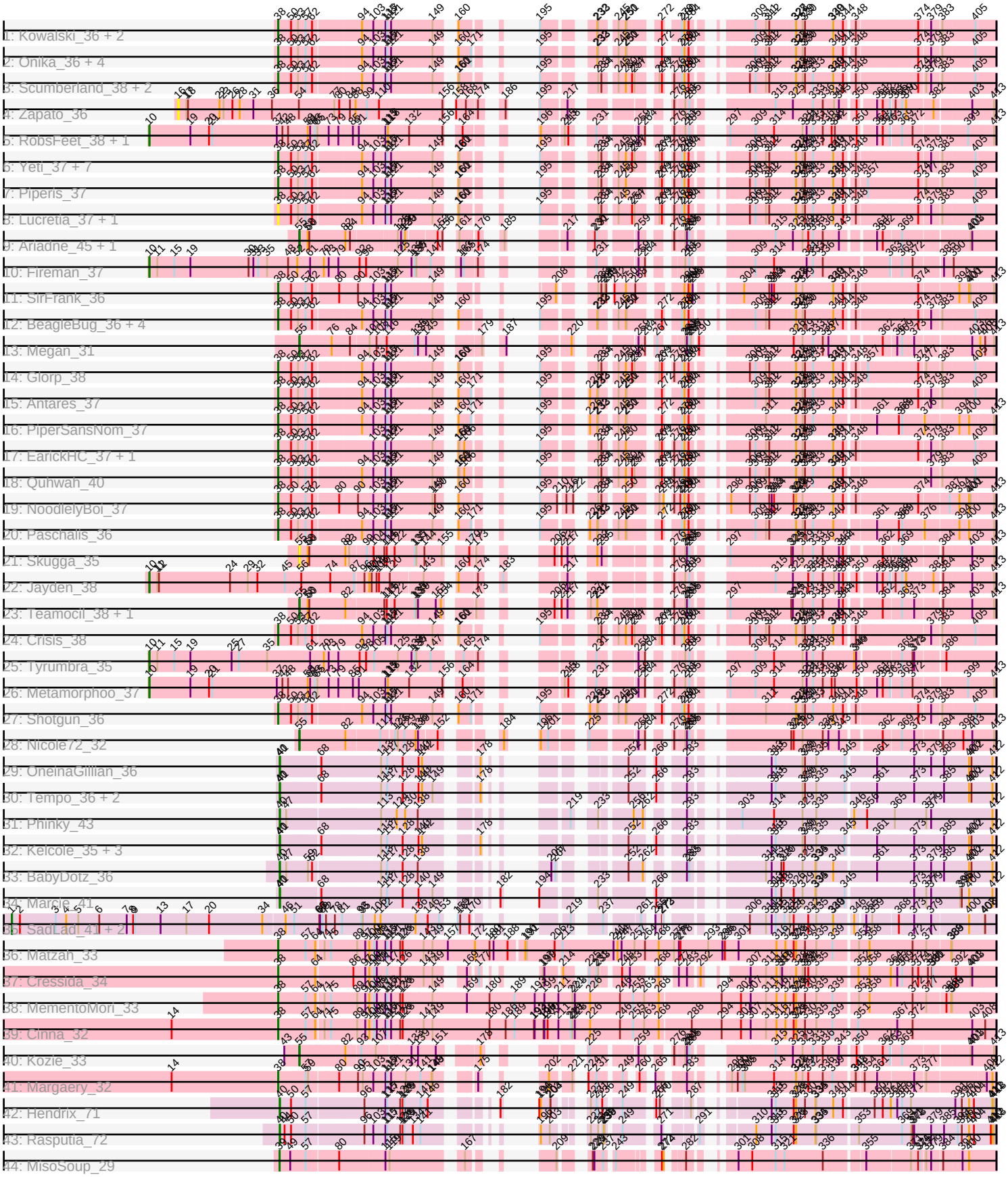
Pham 345678


1: Kowalski_36 + 2
2: Onika_36 + 4
3: Scumberland_38 + 2
4: Zapato_36
5: RobsFeet_38 + 1
6: Yeti_37 + 7
7: Piperis_37
8: Lucretia_37 + 1
9: Ariadne_45 + 1
10: Fireman_37
11: SirFrank_36
12: BeagleBug_36 + 4
13: Megan_31
14: Glorp_38
15: Antares_37
16: PiperSansNom_37
17: EarickHC_37 + 1
18: Quhwah_40
19: NoodlelyBoi_37
20: Paschalis_36
21: Skugga_35
22: Jayden_38
23: Teamocil_38 + 1
24: Crisis_38
25: Tyrumbra_35
26: Metamorphoo_37
27: Shotgun_36
28: Nicole72_32
29: OneinaGillian_36
30: Tempo_36 + 2
31: Phinky_43
32: Kelcole_35 + 3
33: BabyDotz_36
34: Marcie_41
35: SadLadi_41 + 2
36: Matzah_33
37: Cressida_34
38: MementoMori_33
39: Cinna_32
40: Kozie_33
41: Margaery_32
42: Hendrix_71
43: Rasputia_72
44: MisoSoup_29

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 345678 Report

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

Pham number 345678 has 75 members, 7 are drafts.

Phages represented in each track:
• Track 1 : Kowalski_36, Ramiel05_36, Savannah_36
• Track 2 : Onika_36, Cranjis_38, CrazyRich_36, PhedwardCullen_36, Rockwell_36
• Track 3 : Scumberland_38, Selwyn23_38, LittleFortune_38
• Track 4 : Zapato_36
• Track 5 : RobsFeet_38, Shrubaron_37
