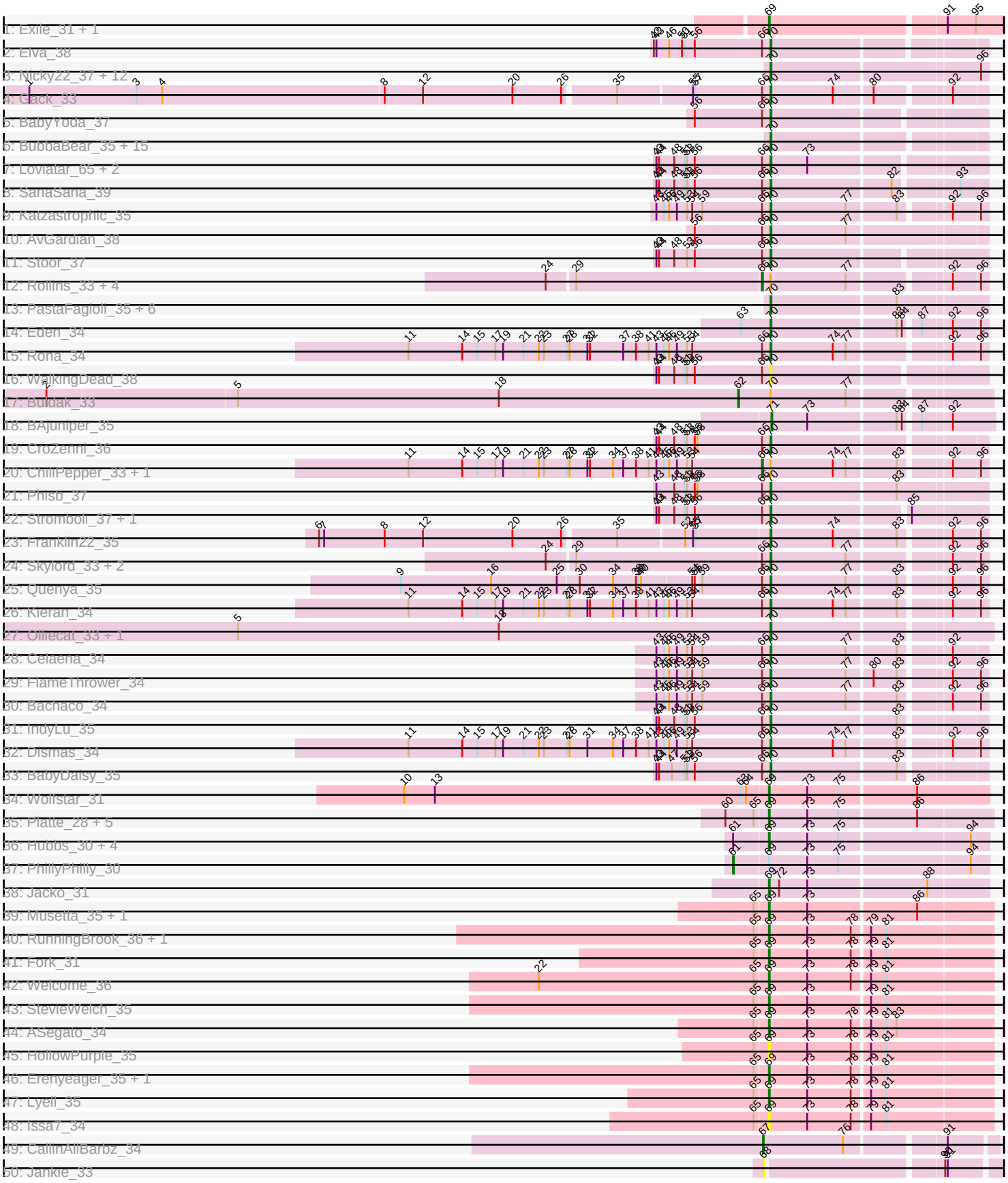
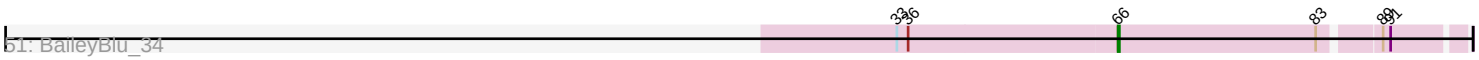
Pham 202811


1: Exile_31 + 1
2: Elva_38
3: Nicky22_37 + 12
4: Gack_33
5: BabyYoda_37
6: BubbaBear_35 + 15
7: Loviatar_65 + 2
8: SanaSana_39
9: Katzastrophic_35
10: AvGardian_38
11: Stoor_37
12: Rollins_33 + 4
13: PastaFagioli_35 + 6
14: Eden_34
15: Rona_34
16: WalkingDead_38
17: Buldak_33
18: BAjuniper_35
19: CroZenni_36
20: ChiliPepper_33 + 1
21: Phisb_37
22: Stromboli_37 + 1
23: Franklin22_35
24: Skylord_33 + 2
25: Quenya_35
26: Kieran_34
27: Ollecat_33 + 1
28: Celaena_34
29: FlameThrower_34
30: Bachaco_34
31: IndyLu_35
32: Dismas_34
33: BabyDaisy_35
34: Wolfstar_31
35: Platte_28 + 5
36: Hubbs_30 + 4
37: PhillyPhilly_30
38: Jacko_31
39: Musetta_35 + 1
40: RunningBrook_36 + 1
41: Fork_31
42: Welcome_36
43: StevieWelch_35
44: ASegato_34
45: HollowPurple_35
46: Erenyeager_35 + 1
47: Lyell_35
48: Issa7_34
49: CallinAllBarbz_34
50: Jankie_33

Pham 202811



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 202811 Report

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

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 202811 has 108 members, 16 are drafts.

