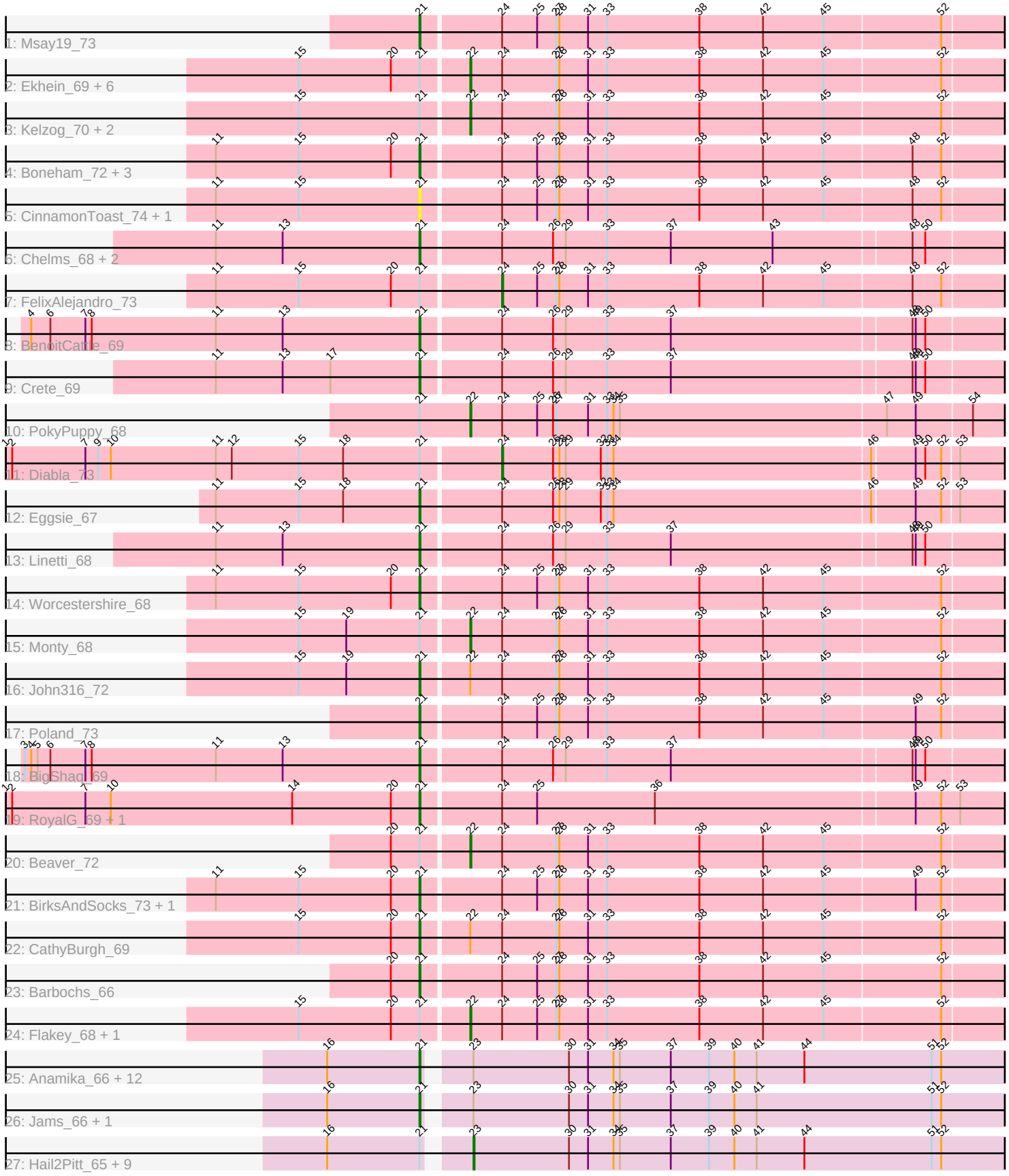
Pham 343993


1: Msay19_73
2: Ekhein_69 + 6
3: Kelzog_70 + 2
4: Boneham_72 + 3
5: CinnamonToast_74 + 1
6: Chelms_68 + 2
7: FelixAlejandro_73
8: BenoitCattle_69
9: Crete_69
10: PokyPuppy_68
11: Diabla_73
12: Eggsie_67
13: Linetti_68
14: Worcestershire_68
15: Monty_68
16: John316_72
17: Poland_73
18: BigShaq_69
19: RoyalG_69 + 1
20: Beaver_72
21: BirksAndSocks_73 + 1
22: CathyBurgh_69
23: Barbochs_66
24: Flakey_68 + 1
25: Anamika_66 + 12
26: Jams_66 + 1
27: Hail2Pitt_65 + 9

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 343993 Report

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

Pham number 343993 has 66 members, 3 are drafts.

