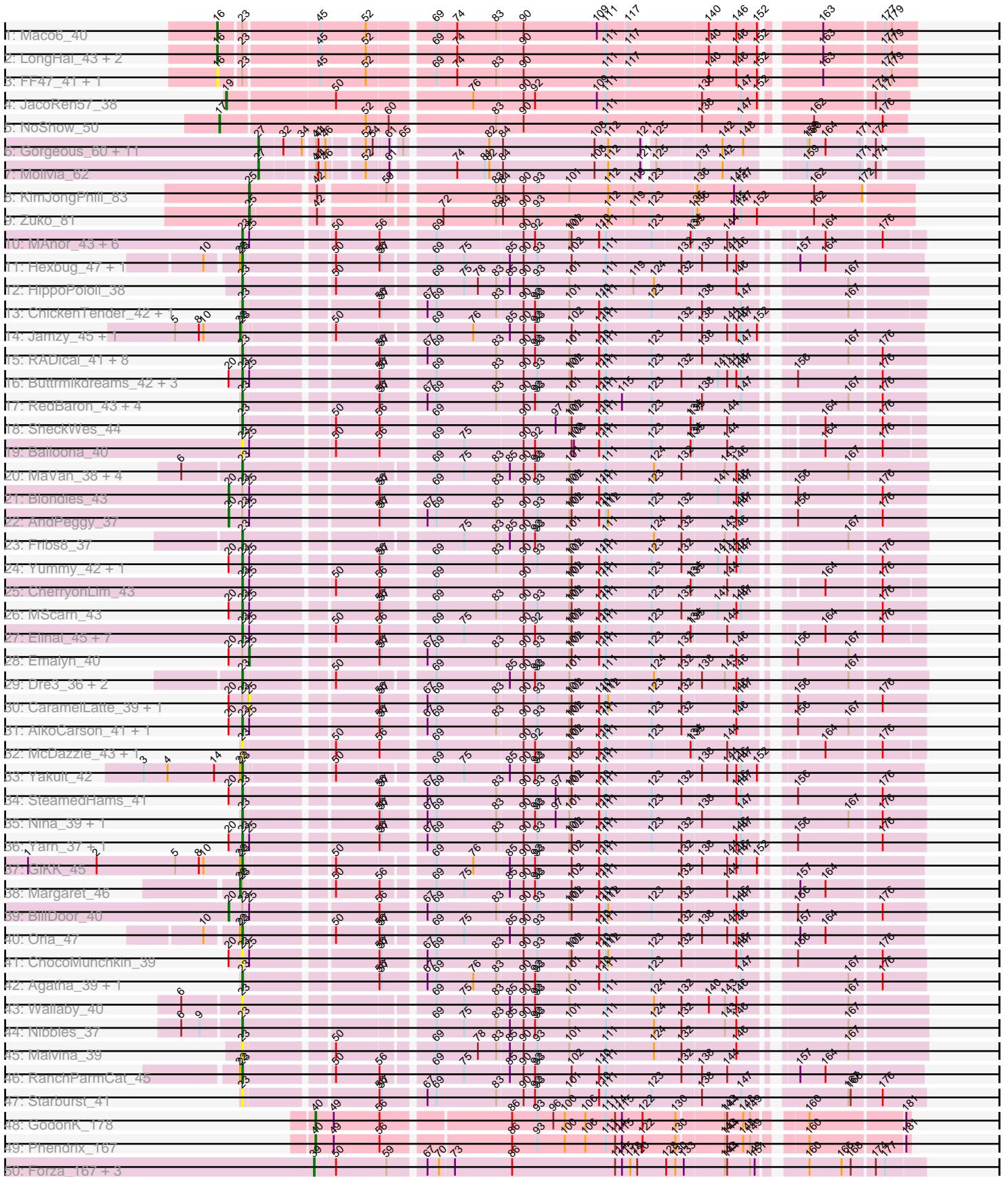
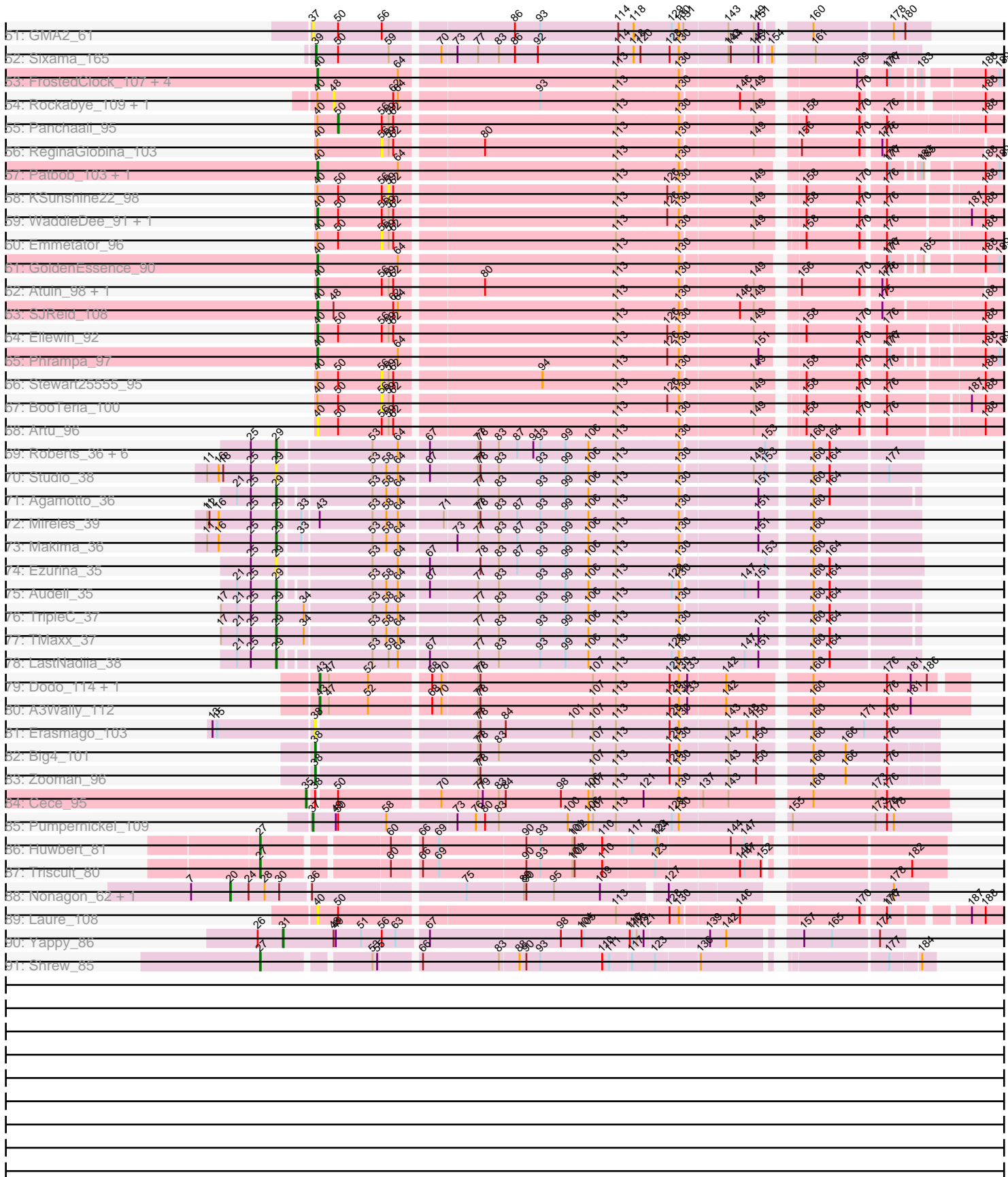


Pham 304751



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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 304751 Report

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

Pham number 304751 has 168 members, 44 are drafts.

Phages represented in each track:

- Track 1 : Maco6\_40
- Track 2 : LongHai\_43, Salvus\_43, Muddy\_42
- Track 3 : FF47\_41, 8UZL\_42
- Track 4 : JacoRen57\_38
- Track 5 : NoShow\_50
- Track 6 : Gorgeous\_60, Rings\_61, Jaek\_60, Boersma\_63, Heylee\_63, SorJuana\_60, Amavida\_62, Yeezus\_60, Amigo\_61, Ichor\_60, Thunderclap\_60, Anansi\_60
- Track 7 : Molivia\_62
- Track 8 : KimJongPhill\_83
- Track 9 : Zuko\_81
- Track 10 : MAnor\_43, PotPie\_42, Feastonyeet\_41, SummitAcademy\_41, BigChungus\_41, CocoaPuff\_42, Mayweather\_45
- Track 11 : Hexbug\_47, Nodigi\_47
- Track 12 : HippoPololi\_38
- Track 13 : ChickenTender\_42, MunkgeeRoachy\_38
- Track 14 : Jamzy\_45, Button\_43
- Track 15 : RADical\_41, GoldHunter\_41, Axym\_39, RSchmailzl\_41, Sopespian\_39, PsychoKiller\_39, Quasar\_40, Elliott\_40, Carsonalex\_43
- Track 16 : Buttrmlkdreams\_42, Troje\_42, SketchMex\_40, Biskit\_42
- Track 17 : RedBaron\_43, Burnsey\_39, Typhonomachy\_38, Socotra\_41, Bubble\_38
- Track 18 : SheckWes\_44
- Track 19 : Balloona\_40
- Track 20 : MaVan\_38, Azira\_38, Zareef\_38, Survivors\_38, Wolfwood\_38
- Track 21 : Blondies\_43
- Track 22 : AndPeggy\_37
- Track 23 : Fribs8\_37
- Track 24 : Yummy\_42, Horseradish\_42
- Track 25 : CherryonLim\_43
- Track 26 : MScarn\_43
- Track 27 : Elinal\_45, Tarnish\_42, Yucky\_44, Vine\_44, Bavilard\_41, Lauer\_38, KayGee\_43, Pons\_43
- Track 28 : Emalyn\_40
- Track 29 : Dre3\_36, Gibbous\_36, Cleo\_36
- Track 30 : CaramelLatte\_39, CanesSauce\_39
- Track 31 : AikoCarson\_41, Amok\_41
- Track 32 : McDazzle\_43, ElJefes\_42

- Track 33 : Yakult\_42
- Track 34 : SteamedHams\_41
- Track 35 : Nina\_39, SweatNTears\_41
- Track 36 : Yarn\_37, Tolls\_41
- Track 37 : GiKK\_45
- Track 38 : Margaret\_46
- Track 39 : BillDoor\_40
- Track 40 : Orla\_47
- Track 41 : ChocoMunchkin\_39
- Track 42 : Agatha\_39, Cozz\_38
- Track 43 : Wallaby\_40
- Track 44 : Nibbles\_37
- Track 45 : Malvina\_39
- Track 46 : RanchParmCat\_45
- Track 47 : Starburst\_41
- Track 48 : GodonK\_178
- Track 49 : Phendrix\_167
- Track 50 : Forza\_167, Mareelih\_164, Boopy\_166, BlueNGold\_163
- Track 51 : GMA2\_61
- Track 52 : Sixama\_165
- Track 53 : FrostedClock\_107, Bloom\_108, Mimi\_104, Racecar\_105, Talia1610\_104
- Track 54 : Rockabye\_109, Chilliams\_103
- Track 55 : Panchaali\_95
- Track 56 : ReginaGlobina\_103
- Track 57 : Patbob\_103, FloraSnap32\_104
- Track 58 : KSunshine22\_98
- Track 59 : WaddleDee\_91, DunneganBoMo\_93
- Track 60 : Emmetator\_96
- Track 61 : GoldenEssence\_90
- Track 62 : Atuin\_98, LeoJr\_103
- Track 63 : SJReid\_108
- Track 64 : Ellewin\_92
- Track 65 : Phrampa\_97
- Track 66 : Stewart25555\_95
- Track 67 : BooTeria\_100
- Track 68 : Artu\_96
- Track 69 : Roberts\_36, ChamoyPickle\_38, Gerri43\_36, AnnabelLee\_36, CardboardBox\_37, Neuville\_36, ChipsNGuac\_36
- Track 70 : Studio\_38
- Track 71 : Agamoto\_36
- Track 72 : Mireles\_39
- Track 73 : Makima\_36
- Track 74 : Ezurina\_35
- Track 75 : Audell\_35
- Track 76 : TripleC\_37
- Track 77 : TMaxx\_37
- Track 78 : LastNadiia\_38
- Track 79 : Dodo\_114, PauloDiaboli\_112
- Track 80 : A3Wally\_112
- Track 81 : Erasmago\_103
- Track 82 : Big4\_101
- Track 83 : Zooman\_96
- Track 84 : Cece\_95

- Track 85 : Pumpernickel\_109
- Track 86 : Huwbert\_81
- Track 87 : Triscuit\_80
- Track 88 : Nonagon\_62, Commonplace\_63
- Track 89 : Laure\_108
- Track 90 : Yappy\_86
- Track 91 : Shrew\_85

