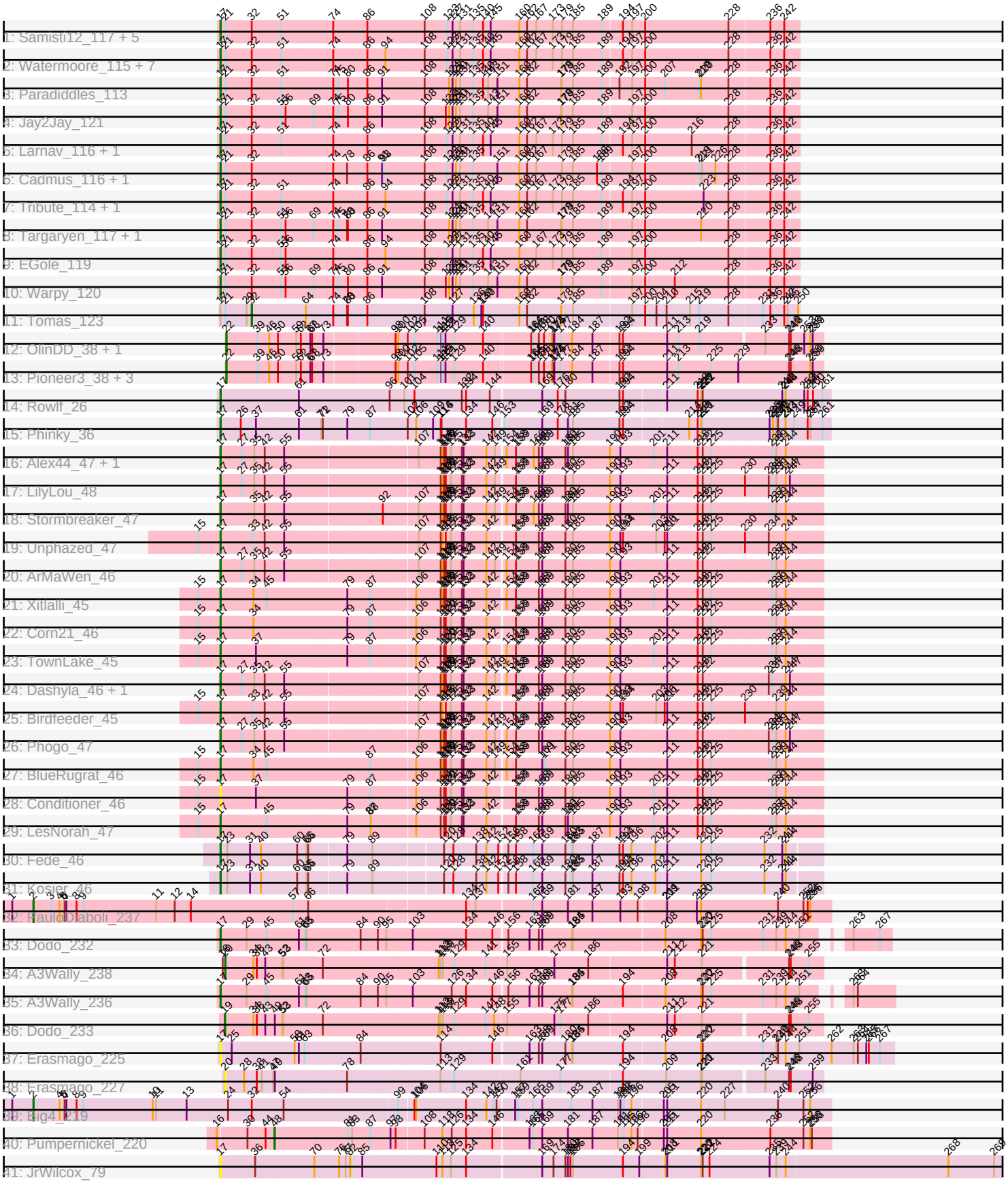
Pham 344006


1: Samisti12_117 + 5
2: Watermoore_115 + 7
3: Paradiddles_113
4: Jay2Jay_121
5: Larnav_116 + 1
6: Cadmus_116 + 1
7: Tribute_114 + 1
8: Targaryen_117 + 1
9: EGole_119
10: Warpy_120
11: Tomas_123
12: OlinDD_38 + 1
13: Pioneer3_38 + 3
14: Rowlf_26
15: Phinky_36
16: Alex44_47 + 1
17: LilyLou_48
18: Stormbreaker_47
19: Unphazed_47
20: ArMaWen_46
21: Xitlalli_45
22: Corn21_46
23: TownLake_45
24: Dashyla_46 + 1
25: Birdfeeder_45
26: Phogo_47
27: BlueRugrat_46
28: Conditioner_46
29: LesNorah_47
30: Fede_46
31: Kosier_46
32: RauldDiaboli_237
33: Dodo_232
34: A3Wally_238
35: A3Wally_236
36: Dodo_233
37: Erasmago_225
38: Erasmago_227
39: Big4_219
40: Pumpernickel_220
41: JrWilcox_79

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 344006 Report

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

Pham number 344006 has 63 members, 4 are drafts.

Phages represented in each track:
- Track 1 : Samisti12_117, Pepperwood_116, WashU_116, Scheme_117, Peebs_114, Sushi23_115
- Track 2 : Watermoore_115, HangryHippo_116, BlueOtter_116, Leo04_117, PacManQ_115, Cross_116, Lululemon_115, ArianaSWT_117
- Track 3 : Paradiddles_113
- Track 4 : Jay2Jay_121
- Track 5 : Larnav_116, Coogler_116
- Track 6 : Cadmus_116, Daubenski_119
- Track 7 : Tribute_114, Teutsch_116
- Track 8 : Targaryen_117, Evy_114
- Track 9 : EGole_119
- Track 10 : Warpy_120
- Track 11 : Tomas_123
- Track 12 : OlinDD_38, Hortus1_38
- Track 13 : Pioneer3_38, Tandem_38, Platte_38, Alleb_39
- Track 14 : Rowlf_26
- Track 15 : Phinky_36
- Track 16 : Alex44_47, DumpQuist_46
- Track 17 : LilyLou_48
- Track 18 : Stormbreaker_47
- Track 19 : Unphazed_47
- Track 20 : ArMaWen_46
- Track 21 : Xitlalli_45
- Track 22 : Corn21_46
- Track 23 : TownLake_45
- Track 24 : Dashyla_46, SwissCheezer_46
- Track 25 : Birdfeeder_45
- Track 26 : Phogo_47
- Track 27 : BlueRugrat_46
- Track 28 : Conditioner_46
- Track 29 : LesNorah_47
- Track 30 : Fede_46
- Track 31 : Kosier_46
- Track 32 : PauloDiaboli_237
- Track 33 : Dodo_232
- Track 34 : A3Wally_238
- Track 35 : A3Wally_236

• Track 36 : Dodo_233
• Track 37 : Erasmago_225
• Track 38 : Erasmago_227
• Track 39 : Big4_219
• Track 40 : Pumpernickel_220
• Track 41 : JrWilcox_79