Phages represented in each track:
• Track 1 : Msay19_73
• Track 2 : Ekhein_69, Gorko_68, Lizzo_69, Hotorobo_69, Exiguo_68, Breezic_69, Sam12_68
• Track 3 : Kelzog_70, GourdThymes_69, Squibbles_68
• Track 4 : Boneham_72, Adgers_72, Sombrero_70, Butterball_71
• Track 5 : CinnamonToast_74, BillyBobJr_74
• Track 6 : Chelms_68, Dakiti_69, PierreThree_67
• Track 7 : FelixAlejandro_73
• Track 8 : BenoitCattle_69
• Track 9 : Crete_69
• Track 10 : PokyPuppy_68
• Track 11 : Diabla_73
• Track 12 : Eggsie_67
• Track 13 : Linetti_68
• Track 14 : Worcestershire_68
• Track 15 : Monty_68
• Track 16 : John316_72
• Track 17 : Poland_73
• Track 18 : BigShaq_69
• Track 19 : RoyalG_69, SteveFrench_68
• Track 20 : Beaver_72
• Track 21 : BirksAndSocks_73, Jellybones_70
• Track 22 : CathyBurgh_69
• Track 23 : Barbochs_66
• Track 24 : Flakey_68, RemRem_70
• Track 25 : Anamika_66, Luker_67, Lahirium_66, Kaseim_66, Neoevie_66, Nimi13_66, Jormungandr_66, Damp_66, Guillaume_66, GalacticEye_66, Teal_66, Minos_67, Hello_66
• Track 26 : Jams_66, Harambe_66
• Track 27 : Hail2Pitt_65, Woes_66, Charianelly_66, Newt_67, Sticker17_66, Bianmat_66, Lidong_66, Shelley_66, Berries_66, MrWormie_66

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

The start number called the most often in the published annotations is 21, it was called in 37 of the 63 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Adgers_72, Anamika_66, Barbochs_66, BenoitCattle_69, BigShaq_69, BillyBobJr_74, BirksAndSocks_73, Boneham_72, Butterball_71, CathyBurgh_69, Chelms_68, CinnamonToast_74, Crete_69, Dakiti_69, Damp_66, Eggsie_67, GalacticEye_66, Guillaume_66, Harambe_66, Hello_66, Jams_66, Jellybones_70, John316_72, Jormungandr_66, Kaseim_66, Lahirium_66, Linetti_68, Luker_67, Minos_67, Msay19_73, Neoevie_66, Nimi13_66, PierreThree_67, Poland_73, RoyalG_69, Sombrero_70, SteveFrench_68, Teal_66, Worcestershire_68,

Genes that have the "Most Annotated" start but do not call it:
• Beaver_72, Berries_66, Bianmat_66, Breezic_69, Charianelly_66, Diabla_73, Ekhein_69, Exiguo_68, FelixAlejandro_73, Flakey_68, Gorko_68, GourdThymes_69, Hail2Pitt_65, Hotorobo_69, Kelzog_70, Lidong_66, Lizzo_69, Monty_68, MrWormie_66, Newt_67, PokyPuppy_68, RemRem_70, Sam12_68, Shelley_66, Squibbles_68, Sticker17_66, Woes_66,

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

Summary by start number:

Start 21:
• Found in 66 of 66 (100.0%) of genes in pham
• Manual Annotations of this start: 37 of 63
• Called 59.1% of time when present
• Phage (with cluster) where this start called: Adgers_72 (CS2), Anamika_66 (CS3), Barbochs_66 (CS2), BenoitCattle_69 (CS2), BigShaq_69 (CS2), BillyBobJr_74 (CS2), BirksAndSocks_73 (CS2), Boneham_72 (CS2), Butterball_71 (CS2), CathyBurgh_69 (CS2), Chelms_68 (CS2), CinnamonToast_74 (CS2), Crete_69 (CS2), Dakiti_69 (CS2), Damp_66 (CS3), Eggsie_67 (CS2), GalacticEye_66 (CS3), Guillaume_66 (CS3), Harambe_66 (CS3), Hello_66 (CS3), Jams_66 (CS3), Jellybones_70 (CS2), John316_72 (CS2), Jormungandr_66 (CS3), Kaseim_66 (CS3), Lahirium_66 (CS3), Linetti_68 (CS2), Luker_67 (CS3), Minos_67 (CS3), Msay19_73 (CS2), Neoevie_66 (CS3), Nimi13_66 (CS3), PierreThree_67 (CS2), Poland_73 (CS2), RoyalG_69 (CS2), Sombrero_70 (CS2), SteveFrench_68 (CS2), Teal_66 (CS3), Worcestershire_68 (CS2),

Start 22:
• Found in 17 of 66 (25.8%) of genes in pham
• Manual Annotations of this start: 14 of 63
• Called 88.2% of time when present
• Phage (with cluster) where this start called: Beaver_72 (CS2), Breezic_69 (CS2), Ekhein_69 (CS2), Exiguo_68 (CS2), Flakey_68 (CS2), Gorko_68 (CS2), GourdThymes_69 (CS2), Hotorobo_69 (CS2), Kelzog_70 (CS2), Lizzo_69 (CS2), Monty_68 (CS2), PokyPuppy_68 (CS2), RemRem_70 (CS2), Sam12_68 (CS2), Squibbles_68 (CS2),