Phages represented in each track:
• Track 1 : Exile_31, Soondubu_31
• Track 2 : Elva_38
• Track 3 : Nicky22_37, Kenzers_36, QMacho_38, SarBear_36, Slay_37, Jabb_37, Swervy_37, Eula_37, Lynlen_36, CupcakePrincess_37, Jovita_37, MsUbiquitous_37, Albedo_36
• Track 4 : Gack_33
• Track 5 : BabyYoda_37
• Track 6 : 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 7 : Loviatar_65, Icarian_39, Akino08_67
• Track 8 : SanaSana_39
• Track 9 : Katzastrophic_35
• Track 10 : AvGardian_38
• Track 11 : Stoor_37
• Track 12 : Rollins_33, Coltrane_33, Brahms_33, Bernstein_33, Armstrong_33
• Track 13 : PastaFagioli_35, Didgeridoo_38, PhigPhack_37, Cashington_34, TukTuk_37, Lahqtemish_35, Kate33_35
• Track 14 : Eden_34
• Track 15 : Rona_34
• Track 16 : WalkingDead_38
• Track 17 : Buldak_33
• Track 18 : BAjuniper_35
• Track 19 : CroZenni_36
• Track 20 : ChiliPepper_33, Sharkboy_35
• Track 21 : Phisb_37
• Track 22 : Stromboli_37, DirtyBubble_36
• Track 23 : Franklin22_35
• Track 24 : Skylord_33, Vitas_33, Clayda5_34
• Track 25 : Quenya_35
• Track 26 : Kieran_34
• Track 27 : Olliecat_33, Squircle_33

• Track 28 : Celaena_34
• Track 29 : FlameThrower_34
• Track 30 : Bachaco_34
• Track 31 : IndyLu_35
• Track 32 : Dismas_34
• Track 33 : BabyDaisy_35
• Track 34 : Wolfstar_31
• Track 35 : Platte_28, Hortus1_28, Alleb_29, Tandem_28, OlinDD_28, Pioneer3_28
• Track 36 : Hubbs_30, Roman_30, Pavlo_29, DejaVu_31, Lupine_29
• Track 37 : PhillyPhilly_30
• Track 38 : Jacko_31
• Track 39 : Musetta_35, Yuma_34
• Track 40 : RunningBrook_36, DustyDino_38
• Track 41 : Fork_31
• Track 42 : Welcome_36
• Track 43 : StevieWelch_35
• Track 44 : ASegato_34
• Track 45 : HollowPurple_35
• Track 46 : Erenyeager_35, Necrophoxinus_37
• Track 47 : Lyell_35
• Track 48 : Issa7_34
• Track 49 : CallinAllBarbz_34
• Track 50 : Jankie_33
• Track 51 : BaileyBlu_34

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

The start number called the most often in the published annotations is 70, it was called in 55 of the 92 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abigail_35, Akino08_67, Albedo_36, Albright_34, AnnaLie_37, Arroyo_37, AvGardian_38, Avocadoman_35, BabyDaisy_35, BabyYoda_37, Bachaco_34, BelmontSKP_37, Bengal_37, BubbaBear_35, Burritobowl_36, 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, Kate33_35, Katzastrophic_35, Kenzers_36, Kieran_34, Lahqtemish_35, LimaBean_35, Loviatar_65, Lynlen_36, MsUbiquitous_37, Nicky22_37, Olliecat_33, PastaFagioli_35, PhigPhack_37, Phisb_37, QMacho_38, Quenya_35, Rona_34, SanaSana_39, SansAfet_37, SarBear_36, Skylord_33, Slay_37, Softsoap_36, 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, BaileyBlu_34, CallinAllBarbz_34, DejaVu_31, DustyDino_38, Erenyeager_35, Exile_31, Fork_31, HollowPurple_35, Hortus1_28, Hubbs_30, Issa7_34, Jacko_31, Jankie_33, Lupine_29, Lyell_35, Musetta_35, Necrophoxinus_37, OlinDD_28, Pavlo_29, PhillyPhilly_30, Pioneer3_28, Platte_28, Roman_30, RunningBrook_36, Soondubu_31, StevieWelch_35, Tandem_28, Welcome_36, Wolfstar_31, Yuma_34,

Summary by start number:

Start 61:
• Found in 6 of 108 (5.6%) of genes in pham
• Manual Annotations of this start: 1 of 92
• Called 16.7% of time when present
• Phage (with cluster) where this start called: PhillyPhilly_30 (ED1),

Start 62:
• Found in 1 of 108 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 92
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Buldak_33 (EB),

Start 66:
• Found in 35 of 108 (32.4%) of genes in pham
• Manual Annotations of this start: 8 of 92
• Called 22.9% of time when present
• Phage (with cluster) where this start called: Armstrong_33 (EB), BaileyBlu_34 (FP), Bernstein_33 (EB), Brahms_33 (EB), ChiliPepper_33 (EB), Coltrane_33 (EB), Rollins_33 (EB), Sharkboy_35 (EB),

Start 67:
• Found in 1 of 108 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 92
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CallinAllBarbz_34 (FP),

Start 68:
• Found in 1 of 108 (0.9%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jankie_33 (FP),