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

The start number called the most often in the published annotations is 17, it was called in 47 of the 59 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• A3Wally_236, Alex44_47, ArMaWen_46, ArianaSWT_117, Birdfeeder_45, BlueOtter_116, BlueRugrat_46, Cadmus_116, Conditioner_46, Coogler_116, Corn21_46, Cross_116, Dashyla_46, Daubenski_119, Dodo_232, DumpQuist_46, EGole_119, Erasmago_225, Evy_114, Fede_46, HangryHippo_116, Jay2Jay_121, JrWilcox_79, Kosier_46, Larnav_116, Leo04_117, LesNorah_47, LilyLou_48, Lululemon_115, PacManQ_115, Paradiddles_113, Peebs_114, Pepperwood_116, Phinky_36, Phogo_47, Rowlf_26, Samisti12_117, Scheme_117, Stormbreaker_47, Sushi23_115, SwissCheezer_46, Targaryen_117, Teutsch_116, TownLake_45, Tribute_114, Unphazed_47, Warpy_120, WashU_116, Watermoore_115, Xitlalli_45,

Genes that have the "Most Annotated" start but do not call it:
• Tomas_123,

Genes that do not have the "Most Annotated" start:
• A3Wally_238, Alleb_39, Big4_219, Dodo_233, Erasmago_227, Hortus1_38, OlinDD_38, PauloDiaboli_237, Pioneer3_38, Platte_38, Pumpernickel_220, Tandem_38,

Summary by start number:

Start 2:
• Found in 2 of 63 (3.2%) of genes in pham
• Manual Annotations of this start: 2 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Big4_219 (GD2), PauloDiaboli_237 (GD1),

Start 17:
• Found in 51 of 63 (81.0%) of genes in pham
• Manual Annotations of this start: 47 of 59
• Called 98.0% of time when present
• Phage (with cluster) where this start called: A3Wally_236 (GD1), Alex44_47 (EK1), ArMaWen_46 (EK1), ArianaSWT_117 (BE1), Birdfeeder_45 (EK1), BlueOtter_116 (BE1), BlueRugrat_46 (EK1), Cadmus_116 (BE1), Conditioner_46 (EK1), Coogler_116 (BE1), Corn21_46 (EK1), Cross_116 (BE1), Dashyla_46 (EK1), Daubenski_119 (BE1), Dodo_232 (GD1), DumpQuist_46 (EK1), EGole_119 (BE1), Erasmago_225 (GD2), Evy_114 (BE1), Fede_46 (EK2), HangryHippo_116 (BE1),

Jay2Jay_121 (BE1), JrWilcox_79 (GL), Kosier_46 (EK2), Larnav_116 (BE1), Leo04_117 (BE1), LesNorah_47 (EK1), LilyLou_48 (EK1), Lululemon_115 (BE1), PacManQ_115 (BE1), Paradiddles_113 (BE1), Peebs_114 (BE1), Pepperwood_116 (BE1), Phinky_36 (EG), Phogo_47 (EK1), Rowlf_26 (EG), Samisti12_117 (BE1), Scheme_117 (BE1), Stormbreaker_47 (EK1), Sushi23_115 (BE1), SwissCheezer_46 (EK1), Targaryen_117 (BE1), Teutsch_116 (BE1), TownLake_45 (EK1), Tribute_114 (BE1), Unphazed_47 (EK1), Warpy_120 (BE1), WashU_116 (BE1), Watermoore_115 (BE1), Xitlalli_45 (EK1),

Start 19:
• Found in 1 of 63 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dodo_233 (GD1),

Start 20:
• Found in 2 of 63 (3.2%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: A3Wally_238 (GD1), Erasmago_227 (GD2),

Start 22:
• Found in 6 of 63 (9.5%) of genes in pham
• Manual Annotations of this start: 6 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Alleb_39 (ED1), Hortus1_38 (ED1), OlinDD_38 (ED1), Pioneer3_38 (ED1), Platte_38 (ED1), Tandem_38 (ED1),

Start 32:
• Found in 28 of 63 (44.4%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 3.6% of time when present
• Phage (with cluster) where this start called: Tomas_123 (BE2),

Start 48:
• Found in 1 of 63 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Pumpernickel_220 (GD4),

Summary by clusters:

There are 10 clusters represented in this pham: GD1, GD2, BE1, GD4, EG, ED1, BE2, GL, EK2, EK1,

Info for manual annotations of cluster BE1:
•Start number 17 was manually annotated 26 times for cluster BE1.

Info for manual annotations of cluster BE2:
•Start number 32 was manually annotated 1 time for cluster BE2.

Info for manual annotations of cluster ED1:

•Start number 22 was manually annotated 6 times for cluster ED1.

Info for manual annotations of cluster EG:
•Start number 17 was manually annotated 2 times for cluster EG.

Info for manual annotations of cluster EK1:
•Start number 17 was manually annotated 15 times for cluster EK1.

Info for manual annotations of cluster EK2:
•Start number 17 was manually annotated 2 times for cluster EK2.

Info for manual annotations of cluster GD1:
•Start number 2 was manually annotated 1 time for cluster GD1.
•Start number 17 was manually annotated 2 times for cluster GD1.
•Start number 19 was manually annotated 1 time for cluster GD1.
•Start number 20 was manually annotated 1 time for cluster GD1.

Info for manual annotations of cluster GD2:
•Start number 2 was manually annotated 1 time for cluster GD2.

Info for manual annotations of cluster GD4:
•Start number 48 was manually annotated 1 time for cluster GD4.

Gene Information:

Gene: A3Wally_238 Start: 128961, Stop: 130955, Start Num: 20
Candidate Starts for A3Wally_238:
(18, 128952), (Start: 20 @128961 has 1 MA's), (34, 129060), (38, 129069), (43, 129099), (52, 129156), (53, 129159), (72, 129291), (112, 129684), (113, 129690), (119, 129699), (129, 129738), (141, 129849), (155, 129912), (175, 130074), (186, 130194), (211, 130446), (212, 130473), (221, 130569), (246, 130842), (248, 130848), (255, 130908),

Gene: A3Wally_236 Start: 126651, Stop: 128846, Start Num: 17
Candidate Starts for A3Wally_236:
(Start: 17 @126651 has 47 MA's), (29, 126735), (45, 126801), (61, 126912), (63, 126933), (65, 126939), (84, 127122), (90, 127179), (95, 127209), (103, 127302), (126, 127434), (134, 127479), (146, 127572), (156, 127614), (163, 127683), (168, 127716), (169, 127728), (184, 127833), (185, 127836), (194, 128010), (208, 128139), (220, 128262), (222, 128268), (225, 128298), (231, 128475), (239, 128523), (244, 128556), (251, 128601), (263, 128700), (264, 128715),

Gene: Alex44_47 Start: 46450, Stop: 48459, Start Num: 17
Candidate Starts for Alex44_47:
(Start: 17 @46450 has 47 MA's), (27, 46519), (35, 46564), (42, 46600), (55, 46669), (107, 47095), (114, 47164), (118, 47170), (120, 47176), (122, 47182), (125, 47200), (132, 47233), (133, 47239), (142, 47320), (149, 47350), (154, 47377), (158, 47410), (159, 47413), (166, 47467), (168, 47485), (169, 47497), (180, 47578), (181, 47587), (185, 47605), (190, 47734), (193, 47770), (201, 47881), (211, 47923), (218, 48028), (222, 48046), (225, 48076), (237, 48286), (239, 48301), (244, 48334),