Start 23:
• Found in 25 of 66 (37.9%) of genes in pham
• Manual Annotations of this start: 10 of 63

• Called 40.0% of time when present
• Phage (with cluster) where this start called: Berries_66 (CS3), Bianmat_66 (CS3), Charianelly_66 (CS3), Hail2Pitt_65 (CS3), Lidong_66 (CS3), MrWormie_66 (CS3), Newt_67 (CS3), Shelley_66 (CS3), Sticker17_66 (CS3), Woes_66 (CS3),

Start 24:
• Found in 41 of 66 (62.1%) of genes in pham
• Manual Annotations of this start: 2 of 63
• Called 4.9% of time when present
• Phage (with cluster) where this start called: Diabla_73 (CS2), FelixAlejandro_73 (CS2),

Summary by clusters:

There are 2 clusters represented in this pham: CS3, CS2,

Info for manual annotations of cluster CS2:
•Start number 21 was manually annotated 22 times for cluster CS2.
•Start number 22 was manually annotated 14 times for cluster CS2.
•Start number 24 was manually annotated 2 times for cluster CS2.

Info for manual annotations of cluster CS3:
•Start number 21 was manually annotated 15 times for cluster CS3.
•Start number 23 was manually annotated 10 times for cluster CS3.

Gene Information:

Gene: Adgers_72 Start: 56930, Stop: 56373, Start Num: 21
Candidate Starts for Adgers_72:
(11, 57122), (15, 57044), (20, 56957), (Start: 21 @56930 has 37 MA's), (Start: 24 @56858 has 2 MA's), (25, 56825), (27, 56807), (28, 56804), (31, 56777), (33, 56759), (38, 56672), (42, 56612), (45, 56555), (48, 56474), (52, 56447),

Gene: Anamika_66 Start: 57104, Stop: 56556, Start Num: 21
Candidate Starts for Anamika_66:
(16, 57191), (Start: 21 @57104 has 37 MA's), (Start: 23 @57071 has 10 MA's), (30, 56981), (31, 56963), (34, 56939), (35, 56933), (37, 56885), (39, 56849), (40, 56825), (41, 56804), (44, 56759), (51, 56639), (52, 56630),

Gene: Barbochs_66 Start: 56304, Stop: 55747, Start Num: 21
Candidate Starts for Barbochs_66:
(20, 56331), (Start: 21 @56304 has 37 MA's), (Start: 24 @56232 has 2 MA's), (25, 56199), (27, 56181), (28, 56178), (31, 56151), (33, 56133), (38, 56046), (42, 55986), (45, 55929), (52, 55821),

Gene: Beaver_72 Start: 58206, Stop: 57691, Start Num: 22
Candidate Starts for Beaver_72:
(20, 58275), (Start: 21 @58248 has 37 MA's), (Start: 22 @58206 has 14 MA's), (Start: 24 @58176 has 2 MA's), (27, 58125), (28, 58122), (31, 58095), (33, 58077), (38, 57990), (42, 57930), (45, 57873), (52, 57765),

Gene: BenoitCattle_69 Start: 56881, Stop: 56330, Start Num: 21

Candidate Starts for BenoitCattle_69:
(4, 57247), (6, 57229), (7, 57196), (8, 57190), (11, 57073), (13, 57010), (Start: 21 @56881 has 37 MA's), (Start: 24 @56809 has 2 MA's), (26, 56761), (29, 56749), (33, 56710), (37, 56650), (48, 56428), (49, 56425), (50, 56416),

Gene: Berries_66 Start: 57043, Stop: 56528, Start Num: 23
Candidate Starts for Berries_66:
(16, 57163), (Start: 21 @57076 has 37 MA's), (Start: 23 @57043 has 10 MA's), (30, 56953), (31, 56935), (34, 56911), (35, 56905), (37, 56857), (39, 56821), (40, 56797), (41, 56776), (44, 56731), (51, 56611), (52, 56602),

Gene: Bianmat_66 Start: 57083, Stop: 56568, Start Num: 23
Candidate Starts for Bianmat_66:
(16, 57203), (Start: 21 @57116 has 37 MA's), (Start: 23 @57083 has 10 MA's), (30, 56993), (31, 56975), (34, 56951), (35, 56945), (37, 56897), (39, 56861), (40, 56837), (41, 56816), (44, 56771), (51, 56651), (52, 56642),

Gene: BigShaq_69 Start: 56886, Stop: 56335, Start Num: 21
Candidate Starts for BigShaq_69:
(3, 57258), (4, 57252), (5, 57246), (6, 57234), (7, 57201), (8, 57195), (11, 57078), (13, 57015), (Start: 21 @56886 has 37 MA's), (Start: 24 @56814 has 2 MA's), (26, 56766), (29, 56754), (33, 56715), (37, 56655), (48, 56433), (49, 56430), (50, 56421),

