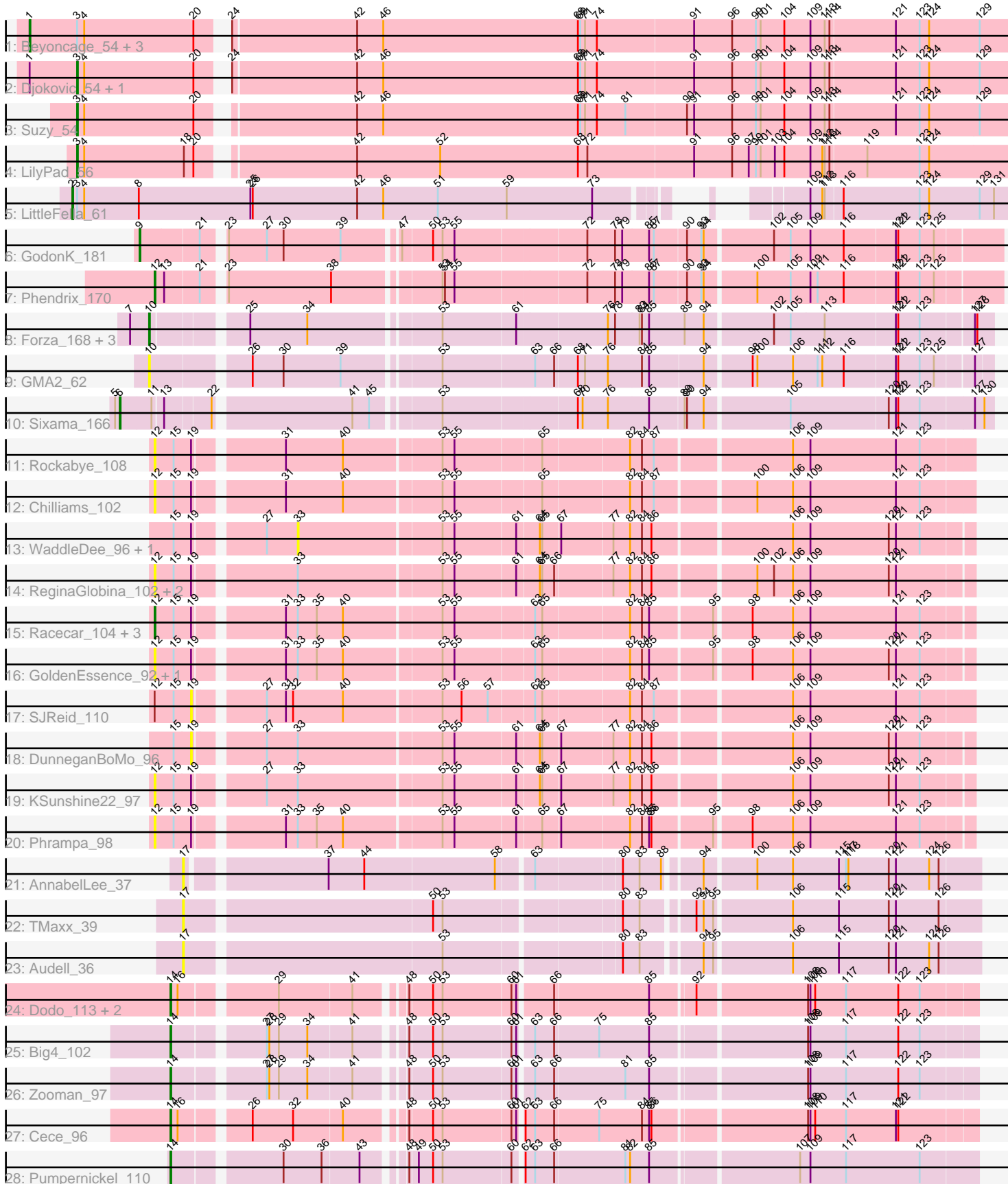


Pham 203065



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 203065 Report

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

Pham number 203065 has 44 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Beyoncage\_54, Sienna\_54, BiteSize\_54, Madi\_54
- Track 2 : Djokovic\_54, Terapin\_55
- Track 3 : Suzy\_54
- Track 4 : LilyPad\_56
- Track 5 : LittleFella\_61
- Track 6 : GodonK\_181
- Track 7 : Phendrix\_170
- Track 8 : Forza\_168, Boopy\_167, BlueNGGold\_164, Mareelih\_165
- Track 9 : GMA2\_62
- Track 10 : Sixama\_166
- Track 11 : Rockabye\_108
- Track 12 : Chilliams\_102
- Track 13 : WaddleDee\_96, Ellewin\_94
- Track 14 : ReginaGlobina\_102, LeoJr\_102, Atuin\_100
- Track 15 : Racecar\_104, Mimi\_109, Talia1610\_103, Bloom\_107
- Track 16 : GoldenEssence\_92, Patbob\_104
- Track 17 : SJReid\_110
- Track 18 : DunneganBoMo\_96
- Track 19 : KSunshine22\_97
- Track 20 : Phrampa\_98
- Track 21 : AnnabelLee\_37
- Track 22 : TMaxx\_39
- Track 23 : Audell\_36
- Track 24 : Dodo\_113, PauloDiaboli\_113, A3Wally\_113
- Track 25 : Big4\_102
- Track 26 : Zooman\_97
- Track 27 : Cece\_96
- Track 28 : Pumpernickel\_110

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

The start number called the most often in the published annotations is 14, it was called in 6 of the 24 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A3Wally\_113, Big4\_102, Cece\_96, Dodo\_113, PauloDiaboli\_113, Pumpernickel\_110, Zooman\_97,

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

- 

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

- AnnabelLee\_37, Atuin\_100, Audell\_36, Beyoncage\_54, BiteSize\_54, Bloom\_107, BlueNGold\_164, Boopy\_167, Chilliams\_102, Djokovic\_54, DunneganBoMo\_96, Ellewin\_94, Forza\_168, GMA2\_62, GodonK\_181, GoldenEssence\_92, KSunshine22\_97, LeoJr\_102, LilyPad\_56, LittleFella\_61, Madi\_54, Mareelih\_165, Mimi\_109, Patbob\_104, Phendrix\_170, Phrampa\_98, Racecar\_104, ReginaGlobina\_102, Rockabye\_108, SJReid\_110, Sienna\_54, Sixama\_166, Suzy\_54, TMaxx\_39, Talia1610\_103, Terapin\_55, WaddleDee\_96,