• Track 6 : Yeti_37, Honeyfin_38, Phrancesco_37, Germa_38, Ganandorf_36, Jefe_37, Phorgeous_36, Busephilis_36
• Track 7 : Piperis_37
• Track 8 : Lucretia_37, PierreOrion_37
• Track 9 : Ariadne_45, Smarties_45
• Track 10 : Fireman_37
• Track 11 : SirFrank_36
• Track 12 : BeagleBug_36, Pulchra_38, Jollipop_37, Hermeonysus_36, BrazzalePHS_36
• Track 13 : Megan_31
• Track 14 : Glorp_38
• Track 15 : Antares_37
• Track 16 : PiperSansNom_37
• Track 17 : EarickHC_37, KaiHaiDragon_37
• Track 18 : Quhwah_40
• Track 19 : NoodlelyBoi_37
• Track 20 : Paschalis_36
• Track 21 : Skugga_35
• Track 22 : Jayden_38
• Track 23 : Teamocil_38, Gina_38
• Track 24 : Crisis_38
• Track 25 : Tyrumbra_35
• Track 26 : Metamorphoo_37
• Track 27 : Shotgun_36
• Track 28 : Nicole72_32
• Track 29 : OneinaGillian_36
• Track 30 : Tempo_36, Fregley_37, CandC_35
• Track 31 : Phinky_43
• Track 32 : Kelcole_35, RobinRose_38, Romm_38, KillerQueen_37
• Track 33 : BabyDotz_36
• Track 34 : Marcie_41
• Track 35 : SadLad_41, RubyRalph_39, Fransoyer_39

• Track 36 : Matzah_33
• Track 37 : Cressida_34
• Track 38 : MementoMori_33
• Track 39 : Cinna_32
• Track 40 : Kozie_33
• Track 41 : Margaery_32
• Track 42 : Hendrix_71
• Track 43 : Rasputia_72
• Track 44 : MisoSoup_29

