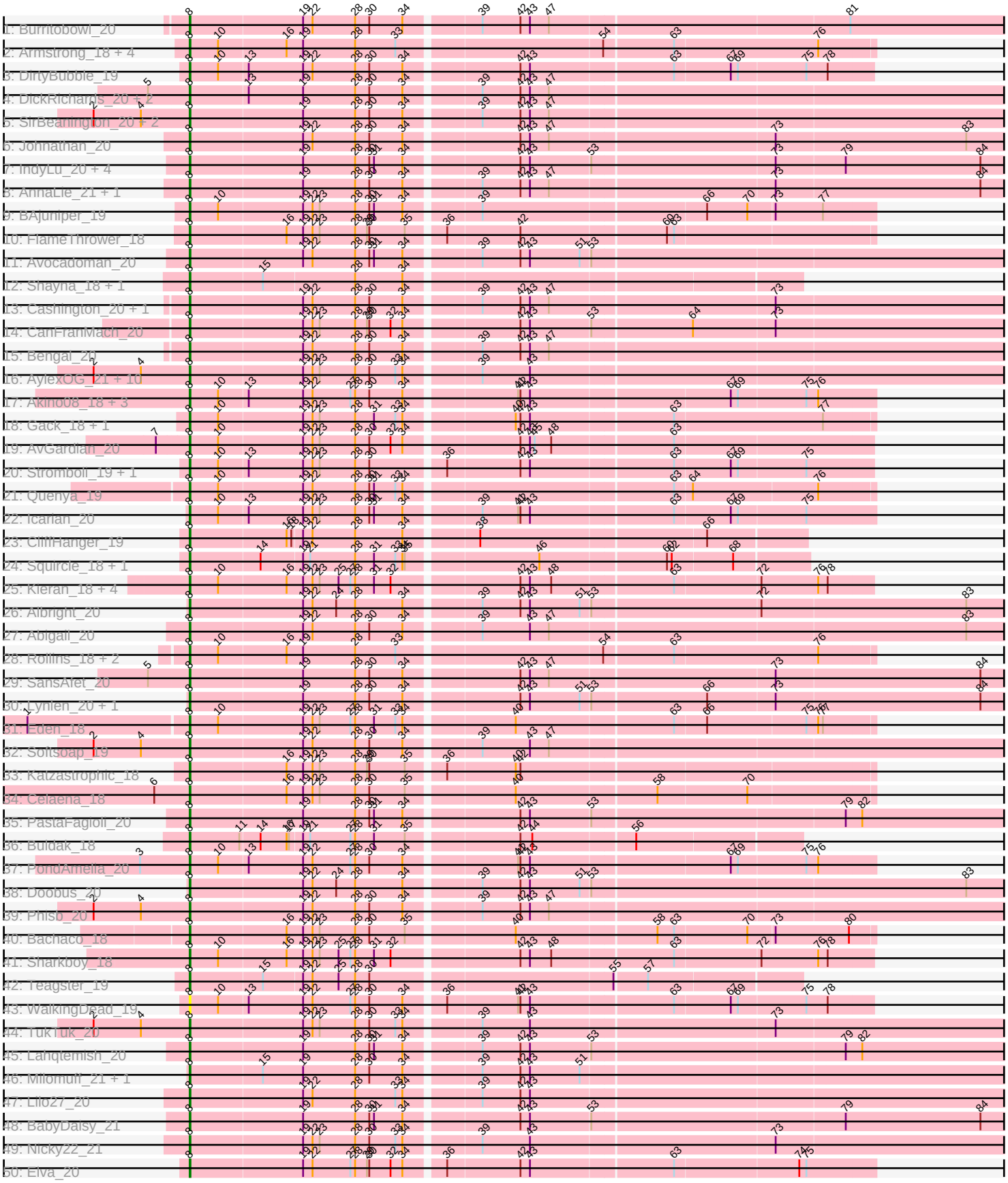
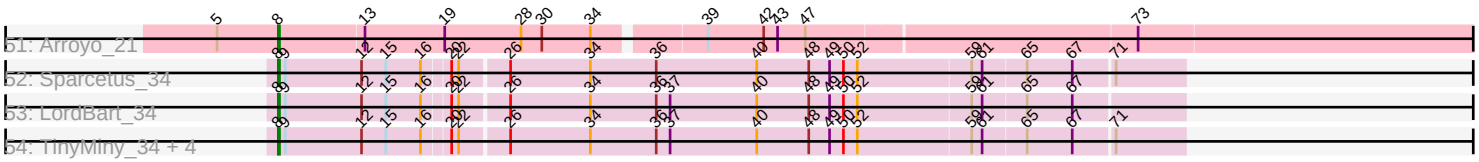
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1: Burritobowl_20
2: Armstrong_18 + 4
3: DirtyBubble_19
4: DickRichards_20 + 2
5: SirBeanington_20 + 2
6: Johnathan_20
7: IndyLu_20 + 4
8: AnnaLie_21 + 1
9: BAjuniper_19
10: FlameThrower_18
11: Avocadoman_20
12: Shayna_18 + 1
13: Cashington_20 + 1
14: CamFranMach_20
15: Bengal_20
16: AylexOG_21 + 10
17: Akino08_18 + 3
18: Gack_18 + 1
19: AvGardian_20
20: Stromboli_19 + 1
21: Quenya_19
22: Icarian_20
23: CliffHanger_19
24: Squircle_18 + 1
25: Kieran_18 + 4
26: Albright_20
27: Abigail_20
28: Rollins_18 + 2
29: SansAlet_20
30: Lynlen_20 + 1
31: Eden_18
32: Softsoap_19
33: Katzastrophic_18
34: Celaena_18
35: PastaFagioli_20
36: Buldak_18
37: PondAmelia_20
38: Doobus_20
39: Phisb_20
40: Bachaco_18
41: Sharkboy_18
42: Teagster_19
43: WalkingDead_19
44: TukTuk_20
45: Lanqtemish_20
46: Mmomuh_21 + 1
47: Lilo27_20
48: BabyDaisy_21
49: Nicky22_21
50: Elva_20

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42
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47
73
51: Arroyo_21
52: Sparcetus_34
53: LordBart_34
54: TinyMiny_34 + 4

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 347468 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347468 has 97 members, 4 are drafts.

