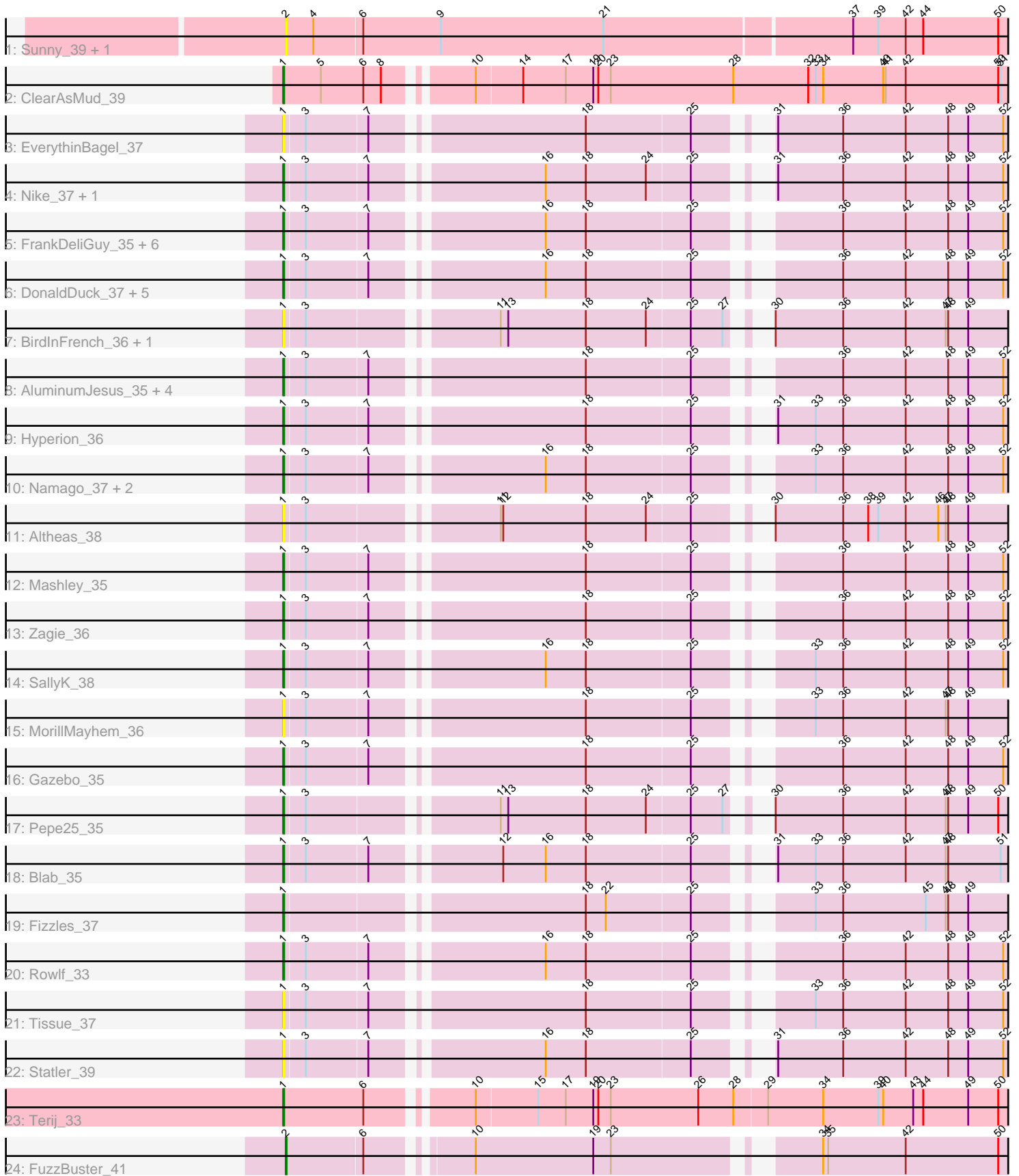


# Zoomed Pham 191370



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 191370 Report

This analysis was run 11/02/24 on database version 579.