Gene: Alleb_39 Start: 18932, Stop: 20884, Start Num: 22
Candidate Starts for Alleb_39:

(Start: 22 @18932 has 6 MA's), (39, 19034), (46, 19076), (50, 19103), (59, 19154), (62, 19169), (67, 19202), (68, 19208), (73, 19244), (98, 19466), (100, 19475), (102, 19508), (105, 19532), (111, 19607), (115, 19622), (117, 19625), (121, 19637), (129, 19667), (140, 19769), (164, 19910), (165, 19916), (168, 19937), (170, 19952), (172, 19970), (174, 19976), (175, 19979), (177, 20000), (184, 20042), (187, 20111), (192, 20195), (194, 20207), (211, 20351), (213, 20390), (225, 20504), (229, 20594), (246, 20768), (248, 20774), (256, 20843), (259, 20852),

Gene: ArMaWen_46 Start: 45993, Stop: 48002, Start Num: 17
Candidate Starts for ArMaWen_46:
(Start: 17 @45993 has 47 MA's), (27, 46062), (35, 46107), (42, 46143), (55, 46212), (107, 46638), (114, 46707), (118, 46713), (120, 46719), (122, 46725), (125, 46743), (132, 46776), (133, 46782), (142, 46863), (149, 46893), (154, 46920), (158, 46953), (159, 46956), (168, 47028), (169, 47040), (180, 47121), (185, 47148), (190, 47277), (193, 47313), (211, 47466), (218, 47571), (222, 47589), (237, 47829), (239, 47844), (244, 47877),

Gene: ArianaSWT_117 Start: 78290, Stop: 80245, Start Num: 17
Candidate Starts for ArianaSWT_117:
(Start: 17 @78290 has 47 MA's), (21, 78308), (Start: 32 @78401 has 1 MA's), (51, 78503), (74, 78680), (86, 78791), (94, 78851), (108, 78986), (123, 79064), (127, 79082), (131, 79109), (135, 79154), (140, 79190), (145, 79217), (160, 79313), (162, 79340), (167, 79373), (173, 79427), (179, 79460), (185, 79499), (189, 79595), (194, 79661), (197, 79694), (200, 79733), (228, 80012), (236, 80147), (242, 80192),

Gene: Big4_219 Start: 122421, Stop: 125168, Start Num: 2
Candidate Starts for Big4_219:
(1, 122346), (Start: 2 @122421 has 2 MA's), (4, 122514), (5, 122529), (6, 122532), (7, 122538), (8, 122574), (9, 122598), (10, 122844), (11, 122856), (13, 122964), (24, 123111), (Start: 32 @123195 has 1 MA's), (54, 123300), (99, 123684), (104, 123729), (106, 123735), (134, 123912), (142, 123984), (147, 124008), (150, 124020), (157, 124074), (159, 124080), (165, 124131), (169, 124164), (183, 124266), (187, 124341), (191, 124431), (193, 124440), (195, 124452), (196, 124479), (205, 124584), (211, 124596), (220, 124713), (227, 124794), (240, 124983), (252, 125070), (256, 125094),

Gene: Birdfeeder_45 Start: 46199, Stop: 48208, Start Num: 17
Candidate Starts for Birdfeeder_45:
(15, 46121), (Start: 17 @46199 has 47 MA's), (33, 46307), (42, 46349), (55, 46418), (107, 46844), (114, 46913), (118, 46919), (122, 46931), (125, 46949), (132, 46982), (133, 46988), (142, 47069), (158, 47159), (159, 47162), (168, 47234), (169, 47246), (180, 47327), (185, 47354), (190, 47483), (193, 47519), (194, 47528), (203, 47639), (206, 47663), (211, 47672), (218, 47777), (222, 47795), (225, 47825), (230, 47939), (239, 48050), (244, 48083),

Gene: BlueOtter_116 Start: 78327, Stop: 80282, Start Num: 17
Candidate Starts for BlueOtter_116:
(Start: 17 @78327 has 47 MA's), (21, 78345), (Start: 32 @78438 has 1 MA's), (51, 78540), (74, 78717), (86, 78828), (94, 78888), (108, 79023), (123, 79101), (127, 79119), (131, 79146), (135, 79191), (140, 79227), (145, 79254), (160, 79350), (162, 79377), (167, 79410), (173, 79464), (179, 79497), (185, 79536), (189, 79632), (194, 79698), (197, 79731), (200, 79770), (228, 80049), (236, 80184), (242, 80229),

Gene: BlueRugrat_46 Start: 46423, Stop: 48441, Start Num: 17
Candidate Starts for BlueRugrat_46:
(15, 46345), (Start: 17 @46423 has 47 MA's), (34, 46528), (45, 46570), (87, 46924), (106, 47071), (114, 47146), (118, 47152), (120, 47158), (122, 47164), (125, 47182), (132, 47215), (133, 47221), (142, 47302), (149, 47332), (154, 47359), (158, 47392), (159, 47395), (169, 47479), (171, 47488),

(180, 47560), (185, 47587), (190, 47716), (193, 47752), (211, 47905), (218, 48010), (222, 48028), (225, 48058), (237, 48268), (239, 48283), (244, 48316),

Gene: Cadmus_116 Start: 77218, Stop: 79173, Start Num: 17
Candidate Starts for Cadmus_116:
(Start: 17 @77218 has 47 MA's), (21, 77236), (Start: 32 @77329 has 1 MA's), (74, 77608), (78, 77650), (86, 77719), (91, 77767), (93, 77773), (108, 77914), (123, 77992), (127, 78010), (130, 78022), (131, 78037), (135, 78082), (151, 78169), (160, 78241), (162, 78268), (167, 78301), (179, 78388), (185, 78427), (188, 78508), (189, 78523), (197, 78622), (200, 78661), (219, 78841), (221, 78850), (226, 78898), (228, 78940), (236, 79075), (242, 79120),

Gene: Conditioner_46 Start: 46496, Stop: 48514, Start Num: 17
Candidate Starts for Conditioner_46:
(15, 46418), (Start: 17 @46496 has 47 MA's), (37, 46607), (79, 46922), (87, 46997), (106, 47144), (114, 47219), (120, 47231), (122, 47237), (125, 47255), (132, 47288), (133, 47294), (142, 47375), (158, 47465), (159, 47468), (168, 47540), (169, 47552), (180, 47633), (185, 47660), (190, 47789), (193, 47825), (201, 47936), (211, 47978), (218, 48083), (222, 48101), (225, 48131), (237, 48341), (239, 48356), (244, 48389),