### Summary by start number:

Start 1:

- Found in 6 of 44 ( 13.6% ) of genes in pham
- Manual Annotations of this start: 4 of 24
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Beyoncage\_54 (DG1), BiteSize\_54 (DG1), Madi\_54 (DG1), Sienna\_54 (DG1),

Start 2:

- Found in 1 of 44 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 1 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleFella\_61 (DG2),

Start 3:

- Found in 9 of 44 ( 20.5% ) of genes in pham
- Manual Annotations of this start: 4 of 24
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Djokovic\_54 (DG1), LilyPad\_56 (DG1), Suzy\_54 (DG1), Terapin\_55 (DG1),

Start 6:

- Found in 1 of 44 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 1 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sixama\_166 (DS),

Start 9:

- Found in 1 of 44 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 1 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GodonK\_181 (DK),

Start 10:

- Found in 5 of 44 ( 11.4% ) of genes in pham
- Manual Annotations of this start: 4 of 24

- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueNGold\_164 (DS), Boopy\_167 (DS), Forza\_168 (DS), GMA2\_62 (DS), Mareelih\_165 (DS),

#### Start 12:

- Found in 15 of 44 ( 34.1% ) of genes in pham
- Manual Annotations of this start: 3 of 24
- Called 93.3% of time when present
- Phage (with cluster) where this start called: Atuin\_100 (FC), Bloom\_107 (FC), Chilliams\_102 (FC), GoldenEssence\_92 (FC), KSunshine22\_97 (FC), LeoJr\_102 (FC), Mimi\_109 (FC), Patbob\_104 (FC), Phendrix\_170 (DK), Phrampa\_98 (FC), Racecar\_104 (FC), ReginaGlobina\_102 (FC), Rockabye\_108 (FC), Talia1610\_103 (FC),

