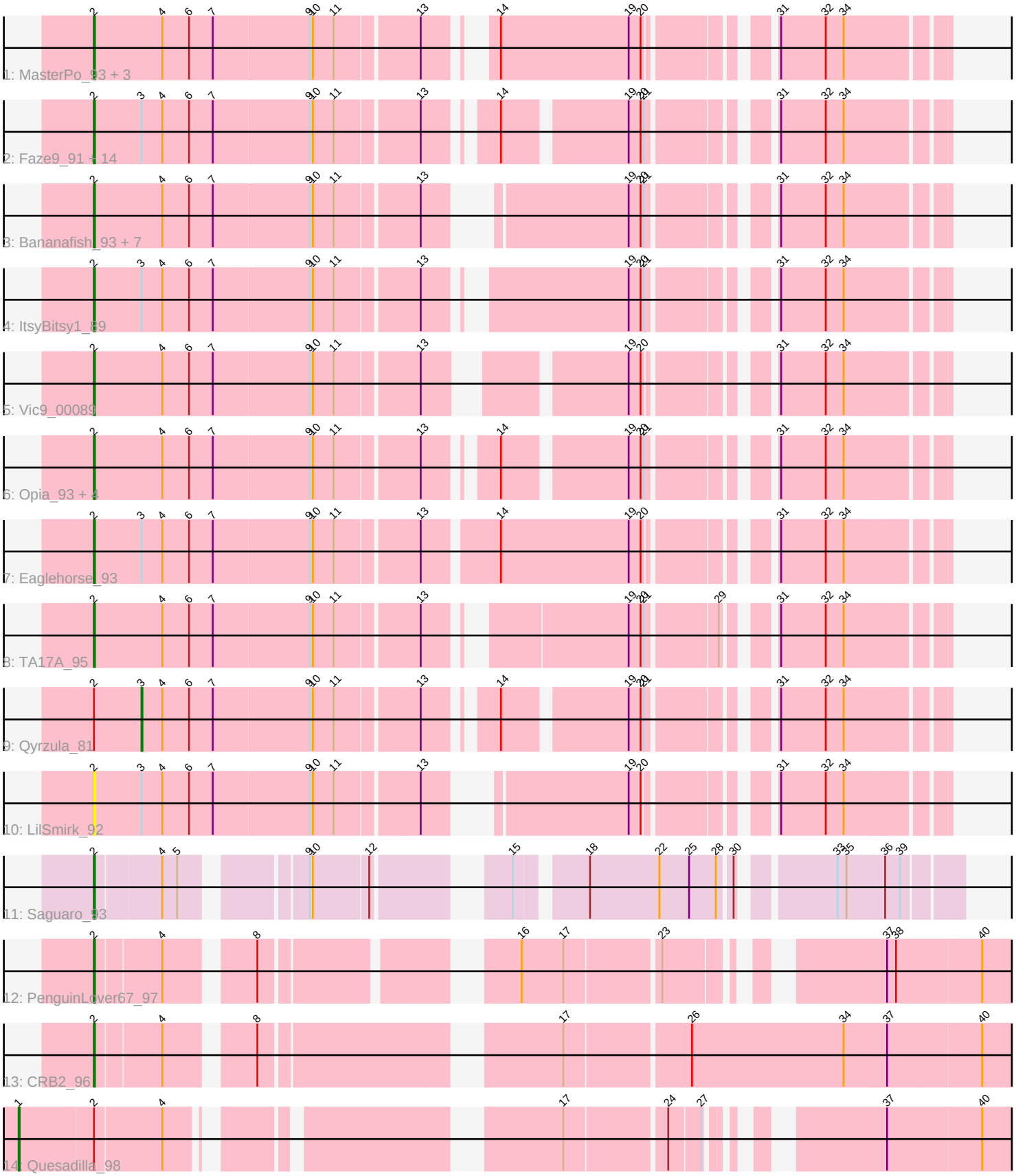
# Pham 296714


1: MasterPo_93 + 3
2: Faze9_91 + 14
3: Bananafish_93 + 7
4: ItsyBitsy1_89
5: Vic9_00089
6: Opia_93 + 4
7: Eaglehorse_93
8: TA17A_95
9: Qyrzula_81
10: LilSmirk_92
11: Saguaro_93
12: PenguinLover67_97
13: CRB2_96
14: Quesadilla_98

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 296714 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296714 has 42 members, 1 are drafts.