Phages represented in each track:
• Track 1 : Burritobowl_20
• Track 2 : Armstrong_18, Coltrane_18, Clayda5_18, Brahms_18, Skylord_18
• Track 3 : DirtyBubble_19
• Track 4 : DickRichards_20, PhigPhack_21, CroZenni_20
• Track 5 : SirBeanington_20, Albedo_20, BubbaBear_20
• Track 6 : Johnathan_20
• Track 7 : IndyLu_20, Kate33_20, Didgeridoo_21, Finalfrontier_21, Grist_20
• Track 8 : AnnaLie_21, BelmontSKP_21
• Track 9 : BAjuniper_19
• Track 10 : FlameThrower_18
• Track 11 : Avocadoman_20
• Track 12 : Shayna_18, SunnyD_18
• Track 13 : Cashington_20, LimaBean_20
• Track 14 : CanFranMach_20
• Track 15 : Bengal_20
• Track 16 : AylexOG_21, Swervy_20, Slay_20, Jabb_20, Eula_20, MsUbiquitous_20, CupcakePrincess_20, Pecas_20, SarBear_20, Jovita_20, QMacho_21
• Track 17 : Akino08_18, Stoor_19, SanaSana_20, Loviatar_19
• Track 18 : Gack_18, Franklin22_19
• Track 19 : AvGardian_20
• Track 20 : Stromboli_19, BabyYoda_19
• Track 21 : Quenya_19
• Track 22 : Icarian_20
• Track 23 : CliffHanger_19
• Track 24 : Squircle_18, Olliecat_18
• Track 25 : Kieran_18, Rona_18, ChiliPepper_18, Kamdara_18, Dismas_18
• Track 26 : Albright_20
• Track 27 : Abigail_20
• Track 28 : Rollins_18, Vitas_18, Bernstein_18
• Track 29 : SansAfet_20
• Track 30 : Lynlen_20, Kenzers_20
• Track 31 : Eden_18
• Track 32 : Softsoap_19
• Track 33 : Katzastrophic_18
• Track 34 : Celaena_18
• Track 35 : PastaFagioli_20
• Track 36 : Buldak_18

• Track 37 : PondAmelia_20
• Track 38 : Doobus_20
• Track 39 : Phisb_20
• Track 40 : Bachaco_18
• Track 41 : Sharkboy_18
• Track 42 : Teagster_19
• Track 43 : WalkingDead_19
• Track 44 : TukTuk_20
• Track 45 : Lahqtemish_20
• Track 46 : Milomuff_21, Solea_22
• Track 47 : Lilo27_20
• Track 48 : BabyDaisy_21
• Track 49 : Nicky22_21
• Track 50 : Elva_20
• Track 51 : Arroyo_21
• Track 52 : Sparcetus_34
• Track 53 : LordBart_34
• Track 54 : TinyMiny_34, Ajin_34, Kors_34, Bramble_34, RikSengupta_34

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

The start number called the most often in the published annotations is 8, it was called in 93 of the 93 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abigail_20, Ajin_34, Akino08_18, Albedo_20, Albright_20, AnnaLie_21, Armstrong_18, Arroyo_21, AvGardian_20, Avocadoman_20, AylexOG_21, BAjuniper_19, BabyDaisy_21, BabyYoda_19, Bachaco_18, BelmontSKP_21, Bengal_20, Bernstein_18, Brahms_18, Bramble_34, BubbaBear_20, Buldak_18, Burritobowl_20, CanFranMach_20, Cashington_20, Celaena_18, ChiliPepper_18, Clayda5_18, CliffHanger_19, Coltrane_18, CroZenni_20, CupcakePrincess_20, DickRichards_20, Didgeridoo_21, DirtyBubble_19, Dismas_18, Doobus_20, Eden_18, Elva_20, Eula_20, Finalfrontier_21, FlameThrower_18, Franklin22_19, Gack_18, Grist_20, Icarian_20, IndyLu_20, Jabb_20, Johnathan_20, Jovita_20, Kamdara_18, Kate33_20, Katzastrophic_18, Kenzers_20, Kieran_18, Kors_34, Lahqtemish_20, Lilo27_20, LimaBean_20, LordBart_34, Loviatar_19, Lynlen_20, Milomuff_21, MsUbiquitous_20, Nicky22_21, Olliecat_18, PastaFagioli_20, Pecas_20, PhigPhack_21, Phisb_20, PondAmelia_20, QMacho_21, Quenya_19, RikSengupta_34, Rollins_18, Rona_18, SanaSana_20, SansAfet_20, SarBear_20, Sharkboy_18, Shayna_18, SirBeanington_20, Skylord_18, Slay_20, Softsoap_19, Solea_22, Sparcetus_34, Squircle_18, Stoor_19, Stromboli_19, SunnyD_18, Swervy_20, Teagster_19, TinyMiny_34, TukTuk_20, Vitas_18, WalkingDead_19,

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

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

Summary by start number:

Start 8:
• Found in 97 of 97 (100.0%) of genes in pham
• Manual Annotations of this start: 93 of 93
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Abigail_20 (EB), Ajin_34 (EF), Akino08_18 (EB), Albedo_20 (EB), Albright_20 (EB), AnnaLie_21 (EB), Armstrong_18 (EB), Arroyo_21 (EB), AvGardian_20 (EB), Avocadoman_20 (EB), AylexOG_21 (EB), BAjuniper_19 (EB), BabyDaisy_21 (EB), BabyYoda_19 (EB), Bachaco_18 (EB), BelmontSKP_21 (EB), Bengal_20 (EB), Bernstein_18 (EB), Brahms_18 (EB), Bramble_34 (EF), BubbaBear_20 (EB), Buldak_18 (EB), Burritobowl_20 (EB), CanFranMach_20 (EB), Cashington_20 (EB), Celaena_18 (EB), ChiliPepper_18 (EB), Clayda5_18 (EB), CliffHanger_19 (EB), Coltrane_18 (EB), CroZenni_20 (EB), CupcakePrincess_20 (EB), DickRichards_20 (EB), Didgeridoo_21 (EB), DirtyBubble_19 (EB), Dismas_18 (EB), Doobus_20 (EB), Eden_18 (EB), Elva_20 (EB), Eula_20 (EB), Finalfrontier_21 (EB), FlameThrower_18 (EB), Franklin22_19 (EB), Gack_18 (EB), Grist_20 (EB), Icarian_20 (EB), IndyLu_20 (EB), Jabb_20 (EB), Johnathan_20 (EB), Jovita_20 (EB), Kamdara_18 (EB), Kate33_20 (EB), Katzastrophic_18 (EB), Kenzers_20 (EB), Kieran_18 (EB), Kors_34 (EF), Lahqtemish_20 (EB), Lilo27_20 (EB), LimaBean_20 (EB), LordBart_34 (EF), Loviatar_19 (EB), Lynlen_20 (EB), Milomuff_21 (EB), MsUbiquitous_20 (EB), Nicky22_21 (EB), Olliecat_18 (EB), PastaFagioli_20 (EB), Pecas_20 (EB), PhigPhack_21 (EB), Phisb_20 (EB), PondAmelia_20 (EB), QMacho_21 (EB), Quenya_19 (EB), RikSengupta_34 (EF), Rollins_18 (EB), Rona_18 (EB), SanaSana_20 (EB), SansAfet_20 (EB), SarBear_20 (EB), Sharkboy_18 (EB), Shayna_18 (EB), SirBeanington_20 (EB), Skylord_18 (EB), Slay_20 (EB), Softsoap_19 (EB), Solea_22 (EB), Sparcetus_34 (EF), Squircle_18 (EB), Stoor_19 (EB), Stromboli_19 (EB), SunnyD_18 (EB), Swervy_20 (EB), Teagster_19 (EB), TinyMiny_34 (EF), TukTuk_20 (EB), Vitas_18 (EB), WalkingDead_19 (EB),

