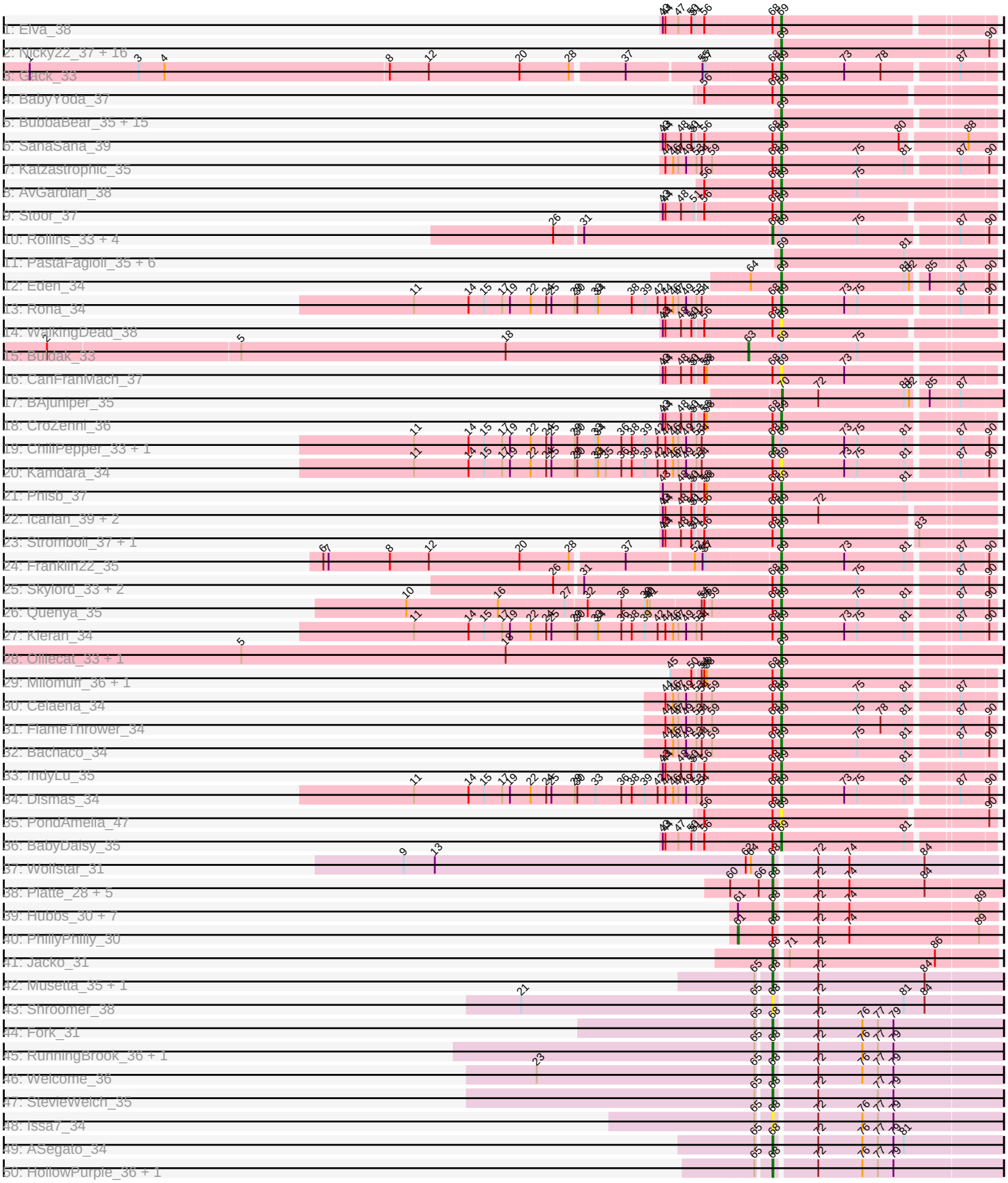
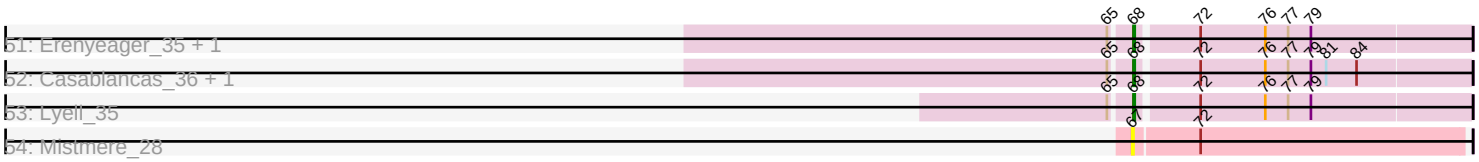
Pham 304829


1: Elva_38
2: Nicky22_37 + 16
3: Clack_33
4: BabyYoda_37
5: BubbaBear_35 + 15
6: SanaSana_39
7: Katzastrophic_35
8: AvGardian_38
9: Stoor_37
10: Rollins_33 + 4
11: PastaFagioli_35 + 6
12: Eden_34
13: Rona_34
14: WalkingDead_38
15: Buldak_33
16: CanFranMach_37
17: BAjuniper_35
18: CroZenni_36
19: ChiliPepper_33 + 1
20: Kamdara_34
21: Phisb_37
22: Icarian_39 + 2
23: Stromboli_37 + 1
24: Franklin22_35
25: Skylord_33 + 2
26: Quenya_35
27: Kieran_34
28: Ollecat_33 + 1
29: Mllomuff_36 + 1
30: Celaena_34
31: FlameThrower_34
32: Bachaco_34
33: IndyLu_35
34: Dismas_34
35: PondAmelia_47
36: BabyDaisy_35
37: Wolfstar_31
38: Platte_28 + 5
39: Hubbs_30 + 7
40: PhillyPhilly_30
41: Jacko_31
42: Musetta_35 + 1
43: Shroomer_38
44: Fork_31
45: RunningBrook_36 + 1
46: Welcome_36
47: StevieWelch_35
48: Issa7_34
49: ASegato_34
50: HollowPurple_36 + 1

Pham 304829


65
68
72
76
77
79
51: Erenyeager_35 + 1
65
68
72
76
77
79
81
84
52: Casablancas_36 + 1
65
68
72
76
77
79
53: Lyell_35
68
72
54: Mistmere_28

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 304829 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 304829 has 120 members, 17 are drafts.