Start 69:
• Found in 29 of 108 (26.9%) of genes in pham
• Manual Annotations of this start: 25 of 92
• Called 96.6% of time when present
• Phage (with cluster) where this start called: ASegato_34 (ED2), Alleb_29 (ED1), DejaVu_31 (ED1), DustyDino_38 (ED2), Erenyeager_35 (ED2), Exile_31 (AZ), Fork_31 (ED2), HollowPurple_35 (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), Roman_30 (ED1), RunningBrook_36 (ED2), Soondubu_31 (AZ), StevieWelch_35 (ED2), Tandem_28 (ED1), Welcome_36 (ED2), Wolfstar_31 (ED), Yuma_34 (ED2),

Start 70:
• Found in 75 of 108 (69.4%) of genes in pham
• Manual Annotations of this start: 55 of 92
• Called 89.3% of time when present
• Phage (with cluster) where this start called: Abigail_35 (EB), Akino08_67 (EB), Albedo_36 (EB), Albright_34 (EB), AnnaLie_37 (EB), Arroyo_37 (EB), AvGardian_38 (EB), Avocadoman_35 (EB), BabyDaisy_35 (EB), BabyYoda_37 (EB), Bachaco_34 (EB), BelmontSKP_37 (EB), Bengal_37 (EB), BubbaBear_35 (EB), Burritobowl_36 (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), Kate33_35 (EB), Katzastrophic_35 (EB), Kenzers_36 (EB), Kieran_34 (EB), Lahqtemish_35 (EB), LimaBean_35 (EB), Loviatar_65 (EB), Lynlen_36 (EB), MsUbiquitous_37 (EB), Nicky22_37 (EB), Olliecat_33 (EB), PastaFagioli_35 (EB), PhigPhack_37 (EB), Phisb_37 (EB), QMacho_38 (EB), Quenya_35 (EB), Rona_34 (EB), SanaSana_39 (EB), SansAfet_37 (EB), SarBear_36 (EB), Skylord_33 (EB), Slay_37 (EB), Softsoap_36 (EB), Squircle_33 (EB), Stoor_37 (EB), Stromboli_37 (EB), Swervy_37 (EB), TukTuk_37 (EB), Vitas_33 (EB), WalkingDead_38 (EB),

Start 71:
• Found in 1 of 108 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 92
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BAjuniper_35 (EB),

Summary by clusters:

There are 6 clusters represented in this pham: FP, ED, EB, ED2, ED1, AZ,

Info for manual annotations of cluster AZ:
•Start number 69 was manually annotated 1 time for cluster AZ.

Info for manual annotations of cluster EB:
•Start number 62 was manually annotated 1 time for cluster EB.
•Start number 66 was manually annotated 7 times for cluster EB.
•Start number 70 was manually annotated 55 times for cluster EB.
•Start number 71 was manually annotated 1 time for cluster EB.

Info for manual annotations of cluster ED:
•Start number 69 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 69 was manually annotated 12 times for cluster ED1.

Info for manual annotations of cluster ED2:
•Start number 69 was manually annotated 11 times for cluster ED2.

Info for manual annotations of cluster FP:

•Start number 66 was manually annotated 1 time for cluster FP.
•Start number 67 was manually annotated 1 time for cluster FP.

Gene Information:

Gene: ASegato_34 Start: 9990, Stop: 10244, Start Num: 69
Candidate Starts for ASegato_34:
(65, 9975), (Start: 69 @9990 has 25 MA's), (73, 10035), (78, 10086), (79, 10104), (81, 10122), (83, 10134),

Gene: Abigail_35 Start: 24992, Stop: 25222, Start Num: 70
Candidate Starts for Abigail_35:
(Start: 70 @24992 has 55 MA's),

Gene: Akino08_67 Start: 27416, Stop: 27649, Start Num: 70
Candidate Starts for Akino08_67:
(43, 27287), (44, 27290), (48, 27308), (51, 27320), (53, 27323), (56, 27332), (Start: 66 @27407 has 8 MA's), (Start: 70 @27416 has 55 MA's), (73, 27458),

Gene: Albedo_36 Start: 25530, Stop: 25772, Start Num: 70
Candidate Starts for Albedo_36:
(Start: 70 @25530 has 55 MA's), (96, 25764),

Gene: Albright_34 Start: 24694, Stop: 24924, Start Num: 70
Candidate Starts for Albright_34:
(Start: 70 @24694 has 55 MA's),

Gene: Alleb_29 Start: 9182, Stop: 9436, Start Num: 69
Candidate Starts for Alleb_29:
(60, 9134), (65, 9167), (Start: 69 @9182 has 25 MA's), (73, 9227), (75, 9263), (86, 9350),

Gene: AnnaLie_37 Start: 25815, Stop: 26045, Start Num: 70
Candidate Starts for AnnaLie_37:
(Start: 70 @25815 has 55 MA's),

Gene: Armstrong_33 Start: 23408, Stop: 23647, Start Num: 66
Candidate Starts for Armstrong_33:
(24, 23165), (29, 23195), (Start: 66 @23408 has 8 MA's), (Start: 70 @23417 has 55 MA's), (77, 23504), (92, 23609), (96, 23639),

Gene: Arroyo_37 Start: 25853, Stop: 26083, Start Num: 70
Candidate Starts for Arroyo_37:
(Start: 70 @25853 has 55 MA's),

Gene: AvGardian_38 Start: 25976, Stop: 26215, Start Num: 70
Candidate Starts for AvGardian_38:
(56, 25892), (Start: 66 @25967 has 8 MA's), (Start: 70 @25976 has 55 MA's), (77, 26063),

Gene: Avocadoman_35 Start: 24931, Stop: 25161, Start Num: 70
Candidate Starts for Avocadoman_35:
(Start: 70 @24931 has 55 MA's),