Gene: Coogler_116 Start: 78352, Stop: 80307, Start Num: 17
Candidate Starts for Coogler_116:
(Start: 17 @78352 has 47 MA's), (21, 78370), (Start: 32 @78463 has 1 MA's), (51, 78565), (74, 78742), (86, 78853), (108, 79048), (123, 79126), (127, 79144), (131, 79171), (135, 79216), (140, 79252), (145, 79279), (160, 79375), (162, 79402), (167, 79435), (173, 79489), (179, 79522), (185, 79561), (189, 79657), (194, 79723), (197, 79756), (200, 79795), (216, 79948), (228, 80074), (236, 80209), (242, 80254),

Gene: Corn21_46 Start: 46501, Stop: 48519, Start Num: 17
Candidate Starts for Corn21_46:
(15, 46423), (Start: 17 @46501 has 47 MA's), (34, 46606), (79, 46927), (87, 47002), (106, 47149), (114, 47224), (120, 47236), (122, 47242), (125, 47260), (132, 47293), (133, 47299), (142, 47380), (158, 47470), (159, 47473), (168, 47545), (169, 47557), (180, 47638), (185, 47665), (190, 47794), (193, 47830), (211, 47983), (218, 48088), (222, 48106), (225, 48136), (237, 48346), (239, 48361), (244, 48394),

Gene: Cross_116 Start: 78328, Stop: 80283, Start Num: 17
Candidate Starts for Cross_116:
(Start: 17 @78328 has 47 MA's), (21, 78346), (Start: 32 @78439 has 1 MA's), (51, 78541), (74, 78718), (86, 78829), (94, 78889), (108, 79024), (123, 79102), (127, 79120), (131, 79147), (135, 79192), (140, 79228), (145, 79255), (160, 79351), (162, 79378), (167, 79411), (173, 79465), (179, 79498), (185, 79537), (189, 79633), (194, 79699), (197, 79732), (200, 79771), (228, 80050), (236, 80185), (242, 80230),

Gene: Dashyla_46 Start: 46124, Stop: 48133, Start Num: 17
Candidate Starts for Dashyla_46:
(Start: 17 @46124 has 47 MA's), (27, 46193), (35, 46238), (42, 46274), (55, 46343), (107, 46769), (114, 46838), (118, 46844), (120, 46850), (122, 46856), (125, 46874), (132, 46907), (133, 46913), (142, 46994), (149, 47024), (154, 47051), (158, 47084), (159, 47087), (168, 47159), (169, 47171), (180, 47252), (185, 47279), (190, 47408), (193, 47444), (211, 47597), (218, 47702), (222, 47720), (234, 47948), (237, 47960), (244, 48008), (247, 48023),

Gene: Daubenski_119 Start: 78455, Stop: 80410, Start Num: 17
Candidate Starts for Daubenski_119:

(Start: 17 @78455 has 47 MA's), (21, 78473), (Start: 32 @78566 has 1 MA's), (74, 78845), (78, 78887), (86, 78956), (91, 79004), (93, 79010), (108, 79151), (123, 79229), (127, 79247), (130, 79259), (131, 79274), (135, 79319), (151, 79406), (160, 79478), (162, 79505), (167, 79538), (179, 79625), (185, 79664), (188, 79745), (189, 79760), (197, 79859), (200, 79898), (219, 80078), (221, 80087), (226, 80135), (228, 80177), (236, 80312), (242, 80357),

Gene: Dodo_232 Start: 126453, Stop: 128636, Start Num: 17
Candidate Starts for Dodo_232:
(Start: 17 @126453 has 47 MA's), (29, 126537), (45, 126603), (61, 126714), (63, 126735), (65, 126741), (84, 126924), (90, 126981), (95, 127011), (103, 127104), (134, 127281), (146, 127374), (156, 127416), (163, 127485), (168, 127518), (169, 127530), (184, 127635), (185, 127638), (208, 127941), (220, 128064), (222, 128070), (225, 128100), (231, 128277), (239, 128325), (244, 128358), (251, 128403), (263, 128502), (267, 128595),

Gene: Dodo_233 Start: 128645, Stop: 130639, Start Num: 19
Candidate Starts for Dodo_233:
(Start: 19 @128645 has 1 MA's), (34, 128744), (38, 128753), (43, 128783), (49, 128813), (52, 128840), (53, 128843), (72, 128975), (112, 129368), (113, 129374), (119, 129383), (129, 129422), (141, 129533), (148, 129557), (155, 129596), (175, 129758), (177, 129779), (186, 129878), (211, 130130), (212, 130157), (221, 130253), (246, 130526), (248, 130532), (255, 130592),

Gene: DumpQuist_46 Start: 45978, Stop: 47987, Start Num: 17
Candidate Starts for DumpQuist_46:
(Start: 17 @45978 has 47 MA's), (27, 46047), (35, 46092), (42, 46128), (55, 46197), (107, 46623), (114, 46692), (118, 46698), (120, 46704), (122, 46710), (125, 46728), (132, 46761), (133, 46767), (142, 46848), (149, 46878), (154, 46905), (158, 46938), (159, 46941), (166, 46995), (168, 47013), (169, 47025), (180, 47106), (181, 47115), (185, 47133), (190, 47262), (193, 47298), (201, 47409), (211, 47451), (218, 47556), (222, 47574), (225, 47604), (237, 47814), (239, 47829), (244, 47862),

Gene: EGole_119 Start: 79172, Stop: 81127, Start Num: 17
Candidate Starts for EGole_119:
(Start: 17 @79172 has 47 MA's), (21, 79190), (Start: 32 @79283 has 1 MA's), (51, 79385), (56, 79400), (74, 79562), (86, 79673), (94, 79733), (108, 79868), (123, 79946), (127, 79964), (131, 79991), (135, 80036), (140, 80072), (145, 80099), (160, 80195), (167, 80255), (173, 80309), (179, 80342), (185, 80381), (189, 80477), (197, 80576), (200, 80615), (228, 80894), (236, 81029), (242, 81074),

Gene: Erasmago_225 Start: 121003, Stop: 123288, Start Num: 17
Candidate Starts for Erasmago_225:
(Start: 17 @121003 has 47 MA's), (25, 121036), (58, 121249), (61, 121264), (63, 121285), (84, 121474), (114, 121747), (146, 121924), (163, 122035), (168, 122068), (169, 122080), (180, 122161), (184, 122185), (185, 122188), (194, 122362), (208, 122491), (220, 122614), (222, 122620), (231, 122827), (239, 122875), (240, 122881), (244, 122908), (251, 122953), (262, 123067), (263, 123145), (264, 123160), (265, 123190), (266, 123199), (267, 123238),

Gene: Erasmago_227 Start: 123403, Stop: 125394, Start Num: 20
Candidate Starts for Erasmago_227:
(Start: 20 @123403 has 1 MA's), (28, 123466), (38, 123508), (41, 123526), (47, 123562), (49, 123568), (78, 123811), (113, 124129), (129, 124177), (161, 124396), (177, 124534), (194, 124741), (209, 124882), (220, 125005), (221, 125008), (233, 125203), (246, 125281), (248, 125287), (259, 125362),

Gene: Evy_114 Start: 78155, Stop: 80107, Start Num: 17
Candidate Starts for Evy_114:

(Start: 17 @78155 has 47 MA's), (21, 78173), (Start: 32 @78266 has 1 MA's), (51, 78368), (56, 78383), (69, 78479), (74, 78542), (75, 78557), (78, 78584), (80, 78587), (86, 78653), (91, 78701), (108, 78848), (124, 78932), (127, 78944), (130, 78956), (131, 78971), (135, 79016), (143, 79070), (151, 79103), (160, 79175), (162, 79202), (178, 79319), (179, 79322), (185, 79361), (189, 79457), (197, 79556), (200, 79595), (220, 79781), (228, 79874), (236, 80009), (242, 80054),

Gene: Fede_46 Start: 46938, Stop: 48926, Start Num: 17
Candidate Starts for Fede_46:
(Start: 17 @46938 has 47 MA's), (23, 46959), (31, 47034), (40, 47073), (60, 47196), (65, 47229), (66, 47235), (79, 47358), (89, 47439), (120, 47655), (128, 47688), (138, 47763), (142, 47799), (152, 47841), (156, 47862), (158, 47889), (165, 47943), (169, 47976), (180, 48057), (183, 48078), (185, 48084), (187, 48153), (192, 48246), (194, 48258), (196, 48288), (202, 48369), (211, 48399), (220, 48516), (225, 48552), (232, 48735), (241, 48798), (244, 48810),

Gene: HangryHippo_116 Start: 78327, Stop: 80282, Start Num: 17
Candidate Starts for HangryHippo_116:
(Start: 17 @78327 has 47 MA's), (21, 78345), (Start: 32 @78438 has 1 MA's), (51, 78540), (74, 78717), (86, 78828), (94, 78888), (108, 79023), (123, 79101), (127, 79119), (131, 79146), (135, 79191), (140, 79227), (145, 79254), (160, 79350), (162, 79377), (167, 79410), (173, 79464), (179, 79497), (185, 79536), (189, 79632), (194, 79698), (197, 79731), (200, 79770), (228, 80049), (236, 80184), (242, 80229),

Gene: Hortus1_38 Start: 18946, Stop: 20874, Start Num: 22
Candidate Starts for Hortus1_38:
(Start: 22 @18946 has 6 MA's), (39, 19048), (46, 19090), (50, 19117), (59, 19168), (62, 19183), (67, 19216), (68, 19222), (73, 19258), (98, 19480), (100, 19489), (102, 19522), (105, 19546), (111, 19621), (115, 19636), (117, 19639), (121, 19651), (129, 19681), (140, 19783), (164, 19924), (165, 19930), (168, 19951), (170, 19966), (172, 19984), (174, 19990), (175, 19993), (177, 20014), (184, 20056), (187, 20125), (192, 20209), (194, 20221), (211, 20365), (213, 20404), (219, 20476), (233, 20680), (246, 20758), (248, 20764), (253, 20812), (256, 20833), (259, 20842),

Gene: Jay2Jay_121 Start: 79098, Stop: 81050, Start Num: 17
Candidate Starts for Jay2Jay_121:
(Start: 17 @79098 has 47 MA's), (21, 79116), (Start: 32 @79209 has 1 MA's), (51, 79311), (56, 79326), (69, 79422), (74, 79485), (75, 79500), (80, 79530), (86, 79596), (91, 79644), (108, 79791), (122, 79863), (124, 79875), (127, 79887), (130, 79899), (131, 79914), (135, 79959), (143, 80013), (151, 80046), (160, 80118), (162, 80145), (178, 80262), (179, 80265), (185, 80304), (189, 80400), (197, 80499), (200, 80538), (228, 80817), (236, 80952), (242, 80997),

Gene: JrWilcox_79 Start: 43075, Stop: 45771, Start Num: 17
Candidate Starts for JrWilcox_79:
(Start: 17 @43075 has 47 MA's), (36, 43183), (70, 43387), (76, 43474), (77, 43495), (82, 43510), (85, 43549), (110, 43795), (118, 43816), (125, 43846), (134, 43894), (169, 44143), (174, 44182), (180, 44224), (181, 44233), (182, 44242), (185, 44251), (194, 44425), (199, 44482), (208, 44563), (211, 44569), (220, 44686), (221, 44689), (222, 44692), (224, 44716), (235, 44914), (239, 44938), (244, 44971), (268, 45535), (269, 45697),

Gene: Kosier_46 Start: 46882, Stop: 48870, Start Num: 17
Candidate Starts for Kosier_46:
(Start: 17 @46882 has 47 MA's), (23, 46903), (31, 46978), (40, 47017), (60, 47140), (65, 47173), (66, 47179), (79, 47302), (89, 47383), (120, 47599), (128, 47632), (138, 47707), (142, 47743), (152, 47785), (156, 47806), (158, 47833), (165, 47887), (169, 47920), (180, 48001), (183, 48022), (185, 48028), (187, 48097), (192, 48190), (194, 48202), (196, 48232), (202, 48313), (211, 48343), (220,

48460), (225, 48496), (232, 48679), (241, 48742), (244, 48754),

Gene: Larnav_116 Start: 78311, Stop: 80266, Start Num: 17
Candidate Starts for Larnav_116:
(Start: 17 @78311 has 47 MA's), (21, 78329), (Start: 32 @78422 has 1 MA's), (51, 78524), (74, 78701), (86, 78812), (108, 79007), (123, 79085), (127, 79103), (131, 79130), (135, 79175), (140, 79211), (145, 79238), (160, 79334), (162, 79361), (167, 79394), (173, 79448), (179, 79481), (185, 79520), (189, 79616), (194, 79682), (197, 79715), (200, 79754), (216, 79907), (228, 80033), (236, 80168), (242, 80213),

Gene: Leo04_117 Start: 78827, Stop: 80782, Start Num: 17
Candidate Starts for Leo04_117:
(Start: 17 @78827 has 47 MA's), (21, 78845), (Start: 32 @78938 has 1 MA's), (51, 79040), (74, 79217), (86, 79328), (94, 79388), (108, 79523), (123, 79601), (127, 79619), (131, 79646), (135, 79691), (140, 79727), (145, 79754), (160, 79850), (162, 79877), (167, 79910), (173, 79964), (179, 79997), (185, 80036), (189, 80132), (194, 80198), (197, 80231), (200, 80270), (228, 80549), (236, 80684), (242, 80729),

Gene: LesNorah_47 Start: 46820, Stop: 48838, Start Num: 17
Candidate Starts for LesNorah_47:
(15, 46742), (Start: 17 @46820 has 47 MA's), (45, 46967), (79, 47246), (87, 47321), (88, 47324), (106, 47468), (114, 47543), (120, 47555), (122, 47561), (125, 47579), (132, 47612), (133, 47618), (142, 47699), (158, 47789), (159, 47792), (168, 47864), (169, 47876), (180, 47957), (181, 47966), (185, 47984), (190, 48113), (193, 48149), (201, 48260), (211, 48302), (218, 48407), (222, 48425), (225, 48455), (237, 48665), (239, 48680), (244, 48713),