Phages represented in each track:
• Track 1 : Elva_38
• Track 2 : Nicky22_37, Kenzers_36, AylexOG_38, SarBear_36, Jabb_37, SirBeanington_36, Eula_37, Lynlen_36, Lilo27_37, CupcakePrincess_37, Jovita_37, MsUbiquitous_37, QMacho_38, Slay_37, Pecas_36, Swervy_37, Albedo_36
• Track 3 : Gack_33
• Track 4 : BabyYoda_37
• Track 5 : BubbaBear_35, Bengal_37, AnnaLie_37, Albright_34, Abigail_35, SansAfet_37, Finalfrontier_36, BelmontSKP_37, Arroyo_37, Doobus_35, Softsoap_36, Johnathan_35, Burritobowl_36, DickRichards_35, LimaBean_35, Avocadoman_35
• Track 6 : SanaSana_39
• Track 7 : Katzastrophic_35
• Track 8 : AvGardian_38
• Track 9 : Stoor_37
• Track 10 : Rollins_33, Coltrane_33, Brahms_33, Bernstein_33, Armstrong_33
• Track 11 : PastaFagioli_35, Didgeridoo_38, Kate33_36, PhigPhack_37, Cashington_34, TukTuk_37, Lahqtemish_35
• Track 12 : Eden_34
• Track 13 : Rona_34
• Track 14 : WalkingDead_38
• Track 15 : Buldak_33
• Track 16 : CanFranMach_37
• Track 17 : BAjuniper_35
• Track 18 : CroZenni_36
• Track 19 : ChiliPepper_33, Sharkboy_35
• Track 20 : Kamdara_34
• Track 21 : Phisb_37
• Track 22 : Icarian_39, Akino08_37, Loviatar_37
• Track 23 : Stromboli_37, DirtyBubble_36
• Track 24 : Franklin22_35
• Track 25 : Skylord_33, Vitas_33, Clayda5_34
• Track 26 : Quenya_35
• Track 27 : Kieran_34

• Track 28 : Olliecat_33, Squircle_33
• Track 29 : Milomuff_36, Solea_37
• Track 30 : Celaena_34
• Track 31 : FlameThrower_34
• Track 32 : Bachaco_34
• Track 33 : IndyLu_35
• Track 34 : Dismas_34
• Track 35 : PondAmelia_47
• Track 36 : BabyDaisy_35
• Track 37 : Wolfstar_31
• Track 38 : Platte_28, Hortus1_28, OlinDD_28, Alleb_29, Tandem_28, Pioneer3_28
• Track 39 : Hubbs_30, Saradis_31, Roman_30, Solimine_31, DejaVu_31, Lupine_29, Pavlo_29, Uterion_32
• Track 40 : PhillyPhilly_30
• Track 41 : Jacko_31
• Track 42 : Musetta_35, Yuma_34
• Track 43 : Shroomer_38
• Track 44 : Fork_31
• Track 45 : RunningBrook_36, DustyDino_38
• Track 46 : Welcome_36
• Track 47 : StevieWelch_35
• Track 48 : Issa7_34
• Track 49 : ASegato_34
• Track 50 : HollowPurple_36, SteakFry_34
• Track 51 : Erenyeager_35, Necrophoxinus_37
• Track 52 : Casablancas_36, Deschain_35
• Track 53 : Lyell_35
• Track 54 : Mistmere_28

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

The start number called the most often in the published annotations is 69, it was called in 67 of the 103 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abigail_35, Akino08_37, Albedo_36, Albright_34, AnnaLie_37, Arroyo_37, AvGardian_38, Avocadoman_35, AylexOG_38, BabyDaisy_35, BabyYoda_37, Bachaco_34, BelmontSKP_37, Bengal_37, BubbaBear_35, Burritobowl_36, CanFranMach_37, Cashington_34, Celaena_34, Clayda5_34, CroZenni_36, CupcakePrincess_37, DickRichards_35, Didgeridoo_38, DirtyBubble_36, Dismas_34, Doobus_35, Eden_34, Elva_38, Eula_37, Finalfrontier_36, FlameThrower_34, Franklin22_35, Gack_33, Icarian_39, IndyLu_35, Jabb_37, Johnathan_35, Jovita_37, Kamdara_34, Kate33_36, Katzastrophic_35, Kenzers_36, Kieran_34, Lahqtemish_35, Lilo27_37, LimaBean_35, Loviatar_37, Lynlen_36, Milomuff_36, MsUbiquitous_37, Nicky22_37, Olliecat_33, PastaFagioli_35, Pecas_36, PhigPhack_37, Phisb_37, PondAmelia_47, QMacho_38, Quenya_35, Rona_34, SanaSana_39, SansAfet_37, SarBear_36, SirBeanington_36, Skylord_33, Slay_37, Softsoap_36, Solea_37, Squircle_33, Stoor_37, Stromboli_37, Swervy_37, TukTuk_37, Vitas_33, WalkingDead_38,

Genes that have the "Most Annotated" start but do not call it:
• Armstrong_33, Bernstein_33, Brahms_33, Buldak_33, ChiliPepper_33, Coltrane_33, Rollins_33, Sharkboy_35,

Genes that do not have the "Most Annotated" start:
• ASegato_34, Alleb_29, BAjuniper_35, Casablancas_36, DejaVu_31, Deschain_35, DustyDino_38, Erenyeager_35, Fork_31, HollowPurple_36, Hortus1_28, Hubbs_30, Issa7_34, Jacko_31, Lupine_29, Lyell_35, Mistmere_28, Musetta_35, Necrophoxinus_37, OlinDD_28, Pavlo_29, PhillyPhilly_30, Pioneer3_28, Platte_28, Roman_30, RunningBrook_36, Saradis_31, Shroomer_38, Solimine_31, SteakFry_34, StevieWelch_35, Tandem_28, Uterion_32, Welcome_36, Wolfstar_31, Yuma_34,

Summary by start number:

Start 61:
• Found in 9 of 120 (7.5%) of genes in pham
• Manual Annotations of this start: 1 of 103
• Called 11.1% of time when present
• Phage (with cluster) where this start called: PhillyPhilly_30 (ED1),

Start 63:
• Found in 1 of 120 (0.8%) of genes in pham
• Manual Annotations of this start: 1 of 103
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Buldak_33 (EB),

Start 67:
• Found in 1 of 120 (0.8%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Mistmere_28 (ED3),