Summary by clusters:

There are 2 clusters represented in this pham: EF, EB,

Info for manual annotations of cluster EB:
•Start number 8 was manually annotated 86 times for cluster EB.

Info for manual annotations of cluster EF:
•Start number 8 was manually annotated 7 times for cluster EF.

Gene Information:

Gene: Abigail_20 Start: 16253, Stop: 17341, Start Num: 8
Candidate Starts for Abigail_20:
(Start: 8 @16253 has 93 MA's), (19, 16394), (22, 16406), (28, 16460), (30, 16478), (34, 16520), (39, 16607), (43, 16667), (47, 16691), (83, 17204),

Gene: Ajin_34 Start: 20730, Stop: 21491, Start Num: 8
Candidate Starts for Ajin_34:
(Start: 8 @20730 has 93 MA's), (9, 20736), (12, 20802), (15, 20823), (16, 20853), (20, 20874), (22, 20880), (26, 20919), (34, 20988), (36, 21045), (37, 21057), (40, 21132), (48, 21177), (49, 21195), (50,

21207), (52, 21219), (59, 21315), (61, 21324), (65, 21360), (67, 21399), (71, 21432),

Gene: Akino08_18 Start: 16044, Stop: 16880, Start Num: 8
Candidate Starts for Akino08_18:
(Start: 8 @16044 has 93 MA's), (10, 16080), (13, 16116), (19, 16185), (22, 16197), (27, 16245), (28, 16251), (30, 16269), (34, 16311), (41, 16443), (42, 16446), (43, 16458), (67, 16701), (69, 16710), (75, 16794), (76, 16809),

Gene: Albedo_20 Start: 16124, Stop: 17212, Start Num: 8
Candidate Starts for Albedo_20:
(2, 16004), (4, 16064), (Start: 8 @16124 has 93 MA's), (19, 16265), (28, 16331), (30, 16349), (34, 16391), (39, 16478), (42, 16526), (43, 16538), (47, 16562),

Gene: Albright_20 Start: 16011, Stop: 17099, Start Num: 8
Candidate Starts for Albright_20:
(Start: 8 @16011 has 93 MA's), (19, 16152), (22, 16164), (24, 16194), (28, 16218), (34, 16278), (39, 16365), (42, 16413), (43, 16425), (51, 16488), (53, 16500), (72, 16707), (83, 16962),

Gene: AnnaLie_21 Start: 16440, Stop: 17528, Start Num: 8
Candidate Starts for AnnaLie_21:
(Start: 8 @16440 has 93 MA's), (19, 16581), (28, 16647), (30, 16665), (34, 16707), (39, 16794), (42, 16842), (43, 16854), (47, 16878), (73, 17154), (84, 17409),

Gene: Armstrong_18 Start: 14212, Stop: 15048, Start Num: 8
Candidate Starts for Armstrong_18:
(Start: 8 @14212 has 93 MA's), (10, 14248), (16, 14332), (19, 14353), (28, 14419), (33, 14470), (54, 14716), (63, 14800), (76, 14980),

Gene: Arroyo_21 Start: 16641, Stop: 17729, Start Num: 8
Candidate Starts for Arroyo_21:
(5, 16590), (Start: 8 @16641 has 93 MA's), (13, 16713), (19, 16782), (28, 16848), (30, 16866), (34, 16908), (39, 16995), (42, 17043), (43, 17055), (47, 17079), (73, 17355),

Gene: AvGardian_20 Start: 15660, Stop: 16493, Start Num: 8
Candidate Starts for AvGardian_20:
(7, 15621), (Start: 8 @15660 has 93 MA's), (10, 15696), (19, 15801), (22, 15813), (23, 15822), (28, 15867), (30, 15885), (32, 15912), (34, 15927), (42, 16062), (43, 16074), (45, 16080), (48, 16101), (63, 16248),

Gene: Avocadoman_20 Start: 16196, Stop: 17284, Start Num: 8
Candidate Starts for Avocadoman_20:
(Start: 8 @16196 has 93 MA's), (19, 16337), (22, 16349), (28, 16403), (30, 16421), (31, 16427), (34, 16463), (39, 16550), (42, 16598), (43, 16610), (51, 16673), (53, 16685),

Gene: AylexOG_21 Start: 16461, Stop: 17549, Start Num: 8
Candidate Starts for AylexOG_21:
(2, 16341), (4, 16401), (Start: 8 @16461 has 93 MA's), (19, 16602), (22, 16614), (23, 16623), (28, 16668), (30, 16686), (33, 16719), (34, 16728), (39, 16815), (43, 16875),

Gene: BAjuniper_19 Start: 16149, Stop: 16985, Start Num: 8
Candidate Starts for BAjuniper_19:
(Start: 8 @16149 has 93 MA's), (10, 16185), (19, 16290), (22, 16302), (23, 16311), (28, 16356), (30, 16374), (31, 16380), (34, 16416), (39, 16503), (66, 16776), (70, 16827), (73, 16860), (77, 16920),

Gene: BabyDaisy_21 Start: 16253, Stop: 17341, Start Num: 8
Candidate Starts for BabyDaisy_21:
(Start: 8 @16253 has 93 MA's), (19, 16394), (28, 16460), (30, 16478), (31, 16484), (34, 16520), (42, 16655), (43, 16667), (53, 16742), (79, 17051), (84, 17222),