Gene: LilyLou_48 Start: 46442, Stop: 48451, Start Num: 17
Candidate Starts for LilyLou_48:
(Start: 17 @46442 has 47 MA's), (27, 46511), (35, 46556), (42, 46592), (55, 46661), (114, 47156), (118, 47162), (120, 47168), (122, 47174), (125, 47192), (132, 47225), (133, 47231), (142, 47312), (149, 47342), (158, 47402), (159, 47405), (168, 47477), (169, 47489), (180, 47570), (185, 47597), (190, 47726), (193, 47762), (211, 47915), (218, 48020), (222, 48038), (225, 48068), (230, 48182), (234, 48266), (237, 48278), (239, 48293), (244, 48326), (247, 48341),

Gene: Lululemon_115 Start: 77708, Stop: 79663, Start Num: 17
Candidate Starts for Lululemon_115:
(Start: 17 @77708 has 47 MA's), (21, 77726), (Start: 32 @77819 has 1 MA's), (51, 77921), (74, 78098), (86, 78209), (94, 78269), (108, 78404), (123, 78482), (127, 78500), (131, 78527), (135, 78572), (140, 78608), (145, 78635), (160, 78731), (162, 78758), (167, 78791), (173, 78845), (179, 78878), (185, 78917), (189, 79013), (194, 79079), (197, 79112), (200, 79151), (228, 79430), (236, 79565), (242, 79610),

Gene: OlinDD_38 Start: 18945, Stop: 20873, Start Num: 22
Candidate Starts for OlinDD_38:
(Start: 22 @18945 has 6 MA's), (39, 19047), (46, 19089), (50, 19116), (59, 19167), (62, 19182), (67, 19215), (68, 19221), (73, 19257), (98, 19479), (100, 19488), (102, 19521), (105, 19545), (111, 19620), (115, 19635), (117, 19638), (121, 19650), (129, 19680), (140, 19782), (164, 19923), (165, 19929), (168, 19950), (170, 19965), (172, 19983), (174, 19989), (175, 19992), (177, 20013), (184, 20055), (187, 20124), (192, 20208), (194, 20220), (211, 20364), (213, 20403), (219, 20475), (233, 20679), (246, 20757), (248, 20763), (253, 20811), (256, 20832), (259, 20841),

Gene: PacManQ_115 Start: 77708, Stop: 79663, Start Num: 17
Candidate Starts for PacManQ_115:

(Start: 17 @77708 has 47 MA's), (21, 77726), (Start: 32 @77819 has 1 MA's), (51, 77921), (74, 78098), (86, 78209), (94, 78269), (108, 78404), (123, 78482), (127, 78500), (131, 78527), (135, 78572), (140, 78608), (145, 78635), (160, 78731), (162, 78758), (167, 78791), (173, 78845), (179, 78878), (185, 78917), (189, 79013), (194, 79079), (197, 79112), (200, 79151), (228, 79430), (236, 79565), (242, 79610),

Gene: Paradiddles_113 Start: 77732, Stop: 79684, Start Num: 17
Candidate Starts for Paradiddles_113:
(Start: 17 @77732 has 47 MA's), (21, 77750), (Start: 32 @77843 has 1 MA's), (51, 77945), (74, 78119), (75, 78134), (80, 78164), (86, 78230), (91, 78278), (108, 78425), (124, 78509), (127, 78521), (130, 78533), (131, 78548), (135, 78593), (140, 78629), (143, 78647), (151, 78680), (160, 78752), (162, 78779), (178, 78896), (179, 78899), (185, 78938), (189, 79034), (192, 79088), (197, 79133), (200, 79172), (207, 79235), (219, 79352), (220, 79358), (228, 79451), (236, 79586), (242, 79631),

Gene: PauloDiaboli_237 Start: 125216, Stop: 127957, Start Num: 2
Candidate Starts for PauloDiaboli_237:
(1, 125141), (Start: 2 @125216 has 2 MA's), (3, 125279), (4, 125309), (5, 125324), (6, 125327), (7, 125333), (8, 125369), (9, 125393), (11, 125651), (12, 125717), (14, 125774), (57, 126125), (66, 126179), (134, 126704), (137, 126737), (165, 126923), (169, 126956), (181, 127046), (187, 127133), (193, 127229), (198, 127289), (209, 127382), (211, 127385), (217, 127487), (220, 127502), (240, 127772), (252, 127859), (254, 127874), (256, 127883),

Gene: Peebs_114 Start: 78124, Stop: 80079, Start Num: 17
Candidate Starts for Peebs_114:
(Start: 17 @78124 has 47 MA's), (21, 78142), (Start: 32 @78235 has 1 MA's), (51, 78337), (74, 78514), (86, 78625), (108, 78820), (123, 78898), (127, 78916), (131, 78943), (135, 78988), (140, 79024), (145, 79051), (160, 79147), (162, 79174), (167, 79207), (173, 79261), (179, 79294), (185, 79333), (189, 79429), (194, 79495), (197, 79528), (200, 79567), (228, 79846), (236, 79981), (242, 80026),

Gene: Pepperwood_116 Start: 78255, Stop: 80210, Start Num: 17
Candidate Starts for Pepperwood_116:
(Start: 17 @78255 has 47 MA's), (21, 78273), (Start: 32 @78366 has 1 MA's), (51, 78468), (74, 78645), (86, 78756), (108, 78951), (123, 79029), (127, 79047), (131, 79074), (135, 79119), (140, 79155), (145, 79182), (160, 79278), (162, 79305), (167, 79338), (173, 79392), (179, 79425), (185, 79464), (189, 79560), (194, 79626), (197, 79659), (200, 79698), (228, 79977), (236, 80112), (242, 80157),

Gene: Phinky_36 Start: 19775, Stop: 21835, Start Num: 17
Candidate Starts for Phinky_36:
(Start: 17 @19775 has 47 MA's), (26, 19838), (37, 19889), (61, 20036), (71, 20114), (72, 20120), (79, 20204), (87, 20279), (102, 20408), (106, 20438), (109, 20495), (114, 20522), (116, 20525), (134, 20606), (146, 20699), (153, 20726), (169, 20855), (176, 20909), (181, 20945), (185, 20963), (192, 21125), (194, 21137), (214, 21347), (218, 21377), (220, 21389), (221, 21392), (235, 21626), (237, 21635), (238, 21638), (239, 21650), (240, 21656), (243, 21680), (244, 21683), (249, 21713), (254, 21761), (257, 21770), (261, 21809),

Gene: Phogo_47 Start: 46270, Stop: 48279, Start Num: 17
Candidate Starts for Phogo_47:
(Start: 17 @46270 has 47 MA's), (27, 46339), (35, 46384), (42, 46420), (55, 46489), (107, 46915), (114, 46984), (118, 46990), (120, 46996), (122, 47002), (125, 47020), (132, 47053), (133, 47059), (142, 47140), (149, 47170), (154, 47197), (158, 47230), (159, 47233), (168, 47305), (169, 47317), (180, 47398), (185, 47425), (190, 47554), (193, 47590), (211, 47743), (218, 47848), (222, 47866), (234, 48094), (237, 48106), (239, 48121), (244, 48154), (247, 48169),