Start 68:
• Found in 73 of 120 (60.8%) of genes in pham
• Manual Annotations of this start: 33 of 103
• Called 54.8% of time when present
• Phage (with cluster) where this start called: ASegato_34 (ED2), Alleb_29 (ED1), Armstrong_33 (EB), Bernstein_33 (EB), Brahms_33 (EB), Casablancas_36 (ED2), ChiliPepper_33 (EB), Coltrane_33 (EB), DejaVu_31 (ED1), Deschain_35 (ED2), DustyDino_38 (ED2), Erenyeager_35 (ED2), Fork_31 (ED2), HollowPurple_36 (ED2), Hortus1_28 (ED1), Hubbs_30 (ED1), Issa7_34 (ED2), Jacko_31 (ED1), Lupine_29 (ED1), Lyell_35 (ED2), Musetta_35 (ED2), Necrophoxinus_37 (ED2), OlinDD_28 (ED1), Pavlo_29 (ED1), Pioneer3_28 (ED1), Platte_28 (ED1), Rollins_33 (EB), Roman_30 (ED1), RunningBrook_36 (ED2), Saradis_31 (ED1), Sharkboy_35 (EB), Shroomer_38 (ED2), Solimine_31 (ED1), SteakFry_34 (ED2), StevieWelch_35 (ED2), Tandem_28 (ED1), Uterion_32 (ED1), Welcome_36 (ED2), Wolfstar_31 (ED), Yuma_34 (ED2),

Start 69:
• Found in 84 of 120 (70.0%) of genes in pham
• Manual Annotations of this start: 67 of 103
• Called 90.5% of time when present

• Phage (with cluster) where this start called: Abigail_35 (EB), Akino08_37 (EB), Albedo_36 (EB), Albright_34 (EB), AnnaLie_37 (EB), Arroyo_37 (EB), AvGardian_38 (EB), Avocadoman_35 (EB), AylexOG_38 (EB), BabyDaisy_35 (EB), BabyYoda_37 (EB), Bachaco_34 (EB), BelmontSKP_37 (EB), Bengal_37 (EB), BubbaBear_35 (EB), Burritobowl_36 (EB), CanFranMach_37 (EB), Cashington_34 (EB), Celaena_34 (EB), Clayda5_34 (EB), CroZenni_36 (EB), CupcakePrincess_37 (EB), DickRichards_35 (EB), Didgeridoo_38 (EB), DirtyBubble_36 (EB), Dismas_34 (EB), Doobus_35 (EB), Eden_34 (EB), Elva_38 (EB), Eula_37 (EB), Finalfrontier_36 (EB), FlameThrower_34 (EB), Franklin22_35 (EB), Gack_33 (EB), Icarian_39 (EB), IndyLu_35 (EB), Jabb_37 (EB), Johnathan_35 (EB), Jovita_37 (EB), Kamdara_34 (EB), Kate33_36 (EB), Katzastrophic_35 (EB), Kenzers_36 (EB), Kieran_34 (EB), Lahqtemish_35 (EB), Lilo27_37 (EB), LimaBean_35 (EB), Loviatar_37 (EB), Lynlen_36 (EB), Milomuff_36 (EB), MsUbiquitous_37 (EB), Nicky22_37 (EB), Olliecat_33 (EB), PastaFagioli_35 (EB), Pecas_36 (EB), PhigPhack_37 (EB), Phisb_37 (EB), PondAmelia_47 (EB), QMacho_38 (EB), Quenya_35 (EB), Rona_34 (EB), SanaSana_39 (EB), SansAfet_37 (EB), SarBear_36 (EB), SirBeanington_36 (EB), Skylord_33 (EB), Slay_37 (EB), Softsoap_36 (EB), Solea_37 (EB), Squircle_33 (EB), Stoor_37 (EB), Stromboli_37 (EB), Swervy_37 (EB), TukTuk_37 (EB), Vitas_33 (EB), WalkingDead_38 (EB),

Start 70:
• Found in 1 of 120 (0.8%) of genes in pham
• Manual Annotations of this start: 1 of 103
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BAjuniper_35 (EB),

Summary by clusters:

There are 5 clusters represented in this pham: ED2, ED, ED1, ED3, EB,

Info for manual annotations of cluster EB:
•Start number 63 was manually annotated 1 time for cluster EB.
•Start number 68 was manually annotated 7 times for cluster EB.
•Start number 69 was manually annotated 67 times for cluster EB.
•Start number 70 was manually annotated 1 time for cluster EB.

Info for manual annotations of cluster ED:
•Start number 68 was manually annotated 1 time for cluster ED.

Info for manual annotations of cluster ED1:
•Start number 61 was manually annotated 1 time for cluster ED1.
•Start number 68 was manually annotated 12 times for cluster ED1.

Info for manual annotations of cluster ED2:
•Start number 68 was manually annotated 13 times for cluster ED2.

Gene Information:

Gene: ASegato_34 Start: 9990, Stop: 10244, Start Num: 68
Candidate Starts for ASegato_34:

(65, 9975), (Start: 68 @9990 has 33 MA's), (72, 10035), (76, 10086), (77, 10104), (79, 10122), (81, 10134),

Gene: Abigail_35 Start: 24992, Stop: 25222, Start Num: 69
Candidate Starts for Abigail_35:
(Start: 69 @24992 has 67 MA's),

Gene: Akino08_37 Start: 27416, Stop: 27649, Start Num: 69
Candidate Starts for Akino08_37:
(43, 27287), (44, 27290), (48, 27308), (50, 27320), (51, 27323), (56, 27332), (Start: 68 @27407 has 33 MA's), (Start: 69 @27416 has 67 MA's), (72, 27458),

Gene: Albedo_36 Start: 25530, Stop: 25772, Start Num: 69
Candidate Starts for Albedo_36:
(Start: 69 @25530 has 67 MA's), (90, 25764),

Gene: Albright_34 Start: 24694, Stop: 24924, Start Num: 69
Candidate Starts for Albright_34:
(Start: 69 @24694 has 67 MA's),

Gene: Alleb_29 Start: 9182, Stop: 9436, Start Num: 68
Candidate Starts for Alleb_29:
(60, 9134), (66, 9167), (Start: 68 @9182 has 33 MA's), (72, 9227), (74, 9263), (84, 9350),

Gene: AnnaLie_37 Start: 25815, Stop: 26045, Start Num: 69
Candidate Starts for AnnaLie_37:
(Start: 69 @25815 has 67 MA's),

Gene: Armstrong_33 Start: 23408, Stop: 23647, Start Num: 68
Candidate Starts for Armstrong_33:
(26, 23165), (31, 23195), (Start: 68 @23408 has 33 MA's), (Start: 69 @23417 has 67 MA's), (75, 23504), (87, 23609), (90, 23639),