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

The start number called the most often in the published annotations is 23, it was called in 55 of the 124 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agatha\_39, AikoCarson\_41, Amok\_41, Axym\_39, Azira\_38, Balloona\_40, Bavailard\_41, BigChungus\_41, Biskit\_42, Bubble\_38, Burnsey\_39, Buttrmilkdreams\_42, Carsonalex\_43, CherryonLim\_43, ChickenTender\_42, ChocoMunchkin\_39, Cleo\_36, CocoaPuff\_42, Cozz\_38, Dre3\_36, ElJefes\_42, Elinal\_45, Elliott\_40, Feastonyeet\_41, Fribs8\_37, GiKK\_45, Gibbous\_36, GoldHunter\_41, Hexbug\_47, HippoPololi\_38, Horseradish\_42, KayGee\_43, Lauer\_38, MAnor\_43, MScarn\_43, MaVan\_38, Malvina\_39, Mayweather\_45, McDazzle\_43, MunkgeeRoachy\_38, Nibbles\_37, Nina\_39, Nodigi\_47, Orla\_47, Pons\_43, PotPie\_42, PsychoKiller\_39, Quasar\_40, RADical\_41, RSchmailzl\_41, RanchParmCat\_45, RedBaron\_43, SheckWes\_44, SketchMex\_40, Socotra\_41, Sopespian\_39, Starburst\_41, SteamedHams\_41, SummitAcademy\_41, Survivors\_38, SweatNTears\_41, Tarnish\_42, Tolls\_41, Troje\_42, Typhonmarchy\_38, Vine\_44, Wallaby\_40, Wolfwood\_38, Yakult\_42, Yarn\_37, Yucky\_44, Yummy\_42, Zareef\_38,

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

- 8UZL\_42, AndPeggy\_37, BillDoor\_40, Blondies\_43, Button\_43, CanesSauce\_39, CaramelLatte\_39, Emalyn\_40, FF47\_41, Jamzy\_45, LongHai\_43, Maco6\_40, Margaret\_46, Muddy\_42, Salvus\_43,

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

- A3Wally\_112, Agamoto\_36, Amavida\_62, Amigo\_61, Anansi\_60, AnnabelLee\_36, Artu\_96, Atuin\_98, Audell\_35, Big4\_101, Bloom\_108, BlueNGold\_163, Boersma\_63, BooTeria\_100, Boopy\_166, CardboardBox\_37, Cece\_95, ChamoyPickle\_38, Chilliams\_103, ChipsNGuac\_36, Commonplace\_63, Dodo\_114, DunneganBoMo\_93, Ellewin\_92, Emmetator\_96, Erasmago\_103, Ezurina\_35, FloraSnap32\_104, Forza\_167, FrostedClock\_107, GMA2\_61, Gerri43\_36, GodonK\_178, GoldenEssence\_90, Gorgeous\_60, Heylee\_63, Huwbert\_81, Ichor\_60, JacoRen57\_38, Jaek\_60, KSunshine22\_98, KimJongPhill\_83, LastNadiia\_38, Laure\_108, LeoJr\_103, Makima\_36, Mareelih\_164, Mimi\_104, Mireles\_39, Molivia\_62, Neuville\_36, NoShow\_50, Nonagon\_62, Panchaali\_95, Patbob\_103, PauloDiaboli\_112, Phendrix\_167, Phrampa\_97, Pumpernickel\_109, Racecar\_105, ReginaGlobina\_103, Rings\_61, Roberts\_36, Rockabye\_109, SJReid\_108, Shrew\_85, Sixama\_165, SorJuana\_60, Stewart25555\_95, Studio\_38, TMaxx\_37, Talia1610\_104, Thunderclap\_60, TripleC\_37, Triscuit\_80, WaddleDee\_91, Yappy\_86, Yeezus\_60, Zooman\_96, Zuko\_81,

## Summary by start number:

### Start 16:

- Found in 9 of 168 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 2 of 124
- Called 66.7% of time when present
- Phage (with cluster) where this start called: 8UZL\_42 (AB), FF47\_41 (AB), LongHai\_43 (AB), Maco6\_40 (AB), Muddy\_42 (AB), Salvus\_43 (AB),

### Start 17:

- Found in 3 of 168 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 124
- Called 33.3% of time when present
- Phage (with cluster) where this start called: NoShow\_50 (AB),

### Start 19:

- Found in 1 of 168 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JacoRen57\_38 (AB),

### Start 20:

- Found in 21 of 168 ( 12.5% ) of genes in pham
- Manual Annotations of this start: 5 of 124
- Called 23.8% of time when present
- Phage (with cluster) where this start called: AndPeggy\_37 (CT), BillDoor\_40 (CT), Blondies\_43 (CT), Commonplace\_63 (JD), Nonagon\_62 (JD),

### Start 22:

- Found in 9 of 168 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 3 of 124
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Button\_43 (CT), Jamzy\_45 (CT), Margaret\_46 (CT),

### Start 23:

- Found in 88 of 168 ( 52.4% ) of genes in pham
- Manual Annotations of this start: 55 of 124
- Called 83.0% of time when present
- Phage (with cluster) where this start called: Agatha\_39 (CT), AikoCarson\_41 (CT), Amok\_41 (CT), Axym\_39 (CT), Azira\_38 (CT), Balloona\_40 (CT), Bavidard\_41 (CT), BigChungus\_41 (CT), Biskit\_42 (CT), Bubble\_38 (CT), Burnsey\_39 (CT), Buttrmlkdreams\_42 (CT), Carsonalex\_43 (CT), CherryonLim\_43 (CT), ChickenTender\_42 (CT), ChocoMunchkin\_39 (CT), Cleo\_36 (CT), CocoaPuff\_42 (CT), Cozz\_38 (CT), Dre3\_36 (CT), ElJefes\_42 (CT), Elinal\_45 (CT), Elliott\_40 (CT), Feastonyeet\_41 (CT), Fribs8\_37 (CT), GiKK\_45 (CT), Gibbous\_36 (CT), GoldHunter\_41 (CT), Hexbug\_47 (CT), HippoPololi\_38 (CT), Horseradish\_42 (CT), KayGee\_43 (CT), Lauer\_38 (CT), MAnor\_43 (CT), MScarn\_43 (CT), MaVan\_38 (CT), Malvina\_39 (CT), Mayweather\_45 (CT), McDazzle\_43 (CT), MunkgeeRoachy\_38 (CT), Nibbles\_37 (CT), Nina\_39 (CT), Nodigi\_47 (CT), Orla\_47 (CT), Pons\_43 (CT), PotPie\_42 (CT), PsychoKiller\_39 (CT), Quasar\_40 (CT), RADical\_41 (CT), RSchmailzl\_41 (CT), RanchParmCat\_45 (CT), RedBaron\_43 (CT), SheckWes\_44 (CT), SketchMex\_40 (CT), Socotra\_41 (CT), Sopesian\_39 (CT), Starburst\_41 (CT),

SteamedHams\_41 (CT), SummitAcademy\_41 (CT), Survivors\_38 (CT), SweatNTears\_41 (CT), Tarnish\_42 (CT), Tolls\_41 (CT), Troje\_42 (CT), Typhonomachy\_38 (CT), Vine\_44 (CT), Wallaby\_40 (CT), Wolfwood\_38 (CT), Yakult\_42 (CT), Yarn\_37 (CT), Yucky\_44 (CT), Yummy\_42 (CT), Zareef\_38 (CT),

Start 25:

- Found in 53 of 168 ( 31.5% ) of genes in pham
- Manual Annotations of this start: 3 of 124
- Called 9.4% of time when present
- Phage (with cluster) where this start called: CanesSauce\_39 (CT), Caramellatte\_39 (CT), Emalyn\_40 (CT), KimJongPhill\_83 (BR), Zuko\_81 (BR),

Start 27:

- Found in 16 of 168 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 16 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amavida\_62 (AQ), Amigo\_61 (AQ), Anansi\_60 (AQ), Boersma\_63 (AQ), Gorgeous\_60 (AQ), Heylee\_63 (AQ), Huwbert\_81 (GG), Ichor\_60 (AQ), Jaek\_60 (AQ), Molivia\_62 (AQ), Rings\_61 (AQ), Shrew\_85 (singleton), SorJuana\_60 (AQ), Thunderclap\_60 (AQ), Triscuit\_80 (GG), Yeezus\_60 (AQ),

Start 29:

- Found in 16 of 168 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 11 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agamoto\_36 (FR), AnnabelleLee\_36 (FR), Audell\_35 (FR), CardboardBox\_37 (FR), ChamoyPickle\_38 (FR), ChipsNGuac\_36 (FR), Ezurina\_35 (FR), Gerri43\_36 (FR), LastNadiia\_38 (FR), Makima\_36 (FR), Mireles\_39 (FR), Neuville\_36 (FR), Roberts\_36 (FR), Studio\_38 (FR), TMaxx\_37 (FR), TripleC\_37 (FR),

Start 31:

- Found in 1 of 168 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yappy\_86 (singleton),

Start 35:

- Found in 1 of 168 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cece\_95 (GD3),

Start 37:

- Found in 2 of 168 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA2\_61 (DS), Pumpnickel\_109 (GD4),

Start 38:

- Found in 4 of 168 ( 2.4% ) of genes in pham

- Manual Annotations of this start: 2 of 124
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Big4\_101 (GD2), Erasmago\_103 (GD2), Zooman\_96 (GD2),

#### Start 39:

- Found in 5 of 168 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 5 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueNGold\_163 (DS), Boopy\_166 (DS), Forza\_167 (DS), Mareelih\_164 (DS), Sixama\_165 (DS),

#### Start 40:

- Found in 27 of 168 ( 16.1% ) of genes in pham
- Manual Annotations of this start: 13 of 124
- Called 70.4% of time when present
- Phage (with cluster) where this start called: Artu\_96 (FC), Atuin\_98 (FC), Bloom\_108 (FC), DunneganBoMo\_93 (FC), Ellewin\_92 (FC), FloraSnap32\_104 (FC), FrostedClock\_107 (FC), GodonK\_178 (DK), GoldenEssence\_90 (FC), Laure\_108 (UNK), LeoJr\_103 (FC), Mimi\_104 (FC), Patbob\_103 (FC), Phendrix\_167 (DK), Phrampa\_97 (FC), Racecar\_105 (FC), SJReid\_108 (FC), Talia1610\_104 (FC), WaddleDee\_91 (FC),

#### Start 43:

- Found in 4 of 168 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 3 of 124
- Called 75.0% of time when present
- Phage (with cluster) where this start called: A3Wally\_112 (GD1), Dodo\_114 (GD1), PauloDiaboli\_112 (GD1),

#### Start 48:

- Found in 4 of 168 ( 2.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Chilliams\_103 (FC), Rockabye\_109 (FC),

#### Start 50:

- Found in 53 of 168 ( 31.5% ) of genes in pham
- Manual Annotations of this start: 1 of 124
- Called 1.9% of time when present
- Phage (with cluster) where this start called: Panchaali\_95 (FC),

#### Start 56:

- Found in 81 of 168 ( 48.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.9% of time when present
- Phage (with cluster) where this start called: BooTeria\_100 (FC), Emmetator\_96 (FC), ReginaGlobina\_103 (FC), Stewart25555\_95 (FC),

#### Start 59:

- Found in 19 of 168 ( 11.3% ) of genes in pham
- No Manual Annotations of this start.

- Called 5.3% of time when present
- Phage (with cluster) where this start called: KSunshine22\_98 (FC),

### **Summary by clusters:**

There are 16 clusters represented in this pham: AQ, FR, AB, GD4, DK, GD1, GD2, GG, FC, BR, JD, singleton, UNK, DS, GD3, CT,

Info for manual annotations of cluster AB:

- Start number 16 was manually annotated 2 times for cluster AB.
- Start number 17 was manually annotated 1 time for cluster AB.
- Start number 19 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster AQ:

- Start number 27 was manually annotated 13 times for cluster AQ.

Info for manual annotations of cluster BR:

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

Info for manual annotations of cluster CT:

- Start number 20 was manually annotated 3 times for cluster CT.
- Start number 22 was manually annotated 3 times for cluster CT.
- Start number 23 was manually annotated 55 times for cluster CT.
- Start number 25 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster DK:

- Start number 40 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DS:

- Start number 39 was manually annotated 5 times for cluster DS.

Info for manual annotations of cluster FC:

- Start number 40 was manually annotated 11 times for cluster FC.
- Start number 50 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster FR:

- Start number 29 was manually annotated 11 times for cluster FR.

Info for manual annotations of cluster GD1:

- Start number 43 was manually annotated 3 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 38 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 35 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 37 was manually annotated 1 time for cluster GD4.

Info for manual annotations of cluster GG:

- Start number 27 was manually annotated 2 times for cluster GG.

Info for manual annotations of cluster JD:

•Start number 20 was manually annotated 2 times for cluster JD.