Gene: BillyBobJr_74 Start: 58384, Stop: 57827, Start Num: 21
Candidate Starts for BillyBobJr_74:
(11, 58576), (15, 58498), (Start: 21 @58384 has 37 MA's), (Start: 24 @58312 has 2 MA's), (25, 58279), (27, 58261), (28, 58258), (31, 58231), (33, 58213), (38, 58126), (42, 58066), (45, 58009), (48, 57928), (52, 57901),

Gene: BirksAndSocks_73 Start: 58388, Stop: 57831, Start Num: 21
Candidate Starts for BirksAndSocks_73:
(11, 58580), (15, 58502), (20, 58415), (Start: 21 @58388 has 37 MA's), (Start: 24 @58316 has 2 MA's), (25, 58283), (27, 58265), (28, 58262), (31, 58235), (33, 58217), (38, 58130), (42, 58070), (45, 58013), (49, 57929), (52, 57905),

Gene: Boneham_72 Start: 58313, Stop: 57756, Start Num: 21
Candidate Starts for Boneham_72:
(11, 58505), (15, 58427), (20, 58340), (Start: 21 @58313 has 37 MA's), (Start: 24 @58241 has 2 MA's), (25, 58208), (27, 58190), (28, 58187), (31, 58160), (33, 58142), (38, 58055), (42, 57995), (45, 57938), (48, 57857), (52, 57830),

Gene: Breezic_69 Start: 56443, Stop: 55928, Start Num: 22
Candidate Starts for Breezic_69:
(15, 56599), (20, 56512), (Start: 21 @56485 has 37 MA's), (Start: 22 @56443 has 14 MA's), (Start: 24 @56413 has 2 MA's), (27, 56362), (28, 56359), (31, 56332), (33, 56314), (38, 56227), (42, 56167), (45, 56110), (52, 56002),

Gene: Butterball_71 Start: 58318, Stop: 57761, Start Num: 21
Candidate Starts for Butterball_71:
(11, 58510), (15, 58432), (20, 58345), (Start: 21 @58318 has 37 MA's), (Start: 24 @58246 has 2 MA's), (25, 58213), (27, 58195), (28, 58192), (31, 58165), (33, 58147), (38, 58060), (42, 58000), (45, 57943), (48, 57862), (52, 57835),

Gene: CathyBurgh_69 Start: 56999, Stop: 56442, Start Num: 21
Candidate Starts for CathyBurgh_69:
(15, 57113), (20, 57026), (Start: 21 @56999 has 37 MA's), (Start: 22 @56957 has 14 MA's), (Start: 24 @56927 has 2 MA's), (27, 56876), (28, 56873), (31, 56846), (33, 56828), (38, 56741), (42, 56681), (45, 56624), (52, 56516),

Gene: Charianelly_66 Start: 56793, Stop: 56278, Start Num: 23
Candidate Starts for Charianelly_66:
(16, 56913), (Start: 21 @56826 has 37 MA's), (Start: 23 @56793 has 10 MA's), (30, 56703), (31, 56685), (34, 56661), (35, 56655), (37, 56607), (39, 56571), (40, 56547), (41, 56526), (44, 56481), (51, 56361), (52, 56352),

Gene: Chelms_68 Start: 56825, Stop: 56274, Start Num: 21
Candidate Starts for Chelms_68:
(11, 57017), (13, 56954), (Start: 21 @56825 has 37 MA's), (Start: 24 @56753 has 2 MA's), (26, 56705), (29, 56693), (33, 56654), (37, 56594), (43, 56498), (48, 56372), (50, 56360),

Gene: CinnamonToast_74 Start: 58384, Stop: 57827, Start Num: 21
Candidate Starts for CinnamonToast_74:
(11, 58576), (15, 58498), (Start: 21 @58384 has 37 MA's), (Start: 24 @58312 has 2 MA's), (25, 58279), (27, 58261), (28, 58258), (31, 58231), (33, 58213), (38, 58126), (42, 58066), (45, 58009), (48, 57928), (52, 57901),

Gene: Crete_69 Start: 56944, Stop: 56393, Start Num: 21
Candidate Starts for Crete_69:
(11, 57136), (13, 57073), (17, 57028), (Start: 21 @56944 has 37 MA's), (Start: 24 @56872 has 2 MA's), (26, 56824), (29, 56812), (33, 56773), (37, 56713), (48, 56491), (49, 56488), (50, 56479),

Gene: Dakiti_69 Start: 57693, Stop: 57142, Start Num: 21
Candidate Starts for Dakiti_69:
(11, 57885), (13, 57822), (Start: 21 @57693 has 37 MA's), (Start: 24 @57621 has 2 MA's), (26, 57573), (29, 57561), (33, 57522), (37, 57462), (43, 57366), (48, 57240), (50, 57228),

Gene: Damp_66 Start: 55990, Stop: 55442, Start Num: 21
Candidate Starts for Damp_66:
(16, 56077), (Start: 21 @55990 has 37 MA's), (Start: 23 @55957 has 10 MA's), (30, 55867), (31, 55849), (34, 55825), (35, 55819), (37, 55771), (39, 55735), (40, 55711), (41, 55690), (44, 55645), (51, 55525), (52, 55516),