Gene: Arroyo_37 Start: 25853, Stop: 26083, Start Num: 69
Candidate Starts for Arroyo_37:
(Start: 69 @25853 has 67 MA's),

Gene: AvGardian_38 Start: 25976, Stop: 26215, Start Num: 69
Candidate Starts for AvGardian_38:
(56, 25892), (Start: 68 @25967 has 33 MA's), (Start: 69 @25976 has 67 MA's), (75, 26063),

Gene: Avocadoman_35 Start: 24931, Stop: 25161, Start Num: 69
Candidate Starts for Avocadoman_35:
(Start: 69 @24931 has 67 MA's),

Gene: AylexOG_38 Start: 25876, Stop: 26118, Start Num: 69
Candidate Starts for AylexOG_38:
(Start: 69 @25876 has 67 MA's), (90, 26110),

Gene: BAjuniper_35 Start: 26652, Stop: 26891, Start Num: 70
Candidate Starts for BAjuniper_35:
(Start: 70 @26652 has 1 MA's), (72, 26694), (81, 26793), (82, 26799), (85, 26814), (87, 26844),

Gene: BabyDaisy_35 Start: 25454, Stop: 25684, Start Num: 69
Candidate Starts for BabyDaisy_35:
(43, 25325), (44, 25328), (47, 25343), (50, 25358), (51, 25361), (56, 25370), (Start: 68 @25445 has 33 MA's), (Start: 69 @25454 has 67 MA's), (81, 25595),

Gene: BabyYoda_37 Start: 26596, Stop: 26829, Start Num: 69
Candidate Starts for BabyYoda_37:
(56, 26512), (Start: 68 @26587 has 33 MA's), (Start: 69 @26596 has 67 MA's),

Gene: Bachaco_34 Start: 26614, Stop: 26844, Start Num: 69
Candidate Starts for Bachaco_34:
(44, 26485), (46, 26494), (47, 26500), (49, 26509), (53, 26521), (54, 26527), (59, 26539), (Start: 68 @26605 has 33 MA's), (Start: 69 @26614 has 67 MA's), (75, 26701), (81, 26755), (87, 26806), (90, 26836),

Gene: BelmontSKP_37 Start: 25815, Stop: 26045, Start Num: 69
Candidate Starts for BelmontSKP_37:
(Start: 69 @25815 has 67 MA's),

Gene: Bengal_37 Start: 25443, Stop: 25673, Start Num: 69
Candidate Starts for Bengal_37:
(Start: 69 @25443 has 67 MA's),

Gene: Bernstein_33 Start: 23463, Stop: 23702, Start Num: 68
Candidate Starts for Bernstein_33:
(26, 23220), (31, 23250), (Start: 68 @23463 has 33 MA's), (Start: 69 @23472 has 67 MA's), (75, 23559), (87, 23664), (90, 23694),

Gene: Brahms_33 Start: 23410, Stop: 23649, Start Num: 68
Candidate Starts for Brahms_33:
(26, 23167), (31, 23197), (Start: 68 @23410 has 33 MA's), (Start: 69 @23419 has 67 MA's), (75, 23506), (87, 23611), (90, 23641),

Gene: BubbaBear_35 Start: 25387, Stop: 25617, Start Num: 69
Candidate Starts for BubbaBear_35:
(Start: 69 @25387 has 67 MA's),

Gene: Buldak_33 Start: 24218, Stop: 24493, Start Num: 63
Candidate Starts for Buldak_33:
(2, 23414), (5, 23633), (18, 23939), (Start: 63 @24218 has 1 MA's), (Start: 69 @24254 has 67 MA's), (75, 24341),

Gene: Burritobowl_36 Start: 25388, Stop: 25618, Start Num: 69
Candidate Starts for Burritobowl_36:
(Start: 69 @25388 has 67 MA's),

Gene: CanFranMach_37 Start: 25473, Stop: 25703, Start Num: 69
Candidate Starts for CanFranMach_37:
(43, 25344), (44, 25347), (48, 25365), (50, 25377), (51, 25380), (56, 25389), (58, 25392), (Start: 68 @25464 has 33 MA's), (Start: 69 @25473 has 67 MA's), (73, 25545),

Gene: Casablancas_36 Start: 10074, Stop: 10328, Start Num: 68
Candidate Starts for Casablancas_36:

(65, 10059), (Start: 68 @10074 has 33 MA's), (72, 10119), (76, 10170), (77, 10188), (79, 10206), (81, 10218), (84, 10242),

Gene: Cashington_34 Start: 24734, Stop: 24964, Start Num: 69
Candidate Starts for Cashington_34:
(Start: 69 @24734 has 67 MA's), (81, 24875),

Gene: Celaena_34 Start: 26364, Stop: 26594, Start Num: 69
Candidate Starts for Celaena_34:
(44, 26235), (46, 26244), (47, 26250), (49, 26259), (53, 26271), (54, 26277), (59, 26289), (Start: 68 @26355 has 33 MA's), (Start: 69 @26364 has 67 MA's), (75, 26451), (81, 26505), (87, 26556),

Gene: ChiliPepper_33 Start: 25809, Stop: 26048, Start Num: 68
Candidate Starts for ChiliPepper_33:
(11, 25398), (14, 25461), (15, 25479), (17, 25500), (19, 25509), (22, 25533), (24, 25551), (25, 25557), (29, 25584), (30, 25587), (33, 25608), (34, 25611), (36, 25638), (38, 25650), (39, 25665), (42, 25680), (44, 25689), (46, 25698), (47, 25704), (49, 25713), (53, 25725), (54, 25731), (Start: 68 @25809 has 33 MA's), (Start: 69 @25818 has 67 MA's), (73, 25890), (75, 25905), (81, 25959), (87, 26010), (90, 26040),

Gene: Clayda5_34 Start: 23406, Stop: 23636, Start Num: 69
Candidate Starts for Clayda5_34:
(26, 23154), (31, 23184), (Start: 68 @23397 has 33 MA's), (Start: 69 @23406 has 67 MA's), (75, 23493), (87, 23598), (90, 23628),

Gene: Coltrane_33 Start: 23410, Stop: 23649, Start Num: 68
Candidate Starts for Coltrane_33:
(26, 23167), (31, 23197), (Start: 68 @23410 has 33 MA's), (Start: 69 @23419 has 67 MA's), (75, 23506), (87, 23611), (90, 23641),