**Gene Information:**

Gene: 8UZL\_42 Start: 30925, Stop: 30080, Start Num: 16

Candidate Starts for 8UZL\_42:

(Start: 16 @30925 has 2 MA's), (Start: 23 @30901 has 55 MA's), (45, 30808), (52, 30748), (69, 30670), (74, 30643), (83, 30592), (90, 30559), (111, 30451), (117, 30424), (140, 30322), (146, 30286), (152, 30259), (163, 30196), (177, 30121), (179, 30112),

Gene: A3Wally\_112 Start: 76409, Stop: 75603, Start Num: 43

Candidate Starts for A3Wally\_112:

(Start: 43 @76409 has 3 MA's), (47, 76397), (52, 76346), (68, 76274), (70, 76262), (77, 76217), (78, 76214), (107, 76067), (113, 76037), (128, 75971), (130, 75959), (133, 75950), (142, 75902), (160, 75806), (176, 75710), (181, 75680),

Gene: Agamoto\_36 Start: 26402, Stop: 25623, Start Num: 29

Candidate Starts for Agamoto\_36:

(21, 26453), (Start: 25 @26435 has 3 MA's), (Start: 29 @26402 has 11 MA's), (53, 26294), (58, 26276), (64, 26261), (77, 26165), (83, 26138), (93, 26084), (99, 26051), (106, 26021), (113, 25985), (130, 25907), (151, 25811), (160, 25751), (164, 25730),

Gene: Agatha\_39 Start: 28608, Stop: 27790, Start Num: 23

Candidate Starts for Agatha\_39:

(Start: 23 @28608 has 55 MA's), (56, 28452), (57, 28449), (67, 28401), (69, 28389), (76, 28341), (83, 28311), (90, 28278), (92, 28263), (93, 28260), (101, 28218), (110, 28179), (111, 28170), (123, 28113), (147, 27999), (167, 27885), (176, 27846),

Gene: AikoCarson\_41 Start: 28965, Stop: 28147, Start Num: 23

Candidate Starts for AikoCarson\_41:

(Start: 20 @28983 has 5 MA's), (Start: 23 @28965 has 55 MA's), (Start: 25 @28959 has 3 MA's), (56, 28809), (57, 28806), (67, 28758), (69, 28746), (83, 28668), (90, 28635), (93, 28617), (101, 28575), (102, 28572), (110, 28536), (111, 28527), (123, 28470), (132, 28431), (146, 28362), (156, 28308), (167, 28242),

Gene: Amavida\_62 Start: 40997, Stop: 40257, Start Num: 27

Candidate Starts for Amavida\_62:

(Start: 27 @40997 has 16 MA's), (32, 40967), (34, 40943), (41, 40931), (44, 40928), (46, 40922), (52, 40880), (54, 40871), (61, 40856), (65, 40847), (82, 40748), (84, 40733), (108, 40613), (112, 40595), (121, 40556), (125, 40547), (142, 40466), (148, 40439), (159, 40394), (160, 40391), (164, 40370), (171, 40325), (174, 40310),

Gene: Amigo\_61 Start: 41212, Stop: 40472, Start Num: 27

Candidate Starts for Amigo\_61:

(Start: 27 @41212 has 16 MA's), (32, 41182), (34, 41158), (41, 41146), (44, 41143), (46, 41137), (52, 41095), (54, 41086), (61, 41071), (65, 41062), (82, 40963), (84, 40948), (108, 40828), (112, 40810), (121, 40771), (125, 40762), (142, 40681), (148, 40654), (159, 40609), (160, 40606), (164, 40585), (171, 40540), (174, 40525),

Gene: Amok\_41 Start: 28989, Stop: 28171, Start Num: 23

Candidate Starts for Amok\_41:

(Start: 20 @29007 has 5 MA's), (Start: 23 @28989 has 55 MA's), (Start: 25 @28983 has 3 MA's), (56, 28833), (57, 28830), (67, 28782), (69, 28770), (83, 28692), (90, 28659), (93, 28641), (101, 28599), (102, 28596), (110, 28560), (111, 28551), (123, 28494), (132, 28455), (146, 28386), (156, 28332), (167, 28266),

Gene: Anansi\_60 Start: 40819, Stop: 40079, Start Num: 27

Candidate Starts for Anansi\_60:

(Start: 27 @40819 has 16 MA's), (32, 40789), (34, 40765), (41, 40753), (44, 40750), (46, 40744), (52, 40702), (54, 40693), (61, 40678), (65, 40669), (82, 40570), (84, 40555), (108, 40435), (112, 40417), (121, 40378), (125, 40369), (142, 40288), (148, 40261), (159, 40216), (160, 40213), (164, 40192), (171, 40147), (174, 40132),

Gene: AndPeggy\_37 Start: 28407, Stop: 27571, Start Num: 20

Candidate Starts for AndPeggy\_37:

(Start: 20 @28407 has 5 MA's), (Start: 23 @28389 has 55 MA's), (Start: 25 @28383 has 3 MA's), (56, 28233), (57, 28230), (67, 28182), (69, 28170), (83, 28092), (90, 28059), (93, 28041), (101, 27999), (102, 27996), (110, 27960), (111, 27951), (112, 27948), (123, 27894), (132, 27855), (146, 27786), (147, 27780), (156, 27732), (176, 27627),

Gene: AnnabelLee\_36 Start: 23600, Stop: 22806, Start Num: 29

Candidate Starts for AnnabelLee\_36:

(Start: 25 @23633 has 3 MA's), (Start: 29 @23600 has 11 MA's), (53, 23486), (64, 23453), (67, 23417), (77, 23357), (78, 23354), (83, 23330), (87, 23306), (91, 23285), (93, 23276), (99, 23243), (106, 23213), (113, 23177), (130, 23099), (153, 22994), (160, 22943), (164, 22922),

Gene: Artu\_96 Start: 80843, Stop: 81661, Start Num: 40

Candidate Starts for Artu\_96:

(Start: 40 @80843 has 13 MA's), (Start: 50 @80870 has 1 MA's), (56, 80927), (59, 80936), (62, 80942), (113, 81218), (130, 81296), (149, 81386), (158, 81431), (170, 81500), (176, 81527), (188, 81638),

Gene: Atuin\_98 Start: 84308, Stop: 85141, Start Num: 40

Candidate Starts for Atuin\_98:

(Start: 40 @84308 has 13 MA's), (56, 84392), (59, 84401), (62, 84407), (80, 84512), (113, 84683), (130, 84761), (149, 84851), (156, 84893), (170, 84968), (175, 84989), (176, 84995),

Gene: Audell\_35 Start: 25989, Stop: 25204, Start Num: 29

Candidate Starts for Audell\_35:

(21, 26040), (Start: 25 @26022 has 3 MA's), (Start: 29 @25989 has 11 MA's), (53, 25881), (58, 25863), (64, 25848), (67, 25812), (77, 25752), (83, 25725), (93, 25671), (99, 25638), (106, 25608), (113, 25572), (129, 25503), (130, 25494), (147, 25416), (151, 25398), (160, 25338), (164, 25317),

Gene: Axym\_39 Start: 28586, Stop: 27768, Start Num: 23

Candidate Starts for Axym\_39:

(Start: 23 @28586 has 55 MA's), (56, 28430), (57, 28427), (67, 28379), (69, 28367), (83, 28289), (90, 28256), (92, 28241), (93, 28238), (101, 28196), (110, 28157), (111, 28148), (123, 28091), (138, 28028), (147, 27977), (167, 27863), (176, 27824),

Gene: Azira\_38 Start: 28635, Stop: 27823, Start Num: 23

Candidate Starts for Azira\_38:

(6, 28707), (Start: 23 @28635 has 55 MA's), (69, 28419), (75, 28383), (83, 28341), (85, 28326), (90, 28308), (92, 28293), (93, 28290), (101, 28248), (111, 28200), (124, 28140), (132, 28107), (143,

28053), (146, 28038), (167, 27921),

Gene: Balloona\_40 Start: 29790, Stop: 28984, Start Num: 23

Candidate Starts for Balloona\_40:

(Start: 23 @29790 has 55 MA's), (Start: 25 @29784 has 3 MA's), (Start: 50 @29682 has 1 MA's), (56, 29628), (69, 29565), (75, 29529), (90, 29454), (92, 29439), (102, 29391), (103, 29388), (110, 29355), (111, 29346), (123, 29289), (134, 29241), (135, 29238), (144, 29196), (164, 29103), (176, 29034),

Gene: Bavilard\_41 Start: 30011, Stop: 29205, Start Num: 23

Candidate Starts for Bavilard\_41:

(Start: 23 @30011 has 55 MA's), (Start: 25 @30005 has 3 MA's), (Start: 50 @29903 has 1 MA's), (56, 29849), (69, 29786), (75, 29750), (90, 29675), (92, 29660), (101, 29615), (102, 29612), (110, 29576), (111, 29567), (123, 29510), (134, 29462), (135, 29459), (144, 29417), (164, 29324), (176, 29255),

Gene: Big4\_101 Start: 75498, Stop: 74737, Start Num: 38

Candidate Starts for Big4\_101:

(Start: 38 @75498 has 2 MA's), (77, 75306), (78, 75303), (83, 75279), (107, 75156), (113, 75126), (128, 75060), (130, 75048), (143, 74988), (150, 74952), (160, 74895), (166, 74853), (176, 74799),

Gene: BigChungus\_41 Start: 30191, Stop: 29385, Start Num: 23

Candidate Starts for BigChungus\_41:

(Start: 23 @30191 has 55 MA's), (Start: 25 @30185 has 3 MA's), (Start: 50 @30083 has 1 MA's), (56, 30029), (69, 29966), (90, 29855), (92, 29840), (101, 29795), (102, 29792), (110, 29756), (111, 29747), (123, 29690), (134, 29642), (135, 29639), (144, 29597), (164, 29504), (176, 29435),

Gene: BillDoor\_40 Start: 28078, Stop: 27242, Start Num: 20

Candidate Starts for BillDoor\_40:

(Start: 20 @28078 has 5 MA's), (Start: 23 @28060 has 55 MA's), (Start: 25 @28054 has 3 MA's), (56, 27904), (67, 27853), (69, 27841), (83, 27763), (90, 27730), (93, 27712), (101, 27670), (102, 27667), (110, 27631), (111, 27622), (112, 27619), (123, 27565), (132, 27526), (146, 27457), (147, 27451), (156, 27403), (176, 27298),

Gene: Biskit\_42 Start: 28753, Stop: 27935, Start Num: 23

Candidate Starts for Biskit\_42:

(Start: 20 @28771 has 5 MA's), (Start: 23 @28753 has 55 MA's), (Start: 25 @28747 has 3 MA's), (56, 28597), (57, 28594), (69, 28534), (83, 28456), (90, 28423), (93, 28405), (101, 28363), (102, 28360), (110, 28324), (111, 28315), (123, 28258), (132, 28219), (141, 28174), (144, 28162), (146, 28150), (147, 28144), (156, 28096), (176, 27991),

Gene: Blondies\_43 Start: 29087, Stop: 28251, Start Num: 20

Candidate Starts for Blondies\_43:

(Start: 20 @29087 has 5 MA's), (Start: 23 @29069 has 55 MA's), (Start: 25 @29063 has 3 MA's), (56, 28913), (57, 28910), (69, 28850), (83, 28772), (90, 28739), (93, 28721), (101, 28679), (102, 28676), (110, 28640), (111, 28631), (123, 28574), (141, 28490), (146, 28466), (147, 28460), (156, 28412), (176, 28307),

Gene: Bloom\_108 Start: 84483, Stop: 85292, Start Num: 40

Candidate Starts for Bloom\_108:

(Start: 40 @84483 has 13 MA's), (64, 84588), (113, 84858), (130, 84936), (169, 85137), (176, 85167), (177, 85170), (183, 85200), (188, 85269), (189, 85287),

Gene: BlueNGold\_163 Start: 93500, Stop: 92757, Start Num: 39

Candidate Starts for BlueNGold\_163:

(Start: 39 @93500 has 5 MA's), (Start: 50 @93473 has 1 MA's), (59, 93407), (67, 93365), (70, 93350), (73, 93332), (86, 93257), (114, 93122), (115, 93113), (118, 93104), (120, 93095), (128, 93059), (130, 93047), (133, 93038), (143, 92987), (144, 92984), (149, 92954), (151, 92948), (160, 92900), (166, 92858), (168, 92846), (174, 92819), (177, 92807),

Gene: Boersma\_63 Start: 41212, Stop: 40472, Start Num: 27

Candidate Starts for Boersma\_63:

(Start: 27 @41212 has 16 MA's), (32, 41182), (34, 41158), (41, 41146), (44, 41143), (46, 41137), (52, 41095), (54, 41086), (61, 41071), (65, 41062), (82, 40963), (84, 40948), (108, 40828), (112, 40810), (121, 40771), (125, 40762), (142, 40681), (148, 40654), (159, 40609), (160, 40606), (164, 40585), (171, 40540), (174, 40525),

Gene: BooTeria\_100 Start: 81040, Stop: 81774, Start Num: 56

Candidate Starts for BooTeria\_100:

(Start: 40 @80956 has 13 MA's), (Start: 50 @80983 has 1 MA's), (56, 81040), (59, 81049), (62, 81055), (113, 81331), (126, 81394), (130, 81409), (149, 81499), (158, 81544), (170, 81613), (176, 81640), (187, 81736), (188, 81751),

Gene: Boopy\_166 Start: 93511, Stop: 92768, Start Num: 39

Candidate Starts for Boopy\_166:

(Start: 39 @93511 has 5 MA's), (Start: 50 @93484 has 1 MA's), (59, 93418), (67, 93376), (70, 93361), (73, 93343), (86, 93268), (114, 93133), (115, 93124), (118, 93115), (120, 93106), (128, 93070), (130, 93058), (133, 93049), (143, 92998), (144, 92995), (149, 92965), (151, 92959), (160, 92911), (166, 92869), (168, 92857), (174, 92830), (177, 92818),

Gene: Bubble\_38 Start: 28195, Stop: 27377, Start Num: 23

Candidate Starts for Bubble\_38:

(Start: 23 @28195 has 55 MA's), (56, 28039), (57, 28036), (67, 27988), (69, 27976), (83, 27898), (90, 27865), (92, 27850), (93, 27847), (101, 27805), (110, 27766), (111, 27757), (115, 27736), (123, 27700), (138, 27637), (147, 27586), (167, 27472), (176, 27433),