Phages represented in each track:
• Track 1 : MasterPo_93, Laurie_90, Holeinone_91, Tres_92
• Track 2 : Faze9_91, Coffee_91, Lars_93, Ares_92, West99_92, Glass_94, LizLemon_92, Rosebush_90, Tinciduntsolum_93, Calamitous_93, FrenchFry_93, Kaleb_92, Hedgerow_92, Boyle_92, Brownie5_92
• Track 3 : Bananafish_93, Sabella_92, Arbiter_88, Blocker23_92, Godines_91, Lephleur_92, Kheth_92, Kolhan_93
• Track 4 : ItsyBitsy1_89
• Track 5 : Vic9_00089
• Track 6 : Opia_93, Phantasmagoria_90, PrinceCharming_92, Allegro_92, Rhinoforte_92
• Track 7 : Eaglehorse_93
• Track 8 : TA17A_95
• Track 9 : Qyrzula_81
• Track 10 : LilSmirk_92
• Track 11 : Saguaro_93
• Track 12 : PenguinLover67_97
• Track 13 : CRB2_96
• Track 14 : Quesadilla_98

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

The start number called the most often in the published annotations is 2, it was called in 39 of the 41 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Allegro_92, Arbiter_88, Ares_92, Bananafish_93, Blocker23_92, Boyle_92, Brownie5_92, CRB2_96, Calamitous_93, Coffee_91, Eaglehorse_93, Faze9_91, FrenchFry_93, Glass_94, Godines_91, Hedgerow_92, Holeinone_91, ItsyBitsy1_89, Kaleb_92, Kheth_92, Kolhan_93, Lars_93, Laurie_90, Lephleur_92, LilSmirk_92, LizLemon_92, MasterPo_93, Opia_93, PenguinLover67_97, Phantasmagoria_90, PrinceCharming_92, Rhinoforte_92, Rosebush_90, Sabella_92, Saguaro_93, TA17A_95, Tinciduntsolum_93, Tres_92, Vic9_00089, West99_92,

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

• Quesadilla_98, Qyrzula_81,

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

**Summary by start number:**

Start 1:
• Found in 1 of 42 ( 2.4% ) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Quesadilla_98 (B9),

Start 2:
• Found in 42 of 42 ( 100.0% ) of genes in pham
• Manual Annotations of this start: 39 of 41
• Called 95.2% of time when present
• Phage (with cluster) where this start called: Allegro_92 (B2), Arbiter_88 (B2), Ares_92 (B2), Bananafish_93 (B2), Blocker23_92 (B2), Boyle_92 (B2), Brownie5_92 (B2), CRB2_96 (B9), Calamitous_93 (B2), Coffee_91 (B2), Eaglehorse_93 (B2), Faze9_91 (B2), FrenchFry_93 (B2), Glass_94 (B2), Godines_91 (B2), Hedgerow_92 (B2), Holeinone_91 (B2), ItsyBitsy1_89 (B2), Kaleb_92 (B2), Kheth_92 (B2), Kolhan_93 (B2), Lars_93 (B2), Laurie_90 (B2), Lephleur_92 (B2), LilSmirk_92 (B2), LizLemon_92 (B2), MasterPo_93 (B2), Opia_93 (B2), PenguinLover67_97 (B9), Phantasmagoria_90 (B2), PrinceCharming_92 (B2), Rhinoforte_92 (B2), Rosebush_90 (B2), Sabella_92 (B2), Saguaro_93 (B7), TA17A_95 (B2), Tinciduntsolum_93 (B2), Tres_92 (B2), Vic9_00089 (B2), West99_92 (B2),

Start 3:
• Found in 19 of 42 ( 45.2% ) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 5.3% of time when present
• Phage (with cluster) where this start called: Qyrzula_81 (B2),

**Summary by clusters:**

There are 3 clusters represented in this pham: B7, B9, B2,

Info for manual annotations of cluster B2:
•Start number 2 was manually annotated 36 times for cluster B2.
•Start number 3 was manually annotated 1 time for cluster B2.

Info for manual annotations of cluster B7:
•Start number 2 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:
•Start number 1 was manually annotated 1 time for cluster B9.
•Start number 2 was manually annotated 2 times for cluster B9.