Pham number 191370 has 44 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Sunny\_39, Merry\_39
- Track 2 : ClearAsMud\_39
- Track 3 : EverythinBagel\_37
- Track 4 : Nike\_37, Squash\_39
- Track 5 : FrankDeliGuy\_35, Phabia\_37, Casend\_38, Lonelysoil\_36, Wayne3\_38, Judebell\_39, Teehee\_38
- Track 6 : DonaldDuck\_37, Zhafia\_40, Wheelie\_36, Sillytadpoles\_38, Jehoshaphat\_39, Llemily\_37
- Track 7 : BirdInFrench\_36, Wilca\_36
- Track 8 : AluminumJesus\_35, Quammi\_35, Rudy\_35, Viceroy\_35, StrawberryJamm\_39
- Track 9 : Hyperion\_36
- Track 10 : Namago\_37, Kyva\_39, Grassboy\_38
- Track 11 : Altheas\_38
- Track 12 : Mashley\_35
- Track 13 : Zagie\_36
- Track 14 : SallyK\_38
- Track 15 : MorillMayhem\_36
- Track 16 : Gazebo\_35
- Track 17 : Pepe25\_35
- Track 18 : Blab\_35
- Track 19 : Fizzles\_37
- Track 20 : Rowlf\_33
- Track 21 : Tissue\_37
- Track 22 : Statler\_39
- Track 23 : Terij\_33
- Track 24 : FuzzBuster\_41

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

The start number called the most often in the published annotations is 1, it was called in 28 of the 29 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altheas\_38, AluminumJesus\_35, BirdInFrench\_36, Blab\_35, Casend\_38, ClearAsMud\_39, DonaldDuck\_37, EverythinBagel\_37, Fizzles\_37, FrankDeliGuy\_35, Gazebo\_35, Grassboy\_38, Hyperion\_36, Jehoshaphat\_39, Judebell\_39, Kyva\_39, Llemily\_37, Lonelysoil\_36, Mashley\_35, MorillMayhem\_36, Namago\_37, Nike\_37, Pepe25\_35, Phabia\_37, Quammi\_35, Rowlf\_33, Rudy\_35, SallyK\_38, Sillytadpoles\_38, Squash\_39, Statler\_39, StrawberryJamm\_39, Teehee\_38, Terij\_33, Tissue\_37, Viceroy\_35, Wayne3\_38, Wheelie\_36, Wilca\_36, Zagie\_36, Zhafia\_40,

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

- 

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

- FuzzBuster\_41, Merry\_39, Sunny\_39,

### Summary by start number:

Start 1:

- Found in 41 of 44 ( 93.2% ) of genes in pham
- Manual Annotations of this start: 28 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altheas\_38 (EG), AluminumJesus\_35 (EG), BirdInFrench\_36 (EG), Blab\_35 (EG), Casend\_38 (EG), ClearAsMud\_39 (EC), DonaldDuck\_37 (EG), EverythinBagel\_37 (EG), Fizzles\_37 (EG), FrankDeliGuy\_35 (EG), Gazebo\_35 (EG), Grassboy\_38 (EG), Hyperion\_36 (EG), Jehoshaphat\_39 (EG), Judebell\_39 (EG), Kyva\_39 (EG), Llemily\_37 (EG), Lonelysoil\_36 (EG), Mashley\_35 (EG), MorillMayhem\_36 (EG), Namago\_37 (EG), Nike\_37 (EG), Pepe25\_35 (EG), Phabia\_37 (EG), Quammi\_35 (EG), Rowlf\_33 (EG), Rudy\_35 (EG), SallyK\_38 (EG), Sillytadpoles\_38 (EG), Squash\_39 (EG), Statler\_39 (EG), StrawberryJamm\_39 (EG), Teehee\_38 (EG), Terij\_33 (EI), Tissue\_37 (EG), Viceroy\_35 (EG), Wayne3\_38 (EG), Wheelie\_36 (EG), Wilca\_36 (EG), Zagie\_36 (EG), Zhafia\_40 (EG),

Start 2:

- Found in 3 of 44 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FuzzBuster\_41 (singleton), Merry\_39 (EC), Sunny\_39 (EC),

### Summary by clusters:

There are 4 clusters represented in this pham: EG, EI, singleton, EC,

Info for manual annotations of cluster EC:

- Start number 1 was manually annotated 1 time for cluster EC.

Info for manual annotations of cluster EG:

- Start number 1 was manually annotated 26 times for cluster EG.

Info for manual annotations of cluster EI:

- Start number 1 was manually annotated 1 time for cluster EI.