Gene: Burnsey\_39 Start: 28599, Stop: 27781, Start Num: 23

Candidate Starts for Burnsey\_39:

(Start: 23 @28599 has 55 MA's), (56, 28443), (57, 28440), (67, 28392), (69, 28380), (83, 28302), (90, 28269), (92, 28254), (93, 28251), (101, 28209), (110, 28170), (111, 28161), (115, 28140), (123, 28104), (138, 28041), (147, 27990), (167, 27876), (176, 27837),

Gene: Button\_43 Start: 29230, Stop: 28424, Start Num: 22

Candidate Starts for Button\_43:

(5, 29314), (8, 29284), (10, 29278), (Start: 22 @29230 has 3 MA's), (Start: 23 @29227 has 55 MA's), (Start: 50 @29128 has 1 MA's), (69, 29017), (76, 28969), (85, 28924), (90, 28906), (92, 28891), (93, 28888), (102, 28843), (110, 28807), (111, 28798), (132, 28702), (138, 28678), (144, 28645), (146, 28633), (147, 28627), (152, 28606),

Gene: Buttrmilkdreams\_42 Start: 29086, Stop: 28268, Start Num: 23

Candidate Starts for Buttrmilkdreams\_42:

(Start: 20 @29104 has 5 MA's), (Start: 23 @29086 has 55 MA's), (Start: 25 @29080 has 3 MA's), (56, 28930), (57, 28927), (69, 28867), (83, 28789), (90, 28756), (93, 28738), (101, 28696), (102, 28693), (110, 28657), (111, 28648), (123, 28591), (132, 28552), (141, 28507), (144, 28495), (146, 28483), (147, 28477), (156, 28429), (176, 28324),

Gene: CanesSauce\_39 Start: 28556, Stop: 27744, Start Num: 25

Candidate Starts for CanesSauce\_39:

(Start: 20 @28580 has 5 MA's), (Start: 23 @28562 has 55 MA's), (Start: 25 @28556 has 3 MA's), (56, 28406), (57, 28403), (67, 28355), (69, 28343), (83, 28265), (90, 28232), (93, 28214), (101, 28172), (102, 28169), (110, 28133), (111, 28124), (112, 28121), (123, 28067), (132, 28028), (146, 27959), (147, 27953), (156, 27905), (176, 27800),

Gene: CaramellLatte\_39 Start: 28556, Stop: 27744, Start Num: 25

Candidate Starts for CaramellLatte\_39:

(Start: 20 @28580 has 5 MA's), (Start: 23 @28562 has 55 MA's), (Start: 25 @28556 has 3 MA's), (56, 28406), (57, 28403), (67, 28355), (69, 28343), (83, 28265), (90, 28232), (93, 28214), (101, 28172), (102, 28169), (110, 28133), (111, 28124), (112, 28121), (123, 28067), (132, 28028), (146, 27959), (147, 27953), (156, 27905), (176, 27800),

Gene: CardboardBox\_37 Start: 23603, Stop: 22809, Start Num: 29

Candidate Starts for CardboardBox\_37:

(Start: 25 @23636 has 3 MA's), (Start: 29 @23603 has 11 MA's), (53, 23489), (64, 23456), (67, 23420), (77, 23360), (78, 23357), (83, 23333), (87, 23309), (91, 23288), (93, 23279), (99, 23246), (106, 23216), (113, 23180), (130, 23102), (153, 22997), (160, 22946), (164, 22925),

Gene: Carsonalex\_43 Start: 28636, Stop: 27818, Start Num: 23

Candidate Starts for Carsonalex\_43:

(Start: 23 @28636 has 55 MA's), (56, 28480), (57, 28477), (67, 28429), (69, 28417), (83, 28339), (90, 28306), (92, 28291), (93, 28288), (101, 28246), (110, 28207), (111, 28198), (123, 28141), (138, 28078), (147, 28027), (167, 27913), (176, 27874),

Gene: Cece\_95 Start: 78538, Stop: 77750, Start Num: 35

Candidate Starts for Cece\_95:

(Start: 35 @78538 has 1 MA's), (Start: 38 @78532 has 2 MA's), (Start: 50 @78508 has 1 MA's), (70, 78385), (77, 78337), (79, 78331), (83, 78310), (84, 78301), (98, 78229), (106, 78193), (107, 78187), (113, 78157), (121, 78124), (130, 78079), (137, 78052), (143, 78019), (160, 77926), (173, 77845), (176, 77830),

Gene: ChamoyPickle\_38 Start: 24143, Stop: 23349, Start Num: 29

Candidate Starts for ChamoyPickle\_38:

(Start: 25 @24176 has 3 MA's), (Start: 29 @24143 has 11 MA's), (53, 24029), (64, 23996), (67, 23960), (77, 23900), (78, 23897), (83, 23873), (87, 23849), (91, 23828), (93, 23819), (99, 23786), (106, 23756), (113, 23720), (130, 23642), (153, 23537), (160, 23486), (164, 23465),

Gene: CherryonLim\_43 Start: 31329, Stop: 30523, Start Num: 23

Candidate Starts for CherryonLim\_43:

(Start: 23 @31329 has 55 MA's), (Start: 25 @31323 has 3 MA's), (Start: 50 @31221 has 1 MA's), (56, 31167), (69, 31104), (90, 30993), (101, 30933), (102, 30930), (110, 30894), (111, 30885), (123, 30828), (134, 30780), (135, 30777), (144, 30735), (164, 30642), (176, 30573),

Gene: ChickenTender\_42 Start: 28367, Stop: 27552, Start Num: 23

Candidate Starts for ChickenTender\_42:

(Start: 23 @28367 has 55 MA's), (56, 28211), (57, 28208), (67, 28160), (69, 28148), (83, 28070), (90, 28037), (92, 28022), (93, 28019), (101, 27977), (110, 27938), (111, 27929), (123, 27872), (138, 27809), (147, 27758), (167, 27644),

Gene: Chilliams\_103 Start: 77303, Stop: 78091, Start Num: 48

Candidate Starts for Chilliams\_103:

(Start: 40 @77282 has 13 MA's), (48, 77303), (62, 77381), (64, 77387), (93, 77558), (113, 77657), (130, 77735), (146, 77807), (149, 77825), (170, 77942), (188, 78068),

Gene: ChipsNGuac\_36 Start: 23603, Stop: 22809, Start Num: 29

Candidate Starts for ChipsNGuac\_36:

(Start: 25 @23636 has 3 MA's), (Start: 29 @23603 has 11 MA's), (53, 23489), (64, 23456), (67, 23420), (77, 23360), (78, 23357), (83, 23333), (87, 23309), (91, 23288), (93, 23279), (99, 23246), (106, 23216), (113, 23180), (130, 23102), (153, 22997), (160, 22946), (164, 22925),

Gene: ChocoMunchkin\_39 Start: 28562, Stop: 27744, Start Num: 23

Candidate Starts for ChocoMunchkin\_39:

(Start: 20 @28580 has 5 MA's), (Start: 23 @28562 has 55 MA's), (Start: 25 @28556 has 3 MA's), (56, 28406), (57, 28403), (67, 28355), (69, 28343), (83, 28265), (90, 28232), (93, 28214), (101, 28172), (102, 28169), (110, 28133), (111, 28124), (112, 28121), (123, 28067), (132, 28028), (146, 27959), (147, 27953), (156, 27905), (176, 27800),

Gene: Cleo\_36 Start: 28180, Stop: 27371, Start Num: 23

Candidate Starts for Cleo\_36:

(Start: 23 @28180 has 55 MA's), (Start: 50 @28078 has 1 MA's), (69, 27967), (85, 27874), (90, 27856), (92, 27841), (93, 27838), (101, 27796), (111, 27748), (124, 27688), (132, 27655), (138, 27631), (143, 27601), (146, 27586), (167, 27469),

Gene: CocoaPuff\_42 Start: 30196, Stop: 29390, Start Num: 23

Candidate Starts for CocoaPuff\_42:

(Start: 23 @30196 has 55 MA's), (Start: 25 @30190 has 3 MA's), (Start: 50 @30088 has 1 MA's), (56, 30034), (69, 29971), (90, 29860), (92, 29845), (101, 29800), (102, 29797), (110, 29761), (111, 29752), (123, 29695), (134, 29647), (135, 29644), (144, 29602), (164, 29509), (176, 29440),

Gene: Commonplace\_63 Start: 41846, Stop: 41034, Start Num: 20

Candidate Starts for Commonplace\_63:

(7, 41897), (Start: 20 @41846 has 5 MA's), (24, 41822), (28, 41801), (30, 41783), (36, 41747), (75, 41564), (89, 41492), (90, 41489), (95, 41456), (109, 41396), (127, 41321), (178, 41078),

Gene: Cozz\_38 Start: 28196, Stop: 27378, Start Num: 23

Candidate Starts for Cozz\_38:

(Start: 23 @28196 has 55 MA's), (56, 28040), (57, 28037), (67, 27989), (69, 27977), (76, 27929), (83, 27899), (90, 27866), (92, 27851), (93, 27848), (101, 27806), (110, 27767), (111, 27758), (123, 27701), (147, 27587), (167, 27473), (176, 27434),

Gene: Dodo\_114 Start: 76719, Stop: 75925, Start Num: 43

Candidate Starts for Dodo\_114:

(Start: 43 @76719 has 3 MA's), (47, 76707), (52, 76656), (68, 76584), (70, 76572), (77, 76527), (78, 76524), (107, 76377), (113, 76347), (128, 76281), (130, 76269), (133, 76260), (142, 76212), (160, 76116), (176, 76020), (181, 75990), (186, 75969),

Gene: Dre3\_36 Start: 27923, Stop: 27114, Start Num: 23

Candidate Starts for Dre3\_36:

(Start: 23 @27923 has 55 MA's), (Start: 50 @27821 has 1 MA's), (69, 27710), (85, 27617), (90, 27599), (92, 27584), (93, 27581), (101, 27539), (111, 27491), (124, 27431), (132, 27398), (138, 27374), (143, 27344), (146, 27329), (167, 27212),

Gene: DunneganBoMo\_93 Start: 80225, Stop: 81043, Start Num: 40

Candidate Starts for DunneganBoMo\_93:

(Start: 40 @80225 has 13 MA's), (Start: 50 @80252 has 1 MA's), (56, 80309), (59, 80318), (62, 80324), (113, 80600), (126, 80663), (130, 80678), (149, 80768), (158, 80813), (170, 80882), (176, 80909),

(187, 81005), (188, 81020),

Gene: ElJefes\_42 Start: 30536, Stop: 29730, Start Num: 23

Candidate Starts for ElJefes\_42:

(Start: 23 @30536 has 55 MA's), (Start: 50 @30428 has 1 MA's), (56, 30374), (69, 30311), (90, 30200), (92, 30185), (101, 30140), (102, 30137), (110, 30101), (111, 30092), (123, 30035), (134, 29987), (135, 29984), (144, 29942), (164, 29849), (176, 29780),

Gene: Elinal\_45 Start: 30579, Stop: 29773, Start Num: 23

Candidate Starts for Elinal\_45:

(Start: 23 @30579 has 55 MA's), (Start: 25 @30573 has 3 MA's), (Start: 50 @30471 has 1 MA's), (56, 30417), (69, 30354), (75, 30318), (90, 30243), (92, 30228), (101, 30183), (102, 30180), (110, 30144), (111, 30135), (123, 30078), (134, 30030), (135, 30027), (144, 29985), (164, 29892), (176, 29823),

Gene: Elliott\_40 Start: 28607, Stop: 27789, Start Num: 23

Candidate Starts for Elliott\_40:

(Start: 23 @28607 has 55 MA's), (56, 28451), (57, 28448), (67, 28400), (69, 28388), (83, 28310), (90, 28277), (92, 28262), (93, 28259), (101, 28217), (110, 28178), (111, 28169), (123, 28112), (138, 28049), (147, 27998), (167, 27884), (176, 27845),

Gene: Ellewin\_92 Start: 79636, Stop: 80454, Start Num: 40

Candidate Starts for Ellewin\_92:

(Start: 40 @79636 has 13 MA's), (Start: 50 @79663 has 1 MA's), (56, 79720), (59, 79729), (62, 79735), (113, 80011), (126, 80074), (130, 80089), (149, 80179), (158, 80224), (170, 80293), (176, 80320), (188, 80431),

Gene: Emalyn\_40 Start: 28151, Stop: 27339, Start Num: 25

Candidate Starts for Emalyn\_40:

(Start: 20 @28175 has 5 MA's), (Start: 23 @28157 has 55 MA's), (Start: 25 @28151 has 3 MA's), (56, 28001), (57, 27998), (67, 27950), (69, 27938), (83, 27860), (90, 27827), (93, 27809), (101, 27767), (102, 27764), (110, 27728), (111, 27719), (123, 27662), (132, 27623), (146, 27554), (156, 27500), (167, 27434),

Gene: Emmetator\_96 Start: 80264, Stop: 80998, Start Num: 56

Candidate Starts for Emmetator\_96:

(Start: 40 @80180 has 13 MA's), (Start: 50 @80207 has 1 MA's), (56, 80264), (59, 80273), (62, 80279), (113, 80555), (130, 80633), (149, 80723), (158, 80768), (170, 80837), (176, 80864), (188, 80975),