#### Start 14:

- Found in 7 of 44 ( 15.9% ) of genes in pham
- Manual Annotations of this start: 6 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally\_113 (GD1), Big4\_102 (GD2), Cece\_96 (GD3), Dodo\_113 (GD1), PauloDiaboli\_113 (GD1), Pumpernickel\_110 (GD4), Zooman\_97 (GD2),

#### Start 17:

- Found in 3 of 44 ( 6.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnnabelLee\_37 (FR), Audell\_36 (FR), TMaxx\_39 (FR),

#### Start 19:

- Found in 17 of 44 ( 38.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 11.8% of time when present
- Phage (with cluster) where this start called: DunneganBoMo\_96 (FC), SJReid\_110 (FC),

#### Start 33:

- Found in 14 of 44 ( 31.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Ellewin\_94 (FC), WaddleDee\_96 (FC),

### Summary by clusters:

There are 10 clusters represented in this pham: GD1, GD2, GD3, GD4, DK, FC, FR, DG2, DG1, DS,

#### Info for manual annotations of cluster DG1:

- Start number 1 was manually annotated 4 times for cluster DG1.
- Start number 3 was manually annotated 4 times for cluster DG1.

#### Info for manual annotations of cluster DG2:

- Start number 2 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DK:

- Start number 9 was manually annotated 1 time for cluster DK.
- Start number 12 was manually annotated 1 time for cluster DK.

Info for manual annotations of cluster DS:

- Start number 6 was manually annotated 1 time for cluster DS.
- Start number 10 was manually annotated 4 times for cluster DS.

Info for manual annotations of cluster FC:

- Start number 12 was manually annotated 2 times for cluster FC.

Info for manual annotations of cluster GD1:

- Start number 14 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 14 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 14 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 14 was manually annotated 1 time for cluster GD4.

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

Gene: A3Wally\_113 Start: 77350, Stop: 76415, Start Num: 14

Candidate Starts for A3Wally\_113:

(Start: 14 @77350 has 6 MA's), (16, 77341), (29, 77233), (41, 77143), (48, 77092), (50, 77065), (53, 77053), (60, 76969), (61, 76963), (66, 76924), (85, 76807), (92, 76756), (108, 76624), (109, 76621), (110, 76615), (117, 76576), (122, 76510), (123, 76483),

Gene: AnnabelLee\_37 Start: 24525, Stop: 23593, Start Num: 17

Candidate Starts for AnnabelLee\_37:

(17, 24525), (37, 24366), (44, 24321), (58, 24159), (63, 24120), (80, 24018), (83, 23997), (88, 23970), (94, 23931), (100, 23871), (106, 23826), (115, 23769), (117, 23760), (118, 23757), (120, 23706), (121, 23697), (124, 23655), (126, 23643),

Gene: Atuin\_100 Start: 83319, Stop: 84290, Start Num: 12

Candidate Starts for Atuin\_100:

(Start: 12 @83319 has 3 MA's), (15, 83343), (19, 83364), (33, 83478), (53, 83652), (55, 83667), (61, 83742), (64, 83769), (65, 83772), (66, 83787), (77, 83856), (82, 83877), (84, 83892), (86, 83904), (100, 84024), (102, 84045), (106, 84069), (109, 84090), (120, 84189), (121, 84198),

Gene: Audell\_36 Start: 26923, Stop: 25982, Start Num: 17

Candidate Starts for Audell\_36:

(17, 26923), (53, 26614), (80, 26407), (83, 26386), (94, 26320), (95, 26308), (106, 26215), (115, 26158), (120, 26095), (121, 26086), (124, 26044), (126, 26032),

Gene: Beyoncage\_54 Start: 40427, Stop: 41632, Start Num: 1

Candidate Starts for Beyoncage\_54:

(Start: 1 @40427 has 4 MA's), (Start: 3 @40487 has 4 MA's), (4, 40496), (20, 40634), (24, 40658), (42, 40811), (46, 40844), (68, 41090), (69, 41093), (71, 41099), (74, 41114), (91, 41234), (96, 41282), (99, 41312), (101, 41318), (104, 41348), (109, 41381), (113, 41399), (114, 41405), (121, 41486), (123, 41516), (124, 41528), (129, 41591),

