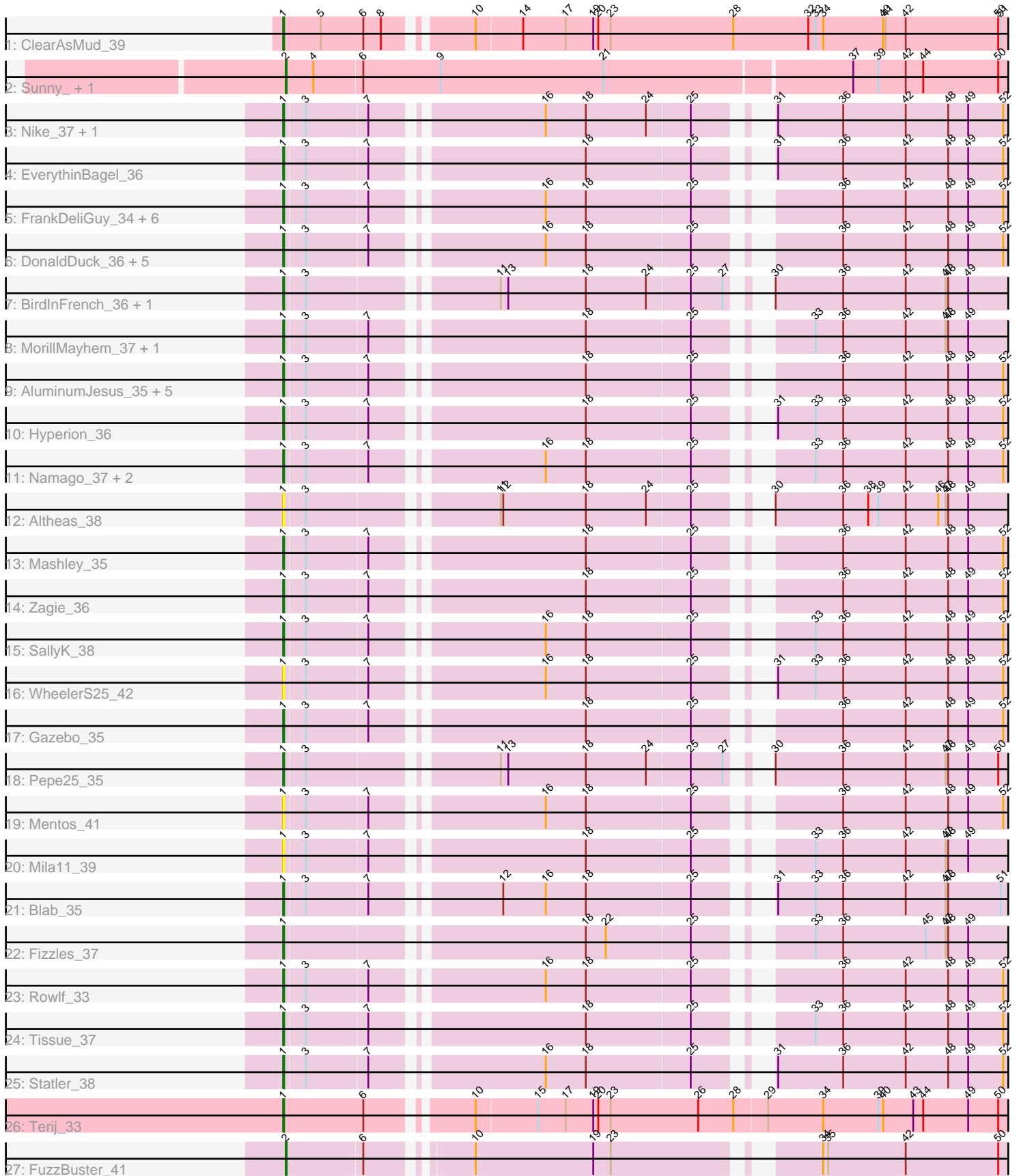


# Zoomed Pham 305088



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 305088 Report

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

Pham number 305088 has 49 members, 6 are drafts.