Gene: BAjuniper_35 Start: 26652, Stop: 26891, Start Num: 71
Candidate Starts for BAjuniper_35:
(Start: 71 @26652 has 1 MA's), (73, 26694), (83, 26793), (84, 26799), (87, 26814), (92, 26844),

Gene: BabyDaisy_35 Start: 25454, Stop: 25684, Start Num: 70
Candidate Starts for BabyDaisy_35:
(43, 25325), (44, 25328), (47, 25343), (51, 25358), (53, 25361), (56, 25370), (Start: 66 @25445 has 8 MA's), (Start: 70 @25454 has 55 MA's), (83, 25595),

Gene: BabyYoda_37 Start: 26596, Stop: 26829, Start Num: 70
Candidate Starts for BabyYoda_37:
(56, 26512), (Start: 66 @26587 has 8 MA's), (Start: 70 @26596 has 55 MA's),

Gene: Bachaco_34 Start: 26614, Stop: 26844, Start Num: 70
Candidate Starts for Bachaco_34:
(43, 26485), (45, 26494), (46, 26500), (49, 26509), (53, 26521), (54, 26527), (59, 26539), (Start: 66 @26605 has 8 MA's), (Start: 70 @26614 has 55 MA's), (77, 26701), (83, 26755), (92, 26806), (96, 26836),

Gene: BaileyBlu_34 Start: 24331, Stop: 24588, Start Num: 66
Candidate Starts for BaileyBlu_34:
(33, 24157), (36, 24166), (Start: 66 @24331 has 8 MA's), (83, 24487), (89, 24529), (91, 24535),

Gene: BelmontSKP_37 Start: 25815, Stop: 26045, Start Num: 70
Candidate Starts for BelmontSKP_37:
(Start: 70 @25815 has 55 MA's),

Gene: Bengal_37 Start: 25443, Stop: 25673, Start Num: 70
Candidate Starts for Bengal_37:
(Start: 70 @25443 has 55 MA's),

Gene: Bernstein_33 Start: 23463, Stop: 23702, Start Num: 66
Candidate Starts for Bernstein_33:
(24, 23220), (29, 23250), (Start: 66 @23463 has 8 MA's), (Start: 70 @23472 has 55 MA's), (77, 23559), (92, 23664), (96, 23694),

Gene: Brahms_33 Start: 23410, Stop: 23649, Start Num: 66
Candidate Starts for Brahms_33:
(24, 23167), (29, 23197), (Start: 66 @23410 has 8 MA's), (Start: 70 @23419 has 55 MA's), (77, 23506), (92, 23611), (96, 23641),

Gene: BubbaBear_35 Start: 25387, Stop: 25617, Start Num: 70
Candidate Starts for BubbaBear_35:
(Start: 70 @25387 has 55 MA's),

Gene: Buldak_33 Start: 24218, Stop: 24493, Start Num: 62
Candidate Starts for Buldak_33:
(2, 23414), (5, 23633), (18, 23939), (Start: 62 @24218 has 1 MA's), (Start: 70 @24254 has 55 MA's), (77, 24341),

Gene: Burritobowl_36 Start: 25388, Stop: 25618, Start Num: 70
Candidate Starts for Burritobowl_36:

(Start: 70 @25388 has 55 MA's),

Gene: CallinAllBarbz_34 Start: 24734, Stop: 24985, Start Num: 67
Candidate Starts for CallinAllBarbz_34:
(Start: 67 @24734 has 1 MA's), (76, 24827), (91, 24932),

Gene: Cashington_34 Start: 24734, Stop: 24964, Start Num: 70
Candidate Starts for Cashington_34:
(Start: 70 @24734 has 55 MA's), (83, 24875),

Gene: Celaena_34 Start: 26364, Stop: 26594, Start Num: 70
Candidate Starts for Celaena_34:
(43, 26235), (45, 26244), (46, 26250), (49, 26259), (53, 26271), (54, 26277), (59, 26289), (Start: 66 @26355 has 8 MA's), (Start: 70 @26364 has 55 MA's), (77, 26451), (83, 26505), (92, 26556),

Gene: ChiliPepper_33 Start: 25809, Stop: 26048, Start Num: 66
Candidate Starts for ChiliPepper_33:
(11, 25398), (14, 25461), (15, 25479), (17, 25500), (19, 25509), (21, 25533), (22, 25551), (23, 25557), (27, 25584), (28, 25587), (31, 25608), (32, 25611), (34, 25638), (37, 25650), (38, 25665), (41, 25680), (43, 25689), (45, 25698), (46, 25704), (49, 25713), (53, 25725), (54, 25731), (Start: 66 @25809 has 8 MA's), (Start: 70 @25818 has 55 MA's), (74, 25890), (77, 25905), (83, 25959), (92, 26010), (96, 26040),

Gene: Clayda5_34 Start: 23406, Stop: 23636, Start Num: 70
Candidate Starts for Clayda5_34:
(24, 23154), (29, 23184), (Start: 66 @23397 has 8 MA's), (Start: 70 @23406 has 55 MA's), (77, 23493), (92, 23598), (96, 23628),

Gene: Coltrane_33 Start: 23410, Stop: 23649, Start Num: 66
Candidate Starts for Coltrane_33:
(24, 23167), (29, 23197), (Start: 66 @23410 has 8 MA's), (Start: 70 @23419 has 55 MA's), (77, 23506), (92, 23611), (96, 23641),

Gene: CroZenni_36 Start: 25278, Stop: 25508, Start Num: 70
Candidate Starts for CroZenni_36:
(43, 25149), (44, 25152), (48, 25170), (51, 25182), (53, 25185), (56, 25194), (58, 25197), (Start: 66 @25269 has 8 MA's), (Start: 70 @25278 has 55 MA's),