Gene: Big4\_102 Start: 76433, Stop: 75498, Start Num: 14

Candidate Starts for Big4\_102:

(Start: 14 @76433 has 6 MA's), (27, 76331), (28, 76328), (29, 76316), (34, 76280), (41, 76226), (48, 76175), (50, 76148), (53, 76136), (60, 76052), (61, 76046), (63, 76031), (66, 76007), (75, 75953), (85, 75890), (108, 75707), (109, 75704), (117, 75659), (122, 75593), (123, 75566),

Gene: BiteSize\_54 Start: 40513, Stop: 41718, Start Num: 1

Candidate Starts for BiteSize\_54:

(Start: 1 @40513 has 4 MA's), (Start: 3 @40573 has 4 MA's), (4, 40582), (20, 40720), (24, 40744), (42, 40897), (46, 40930), (68, 41176), (69, 41179), (71, 41185), (74, 41200), (91, 41320), (96, 41368), (99, 41398), (101, 41404), (104, 41434), (109, 41467), (113, 41485), (114, 41491), (121, 41572), (123, 41602), (124, 41614), (129, 41677),

Gene: Bloom\_107 Start: 83495, Stop: 84466, Start Num: 12

Candidate Starts for Bloom\_107:

(Start: 12 @83495 has 3 MA's), (15, 83519), (19, 83540), (31, 83639), (33, 83654), (35, 83678), (40, 83711), (53, 83828), (55, 83843), (63, 83939), (65, 83948), (82, 84053), (84, 84068), (85, 84077), (95, 84152), (98, 84194), (106, 84245), (109, 84266), (121, 84374), (123, 84404),

Gene: BlueNGold\_164 Start: 94575, Stop: 93583, Start Num: 10

Candidate Starts for BlueNGold\_164:

(7, 94599), (Start: 10 @94575 has 4 MA's), (25, 94473), (34, 94401), (53, 94248), (61, 94158), (76, 94050), (78, 94041), (83, 94011), (84, 94008), (85, 93999), (89, 93954), (94, 93930), (102, 93849), (105, 93828), (113, 93786), (121, 93699), (122, 93696), (123, 93669), (127, 93606), (128, 93603),

Gene: Boopy\_167 Start: 94586, Stop: 93594, Start Num: 10

Candidate Starts for Boopy\_167:

(7, 94610), (Start: 10 @94586 has 4 MA's), (25, 94484), (34, 94412), (53, 94259), (61, 94169), (76, 94061), (78, 94052), (83, 94022), (84, 94019), (85, 94010), (89, 93965), (94, 93941), (102, 93860), (105, 93839), (113, 93797), (121, 93710), (122, 93707), (123, 93680), (127, 93617), (128, 93614),

Gene: Cece\_96 Start: 79474, Stop: 78539, Start Num: 14

Candidate Starts for Cece\_96:

(Start: 14 @79474 has 6 MA's), (16, 79465), (26, 79390), (32, 79339), (40, 79279), (48, 79216), (50, 79189), (53, 79177), (60, 79093), (61, 79087), (62, 79084), (63, 79072), (66, 79048), (75, 78994), (84, 78940), (85, 78931), (86, 78928), (108, 78748), (109, 78745), (110, 78739), (117, 78700), (121, 78637), (122, 78634),

Gene: Chilliams\_102 Start: 76293, Stop: 77267, Start Num: 12

Candidate Starts for Chilliams\_102:

(Start: 12 @76293 has 3 MA's), (15, 76317), (19, 76338), (31, 76437), (40, 76509), (53, 76626), (55, 76641), (65, 76746), (82, 76851), (84, 76866), (87, 76881), (100, 76998), (106, 77043), (109, 77064), (121, 77172), (123, 77202),

Gene: Djokovic\_54 Start: 40486, Stop: 41631, Start Num: 3

Candidate Starts for Djokovic\_54:

(Start: 1 @40426 has 4 MA's), (Start: 3 @40486 has 4 MA's), (4, 40495), (20, 40633), (24, 40657), (42, 40810), (46, 40843), (68, 41089), (69, 41092), (71, 41098), (74, 41113), (91, 41233), (96, 41281), (99, 41311), (101, 41317), (104, 41347), (109, 41380), (113, 41398), (114, 41404), (121, 41485), (123, 41515), (124, 41527), (129, 41590),