Phages represented in each track:

- Track 1 : ClearAsMud\_39
- Track 2 : Sunny\_, Merry\_
- Track 3 : Nike\_37, Squash\_39
- Track 4 : EverythinBagel\_36
- Track 5 : FrankDeliGuy\_34, Phabia\_37, Casend\_38, Judebell\_39, Lonelysoil\_36, Wayne3\_38, Teehee\_38
- Track 6 : DonaldDuck\_36, Wheelie\_36, Sillytadpoles\_37, Jehoshaphat\_39, Llemily\_36, Zhafia\_39
- Track 7 : BirdInFrench\_36, Wilca\_36
- Track 8 : MorillMayhem\_37, BaconCheese\_40
- Track 9 : AluminumJesus\_35, SlySloth\_39, Quammi\_35, Viceroy\_35, Rudy\_35, StrawberryJamm\_39
- Track 10 : Hyperion\_36
- Track 11 : Namago\_37, Kyva\_39, Grassboy\_38
- Track 12 : Altheas\_38
- Track 13 : Mashley\_35
- Track 14 : Zagie\_36
- Track 15 : SallyK\_38
- Track 16 : WheelerS25\_42
- Track 17 : Gazebo\_35
- Track 18 : Pepe25\_35
- Track 19 : Mentos\_41
- Track 20 : Mila11\_39
- Track 21 : Blab\_35
- Track 22 : Fizzles\_37
- Track 23 : Rowlf\_33
- Track 24 : Tissue\_37
- Track 25 : Statler\_38
- Track 26 : Terij\_33
- Track 27 : 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 40 of the 43 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altheas\_38, AluminumJesus\_35, BaconCheese\_40, BirdInFrench\_36, Blab\_35, Casend\_38, ClearAsMud\_39, DonaldDuck\_36, EverythinBagel\_36, Fizzles\_37, FrankDeliGuy\_34, Gazebo\_35, Grassboy\_38, Hyperion\_36, Jehoshaphat\_39, Judebell\_39, Kyva\_39, Llemily\_36, Lonelysoil\_36, Mashley\_35, Mentos\_41, Mila11\_39, MorillMayhem\_37, Namago\_37, Nike\_37, Pepe25\_35, Phabia\_37, Quammi\_35, Rowlf\_33, Rudy\_35, SallyK\_38, Sillytadpoles\_37, SlySloth\_39, Squash\_39, Statler\_38, StrawberryJamm\_39, Teehee\_38, Terij\_33, Tissue\_37, Viceroy\_35, Wayne3\_38, WheelerS25\_42, Wheelie\_36, Wilca\_36, Zagie\_36, Zhafia\_39,

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

- 

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

- FuzzBuster\_41, Merry\_, Sunny\_

### Summary by start number:

Start 1:

- Found in 46 of 49 ( 93.9% ) of genes in pham
- Manual Annotations of this start: 40 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altheas\_38 (EG), AluminumJesus\_35 (EG), BaconCheese\_40 (EG), BirdInFrench\_36 (EG), Blab\_35 (EG), Casend\_38 (EG), ClearAsMud\_39 (EC), DonaldDuck\_36 (EG), EverythinBagel\_36 (EG), Fizzles\_37 (EG), FrankDeliGuy\_34 (EG), Gazebo\_35 (EG), Grassboy\_38 (EG), Hyperion\_36 (EG), Jehoshaphat\_39 (EG), Judebell\_39 (EG), Kyva\_39 (EG), Llemily\_36 (EG), Lonelysoil\_36 (EG), Mashley\_35 (EG), Mentos\_41 (EG), Mila11\_39 (EG), MorillMayhem\_37 (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\_37 (EG), SlySloth\_39 (EG), Squash\_39 (EG), Statler\_38 (EG), StrawberryJamm\_39 (EG), Teehee\_38 (EG), Terij\_33 (EI), Tissue\_37 (EG), Viceroy\_35 (EG), Wayne3\_38 (EG), WheelerS25\_42 (EG), Wheelie\_36 (EG), Wilca\_36 (EG), Zagie\_36 (EG), Zhafia\_39 (EG),

Start 2:

- Found in 3 of 49 ( 6.1% ) of genes in pham
- Manual Annotations of this start: 3 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FuzzBuster\_41 (GM), Merry\_ (EC), Sunny\_ (EC),

### Summary by clusters:

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

Info for manual annotations of cluster EC:

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

Info for manual annotations of cluster EG:

- Start number 1 was manually annotated 38 times for cluster EG.

