19047, Stop: 21686, Start Num: 6

Candidate Starts for Dynamo\_21:

(Start: 6 @19047 has 9 MA's), (8, 19056), (52, 19200), (133, 19473), (135, 19482), (137, 19485), (144, 19506), (148, 19518), (150, 19527), (160, 19551), (178, 19605), (204, 19683), (214, 19713), (223, 19749), (228, 19770), (232, 19785), (243, 19827), (253, 19860), (274, 19935), (286, 19959), (289, 19965), (295, 19977), (304, 20019), (306, 20025), (333, 20112), (369, 20244), (373, 20262), (380, 20295), (388, 20322), (399, 20373), (443, 20583), (459, 20649), (471, 20685), (501, 20784), (504, 20796), (520, 20859), (566, 21021), (571, 21036), (580, 21087), (603, 21204), (612, 21249), (626, 21291), (636, 21327), (645, 21381), (672, 21429), (739, 21573), (756, 21630), (766, 21669), (769, 21678),

Gene: Echild\_31 Start: 22854, Stop: 25181, Start Num: 10

Candidate Starts for Echild\_31:

(Start: 10 @22854 has 36 MA's), (17, 22878), (48, 22977), (52, 22983), (63, 23010), (80, 23067), (92, 23103), (101, 23157), (117, 23184), (121, 23205), (131, 23229), (149, 23283), (229, 23394), (267, 23529), (280, 23562), (349, 23748), (419, 24000), (424, 24018), (432, 24042), (480, 24243), (492, 24282), (520, 24372), (540, 24429), (559, 24489), (569, 24534), (573, 24555), (598, 24675), (603, 24699), (611, 24744), (620, 24777), (676, 24933), (731, 25044), (747, 25104), (766, 25158), (769, 25167),

Gene: Ekdilam\_24 Start: 21084, Stop: 23462, Start Num: 21

Candidate Starts for Ekdilam\_24:

(Start: 21 @21084 has 49 MA's), (23, 21093), (30, 21132), (74, 21255), (119, 21324), (163, 21444), (216, 21612), (228, 21654), (243, 21705), (257, 21747), (258, 21750), (263, 21771), (289, 21837), (317, 21933), (347, 22029), (361, 22077), (380, 22146), (400, 22215), (415, 22254), (422, 22284), (456, 22428), (497, 22563), (498, 22566), (499, 22569), (513, 22608), (529, 22662), (546, 22725), (565, 22803), (566, 22809), (571, 22824), (572, 22836), (578, 22866), (593, 22953), (595, 22959), (620, 23064), (631, 23088), (635, 23109), (644, 23163), (655, 23193), (675, 23223), (719, 23304), (731, 23325), (732, 23328), (767, 23436),

Gene: Ellie\_24 Start: 21059, Stop: 23461, Start Num: 21

Candidate Starts for Ellie\_24:

(Start: 21 @21059 has 49 MA's), (26, 21089), (30, 21107), (63, 21191), (143, 21365), (189, 21497), (216, 21587), (228, 21629), (243, 21680), (257, 21722), (258, 21725), (274, 21782), (286, 21806), (289, 21812), (300, 21851), (317, 21908), (347, 22004), (380, 22121), (400, 22190), (415, 22229), (422, 22259), (433, 22301), (456, 22403), (497, 22538), (498, 22541), (499, 22544), (513, 22583), (529, 22637), (565, 22775), (566, 22781), (571, 22796), (572, 22808), (578, 22838), (593, 22925), (595, 22931), (606, 22973), (635, 23081), (644, 23135), (691, 23231), (694, 23237), (703, 23255), (716, 23291), (718, 23294), (724, 23303), (731, 23327), (738, 23354),

Gene: Ellson\_21 Start: 19717, Stop: 22227, Start Num: 3

Candidate Starts for Ellson\_21:

(Start: 3 @19717 has 16 MA's), (19, 19780), (53, 19900), (108, 20086), (152, 20212), (157, 20224), (167, 20242), (181, 20281), (191, 20311), (218, 20398), (233, 20458), (235, 20464), (275, 20605), (278, 20611), (284, 20620), (293, 20638), (310, 20698), (316, 20719), (336, 20770), (338, 20773), (361, 20842), (402, 20995), (428, 21079), (432, 21097), (433, 21106), (458, 21217), (460, 21235), (476, 21289), (491, 21334), (496, 21349), (515, 21397), (541, 21487), (546, 21505), (562, 21556), (569, 21589), (572, 21607), (580, 21646), (588, 21682), (596, 21727), (602, 21751), (607, 21772), (610, 21790), (618, 21823), (619, 21826), (636, 21877), (649, 21943), (663, 21967), (706, 22042), (724, 22078), (741, 22147),

Gene: Enkosi\_23 Start: 20414, Stop: 22900, Start Num: 21

Candidate Starts for Enkosi\_23:

(Start: 21 @20414 has 49 MA's), (30, 20462), (116, 20642), (117, 20645), (138, 20708), (143, 20720), (189, 20852), (201, 20891), (218, 20948), (225, 20972), (228, 20984), (242, 21032), (243, 21035), (254, 21068), (264, 21107), (274, 21140), (281, 21152), (286, 21161), (289, 21167), (308, 21233), (313, 21248), (347, 21359), (356, 21392), (380, 21476), (386, 21491), (399, 21551), (414, 21620), (441, 21740), (460, 21833), (495, 21947), (519, 22025), (520, 22031), (529, 22055), (545, 22118), (546, 22121), (548, 22133), (565, 22199), (566, 22205), (575, 22247), (578, 22268), (580, 22277), (586, 22310), (590, 22328), (603, 22397), (631, 22496), (632, 22502), (636, 22520), (644, 22574), (649, 22589), (662, 22616), (702, 22673),

Gene: Ennea\_49 Start: 34236, Stop: 36794, Start Num: 56

Candidate Starts for Ennea\_49:

(2, 34038), (35, 34185), (Start: 56 @34236 has 14 MA's), (99, 34365), (135, 34485), (213, 34704), (214, 34707), (249, 34836), (289, 34944), (300, 34983), (396, 35355), (411, 35439), (499, 35817), (527, 35922), (531, 35940), (539, 35973), (543, 35994), (558, 36048), (580, 36153), (586, 36186), (603, 36276), (627, 36372), (628, 36375), (643, 36438), (648, 36471), (654, 36489), (655, 36492), (669, 36528), (680, 36552), (692, 36573), (729, 36663), (732, 36675),

Gene: Equemioh13\_33 Start: 23218, Stop: 25425, Start Num: 10

Candidate Starts for Equemioh13\_33:

(Start: 10 @23218 has 36 MA's), (45, 23332), (48, 23341), (52, 23347), (Start: 60 @23368 has 1 MA's), (97, 23479), (121, 23569), (126, 23581), (229, 23758), (239, 23797), (267, 23893), (395, 24154), (419, 24244), (429, 24274), (432, 24286), (477, 24484), (520, 24625), (524, 24646), (557, 24736), (559, 24742), (560, 24748), (569, 24787), (573, 24808), (579, 24844), (580, 24847), (593, 24913), (598, 24928), (599, 24931), (603, 24952), (610, 24985), (645, 25129), (674, 25177), (712, 25240), (734, 25300), (747, 25348), (766, 25402),

Gene: EvilGenius\_33 Start: 23186, Stop: 25663, Start Num: 12

Candidate Starts for EvilGenius\_33:

(Start: 12 @23186 has 22 MA's), (17, 23207), (45, 23297), (80, 23396), (97, 23444), (99, 23465), (127, 23576), (210, 23822), (216, 23849), (221, 23864), (239, 23939), (282, 24080), (307, 24152), (344, 24254), (415, 24464), (432, 24527), (455, 24638), (457, 24641), (472, 24698), (491, 24764), (492, 24767), (496, 24779), (509, 24821), (520, 24863), (540, 24920), (569, 25025), (573, 25046), (580, 25085), (611, 25235), (614, 25241), (633, 25295), (635, 25307), (638, 25316), (641, 25337), (669, 25406), (725, 25505), (732, 25532), (733, 25535), (747, 25589), (759, 25616),

Gene: FF47\_24 Start: 19326, Stop: 21644, Start Num: 57

Candidate Starts for FF47\_24:

(Start: 57 @19326 has 2 MA's), (119, 19527), (132, 19572), (136, 19584), (179, 19695), (200, 19761), (242, 19902), (284, 20034), (299, 20073), (302, 20085), (317, 20124), (327, 20142), (340, 20178), (357, 20238), (377, 20313), (387, 20340), (402, 20403), (418, 20460), (463, 20655), (489, 20724),



(492, 20742), (493, 20748), (494, 20751), (496, 20754), (534, 20871), (536, 20877), (559, 20955), (570, 21003), (571, 21006), (585, 21084), (593, 21135), (598, 21150), (600, 21162), (614, 21225), (620, 21246), (629, 21267), (643, 21324), (644, 21345), (663, 21384), (689, 21426), (706, 21459), (709, 21465), (714, 21480), (741, 21564),

Gene: Fameo\_31 Start: 22816, Stop: 25014, Start Num: 12

Candidate Starts for Fameo\_31:

(Start: 12 @22816 has 22 MA's), (17, 22837), (48, 22936), (80, 23026), (92, 23062), (121, 23164), (126, 23176), (229, 23353), (267, 23488), (323, 23629), (419, 23842), (424, 23860), (432, 23884), (480, 24085), (520, 24214), (540, 24271), (559, 24331), (569, 24376), (573, 24397), (598, 24517), (619, 24607), (620, 24610), (645, 24715), (657, 24739), (678, 24769), (679, 24772), (747, 24937), (766, 24991),

Gene: Fefferhead\_26 Start: 21226, Stop: 23613, Start Num: 21

Candidate Starts for Fefferhead\_26:

(Start: 21 @21226 has 49 MA's), (26, 21256), (30, 21274), (63, 21358), (143, 21532), (189, 21664), (216, 21754), (228, 21796), (243, 21847), (257, 21889), (258, 21892), (274, 21949), (286, 21973), (289, 21979), (300, 22018), (317, 22075), (347, 22171), (380, 22288), (400, 22357), (415, 22396), (416, 22405), (422, 22426), (433, 22468), (456, 22570), (497, 22705), (498, 22708), (499, 22711), (513, 22750), (529, 22804), (572, 22978), (593, 23095), (595, 23101), (619, 23203), (645, 23308), (646, 23314), (668, 23362), (719, 23455), (731, 23479), (739, 23509), (767, 23587),

Gene: Findley\_23 Start: 18661, Stop: 21000, Start Num: 21

Candidate Starts for Findley\_23:

(Start: 21 @18661 has 49 MA's), (74, 18832), (80, 18850), (116, 18901), (158, 19018), (171, 19051), (215, 19180), (218, 19189), (223, 19204), (226, 19216), (228, 19225), (242, 19273), (270, 19369), (274, 19387), (286, 19408), (300, 19453), (339, 19555), (365, 19627), (376, 19669), (377, 19675), (380, 19684), (401, 19771), (406, 19792), (419, 19834), (425, 19855), (449, 19972), (454, 19981), (462, 20017), (480, 20071), (501, 20125), (504, 20137), (511, 20161), (541, 20257), (546, 20275), (556, 20302), (569, 20359), (580, 20416), (608, 20548), (613, 20578), (632, 20629), (636, 20647), (643, 20677), (658, 20731), (673, 20761), (690, 20782), (745, 20914),

Gene: Finny\_21 Start: 19728, Stop: 22241, Start Num: 3

Candidate Starts for Finny\_21:

(Start: 3 @19728 has 16 MA's), (19, 19791), (34, 19863), (68, 19953), (71, 19959), (93, 20031), (152, 20223), (157, 20235), (167, 20253), (181, 20292), (191, 20322), (211, 20379), (218, 20409), (220, 20415), (233, 20469), (235, 20475), (277, 20622), (278, 20625), (284, 20634), (293, 20652), (310, 20712), (313, 20721), (316, 20733), (336, 20784), (338, 20787), (389, 20952), (402, 21009), (428, 21093), (432, 21111), (433, 21120), (444, 21183), (476, 21303), (491, 21348), (496, 21363), (502, 21381), (515, 21411), (541, 21501), (562, 21570), (569, 21603), (573, 21624), (580, 21660), (588, 21696), (596, 21741), (602, 21765), (603, 21771), (607, 21786), (610, 21804), (618, 21837), (636, 21891), (641, 21915), (646, 21951), (649, 21957), (663, 21981), (738, 22146), (740, 22155), (741, 22161),

Gene: Fionnbharth\_28 Start: 22273, Stop: 24582, Start Num: 47

Candidate Starts for Fionnbharth\_28:

(Start: 47 @22273 has 15 MA's), (79, 22363), (90, 22384), (117, 22408), (158, 22525), (201, 22654), (219, 22714), (239, 22786), (242, 22795), (257, 22846), (259, 22852), (261, 22861), (274, 22912), (281, 22924), (289, 22939), (292, 22945), (300, 22978), (315, 23026), (337, 23080), (365, 23152), (374, 23191), (378, 23203), (385, 23218), (396, 23263), (412, 23332), (434, 23413), (468, 23566), (482, 23608), (519, 23737), (529, 23782), (546, 23848), (550, 23863), (573, 23959), (603, 24112), (607, 24127), (608, 24133), (611, 24157), (613, 24163), (615, 24169), (616, 24172), (620, 24196), (626, 24208), (646, 24304), (671, 24355), (673, 24358), (715, 24427), (732, 24463), (740, 24496),

(762, 24550), (764, 24559), (769, 24574),

Gene: FiringLine\_31 Start: 22638, Stop: 24839, Start Num: 12

Candidate Starts for FiringLine\_31:

(Start: 12 @22638 has 22 MA's), (17, 22659), (48, 22758), (52, 22764), (63, 22791), (64, 22794), (80, 22848), (92, 22884), (121, 22986), (229, 23175), (266, 23307), (267, 23310), (419, 23664), (424, 23682), (432, 23706), (480, 23907), (492, 23946), (520, 24036), (540, 24093), (559, 24153), (569, 24198), (573, 24219), (593, 24324), (598, 24339), (603, 24363), (611, 24408), (620, 24435), (635, 24480), (657, 24564), (734, 24714), (747, 24762), (759, 24786),

Gene: First\_0031 Start: 22858, Stop: 25263, Start Num: 12

Candidate Starts for First\_0031:

(Start: 12 @22858 has 22 MA's), (17, 22879), (45, 22969), (48, 22978), (Start: 60 @22999 has 1 MA's), (80, 23062), (92, 23098), (117, 23179), (141, 23248), (147, 23269), (149, 23278), (203, 23410), (229, 23500), (233, 23515), (267, 23635), (280, 23668), (285, 23677), (323, 23776), (334, 23803), (395, 24016), (419, 24106), (424, 24124), (432, 24148), (480, 24349), (492, 24388), (500, 24409), (514, 24445), (520, 24478), (524, 24499), (540, 24535), (557, 24589), (569, 24640), (573, 24661), (593, 24766), (598, 24781), (643, 24949), (651, 24991), (697, 25060), (762, 25231), (764, 25240), (766, 25246),

Gene: Flapper\_47 Start: 33951, Stop: 36509, Start Num: 56

Candidate Starts for Flapper\_47:

(Start: 56 @33951 has 14 MA's), (213, 34419), (214, 34422), (228, 34479), (274, 34632), (286, 34653), (300, 34698), (391, 35049), (411, 35154), (499, 35532), (527, 35637), (531, 35655), (539, 35688), (543, 35709), (558, 35763), (580, 35868), (586, 35901), (603, 35991), (614, 36045), (615, 36048), (627, 36087), (628, 36090), (643, 36153), (648, 36186), (654, 36204), (655, 36207), (669, 36243), (670, 36246), (692, 36288), (729, 36378), (732, 36390), (763, 36480),

Gene: Flare16\_31 Start: 22776, Stop: 24998, Start Num: 10

Candidate Starts for Flare16\_31:

(Start: 10 @22776 has 36 MA's), (45, 22890), (52, 22905), (97, 23037), (131, 23151), (137, 23172), (149, 23205), (229, 23316), (239, 23355), (267, 23451), (308, 23553), (419, 23802), (429, 23832), (432, 23844), (472, 24015), (492, 24084), (520, 24183), (557, 24294), (559, 24300), (560, 24306), (569, 24345), (579, 24402), (580, 24405), (593, 24471), (611, 24555), (635, 24627), (674, 24747), (730, 24858), (743, 24909), (747, 24921),

Gene: Float294\_45 Start: 33678, Stop: 36236, Start Num: 56

Candidate Starts for Float294\_45:

(2, 33480), (35, 33627), (Start: 56 @33678 has 14 MA's), (99, 33807), (135, 33927), (213, 34146), (214, 34149), (233, 34221), (249, 34278), (255, 34299), (289, 34386), (300, 34425), (396, 34797), (411, 34881), (499, 35259), (527, 35364), (531, 35382), (539, 35415), (543, 35436), (558, 35490), (585, 35622), (586, 35628), (603, 35718), (627, 35814), (628, 35817), (643, 35880), (648, 35913), (654, 35931), (655, 35934), (669, 35970), (680, 35994), (692, 36015), (729, 36105), (732, 36117),

Gene: Francois\_25 Start: 20630, Stop: 23140, Start Num: 20

Candidate Starts for Francois\_25:

(Start: 20 @20630 has 13 MA's), (65, 20762), (69, 20777), (82, 20822), (89, 20840), (139, 21005), (158, 21059), (162, 21068), (172, 21095), (187, 21146), (190, 21152), (238, 21317), (240, 21323), (243, 21332), (254, 21371), (274, 21443), (281, 21455), (286, 21464), (289, 21470), (298, 21494), (300, 21509), (305, 21527), (306, 21530), (316, 21566), (331, 21620), (362, 21698), (375, 21743), (391, 21797), (393, 21806), (396, 21818), (397, 21827), (439, 21989), (447, 22037), (452, 22049), (460, 22094), (488, 22181), (499, 22220), (520, 22289), (522, 22301), (590, 22559), (598, 22601), (604, 22631), (623, 22712), (631, 22733), (637, 22760), (641, 22784), (705, 22949), (723, 22994),

(751, 23093), (769, 23132),

Gene: Fulbright\_20 Start: 17553, Stop: 20198, Start Num: 6

Candidate Starts for Fulbright\_20:

(Start: 4 @17541 has 1 MA's), (Start: 6 @17553 has 9 MA's), (9, 17565), (15, 17577), (27, 17631), (Start: 50 @17700 has 1 MA's), (52, 17703), (55, 17712), (62, 17727), (107, 17904), (133, 17985), (135, 17994), (206, 18198), (218, 18246), (223, 18261), (228, 18282), (233, 18300), (238, 18324), (243, 18339), (246, 18348), (253, 18375), (255, 18381), (274, 18450), (286, 18471), (289, 18477), (294, 18486), (299, 18513), (304, 18531), (333, 18624), (342, 18645), (369, 18756), (373, 18774), (380, 18807), (399, 18885), (422, 18990), (433, 19032), (486, 19251), (498, 19290), (499, 19293), (504, 19308), (520, 19371), (538, 19419), (566, 19533), (573, 19563), (578, 19590), (580, 19599), (603, 19716), (612, 19761), (626, 19803), (643, 19869), (645, 19893), (672, 19941), (676, 19947), (678, 19953), (686, 19968), (730, 20052), (740, 20091), (766, 20181), (769, 20190),

Gene: GTE5\_34 Start: 26806, Stop: 29361, Start Num: 56

Candidate Starts for GTE5\_34:

(25, 26713), (29, 26734), (Start: 56 @26806 has 14 MA's), (180, 27175), (213, 27274), (214, 27277), (225, 27322), (228, 27334), (286, 27508), (300, 27553), (396, 27925), (411, 28009), (499, 28387), (531, 28510), (543, 28564), (547, 28579), (559, 28621), (569, 28666), (579, 28720), (580, 28723), (589, 28771), (604, 28849), (627, 28942), (628, 28945), (642, 29005), (643, 29008), (648, 29041), (656, 29065), (665, 29086), (666, 29089), (692, 29143), (732, 29245), (763, 29335),

Gene: Gail\_31 Start: 22024, Stop: 24468, Start Num: 10

Candidate Starts for Gail\_31:

(Start: 10 @22024 has 36 MA's), (81, 22237), (100, 22294), (110, 22315), (223, 22669), (244, 22747), (280, 22870), (282, 22873), (305, 22930), (307, 22936), (313, 22954), (325, 22981), (343, 23035), (344, 23038), (415, 23272), (422, 23302), (424, 23311), (454, 23443), (472, 23506), (477, 23533), (491, 23572), (520, 23674), (546, 23752), (559, 23791), (569, 23836), (572, 23854), (580, 23896), (593, 23962), (598, 23977), (607, 24016), (608, 24022), (651, 24193), (669, 24214), (683, 24241), (737, 24358), (744, 24388),

Gene: Georgie2\_32 Start: 22683, Stop: 24884, Start Num: 12

Candidate Starts for Georgie2\_32:

(Start: 12 @22683 has 22 MA's), (17, 22704), (48, 22803), (52, 22809), (63, 22836), (64, 22839), (80, 22893), (92, 22929), (121, 23031), (229, 23220), (266, 23352), (267, 23355), (419, 23709), (424, 23727), (432, 23751), (480, 23952), (492, 23991), (520, 24081), (540, 24138), (559, 24198), (569, 24243), (573, 24264), (593, 24369), (598, 24384), (603, 24408), (611, 24453), (620, 24480), (635, 24525), (645, 24585), (657, 24609), (734, 24759), (747, 24807), (759, 24831),

Gene: Glaske\_21 Start: 18926, Stop: 21559, Start Num: 5

Candidate Starts for Glaske\_21:

(Start: 5 @18926 has 7 MA's), (7, 18935), (52, 19079), (133, 19352), (137, 19364), (144, 19385), (152, 19409), (178, 19484), (204, 19556), (214, 19586), (223, 19622), (238, 19685), (243, 19700), (251, 19727), (253, 19733), (274, 19808), (286, 19832), (289, 19838), (295, 19850), (304, 19892), (306, 19898), (333, 19985), (342, 20006), (350, 20030), (363, 20096), (369, 20117), (373, 20135), (380, 20168), (387, 20192), (388, 20195), (399, 20246), (422, 20351), (433, 20393), (471, 20558), (499, 20654), (520, 20732), (525, 20744), (553, 20834), (566, 20894), (569, 20903), (578, 20951), (580, 20960), (603, 21077), (612, 21122), (626, 21164), (643, 21230), (645, 21254), (672, 21302), (676, 21308), (678, 21314), (730, 21413), (733, 21422), (740, 21452), (766, 21542), (769, 21551),

Gene: GrandSlam\_25 Start: 21141, Stop: 23651, Start Num: 20

Candidate Starts for GrandSlam\_25:

(Start: 20 @21141 has 13 MA's), (65, 21273), (69, 21288), (82, 21333), (89, 21351), (139, 21516), (158, 21570), (162, 21579), (187, 21657), (190, 21663), (238, 21828), (243, 21843), (253, 21879), (274, 21954), (281, 21966), (286, 21975), (295, 21993), (298, 22005), (305, 22038), (306, 22041), (316, 22077), (331, 22131), (375, 22254), (391, 22308), (396, 22329), (397, 22338), (426, 22440), (439, 22500), (447, 22548), (452, 22560), (460, 22605), (488, 22692), (499, 22731), (520, 22800), (522, 22812), (526, 22824), (598, 23112), (604, 23142), (623, 23223), (631, 23244), (637, 23271), (641, 23295), (705, 23460), (723, 23505), (751, 23604), (769, 23643),

Gene: Hammy\_26 Start: 21316, Stop: 23694, Start Num: 21

Candidate Starts for Hammy\_26:

(Start: 21 @21316 has 49 MA's), (23, 21325), (30, 21364), (74, 21487), (116, 21544), (119, 21556), (143, 21622), (163, 21676), (189, 21754), (216, 21844), (228, 21886), (243, 21937), (257, 21979), (258, 21982), (263, 22003), (286, 22063), (289, 22069), (347, 22261), (380, 22378), (415, 22486), (418, 22504), (422, 22516), (456, 22660), (497, 22795), (498, 22798), (499, 22801), (510, 22834), (513, 22840), (529, 22894), (558, 23002), (565, 23035), (566, 23041), (571, 23056), (578, 23098), (593, 23185), (595, 23191), (631, 23320), (635, 23341), (719, 23536), (731, 23557), (732, 23560), (743, 23599), (767, 23668),

Gene: Hamood\_25 Start: 21141, Stop: 23651, Start Num: 20

Candidate Starts for Hamood\_25:

(Start: 20 @21141 has 13 MA's), (65, 21273), (69, 21288), (82, 21333), (89, 21351), (139, 21516), (158, 21570), (162, 21579), (187, 21657), (190, 21663), (238, 21828), (243, 21843), (253, 21879), (274, 21954), (281, 21966), (286, 21975), (295, 21993), (298, 22005), (305, 22038), (306, 22041), (316, 22077), (331, 22131), (375, 22254), (391, 22308), (396, 22329), (397, 22338), (426, 22440), (439, 22500), (447, 22548), (452, 22560), (460, 22605), (488, 22692), (499, 22731), (520, 22800), (522, 22812), (526, 22824), (598, 23112), (604, 23142), (623, 23223), (631, 23244), (637, 23271), (641, 23295), (705, 23460), (723, 23505), (751, 23604), (769, 23643),

Gene: HarryHoudini\_33 Start: 23229, Stop: 25313, Start Num: 10

Candidate Starts for HarryHoudini\_33:

(Start: 10 @23229 has 36 MA's), (45, 23343), (52, 23358), (121, 23580), (126, 23592), (229, 23769), (267, 23904), (282, 23940), (419, 24141), (424, 24159), (432, 24183), (480, 24384), (492, 24423), (496, 24435), (520, 24513), (540, 24570), (559, 24630), (560, 24636), (573, 24696), (593, 24801), (598, 24816), (604, 24843), (635, 24957), (636, 24960), (644, 25011), (646, 25020), (649, 25026), (664, 25050), (694, 25104), (707, 25128), (741, 25233), (767, 25299),

Gene: Hashim76\_34 Start: 28773, Stop: 31235, Start Num: 24

Candidate Starts for Hashim76\_34:

(Start: 24 @28773 has 9 MA's), (25, 28782), (59, 28887), (71, 28920), (78, 28947), (93, 28989), (121, 29103), (144, 29166), (153, 29193), (170, 29235), (231, 29442), (240, 29478), (248, 29511), (268, 29577), (300, 29664), (306, 29685), (316, 29718), (360, 29847), (377, 29913), (419, 30060), (424, 30078), (454, 30210), (459, 30237), (472, 30273), (492, 30342), (496, 30354), (507, 30384), (514, 30399), (517, 30420), (540, 30489), (543, 30501), (560, 30555), (562, 30561), (567, 30591), (572, 30612), (603, 30759), (611, 30804), (620, 30831), (732, 31101), (747, 31158), (758, 31179),

Gene: Hilltopfarm\_27 Start: 23459, Stop: 26053, Start Num: 22

Candidate Starts for Hilltopfarm\_27:

(Start: 22 @23459 has 4 MA's), (28, 23498), (55, 23573), (87, 23675), (91, 23684), (105, 23762), (133, 23843), (135, 23852), (150, 23897), (152, 23900), (155, 23909), (160, 23921), (162, 23924), (171, 23948), (178, 23975), (183, 23984), (204, 24047), (223, 24113), (232, 24149), (233, 24152), (253, 24224), (255, 24230), (274, 24299), (304, 24383), (328, 24464), (335, 24485), (369, 24608), (380, 24659), (388, 24686), (399, 24737), (409, 24782), (420, 24833), (422, 24842), (432, 24875), (440, 24920), (469, 25043), (470, 25046), (471, 25049), (504, 25160), (520, 25223), (538, 25271), (561,

25358), (566, 25385), (569, 25394), (571, 25400), (578, 25442), (580, 25451), (603, 25568), (604, 25571), (626, 25655), (636, 25691), (645, 25745), (672, 25796), (676, 25802), (678, 25808), (701, 25850), (731, 25910), (740, 25946), (766, 26036), (769, 26045),

Gene: Hurricane\_26 Start: 21315, Stop: 23663, Start Num: 21

Candidate Starts for Hurricane\_26:

(Start: 21 @21315 has 49 MA's), (25, 21342), (33, 21375), (51, 21420), (72, 21480), (145, 21636), (163, 21681), (175, 21717), (182, 21735), (210, 21813), (223, 21861), (260, 21993), (274, 22047), (283, 22062), (317, 22170), (365, 22287), (376, 22329), (377, 22335), (380, 22344), (385, 22353), (402, 22434), (406, 22452), (408, 22455), (419, 22494), (425, 22515), (432, 22536), (433, 22545), (449, 22632), (475, 22725), (476, 22728), (504, 22800), (546, 22938), (560, 22983), (569, 23022), (572, 23040), (592, 23139), (595, 23157), (608, 23211), (613, 23241), (619, 23259), (631, 23286), (632, 23292), (643, 23340), (667, 23415), (673, 23424), (690, 23445), (695, 23454), (739, 23553), (754, 23595),

Gene: Imvubu\_24 Start: 26459, Stop: 28915, Start Num: 24

Candidate Starts for Imvubu\_24:

(Start: 24 @26459 has 9 MA's), (54, 26561), (59, 26573), (77, 26630), (115, 26753), (121, 26783), (153, 26873), (202, 27020), (216, 27071), (225, 27101), (231, 27122), (240, 27158), (241, 27161), (242, 27164), (248, 27191), (265, 27251), (268, 27257), (279, 27284), (300, 27344), (312, 27383), (345, 27479), (360, 27527), (377, 27593), (396, 27653), (410, 27707), (419, 27740), (424, 27758), (459, 27917), (468, 27944), (472, 27953), (473, 27956), (480, 27983), (491, 28019), (492, 28022), (496, 28034), (507, 28064), (515, 28088), (520, 28112), (540, 28169), (562, 28241), (567, 28271), (569, 28274), (572, 28292), (573, 28295), (577, 28316), (582, 28349), (599, 28418), (611, 28484), (620, 28511), (631, 28535), (635, 28556), (643, 28592), (645, 28616), (678, 28670), (689, 28688), (718, 28742), (720, 28745), (733, 28784), (740, 28814), (747, 28838),

Gene: Indlovu\_28 Start: 28755, Stop: 31250, Start Num: 24

Candidate Starts for Indlovu\_28:

(Start: 24 @28755 has 9 MA's), (37, 28815), (112, 29073), (113, 29079), (121, 29112), (149, 29193), (197, 29331), (218, 29403), (226, 29430), (240, 29484), (248, 29517), (253, 29532), (270, 29592), (283, 29628), (288, 29637), (292, 29646), (299, 29676), (306, 29700), (316, 29733), (342, 29799), (345, 29814), (355, 29844), (357, 29853), (377, 29928), (390, 29964), (392, 29970), (396, 29985), (418, 30069), (419, 30072), (424, 30090), (451, 30213), (459, 30249), (480, 30315), (492, 30354), (496, 30366), (514, 30411), (517, 30432), (520, 30444), (560, 30567), (561, 30570), (562, 30573), (567, 30603), (569, 30606), (579, 30663), (582, 30681), (592, 30720), (599, 30750), (620, 30843), (641, 30918), (643, 30924), (718, 31074), (733, 31116), (741, 31152), (747, 31170), (759, 31197), (766, 31227),

Gene: Iwokeuplikedis\_32 Start: 22493, Stop: 24805, Start Num: 10

Candidate Starts for Iwokeuplikedis\_32:

(Start: 10 @22493 has 36 MA's), (48, 22616), (52, 22622), (63, 22649), (70, 22673), (131, 22868), (203, 23054), (229, 23144), (235, 23165), (245, 23201), (267, 23279), (280, 23312), (285, 23321), (415, 23612), (419, 23633), (424, 23651), (432, 23675), (454, 23783), (480, 23876), (492, 23915), (520, 24005), (559, 24122), (569, 24167), (573, 24188), (611, 24377), (619, 24398), (645, 24506), (657, 24530), (678, 24560), (733, 24674), (734, 24680), (747, 24728), (766, 24782),

Gene: JF1\_28 Start: 22272, Stop: 24581, Start Num: 47

Candidate Starts for JF1\_28:

(Start: 47 @22272 has 15 MA's), (79, 22362), (90, 22383), (117, 22407), (158, 22524), (201, 22653), (219, 22713), (239, 22785), (242, 22794), (257, 22845), (259, 22851), (261, 22860), (274, 22911), (281, 22923), (289, 22938), (292, 22944), (300, 22977), (315, 23025), (337, 23079), (365, 23151), (374, 23190), (378, 23202), (385, 23217), (396, 23262), (412, 23331), (434, 23412), (468, 23565),

(482, 23607), (519, 23736), (529, 23781), (546, 23847), (550, 23862), (573, 23958), (603, 24111), (607, 24126), (608, 24132), (611, 24156), (613, 24162), (615, 24168), (616, 24171), (620, 24195), (626, 24207), (646, 24303), (671, 24354), (673, 24357), (715, 24426), (732, 24462), (740, 24495), (762, 24549), (764, 24558), (769, 24573),

Gene: Jerm\_33 Start: 23204, Stop: 25408, Start Num: 10

Candidate Starts for Jerm\_33:

(Start: 10 @23204 has 36 MA's), (45, 23318), (48, 23327), (63, 23360), (80, 23417), (121, 23555), (229, 23744), (267, 23879), (285, 23921), (312, 23993), (419, 24233), (424, 24251), (432, 24275), (454, 24383), (480, 24476), (492, 24515), (520, 24605), (540, 24662), (541, 24665), (559, 24722), (560, 24728), (569, 24767), (573, 24788), (620, 25004), (635, 25049), (689, 25181), (710, 25217), (719, 25238), (733, 25277), (747, 25331), (770, 25400),

Gene: Jobypre\_21 Start: 19724, Stop: 22237, Start Num: 3

Candidate Starts for Jobypre\_21:

(Start: 3 @19724 has 16 MA's), (19, 19787), (34, 19859), (68, 19949), (71, 19955), (93, 20027), (118, 20114), (152, 20219), (157, 20231), (167, 20249), (181, 20288), (191, 20318), (211, 20375), (218, 20405), (220, 20411), (233, 20465), (235, 20471), (277, 20618), (278, 20621), (284, 20630), (293, 20648), (310, 20708), (313, 20717), (316, 20729), (336, 20780), (338, 20783), (389, 20948), (402, 21005), (428, 21089), (432, 21107), (433, 21116), (444, 21179), (476, 21299), (485, 21323), (491, 21344), (496, 21359), (502, 21377), (515, 21407), (541, 21497), (562, 21566), (569, 21599), (573, 21620), (580, 21656), (588, 21692), (596, 21737), (602, 21761), (603, 21767), (607, 21782), (610, 21800), (636, 21887), (641, 21911), (646, 21947), (649, 21953), (663, 21977), (706, 22052), (708, 22055), (738, 22142), (740, 22151), (741, 22157),

Gene: JoshKayV\_33 Start: 23180, Stop: 25381, Start Num: 12

Candidate Starts for JoshKayV\_33:

(Start: 12 @23180 has 22 MA's), (17, 23201), (45, 23291), (48, 23300), (80, 23390), (121, 23528), (131, 23552), (149, 23606), (229, 23717), (236, 23741), (267, 23852), (285, 23894), (419, 24206), (424, 24224), (432, 24248), (454, 24356), (480, 24449), (492, 24488), (520, 24578), (559, 24695), (560, 24701), (569, 24740), (573, 24761), (611, 24950), (620, 24977), (635, 25022), (710, 25190), (719, 25211), (733, 25250), (747, 25304), (770, 25373),

Gene: Jubie\_21 Start: 19725, Stop: 22238, Start Num: 3

Candidate Starts for Jubie\_21:

(Start: 3 @19725 has 16 MA's), (19, 19788), (34, 19860), (68, 19950), (71, 19956), (93, 20028), (118, 20115), (152, 20220), (157, 20232), (167, 20250), (181, 20289), (191, 20319), (211, 20376), (218, 20406), (220, 20412), (233, 20466), (235, 20472), (277, 20619), (278, 20622), (284, 20631), (293, 20649), (310, 20709), (313, 20718), (316, 20730), (336, 20781), (338, 20784), (389, 20949), (402, 21006), (428, 21090), (432, 21108), (433, 21117), (444, 21180), (476, 21300), (485, 21324), (491, 21345), (496, 21360), (502, 21378), (515, 21408), (541, 21498), (562, 21567), (569, 21600), (573, 21621), (580, 21657), (588, 21693), (596, 21738), (602, 21762), (603, 21768), (607, 21783), (610, 21801), (636, 21888), (641, 21912), (646, 21948), (649, 21954), (663, 21978), (706, 22053), (708, 22056), (738, 22143), (740, 22152), (741, 22158),

Gene: Kabluna\_46 Start: 32323, Stop: 34881, Start Num: 56

Candidate Starts for Kabluna\_46:

(Start: 56 @32323 has 14 MA's), (99, 32452), (213, 32791), (214, 32794), (228, 32851), (274, 33004), (300, 33070), (304, 33085), (411, 33526), (499, 33904), (527, 34009), (531, 34027), (539, 34060), (543, 34081), (558, 34135), (580, 34240), (585, 34267), (586, 34273), (603, 34363), (627, 34459), (628, 34462), (643, 34525), (648, 34558), (666, 34606), (680, 34639), (692, 34660), (728, 34747), (732, 34762), (769, 34873),

Gene: Keshu\_26 Start: 21307, Stop: 23655, Start Num: 21

Candidate Starts for Keshu\_26:

(Start: 21 @21307 has 49 MA's), (25, 21334), (33, 21367), (51, 21412), (163, 21676), (166, 21682), (170, 21694), (223, 21856), (257, 21976), (260, 21988), (274, 22042), (283, 22057), (286, 22063), (300, 22108), (304, 22123), (313, 22150), (317, 22165), (365, 22282), (377, 22330), (380, 22339), (390, 22372), (394, 22384), (401, 22417), (402, 22420), (407, 22444), (419, 22486), (425, 22507), (432, 22528), (433, 22537), (476, 22723), (504, 22792), (520, 22852), (538, 22900), (562, 22981), (569, 23014), (593, 23143), (598, 23158), (608, 23203), (609, 23212), (613, 23233), (631, 23278), (632, 23284), (639, 23311), (643, 23332), (652, 23374), (673, 23416), (695, 23446), (739, 23545), (740, 23551), (754, 23587),

Gene: Keziacharles14\_31 Start: 22419, Stop: 24875, Start Num: 10

Candidate Starts for Keziacharles14\_31:

(Start: 10 @22419 has 36 MA's), (43, 22524), (100, 22692), (188, 22947), (207, 23004), (232, 23106), (244, 23148), (307, 23337), (308, 23340), (313, 23355), (329, 23394), (344, 23439), (358, 23475), (419, 23700), (424, 23718), (477, 23940), (481, 23946), (491, 23979), (520, 24081), (559, 24198), (569, 24243), (580, 24303), (593, 24369), (598, 24384), (599, 24387), (603, 24408), (607, 24423), (608, 24429), (646, 24588), (683, 24648), (744, 24795),

Gene: KilKor\_21 Start: 18926, Stop: 21559, Start Num: 5

Candidate Starts for KilKor\_21:

(Start: 5 @18926 has 7 MA's), (7, 18935), (52, 19079), (133, 19352), (137, 19364), (144, 19385), (152, 19409), (178, 19484), (204, 19556), (214, 19586), (223, 19622), (238, 19685), (243, 19700), (251, 19727), (253, 19733), (274, 19808), (286, 19832), (289, 19838), (295, 19850), (304, 19892), (306, 19898), (333, 19985), (342, 20006), (350, 20030), (363, 20096), (369, 20117), (373, 20135), (380, 20168), (387, 20192), (388, 20195), (399, 20246), (422, 20351), (433, 20393), (471, 20558), (499, 20654), (520, 20732), (525, 20744), (553, 20834), (566, 20894), (569, 20903), (578, 20951), (580, 20960), (603, 21077), (612, 21122), (626, 21164), (643, 21230), (645, 21254), (672, 21302), (676, 21308), (678, 21314), (730, 21413), (733, 21422), (740, 21452), (766, 21542), (769, 21551),

Gene: KingCyrus\_33 Start: 23177, Stop: 25654, Start Num: 12

Candidate Starts for KingCyrus\_33:

(Start: 12 @23177 has 22 MA's), (17, 23198), (45, 23288), (48, 23297), (80, 23387), (97, 23435), (127, 23567), (201, 23786), (210, 23813), (221, 23855), (239, 23930), (282, 24071), (290, 24086), (305, 24137), (307, 24143), (344, 24245), (366, 24287), (415, 24455), (425, 24497), (432, 24518), (455, 24629), (457, 24632), (472, 24689), (491, 24755), (492, 24758), (496, 24770), (509, 24812), (514, 24821), (520, 24854), (540, 24911), (573, 25037), (579, 25073), (580, 25076), (611, 25226), (614, 25232), (633, 25286), (635, 25298), (638, 25307), (641, 25328), (657, 25382), (725, 25496), (732, 25523), (733, 25526), (747, 25580), (759, 25607),

Gene: Kingsolomon\_21 Start: 19724, Stop: 22237, Start Num: 3

Candidate Starts for Kingsolomon\_21:

(Start: 3 @19724 has 16 MA's), (19, 19787), (34, 19859), (68, 19949), (71, 19955), (93, 20027), (118, 20114), (152, 20219), (157, 20231), (167, 20249), (181, 20288), (191, 20318), (211, 20375), (218, 20405), (220, 20411), (233, 20465), (235, 20471), (277, 20618), (278, 20621), (284, 20630), (293, 20648), (310, 20708), (313, 20717), (316, 20729), (336, 20780), (338, 20783), (389, 20948), (402, 21005), (428, 21089), (432, 21107), (433, 21116), (444, 21179), (476, 21299), (485, 21323), (491, 21344), (496, 21359), (502, 21377), (515, 21407), (541, 21497), (562, 21566), (569, 21599), (573, 21620), (580, 21656), (588, 21692), (596, 21737), (602, 21761), (603, 21767), (607, 21782), (610, 21800), (636, 21887), (641, 21911), (646, 21947), (649, 21953), (663, 21977), (706, 22052), (708, 22055), (738, 22142), (740, 22151), (741, 22157),

Gene: KittenMittens\_31 Start: 21406, Stop: 23688, Start Num: 10

Candidate Starts for KittenMittens\_31:

(Start: 10 @21406 has 36 MA's), (19, 21439), (43, 21523), (67, 21589), (147, 21835), (149, 21844), (184, 21928), (208, 22003), (229, 22081), (248, 22156), (280, 22246), (311, 22279), (377, 22372), (419, 22519), (424, 22537), (432, 22561), (480, 22762), (492, 22801), (520, 22891), (540, 22948), (573, 23074), (574, 23083), (578, 23101), (580, 23113), (603, 23218), (607, 23233), (608, 23239), (614, 23272), (643, 23371), (644, 23392), (645, 23395), (677, 23452), (689, 23470), (691, 23473), (697, 23485), (716, 23524), (731, 23566), (732, 23569), (766, 23671),

Gene: Knocker\_32 Start: 31412, Stop: 33868, Start Num: 24

Candidate Starts for Knocker\_32:

(Start: 24 @31412 has 9 MA's), (25, 31421), (45, 31490), (59, 31526), (93, 31628), (117, 31715), (121, 31736), (131, 31763), (133, 31772), (152, 31823), (153, 31826), (158, 31838), (162, 31847), (231, 32075), (238, 32105), (240, 32111), (248, 32144), (268, 32210), (279, 32237), (292, 32264), (295, 32270), (300, 32297), (345, 32432), (352, 32450), (360, 32480), (371, 32519), (377, 32546), (395, 32603), (396, 32606), (419, 32693), (424, 32711), (432, 32735), (433, 32744), (472, 32906), (473, 32909), (491, 32972), (492, 32975), (496, 32987), (507, 33017), (514, 33032), (517, 33053), (520, 33065), (540, 33122), (545, 33140), (562, 33194), (567, 33224), (569, 33227), (572, 33245), (573, 33248), (577, 33269), (582, 33302), (587, 33317), (599, 33371), (603, 33392), (604, 33395), (610, 33425), (611, 33437), (620, 33464), (624, 33467), (631, 33488), (643, 33545), (645, 33569), (689, 33641), (725, 33707), (732, 33734), (733, 33737), (734, 33743), (747, 33791), (758, 33812), (766, 33848),

Gene: Krueger\_26 Start: 20014, Stop: 22350, Start Num: 21

Candidate Starts for Krueger\_26:

(13, 19981), (Start: 21 @20014 has 49 MA's), (23, 20023), (31, 20071), (33, 20074), (80, 20203), (119, 20254), (154, 20350), (158, 20359), (189, 20449), (201, 20488), (223, 20560), (225, 20569), (251, 20662), (274, 20743), (289, 20773), (300, 20812), (304, 20827), (313, 20851), (339, 20911), (356, 20956), (365, 20983), (374, 21022), (380, 21040), (385, 21049), (401, 21118), (402, 21121), (406, 21139), (419, 21181), (425, 21202), (431, 21217), (433, 21232), (449, 21319), (475, 21412), (476, 21415), (504, 21487), (517, 21535), (543, 21616), (554, 21640), (559, 21664), (560, 21670), (569, 21709), (608, 21898), (631, 21973), (643, 22027), (673, 22111), (688, 22129), (733, 22216), (739, 22240), (753, 22282), (771, 22342),

Gene: Krypton555\_21 Start: 19647, Stop: 22160, Start Num: 3

Candidate Starts for Krypton555\_21:

(Start: 3 @19647 has 16 MA's), (19, 19710), (34, 19782), (99, 19980), (146, 20124), (152, 20142), (157, 20154), (167, 20172), (181, 20211), (185, 20226), (191, 20241), (211, 20298), (218, 20328), (220, 20334), (233, 20388), (235, 20394), (250, 20451), (277, 20541), (278, 20544), (284, 20553), (293, 20571), (310, 20631), (336, 20703), (338, 20706), (385, 20850), (389, 20871), (402, 20928), (428, 21012), (432, 21030), (433, 21039), (476, 21222), (491, 21267), (496, 21282), (502, 21300), (515, 21330), (533, 21390), (541, 21420), (562, 21489), (569, 21522), (573, 21543), (580, 21579), (587, 21609), (602, 21684), (603, 21690), (607, 21705), (610, 21723), (618, 21756), (635, 21807), (636, 21810), (642, 21837), (646, 21870), (663, 21900), (706, 21975), (724, 22011), (740, 22074), (741, 22080), (769, 22152),

Gene: LadyBird\_31 Start: 22727, Stop: 25135, Start Num: 10

Candidate Starts for LadyBird\_31:

(Start: 10 @22727 has 36 MA's), (45, 22841), (80, 22934), (92, 22970), (141, 23120), (147, 23141), (149, 23150), (203, 23282), (229, 23372), (267, 23507), (280, 23540), (285, 23549), (323, 23648), (395, 23888), (419, 23978), (424, 23996), (432, 24020), (480, 24221), (492, 24260), (500, 24281), (514, 24317), (520, 24350), (524, 24371), (540, 24407), (557, 24461), (569, 24512), (573, 24533), (593, 24638), (598, 24653), (643, 24821), (651, 24863), (697, 24932), (762, 25103), (764, 25112), (766, 25118),



Gene: Larenn\_32 Start: 23024, Stop: 25237, Start Num: 10

Candidate Starts for Larenn\_32:

(Start: 10 @23024 has 36 MA's), (45, 23138), (52, 23153), (84, 23252), (101, 23327), (121, 23375), (126, 23387), (229, 23564), (239, 23603), (267, 23699), (280, 23732), (285, 23741), (308, 23801), (334, 23867), (419, 24053), (429, 24083), (432, 24095), (472, 24266), (492, 24335), (520, 24434), (557, 24545), (559, 24551), (560, 24557), (569, 24596), (573, 24617), (579, 24653), (580, 24656), (593, 24722), (620, 24833), (645, 24938), (678, 24992), (734, 25112), (747, 25160), (759, 25184),

Gene: LastHope\_27 Start: 20175, Stop: 22487, Start Num: 47

Candidate Starts for LastHope\_27:

(Start: 47 @20175 has 15 MA's), (124, 20325), (131, 20346), (151, 20403), (156, 20415), (176, 20469), (192, 20514), (205, 20556), (209, 20568), (222, 20613), (250, 20724), (256, 20745), (271, 20796), (277, 20811), (286, 20826), (313, 20907), (320, 20937), (337, 20976), (348, 20991), (364, 21051), (387, 21135), (404, 21207), (478, 21510), (482, 21516), (498, 21570), (499, 21573), (503, 21585), (512, 21612), (516, 21630), (517, 21636), (546, 21753), (550, 21768), (603, 22017), (607, 22032), (611, 22062), (620, 22101), (626, 22113), (646, 22209), (660, 22239), (689, 22281), (700, 22302), (721, 22344), (732, 22368), (733, 22371), (739, 22395), (740, 22401), (764, 22464), (769, 22479),

Gene: Leviathan\_33 Start: 23260, Stop: 25464, Start Num: 10

Candidate Starts for Leviathan\_33:

(Start: 10 @23260 has 36 MA's), (45, 23374), (48, 23383), (52, 23389), (80, 23473), (121, 23611), (131, 23635), (149, 23689), (229, 23800), (267, 23935), (285, 23977), (312, 24049), (415, 24268), (419, 24289), (424, 24307), (432, 24331), (454, 24439), (480, 24532), (492, 24571), (520, 24661), (540, 24718), (541, 24721), (559, 24778), (560, 24784), (569, 24823), (573, 24844), (611, 25033), (618, 25054), (645, 25165), (725, 25303), (741, 25369), (747, 25387), (770, 25456),

Gene: LilPharaoh\_23 Start: 20414, Stop: 22900, Start Num: 21

Candidate Starts for LilPharaoh\_23:

(Start: 21 @20414 has 49 MA's), (30, 20462), (116, 20642), (117, 20645), (138, 20708), (143, 20720), (189, 20852), (201, 20891), (218, 20948), (225, 20972), (228, 20984), (242, 21032), (243, 21035), (254, 21068), (264, 21107), (274, 21140), (281, 21152), (286, 21161), (289, 21167), (308, 21233), (313, 21248), (347, 21359), (356, 21392), (380, 21476), (386, 21491), (399, 21551), (414, 21620), (441, 21740), (460, 21833), (495, 21947), (519, 22025), (520, 22031), (529, 22055), (545, 22118), (546, 22121), (548, 22133), (565, 22199), (566, 22205), (575, 22247), (578, 22268), (580, 22277), (586, 22310), (590, 22328), (603, 22397), (631, 22496), (632, 22502), (636, 22520), (644, 22574), (649, 22589), (662, 22616), (702, 22673),

Gene: LilTurb\_33 Start: 23263, Stop: 25467, Start Num: 10

Candidate Starts for LilTurb\_33:

(Start: 10 @23263 has 36 MA's), (45, 23377), (48, 23386), (63, 23419), (80, 23476), (121, 23614), (229, 23803), (267, 23938), (285, 23980), (312, 24052), (419, 24292), (424, 24310), (432, 24334), (454, 24442), (480, 24535), (492, 24574), (520, 24664), (540, 24721), (541, 24724), (559, 24781), (560, 24787), (569, 24826), (573, 24847), (611, 25036), (620, 25063), (675, 25216), (689, 25240), (717, 25294), (719, 25297), (733, 25336), (734, 25342), (747, 25390),

Gene: Lollipop1437\_48 Start: 34224, Stop: 36782, Start Num: 56

Candidate Starts for Lollipop1437\_48:

(Start: 56 @34224 has 14 MA's), (135, 34473), (213, 34692), (214, 34695), (249, 34824), (289, 34932), (300, 34971), (396, 35343), (411, 35427), (499, 35805), (527, 35910), (531, 35928), (539, 35961), (543, 35982), (558, 36036), (580, 36141), (586, 36174), (603, 36264), (627, 36360), (628, 36363), (643, 36426), (648, 36459), (654, 36477), (655, 36480), (669, 36516), (680, 36540), (692,

36561), (729, 36651), (732, 36663),

Gene: Lolly9\_21 Start: 19528, Stop: 22035, Start Num: 3

Candidate Starts for Lolly9\_21:

(Start: 3 @19528 has 16 MA's), (19, 19591), (34, 19663), (53, 19711), (108, 19897), (152, 20023), (167, 20053), (181, 20092), (191, 20122), (218, 20209), (224, 20236), (233, 20269), (235, 20275), (250, 20326), (275, 20413), (278, 20419), (284, 20428), (293, 20446), (310, 20506), (316, 20527), (336, 20578), (338, 20581), (361, 20650), (402, 20803), (428, 20887), (432, 20905), (433, 20914), (476, 21097), (485, 21121), (491, 21142), (496, 21157), (515, 21205), (541, 21295), (543, 21304), (569, 21397), (572, 21415), (573, 21418), (588, 21490), (602, 21559), (603, 21565), (607, 21580), (610, 21598), (618, 21631), (619, 21634), (636, 21685), (641, 21709), (649, 21751), (663, 21775), (706, 21850), (708, 21853), (741, 21955),

Gene: Luchador\_33 Start: 23273, Stop: 25723, Start Num: 10

Candidate Starts for Luchador\_33:

(Start: 10 @23273 has 36 MA's), (14, 23279), (81, 23489), (100, 23546), (110, 23567), (188, 23798), (221, 23909), (266, 24083), (282, 24125), (305, 24182), (307, 24188), (313, 24206), (322, 24227), (325, 24233), (329, 24245), (415, 24524), (432, 24587), (457, 24701), (472, 24758), (491, 24824), (492, 24827), (496, 24839), (509, 24881), (520, 24923), (569, 25085), (573, 25106), (580, 25145), (604, 25253), (611, 25295), (618, 25316), (633, 25355), (641, 25397), (669, 25466), (725, 25565), (732, 25592), (733, 25595), (747, 25649), (759, 25676),

Gene: Lumos\_21 Start: 19721, Stop: 22234, Start Num: 3

Candidate Starts for Lumos\_21:

(Start: 3 @19721 has 16 MA's), (19, 19784), (34, 19856), (68, 19946), (71, 19952), (93, 20024), (118, 20111), (152, 20216), (157, 20228), (167, 20246), (181, 20285), (191, 20315), (211, 20372), (218, 20402), (220, 20408), (233, 20462), (235, 20468), (277, 20615), (278, 20618), (284, 20627), (293, 20645), (310, 20705), (313, 20714), (316, 20726), (336, 20777), (338, 20780), (389, 20945), (402, 21002), (428, 21086), (432, 21104), (433, 21113), (444, 21176), (476, 21296), (485, 21320), (491, 21341), (496, 21356), (502, 21374), (515, 21404), (541, 21494), (562, 21563), (569, 21596), (573, 21617), (580, 21653), (588, 21689), (596, 21734), (602, 21758), (603, 21764), (607, 21779), (610, 21797), (636, 21884), (641, 21908), (646, 21944), (649, 21950), (663, 21974), (706, 22049), (708, 22052), (738, 22139), (740, 22148), (741, 22154),

Gene: MacnCheese\_27 Start: 21549, Stop: 24002, Start Num: 21

Candidate Starts for MacnCheese\_27:

(Start: 21 @21549 has 49 MA's), (25, 21576), (33, 21609), (38, 21621), (72, 21714), (146, 21978), (163, 22023), (170, 22041), (175, 22059), (182, 22077), (203, 22137), (210, 22155), (219, 22191), (234, 22242), (274, 22389), (317, 22512), (365, 22629), (376, 22671), (377, 22677), (380, 22686), (387, 22710), (402, 22776), (406, 22794), (419, 22836), (425, 22857), (432, 22878), (433, 22887), (449, 22974), (475, 23067), (476, 23070), (504, 23142), (543, 23271), (546, 23280), (560, 23325), (562, 23331), (569, 23364), (572, 23382), (592, 23481), (595, 23499), (608, 23553), (618, 23598), (632, 23634), (643, 23682), (673, 23766), (739, 23895), (754, 23934),

Gene: Maco6\_22 Start: 18657, Stop: 20975, Start Num: 57

Candidate Starts for Maco6\_22:

(Start: 57 @18657 has 2 MA's), (119, 18858), (132, 18903), (136, 18915), (179, 19026), (200, 19092), (242, 19233), (284, 19365), (299, 19404), (302, 19416), (317, 19455), (327, 19473), (340, 19509), (357, 19569), (377, 19644), (387, 19671), (402, 19734), (418, 19791), (463, 19986), (467, 19989), (489, 20055), (492, 20073), (493, 20079), (494, 20082), (496, 20085), (536, 20208), (552, 20256), (559, 20286), (569, 20331), (571, 20337), (578, 20379), (585, 20415), (593, 20466), (598, 20481), (602, 20499), (614, 20556), (620, 20577), (629, 20598), (643, 20655), (644, 20676), (663, 20715), (689, 20757), (706, 20790), (709, 20796), (714, 20811), (741, 20895),

Gene: MalagasyRose\_27 Start: 20187, Stop: 22691, Start Num: 50

Candidate Starts for MalagasyRose\_27:

(Start: 50 @20187 has 1 MA's), (109, 20397), (115, 20412), (123, 20445), (140, 20496), (213, 20712), (214, 20715), (218, 20736), (255, 20868), (256, 20871), (266, 20913), (267, 20916), (289, 20970), (291, 20973), (292, 20976), (295, 20982), (300, 21009), (309, 21039), (319, 21084), (330, 21114), (354, 21189), (370, 21270), (372, 21279), (379, 21315), (388, 21351), (399, 21402), (401, 21414), (420, 21501), (422, 21510), (432, 21543), (440, 21582), (453, 21642), (483, 21750), (504, 21822), (518, 21876), (537, 21939), (540, 21954), (546, 21978), (551, 21996), (556, 22014), (557, 22020), (561, 22035), (569, 22071), (573, 22092), (574, 22101), (591, 22191), (621, 22335), (626, 22347), (631, 22359), (641, 22407), (642, 22410), (643, 22413), (651, 22455), (674, 22476), (686, 22497), (689, 22500), (696, 22512), (738, 22596), (769, 22683),