Gene: Diabla_73 Start: 58325, Stop: 57840, Start Num: 24
Candidate Starts for Diabla_73:
(1, 58787), (2, 58781), (7, 58712), (9, 58700), (10, 58688), (11, 58589), (12, 58574), (15, 58511), (18, 58469), (Start: 21 @58397 has 37 MA's), (Start: 24 @58325 has 2 MA's), (26, 58277), (28, 58271), (29, 58265), (32, 58232), (33, 58226), (34, 58220), (46, 57980), (49, 57941), (50, 57932), (52, 57917), (53, 57902),

Gene: Eggsie_67 Start: 56201, Stop: 55644, Start Num: 21
Candidate Starts for Eggsie_67:
(11, 56393), (15, 56315), (18, 56273), (Start: 21 @56201 has 37 MA's), (Start: 24 @56129 has 2 MA's), (26, 56081), (28, 56075), (29, 56069), (32, 56036), (33, 56030), (34, 56024), (46, 55784), (49, 55745), (52, 55721), (53, 55706),

Gene: Ekhein_69 Start: 56148, Stop: 55633, Start Num: 22

Candidate Starts for Ekhein_69:
(15, 56304), (20, 56217), (Start: 21 @56190 has 37 MA's), (Start: 22 @56148 has 14 MA's), (Start: 24 @56118 has 2 MA's), (27, 56067), (28, 56064), (31, 56037), (33, 56019), (38, 55932), (42, 55872), (45, 55815), (52, 55707),

Gene: Exiguo_68 Start: 56184, Stop: 55669, Start Num: 22
Candidate Starts for Exiguo_68:
(15, 56340), (20, 56253), (Start: 21 @56226 has 37 MA's), (Start: 22 @56184 has 14 MA's), (Start: 24 @56154 has 2 MA's), (27, 56103), (28, 56100), (31, 56073), (33, 56055), (38, 55968), (42, 55908), (45, 55851), (52, 55743),

Gene: FelixAlejandro_73 Start: 58644, Stop: 58159, Start Num: 24
Candidate Starts for FelixAlejandro_73:
(11, 58908), (15, 58830), (20, 58743), (Start: 21 @58716 has 37 MA's), (Start: 24 @58644 has 2 MA's), (25, 58611), (27, 58593), (28, 58590), (31, 58563), (33, 58545), (38, 58458), (42, 58398), (45, 58341), (48, 58260), (52, 58233),

Gene: Flakey_68 Start: 56943, Stop: 56428, Start Num: 22
Candidate Starts for Flakey_68:
(15, 57099), (20, 57012), (Start: 21 @56985 has 37 MA's), (Start: 22 @56943 has 14 MA's), (Start: 24 @56913 has 2 MA's), (25, 56880), (27, 56862), (28, 56859), (31, 56832), (33, 56814), (38, 56727), (42, 56667), (45, 56610), (52, 56502),

Gene: GalacticEye_66 Start: 56787, Stop: 56239, Start Num: 21
Candidate Starts for GalacticEye_66:
(16, 56874), (Start: 21 @56787 has 37 MA's), (Start: 23 @56754 has 10 MA's), (30, 56664), (31, 56646), (34, 56622), (35, 56616), (37, 56568), (39, 56532), (40, 56508), (41, 56487), (44, 56442), (51, 56322), (52, 56313),

Gene: Gorko_68 Start: 56089, Stop: 55574, Start Num: 22
Candidate Starts for Gorko_68:
(15, 56245), (20, 56158), (Start: 21 @56131 has 37 MA's), (Start: 22 @56089 has 14 MA's), (Start: 24 @56059 has 2 MA's), (27, 56008), (28, 56005), (31, 55978), (33, 55960), (38, 55873), (42, 55813), (45, 55756), (52, 55648),

Gene: GourdThymes_69 Start: 57044, Stop: 56529, Start Num: 22
Candidate Starts for GourdThymes_69:
(15, 57200), (Start: 21 @57086 has 37 MA's), (Start: 22 @57044 has 14 MA's), (Start: 24 @57014 has 2 MA's), (27, 56963), (28, 56960), (31, 56933), (33, 56915), (38, 56828), (42, 56768), (45, 56711), (52, 56603),

Gene: Guillaume_66 Start: 56837, Stop: 56289, Start Num: 21
Candidate Starts for Guillaume_66:
(16, 56924), (Start: 21 @56837 has 37 MA's), (Start: 23 @56804 has 10 MA's), (30, 56714), (31, 56696), (34, 56672), (35, 56666), (37, 56618), (39, 56582), (40, 56558), (41, 56537), (44, 56492), (51, 56372), (52, 56363),

Gene: Hail2Pitt_65 Start: 57280, Stop: 56765, Start Num: 23
Candidate Starts for Hail2Pitt_65:
(16, 57400), (Start: 21 @57313 has 37 MA's), (Start: 23 @57280 has 10 MA's), (30, 57190), (31, 57172), (34, 57148), (35, 57142), (37, 57094), (39, 57058), (40, 57034), (41, 57013), (44, 56968), (51, 56848), (52, 56839),