***Gene Information:***

Gene: Allegro_92 Start: 67275, Stop: 66520, Start Num: 2
Candidate Starts for Allegro_92:
(Start: 2 @67275 has 39 MA's), (4, 67206), (6, 67179), (7, 67155), (9, 67059), (10, 67056), (11, 67035), (13, 66957), (14, 66903), (19, 66789), (20, 66777), (21, 66774), (31, 66675), (32, 66630), (34, 66612),

Gene: Arbiter_88 Start: 67005, Stop: 66247, Start Num: 2
Candidate Starts for Arbiter_88:
(Start: 2 @67005 has 39 MA's), (4, 66936), (6, 66909), (7, 66885), (9, 66789), (10, 66786), (11, 66765), (13, 66687), (19, 66516), (20, 66504), (21, 66501), (31, 66402), (32, 66357), (34, 66339),

Gene: Ares_92 Start: 67272, Stop: 66517, Start Num: 2
Candidate Starts for Ares_92:
(Start: 2 @67272 has 39 MA's), (Start: 3 @67224 has 1 MA's), (4, 67203), (6, 67176), (7, 67152), (9, 67056), (10, 67053), (11, 67032), (13, 66954), (14, 66900), (19, 66786), (20, 66774), (21, 66771), (31, 66672), (32, 66627), (34, 66609),

Gene: Bananafish_93 Start: 67203, Stop: 66457, Start Num: 2
Candidate Starts for Bananafish_93:
(Start: 2 @67203 has 39 MA's), (4, 67134), (6, 67107), (7, 67083), (9, 66987), (10, 66984), (11, 66963), (13, 66885), (19, 66726), (20, 66714), (21, 66711), (31, 66612), (32, 66567), (34, 66549),

Gene: Blocker23_92 Start: 67238, Stop: 66522, Start Num: 2
Candidate Starts for Blocker23_92:
(Start: 2 @67238 has 39 MA's), (4, 67169), (6, 67142), (7, 67118), (9, 67022), (10, 67019), (11, 66998), (13, 66920), (19, 66791), (20, 66779), (21, 66776), (31, 66677), (32, 66632), (34, 66614),

Gene: Boyle_92 Start: 67327, Stop: 66572, Start Num: 2
Candidate Starts for Boyle_92:
(Start: 2 @67327 has 39 MA's), (Start: 3 @67279 has 1 MA's), (4, 67258), (6, 67231), (7, 67207), (9, 67111), (10, 67108), (11, 67087), (13, 67009), (14, 66955), (19, 66841), (20, 66829), (21, 66826), (31, 66727), (32, 66682), (34, 66664),

Gene: Brownie5_92 Start: 67333, Stop: 66578, Start Num: 2
Candidate Starts for Brownie5_92:
(Start: 2 @67333 has 39 MA's), (Start: 3 @67285 has 1 MA's), (4, 67264), (6, 67237), (7, 67213), (9, 67117), (10, 67114), (11, 67093), (13, 67015), (14, 66961), (19, 66847), (20, 66835), (21, 66832), (31, 66733), (32, 66688), (34, 66670),

Gene: CRB2_96 Start: 71991, Stop: 71140, Start Num: 2
Candidate Starts for CRB2_96:
(Start: 2 @71991 has 39 MA's), (4, 71928), (8, 71853), (17, 71592), (26, 71472), (34, 71319), (37, 71277), (40, 71184),

Gene: Calamitous_93 Start: 67207, Stop: 66452, Start Num: 2
Candidate Starts for Calamitous_93:
(Start: 2 @67207 has 39 MA's), (Start: 3 @67159 has 1 MA's), (4, 67138), (6, 67111), (7, 67087), (9, 66991), (10, 66988), (11, 66967), (13, 66889), (14, 66835), (19, 66721), (20, 66709), (21, 66706), (31, 66607), (32, 66562), (34, 66544),

Gene: Coffee_91 Start: 67317, Stop: 66562, Start Num: 2
Candidate Starts for Coffee_91:
(Start: 2 @67317 has 39 MA's), (Start: 3 @67269 has 1 MA's), (4, 67248), (6, 67221), (7, 67197), (9, 67101), (10, 67098), (11, 67077), (13, 66999), (14, 66945), (19, 66831), (20, 66819), (21, 66816), (31,

66717), (32, 66672), (34, 66654),

Gene: Eaglehorse_93 Start: 67227, Stop: 66445, Start Num: 2
Candidate Starts for Eaglehorse_93:
(Start: 2 @67227 has 39 MA's), (Start: 3 @67179 has 1 MA's), (4, 67158), (6, 67131), (7, 67107), (9, 67011), (10, 67008), (11, 66987), (13, 66909), (14, 66840), (19, 66711), (20, 66699), (31, 66600), (32, 66555), (34, 66537),