Gene: Malthus\_29 Start: 22196, Stop: 24505, Start Num: 47

Candidate Starts for Malthus\_29:

(Start: 47 @22196 has 15 MA's), (79, 22286), (90, 22307), (117, 22331), (158, 22448), (201, 22577), (219, 22637), (239, 22709), (242, 22718), (257, 22769), (259, 22775), (261, 22784), (274, 22835), (281, 22847), (289, 22862), (292, 22868), (300, 22901), (315, 22949), (337, 23003), (365, 23075), (374, 23114), (378, 23126), (385, 23141), (396, 23186), (412, 23255), (434, 23336), (468, 23489), (482, 23531), (519, 23660), (529, 23705), (546, 23771), (550, 23786), (573, 23882), (603, 24035), (607, 24050), (608, 24056), (611, 24080), (613, 24086), (615, 24092), (616, 24095), (620, 24119), (626, 24131), (646, 24227), (671, 24278), (673, 24281), (715, 24350), (732, 24386), (740, 24419), (762, 24473), (764, 24482), (769, 24497),

Gene: Marcoliusprime\_23 Start: 18661, Stop: 21000, Start Num: 21

Candidate Starts for Marcoliusprime\_23:

(Start: 21 @18661 has 49 MA's), (74, 18832), (80, 18850), (88, 18874), (158, 19018), (171, 19051), (215, 19180), (218, 19189), (223, 19204), (226, 19216), (228, 19225), (242, 19273), (270, 19369), (274, 19387), (286, 19408), (300, 19453), (339, 19555), (365, 19627), (376, 19669), (377, 19675), (380, 19684), (401, 19771), (406, 19792), (419, 19834), (425, 19855), (449, 19972), (454, 19981), (480, 20071), (501, 20125), (504, 20137), (511, 20161), (546, 20275), (556, 20302), (569, 20359), (580, 20416), (608, 20548), (613, 20578), (632, 20629), (636, 20647), (643, 20677), (658, 20731), (673, 20761), (690, 20782), (745, 20914),

Gene: Mdavu\_23 Start: 20402, Stop: 22888, Start Num: 21

Candidate Starts for Mdavu\_23:

(Start: 21 @20402 has 49 MA's), (30, 20450), (116, 20630), (117, 20633), (138, 20696), (143, 20708), (189, 20840), (201, 20879), (218, 20936), (225, 20960), (228, 20972), (242, 21020), (243, 21023), (254, 21056), (264, 21095), (274, 21128), (281, 21140), (286, 21149), (289, 21155), (308, 21221), (313, 21236), (347, 21347), (356, 21380), (380, 21464), (386, 21479), (399, 21539), (414, 21608), (441, 21728), (460, 21821), (495, 21935), (519, 22013), (520, 22019), (529, 22043), (545, 22106), (546, 22109), (548, 22121), (565, 22187), (566, 22193), (575, 22235), (578, 22256), (580, 22265), (586, 22298), (590, 22316), (603, 22385), (631, 22484), (632, 22490), (636, 22508), (644, 22562), (649, 22577), (662, 22604), (702, 22661),

Gene: Megiddo\_21 Start: 18926, Stop: 21559, Start Num: 5

Candidate Starts for Megiddo\_21:

(Start: 5 @18926 has 7 MA's), (7, 18935), (52, 19079), (133, 19352), (137, 19364), (144, 19385), (152, 19409), (178, 19484), (204, 19556), (214, 19586), (223, 19622), (238, 19685), (243, 19700), (251, 19727), (253, 19733), (274, 19808), (286, 19832), (289, 19838), (295, 19850), (304, 19892), (306, 19898), (333, 19985), (342, 20006), (350, 20030), (363, 20096), (369, 20117), (373, 20135), (380, 20168), (387, 20192), (388, 20195), (399, 20246), (422, 20351), (433, 20393), (471, 20558), (499, 20654), (520, 20732), (525, 20744), (553, 20834), (566, 20894), (569, 20903), (578, 20951), (580,

20960), (603, 21077), (612, 21122), (626, 21164), (643, 21230), (645, 21254), (672, 21302), (676, 21308), (678, 21314), (730, 21413), (733, 21422), (740, 21452), (766, 21542), (769, 21551),

Gene: MerCougar\_44 Start: 33507, Stop: 36065, Start Num: 56

Candidate Starts for MerCougar\_44:

(Start: 56 @33507 has 14 MA's), (Start: 60 @33516 has 1 MA's), (99, 33636), (213, 33975), (214, 33978), (228, 34035), (274, 34188), (304, 34269), (330, 34359), (396, 34626), (411, 34710), (466, 34980), (499, 35088), (527, 35193), (531, 35211), (539, 35244), (541, 35253), (564, 35343), (573, 35388), (579, 35421), (580, 35424), (586, 35457), (609, 35577), (614, 35601), (615, 35604), (627, 35643), (628, 35646), (648, 35742), (687, 35838), (692, 35844), (725, 35916), (732, 35946), (739, 35973), (753, 36018), (763, 36036),

Gene: MiculUcigas\_31 Start: 22775, Stop: 24997, Start Num: 10

Candidate Starts for MiculUcigas\_31:

(Start: 10 @22775 has 36 MA's), (45, 22889), (52, 22904), (131, 23150), (149, 23204), (229, 23315), (239, 23354), (267, 23450), (308, 23552), (419, 23801), (429, 23831), (432, 23843), (472, 24014), (492, 24083), (520, 24182), (557, 24293), (559, 24299), (560, 24305), (569, 24344), (579, 24401), (580, 24404), (593, 24470), (611, 24554), (635, 24626), (674, 24746), (730, 24857), (743, 24908), (747, 24920),

Gene: Milly\_23 Start: 18661, Stop: 21000, Start Num: 21

Candidate Starts for Milly\_23:

(Start: 21 @18661 has 49 MA's), (74, 18832), (80, 18850), (88, 18874), (158, 19018), (171, 19051), (215, 19180), (218, 19189), (223, 19204), (226, 19216), (228, 19225), (242, 19273), (270, 19369), (274, 19387), (286, 19408), (300, 19453), (339, 19555), (365, 19627), (376, 19669), (377, 19675), (380, 19684), (401, 19771), (406, 19792), (419, 19834), (425, 19855), (449, 19972), (454, 19981), (462, 20017), (480, 20071), (501, 20125), (504, 20137), (511, 20161), (546, 20275), (556, 20302), (569, 20359), (608, 20548), (613, 20578), (632, 20629), (643, 20677), (658, 20731), (673, 20761), (690, 20782), (745, 20914),

Gene: MiniLon\_21 Start: 19528, Stop: 22035, Start Num: 3

Candidate Starts for MiniLon\_21:

(Start: 3 @19528 has 16 MA's), (19, 19591), (34, 19663), (53, 19711), (108, 19897), (152, 20023), (167, 20053), (181, 20092), (191, 20122), (218, 20209), (224, 20236), (233, 20269), (235, 20275), (250, 20326), (275, 20413), (278, 20419), (284, 20428), (293, 20446), (310, 20506), (316, 20527), (336, 20578), (338, 20581), (361, 20650), (402, 20803), (428, 20887), (432, 20905), (433, 20914), (476, 21097), (485, 21121), (491, 21142), (496, 21157), (515, 21205), (541, 21295), (543, 21304), (569, 21397), (572, 21415), (573, 21418), (588, 21490), (602, 21559), (603, 21565), (607, 21580), (610, 21598), (618, 21631), (619, 21634), (636, 21685), (641, 21709), (649, 21751), (663, 21775), (706, 21850), (708, 21853), (741, 21955),

Gene: MiniMac\_21 Start: 19529, Stop: 22036, Start Num: 3

Candidate Starts for MiniMac\_21:

(Start: 3 @19529 has 16 MA's), (19, 19592), (34, 19664), (53, 19712), (108, 19898), (152, 20024), (167, 20054), (181, 20093), (191, 20123), (218, 20210), (224, 20237), (233, 20270), (235, 20276), (250, 20327), (275, 20414), (278, 20420), (284, 20429), (293, 20447), (310, 20507), (316, 20528), (336, 20579), (338, 20582), (361, 20651), (402, 20804), (428, 20888), (432, 20906), (433, 20915), (476, 21098), (485, 21122), (491, 21143), (496, 21158), (515, 21206), (541, 21296), (543, 21305), (569, 21398), (572, 21416), (573, 21419), (588, 21491), (602, 21560), (603, 21566), (607, 21581), (610, 21599), (618, 21632), (619, 21635), (636, 21686), (641, 21710), (649, 21752), (663, 21776), (706, 21851), (708, 21854), (741, 21956),

Gene: MissDaisy\_28 Start: 22035, Stop: 24344, Start Num: 47

Candidate Starts for MissDaisy\_28:

(Start: 47 @22035 has 15 MA's), (66, 22083), (69, 22092), (90, 22146), (119, 22179), (158, 22287), (182, 22353), (201, 22416), (216, 22467), (219, 22476), (228, 22509), (242, 22557), (259, 22614), (274, 22674), (281, 22686), (289, 22701), (292, 22707), (300, 22740), (315, 22788), (337, 22842), (365, 22914), (412, 23094), (434, 23175), (468, 23328), (482, 23370), (503, 23439), (524, 23526), (529, 23544), (535, 23571), (546, 23610), (550, 23625), (573, 23721), (603, 23874), (607, 23889), (608, 23895), (613, 23925), (615, 23931), (620, 23958), (626, 23970), (646, 24066), (673, 24120), (691, 24141), (733, 24228), (740, 24258), (769, 24336),

Gene: Mitti\_28 Start: 22196, Stop: 24505, Start Num: 47

Candidate Starts for Mitti\_28:

(Start: 47 @22196 has 15 MA's), (90, 22307), (117, 22331), (158, 22448), (201, 22577), (219, 22637), (239, 22709), (242, 22718), (259, 22775), (261, 22784), (274, 22835), (281, 22847), (289, 22862), (292, 22868), (300, 22901), (315, 22949), (337, 23003), (365, 23075), (374, 23114), (378, 23126), (385, 23141), (396, 23186), (412, 23255), (434, 23336), (468, 23489), (482, 23531), (499, 23588), (503, 23600), (512, 23630), (529, 23705), (535, 23732), (546, 23771), (550, 23786), (573, 23882), (603, 24035), (607, 24050), (608, 24056), (613, 24086), (615, 24092), (620, 24119), (626, 24131), (646, 24227), (673, 24281), (691, 24302), (733, 24389), (740, 24419), (769, 24497),

Gene: Moostard\_21 Start: 19727, Stop: 22240, Start Num: 3

Candidate Starts for Moostard\_21:

(Start: 3 @19727 has 16 MA's), (19, 19790), (34, 19862), (68, 19952), (71, 19958), (93, 20030), (152, 20222), (157, 20234), (167, 20252), (181, 20291), (191, 20321), (211, 20378), (218, 20408), (220, 20414), (233, 20468), (235, 20474), (277, 20621), (278, 20624), (284, 20633), (293, 20651), (310, 20711), (313, 20720), (316, 20732), (336, 20783), (338, 20786), (389, 20951), (402, 21008), (428, 21092), (432, 21110), (433, 21119), (444, 21182), (476, 21302), (491, 21347), (496, 21362), (502, 21380), (515, 21410), (541, 21500), (562, 21569), (569, 21602), (573, 21623), (580, 21659), (588, 21695), (596, 21740), (602, 21764), (603, 21770), (607, 21785), (610, 21803), (618, 21836), (636, 21890), (641, 21914), (646, 21950), (649, 21956), (663, 21980), (738, 22145), (740, 22154), (741, 22160),

Gene: MsGreen\_21 Start: 19724, Stop: 22237, Start Num: 3

Candidate Starts for MsGreen\_21:

(Start: 3 @19724 has 16 MA's), (19, 19787), (34, 19859), (68, 19949), (71, 19955), (93, 20027), (118, 20114), (152, 20219), (157, 20231), (167, 20249), (181, 20288), (191, 20318), (211, 20375), (218, 20405), (220, 20411), (233, 20465), (235, 20471), (277, 20618), (278, 20621), (284, 20630), (293, 20648), (310, 20708), (313, 20717), (316, 20729), (336, 20780), (338, 20783), (389, 20948), (402, 21005), (428, 21089), (432, 21107), (433, 21116), (444, 21179), (476, 21299), (485, 21323), (491, 21344), (496, 21359), (502, 21377), (515, 21407), (541, 21497), (562, 21566), (569, 21599), (573, 21620), (580, 21656), (588, 21692), (596, 21737), (602, 21761), (603, 21767), (607, 21782), (610, 21800), (636, 21887), (641, 21911), (646, 21947), (649, 21953), (663, 21977), (706, 22052), (708, 22055), (738, 22142), (740, 22151), (741, 22157),

Gene: Muddy\_24 Start: 19607, Stop: 21925, Start Num: 57

Candidate Starts for Muddy\_24:

(Start: 57 @19607 has 2 MA's), (119, 19808), (132, 19853), (136, 19865), (165, 19931), (169, 19943), (179, 19976), (200, 20042), (242, 20183), (284, 20315), (302, 20366), (317, 20405), (327, 20423), (340, 20459), (357, 20519), (377, 20594), (387, 20621), (402, 20684), (418, 20741), (463, 20936), (489, 21005), (492, 21023), (493, 21029), (494, 21032), (496, 21035), (534, 21152), (536, 21158), (559, 21236), (570, 21284), (571, 21287), (585, 21365), (593, 21416), (598, 21431), (600, 21443), (614, 21506), (620, 21527), (629, 21548), (643, 21605), (644, 21626), (663, 21665), (689, 21707), (706, 21740), (709, 21746), (714, 21761), (741, 21845),

Gene: Mufasa\_23 Start: 18681, Stop: 21020, Start Num: 21

Candidate Starts for Mufasa\_23:

(Start: 21 @18681 has 49 MA's), (116, 18921), (154, 19029), (158, 19038), (167, 19059), (174, 19083), (219, 19212), (223, 19224), (242, 19293), (286, 19428), (295, 19446), (300, 19473), (339, 19575), (365, 19647), (376, 19689), (377, 19695), (380, 19704), (383, 19710), (401, 19791), (406, 19812), (419, 19854), (425, 19875), (433, 19905), (449, 19992), (454, 20001), (462, 20037), (480, 20091), (501, 20145), (504, 20157), (520, 20217), (541, 20277), (546, 20295), (556, 20322), (569, 20379), (608, 20568), (613, 20598), (639, 20676), (643, 20697), (652, 20739), (667, 20772), (673, 20781), (690, 20802), (704, 20829), (739, 20910), (745, 20934),

Gene: Mulch\_25 Start: 20607, Stop: 23117, Start Num: 20

Candidate Starts for Mulch\_25:

(Start: 20 @20607 has 13 MA's), (65, 20739), (69, 20754), (82, 20799), (89, 20817), (139, 20982), (158, 21036), (162, 21045), (187, 21123), (190, 21129), (238, 21294), (243, 21309), (253, 21345), (274, 21420), (281, 21432), (286, 21441), (289, 21447), (295, 21459), (298, 21471), (300, 21486), (305, 21504), (306, 21507), (316, 21543), (331, 21597), (375, 21720), (391, 21774), (396, 21795), (397, 21804), (426, 21906), (439, 21966), (447, 22014), (452, 22026), (460, 22071), (488, 22158), (499, 22197), (520, 22266), (522, 22278), (526, 22290), (598, 22578), (604, 22608), (623, 22689), (631, 22710), (637, 22737), (641, 22761), (705, 22926), (723, 22971), (751, 23070), (769, 23109),

Gene: NaSiaTalie\_31 Start: 22773, Stop: 24995, Start Num: 10

Candidate Starts for NaSiaTalie\_31:

(Start: 10 @22773 has 36 MA's), (45, 22887), (48, 22896), (52, 22902), (Start: 60 @22923 has 1 MA's), (72, 22959), (97, 23034), (121, 23124), (126, 23136), (229, 23313), (239, 23352), (267, 23448), (419, 23799), (429, 23829), (432, 23841), (472, 24012), (492, 24081), (520, 24180), (557, 24291), (559, 24297), (560, 24303), (569, 24342), (579, 24399), (580, 24402), (593, 24468), (611, 24552), (635, 24624), (678, 24750), (679, 24753), (730, 24855), (734, 24870), (747, 24918),

Gene: Nadeem\_25 Start: 20607, Stop: 23117, Start Num: 20

Candidate Starts for Nadeem\_25:

(Start: 20 @20607 has 13 MA's), (65, 20739), (69, 20754), (82, 20799), (89, 20817), (139, 20982), (158, 21036), (162, 21045), (187, 21123), (190, 21129), (238, 21294), (243, 21309), (253, 21345), (274, 21420), (281, 21432), (286, 21441), (289, 21447), (295, 21459), (298, 21471), (300, 21486), (305, 21504), (306, 21507), (316, 21543), (331, 21597), (375, 21720), (391, 21774), (396, 21795), (397, 21804), (426, 21906), (439, 21966), (447, 22014), (452, 22026), (460, 22071), (488, 22158), (499, 22197), (520, 22266), (522, 22278), (526, 22290), (598, 22578), (604, 22608), (623, 22689), (631, 22710), (637, 22737), (641, 22761), (705, 22926), (723, 22971), (751, 23070), (769, 23109),

Gene: NancyRae\_25 Start: 20613, Stop: 23123, Start Num: 20

Candidate Starts for NancyRae\_25:

(Start: 20 @20613 has 13 MA's), (65, 20745), (69, 20760), (82, 20805), (89, 20823), (139, 20988), (158, 21042), (162, 21051), (187, 21129), (190, 21135), (238, 21300), (243, 21315), (253, 21351), (274, 21426), (281, 21438), (286, 21447), (289, 21453), (295, 21465), (298, 21477), (300, 21492), (305, 21510), (306, 21513), (316, 21549), (331, 21603), (367, 21708), (375, 21726), (391, 21780), (396, 21801), (397, 21810), (426, 21912), (439, 21972), (447, 22020), (452, 22032), (460, 22077), (465, 22095), (488, 22164), (499, 22203), (520, 22272), (522, 22284), (526, 22296), (598, 22584), (604, 22614), (623, 22695), (641, 22767), (705, 22932), (723, 22977), (751, 23076), (769, 23115),

Gene: Nicholas\_21 Start: 19724, Stop: 22237, Start Num: 3

Candidate Starts for Nicholas\_21:

(Start: 3 @19724 has 16 MA's), (19, 19787), (34, 19859), (68, 19949), (71, 19955), (93, 20027), (118, 20114), (152, 20219), (157, 20231), (167, 20249), (181, 20288), (191, 20318), (211, 20375), (218, 20405), (220, 20411), (233, 20465), (235, 20471), (277, 20618), (278, 20621), (284, 20630), (293,

20648), (310, 20708), (313, 20717), (316, 20729), (336, 20780), (338, 20783), (389, 20948), (402, 21005), (428, 21089), (432, 21107), (433, 21116), (444, 21179), (476, 21299), (485, 21323), (491, 21344), (496, 21359), (502, 21377), (515, 21407), (541, 21497), (562, 21566), (569, 21599), (573, 21620), (580, 21656), (588, 21692), (596, 21737), (602, 21761), (603, 21767), (607, 21782), (610, 21800), (636, 21887), (641, 21911), (646, 21947), (649, 21953), (663, 21977), (706, 22052), (708, 22055), (738, 22142), (740, 22151), (741, 22157),