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

The start number called the most often in the published annotations is 38, it was called in 39 of the 68 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Antares_37, BeagleBug_36, BrazzalePHS_36, Busephilis_36, Cinna_32, Cranjis_38, CrazyRich_36, Cressida_34, Crisis_38, EarickHC_37, Ganandorf_36, Germa_38, Glorp_38, Hermeonysus_36, Honeyfin_38, Jefe_37, Jollipop_37, KaiHaiDragon_37, Kowalski_36, LittleFortune_38, Lucretia_37, Margaery_32, Matzah_33, MementoMori_33, NoodlelyBoi_37, Onika_36, Paschalis_36, PhedwardCullen_36, Phorgeous_36, Phrancesco_37, PierreOrion_37, PiperSansNom_37, Piperis_37, Pulchra_38, Quhwah_40, Ramiel05_36, Rockwell_36, Savannah_36, Scumberland_38, Selwyn23_38, Shotgun_36, SirFrank_36, Yeti_37,

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

Genes that do not have the "Most Annotated" start:
• Ariadne_45, BabyDotz_36, CandC_35, Fireman_37, Fransoyer_39, Fregley_37, Gina_38, Hendrix_71, Jayden_38, Kelcole_35, KillerQueen_37, Kozie_33, Marcie_41, Megan_31, Metamorphoo_37, MisoSoup_29, Nicole72_32, OneinaGillian_36, Phinky_43, Rasputia_72, RobinRose_38, RobsFeet_38, Romm_38, RubyRalph_39, SadLad_41, Shrubaron_37, Skugga_35, Smarties_45, Teamocil_38, Tempo_36, Tyrumbra_35, Zapato_36,

Summary by start number:

Start 1:
• Found in 3 of 75 (4.0%) of genes in pham
• Manual Annotations of this start: 3 of 68
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Fransoyer_39 (EG), RubyRalph_39 (EG), SadLad_41 (EG),

Start 10:
• Found in 6 of 75 (8.0%) of genes in pham
• Manual Annotations of this start: 6 of 68
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Fireman_37 (EC), Jayden_38 (EC), Metamorphoo_37 (EC), RobsFeet_38 (EC), Shrubaron_37 (EC), Tyrumbra_35 (EC),

Start 16:
• Found in 1 of 75 (1.3%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Zapato_36 (EC),

Start 38:
• Found in 43 of 75 (57.3%) of genes in pham
• Manual Annotations of this start: 39 of 68
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Antares_37 (EC), BeagleBug_36 (EC), BrazzalePHS_36 (EC), Busephilis_36 (EC), Cinna_32 (EI), Cranjis_38 (EC), CrazyRich_36 (EC), Cressida_34 (EI), Crisis_38 (EC), EarickHC_37 (EC), Ganandorf_36 (EC), Germa_38 (EC), Glorp_38 (EC), Hermeonysus_36 (EC), Honeyfin_38 (EC), Jefe_37 (EC), Jollipop_37 (EC), KaiHaiDragon_37 (EC), Kowalski_36 (EC), LittleFortune_38 (EC), Lucretia_37 (EC), Margaery_32 (EI), Matzah_33 (EI), MementoMori_33 (EI), NoodlelyBoi_37 (EC), Onika_36 (EC), Paschalis_36 (EC), PhedwardCullen_36 (EC), Phorgeous_36 (EC), Phrancesco_37 (EC), PierreOrion_37 (EC), PiperSansNom_37 (EC), Piperis_37 (EC), Pulchra_38 (EC), Quhwah_40 (EC), Ramiel05_36 (EC), Rockwell_36 (EC), Savannah_36 (EC), Scumberland_38 (EC), Selwyn23_38 (EC), Shotgun_36 (EC), SirFrank_36 (EC), Yeti_37 (EC),

Start 39:
• Found in 1 of 75 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 68
• Called 100.0% of time when present
• Phage (with cluster) where this start called: MisoSoup_29 (GM),

Start 40:
• Found in 13 of 75 (17.3%) of genes in pham
• Manual Annotations of this start: 12 of 68
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BabyDotz_36 (EG), CandC_35 (EG), Fregley_37 (EG), Hendrix_71 (GC), Kelcole_35 (EG), KillerQueen_37 (EG), Marcie_41 (EG), OneinaGillian_36 (EG), Phinky_43 (EG), Rasputia_72 (GC), RobinRose_38 (EG), Romm_38 (EG), Tempo_36 (EG),