Gene: CupcakePrincess_37 Start: 25564, Stop: 25806, Start Num: 70
Candidate Starts for CupcakePrincess_37:
(Start: 70 @25564 has 55 MA's), (96, 25798),

Gene: DejaVu_31 Start: 9377, Stop: 9625, Start Num: 69
Candidate Starts for DejaVu_31:
(Start: 61 @9338 has 1 MA's), (Start: 69 @9377 has 25 MA's), (73, 9422), (75, 9458), (94, 9605),

Gene: DickRichards_35 Start: 25717, Stop: 25947, Start Num: 70
Candidate Starts for DickRichards_35:
(Start: 70 @25717 has 55 MA's),

Gene: Didgeridoo_38 Start: 25851, Stop: 26093, Start Num: 70
Candidate Starts for Didgeridoo_38:
(Start: 70 @25851 has 55 MA's), (83, 25992),

Gene: DirtyBubble_36 Start: 26244, Stop: 26477, Start Num: 70
Candidate Starts for DirtyBubble_36:
(43, 26115), (44, 26118), (48, 26136), (51, 26148), (53, 26151), (56, 26160), (Start: 66 @26235 has 8 MA's), (Start: 70 @26244 has 55 MA's), (85, 26394),

Gene: Dismas_34 Start: 25989, Stop: 26219, Start Num: 70
Candidate Starts for Dismas_34:
(11, 25569), (14, 25632), (15, 25650), (17, 25671), (19, 25680), (21, 25704), (22, 25722), (23, 25728), (27, 25755), (28, 25758), (31, 25779), (34, 25809), (37, 25821), (38, 25836), (41, 25851), (43, 25860), (45, 25869), (46, 25875), (49, 25884), (53, 25896), (54, 25902), (Start: 66 @25980 has 8 MA's), (Start: 70 @25989 has 55 MA's), (74, 26061), (77, 26076), (83, 26130), (92, 26181), (96, 26211),

Gene: Doobus_35 Start: 25098, Stop: 25328, Start Num: 70
Candidate Starts for Doobus_35:
(Start: 70 @25098 has 55 MA's),

Gene: DustyDino_38 Start: 10938, Stop: 11192, Start Num: 69
Candidate Starts for DustyDino_38:
(65, 10923), (Start: 69 @10938 has 25 MA's), (73, 10983), (78, 11034), (79, 11052), (81, 11070),

Gene: Eden_34 Start: 24202, Stop: 24432, Start Num: 70
Candidate Starts for Eden_34:
(63, 24169), (Start: 70 @24202 has 55 MA's), (83, 24343), (84, 24349), (87, 24364), (92, 24394), (96, 24424),

Gene: Elva_38 Start: 26309, Stop: 26539, Start Num: 70
Candidate Starts for Elva_38:
(42, 26177), (43, 26180), (46, 26195), (50, 26210), (51, 26213), (56, 26225), (Start: 66 @26300 has 8 MA's), (Start: 70 @26309 has 55 MA's),

Gene: Erenyeager_35 Start: 10332, Stop: 10586, Start Num: 69
Candidate Starts for Erenyeager_35:
(65, 10317), (Start: 69 @10332 has 25 MA's), (73, 10377), (78, 10428), (79, 10446), (81, 10464),

Gene: Eula_37 Start: 25477, Stop: 25719, Start Num: 70
Candidate Starts for Eula_37:
(Start: 70 @25477 has 55 MA's), (96, 25711),

Gene: Exile_31 Start: 26521, Stop: 26784, Start Num: 69
Candidate Starts for Exile_31:
(Start: 69 @26521 has 25 MA's), (91, 26719), (95, 26752),

Gene: Finalfrontier_36 Start: 26101, Stop: 26331, Start Num: 70
Candidate Starts for Finalfrontier_36:
(Start: 70 @26101 has 55 MA's),

Gene: FlameThrower_34 Start: 25814, Stop: 26044, Start Num: 70
Candidate Starts for FlameThrower_34:
(43, 25685), (45, 25694), (46, 25700), (49, 25709), (53, 25721), (54, 25727), (59, 25739), (Start: 66 @25805 has 8 MA's), (Start: 70 @25814 has 55 MA's), (77, 25901), (80, 25928), (83, 25955), (92, 26006), (96, 26036),

Gene: Fork_31 Start: 9648, Stop: 9902, Start Num: 69
Candidate Starts for Fork_31:
(65, 9633), (Start: 69 @9648 has 25 MA's), (73, 9693), (78, 9744), (79, 9762), (81, 9780),

Gene: Franklin22_35 Start: 24188, Stop: 24418, Start Num: 70
Candidate Starts for Franklin22_35:
(6, 23681), (7, 23687), (8, 23756), (12, 23801), (20, 23906), (26, 23963), (35, 24020), (52, 24095), (55, 24104), (57, 24107), (Start: 70 @24188 has 55 MA's), (74, 24260), (83, 24329), (92, 24380), (96, 24410),

Gene: Gack_33 Start: 23939, Stop: 24169, Start Num: 70
Candidate Starts for Gack_33:
(1, 23093), (3, 23219), (4, 23249), (8, 23507), (12, 23552), (20, 23657), (26, 23714), (35, 23771), (55, 23855), (57, 23858), (Start: 66 @23930 has 8 MA's), (Start: 70 @23939 has 55 MA's), (74, 24011), (80, 24053), (92, 24131),