Gene: Nikao\_23 Start: 20414, Stop: 22900, Start Num: 21

Candidate Starts for Nikao\_23:

(Start: 21 @20414 has 49 MA's), (30, 20462), (116, 20642), (117, 20645), (138, 20708), (143, 20720), (189, 20852), (201, 20891), (218, 20948), (225, 20972), (228, 20984), (242, 21032), (243, 21035), (254, 21068), (264, 21107), (274, 21140), (281, 21152), (286, 21161), (289, 21167), (308, 21233), (313, 21248), (347, 21359), (356, 21392), (380, 21476), (386, 21491), (399, 21551), (414, 21620), (441, 21740), (460, 21833), (495, 21947), (519, 22025), (520, 22031), (529, 22055), (545, 22118), (546, 22121), (548, 22133), (565, 22199), (566, 22205), (575, 22247), (578, 22268), (580, 22277), (586, 22310), (590, 22328), (603, 22397), (631, 22496), (632, 22502), (636, 22520), (644, 22574), (649, 22589), (662, 22616), (702, 22673), (715, 22703),

Gene: Niklas\_27 Start: 20233, Stop: 22734, Start Num: 21

Candidate Starts for Niklas\_27:

(Start: 21 @20233 has 49 MA's), (30, 20281), (49, 20332), (74, 20404), (115, 20455), (119, 20473), (130, 20506), (138, 20527), (143, 20539), (163, 20593), (189, 20671), (201, 20710), (218, 20767), (228, 20803), (243, 20854), (253, 20884), (258, 20899), (264, 20923), (274, 20956), (286, 20977), (289, 20983), (300, 21022), (347, 21175), (356, 21208), (360, 21220), (377, 21283), (399, 21367), (440, 21550), (450, 21604), (460, 21646), (519, 21838), (520, 21844), (529, 21868), (545, 21931), (556, 21970), (571, 22033), (580, 22090), (586, 22123), (590, 22141), (596, 22180), (606, 22219), (607, 22225), (618, 22282), (646, 22396), (675, 22450), (689, 22465), (704, 22495), (709, 22507), (731, 22564), (736, 22582), (743, 22612), (749, 22630), (768, 22711),

Gene: NosilaM\_46 Start: 33220, Stop: 35778, Start Num: 56

Candidate Starts for NosilaM\_46:

(Start: 56 @33220 has 14 MA's), (99, 33349), (213, 33688), (214, 33691), (228, 33748), (274, 33901), (300, 33967), (304, 33982), (411, 34423), (499, 34801), (527, 34906), (531, 34924), (539, 34957), (543, 34978), (558, 35032), (580, 35137), (585, 35164), (586, 35170), (603, 35260), (627, 35356), (628, 35359), (643, 35422), (648, 35455), (666, 35503), (680, 35536), (692, 35557), (728, 35644), (732, 35659), (763, 35749), (769, 35770),

Gene: Nutello\_23 Start: 20414, Stop: 22900, Start Num: 21

Candidate Starts for Nutello\_23:

(Start: 21 @20414 has 49 MA's), (30, 20462), (116, 20642), (117, 20645), (138, 20708), (143, 20720), (189, 20852), (201, 20891), (218, 20948), (225, 20972), (228, 20984), (242, 21032), (243, 21035), (254, 21068), (264, 21107), (274, 21140), (281, 21152), (286, 21161), (289, 21167), (308, 21233), (313, 21248), (347, 21359), (356, 21392), (380, 21476), (386, 21491), (399, 21551), (414, 21620), (441, 21740), (460, 21833), (495, 21947), (519, 22025), (520, 22031), (529, 22055), (545, 22118), (546, 22121), (548, 22133), (565, 22199), (566, 22205), (575, 22247), (578, 22268), (580, 22277), (586, 22310), (590, 22328), (603, 22397), (631, 22496), (632, 22502), (636, 22520), (644, 22574), (649, 22589), (662, 22616), (702, 22673),

Gene: OmniCritical\_28 Start: 22181, Stop: 24490, Start Num: 47

Candidate Starts for OmniCritical\_28:

(Start: 47 @22181 has 15 MA's), (90, 22292), (117, 22316), (158, 22433), (201, 22562), (216, 22613), (219, 22622), (239, 22694), (242, 22703), (259, 22760), (261, 22769), (274, 22820), (281, 22832), (289, 22847), (292, 22853), (300, 22886), (315, 22934), (337, 22988), (365, 23060), (374, 23099),

(378, 23111), (385, 23126), (396, 23171), (412, 23240), (434, 23321), (468, 23474), (499, 23573), (503, 23585), (529, 23690), (546, 23756), (550, 23771), (573, 23867), (603, 24020), (607, 24035), (608, 24041), (611, 24065), (620, 24104), (646, 24212), (671, 24263), (673, 24266), (733, 24374), (740, 24404), (769, 24482),

Gene: Outis\_44 Start: 33201, Stop: 35759, Start Num: 56

Candidate Starts for Outis\_44:

(Start: 56 @33201 has 14 MA's), (Start: 60 @33210 has 1 MA's), (99, 33330), (213, 33669), (214, 33672), (228, 33729), (274, 33882), (304, 33963), (330, 34053), (396, 34320), (411, 34404), (466, 34674), (499, 34782), (527, 34887), (531, 34905), (539, 34938), (541, 34947), (564, 35037), (573, 35082), (579, 35115), (580, 35118), (586, 35151), (609, 35271), (614, 35295), (615, 35298), (627, 35337), (628, 35340), (648, 35436), (687, 35532), (692, 35538), (725, 35610), (732, 35640), (739, 35667), (753, 35712), (763, 35730),

Gene: P3MA\_23 Start: 18041, Stop: 20566, Start Num: 36

Candidate Starts for P3MA\_23:

(Start: 36 @18041 has 1 MA's), (83, 18179), (96, 18212), (124, 18338), (134, 18374), (152, 18422), (166, 18449), (170, 18461), (183, 18500), (193, 18533), (195, 18536), (213, 18593), (214, 18596), (218, 18617), (294, 18854), (316, 18935), (326, 18956), (344, 19013), (378, 19094), (393, 19145), (398, 19169), (403, 19196), (413, 19238), (421, 19271), (432, 19313), (437, 19343), (476, 19517), (528, 19700), (568, 19856), (584, 19940), (601, 20015), (614, 20081), (630, 20117), (669, 20267), (672, 20273), (748, 20468), (763, 20525), (765, 20534),

Gene: Panchino\_20 Start: 17533, Stop: 20178, Start Num: 6

Candidate Starts for Panchino\_20:

(Start: 4 @17521 has 1 MA's), (Start: 6 @17533 has 9 MA's), (9, 17545), (40, 17656), (Start: 50 @17680 has 1 MA's), (52, 17683), (55, 17692), (73, 17740), (133, 17965), (137, 17977), (144, 17998), (160, 18043), (178, 18097), (204, 18175), (214, 18205), (223, 18241), (228, 18262), (232, 18277), (243, 18319), (253, 18352), (274, 18427), (286, 18451), (289, 18457), (295, 18469), (304, 18511), (306, 18517), (336, 18616), (369, 18736), (373, 18754), (380, 18787), (388, 18814), (399, 18865), (443, 19075), (459, 19141), (471, 19177), (504, 19288), (520, 19351), (566, 19513), (571, 19528), (580, 19579), (603, 19696), (612, 19741), (626, 19783), (636, 19819), (645, 19873), (672, 19921), (739, 20065), (756, 20122), (766, 20161), (769, 20170),

Gene: Parada\_25 Start: 20607, Stop: 23117, Start Num: 20

Candidate Starts for Parada\_25:

(Start: 20 @20607 has 13 MA's), (65, 20739), (69, 20754), (82, 20799), (89, 20817), (139, 20982), (158, 21036), (162, 21045), (187, 21123), (190, 21129), (238, 21294), (243, 21309), (253, 21345), (274, 21420), (281, 21432), (286, 21441), (289, 21447), (295, 21459), (298, 21471), (300, 21486), (305, 21504), (306, 21507), (316, 21543), (331, 21597), (375, 21720), (391, 21774), (396, 21795), (397, 21804), (426, 21906), (439, 21966), (447, 22014), (452, 22026), (460, 22071), (488, 22158), (499, 22197), (520, 22266), (522, 22278), (526, 22290), (598, 22578), (604, 22608), (623, 22689), (631, 22710), (637, 22737), (641, 22761), (705, 22926), (723, 22971), (751, 23070), (769, 23109),

Gene: Patio\_46 Start: 33460, Stop: 36018, Start Num: 56

Candidate Starts for Patio\_46:

(2, 33262), (35, 33409), (Start: 56 @33460 has 14 MA's), (99, 33589), (135, 33709), (213, 33928), (214, 33931), (233, 34003), (249, 34060), (255, 34081), (289, 34168), (300, 34207), (396, 34579), (411, 34663), (499, 35041), (527, 35146), (531, 35164), (539, 35197), (543, 35218), (558, 35272), (564, 35296), (580, 35377), (585, 35404), (586, 35410), (603, 35500), (627, 35596), (628, 35599), (643, 35662), (648, 35695), (654, 35713), (655, 35716), (669, 35752), (680, 35776), (692, 35797), (729, 35887), (732, 35899),



Gene: Patt\_28 Start: 22014, Stop: 24320, Start Num: 47

Candidate Starts for Patt\_28:

(Start: 47 @22014 has 15 MA's), (58, 22044), (66, 22062), (90, 22125), (158, 22266), (182, 22332), (201, 22395), (216, 22446), (219, 22455), (228, 22488), (242, 22536), (259, 22593), (274, 22653), (281, 22665), (289, 22680), (292, 22686), (300, 22719), (315, 22767), (337, 22821), (365, 22893), (412, 23073), (434, 23154), (468, 23307), (482, 23349), (499, 23406), (503, 23418), (524, 23505), (529, 23523), (546, 23589), (550, 23604), (603, 23853), (607, 23868), (608, 23874), (611, 23898), (620, 23937), (626, 23949), (646, 24045), (664, 24081), (671, 24096), (673, 24099), (691, 24120), (698, 24135), (733, 24204), (740, 24234), (769, 24312),

Gene: PeaceMeal1\_31 Start: 21407, Stop: 23689, Start Num: 10

Candidate Starts for PeaceMeal1\_31:

(Start: 10 @21407 has 36 MA's), (19, 21440), (43, 21524), (67, 21590), (102, 21722), (147, 21836), (149, 21845), (184, 21929), (208, 22004), (229, 22082), (248, 22157), (280, 22247), (377, 22373), (395, 22430), (419, 22520), (424, 22538), (432, 22562), (480, 22763), (492, 22802), (520, 22892), (540, 22949), (569, 23054), (573, 23075), (574, 23084), (578, 23102), (580, 23114), (593, 23180), (603, 23219), (607, 23234), (608, 23240), (614, 23273), (643, 23372), (644, 23393), (645, 23396), (677, 23453), (689, 23471), (691, 23474), (697, 23486), (716, 23525), (731, 23567), (732, 23570), (766, 23672),

Gene: Peanam\_27 Start: 20230, Stop: 22731, Start Num: 21

Candidate Starts for Peanam\_27:

(Start: 21 @20230 has 49 MA's), (30, 20278), (49, 20329), (74, 20401), (115, 20452), (119, 20470), (130, 20503), (138, 20524), (143, 20536), (163, 20590), (189, 20668), (201, 20707), (218, 20764), (228, 20800), (243, 20851), (253, 20881), (258, 20896), (264, 20920), (274, 20953), (286, 20974), (289, 20980), (300, 21019), (347, 21172), (356, 21205), (360, 21217), (377, 21280), (399, 21364), (440, 21547), (450, 21601), (460, 21643), (519, 21835), (520, 21841), (529, 21865), (545, 21928), (556, 21967), (571, 22030), (580, 22087), (586, 22120), (590, 22138), (596, 22177), (606, 22216), (607, 22222), (618, 22279), (646, 22393), (675, 22447), (689, 22462), (704, 22492), (709, 22504), (731, 22561), (736, 22579), (743, 22609), (749, 22627), (768, 22708),

Gene: PenguinLover67\_32 Start: 30945, Stop: 33434, Start Num: 24

Candidate Starts for PenguinLover67\_32:

(1, 30792), (Start: 24 @30945 has 9 MA's), (53, 31044), (54, 31050), (59, 31062), (77, 31119), (113, 31266), (128, 31317), (131, 31326), (149, 31380), (202, 31533), (225, 31614), (226, 31617), (242, 31677), (248, 31704), (299, 31860), (300, 31863), (306, 31884), (345, 31998), (360, 32046), (382, 32124), (390, 32148), (396, 32169), (418, 32253), (419, 32256), (424, 32274), (461, 32439), (472, 32469), (480, 32499), (492, 32538), (496, 32550), (507, 32580), (517, 32616), (520, 32628), (560, 32751), (561, 32754), (562, 32757), (563, 32763), (567, 32787), (579, 32847), (582, 32865), (598, 32931), (599, 32934), (603, 32955), (614, 33006), (620, 33027), (645, 33132), (718, 33258), (733, 33300), (741, 33336), (747, 33354), (759, 33381),

Gene: Phalm\_21 Start: 18926, Stop: 21559, Start Num: 5

Candidate Starts for Phalm\_21:

(Start: 5 @18926 has 7 MA's), (7, 18935), (52, 19079), (133, 19352), (137, 19364), (144, 19385), (152, 19409), (178, 19484), (204, 19556), (214, 19586), (223, 19622), (238, 19685), (243, 19700), (251, 19727), (253, 19733), (274, 19808), (286, 19832), (289, 19838), (295, 19850), (304, 19892), (306, 19898), (333, 19985), (342, 20006), (350, 20030), (363, 20096), (369, 20117), (373, 20135), (380, 20168), (387, 20192), (388, 20195), (399, 20246), (422, 20351), (433, 20393), (471, 20558), (499, 20654), (520, 20732), (525, 20744), (553, 20834), (566, 20894), (569, 20903), (578, 20951), (580, 20960), (603, 21077), (612, 21122), (626, 21164), (643, 21230), (645, 21254), (672, 21302), (676, 21308), (678, 21314), (730, 21413), (733, 21422), (740, 21452), (766, 21542), (769, 21551),

Gene: Pharb\_26 Start: 21154, Stop: 23529, Start Num: 21

Candidate Starts for Pharb\_26:

(Start: 21 @21154 has 49 MA's), (25, 21181), (33, 21214), (Start: 56 @21274 has 14 MA's), (63, 21289), (115, 21379), (119, 21397), (163, 21523), (166, 21529), (171, 21544), (182, 21577), (199, 21634), (201, 21637), (210, 21655), (223, 21703), (242, 21772), (255, 21823), (286, 21910), (300, 21955), (317, 22012), (343, 22057), (356, 22102), (365, 22129), (376, 22171), (377, 22177), (380, 22186), (422, 22324), (442, 22414), (499, 22609), (565, 22840), (566, 22846), (569, 22855), (571, 22861), (578, 22903), (583, 22933), (593, 22990), (595, 22996), (620, 23101), (635, 23146), (644, 23200), (646, 23209), (659, 23239), (736, 23389), (750, 23431), (757, 23464), (769, 23509),

Gene: PhelpsODU\_26 Start: 20093, Stop: 22432, Start Num: 21

Candidate Starts for PhelpsODU\_26:

(Start: 21 @20093 has 49 MA's), (31, 20150), (74, 20264), (80, 20282), (119, 20333), (125, 20354), (154, 20432), (189, 20531), (194, 20543), (223, 20642), (225, 20651), (251, 20744), (274, 20825), (289, 20855), (295, 20867), (297, 20876), (300, 20894), (304, 20909), (313, 20933), (339, 20993), (356, 21038), (365, 21065), (380, 21122), (385, 21131), (401, 21200), (402, 21203), (406, 21221), (419, 21263), (425, 21284), (433, 21314), (449, 21401), (468, 21464), (476, 21497), (504, 21569), (517, 21617), (520, 21629), (543, 21698), (554, 21722), (569, 21791), (608, 21980), (631, 22055), (636, 22079), (667, 22184), (673, 22193), (688, 22211), (733, 22298), (739, 22322), (753, 22364), (771, 22424),

Gene: Phineas\_21 Start: 19035, Stop: 21668, Start Num: 5

Candidate Starts for Phineas\_21:

(Start: 5 @19035 has 7 MA's), (7, 19044), (52, 19188), (133, 19461), (137, 19473), (144, 19494), (152, 19518), (178, 19593), (204, 19665), (214, 19695), (223, 19731), (238, 19794), (243, 19809), (253, 19842), (274, 19917), (286, 19941), (289, 19947), (295, 19959), (304, 20001), (306, 20007), (333, 20094), (342, 20115), (350, 20139), (363, 20205), (369, 20226), (373, 20244), (380, 20277), (387, 20301), (388, 20304), (399, 20355), (422, 20460), (433, 20502), (471, 20667), (499, 20763), (520, 20841), (525, 20853), (553, 20943), (566, 21003), (569, 21012), (578, 21060), (580, 21069), (603, 21186), (612, 21231), (626, 21273), (643, 21339), (645, 21363), (672, 21411), (676, 21417), (678, 21423), (730, 21522), (733, 21531), (740, 21561), (766, 21651), (769, 21660),

Gene: Phloss\_20 Start: 17556, Stop: 20201, Start Num: 6

Candidate Starts for Phloss\_20:

(Start: 4 @17544 has 1 MA's), (Start: 6 @17556 has 9 MA's), (9, 17568), (15, 17580), (27, 17634), (Start: 50 @17703 has 1 MA's), (52, 17706), (55, 17715), (62, 17730), (107, 17907), (133, 17988), (135, 17997), (155, 18054), (162, 18069), (206, 18201), (218, 18249), (223, 18264), (228, 18285), (238, 18327), (243, 18342), (246, 18351), (253, 18378), (255, 18384), (274, 18453), (286, 18474), (289, 18480), (294, 18489), (299, 18516), (318, 18582), (319, 18594), (333, 18627), (336, 18639), (369, 18759), (373, 18777), (380, 18810), (399, 18888), (422, 18993), (433, 19035), (486, 19254), (498, 19293), (499, 19296), (504, 19311), (520, 19374), (538, 19422), (566, 19536), (573, 19566), (578, 19593), (580, 19602), (603, 19719), (612, 19764), (626, 19806), (643, 19872), (645, 19896), (672, 19944), (676, 19950), (678, 19956), (686, 19971), (730, 20055), (740, 20094), (766, 20184), (769, 20193),

Gene: Phrank\_26 Start: 20046, Stop: 22382, Start Num: 21

Candidate Starts for Phrank\_26:

(Start: 21 @20046 has 49 MA's), (30, 20094), (31, 20103), (74, 20217), (80, 20235), (119, 20286), (154, 20382), (158, 20391), (189, 20481), (194, 20493), (223, 20592), (225, 20601), (251, 20694), (274, 20775), (289, 20805), (295, 20817), (300, 20844), (304, 20859), (313, 20883), (339, 20943), (356, 20988), (365, 21015), (374, 21054), (380, 21072), (385, 21081), (401, 21150), (402, 21153), (406, 21171), (419, 21213), (425, 21234), (433, 21264), (449, 21351), (468, 21414), (476, 21447), (484, 21456), (504, 21519), (517, 21567), (520, 21579), (543, 21648), (554, 21672), (560, 21702),