Gene: CroZenni_36 Start: 25278, Stop: 25508, Start Num: 69
Candidate Starts for CroZenni_36:
(43, 25149), (44, 25152), (48, 25170), (50, 25182), (51, 25185), (56, 25194), (58, 25197), (Start: 68 @25269 has 33 MA's), (Start: 69 @25278 has 67 MA's),

Gene: CupcakePrincess_37 Start: 25564, Stop: 25806, Start Num: 69
Candidate Starts for CupcakePrincess_37:
(Start: 69 @25564 has 67 MA's), (90, 25798),

Gene: DejaVu_31 Start: 9377, Stop: 9625, Start Num: 68
Candidate Starts for DejaVu_31:
(Start: 61 @9338 has 1 MA's), (Start: 68 @9377 has 33 MA's), (72, 9422), (74, 9458), (89, 9605),

Gene: Deschain_35 Start: 10738, Stop: 10992, Start Num: 68
Candidate Starts for Deschain_35:
(65, 10723), (Start: 68 @10738 has 33 MA's), (72, 10783), (76, 10834), (77, 10852), (79, 10870), (81, 10882), (84, 10906),

Gene: DickRichards_35 Start: 25717, Stop: 25947, Start Num: 69
Candidate Starts for DickRichards_35:
(Start: 69 @25717 has 67 MA's),

Gene: Didgeridoo_38 Start: 25851, Stop: 26093, Start Num: 69

Candidate Starts for Didgeridoo_38:
(Start: 69 @25851 has 67 MA's), (81, 25992),

Gene: DirtyBubble_36 Start: 26244, Stop: 26477, Start Num: 69
Candidate Starts for DirtyBubble_36:
(43, 26115), (44, 26118), (48, 26136), (50, 26148), (51, 26151), (56, 26160), (Start: 68 @26235 has 33 MA's), (Start: 69 @26244 has 67 MA's), (83, 26394),

Gene: Dismas_34 Start: 25989, Stop: 26219, Start Num: 69
Candidate Starts for Dismas_34:
(11, 25569), (14, 25632), (15, 25650), (17, 25671), (19, 25680), (22, 25704), (24, 25722), (25, 25728), (29, 25755), (30, 25758), (33, 25779), (36, 25809), (38, 25821), (39, 25836), (42, 25851), (44, 25860), (46, 25869), (47, 25875), (49, 25884), (53, 25896), (54, 25902), (Start: 68 @25980 has 33 MA's), (Start: 69 @25989 has 67 MA's), (73, 26061), (75, 26076), (81, 26130), (87, 26181), (90, 26211),

Gene: Doobus_35 Start: 25098, Stop: 25328, Start Num: 69
Candidate Starts for Doobus_35:
(Start: 69 @25098 has 67 MA's),

Gene: DustyDino_38 Start: 10938, Stop: 11192, Start Num: 68
Candidate Starts for DustyDino_38:
(65, 10923), (Start: 68 @10938 has 33 MA's), (72, 10983), (76, 11034), (77, 11052), (79, 11070),

Gene: Eden_34 Start: 24202, Stop: 24432, Start Num: 69
Candidate Starts for Eden_34:
(64, 24169), (Start: 69 @24202 has 67 MA's), (81, 24343), (82, 24349), (85, 24364), (87, 24394), (90, 24424),

Gene: Elva_38 Start: 26309, Stop: 26539, Start Num: 69
Candidate Starts for Elva_38:
(43, 26177), (44, 26180), (47, 26195), (50, 26210), (51, 26213), (56, 26225), (Start: 68 @26300 has 33 MA's), (Start: 69 @26309 has 67 MA's),

Gene: Erenyeager_35 Start: 10332, Stop: 10586, Start Num: 68
Candidate Starts for Erenyeager_35:
(65, 10317), (Start: 68 @10332 has 33 MA's), (72, 10377), (76, 10428), (77, 10446), (79, 10464),

Gene: Eula_37 Start: 25477, Stop: 25719, Start Num: 69
Candidate Starts for Eula_37:
(Start: 69 @25477 has 67 MA's), (90, 25711),

Gene: Finalfrontier_36 Start: 26101, Stop: 26331, Start Num: 69
Candidate Starts for Finalfrontier_36:
(Start: 69 @26101 has 67 MA's),

Gene: FlameThrower_34 Start: 25814, Stop: 26044, Start Num: 69
Candidate Starts for FlameThrower_34:
(44, 25685), (46, 25694), (47, 25700), (49, 25709), (53, 25721), (54, 25727), (59, 25739), (Start: 68 @25805 has 33 MA's), (Start: 69 @25814 has 67 MA's), (75, 25901), (78, 25928), (81, 25955), (87, 26006), (90, 26036),

Gene: Fork_31 Start: 9648, Stop: 9902, Start Num: 68
Candidate Starts for Fork_31:

(65, 9633), (Start: 68 @9648 has 33 MA's), (72, 9693), (76, 9744), (77, 9762), (79, 9780),

Gene: Franklin22_35 Start: 24188, Stop: 24418, Start Num: 69
Candidate Starts for Franklin22_35:
(6, 23681), (7, 23687), (8, 23756), (12, 23801), (20, 23906), (28, 23963), (37, 24020), (52, 24095), (55, 24104), (57, 24107), (Start: 69 @24188 has 67 MA's), (73, 24260), (81, 24329), (87, 24380), (90, 24410),

Gene: Gack_33 Start: 23939, Stop: 24169, Start Num: 69
Candidate Starts for Gack_33:
(1, 23093), (3, 23219), (4, 23249), (8, 23507), (12, 23552), (20, 23657), (28, 23714), (37, 23771), (55, 23855), (57, 23858), (Start: 68 @23930 has 33 MA's), (Start: 69 @23939 has 67 MA's), (73, 24011), (78, 24053), (87, 24131),

Gene: HollowPurple_36 Start: 10186, Stop: 10440, Start Num: 68
Candidate Starts for HollowPurple_36:
(65, 10171), (Start: 68 @10186 has 33 MA's), (72, 10231), (76, 10282), (77, 10300), (79, 10318),

Gene: Hortus1_28 Start: 9181, Stop: 9435, Start Num: 68
Candidate Starts for Hortus1_28:
(60, 9133), (66, 9166), (Start: 68 @9181 has 33 MA's), (72, 9226), (74, 9262), (84, 9349),