Gene: HollowPurple_35 Start: 10186, Stop: 10440, Start Num: 69
Candidate Starts for HollowPurple_35:
(65, 10171), (Start: 69 @10186 has 25 MA's), (73, 10231), (78, 10282), (79, 10300), (81, 10318),

Gene: Hortus1_28 Start: 9181, Stop: 9435, Start Num: 69
Candidate Starts for Hortus1_28:
(60, 9133), (65, 9166), (Start: 69 @9181 has 25 MA's), (73, 9226), (75, 9262), (86, 9349),

Gene: Hubbs_30 Start: 9589, Stop: 9837, Start Num: 69
Candidate Starts for Hubbs_30:
(Start: 61 @9550 has 1 MA's), (Start: 69 @9589 has 25 MA's), (73, 9634), (75, 9670), (94, 9817),

Gene: Icarian_39 Start: 26879, Stop: 27112, Start Num: 70
Candidate Starts for Icarian_39:
(43, 26750), (44, 26753), (48, 26771), (51, 26783), (53, 26786), (56, 26795), (Start: 66 @26870 has 8 MA's), (Start: 70 @26879 has 55 MA's), (73, 26921),

Gene: IndyLu_35 Start: 25415, Stop: 25645, Start Num: 70
Candidate Starts for IndyLu_35:
(43, 25286), (44, 25289), (48, 25307), (51, 25319), (53, 25322), (56, 25331), (Start: 66 @25406 has 8 MA's), (Start: 70 @25415 has 55 MA's), (83, 25556),

Gene: Issa7_34 Start: 9642, Stop: 9896, Start Num: 69
Candidate Starts for Issa7_34:
(65, 9627), (Start: 69 @9642 has 25 MA's), (73, 9687), (78, 9738), (79, 9756), (81, 9774),

Gene: Jabb_37 Start: 25564, Stop: 25806, Start Num: 70
Candidate Starts for Jabb_37:
(Start: 70 @25564 has 55 MA's), (96, 25798),

Gene: Jacko_31 Start: 9673, Stop: 9921, Start Num: 69
Candidate Starts for Jacko_31:
(Start: 69 @9673 has 25 MA's), (72, 9685), (73, 9718), (88, 9853),

Gene: Jankie_33 Start: 23923, Stop: 24174, Start Num: 68
Candidate Starts for Jankie_33:
(68, 23923), (90, 24118), (91, 24121),

Gene: Johnathan_35 Start: 24821, Stop: 25051, Start Num: 70
Candidate Starts for Johnathan_35:
(Start: 70 @24821 has 55 MA's),

Gene: Jovita_37 Start: 25579, Stop: 25821, Start Num: 70
Candidate Starts for Jovita_37:
(Start: 70 @25579 has 55 MA's), (96, 25813),

Gene: Kate33_35 Start: 25175, Stop: 25417, Start Num: 70
Candidate Starts for Kate33_35:
(Start: 70 @25175 has 55 MA's), (83, 25316),

Gene: Katzastrophic_35 Start: 25943, Stop: 26173, Start Num: 70
Candidate Starts for Katzastrophic_35:
(43, 25814), (45, 25823), (46, 25829), (49, 25838), (53, 25850), (54, 25856), (59, 25868), (Start: 66 @25934 has 8 MA's), (Start: 70 @25943 has 55 MA's), (77, 26030), (83, 26084), (92, 26135), (96, 26165),

Gene: Kenzers_36 Start: 25402, Stop: 25644, Start Num: 70
Candidate Starts for Kenzers_36:
(Start: 70 @25402 has 55 MA's), (96, 25636),

Gene: Kieran_34 Start: 25998, Stop: 26228, Start Num: 70
Candidate Starts for Kieran_34:
(11, 25578), (14, 25641), (15, 25659), (17, 25680), (19, 25689), (21, 25713), (22, 25731), (23, 25737), (27, 25764), (28, 25767), (31, 25788), (32, 25791), (34, 25818), (37, 25830), (38, 25845), (41, 25860), (43, 25869), (45, 25878), (46, 25884), (49, 25893), (53, 25905), (54, 25911), (Start: 66 @25989 has 8 MA's), (Start: 70 @25998 has 55 MA's), (74, 26070), (77, 26085), (83, 26139), (92, 26190), (96, 26220),

Gene: Lahqtemish_35 Start: 25448, Stop: 25690, Start Num: 70
Candidate Starts for Lahqtemish_35:
(Start: 70 @25448 has 55 MA's), (83, 25589),

Gene: LimaBean_35 Start: 24870, Stop: 25100, Start Num: 70
Candidate Starts for LimaBean_35:
(Start: 70 @24870 has 55 MA's),

Gene: Loviatar_65 Start: 27431, Stop: 27664, Start Num: 70
Candidate Starts for Loviatar_65:
(43, 27302), (44, 27305), (48, 27323), (51, 27335), (53, 27338), (56, 27347), (Start: 66 @27422 has 8 MA's), (Start: 70 @27431 has 55 MA's), (73, 27473),

Gene: Lupine_29 Start: 9261, Stop: 9509, Start Num: 69
Candidate Starts for Lupine_29:
(Start: 61 @9222 has 1 MA's), (Start: 69 @9261 has 25 MA's), (73, 9306), (75, 9342), (94, 9489),

Gene: Lyell_35 Start: 10250, Stop: 10504, Start Num: 69
Candidate Starts for Lyell_35:
(65, 10235), (Start: 69 @10250 has 25 MA's), (73, 10295), (78, 10346), (79, 10364), (81, 10382),