Gene: Dodo\_113 Start: 77660, Stop: 76725, Start Num: 14

Candidate Starts for Dodo\_113:

(Start: 14 @77660 has 6 MA's), (16, 77651), (29, 77543), (41, 77453), (48, 77402), (50, 77375), (53, 77363), (60, 77279), (61, 77273), (66, 77234), (85, 77117), (92, 77066), (108, 76934), (109, 76931), (110, 76925), (117, 76886), (122, 76820), (123, 76793),

Gene: DunneganBoMo\_96 Start: 79281, Stop: 80207, Start Num: 19

Candidate Starts for DunneganBoMo\_96:

(15, 79260), (19, 79281), (27, 79356), (33, 79395), (53, 79569), (55, 79584), (61, 79659), (64, 79686), (65, 79689), (67, 79710), (77, 79773), (82, 79794), (84, 79809), (86, 79821), (106, 79986), (109, 80007), (120, 80106), (121, 80115), (123, 80145),

Gene: Ellewin\_94 Start: 78806, Stop: 79618, Start Num: 33

Candidate Starts for Ellewin\_94:

(15, 78671), (19, 78692), (27, 78767), (33, 78806), (53, 78980), (55, 78995), (61, 79070), (64, 79097), (65, 79100), (67, 79121), (77, 79184), (82, 79205), (84, 79220), (86, 79232), (106, 79397), (109, 79418), (120, 79517), (121, 79526), (123, 79556),

Gene: Forza\_168 Start: 94503, Stop: 93511, Start Num: 10

Candidate Starts for Forza\_168:

(7, 94527), (Start: 10 @94503 has 4 MA's), (25, 94401), (34, 94329), (53, 94176), (61, 94086), (76, 93978), (78, 93969), (83, 93939), (84, 93936), (85, 93927), (89, 93882), (94, 93858), (102, 93777), (105, 93756), (113, 93714), (121, 93627), (122, 93624), (123, 93597), (127, 93534), (128, 93531),

Gene: GMA2\_62 Start: 65413, Stop: 64418, Start Num: 10

Candidate Starts for GMA2\_62:

(Start: 10 @65413 has 4 MA's), (26, 65302), (30, 65263), (39, 65191), (53, 65080), (63, 64966), (66, 64942), (68, 64915), (71, 64906), (76, 64879), (84, 64837), (85, 64828), (94, 64762), (98, 64708), (100, 64702), (106, 64657), (111, 64627), (112, 64621), (116, 64594), (121, 64531), (122, 64528), (123, 64501), (125, 64483), (127, 64438),

Gene: GodonK\_181 Start: 91029, Stop: 90010, Start Num: 9

Candidate Starts for GodonK\_181:

(Start: 9 @91029 has 1 MA's), (21, 90957), (23, 90936), (27, 90888), (30, 90867), (39, 90795), (47, 90732), (50, 90696), (53, 90684), (55, 90669), (72, 90510), (78, 90477), (79, 90468), (85, 90435), (87, 90429), (90, 90390), (93, 90372), (94, 90369), (102, 90288), (105, 90267), (109, 90243), (116, 90201), (121, 90138), (122, 90135), (123, 90108), (125, 90090),

Gene: GoldenEssence\_92 Start: 77287, Stop: 78258, Start Num: 12

Candidate Starts for GoldenEssence\_92:

(Start: 12 @77287 has 3 MA's), (15, 77311), (19, 77332), (31, 77431), (33, 77446), (35, 77470), (40, 77503), (53, 77620), (55, 77635), (63, 77731), (65, 77740), (82, 77845), (84, 77860), (85, 77869), (95, 77944), (98, 77986), (106, 78037), (109, 78058), (120, 78157), (121, 78166), (123, 78196),

Gene: KSunshine22\_97 Start: 80248, Stop: 81219, Start Num: 12

Candidate Starts for KSunshine22\_97:

(Start: 12 @80248 has 3 MA's), (15, 80272), (19, 80293), (27, 80368), (33, 80407), (53, 80581), (55, 80596), (61, 80671), (64, 80698), (65, 80701), (67, 80722), (77, 80785), (82, 80806), (84, 80821), (86,

80833), (106, 80998), (109, 81019), (120, 81118), (121, 81127), (123, 81157),

Gene: LeoJr\_102 Start: 83555, Stop: 84526, Start Num: 12

Candidate Starts for LeoJr\_102:

(Start: 12 @83555 has 3 MA's), (15, 83579), (19, 83600), (33, 83714), (53, 83888), (55, 83903), (61, 83978), (64, 84005), (65, 84008), (66, 84023), (77, 84092), (82, 84113), (84, 84128), (86, 84140), (100, 84260), (102, 84281), (106, 84305), (109, 84326), (120, 84425), (121, 84434),

Gene: LilyPad\_56 Start: 41683, Stop: 42828, Start Num: 3

Candidate Starts for LilyPad\_56:

(Start: 3 @41683 has 4 MA's), (4, 41692), (18, 41818), (20, 41830), (42, 42007), (52, 42112), (68, 42286), (72, 42298), (91, 42430), (96, 42478), (97, 42499), (99, 42508), (101, 42514), (103, 42532), (104, 42544), (109, 42577), (112, 42592), (113, 42595), (114, 42601), (119, 42646), (123, 42712), (124, 42724),

Gene: LittleFella\_61 Start: 43303, Stop: 44364, Start Num: 2

Candidate Starts for LittleFella\_61:

(Start: 2 @43303 has 1 MA's), (Start: 3 @43309 has 4 MA's), (4, 43318), (8, 43387), (25, 43528), (26, 43531), (42, 43663), (46, 43696), (51, 43765), (59, 43852), (73, 43960), (109, 44113), (112, 44128), (113, 44131), (116, 44152), (123, 44248), (124, 44260), (129, 44323), (131, 44341),

Gene: Madi\_54 Start: 40504, Stop: 41709, Start Num: 1

Candidate Starts for Madi\_54:

(Start: 1 @40504 has 4 MA's), (Start: 3 @40564 has 4 MA's), (4, 40573), (20, 40711), (24, 40735), (42, 40888), (46, 40921), (68, 41167), (69, 41170), (71, 41176), (74, 41191), (91, 41311), (96, 41359), (99, 41389), (101, 41395), (104, 41425), (109, 41458), (113, 41476), (114, 41482), (121, 41563), (123, 41593), (124, 41605), (129, 41668),

Gene: Mareelih\_165 Start: 94021, Stop: 93029, Start Num: 10

Candidate Starts for Mareelih\_165:

(7, 94045), (Start: 10 @94021 has 4 MA's), (25, 93919), (34, 93847), (53, 93694), (61, 93604), (76, 93496), (78, 93487), (83, 93457), (84, 93454), (85, 93445), (89, 93400), (94, 93376), (102, 93295), (105, 93274), (113, 93232), (121, 93145), (122, 93142), (123, 93115), (127, 93052), (128, 93049),

Gene: Mimi\_109 Start: 82842, Stop: 83813, Start Num: 12

Candidate Starts for Mimi\_109:

(Start: 12 @82842 has 3 MA's), (15, 82866), (19, 82887), (31, 82986), (33, 83001), (35, 83025), (40, 83058), (53, 83175), (55, 83190), (63, 83286), (65, 83295), (82, 83400), (84, 83415), (85, 83424), (95, 83499), (98, 83541), (106, 83592), (109, 83613), (121, 83721), (123, 83751),

Gene: Patbob\_104 Start: 83577, Stop: 84548, Start Num: 12

Candidate Starts for Patbob\_104:

(Start: 12 @83577 has 3 MA's), (15, 83601), (19, 83622), (31, 83721), (33, 83736), (35, 83760), (40, 83793), (53, 83910), (55, 83925), (63, 84021), (65, 84030), (82, 84135), (84, 84150), (85, 84159), (95, 84234), (98, 84276), (106, 84327), (109, 84348), (120, 84447), (121, 84456), (123, 84486),