Gene: BabyYoda_19 Start: 16136, Stop: 16969, Start Num: 8
Candidate Starts for BabyYoda_19:
(Start: 8 @16136 has 93 MA's), (10, 16172), (13, 16208), (19, 16277), (22, 16289), (23, 16298), (28, 16343), (30, 16361), (36, 16448), (42, 16538), (43, 16550), (63, 16724), (67, 16793), (69, 16802), (75, 16886),

Gene: Bachaco_18 Start: 16153, Stop: 16986, Start Num: 8
Candidate Starts for Bachaco_18:
(Start: 8 @16153 has 93 MA's), (16, 16273), (19, 16294), (22, 16306), (23, 16315), (28, 16360), (30, 16378), (35, 16423), (40, 16549), (58, 16720), (63, 16741), (70, 16831), (73, 16864), (80, 16957),

Gene: BelmontSKP_21 Start: 16440, Stop: 17528, Start Num: 8
Candidate Starts for BelmontSKP_21:
(Start: 8 @16440 has 93 MA's), (19, 16581), (28, 16647), (30, 16665), (34, 16707), (39, 16794), (42, 16842), (43, 16854), (47, 16878), (73, 17154), (84, 17409),

Gene: Bengal_20 Start: 16028, Stop: 17116, Start Num: 8
Candidate Starts for Bengal_20:
(Start: 8 @16028 has 93 MA's), (19, 16169), (22, 16181), (28, 16235), (30, 16253), (34, 16295), (39, 16382), (42, 16430), (43, 16442), (47, 16466),

Gene: Bernstein_18 Start: 14243, Stop: 15079, Start Num: 8
Candidate Starts for Bernstein_18:
(Start: 8 @14243 has 93 MA's), (10, 14279), (16, 14363), (19, 14384), (28, 14450), (33, 14501), (54, 14747), (63, 14831), (76, 15011),

Gene: Brahms_18 Start: 14188, Stop: 15024, Start Num: 8
Candidate Starts for Brahms_18:
(Start: 8 @14188 has 93 MA's), (10, 14224), (16, 14308), (19, 14329), (28, 14395), (33, 14446), (54, 14692), (63, 14776), (76, 14956),

Gene: Bramble_34 Start: 20696, Stop: 21457, Start Num: 8
Candidate Starts for Bramble_34:
(Start: 8 @20696 has 93 MA's), (9, 20702), (12, 20768), (15, 20789), (16, 20819), (20, 20840), (22, 20846), (26, 20885), (34, 20954), (36, 21011), (37, 21023), (40, 21098), (48, 21143), (49, 21161), (50, 21173), (52, 21185), (59, 21281), (61, 21290), (65, 21326), (67, 21365), (71, 21398),

Gene: BubbaBear_20 Start: 16124, Stop: 17212, Start Num: 8
Candidate Starts for BubbaBear_20:
(2, 16004), (4, 16064), (Start: 8 @16124 has 93 MA's), (19, 16265), (28, 16331), (30, 16349), (34, 16391), (39, 16478), (42, 16526), (43, 16538), (47, 16562),

Gene: Buldak_18 Start: 15602, Stop: 16342, Start Num: 8
Candidate Starts for Buldak_18:
(Start: 8 @15602 has 93 MA's), (11, 15665), (14, 15689), (16, 15722), (17, 15725), (19, 15740), (21, 15749), (27, 15800), (28, 15806), (31, 15830), (35, 15869), (42, 16001), (44, 16016), (56, 16139),

Gene: Burritobowl_20 Start: 16196, Stop: 17284, Start Num: 8
Candidate Starts for Burritobowl_20:
(Start: 8 @16196 has 93 MA's), (19, 16337), (22, 16349), (28, 16403), (30, 16421), (34, 16463), (39, 16550), (42, 16598), (43, 16610), (47, 16634), (81, 17000),

Gene: CanFranMach_20 Start: 16125, Stop: 17216, Start Num: 8
Candidate Starts for CanFranMach_20:
(Start: 8 @16125 has 93 MA's), (19, 16266), (22, 16278), (23, 16287), (28, 16332), (29, 16347), (30, 16350), (32, 16377), (34, 16392), (42, 16527), (43, 16539), (53, 16614), (64, 16737), (73, 16839),

Gene: Cashington_20 Start: 16045, Stop: 17133, Start Num: 8
Candidate Starts for Cashington_20:
(Start: 8 @16045 has 93 MA's), (19, 16186), (22, 16198), (28, 16252), (30, 16270), (34, 16312), (39, 16399), (42, 16447), (43, 16459), (47, 16483), (73, 16759),

Gene: Celaena_18 Start: 16101, Stop: 16934, Start Num: 8
Candidate Starts for Celaena_18:
(6, 16056), (Start: 8 @16101 has 93 MA's), (16, 16221), (19, 16242), (22, 16254), (23, 16263), (28, 16308), (30, 16326), (35, 16371), (40, 16497), (58, 16668), (70, 16779),

Gene: ChiliPepper_18 Start: 15687, Stop: 16520, Start Num: 8
Candidate Starts for ChiliPepper_18:
(Start: 8 @15687 has 93 MA's), (10, 15723), (16, 15807), (19, 15828), (22, 15840), (23, 15849), (25, 15873), (27, 15888), (28, 15894), (31, 15918), (32, 15939), (42, 16089), (43, 16101), (48, 16128), (63, 16275), (72, 16380), (76, 16452), (78, 16464),

Gene: Clayda5_18 Start: 14218, Stop: 15054, Start Num: 8
Candidate Starts for Clayda5_18:
(Start: 8 @14218 has 93 MA's), (10, 14254), (16, 14338), (19, 14359), (28, 14425), (33, 14476), (54, 14722), (63, 14806), (76, 14986),

Gene: CliffHanger_19 Start: 15208, Stop: 15954, Start Num: 8
Candidate Starts for CliffHanger_19:
(Start: 8 @15208 has 93 MA's), (16, 15328), (18, 15334), (19, 15346), (22, 15358), (28, 15412), (34, 15472), (38, 15556), (66, 15832),

Gene: Coltrane_18 Start: 14188, Stop: 15024, Start Num: 8
Candidate Starts for Coltrane_18:
(Start: 8 @14188 has 93 MA's), (10, 14224), (16, 14308), (19, 14329), (28, 14395), (33, 14446), (54, 14692), (63, 14776), (76, 14956),