Gene: Lynlen_36 Start: 25402, Stop: 25644, Start Num: 70

Candidate Starts for Lynlen_36:
(Start: 70 @25402 has 55 MA's), (96, 25636),

Gene: MsUbiquitous_37 Start: 25564, Stop: 25806, Start Num: 70
Candidate Starts for MsUbiquitous_37:
(Start: 70 @25564 has 55 MA's), (96, 25798),

Gene: Musetta_35 Start: 10358, Stop: 10612, Start Num: 69
Candidate Starts for Musetta_35:
(65, 10343), (Start: 69 @10358 has 25 MA's), (73, 10403), (86, 10526),

Gene: Necrophoxinus_37 Start: 10946, Stop: 11200, Start Num: 69
Candidate Starts for Necrophoxinus_37:
(65, 10931), (Start: 69 @10946 has 25 MA's), (73, 10991), (78, 11042), (79, 11060), (81, 11078),

Gene: Nicky22_37 Start: 25941, Stop: 26183, Start Num: 70
Candidate Starts for Nicky22_37:
(Start: 70 @25941 has 55 MA's), (96, 26175),

Gene: OlinDD_28 Start: 9180, Stop: 9434, Start Num: 69
Candidate Starts for OlinDD_28:
(60, 9132), (65, 9165), (Start: 69 @9180 has 25 MA's), (73, 9225), (75, 9261), (86, 9348),

Gene: Olliecat_33 Start: 24245, Stop: 24484, Start Num: 70
Candidate Starts for Olliecat_33:
(5, 23624), (18, 23930), (Start: 70 @24245 has 55 MA's),

Gene: PastaFagioli_35 Start: 25432, Stop: 25674, Start Num: 70
Candidate Starts for PastaFagioli_35:
(Start: 70 @25432 has 55 MA's), (83, 25573),

Gene: Pavlo_29 Start: 9536, Stop: 9784, Start Num: 69
Candidate Starts for Pavlo_29:
(Start: 61 @9497 has 1 MA's), (Start: 69 @9536 has 25 MA's), (73, 9581), (75, 9617), (94, 9764),

Gene: PhigPhack_37 Start: 25302, Stop: 25544, Start Num: 70
Candidate Starts for PhigPhack_37:
(Start: 70 @25302 has 55 MA's), (83, 25443),

Gene: PhillyPhilly_30 Start: 9402, Stop: 9689, Start Num: 61
Candidate Starts for PhillyPhilly_30:
(Start: 61 @9402 has 1 MA's), (Start: 69 @9441 has 25 MA's), (73, 9486), (75, 9522), (94, 9669),

Gene: Phisb_37 Start: 25535, Stop: 25777, Start Num: 70
Candidate Starts for Phisb_37:
(43, 25406), (48, 25427), (51, 25439), (53, 25442), (56, 25451), (58, 25454), (Start: 66 @25526 has 8 MA's), (Start: 70 @25535 has 55 MA's), (83, 25676),

Gene: Pioneer3_28 Start: 9179, Stop: 9433, Start Num: 69
Candidate Starts for Pioneer3_28:
(60, 9131), (65, 9164), (Start: 69 @9179 has 25 MA's), (73, 9224), (75, 9260), (86, 9347),

Gene: Platte_28 Start: 8949, Stop: 9203, Start Num: 69

Candidate Starts for Platte_28:
(60, 8901), (65, 8934), (Start: 69 @8949 has 25 MA's), (73, 8994), (75, 9030), (86, 9117),

Gene: QMacho_38 Start: 25959, Stop: 26201, Start Num: 70
Candidate Starts for QMacho_38:
(Start: 70 @25959 has 55 MA's), (96, 26193),

Gene: Quenya_35 Start: 25660, Stop: 25890, Start Num: 70
Candidate Starts for Quenya_35:
(9, 25243), (16, 25348), (25, 25423), (30, 25447), (34, 25486), (38, 25513), (39, 25516), (40, 25519), (54, 25576), (56, 25579), (59, 25585), (Start: 66 @25651 has 8 MA's), (Start: 70 @25660 has 55 MA's), (77, 25747), (83, 25801), (92, 25852), (96, 25882),

Gene: Rollins_33 Start: 23463, Stop: 23702, Start Num: 66
Candidate Starts for Rollins_33:
(24, 23220), (29, 23250), (Start: 66 @23463 has 8 MA's), (Start: 70 @23472 has 55 MA's), (77, 23559), (92, 23664), (96, 23694),

Gene: Roman_30 Start: 9436, Stop: 9684, Start Num: 69
Candidate Starts for Roman_30:
(Start: 61 @9397 has 1 MA's), (Start: 69 @9436 has 25 MA's), (73, 9481), (75, 9517), (94, 9664),

Gene: Rona_34 Start: 25980, Stop: 26210, Start Num: 70
Candidate Starts for Rona_34:
(11, 25560), (14, 25623), (15, 25641), (17, 25662), (19, 25671), (21, 25695), (22, 25713), (23, 25719), (27, 25746), (28, 25749), (31, 25770), (32, 25773), (37, 25812), (38, 25827), (41, 25842), (43, 25851), (45, 25860), (46, 25866), (49, 25875), (53, 25887), (54, 25893), (Start: 66 @25971 has 8 MA's), (Start: 70 @25980 has 55 MA's), (74, 26052), (77, 26067), (92, 26172), (96, 26202),

Gene: RunningBrook_36 Start: 10938, Stop: 11192, Start Num: 69
Candidate Starts for RunningBrook_36:
(65, 10923), (Start: 69 @10938 has 25 MA's), (73, 10983), (78, 11034), (79, 11052), (81, 11070),