Gene: Hubbs_30 Start: 9589, Stop: 9837, Start Num: 68
Candidate Starts for Hubbs_30:
(Start: 61 @9550 has 1 MA's), (Start: 68 @9589 has 33 MA's), (72, 9634), (74, 9670), (89, 9817),

Gene: Icarian_39 Start: 26879, Stop: 27112, Start Num: 69
Candidate Starts for Icarian_39:
(43, 26750), (44, 26753), (48, 26771), (50, 26783), (51, 26786), (56, 26795), (Start: 68 @26870 has 33 MA's), (Start: 69 @26879 has 67 MA's), (72, 26921),

Gene: IndyLu_35 Start: 25415, Stop: 25645, Start Num: 69
Candidate Starts for IndyLu_35:
(43, 25286), (44, 25289), (48, 25307), (50, 25319), (51, 25322), (56, 25331), (Start: 68 @25406 has 33 MA's), (Start: 69 @25415 has 67 MA's), (81, 25556),

Gene: Issa7_34 Start: 9642, Stop: 9896, Start Num: 68
Candidate Starts for Issa7_34:
(65, 9627), (Start: 68 @9642 has 33 MA's), (72, 9687), (76, 9738), (77, 9756), (79, 9774),

Gene: Jabb_37 Start: 25564, Stop: 25806, Start Num: 69
Candidate Starts for Jabb_37:
(Start: 69 @25564 has 67 MA's), (90, 25798),

Gene: Jacko_31 Start: 9673, Stop: 9921, Start Num: 68
Candidate Starts for Jacko_31:
(Start: 68 @9673 has 33 MA's), (71, 9685), (72, 9718), (86, 9853),

Gene: Johnathan_35 Start: 24821, Stop: 25051, Start Num: 69
Candidate Starts for Johnathan_35:
(Start: 69 @24821 has 67 MA's),

Gene: Jovita_37 Start: 25579, Stop: 25821, Start Num: 69

Candidate Starts for Jovita_37:
(Start: 69 @25579 has 67 MA's), (90, 25813),

Gene: Kamdara_34 Start: 25994, Stop: 26224, Start Num: 69
Candidate Starts for Kamdara_34:
(11, 25574), (14, 25637), (15, 25655), (17, 25676), (19, 25685), (22, 25709), (24, 25727), (25, 25733), (29, 25760), (30, 25763), (33, 25784), (34, 25787), (35, 25796), (36, 25814), (38, 25826), (39, 25841), (42, 25856), (44, 25865), (46, 25874), (47, 25880), (49, 25889), (53, 25901), (54, 25907), (Start: 68 @25985 has 33 MA's), (Start: 69 @25994 has 67 MA's), (73, 26066), (75, 26081), (81, 26135), (87, 26186), (90, 26216),

Gene: Kate33_36 Start: 25175, Stop: 25417, Start Num: 69
Candidate Starts for Kate33_36:
(Start: 69 @25175 has 67 MA's), (81, 25316),

Gene: Katzastrophic_35 Start: 25943, Stop: 26173, Start Num: 69
Candidate Starts for Katzastrophic_35:
(44, 25814), (46, 25823), (47, 25829), (49, 25838), (53, 25850), (54, 25856), (59, 25868), (Start: 68 @25934 has 33 MA's), (Start: 69 @25943 has 67 MA's), (75, 26030), (81, 26084), (87, 26135), (90, 26165),

Gene: Kenzers_36 Start: 25402, Stop: 25644, Start Num: 69
Candidate Starts for Kenzers_36:
(Start: 69 @25402 has 67 MA's), (90, 25636),

Gene: Kieran_34 Start: 25998, Stop: 26228, Start Num: 69
Candidate Starts for Kieran_34:
(11, 25578), (14, 25641), (15, 25659), (17, 25680), (19, 25689), (22, 25713), (24, 25731), (25, 25737), (29, 25764), (30, 25767), (33, 25788), (34, 25791), (36, 25818), (38, 25830), (39, 25845), (42, 25860), (44, 25869), (46, 25878), (47, 25884), (49, 25893), (53, 25905), (54, 25911), (Start: 68 @25989 has 33 MA's), (Start: 69 @25998 has 67 MA's), (73, 26070), (75, 26085), (81, 26139), (87, 26190), (90, 26220),

Gene: Lahqtemish_35 Start: 25448, Stop: 25690, Start Num: 69
Candidate Starts for Lahqtemish_35:
(Start: 69 @25448 has 67 MA's), (81, 25589),

Gene: Lilo27_37 Start: 25387, Stop: 25629, Start Num: 69
Candidate Starts for Lilo27_37:
(Start: 69 @25387 has 67 MA's), (90, 25621),

Gene: LimaBean_35 Start: 24870, Stop: 25100, Start Num: 69
Candidate Starts for LimaBean_35:
(Start: 69 @24870 has 67 MA's),

Gene: Loviatar_37 Start: 27431, Stop: 27664, Start Num: 69
Candidate Starts for Loviatar_37:
(43, 27302), (44, 27305), (48, 27323), (50, 27335), (51, 27338), (56, 27347), (Start: 68 @27422 has 33 MA's), (Start: 69 @27431 has 67 MA's), (72, 27473),

Gene: Lupine_29 Start: 9261, Stop: 9509, Start Num: 68
Candidate Starts for Lupine_29:
(Start: 61 @9222 has 1 MA's), (Start: 68 @9261 has 33 MA's), (72, 9306), (74, 9342), (89, 9489),

Gene: Lyell_35 Start: 10250, Stop: 10504, Start Num: 68
Candidate Starts for Lyell_35:
(65, 10235), (Start: 68 @10250 has 33 MA's), (72, 10295), (76, 10346), (77, 10364), (79, 10382),

Gene: Lynlen_36 Start: 25402, Stop: 25644, Start Num: 69
Candidate Starts for Lynlen_36:
(Start: 69 @25402 has 67 MA's), (90, 25636),

Gene: Milomuff_36 Start: 25291, Stop: 25521, Start Num: 69
Candidate Starts for Milomuff_36:
(45, 25171), (50, 25195), (54, 25204), (56, 25207), (58, 25210), (Start: 68 @25282 has 33 MA's),
(Start: 69 @25291 has 67 MA's),

Gene: Mistmere_28 Start: 8094, Stop: 8348, Start Num: 67
Candidate Starts for Mistmere_28:
(67, 8094), (72, 8142),

Gene: MsUbiquitous_37 Start: 25564, Stop: 25806, Start Num: 69
Candidate Starts for MsUbiquitous_37:
(Start: 69 @25564 has 67 MA's), (90, 25798),