Gene: CroZenni_20 Start: 16031, Stop: 17119, Start Num: 8
Candidate Starts for CroZenni_20:
(5, 15980), (Start: 8 @16031 has 93 MA's), (13, 16103), (19, 16172), (28, 16238), (30, 16256), (34, 16298), (39, 16385), (42, 16433), (43, 16445), (47, 16469),

Gene: CupcakePrincess_20 Start: 16151, Stop: 17239, Start Num: 8
Candidate Starts for CupcakePrincess_20:
(2, 16031), (4, 16091), (Start: 8 @16151 has 93 MA's), (19, 16292), (22, 16304), (23, 16313), (28, 16358), (30, 16376), (33, 16409), (34, 16418), (39, 16505), (43, 16565),

Gene: DickRichards_20 Start: 16526, Stop: 17614, Start Num: 8
Candidate Starts for DickRichards_20:

(5, 16475), (Start: 8 @16526 has 93 MA's), (13, 16598), (19, 16667), (28, 16733), (30, 16751), (34, 16793), (39, 16880), (42, 16928), (43, 16940), (47, 16964),

Gene: Didgeridoo_21 Start: 16255, Stop: 17343, Start Num: 8
Candidate Starts for Didgeridoo_21:
(Start: 8 @16255 has 93 MA's), (19, 16396), (28, 16462), (30, 16480), (31, 16486), (34, 16522), (42, 16657), (43, 16669), (53, 16744), (73, 16969), (79, 17053), (84, 17224),

Gene: DirtyBubble_19 Start: 16094, Stop: 16927, Start Num: 8
Candidate Starts for DirtyBubble_19:
(Start: 8 @16094 has 93 MA's), (10, 16130), (13, 16166), (19, 16235), (22, 16247), (28, 16301), (30, 16319), (34, 16361), (42, 16496), (43, 16508), (63, 16682), (67, 16751), (69, 16760), (75, 16844), (78, 16871),

Gene: Dismas_18 Start: 15687, Stop: 16520, Start Num: 8
Candidate Starts for Dismas_18:
(Start: 8 @15687 has 93 MA's), (10, 15723), (16, 15807), (19, 15828), (22, 15840), (23, 15849), (25, 15873), (27, 15888), (28, 15894), (31, 15918), (32, 15939), (42, 16089), (43, 16101), (48, 16128), (63, 16275), (72, 16380), (76, 16452), (78, 16464),

Gene: Doobus_20 Start: 16362, Stop: 17450, Start Num: 8
Candidate Starts for Doobus_20:
(Start: 8 @16362 has 93 MA's), (19, 16503), (22, 16515), (24, 16545), (28, 16569), (34, 16629), (39, 16716), (42, 16764), (43, 16776), (51, 16839), (53, 16851), (83, 17313),

Gene: Eden_18 Start: 14590, Stop: 15423, Start Num: 8
Candidate Starts for Eden_18:
(1, 14392), (Start: 8 @14590 has 93 MA's), (10, 14626), (19, 14731), (22, 14743), (23, 14752), (27, 14791), (28, 14797), (31, 14821), (33, 14848), (34, 14857), (40, 14986), (63, 15178), (66, 15217), (75, 15340), (76, 15355), (77, 15361),

Gene: Elva_20 Start: 16052, Stop: 16888, Start Num: 8
Candidate Starts for Elva_20:
(Start: 8 @16052 has 93 MA's), (19, 16193), (22, 16205), (27, 16253), (28, 16259), (29, 16274), (30, 16277), (32, 16304), (34, 16319), (36, 16364), (42, 16454), (43, 16466), (63, 16640), (74, 16793), (75, 16802),

Gene: Eula_20 Start: 16112, Stop: 17200, Start Num: 8
Candidate Starts for Eula_20:
(2, 15992), (4, 16052), (Start: 8 @16112 has 93 MA's), (19, 16253), (22, 16265), (23, 16274), (28, 16319), (30, 16337), (33, 16370), (34, 16379), (39, 16466), (43, 16526),

Gene: Finalfrontier_21 Start: 16622, Stop: 17710, Start Num: 8
Candidate Starts for Finalfrontier_21:
(Start: 8 @16622 has 93 MA's), (19, 16763), (28, 16829), (30, 16847), (31, 16853), (34, 16889), (42, 17024), (43, 17036), (53, 17111), (73, 17336), (79, 17420), (84, 17591),

Gene: FlameThrower_18 Start: 15673, Stop: 16506, Start Num: 8
Candidate Starts for FlameThrower_18:
(Start: 8 @15673 has 93 MA's), (16, 15793), (19, 15814), (22, 15826), (23, 15835), (28, 15880), (29, 15895), (30, 15898), (35, 15943), (36, 15985), (42, 16075), (60, 16252), (63, 16261),

Gene: Franklin22_19 Start: 14773, Stop: 15609, Start Num: 8

Candidate Starts for Franklin22_19:
(Start: 8 @14773 has 93 MA's), (10, 14809), (19, 14914), (22, 14926), (23, 14935), (28, 14980), (31, 15004), (33, 15031), (34, 15040), (40, 15169), (42, 15175), (43, 15187), (63, 15361), (77, 15547),

Gene: Gack_18 Start: 14659, Stop: 15495, Start Num: 8
Candidate Starts for Gack_18:
(Start: 8 @14659 has 93 MA's), (10, 14695), (19, 14800), (22, 14812), (23, 14821), (28, 14866), (31, 14890), (33, 14917), (34, 14926), (40, 15055), (42, 15061), (43, 15073), (63, 15247), (77, 15433),

Gene: Grist_20 Start: 16080, Stop: 17168, Start Num: 8
Candidate Starts for Grist_20:
(Start: 8 @16080 has 93 MA's), (19, 16221), (28, 16287), (30, 16305), (31, 16311), (34, 16347), (42, 16482), (43, 16494), (53, 16569), (73, 16794), (79, 16878), (84, 17049),

Gene: Icarian_20 Start: 15969, Stop: 16805, Start Num: 8
Candidate Starts for Icarian_20:
(Start: 8 @15969 has 93 MA's), (10, 16005), (13, 16041), (19, 16110), (22, 16122), (23, 16131), (28, 16176), (30, 16194), (31, 16200), (34, 16236), (39, 16323), (41, 16368), (42, 16371), (43, 16383), (63, 16557), (67, 16626), (69, 16635), (75, 16719),

Gene: IndyLu_20 Start: 16077, Stop: 17165, Start Num: 8
Candidate Starts for IndyLu_20:
(Start: 8 @16077 has 93 MA's), (19, 16218), (28, 16284), (30, 16302), (31, 16308), (34, 16344), (42, 16479), (43, 16491), (53, 16566), (73, 16791), (79, 16875), (84, 17046),