Gene: Harambe_66 Start: 57104, Stop: 56556, Start Num: 21
Candidate Starts for Harambe_66:
(16, 57191), (Start: 21 @57104 has 37 MA's), (Start: 23 @57071 has 10 MA's), (30, 56981), (31, 56963), (34, 56939), (35, 56933), (37, 56885), (39, 56849), (40, 56825), (41, 56804), (51, 56639), (52, 56630),

Gene: Hello_66 Start: 57066, Stop: 56518, Start Num: 21
Candidate Starts for Hello_66:
(16, 57153), (Start: 21 @57066 has 37 MA's), (Start: 23 @57033 has 10 MA's), (30, 56943), (31, 56925), (34, 56901), (35, 56895), (37, 56847), (39, 56811), (40, 56787), (41, 56766), (44, 56721), (51, 56601), (52, 56592),

Gene: Hotorobo_69 Start: 57031, Stop: 56516, Start Num: 22
Candidate Starts for Hotorobo_69:
(15, 57187), (20, 57100), (Start: 21 @57073 has 37 MA's), (Start: 22 @57031 has 14 MA's), (Start: 24 @57001 has 2 MA's), (27, 56950), (28, 56947), (31, 56920), (33, 56902), (38, 56815), (42, 56755), (45, 56698), (52, 56590),

Gene: Jams_66 Start: 56276, Stop: 55728, Start Num: 21
Candidate Starts for Jams_66:
(16, 56363), (Start: 21 @56276 has 37 MA's), (Start: 23 @56243 has 10 MA's), (30, 56153), (31, 56135), (34, 56111), (35, 56105), (37, 56057), (39, 56021), (40, 55997), (41, 55976), (51, 55811), (52, 55802),

Gene: Jellybones_70 Start: 58001, Stop: 57444, Start Num: 21
Candidate Starts for Jellybones_70:
(11, 58193), (15, 58115), (20, 58028), (Start: 21 @58001 has 37 MA's), (Start: 24 @57929 has 2 MA's), (25, 57896), (27, 57878), (28, 57875), (31, 57848), (33, 57830), (38, 57743), (42, 57683), (45, 57626), (49, 57542), (52, 57518),

Gene: John316_72 Start: 58150, Stop: 57593, Start Num: 21
Candidate Starts for John316_72:
(15, 58264), (19, 58219), (Start: 21 @58150 has 37 MA's), (Start: 22 @58108 has 14 MA's), (Start: 24 @58078 has 2 MA's), (27, 58027), (28, 58024), (31, 57997), (33, 57979), (38, 57892), (42, 57832), (45, 57775), (52, 57667),

Gene: Jormungandr_66 Start: 56819, Stop: 56271, Start Num: 21
Candidate Starts for Jormungandr_66:
(16, 56906), (Start: 21 @56819 has 37 MA's), (Start: 23 @56786 has 10 MA's), (30, 56696), (31, 56678), (34, 56654), (35, 56648), (37, 56600), (39, 56564), (40, 56540), (41, 56519), (44, 56474), (51, 56354), (52, 56345),

Gene: Kaseim_66 Start: 56261, Stop: 55713, Start Num: 21
Candidate Starts for Kaseim_66:
(16, 56348), (Start: 21 @56261 has 37 MA's), (Start: 23 @56228 has 10 MA's), (30, 56138), (31, 56120), (34, 56096), (35, 56090), (37, 56042), (39, 56006), (40, 55982), (41, 55961), (44, 55916), (51, 55796), (52, 55787),

Gene: Kelzog_70 Start: 56920, Stop: 56405, Start Num: 22
Candidate Starts for Kelzog_70:
(15, 57076), (Start: 21 @56962 has 37 MA's), (Start: 22 @56920 has 14 MA's), (Start: 24 @56890 has 2 MA's), (27, 56839), (28, 56836), (31, 56809), (33, 56791), (38, 56704), (42, 56644), (45, 56587), (52, 56479),

Gene: Lahirium_66 Start: 57341, Stop: 56793, Start Num: 21
Candidate Starts for Lahirium_66:
(16, 57428), (Start: 21 @57341 has 37 MA's), (Start: 23 @57308 has 10 MA's), (30, 57218), (31, 57200), (34, 57176), (35, 57170), (37, 57122), (39, 57086), (40, 57062), (41, 57041), (44, 56996), (51, 56876), (52, 56867),

Gene: Lidong_66 Start: 57043, Stop: 56528, Start Num: 23
Candidate Starts for Lidong_66:
(16, 57163), (Start: 21 @57076 has 37 MA's), (Start: 23 @57043 has 10 MA's), (30, 56953), (31, 56935), (34, 56911), (35, 56905), (37, 56857), (39, 56821), (40, 56797), (41, 56776), (44, 56731), (51, 56611), (52, 56602),

Gene: Linetti_68 Start: 57847, Stop: 57296, Start Num: 21
Candidate Starts for Linetti_68:
(11, 58039), (13, 57976), (Start: 21 @57847 has 37 MA's), (Start: 24 @57775 has 2 MA's), (26, 57727), (29, 57715), (33, 57676), (37, 57616), (48, 57394), (49, 57391), (50, 57382),