Gene: SanaSana_39 Start: 27081, Stop: 27314, Start Num: 70
Candidate Starts for SanaSana_39:
(43, 26952), (44, 26955), (48, 26973), (51, 26985), (53, 26988), (56, 26997), (Start: 66 @27072 has 8 MA's), (Start: 70 @27081 has 55 MA's), (82, 27216), (93, 27282),

Gene: SansAfet_37 Start: 25401, Stop: 25631, Start Num: 70
Candidate Starts for SansAfet_37:
(Start: 70 @25401 has 55 MA's),

Gene: SarBear_36 Start: 25256, Stop: 25498, Start Num: 70
Candidate Starts for SarBear_36:
(Start: 70 @25256 has 55 MA's), (96, 25490),

Gene: Sharkboy_35 Start: 26070, Stop: 26309, Start Num: 66
Candidate Starts for Sharkboy_35:
(11, 25659), (14, 25722), (15, 25740), (17, 25761), (19, 25770), (21, 25794), (22, 25812), (23, 25818), (27, 25845), (28, 25848), (31, 25869), (32, 25872), (34, 25899), (37, 25911), (38, 25926), (41, 25941), (43, 25950), (45, 25959), (46, 25965), (49, 25974), (53, 25986), (54, 25992), (Start: 66 @26070 has 8 MA's), (Start: 70 @26079 has 55 MA's), (74, 26151), (77, 26166), (83, 26220), (92, 26271), (96, 26301),

Gene: Skylord_33 Start: 23403, Stop: 23633, Start Num: 70
Candidate Starts for Skylord_33:
(24, 23151), (29, 23181), (Start: 66 @23394 has 8 MA's), (Start: 70 @23403 has 55 MA's), (77, 23490), (92, 23595), (96, 23625),

Gene: Slay_37 Start: 25937, Stop: 26179, Start Num: 70
Candidate Starts for Slay_37:
(Start: 70 @25937 has 55 MA's), (96, 26171),

Gene: Softsoap_36 Start: 25312, Stop: 25542, Start Num: 70
Candidate Starts for Softsoap_36:
(Start: 70 @25312 has 55 MA's),

Gene: Soondubu_31 Start: 26525, Stop: 26788, Start Num: 69
Candidate Starts for Soondubu_31:
(Start: 69 @26525 has 25 MA's), (91, 26723), (95, 26756),

Gene: Squircle_33 Start: 24244, Stop: 24483, Start Num: 70
Candidate Starts for Squircle_33:
(5, 23623), (18, 23929), (Start: 70 @24244 has 55 MA's),

Gene: StevieWelch_35 Start: 10338, Stop: 10592, Start Num: 69
Candidate Starts for StevieWelch_35:
(65, 10323), (Start: 69 @10338 has 25 MA's), (73, 10383), (79, 10452), (81, 10470),

Gene: Stoor_37 Start: 26750, Stop: 26983, Start Num: 70
Candidate Starts for Stoor_37:
(43, 26621), (44, 26624), (48, 26642), (53, 26657), (56, 26666), (Start: 66 @26741 has 8 MA's), (Start: 70 @26750 has 55 MA's),

Gene: Stromboli_37 Start: 26614, Stop: 26847, Start Num: 70
Candidate Starts for Stromboli_37:
(43, 26485), (44, 26488), (48, 26506), (51, 26518), (53, 26521), (56, 26530), (Start: 66 @26605 has 8 MA's), (Start: 70 @26614 has 55 MA's), (85, 26764),

Gene: Swervy_37 Start: 25456, Stop: 25698, Start Num: 70
Candidate Starts for Swervy_37:
(Start: 70 @25456 has 55 MA's), (96, 25690),

Gene: Tandem_28 Start: 9118, Stop: 9372, Start Num: 69
Candidate Starts for Tandem_28:
(60, 9070), (65, 9103), (Start: 69 @9118 has 25 MA's), (73, 9163), (75, 9199), (86, 9286),

Gene: TukTuk_37 Start: 25527, Stop: 25769, Start Num: 70
Candidate Starts for TukTuk_37:
(Start: 70 @25527 has 55 MA's), (83, 25668),

Gene: Vitas_33 Start: 23412, Stop: 23642, Start Num: 70
Candidate Starts for Vitas_33:
(24, 23160), (29, 23190), (Start: 66 @23403 has 8 MA's), (Start: 70 @23412 has 55 MA's), (77, 23499), (92, 23604), (96, 23634),

Gene: WalkingDead_38 Start: 27005, Stop: 27238, Start Num: 70
Candidate Starts for WalkingDead_38:
(43, 26876), (44, 26879), (48, 26897), (51, 26909), (53, 26912), (56, 26921), (Start: 66 @26996 has 8 MA's), (Start: 70 @27005 has 55 MA's),

Gene: Welcome_36 Start: 10355, Stop: 10609, Start Num: 69
Candidate Starts for Welcome_36:
(22, 10088), (65, 10340), (Start: 69 @10355 has 25 MA's), (73, 10400), (78, 10451), (79, 10469), (81, 10487),

Gene: Wolfstar_31 Start: 9938, Stop: 10189, Start Num: 69
Candidate Starts for Wolfstar_31:
(10, 9515), (13, 9551), (63, 9908), (64, 9914), (Start: 69 @9938 has 25 MA's), (73, 9983), (75, 10019), (86, 10106),

Gene: Yuma_34 Start: 10257, Stop: 10511, Start Num: 69
Candidate Starts for Yuma_34:
(65, 10242), (Start: 69 @10257 has 25 MA's), (73, 10302), (86, 10425),