Gene: Erasmago\_103 Start: 73184, Stop: 72417, Start Num: 38

Candidate Starts for Erasmago\_103:

(13, 73313), (15, 73307), (Start: 38 @73184 has 2 MA's), (77, 72992), (78, 72989), (84, 72956), (101, 72869), (107, 72842), (113, 72812), (128, 72746), (130, 72734), (143, 72674), (148, 72650), (150, 72638), (160, 72581), (171, 72515), (176, 72485),

Gene: Ezurina\_35 Start: 24660, Stop: 23866, Start Num: 29

Candidate Starts for Ezurina\_35:

(Start: 25 @24693 has 3 MA's), (Start: 29 @24660 has 11 MA's), (53, 24546), (64, 24513), (67, 24477), (78, 24414), (83, 24390), (87, 24366), (93, 24336), (99, 24303), (106, 24273), (113, 24237), (130, 24159), (153, 24054), (160, 24003), (164, 23982),

Gene: FF47\_41 Start: 30836, Stop: 29991, Start Num: 16

Candidate Starts for FF47\_41:

(Start: 16 @30836 has 2 MA's), (Start: 23 @30812 has 55 MA's), (45, 30719), (52, 30659), (69, 30581), (74, 30554), (83, 30503), (90, 30470), (111, 30362), (117, 30335), (140, 30233), (146, 30197), (152, 30170), (163, 30107), (177, 30032), (179, 30023),

Gene: Feastonyeet\_41 Start: 30191, Stop: 29385, Start Num: 23

Candidate Starts for Feastonyeet\_41:

(Start: 23 @30191 has 55 MA's), (Start: 25 @30185 has 3 MA's), (Start: 50 @30083 has 1 MA's), (56, 30029), (69, 29966), (90, 29855), (92, 29840), (101, 29795), (102, 29792), (110, 29756), (111, 29747), (123, 29690), (134, 29642), (135, 29639), (144, 29597), (164, 29504), (176, 29435),

Gene: FloraSnap32\_104 Start: 83380, Stop: 84189, Start Num: 40

Candidate Starts for FloraSnap32\_104:

(Start: 40 @83380 has 13 MA's), (64, 83485), (113, 83755), (130, 83833), (176, 84064), (177, 84067), (183, 84097), (185, 84100), (188, 84166), (189, 84184),

Gene: Forza\_167 Start: 93428, Stop: 92685, Start Num: 39

Candidate Starts for Forza\_167:

(Start: 39 @93428 has 5 MA's), (Start: 50 @93401 has 1 MA's), (59, 93335), (67, 93293), (70, 93278), (73, 93260), (86, 93185), (114, 93050), (115, 93041), (118, 93032), (120, 93023), (128, 92987), (130, 92975), (133, 92966), (143, 92915), (144, 92912), (149, 92882), (151, 92876), (160, 92828), (166, 92786), (168, 92774), (174, 92747), (177, 92735),

Gene: Fribs8\_37 Start: 28362, Stop: 27550, Start Num: 23

Candidate Starts for Fribs8\_37:

(Start: 23 @28362 has 55 MA's), (75, 28110), (83, 28068), (85, 28053), (90, 28035), (92, 28020), (93, 28017), (101, 27975), (111, 27927), (124, 27867), (132, 27834), (143, 27780), (146, 27765), (167, 27648),

Gene: FrostedClock\_107 Start: 84680, Stop: 85489, Start Num: 40

Candidate Starts for FrostedClock\_107:

(Start: 40 @84680 has 13 MA's), (64, 84785), (113, 85055), (130, 85133), (169, 85334), (176, 85364), (177, 85367), (183, 85397), (188, 85466), (189, 85484),

Gene: GMA2\_61 Start: 64314, Stop: 63565, Start Num: 37

Candidate Starts for GMA2\_61:

(Start: 37 @64314 has 1 MA's), (Start: 50 @64284 has 1 MA's), (56, 64227), (86, 64068), (93, 64035), (114, 63933), (118, 63915), (129, 63867), (130, 63858), (131, 63852), (143, 63798), (149, 63765), (151, 63759), (160, 63711), (178, 63612), (180, 63597),

Gene: Gerri43\_36 Start: 23603, Stop: 22809, Start Num: 29

Candidate Starts for Gerri43\_36:

(Start: 25 @23636 has 3 MA's), (Start: 29 @23603 has 11 MA's), (53, 23489), (64, 23456), (67, 23420), (77, 23360), (78, 23357), (83, 23333), (87, 23309), (91, 23288), (93, 23279), (99, 23246), (106, 23216), (113, 23180), (130, 23102), (153, 22997), (160, 22946), (164, 22925),

Gene: GiKK\_45 Start: 29557, Stop: 28754, Start Num: 23

Candidate Starts for GiKK\_45:

(1, 29836), (2, 29746), (5, 29644), (8, 29614), (10, 29608), (Start: 22 @29560 has 3 MA's), (Start: 23 @29557 has 55 MA's), (Start: 50 @29458 has 1 MA's), (69, 29347), (76, 29299), (85, 29254), (90, 29236), (92, 29221), (93, 29218), (102, 29173), (110, 29137), (111, 29128), (132, 29032), (138, 29008), (144, 28975), (146, 28963), (147, 28957), (152, 28936),

Gene: Gibbous\_36 Start: 27923, Stop: 27114, Start Num: 23

Candidate Starts for Gibbous\_36:

(Start: 23 @27923 has 55 MA's), (Start: 50 @27821 has 1 MA's), (69, 27710), (85, 27617), (90, 27599), (92, 27584), (93, 27581), (101, 27539), (111, 27491), (124, 27431), (132, 27398), (138, 27374), (143, 27344), (146, 27329), (167, 27212),

Gene: GodonK\_178 Start: 89500, Stop: 88790, Start Num: 40

Candidate Starts for GodonK\_178:

(Start: 40 @89500 has 13 MA's), (49, 89479), (56, 89419), (86, 89263), (93, 89230), (96, 89209), (100, 89194), (106, 89167), (111, 89140), (114, 89128), (115, 89119), (122, 89095), (130, 89053), (143, 88996), (144, 88993), (148, 88972), (149, 88963), (160, 88912), (181, 88795),

Gene: GoldHunter\_41 Start: 28608, Stop: 27790, Start Num: 23

Candidate Starts for GoldHunter\_41:

(Start: 23 @28608 has 55 MA's), (56, 28452), (57, 28449), (67, 28401), (69, 28389), (83, 28311), (90, 28278), (92, 28263), (93, 28260), (101, 28218), (110, 28179), (111, 28170), (123, 28113), (138, 28050), (147, 27999), (167, 27885), (176, 27846),

Gene: GoldenEssence\_90 Start: 78275, Stop: 79084, Start Num: 40

Candidate Starts for GoldenEssence\_90:

(Start: 40 @78275 has 13 MA's), (64, 78380), (113, 78650), (130, 78728), (176, 78959), (177, 78962), (185, 78995), (188, 79061), (189, 79079),

Gene: Gorgeous\_60 Start: 40819, Stop: 40079, Start Num: 27

Candidate Starts for Gorgeous\_60:

(Start: 27 @40819 has 16 MA's), (32, 40789), (34, 40765), (41, 40753), (44, 40750), (46, 40744), (52, 40702), (54, 40693), (61, 40678), (65, 40669), (82, 40570), (84, 40555), (108, 40435), (112, 40417), (121, 40378), (125, 40369), (142, 40288), (148, 40261), (159, 40216), (160, 40213), (164, 40192), (171, 40147), (174, 40132),

Gene: Hexbug\_47 Start: 31341, Stop: 30535, Start Num: 23

Candidate Starts for Hexbug\_47:

(10, 31383), (Start: 22 @31344 has 3 MA's), (Start: 23 @31341 has 55 MA's), (Start: 50 @31239 has 1 MA's), (56, 31185), (57, 31182), (69, 31128), (75, 31092), (85, 31035), (90, 31017), (93, 30999), (102, 30954), (111, 30909), (132, 30813), (138, 30789), (144, 30756), (146, 30744), (157, 30690), (164, 30657),

Gene: Heylee\_63 Start: 40997, Stop: 40257, Start Num: 27

Candidate Starts for Heylee\_63:

(Start: 27 @40997 has 16 MA's), (32, 40967), (34, 40943), (41, 40931), (44, 40928), (46, 40922), (52, 40880), (54, 40871), (61, 40856), (65, 40847), (82, 40748), (84, 40733), (108, 40613), (112, 40595), (121, 40556), (125, 40547), (142, 40466), (148, 40439), (159, 40394), (160, 40391), (164, 40370), (171, 40325), (174, 40310),

Gene: HippoPololi\_38 Start: 28375, Stop: 27566, Start Num: 23

Candidate Starts for HippoPololi\_38:

(Start: 23 @28375 has 55 MA's), (Start: 50 @28273 has 1 MA's), (69, 28162), (75, 28126), (78, 28108), (83, 28084), (85, 28069), (90, 28051), (93, 28033), (101, 27991), (111, 27943), (119, 27910), (124, 27883), (132, 27850), (146, 27781), (167, 27664),

Gene: Horseradish\_42 Start: 28614, Stop: 27796, Start Num: 23

Candidate Starts for Horseradish\_42:

(Start: 20 @28632 has 5 MA's), (Start: 23 @28614 has 55 MA's), (Start: 25 @28608 has 3 MA's), (56, 28458), (57, 28455), (69, 28395), (83, 28317), (90, 28284), (93, 28266), (101, 28224), (102, 28221),

(110, 28185), (111, 28176), (123, 28119), (132, 28080), (141, 28035), (144, 28023), (146, 28011), (147, 28005), (176, 27852),

Gene: Huwbert\_81 Start: 49790, Stop: 50599, Start Num: 27

Candidate Starts for Huwbert\_81:

(Start: 27 @49790 has 16 MA's), (60, 49937), (66, 49967), (69, 49988), (90, 50099), (93, 50117), (101, 50159), (102, 50162), (110, 50198), (117, 50234), (123, 50264), (124, 50267), (144, 50360), (147, 50378),

Gene: Ichor\_60 Start: 41212, Stop: 40472, Start Num: 27

Candidate Starts for Ichor\_60:

(Start: 27 @41212 has 16 MA's), (32, 41182), (34, 41158), (41, 41146), (44, 41143), (46, 41137), (52, 41095), (54, 41086), (61, 41071), (65, 41062), (82, 40963), (84, 40948), (108, 40828), (112, 40810), (121, 40771), (125, 40762), (142, 40681), (148, 40654), (159, 40609), (160, 40606), (164, 40585), (171, 40540), (174, 40525),

Gene: JacoRen57\_38 Start: 31703, Stop: 30873, Start Num: 19

Candidate Starts for JacoRen57\_38:

(Start: 19 @31703 has 1 MA's), (Start: 50 @31568 has 1 MA's), (76, 31403), (90, 31340), (92, 31325), (109, 31244), (111, 31232), (138, 31112), (147, 31061), (152, 31040), (174, 30914), (177, 30902),

Gene: Jaek\_60 Start: 41212, Stop: 40472, Start Num: 27

Candidate Starts for Jaek\_60:

(Start: 27 @41212 has 16 MA's), (32, 41182), (34, 41158), (41, 41146), (44, 41143), (46, 41137), (52, 41095), (54, 41086), (61, 41071), (65, 41062), (82, 40963), (84, 40948), (108, 40828), (112, 40810), (121, 40771), (125, 40762), (142, 40681), (148, 40654), (159, 40609), (160, 40606), (164, 40585), (171, 40540), (174, 40525),

Gene: Jamzy\_45 Start: 29543, Stop: 28737, Start Num: 22

Candidate Starts for Jamzy\_45:

(5, 29627), (8, 29597), (10, 29591), (Start: 22 @29543 has 3 MA's), (Start: 23 @29540 has 55 MA's), (Start: 50 @29441 has 1 MA's), (69, 29330), (76, 29282), (85, 29237), (90, 29219), (92, 29204), (93, 29201), (102, 29156), (110, 29120), (111, 29111), (132, 29015), (138, 28991), (144, 28958), (146, 28946), (147, 28940), (152, 28919),

Gene: KSunshine22\_98 Start: 81330, Stop: 82055, Start Num: 59

Candidate Starts for KSunshine22\_98:

(Start: 40 @81237 has 13 MA's), (Start: 50 @81264 has 1 MA's), (56, 81321), (59, 81330), (62, 81336), (113, 81612), (126, 81675), (130, 81690), (149, 81780), (158, 81825), (170, 81894), (176, 81921), (188, 82032),

Gene: KayGee\_43 Start: 30579, Stop: 29773, Start Num: 23

Candidate Starts for KayGee\_43:

(Start: 23 @30579 has 55 MA's), (Start: 25 @30573 has 3 MA's), (Start: 50 @30471 has 1 MA's), (56, 30417), (69, 30354), (75, 30318), (90, 30243), (92, 30228), (101, 30183), (102, 30180), (110, 30144), (111, 30135), (123, 30078), (134, 30030), (135, 30027), (144, 29985), (164, 29892), (176, 29823),

Gene: KimJongPhill\_83 Start: 61930, Stop: 62745, Start Num: 25

Candidate Starts for KimJongPhill\_83:

(Start: 25 @61930 has 3 MA's), (42, 62008), (59, 62086), (83, 62212), (84, 62218), (90, 62245), (93, 62263), (101, 62305), (112, 62356), (119, 62386), (123, 62410), (136, 62467), (145, 62515), (147, 62524), (162, 62620), (172, 62683),