### **Gene Information:**

Gene: Altheas\_38 Start: 26739, Stop: 28082, Start Num: 1

Candidate Starts for Altheas\_38:

(Start: 1 @26739 has 28 MA's), (3, 26763), (11, 26964), (12, 26967), (18, 27066), (24, 27138), (25, 27189), (30, 27240), (36, 27321), (38, 27351), (39, 27363), (42, 27396), (46, 27435), (47, 27444), (48, 27447), (49, 27471), (54, 27543), (58, 27585), (63, 27645), (66, 27711), (80, 27843), (84, 27891), (86, 27900), (91, 27954), (97, 28068),

Gene: AluminumJesus\_35 Start: 26345, Stop: 27685, Start Num: 1

Candidate Starts for AluminumJesus\_35:

(Start: 1 @26345 has 28 MA's), (3, 26369), (7, 26441), (18, 26672), (25, 26795), (36, 26927), (42, 27002), (48, 27053), (49, 27077), (52, 27119), (72, 27383), (75, 27401), (79, 27431), (92, 27578), (93, 27584), (97, 27671),

Gene: BirdInFrench\_36 Start: 24913, Stop: 26256, Start Num: 1

Candidate Starts for BirdInFrench\_36:

(Start: 1 @24913 has 28 MA's), (3, 24937), (11, 25138), (13, 25147), (18, 25240), (24, 25312), (25, 25363), (27, 25399), (30, 25414), (36, 25495), (42, 25570), (47, 25618), (48, 25621), (49, 25645), (54, 25717), (58, 25759), (63, 25819), (66, 25885), (80, 26017), (84, 26065), (86, 26074), (91, 26128), (97, 26242),

Gene: Blab\_35 Start: 26270, Stop: 27604, Start Num: 1

Candidate Starts for Blab\_35:

(Start: 1 @26270 has 28 MA's), (3, 26294), (7, 26366), (12, 26498), (16, 26549), (18, 26597), (25, 26720), (31, 26774), (33, 26819), (36, 26852), (42, 26927), (47, 26975), (48, 26978), (51, 27041), (63, 27176), (72, 27305), (80, 27362), (83, 27410), (93, 27503), (94, 27512), (97, 27590),

Gene: Casend\_38 Start: 26891, Stop: 28231, Start Num: 1

Candidate Starts for Casend\_38:

(Start: 1 @26891 has 28 MA's), (3, 26915), (7, 26987), (16, 27170), (18, 27218), (25, 27341), (36, 27473), (42, 27548), (48, 27599), (49, 27623), (52, 27665), (53, 27683), (54, 27695), (72, 27929), (75, 27947), (78, 27974), (79, 27977), (92, 28124), (93, 28130), (95, 28148), (97, 28217),

Gene: ClearAsMud\_39 Start: 24222, Stop: 25577, Start Num: 1

Candidate Starts for ClearAsMud\_39:

(Start: 1 @24222 has 28 MA's), (5, 24267), (6, 24318), (8, 24339), (10, 24426), (14, 24480), (17, 24531), (19, 24564), (20, 24570), (23, 24585), (28, 24732), (32, 24822), (33, 24831), (34, 24840), (40, 24912), (41, 24915), (42, 24939), (50, 25050), (51, 25053), (54, 25086), (57, 25116), (65, 25239), (74, 25323), (89, 25449), (92, 25485), (93, 25491), (98, 25569),

Gene: DonaldDuck\_37 Start: 26237, Stop: 27580, Start Num: 1

Candidate Starts for DonaldDuck\_37:

(Start: 1 @26237 has 28 MA's), (3, 26261), (7, 26333), (16, 26516), (18, 26564), (25, 26687), (36, 26819), (42, 26894), (48, 26945), (49, 26969), (52, 27011), (55, 27047), (70, 27251), (75, 27293), (91, 27452), (92, 27473), (95, 27497), (97, 27566),

Gene: EverythinBagel\_37 Start: 26625, Stop: 27968, Start Num: 1

Candidate Starts for EverythinBagel\_37:

(Start: 1 @26625 has 28 MA's), (3, 26649), (7, 26721), (18, 26952), (25, 27075), (31, 27129), (36, 27207), (42, 27282), (48, 27333), (49, 27357), (52, 27399), (55, 27435), (70, 27639), (72, 27663), (75, 27681), (91, 27840), (92, 27861), (95, 27885), (97, 27954),

Gene: Fizzles\_37 Start: 25850, Stop: 27190, Start Num: 1

Candidate Starts for Fizzles\_37:

(Start: 1 @25850 has 28 MA's), (18, 26177), (22, 26201), (25, 26300), (33, 26399), (36, 26432), (45, 26531), (47, 26555), (48, 26558), (49, 26582), (54, 26654), (63, 26756), (64, 26807), (67, 26828), (73, 26900), (80, 26951), (84, 26999), (91, 27062), (92, 27083), (94, 27098), (97, 27176),

Gene: FrankDeliGuy\_35 Start: 26197, Stop: 27537, Start Num: 1

Candidate Starts for FrankDeliGuy\_35:

(Start: 1 @26197 has 28 MA's), (3, 26221), (7, 26293), (16, 26476), (18, 26524), (25, 26647), (36, 26779), (42, 26854), (48, 26905), (49, 26929), (52, 26971), (53, 26989), (54, 27001), (72, 27235), (75, 27253), (78, 27280), (79, 27283), (92, 27430), (93, 27436), (95, 27454), (97, 27523),

Gene: FuzzBuster\_41 Start: 23513, Stop: 24814, Start Num: 2

Candidate Starts for FuzzBuster\_41:

(Start: 2 @23513 has 1 MA's), (6, 23603), (10, 23708), (19, 23849), (23, 23870), (34, 24074), (35, 24080), (42, 24173), (50, 24284), (59, 24362), (60, 24380), (62, 24398), (68, 24497), (76, 24563), (77, 24578), (82, 24632), (89, 24686), (93, 24728), (96, 24770), (98, 24806),

Gene: Gazebo\_35 Start: 26808, Stop: 28148, Start Num: 1

Candidate Starts for Gazebo\_35:

(Start: 1 @26808 has 28 MA's), (3, 26832), (7, 26904), (18, 27135), (25, 27258), (36, 27390), (42, 27465), (48, 27516), (49, 27540), (52, 27582), (72, 27846), (75, 27864), (78, 27891), (79, 27894), (92, 28041), (93, 28047), (97, 28134),

Gene: Grassboy\_38 Start: 26866, Stop: 28209, Start Num: 1

Candidate Starts for Grassboy\_38:

(Start: 1 @26866 has 28 MA's), (3, 26890), (7, 26962), (16, 27145), (18, 27193), (25, 27316), (33, 27415), (36, 27448), (42, 27523), (48, 27574), (49, 27598), (52, 27640), (73, 27919), (78, 27952), (79, 27955), (84, 28018), (97, 28195),

Gene: Hyperion\_36 Start: 26764, Stop: 28104, Start Num: 1

Candidate Starts for Hyperion\_36:

(Start: 1 @26764 has 28 MA's), (3, 26788), (7, 26860), (18, 27091), (25, 27214), (31, 27268), (33, 27313), (36, 27346), (42, 27421), (48, 27472), (49, 27496), (52, 27538), (72, 27802), (75, 27820), (79, 27850), (92, 27997), (93, 28003), (97, 28090),

Gene: Jehoshaphat\_39 Start: 27156, Stop: 28499, Start Num: 1

Candidate Starts for Jehoshaphat\_39:

(Start: 1 @27156 has 28 MA's), (3, 27180), (7, 27252), (16, 27435), (18, 27483), (25, 27606), (36, 27738), (42, 27813), (48, 27864), (49, 27888), (52, 27930), (55, 27966), (70, 28170), (75, 28212), (91, 28371), (92, 28392), (95, 28416), (97, 28485),

Gene: Judebell\_39 Start: 26662, Stop: 28002, Start Num: 1

Candidate Starts for Judebell\_39:

(Start: 1 @26662 has 28 MA's), (3, 26686), (7, 26758), (16, 26941), (18, 26989), (25, 27112), (36, 27244), (42, 27319), (48, 27370), (49, 27394), (52, 27436), (53, 27454), (54, 27466), (72, 27700), (75, 27718), (78, 27745), (79, 27748), (92, 27895), (93, 27901), (95, 27919), (97, 27988),

Gene: Kyva\_39 Start: 26901, Stop: 28244, Start Num: 1

Candidate Starts for Kyva\_39:

(Start: 1 @26901 has 28 MA's), (3, 26925), (7, 26997), (16, 27180), (18, 27228), (25, 27351), (33, 27450), (36, 27483), (42, 27558), (48, 27609), (49, 27633), (52, 27675), (73, 27954), (78, 27987), (79, 27990), (84, 28053), (97, 28230),

Gene: Llemily\_37 Start: 25932, Stop: 27275, Start Num: 1

Candidate Starts for Llemily\_37:

(Start: 1 @25932 has 28 MA's), (3, 25956), (7, 26028), (16, 26211), (18, 26259), (25, 26382), (36, 26514), (42, 26589), (48, 26640), (49, 26664), (52, 26706), (55, 26742), (70, 26946), (75, 26988), (91, 27147), (92, 27168), (95, 27192), (97, 27261),

Gene: Lonelysoil\_36 Start: 26177, Stop: 27517, Start Num: 1

Candidate Starts for Lonelysoil\_36:

(Start: 1 @26177 has 28 MA's), (3, 26201), (7, 26273), (16, 26456), (18, 26504), (25, 26627), (36, 26759), (42, 26834), (48, 26885), (49, 26909), (52, 26951), (53, 26969), (54, 26981), (72, 27215), (75, 27233), (78, 27260), (79, 27263), (92, 27410), (93, 27416), (95, 27434), (97, 27503),

Gene: Mashley\_35 Start: 26580, Stop: 27920, Start Num: 1

Candidate Starts for Mashley\_35:

(Start: 1 @26580 has 28 MA's), (3, 26604), (7, 26676), (18, 26907), (25, 27030), (36, 27162), (42, 27237), (48, 27288), (49, 27312), (52, 27354), (72, 27618), (75, 27636), (78, 27663), (79, 27666), (92, 27813), (93, 27819), (95, 27837), (97, 27906),

Gene: Merry\_39 Start: 25560, Stop: 26966, Start Num: 2

Candidate Starts for Merry\_39:

(Start: 2 @25560 has 1 MA's), (4, 25593), (6, 25650), (9, 25743), (21, 25938), (37, 26226), (39, 26256), (42, 26289), (44, 26310), (50, 26400), (62, 26523), (68, 26628), (71, 26667), (81, 26736), (85, 26784), (93, 26865), (97, 26952),

Gene: MorillMayhem\_36 Start: 26447, Stop: 27790, Start Num: 1

Candidate Starts for MorillMayhem\_36:

(Start: 1 @26447 has 28 MA's), (3, 26471), (7, 26543), (18, 26774), (25, 26897), (33, 26996), (36, 27029), (42, 27104), (47, 27152), (48, 27155), (49, 27179), (55, 27257), (70, 27461), (72, 27485), (75, 27503), (91, 27662), (92, 27683), (95, 27707), (97, 27776),

Gene: Namago\_37 Start: 26031, Stop: 27374, Start Num: 1

Candidate Starts for Namago\_37:

(Start: 1 @26031 has 28 MA's), (3, 26055), (7, 26127), (16, 26310), (18, 26358), (25, 26481), (33, 26580), (36, 26613), (42, 26688), (48, 26739), (49, 26763), (52, 26805), (73, 27084), (78, 27117), (79, 27120), (84, 27183), (97, 27360),

Gene: Nike\_37 Start: 26983, Stop: 28329, Start Num: 1

Candidate Starts for Nike\_37:

(Start: 1 @26983 has 28 MA's), (3, 27007), (7, 27079), (16, 27262), (18, 27310), (24, 27382), (25, 27433), (31, 27487), (36, 27565), (42, 27640), (48, 27691), (49, 27715), (52, 27757), (61, 27856), (63, 27889), (72, 28024), (90, 28186), (97, 28315),

Gene: Pepe25\_35 Start: 24930, Stop: 26273, Start Num: 1

Candidate Starts for Pepe25\_35:

(Start: 1 @24930 has 28 MA's), (3, 24954), (11, 25155), (13, 25164), (18, 25257), (24, 25329), (25, 25380), (27, 25416), (30, 25431), (36, 25512), (42, 25587), (47, 25635), (48, 25638), (49, 25662), (50, 25698), (66, 25902), (80, 26034), (97, 26259),

Gene: Phabia\_37 Start: 26350, Stop: 27690, Start Num: 1

Candidate Starts for Phabia\_37:

(Start: 1 @26350 has 28 MA's), (3, 26374), (7, 26446), (16, 26629), (18, 26677), (25, 26800), (36, 26932), (42, 27007), (48, 27058), (49, 27082), (52, 27124), (53, 27142), (54, 27154), (72, 27388), (75,

27406), (78, 27433), (79, 27436), (92, 27583), (93, 27589), (95, 27607), (97, 27676),

Gene: Quammi\_35 Start: 26053, Stop: 27393, Start Num: 1

Candidate Starts for Quammi\_35:

(Start: 1 @26053 has 28 MA's), (3, 26077), (7, 26149), (18, 26380), (25, 26503), (36, 26635), (42, 26710), (48, 26761), (49, 26785), (52, 26827), (72, 27091), (75, 27109), (79, 27139), (92, 27286), (93, 27292), (97, 27379),

Gene: Rowlf\_33 Start: 26228, Stop: 27568, Start Num: 1

Candidate Starts for Rowlf\_33:

(Start: 1 @26228 has 28 MA's), (3, 26252), (7, 26324), (16, 26507), (18, 26555), (25, 26678), (36, 26810), (42, 26885), (48, 26936), (49, 26960), (52, 27002), (72, 27266), (75, 27284), (79, 27314), (92, 27461), (93, 27467), (97, 27554),

Gene: Rudy\_35 Start: 26086, Stop: 27426, Start Num: 1

Candidate Starts for Rudy\_35:

(Start: 1 @26086 has 28 MA's), (3, 26110), (7, 26182), (18, 26413), (25, 26536), (36, 26668), (42, 26743), (48, 26794), (49, 26818), (52, 26860), (72, 27124), (75, 27142), (79, 27172), (92, 27319), (93, 27325), (97, 27412),

Gene: SallyK\_38 Start: 27030, Stop: 28373, Start Num: 1

Candidate Starts for SallyK\_38:

(Start: 1 @27030 has 28 MA's), (3, 27054), (7, 27126), (16, 27309), (18, 27357), (25, 27480), (33, 27579), (36, 27612), (42, 27687), (48, 27738), (49, 27762), (52, 27804), (55, 27840), (70, 28044), (75, 28086), (91, 28245), (92, 28266), (95, 28290), (97, 28359),

Gene: Sillytadpoles\_38 Start: 25920, Stop: 27263, Start Num: 1

Candidate Starts for Sillytadpoles\_38:

(Start: 1 @25920 has 28 MA's), (3, 25944), (7, 26016), (16, 26199), (18, 26247), (25, 26370), (36, 26502), (42, 26577), (48, 26628), (49, 26652), (52, 26694), (55, 26730), (70, 26934), (75, 26976), (91, 27135), (92, 27156), (95, 27180), (97, 27249),

Gene: Squash\_39 Start: 26994, Stop: 28340, Start Num: 1

Candidate Starts for Squash\_39:

(Start: 1 @26994 has 28 MA's), (3, 27018), (7, 27090), (16, 27273), (18, 27321), (24, 27393), (25, 27444), (31, 27498), (36, 27576), (42, 27651), (48, 27702), (49, 27726), (52, 27768), (61, 27867), (63, 27900), (72, 28035), (90, 28197), (97, 28326),

Gene: Statler\_39 Start: 26839, Stop: 28179, Start Num: 1

Candidate Starts for Statler\_39:

(Start: 1 @26839 has 28 MA's), (3, 26863), (7, 26935), (16, 27118), (18, 27166), (25, 27289), (31, 27343), (36, 27421), (42, 27496), (48, 27547), (49, 27571), (52, 27613), (72, 27877), (75, 27895), (78, 27922), (79, 27925), (92, 28072), (93, 28078), (95, 28096), (97, 28165),

Gene: StrawberryJamm\_39 Start: 26290, Stop: 27630, Start Num: 1

Candidate Starts for StrawberryJamm\_39:

(Start: 1 @26290 has 28 MA's), (3, 26314), (7, 26386), (18, 26617), (25, 26740), (36, 26872), (42, 26947), (48, 26998), (49, 27022), (52, 27064), (72, 27328), (75, 27346), (79, 27376), (92, 27523), (93, 27529), (97, 27616),

Gene: Sunny\_39 Start: 25562, Stop: 26968, Start Num: 2

Candidate Starts for Sunny\_39:

(Start: 2 @25562 has 1 MA's), (4, 25595), (6, 25652), (9, 25745), (21, 25940), (37, 26228), (39, 26258), (42, 26291), (44, 26312), (50, 26402), (62, 26525), (68, 26630), (71, 26669), (81, 26738), (85, 26786), (93, 26867), (97, 26954),

Gene: Teehee\_38 Start: 27156, Stop: 28496, Start Num: 1

Candidate Starts for Teehee\_38:

(Start: 1 @27156 has 28 MA's), (3, 27180), (7, 27252), (16, 27435), (18, 27483), (25, 27606), (36, 27738), (42, 27813), (48, 27864), (49, 27888), (52, 27930), (53, 27948), (54, 27960), (72, 28194), (75, 28212), (78, 28239), (79, 28242), (92, 28389), (93, 28395), (95, 28413), (97, 28482),

Gene: Terij\_33 Start: 22891, Stop: 24228, Start Num: 1

Candidate Starts for Terij\_33:

(Start: 1 @22891 has 28 MA's), (6, 22987), (10, 23095), (15, 23167), (17, 23200), (19, 23233), (20, 23239), (23, 23254), (26, 23359), (28, 23398), (29, 23437), (34, 23503), (39, 23569), (40, 23575), (43, 23611), (44, 23623), (49, 23677), (50, 23713), (56, 23776), (63, 23842), (72, 23959), (77, 23995), (87, 24073), (88, 24079), (92, 24136), (95, 24160), (97, 24214), (98, 24220),

Gene: Tissue\_37 Start: 26673, Stop: 28016, Start Num: 1

Candidate Starts for Tissue\_37:

(Start: 1 @26673 has 28 MA's), (3, 26697), (7, 26769), (18, 27000), (25, 27123), (33, 27222), (36, 27255), (42, 27330), (48, 27381), (49, 27405), (52, 27447), (73, 27726), (78, 27759), (79, 27762), (84, 27825), (97, 28002),

Gene: Viceroy\_35 Start: 26053, Stop: 27393, Start Num: 1

Candidate Starts for Viceroy\_35:

(Start: 1 @26053 has 28 MA's), (3, 26077), (7, 26149), (18, 26380), (25, 26503), (36, 26635), (42, 26710), (48, 26761), (49, 26785), (52, 26827), (72, 27091), (75, 27109), (79, 27139), (92, 27286), (93, 27292), (97, 27379),

Gene: Wayne3\_38 Start: 26919, Stop: 28259, Start Num: 1

Candidate Starts for Wayne3\_38:

(Start: 1 @26919 has 28 MA's), (3, 26943), (7, 27015), (16, 27198), (18, 27246), (25, 27369), (36, 27501), (42, 27576), (48, 27627), (49, 27651), (52, 27693), (53, 27711), (54, 27723), (72, 27957), (75, 27975), (78, 28002), (79, 28005), (92, 28152), (93, 28158), (95, 28176), (97, 28245),

Gene: Wheelie\_36 Start: 26237, Stop: 27580, Start Num: 1

Candidate Starts for Wheelie\_36:

(Start: 1 @26237 has 28 MA's), (3, 26261), (7, 26333), (16, 26516), (18, 26564), (25, 26687), (36, 26819), (42, 26894), (48, 26945), (49, 26969), (52, 27011), (55, 27047), (70, 27251), (75, 27293), (91, 27452), (92, 27473), (95, 27497), (97, 27566),

Gene: Wilca\_36 Start: 24913, Stop: 26256, Start Num: 1

Candidate Starts for Wilca\_36:

(Start: 1 @24913 has 28 MA's), (3, 24937), (11, 25138), (13, 25147), (18, 25240), (24, 25312), (25, 25363), (27, 25399), (30, 25414), (36, 25495), (42, 25570), (47, 25618), (48, 25621), (49, 25645), (54, 25717), (58, 25759), (63, 25819), (66, 25885), (80, 26017), (84, 26065), (86, 26074), (91, 26128), (97, 26242),

Gene: Zagie\_36 Start: 26491, Stop: 27831, Start Num: 1

Candidate Starts for Zagie\_36:

(Start: 1 @26491 has 28 MA's), (3, 26515), (7, 26587), (18, 26818), (25, 26941), (36, 27073), (42, 27148), (48, 27199), (49, 27223), (52, 27265), (69, 27499), (72, 27529), (75, 27547), (78, 27574), (79, 27577), (92, 27724), (93, 27730), (95, 27748), (97, 27817),



Gene: Zhafia\_40 Start: 26715, Stop: 28058, Start Num: 1

Candidate Starts for Zhafia\_40:

(Start: 1 @26715 has 28 MA's), (3, 26739), (7, 26811), (16, 26994), (18, 27042), (25, 27165), (36, 27297), (42, 27372), (48, 27423), (49, 27447), (52, 27489), (55, 27525), (70, 27729), (75, 27771), (91, 27930), (92, 27951), (95, 27975), (97, 28044),