Gene: Faze9_91 Start: 67339, Stop: 66584, Start Num: 2
Candidate Starts for Faze9_91:
(Start: 2 @67339 has 39 MA's), (Start: 3 @67291 has 1 MA's), (4, 67270), (6, 67243), (7, 67219), (9, 67123), (10, 67120), (11, 67099), (13, 67021), (14, 66967), (19, 66853), (20, 66841), (21, 66838), (31, 66739), (32, 66694), (34, 66676),

Gene: FrenchFry_93 Start: 67330, Stop: 66575, Start Num: 2
Candidate Starts for FrenchFry_93:
(Start: 2 @67330 has 39 MA's), (Start: 3 @67282 has 1 MA's), (4, 67261), (6, 67234), (7, 67210), (9, 67114), (10, 67111), (11, 67090), (13, 67012), (14, 66958), (19, 66844), (20, 66832), (21, 66829), (31, 66730), (32, 66685), (34, 66667),

Gene: Glass_94 Start: 67345, Stop: 66590, Start Num: 2
Candidate Starts for Glass_94:
(Start: 2 @67345 has 39 MA's), (Start: 3 @67297 has 1 MA's), (4, 67276), (6, 67249), (7, 67225), (9, 67129), (10, 67126), (11, 67105), (13, 67027), (14, 66973), (19, 66859), (20, 66847), (21, 66844), (31, 66745), (32, 66700), (34, 66682),

Gene: Godines_91 Start: 67113, Stop: 66382, Start Num: 2
Candidate Starts for Godines_91:
(Start: 2 @67113 has 39 MA's), (4, 67044), (6, 67017), (7, 66993), (9, 66897), (10, 66894), (11, 66873), (13, 66795), (19, 66651), (20, 66639), (21, 66636), (31, 66537), (32, 66492), (34, 66474),

Gene: Hedgerow_92 Start: 67287, Stop: 66532, Start Num: 2
Candidate Starts for Hedgerow_92:
(Start: 2 @67287 has 39 MA's), (Start: 3 @67239 has 1 MA's), (4, 67218), (6, 67191), (7, 67167), (9, 67071), (10, 67068), (11, 67047), (13, 66969), (14, 66915), (19, 66801), (20, 66789), (21, 66786), (31, 66687), (32, 66642), (34, 66624),

Gene: Holeinone_91 Start: 66880, Stop: 66101, Start Num: 2
Candidate Starts for Holeinone_91:
(Start: 2 @66880 has 39 MA's), (4, 66811), (6, 66784), (7, 66760), (9, 66664), (10, 66661), (11, 66640), (13, 66562), (14, 66481), (19, 66367), (20, 66355), (31, 66256), (32, 66211), (34, 66193),

Gene: ItsyBitsy1_89 Start: 67406, Stop: 66648, Start Num: 2
Candidate Starts for ItsyBitsy1_89:
(Start: 2 @67406 has 39 MA's), (Start: 3 @67358 has 1 MA's), (4, 67337), (6, 67310), (7, 67286), (9, 67190), (10, 67187), (11, 67166), (13, 67088), (19, 66917), (20, 66905), (21, 66902), (31, 66803), (32, 66758), (34, 66740),

Gene: Kaleb_92 Start: 67339, Stop: 66584, Start Num: 2
Candidate Starts for Kaleb_92:
(Start: 2 @67339 has 39 MA's), (Start: 3 @67291 has 1 MA's), (4, 67270), (6, 67243), (7, 67219), (9, 67123), (10, 67120), (11, 67099), (13, 67021), (14, 66967), (19, 66853), (20, 66841), (21, 66838), (31, 66739), (32, 66694), (34, 66676),

Gene: Kheth_92 Start: 67242, Stop: 66484, Start Num: 2
Candidate Starts for Kheth_92:
(Start: 2 @67242 has 39 MA's), (4, 67173), (6, 67146), (7, 67122), (9, 67026), (10, 67023), (11, 67002), (13, 66924), (19, 66753), (20, 66741), (21, 66738), (31, 66639), (32, 66594), (34, 66576),

Gene: Kolhan_93 Start: 67223, Stop: 66477, Start Num: 2
Candidate Starts for Kolhan_93:
(Start: 2 @67223 has 39 MA's), (4, 67154), (6, 67127), (7, 67103), (9, 67007), (10, 67004), (11, 66983), (13, 66905), (19, 66746), (20, 66734), (21, 66731), (31, 66632), (32, 66587), (34, 66569),