(569, 21741), (608, 21930), (631, 22005), (643, 22059), (673, 22143), (688, 22161), (733, 22248), (739, 22272), (753, 22314), (771, 22374),

Gene: Piro94\_32 Start: 23234, Stop: 25318, Start Num: 10

Candidate Starts for Piro94\_32:

(Start: 10 @23234 has 36 MA's), (45, 23348), (52, 23363), (84, 23462), (121, 23585), (126, 23597), (137, 23630), (229, 23774), (235, 23795), (267, 23909), (282, 23945), (419, 24146), (424, 24164), (432, 24188), (451, 24287), (480, 24389), (492, 24428), (496, 24440), (520, 24518), (559, 24635), (560, 24641), (573, 24701), (593, 24806), (598, 24821), (635, 24962), (636, 24965), (644, 25016), (649, 25031), (664, 25055), (694, 25109), (707, 25133), (741, 25238), (767, 25304),

Gene: Pixie\_26 Start: 21086, Stop: 23437, Start Num: 21

Candidate Starts for Pixie\_26:

(Start: 21 @21086 has 49 MA's), (25, 21113), (33, 21146), (72, 21251), (146, 21410), (163, 21455), (175, 21491), (182, 21509), (210, 21587), (223, 21635), (260, 21767), (274, 21821), (283, 21836), (317, 21944), (365, 22061), (376, 22103), (377, 22109), (380, 22118), (385, 22127), (402, 22208), (406, 22226), (419, 22268), (425, 22289), (432, 22310), (433, 22319), (449, 22406), (475, 22499), (476, 22502), (504, 22574), (545, 22709), (546, 22712), (560, 22757), (569, 22796), (572, 22814), (592, 22913), (595, 22931), (608, 22985), (613, 23015), (619, 23033), (631, 23060), (632, 23066), (643, 23114), (667, 23189), (673, 23198), (690, 23219), (695, 23228), (739, 23327), (754, 23369),

Gene: Poompha\_31 Start: 21405, Stop: 23687, Start Num: 10

Candidate Starts for Poompha\_31:

(Start: 10 @21405 has 36 MA's), (19, 21438), (43, 21522), (67, 21588), (97, 21675), (102, 21720), (147, 21834), (149, 21843), (184, 21927), (208, 22002), (229, 22080), (248, 22155), (377, 22371), (395, 22428), (419, 22518), (424, 22536), (432, 22560), (433, 22569), (480, 22761), (492, 22800), (520, 22890), (540, 22947), (569, 23052), (574, 23082), (578, 23100), (580, 23112), (603, 23217), (607, 23232), (608, 23238), (614, 23271), (643, 23370), (644, 23391), (645, 23394), (677, 23451), (689, 23469), (691, 23472), (697, 23484), (716, 23523), (731, 23565), (732, 23568), (766, 23670),

Gene: Power\_31 Start: 22692, Stop: 24893, Start Num: 12

Candidate Starts for Power\_31:

(Start: 12 @22692 has 22 MA's), (17, 22713), (48, 22812), (52, 22818), (63, 22845), (64, 22848), (80, 22902), (92, 22938), (121, 23040), (229, 23229), (266, 23361), (267, 23364), (301, 23442), (419, 23718), (424, 23736), (432, 23760), (480, 23961), (492, 24000), (520, 24090), (540, 24147), (559, 24207), (569, 24252), (573, 24273), (593, 24378), (598, 24393), (603, 24417), (611, 24462), (620, 24489), (635, 24534), (645, 24594), (657, 24618), (734, 24768), (747, 24816), (759, 24840),

Gene: QueenB2\_31 Start: 22756, Stop: 24954, Start Num: 12

Candidate Starts for QueenB2\_31:

(Start: 12 @22756 has 22 MA's), (17, 22777), (48, 22876), (80, 22966), (92, 23002), (121, 23104), (126, 23116), (229, 23293), (267, 23428), (323, 23569), (419, 23782), (424, 23800), (432, 23824), (480, 24025), (520, 24154), (540, 24211), (559, 24271), (569, 24316), (573, 24337), (598, 24457), (619, 24547), (620, 24550), (645, 24655), (657, 24679), (678, 24709), (679, 24712), (747, 24877), (766, 24931),

Gene: QueenBeesly\_31 Start: 22638, Stop: 24839, Start Num: 12

Candidate Starts for QueenBeesly\_31:

(Start: 12 @22638 has 22 MA's), (17, 22659), (48, 22758), (52, 22764), (63, 22791), (64, 22794), (80, 22848), (92, 22884), (121, 22986), (229, 23175), (266, 23307), (267, 23310), (419, 23664), (424, 23682), (432, 23706), (480, 23907), (492, 23946), (520, 24036), (540, 24093), (559, 24153), (569, 24198), (573, 24219), (593, 24324), (598, 24339), (603, 24363), (611, 24408), (620, 24435), (635, 24480), (657, 24564), (734, 24714), (747, 24762), (759, 24786),

Gene: Quesadilla\_31 Start: 30831, Stop: 33335, Start Num: 24

Candidate Starts for Quesadilla\_31:

(Start: 24 @30831 has 9 MA's), (34, 30882), (53, 30930), (59, 30948), (77, 31005), (102, 31116), (111, 31143), (121, 31185), (202, 31419), (225, 31500), (226, 31503), (242, 31563), (248, 31590), (295, 31725), (300, 31752), (306, 31773), (342, 31872), (345, 31887), (352, 31905), (360, 31935), (377, 32001), (384, 32016), (390, 32037), (409, 32109), (415, 32124), (418, 32142), (419, 32145), (424, 32163), (433, 32196), (438, 32223), (461, 32328), (472, 32358), (480, 32388), (492, 32427), (496, 32439), (507, 32469), (517, 32505), (520, 32517), (560, 32640), (561, 32643), (562, 32646), (563, 32652), (567, 32676), (598, 32820), (603, 32844), (611, 32889), (619, 32913), (706, 33126), (720, 33162), (747, 33255),

Gene: Reptar3000\_28 Start: 22013, Stop: 24316, Start Num: 47

Candidate Starts for Reptar3000\_28:

(Start: 47 @22013 has 15 MA's), (66, 22061), (69, 22070), (90, 22124), (119, 22157), (158, 22265), (201, 22394), (216, 22445), (219, 22454), (242, 22535), (259, 22592), (274, 22652), (281, 22664), (289, 22679), (292, 22685), (300, 22718), (315, 22766), (337, 22820), (365, 22892), (412, 23072), (434, 23153), (468, 23303), (482, 23345), (499, 23402), (503, 23414), (529, 23519), (546, 23585), (550, 23600), (573, 23696), (603, 23849), (607, 23864), (608, 23870), (611, 23894), (620, 23933), (626, 23945), (646, 24041), (664, 24077), (671, 24092), (673, 24095), (691, 24116), (698, 24131), (733, 24200), (740, 24230), (769, 24308),

Gene: Retro23\_31 Start: 22846, Stop: 25044, Start Num: 12

Candidate Starts for Retro23\_31:

(Start: 12 @22846 has 22 MA's), (17, 22867), (48, 22966), (80, 23056), (92, 23092), (121, 23194), (126, 23206), (212, 23317), (229, 23383), (266, 23515), (267, 23518), (296, 23581), (419, 23872), (424, 23890), (432, 23914), (480, 24115), (492, 24154), (520, 24244), (540, 24301), (559, 24361), (569, 24406), (573, 24427), (598, 24547), (619, 24637), (620, 24640), (645, 24745), (678, 24799), (747, 24967), (766, 25021),

Gene: Saguaro\_31 Start: 30959, Stop: 33436, Start Num: 24

Candidate Starts for Saguaro\_31:

(Start: 24 @30959 has 9 MA's), (26, 30971), (53, 31055), (54, 31061), (59, 31073), (77, 31130), (94, 31181), (121, 31301), (135, 31346), (149, 31382), (159, 31406), (197, 31520), (202, 31535), (226, 31619), (240, 31673), (248, 31706), (253, 31721), (270, 31781), (273, 31793), (276, 31799), (295, 31838), (300, 31865), (306, 31886), (312, 31904), (316, 31919), (342, 31985), (345, 32000), (360, 32048), (377, 32114), (390, 32153), (402, 32207), (419, 32261), (424, 32279), (433, 32312), (459, 32438), (472, 32474), (492, 32543), (496, 32555), (507, 32585), (515, 32609), (520, 32633), (540, 32690), (559, 32750), (560, 32756), (562, 32762), (563, 32768), (565, 32780), (567, 32792), (569, 32795), (572, 32813), (580, 32855), (598, 32936), (599, 32939), (603, 32960), (618, 33026), (620, 33032), (643, 33113), (645, 33137), (718, 33263), (732, 33302), (733, 33305), (734, 33311), (739, 33329), (747, 33359), (758, 33380), (766, 33416),

Gene: Samty\_21 Start: 19727, Stop: 22240, Start Num: 3

Candidate Starts for Samty\_21:

(Start: 3 @19727 has 16 MA's), (19, 19790), (34, 19862), (68, 19952), (71, 19958), (93, 20030), (152, 20222), (157, 20234), (167, 20252), (181, 20291), (191, 20321), (211, 20378), (218, 20408), (220, 20414), (233, 20468), (235, 20474), (277, 20621), (278, 20624), (284, 20633), (293, 20651), (310, 20711), (313, 20720), (316, 20732), (336, 20783), (338, 20786), (389, 20951), (402, 21008), (428, 21092), (432, 21110), (433, 21119), (444, 21182), (476, 21302), (491, 21347), (496, 21362), (502, 21380), (515, 21410), (541, 21500), (562, 21569), (569, 21602), (573, 21623), (580, 21659), (588, 21695), (596, 21740), (602, 21764), (603, 21770), (607, 21785), (610, 21803), (618, 21836), (636, 21890), (641, 21914), (646, 21950), (649, 21956), (663, 21980), (738, 22145), (740, 22154), (741,

22160),

Gene: Scitech\_20 Start: 17553, Stop: 20192, Start Num: 6

Candidate Starts for Scitech\_20:

(Start: 4 @17541 has 1 MA's), (Start: 6 @17553 has 9 MA's), (9, 17565), (40, 17676), (Start: 50 @17700 has 1 MA's), (52, 17703), (55, 17712), (98, 17850), (103, 17892), (104, 17895), (133, 17985), (135, 17994), (137, 17997), (144, 18018), (148, 18030), (160, 18063), (178, 18117), (204, 18189), (214, 18219), (223, 18255), (238, 18318), (243, 18333), (251, 18360), (253, 18366), (274, 18441), (286, 18465), (289, 18471), (295, 18483), (304, 18525), (306, 18531), (333, 18618), (369, 18750), (373, 18768), (380, 18801), (388, 18828), (399, 18879), (443, 19089), (459, 19155), (471, 19191), (501, 19290), (504, 19302), (520, 19365), (566, 19527), (571, 19542), (580, 19593), (603, 19710), (612, 19755), (626, 19797), (636, 19833), (645, 19887), (672, 19935), (739, 20079), (756, 20136), (766, 20175), (769, 20184),

Gene: SemperFi\_33 Start: 23055, Stop: 25259, Start Num: 12

Candidate Starts for SemperFi\_33:

(Start: 12 @23055 has 22 MA's), (17, 23076), (48, 23175), (80, 23265), (92, 23301), (121, 23403), (229, 23592), (267, 23727), (296, 23790), (323, 23868), (419, 24081), (424, 24099), (432, 24123), (480, 24324), (492, 24363), (520, 24453), (540, 24510), (559, 24570), (569, 24615), (573, 24636), (598, 24756), (603, 24780), (620, 24855), (645, 24960), (657, 24984), (678, 25014), (713, 25074), (734, 25134), (747, 25182), (759, 25206), (760, 25209), (766, 25236),

Gene: Severus\_31 Start: 21405, Stop: 23687, Start Num: 10

Candidate Starts for Severus\_31:

(Start: 10 @21405 has 36 MA's), (19, 21438), (43, 21522), (67, 21588), (102, 21720), (122, 21765), (131, 21789), (137, 21810), (141, 21813), (149, 21843), (164, 21867), (171, 21885), (188, 21942), (208, 22002), (229, 22080), (248, 22155), (280, 22245), (322, 22305), (377, 22371), (419, 22518), (424, 22536), (432, 22560), (462, 22704), (480, 22761), (492, 22800), (500, 22821), (520, 22890), (559, 23007), (569, 23052), (574, 23082), (578, 23100), (580, 23112), (593, 23178), (603, 23217), (607, 23232), (608, 23238), (614, 23271), (619, 23289), (644, 23391), (645, 23394), (677, 23451), (689, 23469), (691, 23472), (697, 23484), (716, 23523), (731, 23565), (732, 23568), (766, 23670),

Gene: SgtBeansprout\_23 Start: 20414, Stop: 22900, Start Num: 21

Candidate Starts for SgtBeansprout\_23:

(Start: 21 @20414 has 49 MA's), (30, 20462), (116, 20642), (117, 20645), (138, 20708), (143, 20720), (189, 20852), (201, 20891), (218, 20948), (225, 20972), (228, 20984), (242, 21032), (243, 21035), (254, 21068), (264, 21107), (274, 21140), (281, 21152), (286, 21161), (289, 21167), (308, 21233), (313, 21248), (347, 21359), (356, 21392), (380, 21476), (386, 21491), (399, 21551), (414, 21620), (441, 21740), (460, 21833), (495, 21947), (519, 22025), (520, 22031), (529, 22055), (545, 22118), (546, 22121), (548, 22133), (565, 22199), (566, 22205), (575, 22247), (578, 22268), (580, 22277), (586, 22310), (590, 22328), (603, 22397), (631, 22496), (632, 22502), (636, 22520), (644, 22574), (649, 22589), (662, 22616), (702, 22673),

Gene: Shadow1\_25 Start: 19919, Stop: 22255, Start Num: 21

Candidate Starts for Shadow1\_25:

(13, 19886), (Start: 21 @19919 has 49 MA's), (23, 19928), (31, 19976), (33, 19979), (88, 20120), (119, 20159), (154, 20255), (158, 20264), (189, 20354), (223, 20465), (251, 20567), (274, 20648), (289, 20678), (295, 20690), (300, 20717), (304, 20732), (313, 20756), (339, 20816), (365, 20888), (385, 20954), (406, 21044), (419, 21086), (425, 21107), (430, 21119), (433, 21137), (449, 21224), (468, 21287), (476, 21320), (504, 21392), (543, 21521), (569, 21614), (572, 21632), (631, 21878), (639, 21911), (673, 22016), (688, 22034), (733, 22121), (739, 22145), (753, 22187), (771, 22247),

Gene: Shaobing\_27 Start: 20230, Stop: 22731, Start Num: 21

Candidate Starts for Shaobing\_27:

(Start: 21 @20230 has 49 MA's), (30, 20278), (49, 20329), (74, 20401), (115, 20452), (119, 20470), (130, 20503), (138, 20524), (143, 20536), (163, 20590), (189, 20668), (201, 20707), (218, 20764), (228, 20800), (243, 20851), (253, 20881), (258, 20896), (264, 20920), (274, 20953), (286, 20974), (289, 20980), (300, 21019), (347, 21172), (356, 21205), (360, 21217), (377, 21280), (399, 21364), (440, 21547), (450, 21601), (460, 21643), (519, 21835), (520, 21841), (529, 21865), (545, 21928), (546, 21931), (556, 21967), (571, 22030), (580, 22087), (586, 22120), (590, 22138), (596, 22177), (606, 22216), (607, 22222), (618, 22279), (646, 22393), (675, 22447), (689, 22462), (704, 22492), (709, 22504), (731, 22561), (736, 22579), (743, 22609), (749, 22627), (768, 22708),

Gene: ShedlockHolmes\_26 Start: 21295, Stop: 23643, Start Num: 21

Candidate Starts for ShedlockHolmes\_26:

(Start: 21 @21295 has 49 MA's), (25, 21322), (33, 21355), (51, 21400), (146, 21619), (163, 21664), (175, 21700), (182, 21718), (210, 21796), (223, 21844), (260, 21976), (274, 22030), (283, 22045), (317, 22153), (365, 22270), (376, 22312), (377, 22318), (380, 22327), (385, 22336), (394, 22381), (402, 22417), (406, 22435), (419, 22477), (425, 22498), (432, 22519), (433, 22528), (449, 22615), (475, 22708), (476, 22711), (504, 22783), (560, 22966), (572, 23023), (592, 23122), (595, 23140), (608, 23194), (613, 23224), (618, 23239), (619, 23242), (625, 23251), (631, 23269), (632, 23275), (639, 23302), (643, 23323), (647, 23353), (667, 23398), (673, 23407), (739, 23536), (754, 23575), (755, 23578),

Gene: Shweta\_20 Start: 17560, Stop: 20199, Start Num: 6

Candidate Starts for Shweta\_20:

(Start: 4 @17548 has 1 MA's), (Start: 6 @17560 has 9 MA's), (9, 17572), (40, 17683), (Start: 50 @17707 has 1 MA's), (52, 17710), (55, 17719), (98, 17857), (103, 17899), (104, 17902), (133, 17992), (135, 18001), (137, 18004), (144, 18025), (148, 18037), (160, 18070), (178, 18124), (204, 18196), (214, 18226), (223, 18262), (238, 18325), (243, 18340), (251, 18367), (253, 18373), (274, 18448), (286, 18472), (289, 18478), (295, 18490), (304, 18532), (306, 18538), (336, 18637), (369, 18757), (373, 18775), (380, 18808), (388, 18835), (399, 18886), (443, 19096), (459, 19162), (471, 19198), (501, 19297), (504, 19309), (520, 19372), (566, 19534), (571, 19549), (580, 19600), (603, 19717), (612, 19762), (626, 19804), (636, 19840), (645, 19894), (672, 19942), (739, 20086), (756, 20143), (766, 20182), (769, 20191),

Gene: SkinnyPete\_20 Start: 17557, Stop: 20202, Start Num: 6

Candidate Starts for SkinnyPete\_20:

(Start: 4 @17545 has 1 MA's), (Start: 6 @17557 has 9 MA's), (9, 17569), (40, 17680), (Start: 50 @17704 has 1 MA's), (52, 17707), (55, 17716), (73, 17764), (133, 17989), (137, 18001), (144, 18022), (160, 18067), (178, 18121), (204, 18199), (214, 18229), (223, 18265), (228, 18286), (232, 18301), (243, 18343), (253, 18376), (274, 18451), (286, 18475), (289, 18481), (295, 18493), (304, 18535), (306, 18541), (336, 18640), (369, 18760), (373, 18778), (380, 18811), (388, 18838), (399, 18889), (443, 19099), (459, 19165), (471, 19201), (504, 19312), (520, 19375), (566, 19537), (571, 19552), (580, 19603), (603, 19720), (612, 19765), (626, 19807), (636, 19843), (645, 19897), (672, 19945), (739, 20089), (756, 20146), (766, 20185), (769, 20194),

Gene: Skysand\_45 Start: 33680, Stop: 36238, Start Num: 56

Candidate Starts for Skysand\_45:

(Start: 56 @33680 has 14 MA's), (135, 33929), (213, 34148), (214, 34151), (233, 34223), (249, 34280), (255, 34301), (289, 34388), (300, 34427), (396, 34799), (411, 34883), (499, 35261), (527, 35366), (531, 35384), (539, 35417), (543, 35438), (558, 35492), (564, 35516), (573, 35561), (580, 35597), (581, 35606), (586, 35630), (603, 35720), (628, 35819), (643, 35882), (648, 35915), (654, 35933), (655, 35936), (669, 35972), (680, 35996), (692, 36017), (729, 36107), (732, 36119),