Gene: Jabb_20 Start: 16151, Stop: 17239, Start Num: 8
Candidate Starts for Jabb_20:
(2, 16031), (4, 16091), (Start: 8 @16151 has 93 MA's), (19, 16292), (22, 16304), (23, 16313), (28, 16358), (30, 16376), (33, 16409), (34, 16418), (39, 16505), (43, 16565),

Gene: Johnathan_20 Start: 16135, Stop: 17223, Start Num: 8
Candidate Starts for Johnathan_20:
(Start: 8 @16135 has 93 MA's), (19, 16276), (22, 16288), (28, 16342), (30, 16360), (34, 16402), (42, 16537), (43, 16549), (47, 16573), (73, 16849), (83, 17086),

Gene: Jovita_20 Start: 16216, Stop: 17304, Start Num: 8
Candidate Starts for Jovita_20:
(2, 16096), (4, 16156), (Start: 8 @16216 has 93 MA's), (19, 16357), (22, 16369), (23, 16378), (28, 16423), (30, 16441), (33, 16474), (34, 16483), (39, 16570), (43, 16630),

Gene: Kamdara_18 Start: 15686, Stop: 16519, Start Num: 8
Candidate Starts for Kamdara_18:
(Start: 8 @15686 has 93 MA's), (10, 15722), (16, 15806), (19, 15827), (22, 15839), (23, 15848), (25, 15872), (27, 15887), (28, 15893), (31, 15917), (32, 15938), (42, 16088), (43, 16100), (48, 16127), (63, 16274), (72, 16379), (76, 16451), (78, 16463),

Gene: Kate33_20 Start: 16079, Stop: 17167, Start Num: 8
Candidate Starts for Kate33_20:
(Start: 8 @16079 has 93 MA's), (19, 16220), (28, 16286), (30, 16304), (31, 16310), (34, 16346), (42, 16481), (43, 16493), (53, 16568), (73, 16793), (79, 16877), (84, 17048),

Gene: Katzastrophic_18 Start: 15815, Stop: 16648, Start Num: 8
Candidate Starts for Katzastrophic_18:

(Start: 8 @15815 has 93 MA's), (16, 15935), (19, 15956), (22, 15968), (23, 15977), (28, 16022), (29, 16037), (30, 16040), (35, 16085), (36, 16127), (40, 16211), (42, 16217),

Gene: Kenzers_20 Start: 16099, Stop: 17187, Start Num: 8
Candidate Starts for Kenzers_20:
(Start: 8 @16099 has 93 MA's), (19, 16240), (28, 16306), (30, 16324), (34, 16366), (42, 16501), (43, 16513), (51, 16576), (53, 16588), (66, 16729), (73, 16813), (84, 17068),

Gene: Kieran_18 Start: 15690, Stop: 16523, Start Num: 8
Candidate Starts for Kieran_18:
(Start: 8 @15690 has 93 MA's), (10, 15726), (16, 15810), (19, 15831), (22, 15843), (23, 15852), (25, 15876), (27, 15891), (28, 15897), (31, 15921), (32, 15942), (42, 16092), (43, 16104), (48, 16131), (63, 16278), (72, 16383), (76, 16455), (78, 16467),

Gene: Kors_34 Start: 20776, Stop: 21537, Start Num: 8
Candidate Starts for Kors_34:
(Start: 8 @20776 has 93 MA's), (9, 20782), (12, 20848), (15, 20869), (16, 20899), (20, 20920), (22, 20926), (26, 20965), (34, 21034), (36, 21091), (37, 21103), (40, 21178), (48, 21223), (49, 21241), (50, 21253), (52, 21265), (59, 21361), (61, 21370), (65, 21406), (67, 21445), (71, 21478),

Gene: Lahqtemish_20 Start: 16125, Stop: 17213, Start Num: 8
Candidate Starts for Lahqtemish_20:
(Start: 8 @16125 has 93 MA's), (19, 16266), (28, 16332), (30, 16350), (31, 16356), (34, 16392), (39, 16479), (42, 16527), (43, 16539), (53, 16614), (79, 16923), (82, 16944),

Gene: Lilo27_20 Start: 16088, Stop: 17176, Start Num: 8
Candidate Starts for Lilo27_20:
(Start: 8 @16088 has 93 MA's), (19, 16229), (22, 16241), (28, 16295), (33, 16346), (34, 16355), (39, 16442), (42, 16490), (43, 16502),

Gene: LimaBean_20 Start: 16131, Stop: 17219, Start Num: 8
Candidate Starts for LimaBean_20:
(Start: 8 @16131 has 93 MA's), (19, 16272), (22, 16284), (28, 16338), (30, 16356), (34, 16398), (39, 16485), (42, 16533), (43, 16545), (47, 16569), (73, 16845),

Gene: LordBart_34 Start: 20692, Stop: 21453, Start Num: 8
Candidate Starts for LordBart_34:
(Start: 8 @20692 has 93 MA's), (9, 20698), (12, 20764), (15, 20785), (16, 20815), (20, 20836), (22, 20842), (26, 20881), (34, 20950), (36, 21007), (37, 21019), (40, 21094), (48, 21139), (49, 21157), (50, 21169), (52, 21181), (59, 21277), (61, 21286), (65, 21322), (67, 21361),

Gene: Loviatar_19 Start: 16059, Stop: 16895, Start Num: 8
Candidate Starts for Loviatar_19:
(Start: 8 @16059 has 93 MA's), (10, 16095), (13, 16131), (19, 16200), (22, 16212), (27, 16260), (28, 16266), (30, 16284), (34, 16326), (41, 16458), (42, 16461), (43, 16473), (67, 16716), (69, 16725), (75, 16809), (76, 16824),

Gene: Lynlen_20 Start: 16099, Stop: 17187, Start Num: 8
Candidate Starts for Lynlen_20:
(Start: 8 @16099 has 93 MA's), (19, 16240), (28, 16306), (30, 16324), (34, 16366), (42, 16501), (43, 16513), (51, 16576), (53, 16588), (66, 16729), (73, 16813), (84, 17068),

Gene: Milomuff_21 Start: 16495, Stop: 17583, Start Num: 8

Candidate Starts for Milomuff_21:
(Start: 8 @16495 has 93 MA's), (15, 16585), (19, 16636), (28, 16702), (30, 16720), (34, 16762), (39, 16849), (42, 16897), (43, 16909), (51, 16972),