Gene: PauloDiaboli\_113 Start: 76695, Stop: 75760, Start Num: 14

Candidate Starts for PauloDiaboli\_113:

(Start: 14 @76695 has 6 MA's), (16, 76686), (29, 76578), (41, 76488), (48, 76437), (50, 76410), (53, 76398), (60, 76314), (61, 76308), (66, 76269), (85, 76152), (92, 76101), (108, 75969), (109, 75966), (110, 75960), (117, 75921), (122, 75855), (123, 75828),

Gene: Phendrix\_170 Start: 90108, Stop: 89107, Start Num: 12



Candidate Starts for Phendrix\_170:

(Start: 12 @90108 has 3 MA's), (13, 90096), (21, 90054), (23, 90033), (38, 89904), (53, 89781), (54, 89778), (55, 89766), (72, 89607), (78, 89574), (79, 89565), (85, 89532), (87, 89526), (90, 89487), (93, 89469), (94, 89466), (100, 89406), (105, 89364), (109, 89340), (111, 89331), (116, 89298), (121, 89235), (122, 89232), (123, 89205), (125, 89187),

Gene: Phrampa\_98 Start: 84980, Stop: 85951, Start Num: 12

Candidate Starts for Phrampa\_98:

(Start: 12 @84980 has 3 MA's), (15, 85004), (19, 85025), (31, 85124), (33, 85139), (35, 85163), (40, 85196), (53, 85313), (55, 85328), (61, 85403), (65, 85433), (67, 85454), (82, 85538), (84, 85553), (85, 85562), (86, 85565), (95, 85637), (98, 85679), (106, 85730), (109, 85751), (121, 85859), (123, 85889),

Gene: Pumpernickel\_110 Start: 78248, Stop: 77310, Start Num: 14

Candidate Starts for Pumpernickel\_110:

(Start: 14 @78248 has 6 MA's), (30, 78125), (36, 78077), (43, 78032), (48, 77990), (49, 77981), (50, 77963), (53, 77951), (60, 77867), (62, 77858), (63, 77846), (66, 77822), (81, 77735), (82, 77729), (85, 77705), (107, 77531), (109, 77519), (117, 77474), (123, 77381),

Gene: Racecar\_104 Start: 83495, Stop: 84466, Start Num: 12

Candidate Starts for Racecar\_104:

(Start: 12 @83495 has 3 MA's), (15, 83519), (19, 83540), (31, 83639), (33, 83654), (35, 83678), (40, 83711), (53, 83828), (55, 83843), (63, 83939), (65, 83948), (82, 84053), (84, 84068), (85, 84077), (95, 84152), (98, 84194), (106, 84245), (109, 84266), (121, 84374), (123, 84404),

Gene: ReginaGlobina\_102 Start: 83120, Stop: 84091, Start Num: 12

Candidate Starts for ReginaGlobina\_102:

(Start: 12 @83120 has 3 MA's), (15, 83144), (19, 83165), (33, 83279), (53, 83453), (55, 83468), (61, 83543), (64, 83570), (65, 83573), (66, 83588), (77, 83657), (82, 83678), (84, 83693), (86, 83705), (100, 83825), (102, 83846), (106, 83870), (109, 83891), (120, 83990), (121, 83999),

Gene: Rockabye\_108 Start: 76731, Stop: 77705, Start Num: 12

Candidate Starts for Rockabye\_108:

(Start: 12 @76731 has 3 MA's), (15, 76755), (19, 76776), (31, 76875), (40, 76947), (53, 77064), (55, 77079), (65, 77184), (82, 77289), (84, 77304), (87, 77319), (106, 77481), (109, 77502), (121, 77610), (123, 77640),

Gene: SJReid\_110 Start: 75794, Stop: 76723, Start Num: 19

Candidate Starts for SJReid\_110:

(Start: 12 @75749 has 3 MA's), (15, 75773), (19, 75794), (27, 75869), (31, 75893), (32, 75902), (40, 75965), (53, 76082), (56, 76106), (57, 76139), (63, 76193), (65, 76202), (82, 76307), (84, 76322), (87, 76337), (106, 76499), (109, 76520), (121, 76628), (123, 76658),