Gene: LastNadiia\_38 Start: 25948, Stop: 25163, Start Num: 29

Candidate Starts for LastNadiia\_38:

(21, 25999), (Start: 25 @25981 has 3 MA's), (Start: 29 @25948 has 11 MA's), (53, 25840), (59, 25819), (64, 25807), (67, 25771), (77, 25711), (83, 25684), (93, 25630), (99, 25597), (106, 25567), (113, 25531), (129, 25462), (130, 25453), (147, 25375), (151, 25357), (160, 25297), (164, 25276),

Gene: Lauer\_38 Start: 31388, Stop: 30582, Start Num: 23

Candidate Starts for Lauer\_38:

(Start: 23 @31388 has 55 MA's), (Start: 25 @31382 has 3 MA's), (Start: 50 @31280 has 1 MA's), (56, 31226), (69, 31163), (75, 31127), (90, 31052), (92, 31037), (101, 30992), (102, 30989), (110, 30953), (111, 30944), (123, 30887), (134, 30839), (135, 30836), (144, 30794), (164, 30701), (176, 30632),

Gene: Laure\_108 Start: 77202, Stop: 78011, Start Num: 40

Candidate Starts for Laure\_108:

(Start: 40 @77202 has 13 MA's), (Start: 50 @77229 has 1 MA's), (113, 77577), (128, 77640), (130, 77652), (146, 77724), (170, 77859), (176, 77886), (177, 77889), (187, 77970), (188, 77988),

Gene: LeoJr\_103 Start: 84544, Stop: 85377, Start Num: 40

Candidate Starts for LeoJr\_103:

(Start: 40 @84544 has 13 MA's), (56, 84628), (59, 84637), (62, 84643), (80, 84748), (113, 84919), (130, 84997), (149, 85087), (156, 85129), (170, 85204), (175, 85225), (176, 85231),

Gene: LongHai\_43 Start: 31234, Stop: 30389, Start Num: 16

Candidate Starts for LongHai\_43:

(Start: 16 @31234 has 2 MA's), (Start: 23 @31210 has 55 MA's), (45, 31117), (52, 31057), (69, 30979), (74, 30952), (90, 30868), (111, 30760), (117, 30733), (140, 30631), (146, 30595), (152, 30568), (163, 30505), (177, 30430), (179, 30421),

Gene: MAnor\_43 Start: 30921, Stop: 30115, Start Num: 23

Candidate Starts for MAnor\_43:

(Start: 23 @30921 has 55 MA's), (Start: 25 @30915 has 3 MA's), (Start: 50 @30813 has 1 MA's), (56, 30759), (69, 30696), (90, 30585), (92, 30570), (101, 30525), (102, 30522), (110, 30486), (111, 30477), (123, 30420), (134, 30372), (135, 30369), (144, 30327), (164, 30234), (176, 30165),

Gene: MScarn\_43 Start: 28754, Stop: 27936, Start Num: 23

Candidate Starts for MScarn\_43:

(Start: 20 @28772 has 5 MA's), (Start: 23 @28754 has 55 MA's), (Start: 25 @28748 has 3 MA's), (56, 28598), (57, 28595), (69, 28535), (83, 28457), (90, 28424), (93, 28406), (101, 28364), (102, 28361), (110, 28325), (111, 28316), (123, 28259), (132, 28220), (141, 28175), (146, 28151), (147, 28145), (176, 27992),

Gene: MaVan\_38 Start: 28664, Stop: 27852, Start Num: 23

Candidate Starts for MaVan\_38:

(6, 28736), (Start: 23 @28664 has 55 MA's), (69, 28448), (75, 28412), (83, 28370), (85, 28355), (90, 28337), (92, 28322), (93, 28319), (101, 28277), (111, 28229), (124, 28169), (132, 28136), (143, 28082), (146, 28067), (167, 27950),

Gene: Maco6\_40 Start: 30176, Stop: 29331, Start Num: 16

Candidate Starts for Maco6\_40:

(Start: 16 @30176 has 2 MA's), (Start: 23 @30152 has 55 MA's), (45, 30059), (52, 29999), (69, 29921), (74, 29894), (83, 29843), (90, 29810), (109, 29714), (111, 29702), (117, 29675), (140, 29573), (146, 29537), (152, 29510), (163, 29447), (177, 29372), (179, 29363),

Gene: Makima\_36 Start: 25073, Stop: 24285, Start Num: 29

Candidate Starts for Makima\_36:

(11, 25163), (Start: 16 @25148 has 2 MA's), (Start: 25 @25106 has 3 MA's), (Start: 29 @25073 has 11 MA's), (33, 25046), (53, 24962), (58, 24944), (64, 24929), (73, 24860), (77, 24833), (83, 24806), (87, 24782), (93, 24752), (99, 24719), (106, 24689), (113, 24653), (130, 24575), (151, 24479), (160, 24419),

Gene: Malvina\_39 Start: 28373, Stop: 27564, Start Num: 23

Candidate Starts for Malvina\_39:

(Start: 23 @28373 has 55 MA's), (Start: 50 @28271 has 1 MA's), (69, 28160), (78, 28106), (83, 28082), (85, 28067), (90, 28049), (93, 28031), (101, 27989), (111, 27941), (124, 27881), (132, 27848), (146, 27779), (167, 27662),

Gene: Mareelih\_164 Start: 92946, Stop: 92203, Start Num: 39

Candidate Starts for Mareelih\_164:

(Start: 39 @92946 has 5 MA's), (Start: 50 @92919 has 1 MA's), (59, 92853), (67, 92811), (70, 92796), (73, 92778), (86, 92703), (114, 92568), (115, 92559), (118, 92550), (120, 92541), (128, 92505), (130, 92493), (133, 92484), (143, 92433), (144, 92430), (149, 92400), (151, 92394), (160, 92346), (166, 92304), (168, 92292), (174, 92265), (177, 92253),

Gene: Margaret\_46 Start: 30292, Stop: 29483, Start Num: 22

Candidate Starts for Margaret\_46:

(Start: 22 @30292 has 3 MA's), (Start: 23 @30289 has 55 MA's), (Start: 50 @30187 has 1 MA's), (56, 30133), (69, 30076), (75, 30040), (85, 29983), (90, 29965), (92, 29950), (93, 29947), (102, 29902), (110, 29866), (111, 29857), (132, 29761), (144, 29704), (157, 29638), (164, 29605),

Gene: Mayweather\_45 Start: 31200, Stop: 30394, Start Num: 23

Candidate Starts for Mayweather\_45:

(Start: 23 @31200 has 55 MA's), (Start: 25 @31194 has 3 MA's), (Start: 50 @31092 has 1 MA's), (56, 31038), (69, 30975), (90, 30864), (92, 30849), (101, 30804), (102, 30801), (110, 30765), (111, 30756), (123, 30699), (134, 30651), (135, 30648), (144, 30606), (164, 30513), (176, 30444),

Gene: McDazzle\_43 Start: 30530, Stop: 29724, Start Num: 23

Candidate Starts for McDazzle\_43:

(Start: 23 @30530 has 55 MA's), (Start: 50 @30422 has 1 MA's), (56, 30368), (69, 30305), (90, 30194), (92, 30179), (101, 30134), (102, 30131), (110, 30095), (111, 30086), (123, 30029), (134, 29981), (135, 29978), (144, 29936), (164, 29843), (176, 29774),

Gene: Mimi\_104 Start: 83830, Stop: 84639, Start Num: 40

Candidate Starts for Mimi\_104:

(Start: 40 @83830 has 13 MA's), (64, 83935), (113, 84205), (130, 84283), (169, 84484), (176, 84514), (177, 84517), (183, 84547), (188, 84616), (189, 84634),

Gene: Mireles\_39 Start: 24631, Stop: 23843, Start Num: 29

Candidate Starts for Mireles\_39:

(11, 24721), (12, 24718), (Start: 16 @24706 has 2 MA's), (Start: 25 @24664 has 3 MA's), (Start: 29 @24631 has 11 MA's), (33, 24604), (Start: 43 @24589 has 3 MA's), (53, 24520), (58, 24502), (64, 24487), (71, 24433), (77, 24391), (78, 24388), (83, 24364), (87, 24340), (93, 24310), (99, 24277), (106, 24247), (113, 24211), (130, 24133), (151, 24037), (160, 23977),

Gene: Molivia\_62 Start: 39615, Stop: 38878, Start Num: 27

Candidate Starts for Molivia\_62:

(Start: 27 @39615 has 16 MA's), (41, 39552), (44, 39549), (46, 39543), (52, 39501), (61, 39477), (74, 39411), (81, 39375), (82, 39369), (84, 39354), (108, 39234), (112, 39216), (121, 39177), (125, 39168), (137, 39117), (142, 39087), (159, 39015), (171, 38946), (174, 38931),

Gene: Muddy\_42 Start: 31408, Stop: 30563, Start Num: 16

Candidate Starts for Muddy\_42:

(Start: 16 @31408 has 2 MA's), (Start: 23 @31384 has 55 MA's), (45, 31291), (52, 31231), (69, 31153), (74, 31126), (90, 31042), (111, 30934), (117, 30907), (140, 30805), (146, 30769), (152, 30742), (163, 30679), (177, 30604), (179, 30595),

Gene: MunkgeeRoachy\_38 Start: 28070, Stop: 27252, Start Num: 23

Candidate Starts for MunkgeeRoachy\_38:

(Start: 23 @28070 has 55 MA's), (56, 27914), (57, 27911), (67, 27863), (69, 27851), (83, 27773), (90, 27740), (92, 27725), (93, 27722), (101, 27680), (110, 27641), (111, 27632), (123, 27575), (138, 27512), (147, 27461), (167, 27347),

Gene: Neuville\_36 Start: 23603, Stop: 22809, Start Num: 29

Candidate Starts for Neuville\_36:

(Start: 25 @23636 has 3 MA's), (Start: 29 @23603 has 11 MA's), (53, 23489), (64, 23456), (67, 23420), (77, 23360), (78, 23357), (83, 23333), (87, 23309), (91, 23288), (93, 23279), (99, 23246), (106, 23216), (113, 23180), (130, 23102), (153, 22997), (160, 22946), (164, 22925),

Gene: Nibbles\_37 Start: 28351, Stop: 27539, Start Num: 23

Candidate Starts for Nibbles\_37:

(6, 28423), (9, 28399), (Start: 23 @28351 has 55 MA's), (69, 28135), (75, 28099), (83, 28057), (85, 28042), (90, 28024), (92, 28009), (93, 28006), (101, 27964), (111, 27916), (124, 27856), (132, 27823), (143, 27769), (146, 27754), (167, 27637),

Gene: Nina\_39 Start: 28732, Stop: 27914, Start Num: 23

Candidate Starts for Nina\_39:

(Start: 23 @28732 has 55 MA's), (56, 28576), (57, 28573), (67, 28525), (69, 28513), (83, 28435), (90, 28402), (92, 28387), (93, 28384), (97, 28360), (101, 28342), (110, 28303), (111, 28294), (123, 28237), (138, 28174), (147, 28123), (167, 28009), (176, 27970),

Gene: NoShow\_50 Start: 34311, Stop: 33472, Start Num: 17

Candidate Starts for NoShow\_50:

(Start: 17 @34311 has 1 MA's), (52, 34125), (60, 34098), (83, 33969), (90, 33936), (111, 33828), (138, 33708), (147, 33657), (162, 33585), (176, 33501),

Gene: Nodigi\_47 Start: 31327, Stop: 30521, Start Num: 23

Candidate Starts for Nodigi\_47:

(10, 31369), (Start: 22 @31330 has 3 MA's), (Start: 23 @31327 has 55 MA's), (Start: 50 @31225 has 1 MA's), (56, 31171), (57, 31168), (69, 31114), (75, 31078), (85, 31021), (90, 31003), (93, 30985), (102, 30940), (111, 30895), (132, 30799), (138, 30775), (144, 30742), (146, 30730), (157, 30676), (164, 30643),

Gene: Nonagon\_62 Start: 41552, Stop: 40740, Start Num: 20

Candidate Starts for Nonagon\_62:

(7, 41603), (Start: 20 @41552 has 5 MA's), (24, 41528), (28, 41507), (30, 41489), (36, 41453), (75, 41270), (89, 41198), (90, 41195), (95, 41162), (109, 41102), (127, 41027), (178, 40784),

Gene: Orla\_47 Start: 31300, Stop: 30494, Start Num: 23

Candidate Starts for Orla\_47:

(10, 31342), (Start: 22 @31303 has 3 MA's), (Start: 23 @31300 has 55 MA's), (Start: 50 @31198 has 1 MA's), (56, 31144), (57, 31141), (69, 31087), (75, 31051), (85, 30994), (90, 30976), (93, 30958), (110, 30877), (111, 30868), (132, 30772), (138, 30748), (144, 30715), (146, 30703), (157, 30649), (164, 30616),

Gene: Panchaali\_95 Start: 81223, Stop: 82020, Start Num: 50

Candidate Starts for Panchaali\_95:

(Start: 40 @81196 has 13 MA's), (Start: 50 @81223 has 1 MA's), (56, 81280), (59, 81289), (62, 81295), (113, 81571), (130, 81649), (149, 81739), (158, 81784), (170, 81853), (176, 81880), (188, 81997),