Gene: Pioneer3_38 Start: 18929, Stop: 20881, Start Num: 22
Candidate Starts for Pioneer3_38:
(Start: 22 @18929 has 6 MA's), (39, 19031), (46, 19073), (50, 19100), (59, 19151), (62, 19166), (67, 19199), (68, 19205), (73, 19241), (98, 19463), (100, 19472), (102, 19505), (105, 19529), (111, 19604), (115, 19619), (117, 19622), (121, 19634), (129, 19664), (140, 19766), (164, 19907), (165, 19913), (168, 19934), (170, 19949), (172, 19967), (174, 19973), (175, 19976), (177, 19997), (184, 20039), (187, 20108), (192, 20192), (194, 20204), (211, 20348), (213, 20387), (225, 20501), (229, 20591), (246, 20765), (248, 20771), (256, 20840), (259, 20849),

Gene: Platte_38 Start: 18714, Stop: 20666, Start Num: 22
Candidate Starts for Platte_38:
(Start: 22 @18714 has 6 MA's), (39, 18816), (46, 18858), (50, 18885), (59, 18936), (62, 18951), (67, 18984), (68, 18990), (73, 19026), (98, 19248), (100, 19257), (102, 19290), (105, 19314), (111, 19389), (115, 19404), (117, 19407), (121, 19419), (129, 19449), (140, 19551), (164, 19692), (165, 19698), (168, 19719), (170, 19734), (172, 19752), (174, 19758), (175, 19761), (177, 19782), (184, 19824), (187, 19893), (192, 19977), (194, 19989), (211, 20133), (213, 20172), (225, 20286), (229, 20376), (246, 20550), (248, 20556), (256, 20625), (259, 20634),

Gene: Pumpernickel_220 Start: 126461, Stop: 128344, Start Num: 48
Candidate Starts for Pumpernickel_220:
(16, 126284), (30, 126377), (44, 126437), (Start: 48 @126461 has 1 MA's), (81, 126707), (83, 126719), (87, 126776), (97, 126842), (98, 126860), (108, 126947), (118, 127007), (126, 127040), (134, 127091), (146, 127184), (163, 127298), (165, 127310), (169, 127343), (181, 127433), (187, 127520), (191, 127610), (195, 127631), (196, 127658), (198, 127679), (205, 127763), (211, 127775), (220, 127892), (236, 128132), (252, 128246), (256, 128270), (258, 128276),

Gene: Rowlf_26 Start: 18355, Stop: 20409, Start Num: 17
Candidate Starts for Rowlf_26:
(Start: 17 @18355 has 47 MA's), (61, 18616), (96, 18925), (101, 18976), (104, 19012), (132, 19171), (134, 19186), (144, 19270), (169, 19435), (176, 19489), (180, 19516), (192, 19705), (194, 19717), (211, 19852), (218, 19957), (220, 19969), (221, 19972), (222, 19975), (241, 20251), (243, 20260), (244, 20263), (253, 20323), (254, 20335), (260, 20353), (261, 20383),

Gene: Samisti12_117 Start: 79503, Stop: 81458, Start Num: 17
Candidate Starts for Samisti12_117:
(Start: 17 @79503 has 47 MA's), (21, 79521), (Start: 32 @79614 has 1 MA's), (51, 79716), (74, 79893), (86, 80004), (108, 80199), (123, 80277), (127, 80295), (131, 80322), (135, 80367), (140, 80403), (145, 80430), (160, 80526), (162, 80553), (167, 80586), (173, 80640), (179, 80673), (185, 80712), (189, 80808), (194, 80874), (197, 80907), (200, 80946), (228, 81225), (236, 81360), (242, 81405),

Gene: Scheme_117 Start: 78909, Stop: 80864, Start Num: 17
Candidate Starts for Scheme_117:
(Start: 17 @78909 has 47 MA's), (21, 78927), (Start: 32 @79020 has 1 MA's), (51, 79122), (74, 79299), (86, 79410), (108, 79605), (123, 79683), (127, 79701), (131, 79728), (135, 79773), (140, 79809), (145, 79836), (160, 79932), (162, 79959), (167, 79992), (173, 80046), (179, 80079), (185, 80118), (189, 80214), (194, 80280), (197, 80313), (200, 80352), (228, 80631), (236, 80766), (242, 80811),

Gene: Stormbreaker_47 Start: 46358, Stop: 48367, Start Num: 17
Candidate Starts for Stormbreaker_47:
(Start: 17 @46358 has 47 MA's), (35, 46472), (42, 46508), (55, 46577), (92, 46895), (107, 47003), (114, 47072), (118, 47078), (120, 47084), (122, 47090), (125, 47108), (132, 47141), (133, 47147), (142, 47228), (149, 47258), (154, 47285), (158, 47318), (159, 47321), (166, 47375), (168, 47393), (169, 47405), (180, 47486), (181, 47495), (185, 47513), (190, 47642), (193, 47678), (201, 47789),

(211, 47831), (218, 47936), (222, 47954), (225, 47984), (237, 48194), (239, 48209), (244, 48242),

Gene: Sushi23_115 Start: 78480, Stop: 80435, Start Num: 17
Candidate Starts for Sushi23_115:
(Start: 17 @78480 has 47 MA's), (21, 78498), (Start: 32 @78591 has 1 MA's), (51, 78693), (74, 78870), (86, 78981), (108, 79176), (123, 79254), (127, 79272), (131, 79299), (135, 79344), (140, 79380), (145, 79407), (160, 79503), (162, 79530), (167, 79563), (173, 79617), (179, 79650), (185, 79689), (189, 79785), (194, 79851), (197, 79884), (200, 79923), (228, 80202), (236, 80337), (242, 80382),

Gene: SwissCheezer_46 Start: 46010, Stop: 48019, Start Num: 17
Candidate Starts for SwissCheezer_46:
(Start: 17 @46010 has 47 MA's), (27, 46079), (35, 46124), (42, 46160), (55, 46229), (107, 46655), (114, 46724), (118, 46730), (120, 46736), (122, 46742), (125, 46760), (132, 46793), (133, 46799), (142, 46880), (149, 46910), (154, 46937), (158, 46970), (159, 46973), (168, 47045), (169, 47057), (180, 47138), (185, 47165), (190, 47294), (193, 47330), (211, 47483), (218, 47588), (222, 47606), (234, 47834), (237, 47846), (244, 47894), (247, 47909),

Gene: Tandem_38 Start: 18868, Stop: 20820, Start Num: 22
Candidate Starts for Tandem_38:
(Start: 22 @18868 has 6 MA's), (39, 18970), (46, 19012), (50, 19039), (59, 19090), (62, 19105), (67, 19138), (68, 19144), (73, 19180), (98, 19402), (100, 19411), (102, 19444), (105, 19468), (111, 19543), (115, 19558), (117, 19561), (121, 19573), (129, 19603), (140, 19705), (164, 19846), (165, 19852), (168, 19873), (170, 19888), (172, 19906), (174, 19912), (175, 19915), (177, 19936), (184, 19978), (187, 20047), (192, 20131), (194, 20143), (211, 20287), (213, 20326), (225, 20440), (229, 20530), (246, 20704), (248, 20710), (256, 20779), (259, 20788),