Gene: MsUbiquitous_20 Start: 16151, Stop: 17239, Start Num: 8
Candidate Starts for MsUbiquitous_20:
(2, 16031), (4, 16091), (Start: 8 @16151 has 93 MA's), (19, 16292), (22, 16304), (23, 16313), (28, 16358), (30, 16376), (33, 16409), (34, 16418), (39, 16505), (43, 16565),

Gene: Nicky22_21 Start: 16559, Stop: 17647, Start Num: 8
Candidate Starts for Nicky22_21:
(Start: 8 @16559 has 93 MA's), (19, 16700), (22, 16712), (23, 16721), (28, 16766), (30, 16784), (33, 16817), (34, 16826), (39, 16913), (43, 16973), (73, 17273),

Gene: Olliecat_18 Start: 15566, Stop: 16315, Start Num: 8
Candidate Starts for Olliecat_18:
(Start: 8 @15566 has 93 MA's), (14, 15653), (19, 15704), (21, 15713), (28, 15770), (31, 15794), (33, 15821), (34, 15830), (35, 15833), (46, 15989), (60, 16142), (62, 16148), (68, 16223),

Gene: PastaFagioli_20 Start: 16113, Stop: 17201, Start Num: 8
Candidate Starts for PastaFagioli_20:
(Start: 8 @16113 has 93 MA's), (19, 16254), (28, 16320), (30, 16338), (31, 16344), (34, 16380), (42, 16515), (43, 16527), (53, 16602), (79, 16911), (82, 16932),

Gene: Pecas_20 Start: 16112, Stop: 17200, Start Num: 8
Candidate Starts for Pecas_20:
(2, 15992), (4, 16052), (Start: 8 @16112 has 93 MA's), (19, 16253), (22, 16265), (23, 16274), (28, 16319), (30, 16337), (33, 16370), (34, 16379), (39, 16466), (43, 16526),

Gene: PhigPhack_21 Start: 16108, Stop: 17196, Start Num: 8
Candidate Starts for PhigPhack_21:
(5, 16057), (Start: 8 @16108 has 93 MA's), (13, 16180), (19, 16249), (28, 16315), (30, 16333), (34, 16375), (39, 16462), (42, 16510), (43, 16522), (47, 16546),

Gene: Phisb_20 Start: 16125, Stop: 17213, Start Num: 8
Candidate Starts for Phisb_20:
(2, 16005), (4, 16065), (Start: 8 @16125 has 93 MA's), (19, 16266), (22, 16278), (28, 16332), (30, 16350), (34, 16392), (39, 16479), (42, 16527), (43, 16539), (47, 16563),

Gene: PondAmelia_20 Start: 16111, Stop: 16947, Start Num: 8
Candidate Starts for PondAmelia_20:
(3, 16051), (Start: 8 @16111 has 93 MA's), (10, 16147), (13, 16183), (19, 16252), (22, 16264), (27, 16312), (28, 16318), (30, 16336), (34, 16378), (41, 16510), (42, 16513), (43, 16525), (67, 16768), (69, 16777), (75, 16861), (76, 16876),

Gene: QMacho_21 Start: 16595, Stop: 17683, Start Num: 8
Candidate Starts for QMacho_21:
(2, 16475), (4, 16535), (Start: 8 @16595 has 93 MA's), (19, 16736), (22, 16748), (23, 16757), (28, 16802), (30, 16820), (33, 16853), (34, 16862), (39, 16949), (43, 17009),

Gene: Quenya_19 Start: 15646, Stop: 16479, Start Num: 8
Candidate Starts for Quenya_19:

(Start: 8 @15646 has 93 MA's), (10, 15682), (19, 15787), (22, 15799), (28, 15853), (30, 15871), (31, 15877), (33, 15904), (34, 15913), (63, 16234), (64, 16255), (76, 16411),

Gene: RikSengupta_34 Start: 20813, Stop: 21574, Start Num: 8
Candidate Starts for RikSengupta_34:
(Start: 8 @20813 has 93 MA's), (9, 20819), (12, 20885), (15, 20906), (16, 20936), (20, 20957), (22, 20963), (26, 21002), (34, 21071), (36, 21128), (37, 21140), (40, 21215), (48, 21260), (49, 21278), (50, 21290), (52, 21302), (59, 21398), (61, 21407), (65, 21443), (67, 21482), (71, 21515),

Gene: Rollins_18 Start: 14243, Stop: 15079, Start Num: 8
Candidate Starts for Rollins_18:
(Start: 8 @14243 has 93 MA's), (10, 14279), (16, 14363), (19, 14384), (28, 14450), (33, 14501), (54, 14747), (63, 14831), (76, 15011),

Gene: Rona_18 Start: 15687, Stop: 16520, Start Num: 8
Candidate Starts for Rona_18:
(Start: 8 @15687 has 93 MA's), (10, 15723), (16, 15807), (19, 15828), (22, 15840), (23, 15849), (25, 15873), (27, 15888), (28, 15894), (31, 15918), (32, 15939), (42, 16089), (43, 16101), (48, 16128), (63, 16275), (72, 16380), (76, 16452), (78, 16464),

Gene: SanaSana_20 Start: 15998, Stop: 16834, Start Num: 8
Candidate Starts for SanaSana_20:
(Start: 8 @15998 has 93 MA's), (10, 16034), (13, 16070), (19, 16139), (22, 16151), (27, 16199), (28, 16205), (30, 16223), (34, 16265), (41, 16397), (42, 16400), (43, 16412), (67, 16655), (69, 16664), (75, 16748), (76, 16763),

Gene: SansAfet_20 Start: 16042, Stop: 17130, Start Num: 8
Candidate Starts for SansAfet_20:
(5, 15991), (Start: 8 @16042 has 93 MA's), (19, 16183), (28, 16249), (30, 16267), (34, 16309), (42, 16444), (43, 16456), (47, 16480), (73, 16756), (84, 17011),

Gene: SarBear_20 Start: 16093, Stop: 17181, Start Num: 8
Candidate Starts for SarBear_20:
(2, 15973), (4, 16033), (Start: 8 @16093 has 93 MA's), (19, 16234), (22, 16246), (23, 16255), (28, 16300), (30, 16318), (33, 16351), (34, 16360), (39, 16447), (43, 16507),

Gene: Sharkboy_18 Start: 15674, Stop: 16507, Start Num: 8
Candidate Starts for Sharkboy_18:
(Start: 8 @15674 has 93 MA's), (10, 15710), (16, 15794), (19, 15815), (22, 15827), (23, 15836), (25, 15860), (27, 15875), (28, 15881), (31, 15905), (32, 15926), (42, 16076), (43, 16088), (48, 16115), (63, 16262), (72, 16367), (76, 16439), (78, 16451),