Gene: Lizzo_69 Start: 56957, Stop: 56442, Start Num: 22
Candidate Starts for Lizzo_69:
(15, 57113), (20, 57026), (Start: 21 @56999 has 37 MA's), (Start: 22 @56957 has 14 MA's), (Start: 24 @56927 has 2 MA's), (27, 56876), (28, 56873), (31, 56846), (33, 56828), (38, 56741), (42, 56681), (45, 56624), (52, 56516),

Gene: Luker_67 Start: 57294, Stop: 56746, Start Num: 21
Candidate Starts for Luker_67:
(16, 57381), (Start: 21 @57294 has 37 MA's), (Start: 23 @57261 has 10 MA's), (30, 57171), (31, 57153), (34, 57129), (35, 57123), (37, 57075), (39, 57039), (40, 57015), (41, 56994), (44, 56949), (51, 56829), (52, 56820),

Gene: Minos_67 Start: 56818, Stop: 56270, Start Num: 21
Candidate Starts for Minos_67:
(16, 56905), (Start: 21 @56818 has 37 MA's), (Start: 23 @56785 has 10 MA's), (30, 56695), (31, 56677), (34, 56653), (35, 56647), (37, 56599), (39, 56563), (40, 56539), (41, 56518), (44, 56473), (51, 56353), (52, 56344),

Gene: Monty_68 Start: 56170, Stop: 55655, Start Num: 22
Candidate Starts for Monty_68:
(15, 56326), (19, 56281), (Start: 21 @56212 has 37 MA's), (Start: 22 @56170 has 14 MA's), (Start: 24 @56140 has 2 MA's), (27, 56089), (28, 56086), (31, 56059), (33, 56041), (38, 55954), (42, 55894), (45, 55837), (52, 55729),

Gene: MrWormie_66 Start: 55946, Stop: 55431, Start Num: 23
Candidate Starts for MrWormie_66:
(16, 56066), (Start: 21 @55979 has 37 MA's), (Start: 23 @55946 has 10 MA's), (30, 55856), (31, 55838), (34, 55814), (35, 55808), (37, 55760), (39, 55724), (40, 55700), (41, 55679), (44, 55634), (51, 55514), (52, 55505),

Gene: Msay19_73 Start: 58602, Stop: 58045, Start Num: 21
Candidate Starts for Msay19_73:
(Start: 21 @58602 has 37 MA's), (Start: 24 @58530 has 2 MA's), (25, 58497), (27, 58479), (28, 58476), (31, 58449), (33, 58431), (38, 58344), (42, 58284), (45, 58227), (52, 58119),

Gene: Neoevie_66 Start: 57080, Stop: 56532, Start Num: 21
Candidate Starts for Neoevie_66:
(16, 57167), (Start: 21 @57080 has 37 MA's), (Start: 23 @57047 has 10 MA's), (30, 56957), (31, 56939), (34, 56915), (35, 56909), (37, 56861), (39, 56825), (40, 56801), (41, 56780), (44, 56735), (51, 56615), (52, 56606),

Gene: Newt_67 Start: 57275, Stop: 56760, Start Num: 23
Candidate Starts for Newt_67:
(16, 57395), (Start: 21 @57308 has 37 MA's), (Start: 23 @57275 has 10 MA's), (30, 57185), (31, 57167), (34, 57143), (35, 57137), (37, 57089), (39, 57053), (40, 57029), (41, 57008), (44, 56963), (51, 56843), (52, 56834),

Gene: Nimi13_66 Start: 56827, Stop: 56279, Start Num: 21
Candidate Starts for Nimi13_66:
(16, 56914), (Start: 21 @56827 has 37 MA's), (Start: 23 @56794 has 10 MA's), (30, 56704), (31, 56686), (34, 56662), (35, 56656), (37, 56608), (39, 56572), (40, 56548), (41, 56527), (44, 56482), (51, 56362), (52, 56353),

Gene: PierreThree_67 Start: 57324, Stop: 56773, Start Num: 21
Candidate Starts for PierreThree_67:
(11, 57516), (13, 57453), (Start: 21 @57324 has 37 MA's), (Start: 24 @57252 has 2 MA's), (26, 57204), (29, 57192), (33, 57153), (37, 57093), (43, 56997), (48, 56871), (50, 56859),

Gene: PokyPuppy_68 Start: 57314, Stop: 56799, Start Num: 22
Candidate Starts for PokyPuppy_68:
(Start: 21 @57362 has 37 MA's), (Start: 22 @57314 has 14 MA's), (Start: 24 @57284 has 2 MA's), (25, 57251), (26, 57236), (27, 57233), (31, 57203), (33, 57185), (34, 57179), (35, 57173), (47, 56924), (49, 56897), (54, 56846),