Gene: Sienna\_54 Start: 40504, Stop: 41709, Start Num: 1

Candidate Starts for Sienna\_54:

(Start: 1 @40504 has 4 MA's), (Start: 3 @40564 has 4 MA's), (4, 40573), (20, 40711), (24, 40735), (42, 40888), (46, 40921), (68, 41167), (69, 41170), (71, 41176), (74, 41191), (91, 41311), (96, 41359), (99, 41389), (101, 41395), (104, 41425), (109, 41458), (113, 41476), (114, 41482), (121, 41563), (123, 41593), (124, 41605), (129, 41668),

Gene: Sixama\_166 Start: 94053, Stop: 93025, Start Num: 6

Candidate Starts for Sixama\_166:

(5, 94059), (Start: 6 @94053 has 1 MA's), (11, 94014), (13, 94002), (22, 93948), (41, 93786), (45, 93765), (53, 93690), (68, 93528), (70, 93522), (76, 93492), (85, 93441), (89, 93399), (90, 93396), (94,

93375), (105, 93273), (120, 93153), (121, 93144), (122, 93141), (123, 93114), (127, 93048), (130, 93036),

Gene: Suzy\_54 Start: 41757, Stop: 42902, Start Num: 3

Candidate Starts for Suzy\_54:

(Start: 3 @41757 has 4 MA's), (4, 41766), (20, 41904), (42, 42081), (46, 42114), (68, 42360), (69, 42363), (71, 42369), (74, 42384), (81, 42420), (90, 42495), (91, 42504), (96, 42552), (99, 42582), (101, 42588), (104, 42618), (109, 42651), (113, 42669), (114, 42675), (121, 42756), (123, 42786), (124, 42798), (129, 42861),

Gene: TMaxx\_39 Start: 25180, Stop: 24239, Start Num: 17

Candidate Starts for TMaxx\_39:

(17, 25180), (50, 24883), (53, 24871), (80, 24664), (83, 24643), (92, 24586), (94, 24577), (95, 24565), (106, 24472), (115, 24415), (120, 24352), (121, 24343), (126, 24289),

Gene: Talia1610\_103 Start: 82860, Stop: 83831, Start Num: 12

Candidate Starts for Talia1610\_103:

(Start: 12 @82860 has 3 MA's), (15, 82884), (19, 82905), (31, 83004), (33, 83019), (35, 83043), (40, 83076), (53, 83193), (55, 83208), (63, 83304), (65, 83313), (82, 83418), (84, 83433), (85, 83442), (95, 83517), (98, 83559), (106, 83610), (109, 83631), (121, 83739), (123, 83769),

Gene: Terapin\_55 Start: 40488, Stop: 41633, Start Num: 3

Candidate Starts for Terapin\_55:

(Start: 1 @40428 has 4 MA's), (Start: 3 @40488 has 4 MA's), (4, 40497), (20, 40635), (24, 40659), (42, 40812), (46, 40845), (68, 41091), (69, 41094), (71, 41100), (74, 41115), (91, 41235), (96, 41283), (99, 41313), (101, 41319), (104, 41349), (109, 41382), (113, 41400), (114, 41406), (121, 41487), (123, 41517), (124, 41529), (129, 41592),

Gene: WaddleDee\_96 Start: 78581, Stop: 79393, Start Num: 33

Candidate Starts for WaddleDee\_96:

(15, 78446), (19, 78467), (27, 78542), (33, 78581), (53, 78755), (55, 78770), (61, 78845), (64, 78872), (65, 78875), (67, 78896), (77, 78959), (82, 78980), (84, 78995), (86, 79007), (106, 79172), (109, 79193), (120, 79292), (121, 79301), (123, 79331),

Gene: Zooman\_97 Start: 74278, Stop: 73343, Start Num: 14

Candidate Starts for Zooman\_97:

(Start: 14 @74278 has 6 MA's), (27, 74176), (28, 74173), (29, 74161), (34, 74125), (41, 74071), (48, 74020), (50, 73993), (53, 73981), (60, 73897), (61, 73891), (63, 73876), (66, 73852), (81, 73765), (85, 73735), (108, 73552), (109, 73549), (117, 73504), (122, 73438), (123, 73411),