Gene: Musetta_35 Start: 10358, Stop: 10612, Start Num: 68
Candidate Starts for Musetta_35:
(65, 10343), (Start: 68 @10358 has 33 MA's), (72, 10403), (84, 10526),

Gene: Necrophoxinus_37 Start: 10946, Stop: 11200, Start Num: 68
Candidate Starts for Necrophoxinus_37:
(65, 10931), (Start: 68 @10946 has 33 MA's), (72, 10991), (76, 11042), (77, 11060), (79, 11078),

Gene: Nicky22_37 Start: 25941, Stop: 26183, Start Num: 69
Candidate Starts for Nicky22_37:
(Start: 69 @25941 has 67 MA's), (90, 26175),

Gene: OlinDD_28 Start: 9180, Stop: 9434, Start Num: 68
Candidate Starts for OlinDD_28:
(60, 9132), (66, 9165), (Start: 68 @9180 has 33 MA's), (72, 9225), (74, 9261), (84, 9348),

Gene: Olliecat_33 Start: 24245, Stop: 24484, Start Num: 69
Candidate Starts for Olliecat_33:
(5, 23624), (18, 23930), (Start: 69 @24245 has 67 MA's),

Gene: PastaFagioli_35 Start: 25432, Stop: 25674, Start Num: 69
Candidate Starts for PastaFagioli_35:
(Start: 69 @25432 has 67 MA's), (81, 25573),

Gene: Pavlo_29 Start: 9536, Stop: 9784, Start Num: 68
Candidate Starts for Pavlo_29:
(Start: 61 @9497 has 1 MA's), (Start: 68 @9536 has 33 MA's), (72, 9581), (74, 9617), (89, 9764),

Gene: Pecas_36 Start: 25476, Stop: 25718, Start Num: 69
Candidate Starts for Pecas_36:
(Start: 69 @25476 has 67 MA's), (90, 25710),

Gene: PhigPhack_37 Start: 25302, Stop: 25544, Start Num: 69
Candidate Starts for PhigPhack_37:
(Start: 69 @25302 has 67 MA's), (81, 25443),

Gene: PhillyPhilly_30 Start: 9402, Stop: 9689, Start Num: 61
Candidate Starts for PhillyPhilly_30:
(Start: 61 @9402 has 1 MA's), (Start: 68 @9441 has 33 MA's), (72, 9486), (74, 9522), (89, 9669),

Gene: Phisb_37 Start: 25535, Stop: 25777, Start Num: 69
Candidate Starts for Phisb_37:
(43, 25406), (48, 25427), (50, 25439), (51, 25442), (56, 25451), (58, 25454), (Start: 68 @25526 has 33 MA's), (Start: 69 @25535 has 67 MA's), (81, 25676),

Gene: Pioneer3_28 Start: 9179, Stop: 9433, Start Num: 68
Candidate Starts for Pioneer3_28:
(60, 9131), (66, 9164), (Start: 68 @9179 has 33 MA's), (72, 9224), (74, 9260), (84, 9347),

Gene: Platte_28 Start: 8949, Stop: 9203, Start Num: 68
Candidate Starts for Platte_28:
(60, 8901), (66, 8934), (Start: 68 @8949 has 33 MA's), (72, 8994), (74, 9030), (84, 9117),

Gene: PondAmelia_47 Start: 26411, Stop: 26644, Start Num: 69
Candidate Starts for PondAmelia_47:
(56, 26327), (Start: 68 @26402 has 33 MA's), (Start: 69 @26411 has 67 MA's), (90, 26636),

Gene: QMacho_38 Start: 25959, Stop: 26201, Start Num: 69
Candidate Starts for QMacho_38:
(Start: 69 @25959 has 67 MA's), (90, 26193),

Gene: Quenya_35 Start: 25660, Stop: 25890, Start Num: 69
Candidate Starts for Quenya_35:
(10, 25243), (16, 25348), (27, 25423), (32, 25447), (36, 25486), (39, 25513), (40, 25516), (41, 25519), (54, 25576), (56, 25579), (59, 25585), (Start: 68 @25651 has 33 MA's), (Start: 69 @25660 has 67 MA's), (75, 25747), (81, 25801), (87, 25852), (90, 25882),

Gene: Rollins_33 Start: 23463, Stop: 23702, Start Num: 68
Candidate Starts for Rollins_33:
(26, 23220), (31, 23250), (Start: 68 @23463 has 33 MA's), (Start: 69 @23472 has 67 MA's), (75, 23559), (87, 23664), (90, 23694),

Gene: Roman_30 Start: 9436, Stop: 9684, Start Num: 68
Candidate Starts for Roman_30:
(Start: 61 @9397 has 1 MA's), (Start: 68 @9436 has 33 MA's), (72, 9481), (74, 9517), (89, 9664),

Gene: Rona_34 Start: 25980, Stop: 26210, Start Num: 69
Candidate Starts for Rona_34:
(11, 25560), (14, 25623), (15, 25641), (17, 25662), (19, 25671), (22, 25695), (24, 25713), (25, 25719), (29, 25746), (30, 25749), (33, 25770), (34, 25773), (38, 25812), (39, 25827), (42, 25842), (44, 25851), (46, 25860), (47, 25866), (49, 25875), (53, 25887), (54, 25893), (Start: 68 @25971 has 33 MA's), (Start: 69 @25980 has 67 MA's), (73, 26052), (75, 26067), (87, 26172), (90, 26202),

Gene: RunningBrook_36 Start: 10938, Stop: 11192, Start Num: 68

Candidate Starts for RunningBrook_36:
(65, 10923), (Start: 68 @10938 has 33 MA's), (72, 10983), (76, 11034), (77, 11052), (79, 11070),

Gene: SanaSana_39 Start: 27081, Stop: 27314, Start Num: 69
Candidate Starts for SanaSana_39:
(43, 26952), (44, 26955), (48, 26973), (50, 26985), (51, 26988), (56, 26997), (Start: 68 @27072 has 33 MA's), (Start: 69 @27081 has 67 MA's), (80, 27216), (88, 27282),

Gene: SansAfet_37 Start: 25401, Stop: 25631, Start Num: 69
Candidate Starts for SansAfet_37:
(Start: 69 @25401 has 67 MA's),

Gene: SarBear_36 Start: 25256, Stop: 25498, Start Num: 69
Candidate Starts for SarBear_36:
(Start: 69 @25256 has 67 MA's), (90, 25490),