Gene: Lars_93 Start: 67304, Stop: 66549, Start Num: 2
Candidate Starts for Lars_93:
(Start: 2 @67304 has 39 MA's), (Start: 3 @67256 has 1 MA's), (4, 67235), (6, 67208), (7, 67184), (9, 67088), (10, 67085), (11, 67064), (13, 66986), (14, 66932), (19, 66818), (20, 66806), (21, 66803), (31, 66704), (32, 66659), (34, 66641),

Gene: Laurie_90 Start: 66343, Stop: 65576, Start Num: 2
Candidate Starts for Laurie_90:
(Start: 2 @66343 has 39 MA's), (4, 66274), (6, 66247), (7, 66223), (9, 66127), (10, 66124), (11, 66103), (13, 66025), (14, 65956), (19, 65842), (20, 65830), (31, 65731), (32, 65686), (34, 65668),

Gene: Lephleur_92 Start: 67185, Stop: 66427, Start Num: 2
Candidate Starts for Lephleur_92:
(Start: 2 @67185 has 39 MA's), (4, 67116), (6, 67089), (7, 67065), (9, 66969), (10, 66966), (11, 66945), (13, 66867), (19, 66696), (20, 66684), (21, 66681), (31, 66582), (32, 66537), (34, 66519),

Gene: LilSmirk_92 Start: 67196, Stop: 66453, Start Num: 2
Candidate Starts for LilSmirk_92:
(Start: 2 @67196 has 39 MA's), (Start: 3 @67148 has 1 MA's), (4, 67127), (6, 67100), (7, 67076), (9, 66980), (10, 66977), (11, 66956), (13, 66878), (19, 66719), (20, 66707), (31, 66608), (32, 66563), (34, 66545),

Gene: LizLemon_92 Start: 67332, Stop: 66577, Start Num: 2
Candidate Starts for LizLemon_92:
(Start: 2 @67332 has 39 MA's), (Start: 3 @67284 has 1 MA's), (4, 67263), (6, 67236), (7, 67212), (9, 67116), (10, 67113), (11, 67092), (13, 67014), (14, 66960), (19, 66846), (20, 66834), (21, 66831), (31, 66732), (32, 66687), (34, 66669),

Gene: MasterPo_93 Start: 67197, Stop: 66442, Start Num: 2
Candidate Starts for MasterPo_93:
(Start: 2 @67197 has 39 MA's), (4, 67128), (6, 67101), (7, 67077), (9, 66981), (10, 66978), (11, 66957), (13, 66879), (14, 66837), (19, 66708), (20, 66696), (31, 66597), (32, 66552), (34, 66534),

Gene: Opia_93 Start: 67237, Stop: 66482, Start Num: 2
Candidate Starts for Opia_93:
(Start: 2 @67237 has 39 MA's), (4, 67168), (6, 67141), (7, 67117), (9, 67021), (10, 67018), (11, 66997), (13, 66919), (14, 66865), (19, 66751), (20, 66739), (21, 66736), (31, 66637), (32, 66592), (34, 66574),

Gene: PenguinLover67_97 Start: 70072, Stop: 69290, Start Num: 2
Candidate Starts for PenguinLover67_97:
(Start: 2 @70072 has 39 MA's), (4, 70009), (8, 69934), (16, 69727), (17, 69685), (23, 69595), (37, 69427), (38, 69418), (40, 69334),

Gene: Phantasmagoria_90 Start: 66882, Stop: 66139, Start Num: 2
Candidate Starts for Phantasmagoria_90:
(Start: 2 @66882 has 39 MA's), (4, 66813), (6, 66786), (7, 66762), (9, 66666), (10, 66663), (11, 66642), (13, 66564), (14, 66522), (19, 66408), (20, 66396), (21, 66393), (31, 66294), (32, 66249), (34, 66231),

Gene: PrinceCharming_92 Start: 67265, Stop: 66495, Start Num: 2
Candidate Starts for PrinceCharming_92:
(Start: 2 @67265 has 39 MA's), (4, 67196), (6, 67169), (7, 67145), (9, 67049), (10, 67046), (11, 67025), (13, 66947), (14, 66878), (19, 66764), (20, 66752), (21, 66749), (31, 66650), (32, 66605), (34, 66587),

Gene: Quesadilla_98 Start: 70830, Stop: 69991, Start Num: 1
Candidate Starts for Quesadilla_98:
(Start: 1 @70830 has 1 MA's), (Start: 2 @70758 has 39 MA's), (4, 70692), (17, 70377), (24, 70281), (27, 70251), (37, 70128), (40, 70035),