Gene: Shayna_18 Start: 15456, Stop: 16196, Start Num: 8
Candidate Starts for Shayna_18:
(Start: 8 @15456 has 93 MA's), (15, 15546), (28, 15660), (34, 15720),

Gene: SirBeanington_20 Start: 16132, Stop: 17220, Start Num: 8
Candidate Starts for SirBeanington_20:
(2, 16012), (4, 16072), (Start: 8 @16132 has 93 MA's), (19, 16273), (28, 16339), (30, 16357), (34, 16399), (39, 16486), (42, 16534), (43, 16546), (47, 16570),

Gene: Skylord_18 Start: 14188, Stop: 15024, Start Num: 8
Candidate Starts for Skylord_18:

(Start: 8 @14188 has 93 MA's), (10, 14224), (16, 14308), (19, 14329), (28, 14395), (33, 14446), (54, 14692), (63, 14776), (76, 14956),

Gene: Slay_20 Start: 16635, Stop: 17723, Start Num: 8
Candidate Starts for Slay_20:
(2, 16515), (4, 16575), (Start: 8 @16635 has 93 MA's), (19, 16776), (22, 16788), (23, 16797), (28, 16842), (30, 16860), (33, 16893), (34, 16902), (39, 16989), (43, 17049),

Gene: Softsoap_19 Start: 15866, Stop: 16954, Start Num: 8
Candidate Starts for Softsoap_19:
(2, 15746), (4, 15806), (Start: 8 @15866 has 93 MA's), (19, 16007), (22, 16019), (28, 16073), (30, 16091), (34, 16133), (39, 16220), (43, 16280), (47, 16304),

Gene: Solea_22 Start: 16495, Stop: 17583, Start Num: 8
Candidate Starts for Solea_22:
(Start: 8 @16495 has 93 MA's), (15, 16585), (19, 16636), (28, 16702), (30, 16720), (34, 16762), (39, 16849), (42, 16897), (43, 16909), (51, 16972),

Gene: Sparcetus_34 Start: 20692, Stop: 21453, Start Num: 8
Candidate Starts for Sparcetus_34:
(Start: 8 @20692 has 93 MA's), (9, 20698), (12, 20764), (15, 20785), (16, 20815), (20, 20836), (22, 20842), (26, 20881), (34, 20950), (36, 21007), (40, 21094), (48, 21139), (49, 21157), (50, 21169), (52, 21181), (59, 21277), (61, 21286), (65, 21322), (67, 21361), (71, 21394),

Gene: Squircle_18 Start: 15565, Stop: 16314, Start Num: 8
Candidate Starts for Squircle_18:
(Start: 8 @15565 has 93 MA's), (14, 15652), (19, 15703), (21, 15712), (28, 15769), (31, 15793), (33, 15820), (34, 15829), (35, 15832), (46, 15988), (60, 16141), (62, 16147), (68, 16222),

Gene: Stoor_19 Start: 15995, Stop: 16831, Start Num: 8
Candidate Starts for Stoor_19:
(Start: 8 @15995 has 93 MA's), (10, 16031), (13, 16067), (19, 16136), (22, 16148), (27, 16196), (28, 16202), (30, 16220), (34, 16262), (41, 16394), (42, 16397), (43, 16409), (67, 16652), (69, 16661), (75, 16745), (76, 16760),

Gene: Stromboli_19 Start: 16134, Stop: 16967, Start Num: 8
Candidate Starts for Stromboli_19:
(Start: 8 @16134 has 93 MA's), (10, 16170), (13, 16206), (19, 16275), (22, 16287), (23, 16296), (28, 16341), (30, 16359), (36, 16446), (42, 16536), (43, 16548), (63, 16722), (67, 16791), (69, 16800), (75, 16884),

Gene: SunnyD_18 Start: 15456, Stop: 16196, Start Num: 8
Candidate Starts for SunnyD_18:
(Start: 8 @15456 has 93 MA's), (15, 15546), (28, 15660), (34, 15720),

Gene: Swervy_20 Start: 16093, Stop: 17181, Start Num: 8
Candidate Starts for Swervy_20:
(2, 15973), (4, 16033), (Start: 8 @16093 has 93 MA's), (19, 16234), (22, 16246), (23, 16255), (28, 16300), (30, 16318), (33, 16351), (34, 16360), (39, 16447), (43, 16507),

Gene: Teagster_19 Start: 16531, Stop: 17271, Start Num: 8
Candidate Starts for Teagster_19:

(Start: 8 @16531 has 93 MA's), (15, 16621), (19, 16669), (22, 16681), (25, 16714), (28, 16735), (30, 16753), (55, 17044), (57, 17083),

Gene: TinyMiny_34 Start: 20711, Stop: 21472, Start Num: 8
Candidate Starts for TinyMiny_34:
(Start: 8 @20711 has 93 MA's), (9, 20717), (12, 20783), (15, 20804), (16, 20834), (20, 20855), (22, 20861), (26, 20900), (34, 20969), (36, 21026), (37, 21038), (40, 21113), (48, 21158), (49, 21176), (50, 21188), (52, 21200), (59, 21296), (61, 21305), (65, 21341), (67, 21380), (71, 21413),

Gene: TukTuk_20 Start: 16151, Stop: 17239, Start Num: 8
Candidate Starts for TukTuk_20:
(2, 16031), (4, 16091), (Start: 8 @16151 has 93 MA's), (19, 16292), (22, 16304), (23, 16313), (28, 16358), (30, 16376), (33, 16409), (34, 16418), (39, 16505), (43, 16565), (73, 16865),

Gene: Vitas_18 Start: 14183, Stop: 15019, Start Num: 8
Candidate Starts for Vitas_18:
(Start: 8 @14183 has 93 MA's), (10, 14219), (16, 14303), (19, 14324), (28, 14390), (33, 14441), (54, 14687), (63, 14771), (76, 14951),

Gene: WalkingDead_19 Start: 16126, Stop: 16959, Start Num: 8
Candidate Starts for WalkingDead_19:
(Start: 8 @16126 has 93 MA's), (10, 16162), (13, 16198), (19, 16267), (22, 16279), (27, 16327), (28, 16333), (30, 16351), (34, 16393), (36, 16438), (41, 16525), (42, 16528), (43, 16540), (63, 16714), (67, 16783), (69, 16792), (75, 16876), (78, 16903),