Gene: Poland_73 Start: 58581, Stop: 58024, Start Num: 21
Candidate Starts for Poland_73:
(Start: 21 @58581 has 37 MA's), (Start: 24 @58509 has 2 MA's), (25, 58476), (27, 58458), (28, 58455), (31, 58428), (33, 58410), (38, 58323), (42, 58263), (45, 58206), (49, 58122), (52, 58098),

Gene: RemRem_70 Start: 56160, Stop: 55645, Start Num: 22
Candidate Starts for RemRem_70:
(15, 56316), (20, 56229), (Start: 21 @56202 has 37 MA's), (Start: 22 @56160 has 14 MA's), (Start: 24 @56130 has 2 MA's), (25, 56097), (27, 56079), (28, 56076), (31, 56049), (33, 56031), (38, 55944), (42, 55884), (45, 55827), (52, 55719),

Gene: RoyalG_69 Start: 56834, Stop: 56274, Start Num: 21
Candidate Starts for RoyalG_69:
(1, 57224), (2, 57218), (7, 57149), (10, 57125), (14, 56954), (20, 56861), (Start: 21 @56834 has 37 MA's), (Start: 24 @56762 has 2 MA's), (25, 56729), (36, 56618), (49, 56378), (52, 56354), (53, 56336),

Gene: Sam12_68 Start: 56184, Stop: 55669, Start Num: 22
Candidate Starts for Sam12_68:
(15, 56340), (20, 56253), (Start: 21 @56226 has 37 MA's), (Start: 22 @56184 has 14 MA's), (Start: 24 @56154 has 2 MA's), (27, 56103), (28, 56100), (31, 56073), (33, 56055), (38, 55968), (42, 55908), (45, 55851), (52, 55743),

Gene: Shelley_66 Start: 56270, Stop: 55755, Start Num: 23
Candidate Starts for Shelley_66:

(16, 56390), (Start: 21 @56303 has 37 MA's), (Start: 23 @56270 has 10 MA's), (30, 56180), (31, 56162), (34, 56138), (35, 56132), (37, 56084), (39, 56048), (40, 56024), (41, 56003), (44, 55958), (51, 55838), (52, 55829),

Gene: Sombrero_70 Start: 56793, Stop: 56236, Start Num: 21
Candidate Starts for Sombrero_70:
(11, 56985), (15, 56907), (20, 56820), (Start: 21 @56793 has 37 MA's), (Start: 24 @56721 has 2 MA's), (25, 56688), (27, 56670), (28, 56667), (31, 56640), (33, 56622), (38, 56535), (42, 56475), (45, 56418), (48, 56337), (52, 56310),

Gene: Squibbles_68 Start: 57023, Stop: 56508, Start Num: 22
Candidate Starts for Squibbles_68:
(15, 57179), (Start: 21 @57065 has 37 MA's), (Start: 22 @57023 has 14 MA's), (Start: 24 @56993 has 2 MA's), (27, 56942), (28, 56939), (31, 56912), (33, 56894), (38, 56807), (42, 56747), (45, 56690), (52, 56582),

Gene: SteveFrench_68 Start: 57074, Stop: 56514, Start Num: 21
Candidate Starts for SteveFrench_68:
(1, 57464), (2, 57458), (7, 57389), (10, 57365), (14, 57194), (20, 57101), (Start: 21 @57074 has 37 MA's), (Start: 24 @57002 has 2 MA's), (25, 56969), (36, 56858), (49, 56618), (52, 56594), (53, 56576),

Gene: Sticker17_66 Start: 56758, Stop: 56243, Start Num: 23
Candidate Starts for Sticker17_66:
(16, 56878), (Start: 21 @56791 has 37 MA's), (Start: 23 @56758 has 10 MA's), (30, 56668), (31, 56650), (34, 56626), (35, 56620), (37, 56572), (39, 56536), (40, 56512), (41, 56491), (44, 56446), (51, 56326), (52, 56317),

Gene: Teal_66 Start: 57285, Stop: 56737, Start Num: 21
Candidate Starts for Teal_66:
(16, 57372), (Start: 21 @57285 has 37 MA's), (Start: 23 @57252 has 10 MA's), (30, 57162), (31, 57144), (34, 57120), (35, 57114), (37, 57066), (39, 57030), (40, 57006), (41, 56985), (44, 56940), (51, 56820), (52, 56811),

Gene: Woes_66 Start: 57303, Stop: 56788, Start Num: 23
Candidate Starts for Woes_66:
(16, 57423), (Start: 21 @57336 has 37 MA's), (Start: 23 @57303 has 10 MA's), (30, 57213), (31, 57195), (34, 57171), (35, 57165), (37, 57117), (39, 57081), (40, 57057), (41, 57036), (44, 56991), (51, 56871), (52, 56862),

Gene: Worcestershire_68 Start: 56204, Stop: 55647, Start Num: 21
Candidate Starts for Worcestershire_68:
(11, 56396), (15, 56318), (20, 56231), (Start: 21 @56204 has 37 MA's), (Start: 24 @56132 has 2 MA's), (25, 56099), (27, 56081), (28, 56078), (31, 56051), (33, 56033), (38, 55946), (42, 55886), (45, 55829), (52, 55721),