Gene: Patbob\_103 Start: 84565, Stop: 85374, Start Num: 40

Candidate Starts for Patbob\_103:

(Start: 40 @84565 has 13 MA's), (64, 84670), (113, 84940), (130, 85018), (176, 85249), (177, 85252), (183, 85282), (185, 85285), (188, 85351), (189, 85369),

Gene: PauloDiaboli\_112 Start: 75754, Stop: 74960, Start Num: 43

Candidate Starts for PauloDiaboli\_112:

(Start: 43 @75754 has 3 MA's), (47, 75742), (52, 75691), (68, 75619), (70, 75607), (77, 75562), (78, 75559), (107, 75412), (113, 75382), (128, 75316), (130, 75304), (133, 75295), (142, 75247), (160, 75151), (176, 75055), (181, 75025), (186, 75004),

Gene: Phendrix\_167 Start: 88597, Stop: 87887, Start Num: 40

Candidate Starts for Phendrix\_167:

(Start: 40 @88597 has 13 MA's), (49, 88576), (56, 88516), (86, 88360), (93, 88327), (100, 88291), (106, 88264), (111, 88237), (114, 88225), (115, 88216), (122, 88192), (130, 88150), (143, 88093), (144, 88090), (148, 88069), (149, 88060), (160, 88009), (181, 87892),

Gene: Phrampa\_97 Start: 85968, Stop: 86774, Start Num: 40

Candidate Starts for Phrampa\_97:

(Start: 40 @85968 has 13 MA's), (64, 86073), (113, 86343), (126, 86406), (130, 86421), (151, 86517), (170, 86625), (176, 86652), (177, 86655), (188, 86751), (189, 86769),

Gene: Pons\_43 Start: 30551, Stop: 29745, Start Num: 23

Candidate Starts for Pons\_43:

(Start: 23 @30551 has 55 MA's), (Start: 25 @30545 has 3 MA's), (Start: 50 @30443 has 1 MA's), (56, 30389), (69, 30326), (75, 30290), (90, 30215), (92, 30200), (101, 30155), (102, 30152), (110, 30116), (111, 30107), (123, 30050), (134, 30002), (135, 29999), (144, 29957), (164, 29864), (176, 29795),

Gene: PotPie\_42 Start: 31482, Stop: 30676, Start Num: 23

Candidate Starts for PotPie\_42:

(Start: 23 @31482 has 55 MA's), (Start: 25 @31476 has 3 MA's), (Start: 50 @31374 has 1 MA's), (56, 31320), (69, 31257), (90, 31146), (92, 31131), (101, 31086), (102, 31083), (110, 31047), (111, 31038), (123, 30981), (134, 30933), (135, 30930), (144, 30888), (164, 30795), (176, 30726),

Gene: PsychoKiller\_39 Start: 28608, Stop: 27790, Start Num: 23

Candidate Starts for PsychoKiller\_39:

(Start: 23 @28608 has 55 MA's), (56, 28452), (57, 28449), (67, 28401), (69, 28389), (83, 28311), (90, 28278), (92, 28263), (93, 28260), (101, 28218), (110, 28179), (111, 28170), (123, 28113), (138, 28050), (147, 27999), (167, 27885), (176, 27846),

Gene: Pumpernickel\_109 Start: 77313, Stop: 76510, Start Num: 37

Candidate Starts for Pumpernickel\_109:

(Start: 37 @77313 has 1 MA's), (49, 77283), (Start: 50 @77280 has 1 MA's), (58, 77217), (73, 77127), (76, 77103), (80, 77091), (83, 77073), (100, 76983), (106, 76956), (107, 76950), (113, 76920), (129, 76851), (130, 76842), (155, 76716), (173, 76608), (176, 76593), (178, 76584),

Gene: Quasar\_40 Start: 29156, Stop: 28338, Start Num: 23

Candidate Starts for Quasar\_40:

(Start: 23 @29156 has 55 MA's), (56, 29000), (57, 28997), (67, 28949), (69, 28937), (83, 28859), (90, 28826), (92, 28811), (93, 28808), (101, 28766), (110, 28727), (111, 28718), (123, 28661), (138, 28598), (147, 28547), (167, 28433), (176, 28394),

Gene: RADical\_41 Start: 28602, Stop: 27784, Start Num: 23

Candidate Starts for RADical\_41:

(Start: 23 @28602 has 55 MA's), (56, 28446), (57, 28443), (67, 28395), (69, 28383), (83, 28305), (90, 28272), (92, 28257), (93, 28254), (101, 28212), (110, 28173), (111, 28164), (123, 28107), (138, 28044), (147, 27993), (167, 27879), (176, 27840),

Gene: RSchmailzl\_41 Start: 28645, Stop: 27827, Start Num: 23

Candidate Starts for RSchmailzl\_41:

(Start: 23 @28645 has 55 MA's), (56, 28489), (57, 28486), (67, 28438), (69, 28426), (83, 28348), (90, 28315), (92, 28300), (93, 28297), (101, 28255), (110, 28216), (111, 28207), (123, 28150), (138, 28087), (147, 28036), (167, 27922), (176, 27883),

Gene: Racecar\_105 Start: 84483, Stop: 85292, Start Num: 40

Candidate Starts for Racecar\_105:

(Start: 40 @84483 has 13 MA's), (64, 84588), (113, 84858), (130, 84936), (169, 85137), (176, 85167), (177, 85170), (183, 85200), (188, 85269), (189, 85287),

Gene: RanchParmCat\_45 Start: 30427, Stop: 29621, Start Num: 23

Candidate Starts for RanchParmCat\_45:

(Start: 22 @30430 has 3 MA's), (Start: 23 @30427 has 55 MA's), (Start: 50 @30325 has 1 MA's), (56, 30271), (69, 30214), (75, 30178), (85, 30121), (90, 30103), (92, 30088), (93, 30085), (102, 30040), (110, 30004), (111, 29995), (132, 29899), (138, 29875), (144, 29842), (157, 29776), (164, 29743),

Gene: RedBaron\_43 Start: 28845, Stop: 28027, Start Num: 23

Candidate Starts for RedBaron\_43:

(Start: 23 @28845 has 55 MA's), (56, 28689), (57, 28686), (67, 28638), (69, 28626), (83, 28548), (90, 28515), (92, 28500), (93, 28497), (101, 28455), (110, 28416), (111, 28407), (115, 28386), (123, 28350), (138, 28287), (147, 28236), (167, 28122), (176, 28083),

Gene: ReginaGlobina\_103 Start: 84193, Stop: 84942, Start Num: 56

Candidate Starts for ReginaGlobina\_103:

(Start: 40 @84109 has 13 MA's), (56, 84193), (59, 84202), (62, 84208), (80, 84313), (113, 84484), (130, 84562), (149, 84652), (156, 84694), (170, 84769), (175, 84790), (176, 84796),

Gene: Rings\_61 Start: 41260, Stop: 40520, Start Num: 27

Candidate Starts for Rings\_61:

(Start: 27 @41260 has 16 MA's), (32, 41230), (34, 41206), (41, 41194), (44, 41191), (46, 41185), (52, 41143), (54, 41134), (61, 41119), (65, 41110), (82, 41011), (84, 40996), (108, 40876), (112, 40858), (121, 40819), (125, 40810), (142, 40729), (148, 40702), (159, 40657), (160, 40654), (164, 40633), (171, 40588), (174, 40573),

Gene: Roberts\_36 Start: 23603, Stop: 22809, Start Num: 29

Candidate Starts for Roberts\_36:

(Start: 25 @23636 has 3 MA's), (Start: 29 @23603 has 11 MA's), (53, 23489), (64, 23456), (67, 23420), (77, 23360), (78, 23357), (83, 23333), (87, 23309), (91, 23288), (93, 23279), (99, 23246), (106, 23216), (113, 23180), (130, 23102), (153, 22997), (160, 22946), (164, 22925),

Gene: Rockabye\_109 Start: 77741, Stop: 78529, Start Num: 48

Candidate Starts for Rockabye\_109:

(Start: 40 @77720 has 13 MA's), (48, 77741), (62, 77819), (64, 77825), (93, 77996), (113, 78095), (130, 78173), (146, 78245), (149, 78263), (170, 78380), (188, 78506),

Gene: SJReid\_108 Start: 76738, Stop: 77565, Start Num: 40

Candidate Starts for SJReid\_108:

(Start: 40 @76738 has 13 MA's), (48, 76759), (62, 76837), (64, 76843), (113, 77113), (130, 77191), (146, 77263), (149, 77281), (175, 77419), (188, 77542),

Gene: Salvus\_43 Start: 31234, Stop: 30389, Start Num: 16

Candidate Starts for Salvus\_43:

(Start: 16 @31234 has 2 MA's), (Start: 23 @31210 has 55 MA's), (45, 31117), (52, 31057), (69, 30979), (74, 30952), (90, 30868), (111, 30760), (117, 30733), (140, 30631), (146, 30595), (152, 30568), (163, 30505), (177, 30430), (179, 30421),

Gene: SheckWes\_44 Start: 30075, Stop: 29269, Start Num: 23

Candidate Starts for SheckWes\_44:

(Start: 23 @30075 has 55 MA's), (Start: 50 @29967 has 1 MA's), (56, 29913), (69, 29850), (90, 29739), (97, 29697), (101, 29679), (102, 29676), (110, 29640), (111, 29631), (123, 29574), (134, 29526), (135, 29523), (144, 29481), (164, 29388), (176, 29319),

Gene: Shrew\_85 Start: 51163, Stop: 51948, Start Num: 27

Candidate Starts for Shrew\_85:

(Start: 27 @51163 has 16 MA's), (53, 51289), (55, 51295), (66, 51340), (83, 51439), (88, 51463), (90, 51472), (93, 51490), (110, 51571), (111, 51580), (117, 51607), (123, 51637), (136, 51691), (177, 51895), (184, 51931),

Gene: Sixama\_165 Start: 92948, Stop: 92217, Start Num: 39

Candidate Starts for Sixama\_165:

(Start: 39 @92948 has 5 MA's), (Start: 50 @92921 has 1 MA's), (59, 92855), (70, 92798), (73, 92780), (77, 92753), (83, 92726), (86, 92705), (92, 92675), (114, 92570), (118, 92552), (120, 92543), (128, 92507), (130, 92495), (143, 92435), (144, 92432), (149, 92402), (151, 92396), (154, 92384), (161, 92345),

Gene: SketchMex\_40 Start: 28753, Stop: 27935, Start Num: 23

Candidate Starts for SketchMex\_40:

(Start: 20 @28771 has 5 MA's), (Start: 23 @28753 has 55 MA's), (Start: 25 @28747 has 3 MA's), (56, 28597), (57, 28594), (69, 28534), (83, 28456), (90, 28423), (93, 28405), (101, 28363), (102, 28360), (110, 28324), (111, 28315), (123, 28258), (132, 28219), (141, 28174), (144, 28162), (146, 28150), (147, 28144), (156, 28096), (176, 27991),

Gene: Socotra\_41 Start: 28607, Stop: 27789, Start Num: 23

Candidate Starts for Socotra\_41:

(Start: 23 @28607 has 55 MA's), (56, 28451), (57, 28448), (67, 28400), (69, 28388), (83, 28310), (90, 28277), (92, 28262), (93, 28259), (101, 28217), (110, 28178), (111, 28169), (115, 28148), (123, 28112), (138, 28049), (147, 27998), (167, 27884), (176, 27845),

Gene: Sopespian\_39 Start: 28609, Stop: 27791, Start Num: 23

Candidate Starts for Sopespian\_39:

(Start: 23 @28609 has 55 MA's), (56, 28453), (57, 28450), (67, 28402), (69, 28390), (83, 28312), (90, 28279), (92, 28264), (93, 28261), (101, 28219), (110, 28180), (111, 28171), (123, 28114), (138, 28051), (147, 28000), (167, 27886), (176, 27847),

Gene: SorJuana\_60 Start: 40819, Stop: 40079, Start Num: 27

Candidate Starts for SorJuana\_60:

(Start: 27 @40819 has 16 MA's), (32, 40789), (34, 40765), (41, 40753), (44, 40750), (46, 40744), (52, 40702), (54, 40693), (61, 40678), (65, 40669), (82, 40570), (84, 40555), (108, 40435), (112, 40417), (121, 40378), (125, 40369), (142, 40288), (148, 40261), (159, 40216), (160, 40213), (164, 40192), (171, 40147), (174, 40132),

Gene: Starburst\_41 Start: 28602, Stop: 27784, Start Num: 23

Candidate Starts for Starburst\_41:

(Start: 23 @28602 has 55 MA's), (56, 28446), (57, 28443), (67, 28395), (69, 28383), (83, 28305), (90, 28272), (92, 28257), (93, 28254), (101, 28212), (110, 28173), (111, 28164), (123, 28107), (138, 28044), (147, 27993), (167, 27879), (168, 27876), (176, 27840),

Gene: SteamedHams\_41 Start: 28529, Stop: 27711, Start Num: 23

Candidate Starts for SteamedHams\_41:

(Start: 20 @28547 has 5 MA's), (Start: 23 @28529 has 55 MA's), (56, 28373), (57, 28370), (67, 28322), (69, 28310), (83, 28232), (90, 28199), (93, 28181), (97, 28157), (101, 28139), (102, 28136), (110, 28100), (111, 28091), (123, 28034), (132, 27995), (146, 27926), (147, 27920), (156, 27872), (176, 27767),