Gene: Saradis_31 Start: 9499, Stop: 9747, Start Num: 68
Candidate Starts for Saradis_31:
(Start: 61 @9460 has 1 MA's), (Start: 68 @9499 has 33 MA's), (72, 9544), (74, 9580), (89, 9727),

Gene: Sharkboy_35 Start: 26070, Stop: 26309, Start Num: 68
Candidate Starts for Sharkboy_35:
(11, 25659), (14, 25722), (15, 25740), (17, 25761), (19, 25770), (22, 25794), (24, 25812), (25, 25818), (29, 25845), (30, 25848), (33, 25869), (34, 25872), (36, 25899), (38, 25911), (39, 25926), (42, 25941), (44, 25950), (46, 25959), (47, 25965), (49, 25974), (53, 25986), (54, 25992), (Start: 68 @26070 has 33 MA's), (Start: 69 @26079 has 67 MA's), (73, 26151), (75, 26166), (81, 26220), (87, 26271), (90, 26301),

Gene: Shroomer_38 Start: 10466, Stop: 10720, Start Num: 68
Candidate Starts for Shroomer_38:
(21, 10181), (65, 10451), (Start: 68 @10466 has 33 MA's), (72, 10511), (81, 10610), (84, 10634),

Gene: SirBeanington_36 Start: 25577, Stop: 25819, Start Num: 69
Candidate Starts for SirBeanington_36:
(Start: 69 @25577 has 67 MA's), (90, 25811),

Gene: Skylord_33 Start: 23403, Stop: 23633, Start Num: 69
Candidate Starts for Skylord_33:
(26, 23151), (31, 23181), (Start: 68 @23394 has 33 MA's), (Start: 69 @23403 has 67 MA's), (75, 23490), (87, 23595), (90, 23625),

Gene: Slay_37 Start: 25937, Stop: 26179, Start Num: 69
Candidate Starts for Slay_37:
(Start: 69 @25937 has 67 MA's), (90, 26171),

Gene: Softsoap_36 Start: 25312, Stop: 25542, Start Num: 69
Candidate Starts for Softsoap_36:
(Start: 69 @25312 has 67 MA's),

Gene: Solea_37 Start: 25291, Stop: 25521, Start Num: 69
Candidate Starts for Solea_37:
(45, 25171), (50, 25195), (54, 25204), (56, 25207), (58, 25210), (Start: 68 @25282 has 33 MA's), (Start: 69 @25291 has 67 MA's),

Gene: Solimine_31 Start: 9914, Stop: 10162, Start Num: 68
Candidate Starts for Solimine_31:
(Start: 61 @9875 has 1 MA's), (Start: 68 @9914 has 33 MA's), (72, 9959), (74, 9995), (89, 10142),

Gene: Squircle_33 Start: 24244, Stop: 24483, Start Num: 69
Candidate Starts for Squircle_33:
(5, 23623), (18, 23929), (Start: 69 @24244 has 67 MA's),

Gene: SteakFry_34 Start: 10186, Stop: 10440, Start Num: 68
Candidate Starts for SteakFry_34:
(65, 10171), (Start: 68 @10186 has 33 MA's), (72, 10231), (76, 10282), (77, 10300), (79, 10318),

Gene: StevieWelch_35 Start: 10338, Stop: 10592, Start Num: 68
Candidate Starts for StevieWelch_35:
(65, 10323), (Start: 68 @10338 has 33 MA's), (72, 10383), (77, 10452), (79, 10470),

Gene: Stoor_37 Start: 26750, Stop: 26983, Start Num: 69
Candidate Starts for Stoor_37:
(43, 26621), (44, 26624), (48, 26642), (51, 26657), (56, 26666), (Start: 68 @26741 has 33 MA's),
(Start: 69 @26750 has 67 MA's),

Gene: Stromboli_37 Start: 26614, Stop: 26847, Start Num: 69
Candidate Starts for Stromboli_37:
(43, 26485), (44, 26488), (48, 26506), (50, 26518), (51, 26521), (56, 26530), (Start: 68 @26605 has 33 MA's), (Start: 69 @26614 has 67 MA's), (83, 26764),

Gene: Swervy_37 Start: 25456, Stop: 25698, Start Num: 69
Candidate Starts for Swervy_37:
(Start: 69 @25456 has 67 MA's), (90, 25690),

Gene: Tandem_28 Start: 9118, Stop: 9372, Start Num: 68
Candidate Starts for Tandem_28:
(60, 9070), (66, 9103), (Start: 68 @9118 has 33 MA's), (72, 9163), (74, 9199), (84, 9286),

Gene: TukTuk_37 Start: 25527, Stop: 25769, Start Num: 69
Candidate Starts for TukTuk_37:
(Start: 69 @25527 has 67 MA's), (81, 25668),

Gene: Uterion_32 Start: 10006, Stop: 10254, Start Num: 68
Candidate Starts for Uterion_32:
(Start: 61 @9967 has 1 MA's), (Start: 68 @10006 has 33 MA's), (72, 10051), (74, 10087), (89, 10234),

Gene: Vitas_33 Start: 23412, Stop: 23642, Start Num: 69
Candidate Starts for Vitas_33:
(26, 23160), (31, 23190), (Start: 68 @23403 has 33 MA's), (Start: 69 @23412 has 67 MA's), (75, 23499), (87, 23604), (90, 23634),

Gene: WalkingDead_38 Start: 27005, Stop: 27238, Start Num: 69
Candidate Starts for WalkingDead_38:
(43, 26876), (44, 26879), (48, 26897), (50, 26909), (51, 26912), (56, 26921), (Start: 68 @26996 has 33 MA's), (Start: 69 @27005 has 67 MA's),

Gene: Welcome_36 Start: 10355, Stop: 10609, Start Num: 68
Candidate Starts for Welcome_36:
(23, 10088), (65, 10340), (Start: 68 @10355 has 33 MA's), (72, 10400), (76, 10451), (77, 10469), (79, 10487),

Gene: Wolfstar_31 Start: 9938, Stop: 10189, Start Num: 68
Candidate Starts for Wolfstar_31:
(9, 9515), (13, 9551), (62, 9908), (64, 9914), (Start: 68 @9938 has 33 MA's), (72, 9983), (74, 10019), (84, 10106),

Gene: Yuma_34 Start: 10257, Stop: 10511, Start Num: 68
Candidate Starts for Yuma_34:
(65, 10242), (Start: 68 @10257 has 33 MA's), (72, 10302), (84, 10425),