Gene: Targaryen_117 Start: 79142, Stop: 81094, Start Num: 17
Candidate Starts for Targaryen_117:
(Start: 17 @79142 has 47 MA's), (21, 79160), (Start: 32 @79253 has 1 MA's), (51, 79355), (56, 79370), (69, 79466), (74, 79529), (75, 79544), (78, 79571), (80, 79574), (86, 79640), (91, 79688), (108, 79835), (124, 79919), (127, 79931), (130, 79943), (131, 79958), (135, 80003), (143, 80057), (151, 80090), (160, 80162), (162, 80189), (178, 80306), (179, 80309), (185, 80348), (189, 80444), (197, 80543), (200, 80582), (220, 80768), (228, 80861), (236, 80996), (242, 81041),

Gene: Teutsch_116 Start: 78683, Stop: 80638, Start Num: 17
Candidate Starts for Teutsch_116:
(Start: 17 @78683 has 47 MA's), (21, 78701), (Start: 32 @78794 has 1 MA's), (51, 78896), (74, 79073), (86, 79184), (94, 79244), (108, 79379), (123, 79457), (127, 79475), (131, 79502), (135, 79547), (140, 79583), (145, 79610), (160, 79706), (162, 79733), (167, 79766), (173, 79820), (179, 79853), (185, 79892), (189, 79988), (194, 80054), (197, 80087), (200, 80126), (223, 80321), (228, 80405), (236, 80540), (242, 80585),

Gene: Tomas_123 Start: 80228, Stop: 82078, Start Num: 32
Candidate Starts for Tomas_123:
(Start: 17 @80117 has 47 MA's), (21, 80135), (29, 80210), (Start: 32 @80228 has 1 MA's), (64, 80414), (74, 80504), (78, 80546), (80, 80549), (86, 80615), (108, 80810), (127, 80906), (136, 80981), (139, 81008), (140, 81014), (160, 81143), (162, 81170), (178, 81287), (185, 81329), (197, 81524), (200, 81563), (204, 81602), (210, 81632), (215, 81710), (219, 81743), (228, 81842), (231, 81953), (236, 81980), (242, 82025), (245, 82037), (250, 82073),

Gene: TownLake_45 Start: 46110, Stop: 48128, Start Num: 17
Candidate Starts for TownLake_45:

(15, 46032), (Start: 17 @46110 has 47 MA's), (37, 46221), (79, 46536), (87, 46611), (106, 46758), (114, 46833), (120, 46845), (122, 46851), (125, 46869), (132, 46902), (133, 46908), (142, 46989), (154, 47046), (158, 47079), (159, 47082), (168, 47154), (169, 47166), (180, 47247), (185, 47274), (190, 47403), (193, 47439), (201, 47550), (211, 47592), (218, 47697), (222, 47715), (225, 47745), (237, 47955), (239, 47970), (244, 48003),

Gene: Tribute_114 Start: 78366, Stop: 80321, Start Num: 17
Candidate Starts for Tribute_114:
(Start: 17 @78366 has 47 MA's), (21, 78384), (Start: 32 @78477 has 1 MA's), (51, 78579), (74, 78756), (86, 78867), (94, 78927), (108, 79062), (123, 79140), (127, 79158), (131, 79185), (135, 79230), (140, 79266), (145, 79293), (160, 79389), (162, 79416), (167, 79449), (173, 79503), (179, 79536), (185, 79575), (189, 79671), (194, 79737), (197, 79770), (200, 79809), (223, 80004), (228, 80088), (236, 80223), (242, 80268),

Gene: Unphazed_47 Start: 46227, Stop: 48236, Start Num: 17
Candidate Starts for Unphazed_47:
(15, 46149), (Start: 17 @46227 has 47 MA's), (33, 46335), (42, 46377), (55, 46446), (107, 46872), (114, 46941), (118, 46947), (122, 46959), (125, 46977), (132, 47010), (133, 47016), (142, 47097), (158, 47187), (159, 47190), (168, 47262), (169, 47274), (180, 47355), (185, 47382), (190, 47511), (193, 47547), (194, 47556), (203, 47667), (206, 47691), (211, 47700), (218, 47805), (222, 47823), (225, 47853), (230, 47967), (234, 48051), (244, 48111),

Gene: Warpy_120 Start: 78605, Stop: 80557, Start Num: 17
Candidate Starts for Warpy_120:
(Start: 17 @78605 has 47 MA's), (21, 78623), (Start: 32 @78716 has 1 MA's), (51, 78818), (56, 78833), (69, 78929), (74, 78992), (75, 79007), (80, 79037), (86, 79103), (91, 79151), (108, 79298), (122, 79370), (124, 79382), (127, 79394), (130, 79406), (131, 79421), (135, 79466), (143, 79520), (151, 79553), (160, 79625), (162, 79652), (178, 79769), (179, 79772), (185, 79811), (189, 79907), (197, 80006), (200, 80045), (212, 80138), (228, 80324), (236, 80459), (242, 80504),

Gene: WashU_116 Start: 78697, Stop: 80652, Start Num: 17
Candidate Starts for WashU_116:
(Start: 17 @78697 has 47 MA's), (21, 78715), (Start: 32 @78808 has 1 MA's), (51, 78910), (74, 79087), (86, 79198), (108, 79393), (123, 79471), (127, 79489), (131, 79516), (135, 79561), (140, 79597), (145, 79624), (160, 79720), (162, 79747), (167, 79780), (173, 79834), (179, 79867), (185, 79906), (189, 80002), (194, 80068), (197, 80101), (200, 80140), (228, 80419), (236, 80554), (242, 80599),

Gene: Watermoore_115 Start: 78899, Stop: 80854, Start Num: 17
Candidate Starts for Watermoore_115:
(Start: 17 @78899 has 47 MA's), (21, 78917), (Start: 32 @79010 has 1 MA's), (51, 79112), (74, 79289), (86, 79400), (94, 79460), (108, 79595), (123, 79673), (127, 79691), (131, 79718), (135, 79763), (140, 79799), (145, 79826), (160, 79922), (162, 79949), (167, 79982), (173, 80036), (179, 80069), (185, 80108), (189, 80204), (194, 80270), (197, 80303), (200, 80342), (228, 80621), (236, 80756), (242, 80801),

Gene: Xitlalli_45 Start: 46228, Stop: 48246, Start Num: 17
Candidate Starts for Xitlalli_45:
(15, 46150), (Start: 17 @46228 has 47 MA's), (34, 46333), (45, 46375), (79, 46654), (87, 46729), (106, 46876), (114, 46951), (118, 46957), (120, 46963), (122, 46969), (125, 46987), (132, 47020), (133, 47026), (142, 47107), (154, 47164), (158, 47197), (159, 47200), (168, 47272), (169, 47284), (180, 47365), (185, 47392), (190, 47521), (193, 47557), (201, 47668), (211, 47710), (218, 47815), (222, 47833), (225, 47863), (237, 48073), (239, 48088), (244, 48121),