Gene: Slarp\_28 Start: 22283, Stop: 24592, Start Num: 47

Candidate Starts for Slarp\_28:

(Start: 47 @22283 has 15 MA's), (90, 22394), (117, 22418), (158, 22535), (201, 22664), (216, 22715), (219, 22724), (228, 22757), (239, 22796), (242, 22805), (259, 22862), (261, 22871), (274, 22922), (281, 22934), (289, 22949), (292, 22955), (300, 22988), (315, 23036), (337, 23090), (365, 23162), (374, 23201), (378, 23213), (385, 23228), (396, 23273), (412, 23342), (434, 23423), (468, 23576), (499, 23675), (503, 23687), (529, 23792), (546, 23858), (550, 23873), (573, 23969), (603, 24122), (607, 24137), (608, 24143), (611, 24167), (620, 24206), (626, 24218), (646, 24314), (673, 24368), (691, 24389), (733, 24476), (740, 24506), (769, 24584),

Gene: Smeagan\_33 Start: 23263, Stop: 25350, Start Num: 10

Candidate Starts for Smeagan\_33:

(Start: 10 @23263 has 36 MA's), (45, 23377), (48, 23386), (52, 23392), (63, 23419), (80, 23476), (121, 23614), (229, 23803), (267, 23938), (285, 23980), (308, 24040), (415, 24154), (419, 24175), (424, 24193), (432, 24217), (454, 24325), (480, 24418), (487, 24439), (492, 24457), (520, 24547), (540, 24604), (541, 24607), (559, 24664), (560, 24670), (569, 24709), (573, 24730), (611, 24919), (618, 24940), (645, 25051), (725, 25189), (741, 25255), (747, 25273), (770, 25342),

Gene: SnapTap\_31 Start: 22698, Stop: 24902, Start Num: 12

Candidate Starts for SnapTap\_31:

(Start: 12 @22698 has 22 MA's), (17, 22719), (52, 22824), (80, 22908), (92, 22944), (121, 23046), (126, 23058), (229, 23235), (267, 23370), (296, 23433), (419, 23724), (424, 23742), (432, 23766), (460, 23904), (480, 23967), (492, 24006), (520, 24096), (540, 24153), (559, 24213), (569, 24258), (573, 24279), (598, 24399), (603, 24423), (611, 24468), (635, 24540), (645, 24600), (733, 24771), (747, 24825), (760, 24852), (766, 24879),

Gene: Snenia\_21 Start: 19725, Stop: 22238, Start Num: 3

Candidate Starts for Snenia\_21:

(Start: 3 @19725 has 16 MA's), (19, 19788), (34, 19860), (68, 19950), (71, 19956), (93, 20028), (118, 20115), (152, 20220), (157, 20232), (167, 20250), (181, 20289), (191, 20319), (211, 20376), (218, 20406), (220, 20412), (233, 20466), (235, 20472), (277, 20619), (278, 20622), (284, 20631), (293, 20649), (310, 20709), (313, 20718), (316, 20730), (336, 20781), (338, 20784), (389, 20949), (402, 21006), (428, 21090), (432, 21108), (433, 21117), (444, 21180), (476, 21300), (485, 21324), (491, 21345), (496, 21360), (502, 21378), (515, 21408), (541, 21498), (562, 21567), (569, 21600), (573, 21621), (580, 21657), (588, 21693), (596, 21738), (602, 21762), (603, 21768), (607, 21783), (610, 21801), (636, 21888), (641, 21912), (646, 21948), (649, 21954), (663, 21978), (706, 22053), (708, 22056), (738, 22143), (740, 22152), (741, 22158),

Gene: SororFago\_31 Start: 21994, Stop: 24447, Start Num: 10

Candidate Starts for SororFago\_31:

(Start: 10 @21994 has 36 MA's), (81, 22210), (100, 22267), (110, 22288), (168, 22453), (210, 22588), (280, 22843), (282, 22846), (307, 22909), (313, 22927), (325, 22954), (329, 22966), (343, 23008), (344, 23011), (415, 23245), (422, 23275), (424, 23284), (454, 23416), (472, 23479), (491, 23545), (492, 23548), (520, 23647), (546, 23725), (559, 23764), (569, 23809), (580, 23869), (593, 23935), (598, 23950), (618, 24040), (620, 24046), (641, 24121), (669, 24190), (741, 24355), (747, 24373), (759, 24400),

Gene: Squirty\_19 Start: 17305, Stop: 19920, Start Num: 4

Candidate Starts for Squirty\_19:

(Start: 4 @17305 has 1 MA's), (9, 17326), (16, 17347), (25, 17386), (46, 17455), (Start: 50 @17464 has 1 MA's), (52, 17467), (58, 17485), (73, 17518), (75, 17533), (109, 17635), (129, 17692), (135, 17716), (155, 17773), (183, 17848), (206, 17920), (223, 17983), (227, 17998), (233, 18022), (238, 18046), (243, 18061), (246, 18070), (253, 18097), (255, 18103), (269, 18148), (274, 18172), (286, 18193), (289, 18199), (294, 18208), (299, 18235), (318, 18301), (319, 18313), (333, 18346), (336,

18358), (369, 18478), (373, 18496), (380, 18529), (399, 18607), (422, 18712), (433, 18754), (486, 18973), (498, 19012), (499, 19015), (504, 19030), (520, 19093), (538, 19141), (566, 19255), (573, 19285), (578, 19312), (580, 19321), (603, 19438), (612, 19483), (626, 19525), (643, 19591), (645, 19615), (672, 19663), (676, 19669), (678, 19675), (686, 19690), (730, 19774), (740, 19813), (766, 19903), (769, 19912),

Gene: StarStruck\_44 Start: 33201, Stop: 35759, Start Num: 56

Candidate Starts for StarStruck\_44:

(Start: 56 @33201 has 14 MA's), (Start: 60 @33210 has 1 MA's), (99, 33330), (213, 33669), (214, 33672), (228, 33729), (274, 33882), (304, 33963), (330, 34053), (396, 34320), (411, 34404), (466, 34674), (499, 34782), (527, 34887), (531, 34905), (539, 34938), (541, 34947), (564, 35037), (573, 35082), (579, 35115), (580, 35118), (586, 35151), (609, 35271), (614, 35295), (615, 35298), (627, 35337), (628, 35340), (648, 35436), (687, 35532), (692, 35538), (725, 35610), (732, 35640), (739, 35667), (753, 35712), (763, 35730),

Gene: StressBall\_21 Start: 18926, Stop: 21559, Start Num: 5

Candidate Starts for StressBall\_21:

(Start: 5 @18926 has 7 MA's), (7, 18935), (52, 19079), (133, 19352), (137, 19364), (144, 19385), (152, 19409), (178, 19484), (204, 19556), (214, 19586), (223, 19622), (238, 19685), (243, 19700), (251, 19727), (253, 19733), (274, 19808), (286, 19832), (289, 19838), (295, 19850), (304, 19892), (306, 19898), (333, 19985), (342, 20006), (350, 20030), (363, 20096), (369, 20117), (373, 20135), (380, 20168), (387, 20192), (388, 20195), (399, 20246), (422, 20351), (433, 20393), (471, 20558), (499, 20654), (520, 20732), (525, 20744), (553, 20834), (566, 20894), (569, 20903), (578, 20951), (580, 20960), (603, 21077), (612, 21122), (626, 21164), (643, 21230), (645, 21254), (672, 21302), (676, 21308), (678, 21314), (730, 21413), (733, 21422), (740, 21452), (766, 21542), (769, 21551),

Gene: Strobilo\_23 Start: 18661, Stop: 21000, Start Num: 21

Candidate Starts for Strobilo\_23:

(Start: 21 @18661 has 49 MA's), (74, 18832), (80, 18850), (116, 18901), (158, 19018), (171, 19051), (215, 19180), (218, 19189), (223, 19204), (226, 19216), (228, 19225), (242, 19273), (270, 19369), (274, 19387), (286, 19408), (300, 19453), (339, 19555), (365, 19627), (376, 19669), (380, 19684), (401, 19771), (406, 19792), (419, 19834), (425, 19855), (449, 19972), (454, 19981), (462, 20017), (476, 20068), (480, 20071), (501, 20125), (504, 20137), (511, 20161), (541, 20257), (546, 20275), (556, 20302), (569, 20359), (608, 20548), (613, 20578), (632, 20629), (636, 20647), (643, 20677), (658, 20731), (673, 20761), (690, 20782), (745, 20914),

Gene: Sunflower1121\_25 Start: 19931, Stop: 22267, Start Num: 21

Candidate Starts for Sunflower1121\_25:

(13, 19898), (Start: 21 @19931 has 49 MA's), (23, 19940), (31, 19988), (33, 19991), (88, 20132), (119, 20171), (154, 20267), (189, 20366), (223, 20477), (251, 20579), (274, 20660), (289, 20690), (295, 20702), (300, 20729), (304, 20744), (313, 20768), (339, 20828), (365, 20900), (385, 20966), (406, 21056), (419, 21098), (425, 21119), (433, 21149), (449, 21236), (468, 21299), (476, 21332), (504, 21404), (543, 21533), (569, 21626), (572, 21644), (631, 21890), (639, 21923), (673, 22028), (688, 22046), (733, 22133), (739, 22157), (753, 22199), (771, 22259),

Gene: SuperSulley\_44 Start: 33387, Stop: 35945, Start Num: 56

Candidate Starts for SuperSulley\_44:

(18, 33258), (Start: 56 @33387 has 14 MA's), (99, 33516), (213, 33855), (214, 33858), (228, 33915), (274, 34068), (300, 34134), (304, 34149), (411, 34590), (499, 34968), (527, 35073), (531, 35091), (539, 35124), (543, 35145), (558, 35199), (564, 35223), (580, 35304), (585, 35331), (586, 35337), (603, 35427), (627, 35523), (628, 35526), (643, 35589), (648, 35622), (654, 35640), (655, 35643), (669, 35679), (680, 35703), (692, 35724), (729, 35814), (732, 35826), (769, 35937),



Gene: SweetiePie\_31 Start: 22698, Stop: 24902, Start Num: 12

Candidate Starts for SweetiePie\_31:

(Start: 12 @22698 has 22 MA's), (17, 22719), (52, 22824), (80, 22908), (92, 22944), (121, 23046), (126, 23058), (229, 23235), (267, 23370), (419, 23724), (424, 23742), (432, 23766), (460, 23904), (480, 23967), (492, 24006), (520, 24096), (540, 24153), (559, 24213), (569, 24258), (573, 24279), (598, 24399), (603, 24423), (611, 24468), (635, 24540), (645, 24600), (733, 24771), (747, 24825), (760, 24852), (766, 24879),

Gene: Syra333\_26 Start: 20027, Stop: 22357, Start Num: 21

Candidate Starts for Syra333\_26:

(Start: 21 @20027 has 49 MA's), (33, 20087), (80, 20216), (88, 20228), (119, 20267), (154, 20363), (158, 20372), (189, 20462), (201, 20501), (215, 20549), (223, 20573), (225, 20582), (251, 20675), (256, 20690), (274, 20756), (289, 20786), (295, 20798), (300, 20825), (304, 20840), (313, 20864), (339, 20924), (356, 20969), (365, 20996), (374, 21035), (380, 21053), (385, 21062), (401, 21131), (402, 21134), (406, 21152), (419, 21194), (425, 21215), (432, 21236), (433, 21245), (440, 21281), (449, 21332), (476, 21428), (504, 21497), (520, 21557), (543, 21626), (546, 21635), (560, 21680), (569, 21719), (572, 21737), (578, 21767), (608, 21908), (618, 21953), (631, 21983), (636, 22007), (639, 22016), (643, 22037), (647, 22067), (739, 22250), (747, 22277), (753, 22289), (771, 22349),

Gene: TBond007\_26 Start: 21085, Stop: 23436, Start Num: 21

Candidate Starts for TBond007\_26:

(Start: 21 @21085 has 49 MA's), (25, 21112), (33, 21145), (72, 21250), (146, 21409), (163, 21454), (175, 21490), (182, 21508), (210, 21586), (223, 21634), (260, 21766), (274, 21820), (283, 21835), (317, 21943), (365, 22060), (376, 22102), (377, 22108), (380, 22117), (385, 22126), (402, 22207), (406, 22225), (419, 22267), (425, 22288), (432, 22309), (433, 22318), (449, 22405), (475, 22498), (476, 22501), (504, 22573), (545, 22708), (546, 22711), (560, 22756), (569, 22795), (572, 22813), (592, 22912), (595, 22930), (608, 22984), (613, 23014), (619, 23032), (631, 23059), (632, 23065), (643, 23113), (667, 23188), (673, 23197), (690, 23218), (695, 23227), (739, 23326), (754, 23368),

Gene: TClif\_27 Start: 20078, Stop: 22420, Start Num: 21

Candidate Starts for TClif\_27:

(Start: 21 @20078 has 49 MA's), (30, 20126), (49, 20177), (74, 20249), (81, 20270), (154, 20417), (158, 20426), (174, 20471), (223, 20627), (225, 20636), (251, 20729), (256, 20744), (270, 20792), (274, 20810), (281, 20825), (289, 20840), (300, 20879), (304, 20894), (313, 20918), (339, 20978), (360, 21035), (365, 21050), (380, 21107), (401, 21188), (406, 21209), (419, 21251), (425, 21272), (432, 21293), (446, 21377), (449, 21389), (468, 21452), (476, 21485), (490, 21509), (495, 21533), (504, 21557), (520, 21617), (538, 21665), (560, 21740), (569, 21779), (572, 21797), (595, 21914), (608, 21968), (631, 22043), (643, 22097), (667, 22172), (690, 22202), (714, 22247), (771, 22412),

Gene: TM4\_23 Start: 18727, Stop: 21081, Start Num: 21

Candidate Starts for TM4\_23:

(Start: 21 @18727 has 49 MA's), (63, 18859), (158, 19084), (174, 19129), (223, 19270), (228, 19291), (242, 19339), (286, 19474), (295, 19492), (300, 19519), (304, 19534), (339, 19621), (365, 19693), (376, 19735), (377, 19741), (383, 19756), (385, 19759), (394, 19795), (425, 19912), (432, 19933), (473, 20104), (476, 20125), (508, 20221), (515, 20242), (521, 20275), (546, 20350), (547, 20356), (560, 20395), (563, 20407), (569, 20434), (572, 20452), (594, 20566), (602, 20596), (603, 20602), (611, 20647), (618, 20668), (635, 20719), (646, 20782), (681, 20848), (696, 20869), (706, 20890), (727, 20926), (771, 21073),

Gene: TarsusIV\_31 Start: 22846, Stop: 25041, Start Num: 12

Candidate Starts for TarsusIV\_31:

(Start: 12 @22846 has 22 MA's), (17, 22867), (45, 22957), (48, 22966), (70, 23023), (120, 23191), (121, 23194), (131, 23218), (149, 23272), (229, 23383), (239, 23422), (267, 23518), (282, 23554),

(323, 23659), (419, 23869), (424, 23887), (480, 24112), (496, 24163), (520, 24241), (540, 24298), (569, 24403), (573, 24424), (579, 24460), (593, 24529), (603, 24568), (611, 24613), (620, 24640), (641, 24715), (645, 24745), (657, 24769), (734, 24919), (742, 24952), (747, 24967),

Gene: Thonko\_29 Start: 27164, Stop: 29614, Start Num: 24

Candidate Starts for Thonko\_29:

(Start: 24 @27164 has 9 MA's), (43, 27230), (53, 27257), (61, 27278), (133, 27530), (170, 27626), (173, 27635), (197, 27713), (202, 27728), (218, 27785), (226, 27812), (238, 27857), (240, 27863), (248, 27896), (268, 27956), (276, 27977), (288, 28001), (306, 28064), (336, 28151), (345, 28178), (377, 28292), (419, 28439), (424, 28457), (466, 28640), (472, 28652), (492, 28721), (496, 28733), (514, 28778), (561, 28937), (562, 28940), (567, 28970), (599, 29117), (603, 29138), (611, 29183), (620, 29210), (678, 29369), (689, 29387), (720, 29444), (733, 29483), (743, 29525), (747, 29537), (758, 29558), (764, 29588), (766, 29594),

Gene: Tierra\_26 Start: 20767, Stop: 23103, Start Num: 21

Candidate Starts for Tierra\_26:

(Start: 21 @20767 has 49 MA's), (30, 20815), (31, 20824), (74, 20938), (80, 20956), (119, 21007), (154, 21103), (158, 21112), (189, 21202), (194, 21214), (223, 21313), (225, 21322), (251, 21415), (274, 21496), (289, 21526), (295, 21538), (300, 21565), (304, 21580), (313, 21604), (339, 21664), (356, 21709), (365, 21736), (374, 21775), (380, 21793), (385, 21802), (401, 21871), (402, 21874), (406, 21892), (419, 21934), (425, 21955), (433, 21985), (468, 22135), (476, 22168), (484, 22177), (504, 22240), (517, 22288), (520, 22300), (543, 22369), (554, 22393), (560, 22423), (569, 22462), (608, 22651), (631, 22726), (643, 22780), (673, 22864), (688, 22882), (733, 22969), (739, 22993), (753, 23035), (771, 23095),

Gene: TribelTrouble\_25 Start: 21122, Stop: 23572, Start Num: 21

Candidate Starts for TribelTrouble\_25:

(Start: 21 @21122 has 49 MA's), (25, 21149), (30, 21170), (33, 21182), (51, 21227), (63, 21257), (72, 21287), (113, 21449), (119, 21470), (146, 21548), (163, 21593), (175, 21629), (182, 21647), (210, 21725), (219, 21761), (274, 21959), (283, 21974), (300, 22025), (317, 22082), (365, 22199), (376, 22241), (380, 22256), (385, 22265), (402, 22346), (406, 22364), (419, 22406), (425, 22427), (432, 22448), (433, 22457), (449, 22544), (476, 22640), (501, 22700), (504, 22712), (516, 22754), (543, 22841), (560, 22895), (569, 22934), (572, 22952), (592, 23051), (595, 23069), (608, 23123), (618, 23168), (625, 23180), (632, 23204), (639, 23231), (667, 23327), (673, 23336), (739, 23465), (746, 23492), (754, 23504),

Gene: Trike\_30 Start: 21413, Stop: 23695, Start Num: 10

Candidate Starts for Trike\_30:

(Start: 10 @21413 has 36 MA's), (19, 21446), (43, 21530), (67, 21596), (102, 21728), (147, 21842), (149, 21851), (184, 21935), (208, 22010), (229, 22088), (248, 22163), (262, 22208), (377, 22379), (419, 22526), (422, 22535), (424, 22544), (432, 22568), (480, 22769), (492, 22808), (520, 22898), (540, 22955), (555, 22997), (557, 23009), (569, 23060), (574, 23090), (578, 23108), (580, 23120), (607, 23240), (608, 23246), (643, 23378), (644, 23399), (645, 23402), (677, 23459), (694, 23486), (697, 23492), (731, 23573), (732, 23576), (766, 23678), (767, 23681),

Gene: Trooper\_31 Start: 22613, Stop: 24916, Start Num: 12

Candidate Starts for Trooper\_31:

(Start: 12 @22613 has 22 MA's), (17, 22634), (45, 22724), (70, 22790), (121, 22961), (177, 23105), (196, 23141), (203, 23171), (229, 23261), (247, 23327), (267, 23396), (395, 23657), (419, 23744), (424, 23762), (432, 23786), (437, 23816), (480, 23987), (496, 24038), (520, 24116), (540, 24173), (569, 24278), (573, 24299), (576, 24311), (593, 24404), (598, 24419), (603, 24443), (611, 24488), (619, 24509), (620, 24512), (640, 24575), (645, 24617), (661, 24650), (678, 24671), (718, 24743), (734, 24791), (747, 24839), (766, 24893),

Gene: Turbido\_33 Start: 23266, Stop: 25470, Start Num: 10

Candidate Starts for Turbido\_33:

(Start: 10 @23266 has 36 MA's), (45, 23380), (48, 23389), (63, 23422), (80, 23479), (121, 23617), (229, 23806), (267, 23941), (285, 23983), (312, 24055), (419, 24295), (424, 24313), (432, 24337), (454, 24445), (480, 24538), (492, 24577), (520, 24667), (540, 24724), (541, 24727), (559, 24784), (560, 24790), (569, 24829), (573, 24850), (611, 25039), (620, 25066), (675, 25219), (689, 25243), (717, 25297), (719, 25300), (733, 25339), (734, 25345), (747, 25393),

Gene: Typha\_27 Start: 23429, Stop: 26023, Start Num: 22

Candidate Starts for Typha\_27:

(Start: 22 @23429 has 4 MA's), (28, 23468), (55, 23543), (87, 23645), (91, 23654), (105, 23732), (133, 23813), (135, 23822), (150, 23867), (152, 23870), (155, 23879), (160, 23891), (162, 23894), (171, 23918), (178, 23945), (183, 23954), (204, 24017), (223, 24083), (232, 24119), (233, 24122), (253, 24194), (255, 24200), (274, 24269), (304, 24353), (328, 24434), (335, 24455), (380, 24629), (388, 24656), (399, 24707), (409, 24752), (420, 24803), (422, 24812), (440, 24890), (469, 25013), (470, 25016), (471, 25019), (504, 25130), (520, 25193), (538, 25241), (561, 25328), (566, 25355), (569, 25364), (571, 25370), (580, 25421), (603, 25538), (604, 25541), (626, 25625), (636, 25661), (643, 25691), (645, 25715), (672, 25766), (676, 25772), (678, 25778), (731, 25880), (740, 25916), (766, 26006), (769, 26015),

Gene: Unicorn\_26 Start: 20093, Stop: 22432, Start Num: 21

Candidate Starts for Unicorn\_26:

(Start: 21 @20093 has 49 MA's), (31, 20150), (74, 20264), (80, 20282), (119, 20333), (125, 20354), (154, 20432), (189, 20531), (194, 20543), (223, 20642), (225, 20651), (251, 20744), (274, 20825), (289, 20855), (295, 20867), (297, 20876), (300, 20894), (304, 20909), (313, 20933), (339, 20993), (356, 21038), (365, 21065), (380, 21122), (385, 21131), (401, 21200), (402, 21203), (406, 21221), (419, 21263), (425, 21284), (433, 21314), (449, 21401), (468, 21464), (476, 21497), (504, 21569), (517, 21617), (520, 21629), (543, 21698), (554, 21722), (569, 21791), (608, 21980), (631, 22055), (636, 22079), (667, 22184), (673, 22193), (688, 22211), (733, 22298), (739, 22322), (753, 22364), (771, 22424),

Gene: Updawg\_33 Start: 23218, Stop: 25425, Start Num: 10

Candidate Starts for Updawg\_33:

(Start: 10 @23218 has 36 MA's), (45, 23332), (48, 23341), (52, 23347), (Start: 60 @23368 has 1 MA's), (97, 23479), (121, 23569), (126, 23581), (229, 23758), (239, 23797), (267, 23893), (395, 24154), (419, 24244), (429, 24274), (432, 24286), (477, 24484), (520, 24625), (524, 24646), (557, 24736), (559, 24742), (560, 24748), (569, 24787), (573, 24808), (579, 24844), (580, 24847), (593, 24913), (598, 24928), (599, 24931), (603, 24952), (610, 24985), (645, 25129), (674, 25177), (712, 25240), (734, 25300), (747, 25348), (766, 25402),

Gene: Validus\_27 Start: 20168, Stop: 22669, Start Num: 21

Candidate Starts for Validus\_27:

(Start: 21 @20168 has 49 MA's), (49, 20267), (Start: 56 @20285 has 14 MA's), (74, 20339), (115, 20390), (119, 20408), (143, 20474), (163, 20528), (189, 20606), (201, 20645), (218, 20702), (228, 20738), (243, 20789), (258, 20834), (273, 20888), (274, 20891), (286, 20912), (289, 20918), (300, 20957), (347, 21110), (360, 21155), (380, 21227), (395, 21281), (399, 21302), (401, 21314), (423, 21407), (427, 21422), (440, 21485), (460, 21581), (519, 21773), (520, 21779), (529, 21803), (545, 21866), (566, 21953), (580, 22025), (586, 22058), (590, 22076), (596, 22115), (646, 22331), (709, 22442), (731, 22499), (736, 22517), (743, 22547),

Gene: Vanisoa\_30 Start: 22263, Stop: 24611, Start Num: 42

Candidate Starts for Vanisoa\_30:

(39, 22257), (Start: 42 @22263 has 2 MA's), (76, 22362), (89, 22395), (125, 22530), (161, 22620), (198, 22722), (208, 22749), (217, 22785), (235, 22854), (237, 22860), (303, 23070), (316, 23112), (349, 23202), (359, 23229), (396, 23343), (402, 23376), (425, 23457), (433, 23487), (436, 23493), (458, 23595), (476, 23673), (496, 23733), (515, 23781), (517, 23793), (563, 23946), (569, 23973), (572, 23991), (580, 24030), (587, 24060), (603, 24141), (604, 24144), (641, 24285), (663, 24351), (691, 24396), (701, 24417), (706, 24426), (741, 24531), (761, 24576), (764, 24588),

Gene: Vordorf\_29 Start: 24001, Stop: 26601, Start Num: 11

Candidate Starts for Vordorf\_29:

(Start: 11 @24001 has 1 MA's), (38, 24115), (41, 24124), (187, 24601), (228, 24736), (238, 24772), (253, 24823), (254, 24826), (274, 24898), (298, 24949), (300, 24964), (305, 24982), (312, 25006), (411, 25336), (417, 25348), (435, 25420), (464, 25567), (474, 25597), (499, 25678), (515, 25720), (530, 25783), (569, 25909), (605, 26092), (623, 26173), (653, 26296), (685, 26371), (710, 26425), (731, 26485), (735, 26497),

Gene: Whabigail7\_33 Start: 23254, Stop: 25458, Start Num: 10

Candidate Starts for Whabigail7\_33:

(Start: 10 @23254 has 36 MA's), (45, 23368), (48, 23377), (63, 23410), (80, 23467), (121, 23605), (229, 23794), (267, 23929), (285, 23971), (312, 24043), (419, 24283), (424, 24301), (432, 24325), (454, 24433), (480, 24526), (492, 24565), (520, 24655), (540, 24712), (541, 24715), (559, 24772), (560, 24778), (569, 24817), (573, 24838), (611, 25027), (620, 25054), (675, 25207), (689, 25231), (717, 25285), (719, 25288), (733, 25327), (734, 25333), (747, 25381),

Gene: WheatThin\_25 Start: 20607, Stop: 23117, Start Num: 20

Candidate Starts for WheatThin\_25:

(Start: 20 @20607 has 13 MA's), (65, 20739), (69, 20754), (82, 20799), (89, 20817), (139, 20982), (158, 21036), (162, 21045), (187, 21123), (190, 21129), (238, 21294), (243, 21309), (253, 21345), (274, 21420), (281, 21432), (286, 21441), (289, 21447), (295, 21459), (298, 21471), (300, 21486), (305, 21504), (306, 21507), (316, 21543), (331, 21597), (375, 21720), (391, 21774), (396, 21795), (397, 21804), (426, 21906), (439, 21966), (447, 22014), (452, 22026), (460, 22071), (488, 22158), (499, 22197), (520, 22266), (522, 22278), (526, 22290), (598, 22578), (604, 22608), (623, 22689), (631, 22710), (637, 22737), (641, 22761), (705, 22926), (723, 22971), (751, 23070), (769, 23109),

Gene: Whirlwind\_22 Start: 19481, Stop: 21994, Start Num: 3

Candidate Starts for Whirlwind\_22:

(Start: 3 @19481 has 16 MA's), (19, 19544), (34, 19616), (99, 19814), (146, 19958), (152, 19976), (157, 19988), (167, 20006), (181, 20045), (185, 20060), (191, 20075), (211, 20132), (218, 20162), (220, 20168), (233, 20222), (235, 20228), (250, 20285), (277, 20375), (278, 20378), (284, 20387), (293, 20405), (310, 20465), (336, 20537), (338, 20540), (385, 20684), (389, 20705), (402, 20762), (428, 20846), (432, 20864), (433, 20873), (476, 21056), (491, 21101), (496, 21116), (502, 21134), (515, 21164), (533, 21224), (541, 21254), (562, 21323), (569, 21356), (573, 21377), (580, 21413), (587, 21443), (602, 21518), (603, 21524), (607, 21539), (610, 21557), (618, 21590), (635, 21641), (636, 21644), (642, 21671), (646, 21704), (663, 21734), (706, 21809), (724, 21845), (740, 21908), (741, 21914), (769, 21986),

Gene: WideWale\_33 Start: 23218, Stop: 25425, Start Num: 10

Candidate Starts for WideWale\_33:

(Start: 10 @23218 has 36 MA's), (45, 23332), (48, 23341), (52, 23347), (Start: 60 @23368 has 1 MA's), (97, 23479), (121, 23569), (126, 23581), (229, 23758), (239, 23797), (267, 23893), (395, 24154), (419, 24244), (429, 24274), (432, 24286), (477, 24484), (520, 24625), (524, 24646), (557, 24736), (559, 24742), (560, 24748), (569, 24787), (573, 24808), (579, 24844), (580, 24847), (593, 24913), (598, 24928), (599, 24931), (603, 24952), (610, 24985), (645, 25129), (674, 25177), (712, 25240), (734, 25300), (747, 25348), (766, 25402),

Gene: Willsammy\_21 Start: 18930, Stop: 21569, Start Num: 6

Candidate Starts for Willsammy\_21:

(Start: 6 @18930 has 9 MA's), (8, 18939), (52, 19083), (133, 19356), (135, 19365), (137, 19368), (144, 19389), (148, 19401), (150, 19410), (160, 19434), (178, 19488), (204, 19566), (214, 19596), (223, 19632), (228, 19653), (232, 19668), (243, 19710), (253, 19743), (274, 19818), (286, 19842), (289, 19848), (295, 19860), (304, 19902), (306, 19908), (333, 19995), (369, 20127), (373, 20145), (380, 20178), (388, 20205), (399, 20256), (443, 20466), (459, 20532), (471, 20568), (501, 20667), (504, 20679), (520, 20742), (566, 20904), (571, 20919), (580, 20970), (603, 21087), (612, 21132), (626, 21174), (636, 21210), (645, 21264), (672, 21312), (739, 21456), (756, 21513), (766, 21552), (769, 21561),

Gene: Wintermute\_28 Start: 22272, Stop: 24581, Start Num: 47

Candidate Starts for Wintermute\_28:

(Start: 47 @22272 has 15 MA's), (79, 22362), (90, 22383), (117, 22407), (158, 22524), (201, 22653), (219, 22713), (239, 22785), (242, 22794), (257, 22845), (259, 22851), (261, 22860), (274, 22911), (281, 22923), (289, 22938), (292, 22944), (300, 22977), (315, 23025), (337, 23079), (365, 23151), (374, 23190), (378, 23202), (385, 23217), (396, 23262), (412, 23331), (434, 23412), (468, 23565), (482, 23607), (519, 23736), (529, 23781), (546, 23847), (550, 23862), (573, 23958), (603, 24111), (607, 24126), (608, 24132), (611, 24156), (613, 24162), (615, 24168), (616, 24171), (620, 24195), (626, 24207), (646, 24303), (671, 24354), (673, 24357), (715, 24426), (732, 24462), (740, 24495), (762, 24549), (764, 24558), (769, 24573),

Gene: Xeno\_20 Start: 17553, Stop: 20198, Start Num: 6

Candidate Starts for Xeno\_20:

(Start: 4 @17541 has 1 MA's), (Start: 6 @17553 has 9 MA's), (9, 17565), (15, 17577), (27, 17631), (Start: 50 @17700 has 1 MA's), (52, 17703), (55, 17712), (62, 17727), (107, 17904), (133, 17985), (135, 17994), (155, 18051), (162, 18066), (206, 18198), (218, 18246), (223, 18261), (228, 18282), (238, 18324), (243, 18339), (246, 18348), (253, 18375), (255, 18381), (274, 18450), (286, 18471), (289, 18477), (294, 18486), (299, 18513), (333, 18624), (342, 18645), (350, 18669), (363, 18735), (369, 18756), (373, 18774), (380, 18807), (387, 18831), (388, 18834), (399, 18885), (422, 18990), (433, 19032), (471, 19197), (499, 19293), (520, 19371), (525, 19383), (553, 19473), (566, 19533), (569, 19542), (578, 19590), (580, 19599), (603, 19716), (612, 19761), (626, 19803), (643, 19869), (645, 19893), (672, 19941), (676, 19947), (678, 19953), (730, 20052), (733, 20061), (740, 20091), (766, 20181), (769, 20190),

Gene: Ximenita\_27 Start: 20205, Stop: 22535, Start Num: 21

Candidate Starts for Ximenita\_27:

(Start: 21 @20205 has 49 MA's), (33, 20265), (80, 20394), (88, 20406), (119, 20445), (154, 20541), (158, 20550), (189, 20640), (201, 20679), (215, 20727), (223, 20751), (225, 20760), (251, 20853), (256, 20868), (274, 20934), (289, 20964), (295, 20976), (300, 21003), (304, 21018), (313, 21042), (339, 21102), (356, 21147), (365, 21174), (374, 21213), (380, 21231), (385, 21240), (401, 21309), (402, 21312), (406, 21330), (419, 21372), (425, 21393), (432, 21414), (433, 21423), (440, 21459), (449, 21510), (504, 21675), (532, 21765), (543, 21804), (546, 21813), (560, 21858), (565, 21882), (569, 21897), (572, 21915), (578, 21945), (608, 22086), (618, 22131), (631, 22161), (636, 22185), (639, 22194), (643, 22215), (647, 22245), (739, 22428), (747, 22455), (753, 22467), (771, 22527),

Gene: Y10\_28 Start: 22272, Stop: 24581, Start Num: 47

Candidate Starts for Y10\_28:

(Start: 47 @22272 has 15 MA's), (79, 22362), (90, 22383), (117, 22407), (158, 22524), (201, 22653), (219, 22713), (239, 22785), (242, 22794), (257, 22845), (259, 22851), (261, 22860), (274, 22911), (281, 22923), (289, 22938), (292, 22944), (300, 22977), (315, 23025), (337, 23079), (365, 23151), (374, 23190), (378, 23202), (385, 23217), (396, 23262), (412, 23331), (434, 23412), (468, 23565),

(482, 23607), (519, 23736), (529, 23781), (546, 23847), (550, 23862), (573, 23958), (603, 24111), (607, 24126), (608, 24132), (611, 24156), (613, 24162), (615, 24168), (616, 24171), (620, 24195), (626, 24207), (646, 24303), (671, 24354), (673, 24357), (715, 24426), (732, 24462), (740, 24495), (762, 24549), (764, 24558), (769, 24573),

Gene: Y2\_28 Start: 22272, Stop: 24581, Start Num: 47

Candidate Starts for Y2\_28:

(Start: 47 @22272 has 15 MA's), (79, 22362), (90, 22383), (117, 22407), (158, 22524), (201, 22653), (219, 22713), (239, 22785), (242, 22794), (257, 22845), (259, 22851), (261, 22860), (274, 22911), (281, 22923), (289, 22938), (292, 22944), (300, 22977), (315, 23025), (337, 23079), (365, 23151), (374, 23190), (378, 23202), (385, 23217), (396, 23262), (412, 23331), (434, 23412), (468, 23565), (482, 23607), (519, 23736), (529, 23781), (546, 23847), (550, 23862), (573, 23958), (603, 24111), (607, 24126), (608, 24132), (611, 24156), (613, 24162), (615, 24168), (616, 24171), (620, 24195), (626, 24207), (646, 24303), (671, 24354), (673, 24357), (715, 24426), (732, 24462), (740, 24495), (762, 24549), (764, 24558), (769, 24573),

Gene: Yuna\_28 Start: 20819, Stop: 23209, Start Num: 21

Candidate Starts for Yuna\_28:

(Start: 21 @20819 has 49 MA's), (30, 20867), (44, 20906), (49, 20918), (119, 21059), (138, 21113), (143, 21125), (163, 21179), (171, 21200), (186, 21251), (189, 21257), (216, 21347), (218, 21353), (243, 21440), (257, 21482), (258, 21485), (272, 21533), (274, 21542), (289, 21569), (294, 21578), (300, 21608), (317, 21665), (347, 21761), (351, 21773), (380, 21878), (400, 21947), (415, 21986), (422, 22016), (448, 22139), (456, 22160), (480, 22244), (497, 22295), (498, 22298), (499, 22301), (513, 22340), (529, 22394), (544, 22451), (571, 22553), (572, 22565), (593, 22682), (595, 22688), (606, 22730), (635, 22838), (646, 22901), (731, 23054), (732, 23057), (767, 23183),

Gene: Zenteno07\_34 Start: 28705, Stop: 31170, Start Num: 24

Candidate Starts for Zenteno07\_34:

(Start: 24 @28705 has 9 MA's), (53, 28801), (59, 28819), (71, 28852), (78, 28879), (170, 29170), (197, 29257), (226, 29356), (240, 29410), (248, 29443), (258, 29473), (265, 29503), (268, 29509), (288, 29554), (295, 29569), (300, 29596), (306, 29617), (316, 29650), (323, 29662), (360, 29779), (368, 29809), (377, 29845), (390, 29884), (419, 29992), (424, 30010), (459, 30169), (472, 30205), (492, 30274), (496, 30286), (517, 30352), (540, 30421), (543, 30433), (560, 30487), (562, 30493), (563, 30499), (567, 30523), (572, 30544), (603, 30691), (611, 30736), (620, 30763), (689, 30940), (711, 30979), (718, 30994), (720, 30997), (740, 31066), (747, 31090), (758, 31111),

Gene: ZoeJ\_23 Start: 18602, Stop: 20941, Start Num: 21

Candidate Starts for ZoeJ\_23:

(Start: 21 @18602 has 49 MA's), (154, 18953), (158, 18962), (174, 19007), (223, 19151), (230, 19175), (274, 19334), (286, 19358), (289, 19364), (295, 19376), (300, 19403), (339, 19502), (365, 19574), (376, 19616), (377, 19622), (380, 19631), (401, 19712), (406, 19733), (419, 19775), (433, 19826), (449, 19913), (454, 19922), (480, 20012), (501, 20066), (504, 20078), (520, 20138), (541, 20198), (546, 20216), (569, 20300), (578, 20348), (592, 20417), (594, 20432), (608, 20489), (611, 20513), (619, 20537), (625, 20546), (636, 20588), (639, 20597), (665, 20684), (673, 20702), (733, 20807), (739, 20831),