Info for manual annotations of cluster EI:

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

Info for manual annotations of cluster GM:

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

### **Gene Information:**

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

Candidate Starts for Altheas\_38:

(Start: 1 @26739 has 40 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 40 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: BaconCheese\_40 Start: 27731, Stop: 29074, Start Num: 1

Candidate Starts for BaconCheese\_40:

(Start: 1 @27731 has 40 MA's), (3, 27755), (7, 27827), (18, 28058), (25, 28181), (33, 28280), (36, 28313), (42, 28388), (47, 28436), (48, 28439), (49, 28463), (55, 28541), (70, 28745), (72, 28769), (75, 28787), (91, 28946), (92, 28967), (95, 28991), (97, 29060),

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

Candidate Starts for BirdInFrench\_36:

(Start: 1 @24913 has 40 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 40 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 40 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 40 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\_36 Start: 26237, Stop: 27580, Start Num: 1

Candidate Starts for DonaldDuck\_36:

(Start: 1 @26237 has 40 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\_36 Start: 26625, Stop: 27968, Start Num: 1

Candidate Starts for EverythinBagel\_36:

(Start: 1 @26625 has 40 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 40 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\_34 Start: 26197, Stop: 27537, Start Num: 1

Candidate Starts for FrankDeliGuy\_34:

(Start: 1 @26197 has 40 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 3 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 40 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 40 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 40 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 40 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 40 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 40 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\_36 Start: 25932, Stop: 27275, Start Num: 1

Candidate Starts for Llemily\_36:

(Start: 1 @25932 has 40 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 40 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 40 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: Mentos\_41 Start: 27667, Stop: 29010, Start Num: 1

Candidate Starts for Mentos\_41:

(Start: 1 @27667 has 40 MA's), (3, 27691), (7, 27763), (16, 27946), (18, 27994), (25, 28117), (36, 28249), (42, 28324), (48, 28375), (49, 28399), (52, 28441), (55, 28477), (70, 28681), (72, 28705), (75, 28723), (91, 28882), (92, 28903), (95, 28927), (97, 28996),

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

Candidate Starts for Merry\_:

(Start: 2 @25560 has 3 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: Mila11\_39 Start: 27552, Stop: 28892, Start Num: 1

Candidate Starts for Mila11\_39:

(Start: 1 @27552 has 40 MA's), (3, 27576), (7, 27648), (18, 27879), (25, 28002), (33, 28101), (36, 28134), (42, 28209), (47, 28257), (48, 28260), (49, 28284), (54, 28356), (72, 28590), (75, 28608), (78,

28635), (79, 28638), (92, 28785), (93, 28791), (95, 28809), (97, 28878),

Gene: MorillMayhem\_37 Start: 26447, Stop: 27790, Start Num: 1

Candidate Starts for MorillMayhem\_37:

(Start: 1 @26447 has 40 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 40 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 40 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 40 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 40 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 40 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 40 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 40 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 40 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\_37 Start: 25920, Stop: 27263, Start Num: 1

Candidate Starts for Sillytadpoles\_37:

(Start: 1 @25920 has 40 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: SlySloth\_39 Start: 26925, Stop: 28265, Start Num: 1

Candidate Starts for SlySloth\_39:

(Start: 1 @26925 has 40 MA's), (3, 26949), (7, 27021), (18, 27252), (25, 27375), (36, 27507), (42, 27582), (48, 27633), (49, 27657), (52, 27699), (72, 27963), (75, 27981), (79, 28011), (92, 28158), (93, 28164), (97, 28251),

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

Candidate Starts for Squash\_39:

(Start: 1 @26994 has 40 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\_38 Start: 26839, Stop: 28179, Start Num: 1

Candidate Starts for Statler\_38:

(Start: 1 @26839 has 40 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 40 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\_ Start: 25562, Stop: 26968, Start Num: 2

Candidate Starts for Sunny\_:

(Start: 2 @25562 has 3 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 40 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 40 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 40 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 40 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 40 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: WheelerS25\_42 Start: 27679, Stop: 29022, Start Num: 1

Candidate Starts for WheelerS25\_42:

(Start: 1 @27679 has 40 MA's), (3, 27703), (7, 27775), (16, 27958), (18, 28006), (25, 28129), (31, 28183), (33, 28228), (36, 28261), (42, 28336), (48, 28387), (49, 28411), (52, 28453), (55, 28489), (66, 28648), (70, 28693), (75, 28735), (80, 28780), (95, 28939), (97, 29008),

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

Candidate Starts for Wheelie\_36:

(Start: 1 @26237 has 40 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 40 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 40 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\_39 Start: 26715, Stop: 28058, Start Num: 1

Candidate Starts for Zhafia\_39:

(Start: 1 @26715 has 40 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),