Gene: Qyrzula_81 Start: 66976, Stop: 66269, Start Num: 3
Candidate Starts for Qyrzula_81:
(Start: 2 @67024 has 39 MA's), (Start: 3 @66976 has 1 MA's), (4, 66955), (6, 66928), (7, 66904), (9, 66808), (10, 66805), (11, 66784), (13, 66706), (14, 66652), (19, 66538), (20, 66526), (21, 66523), (31, 66424), (32, 66379), (34, 66361),

Gene: Rhinoforte_92 Start: 67247, Stop: 66492, Start Num: 2
Candidate Starts for Rhinoforte_92:
(Start: 2 @67247 has 39 MA's), (4, 67178), (6, 67151), (7, 67127), (9, 67031), (10, 67028), (11, 67007), (13, 66929), (14, 66875), (19, 66761), (20, 66749), (21, 66746), (31, 66647), (32, 66602), (34, 66584),

Gene: Rosebush_90 Start: 67316, Stop: 66561, Start Num: 2
Candidate Starts for Rosebush_90:
(Start: 2 @67316 has 39 MA's), (Start: 3 @67268 has 1 MA's), (4, 67247), (6, 67220), (7, 67196), (9, 67100), (10, 67097), (11, 67076), (13, 66998), (14, 66944), (19, 66830), (20, 66818), (21, 66815), (31, 66716), (32, 66671), (34, 66653),

Gene: Sabella_92 Start: 67140, Stop: 66394, Start Num: 2
Candidate Starts for Sabella_92:
(Start: 2 @67140 has 39 MA's), (4, 67071), (6, 67044), (7, 67020), (9, 66924), (10, 66921), (11, 66900), (13, 66822), (19, 66663), (20, 66651), (21, 66648), (31, 66549), (32, 66504), (34, 66486),

Gene: Saguaro_93 Start: 69289, Stop: 68552, Start Num: 2
Candidate Starts for Saguaro_93:
(Start: 2 @69289 has 39 MA's), (4, 69226), (5, 69211), (9, 69109), (10, 69106), (12, 69052), (15, 68950), (18, 68890), (22, 68821), (25, 68791), (28, 68764), (30, 68752), (33, 68671), (35, 68662), (36, 68623), (39, 68608),

Gene: TA17A_95 Start: 67160, Stop: 66405, Start Num: 2
Candidate Starts for TA17A_95:
(Start: 2 @67160 has 39 MA's), (4, 67091), (6, 67064), (7, 67040), (9, 66944), (10, 66941), (11, 66920), (13, 66842), (19, 66674), (20, 66662), (21, 66659), (29, 66593), (31, 66560), (32, 66515), (34, 66497),

Gene: Tinciduntsolum_93 Start: 67332, Stop: 66577, Start Num: 2
Candidate Starts for Tinciduntsolum_93:
(Start: 2 @67332 has 39 MA's), (Start: 3 @67284 has 1 MA's), (4, 67263), (6, 67236), (7, 67212), (9, 67116), (10, 67113), (11, 67092), (13, 67014), (14, 66960), (19, 66846), (20, 66834), (21, 66831), (31,

66732), (32, 66687), (34, 66669),

Gene: Tres_92 Start: 67185, Stop: 66418, Start Num: 2
Candidate Starts for Tres_92:
(Start: 2 @67185 has 39 MA's), (4, 67116), (6, 67089), (7, 67065), (9, 66969), (10, 66966), (11, 66945), (13, 66867), (14, 66798), (19, 66684), (20, 66672), (31, 66573), (32, 66528), (34, 66510),

Gene: Vic9_00089 Start: 67379, Stop: 66633, Start Num: 2
Candidate Starts for Vic9_00089:
(Start: 2 @67379 has 39 MA's), (4, 67310), (6, 67283), (7, 67259), (9, 67163), (10, 67160), (11, 67139), (13, 67061), (19, 66899), (20, 66887), (31, 66788), (32, 66743), (34, 66725),

Gene: West99_92 Start: 67352, Stop: 66597, Start Num: 2
Candidate Starts for West99_92:
(Start: 2 @67352 has 39 MA's), (Start: 3 @67304 has 1 MA's), (4, 67283), (6, 67256), (7, 67232), (9, 67136), (10, 67133), (11, 67112), (13, 67034), (14, 66980), (19, 66866), (20, 66854), (21, 66851), (31, 66752), (32, 66707), (34, 66689),