Gene: Stewart25555\_95 Start: 81038, Stop: 81781, Start Num: 56

Candidate Starts for Stewart25555\_95:

(Start: 40 @80954 has 13 MA's), (Start: 50 @80981 has 1 MA's), (56, 81038), (59, 81047), (62, 81053), (94, 81233), (113, 81329), (130, 81407), (149, 81497), (158, 81545), (170, 81614), (176, 81641), (188, 81758),

Gene: Studio\_38 Start: 24966, Stop: 24175, Start Num: 29

Candidate Starts for Studio\_38:

(11, 25056), (Start: 16 @25041 has 2 MA's), (18, 25035), (Start: 25 @24999 has 3 MA's), (Start: 29 @24966 has 11 MA's), (53, 24852), (58, 24834), (64, 24819), (67, 24783), (77, 24723), (78, 24720), (83, 24696), (93, 24642), (99, 24609), (106, 24579), (113, 24543), (130, 24465), (149, 24375), (153, 24360), (160, 24309), (164, 24288), (177, 24216),

Gene: SummitAcademy\_41 Start: 30111, Stop: 29305, Start Num: 23

Candidate Starts for SummitAcademy\_41:

(Start: 23 @30111 has 55 MA's), (Start: 25 @30105 has 3 MA's), (Start: 50 @30003 has 1 MA's), (56, 29949), (69, 29886), (90, 29775), (92, 29760), (101, 29715), (102, 29712), (110, 29676), (111, 29667), (123, 29610), (134, 29562), (135, 29559), (144, 29517), (164, 29424), (176, 29355),

Gene: Survivors\_38 Start: 28560, Stop: 27748, Start Num: 23

Candidate Starts for Survivors\_38:

(6, 28632), (Start: 23 @28560 has 55 MA's), (69, 28344), (75, 28308), (83, 28266), (85, 28251), (90, 28233), (92, 28218), (93, 28215), (101, 28173), (111, 28125), (124, 28065), (132, 28032), (143, 27978), (146, 27963), (167, 27846),

Gene: SweatNTears\_41 Start: 28505, Stop: 27687, Start Num: 23

Candidate Starts for SweatNTears\_41:

(Start: 23 @28505 has 55 MA's), (56, 28349), (57, 28346), (67, 28298), (69, 28286), (83, 28208), (90, 28175), (92, 28160), (93, 28157), (97, 28133), (101, 28115), (110, 28076), (111, 28067), (123, 28010), (138, 27947), (147, 27896), (167, 27782), (176, 27743),

Gene: TMaxx\_37 Start: 24246, Stop: 23455, Start Num: 29

Candidate Starts for TMaxx\_37:

(Start: 17 @24318 has 1 MA's), (21, 24297), (Start: 25 @24279 has 3 MA's), (Start: 29 @24246 has 11 MA's), (34, 24210), (53, 24126), (58, 24108), (64, 24093), (77, 23997), (83, 23970), (93, 23916), (99, 23883), (106, 23853), (113, 23817), (130, 23739), (151, 23643), (160, 23583), (164, 23562),

Gene: Talia1610\_104 Start: 83848, Stop: 84657, Start Num: 40

Candidate Starts for Talia1610\_104:

(Start: 40 @83848 has 13 MA's), (64, 83953), (113, 84223), (130, 84301), (169, 84502), (176, 84532), (177, 84535), (183, 84565), (188, 84634), (189, 84652),

Gene: Tarnish\_42 Start: 30621, Stop: 29815, Start Num: 23

Candidate Starts for Tarnish\_42:

(Start: 23 @30621 has 55 MA's), (Start: 25 @30615 has 3 MA's), (Start: 50 @30513 has 1 MA's), (56, 30459), (69, 30396), (75, 30360), (90, 30285), (92, 30270), (101, 30225), (102, 30222), (110, 30186), (111, 30177), (123, 30120), (134, 30072), (135, 30069), (144, 30027), (164, 29934), (176, 29865),

Gene: Thunderclap\_60 Start: 41241, Stop: 40501, Start Num: 27

Candidate Starts for Thunderclap\_60:

(Start: 27 @41241 has 16 MA's), (32, 41211), (34, 41187), (41, 41175), (44, 41172), (46, 41166), (52, 41124), (54, 41115), (61, 41100), (65, 41091), (82, 40992), (84, 40977), (108, 40857), (112, 40839), (121, 40800), (125, 40791), (142, 40710), (148, 40683), (159, 40638), (160, 40635), (164, 40614), (171, 40569), (174, 40554),

Gene: Tolls\_41 Start: 28634, Stop: 27816, Start Num: 23

Candidate Starts for Tolls\_41:

(Start: 20 @28652 has 5 MA's), (Start: 23 @28634 has 55 MA's), (Start: 25 @28628 has 3 MA's), (56, 28478), (57, 28475), (67, 28427), (69, 28415), (83, 28337), (90, 28304), (93, 28286), (101, 28244), (102, 28241), (110, 28205), (111, 28196), (123, 28139), (132, 28100), (146, 28031), (147, 28025), (156, 27977), (176, 27872),

Gene: TripleC\_37 Start: 26597, Stop: 25806, Start Num: 29

Candidate Starts for TripleC\_37:

(Start: 17 @26669 has 1 MA's), (21, 26648), (Start: 25 @26630 has 3 MA's), (Start: 29 @26597 has 11 MA's), (34, 26561), (53, 26477), (58, 26459), (64, 26444), (77, 26348), (83, 26321), (93, 26267), (99, 26234), (106, 26204), (113, 26168), (130, 26090), (160, 25934), (164, 25913),

Gene: Triscuit\_80 Start: 49756, Stop: 50565, Start Num: 27

Candidate Starts for Triscuit\_80:

(Start: 27 @49756 has 16 MA's), (60, 49903), (66, 49933), (69, 49954), (90, 50065), (93, 50083), (101, 50125), (102, 50128), (110, 50164), (123, 50230), (146, 50335), (147, 50341), (152, 50362), (182, 50521),

Gene: Troje\_42 Start: 29091, Stop: 28273, Start Num: 23

Candidate Starts for Troje\_42:

(Start: 20 @29109 has 5 MA's), (Start: 23 @29091 has 55 MA's), (Start: 25 @29085 has 3 MA's), (56, 28935), (57, 28932), (69, 28872), (83, 28794), (90, 28761), (93, 28743), (101, 28701), (102, 28698), (110, 28662), (111, 28653), (123, 28596), (132, 28557), (141, 28512), (144, 28500), (146, 28488), (147, 28482), (156, 28434), (176, 28329),

Gene: Typhonomachy\_38 Start: 28227, Stop: 27409, Start Num: 23

Candidate Starts for Typhonomachy\_38:

(Start: 23 @28227 has 55 MA's), (56, 28071), (57, 28068), (67, 28020), (69, 28008), (83, 27930), (90, 27897), (92, 27882), (93, 27879), (101, 27837), (110, 27798), (111, 27789), (115, 27768), (123, 27732), (138, 27669), (147, 27618), (167, 27504), (176, 27465),

Gene: Vine\_44 Start: 30838, Stop: 30032, Start Num: 23

Candidate Starts for Vine\_44:

(Start: 23 @30838 has 55 MA's), (Start: 25 @30832 has 3 MA's), (Start: 50 @30730 has 1 MA's), (56, 30676), (69, 30613), (75, 30577), (90, 30502), (92, 30487), (101, 30442), (102, 30439), (110, 30403), (111, 30394), (123, 30337), (134, 30289), (135, 30286), (144, 30244), (164, 30151), (176, 30082),

Gene: WaddleDee\_91 Start: 79411, Stop: 80229, Start Num: 40

Candidate Starts for WaddleDee\_91:

(Start: 40 @79411 has 13 MA's), (Start: 50 @79438 has 1 MA's), (56, 79495), (59, 79504), (62, 79510), (113, 79786), (126, 79849), (130, 79864), (149, 79954), (158, 79999), (170, 80068), (176, 80095), (187, 80191), (188, 80206),

Gene: Wallaby\_40 Start: 28661, Stop: 27849, Start Num: 23

Candidate Starts for Wallaby\_40:

(6, 28733), (Start: 23 @28661 has 55 MA's), (69, 28445), (75, 28409), (83, 28367), (85, 28352), (90, 28334), (92, 28319), (93, 28316), (101, 28274), (111, 28226), (124, 28166), (132, 28133), (140, 28100), (143, 28079), (146, 28064), (167, 27947),

Gene: Wolfwood\_38 Start: 28632, Stop: 27820, Start Num: 23

Candidate Starts for Wolfwood\_38:

(6, 28704), (Start: 23 @28632 has 55 MA's), (69, 28416), (75, 28380), (83, 28338), (85, 28323), (90, 28305), (92, 28290), (93, 28287), (101, 28245), (111, 28197), (124, 28137), (132, 28104), (143, 28050), (146, 28035), (167, 27918),

Gene: Yakult\_42 Start: 29373, Stop: 28570, Start Num: 23

Candidate Starts for Yakult\_42:

(3, 29496), (4, 29466), (14, 29409), (Start: 22 @29376 has 3 MA's), (Start: 23 @29373 has 55 MA's), (Start: 50 @29274 has 1 MA's), (69, 29163), (75, 29127), (85, 29070), (90, 29052), (92, 29037), (93, 29034), (102, 28989), (110, 28953), (111, 28944), (138, 28824), (144, 28791), (146, 28779), (147, 28773), (152, 28752),

Gene: Yappy\_86 Start: 44513, Stop: 43758, Start Num: 31

Candidate Starts for Yappy\_86:

(26, 44546), (Start: 31 @44513 has 1 MA's), (48, 44447), (49, 44444), (51, 44411), (56, 44387), (63, 44369), (67, 44333), (98, 44168), (104, 44141), (105, 44138), (116, 44078), (117, 44075), (119, 44069), (121, 44060), (139, 43979), (142, 43958), (157, 43883), (165, 43847), (174, 43790),

Gene: Yarn\_37 Start: 28394, Stop: 27576, Start Num: 23

Candidate Starts for Yarn\_37:

(Start: 20 @28412 has 5 MA's), (Start: 23 @28394 has 55 MA's), (Start: 25 @28388 has 3 MA's), (56, 28238), (57, 28235), (67, 28187), (69, 28175), (83, 28097), (90, 28064), (93, 28046), (101, 28004), (102, 28001), (110, 27965), (111, 27956), (123, 27899), (132, 27860), (146, 27791), (147, 27785), (156, 27737), (176, 27632),

Gene: Yeezus\_60 Start: 41211, Stop: 40471, Start Num: 27

Candidate Starts for Yeezus\_60:

(Start: 27 @41211 has 16 MA's), (32, 41181), (34, 41157), (41, 41145), (44, 41142), (46, 41136), (52, 41094), (54, 41085), (61, 41070), (65, 41061), (82, 40962), (84, 40947), (108, 40827), (112, 40809), (121, 40770), (125, 40761), (142, 40680), (148, 40653), (159, 40608), (160, 40605), (164, 40584), (171, 40539), (174, 40524),

Gene: Yucky\_44 Start: 30778, Stop: 29972, Start Num: 23

Candidate Starts for Yucky\_44:

(Start: 23 @30778 has 55 MA's), (Start: 25 @30772 has 3 MA's), (Start: 50 @30670 has 1 MA's), (56, 30616), (69, 30553), (75, 30517), (90, 30442), (92, 30427), (101, 30382), (102, 30379), (110, 30343), (111, 30334), (123, 30277), (134, 30229), (135, 30226), (144, 30184), (164, 30091), (176, 30022),

Gene: Yummy\_42 Start: 28728, Stop: 27910, Start Num: 23

Candidate Starts for Yummy\_42:

(Start: 20 @28746 has 5 MA's), (Start: 23 @28728 has 55 MA's), (Start: 25 @28722 has 3 MA's), (56, 28572), (57, 28569), (69, 28509), (83, 28431), (90, 28398), (93, 28380), (101, 28338), (102, 28335), (110, 28299), (111, 28290), (123, 28233), (132, 28194), (141, 28149), (144, 28137), (146, 28125), (147, 28119), (176, 27966),

Gene: Zareef\_38 Start: 28654, Stop: 27842, Start Num: 23

Candidate Starts for Zareef\_38:

(6, 28726), (Start: 23 @28654 has 55 MA's), (69, 28438), (75, 28402), (83, 28360), (85, 28345), (90, 28327), (92, 28312), (93, 28309), (101, 28267), (111, 28219), (124, 28159), (132, 28126), (143, 28072), (146, 28057), (167, 27940),

Gene: Zooman\_96 Start: 73343, Stop: 72582, Start Num: 38

Candidate Starts for Zooman\_96:

(Start: 38 @73343 has 2 MA's), (77, 73151), (78, 73148), (107, 73001), (113, 72971), (128, 72905), (130, 72893), (143, 72833), (150, 72797), (160, 72740), (166, 72698), (176, 72644),

Gene: Zuko\_81 Start: 61795, Stop: 62607, Start Num: 25

Candidate Starts for Zuko\_81:

(Start: 25 @61795 has 3 MA's), (42, 61870), (72, 62005), (83, 62074), (84, 62080), (90, 62107), (93, 62125), (112, 62218), (119, 62248), (123, 62272), (135, 62326), (136, 62329), (145, 62377), (147, 62386), (152, 62407), (162, 62482),