Start 55:
• Found in 8 of 75 (10.7%) of genes in pham
• Manual Annotations of this start: 7 of 68
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ariadne_45 (EC), Gina_38 (EC), Kozie_33 (EI), Megan_31 (EC), Nicole72_32 (EC), Skugga_35 (EC), Smarties_45 (EC), Teamocil_38 (EC),

Summary by clusters:

There are 5 clusters represented in this pham: EI, EG, GC, GM, EC,

Info for manual annotations of cluster EC:
•Start number 10 was manually annotated 6 times for cluster EC.
•Start number 38 was manually annotated 34 times for cluster EC.
•Start number 55 was manually annotated 6 times for cluster EC.

Info for manual annotations of cluster EG:
•Start number 1 was manually annotated 3 times for cluster EG.
•Start number 40 was manually annotated 10 times for cluster EG.

Info for manual annotations of cluster EI:
•Start number 38 was manually annotated 5 times for cluster EI.
•Start number 55 was manually annotated 1 time for cluster EI.

Info for manual annotations of cluster GC:
•Start number 40 was manually annotated 2 times for cluster GC.

Info for manual annotations of cluster GM:
•Start number 39 was manually annotated 1 time for cluster GM.

Gene Information:

Gene: Antares_37 Start: 23711, Stop: 25657, Start Num: 38
Candidate Starts for Antares_37:
(Start: 38 @23711 has 39 MA's), (50, 23756), (53, 23780), (57, 23807), (62, 23828), (94, 23984), (103, 24020), (115, 24053), (117, 24059), (121, 24074), (149, 24218), (160, 24260), (171, 24305), (195, 24338), (226, 24446), (232, 24473), (233, 24476), (245, 24521), (250, 24548), (251, 24551), (272, 24641), (279, 24680), (280, 24689), (284, 24704), (309, 24851), (311, 24890), (312, 24902), (327, 24992), (328, 24995), (329, 25019), (330, 25028), (333, 25058), (340, 25133), (344, 25166), (348, 25196), (374, 25403), (379, 25442), (383, 25472), (405, 25589),

Gene: Ariadne_45 Start: 25427, Stop: 27295, Start Num: 55
Candidate Starts for Ariadne_45:
(Start: 55 @25427 has 7 MA's), (58, 25457), (60, 25463), (82, 25580), (84, 25595), (125, 25742), (127, 25754), (129, 25766), (130, 25769), (152, 25865), (156, 25883), (161, 25895), (176, 25949), (185, 25979), (217, 26075), (230, 26126), (231, 26132), (259, 26249), (276, 26312), (281, 26345), (283, 26351), (285, 26360), (315, 26570), (325, 26630), (329, 26666), (332, 26687), (333, 26705), (336, 26741), (343, 26801), (361, 26903), (362, 26924), (369, 26981), (401, 27209), (403, 27215),

Gene: BabyDotz_36 Start: 26482, Stop: 28446, Start Num: 40
Candidate Starts for BabyDotz_36:
(Start: 40 @26482 has 12 MA's), (47, 26506), (59, 26578), (62, 26593), (113, 26809), (117, 26824), (128, 26881), (138, 26932), (205, 27151), (207, 27166), (252, 27319), (262, 27361), (283, 27451), (285, 27460), (311, 27640), (313, 27661), (318, 27694), (320, 27703), (329, 27769), (334, 27817), (335, 27820), (340, 27883), (361, 28018), (373, 28147), (379, 28204), (385, 28252), (400, 28345), (402, 28354), (412, 28432),

Gene: BeagleBug_36 Start: 23492, Stop: 25438, Start Num: 38
Candidate Starts for BeagleBug_36:
(Start: 38 @23492 has 39 MA's), (50, 23537), (53, 23561), (57, 23588), (62, 23609), (94, 23765), (103, 23801), (115, 23834), (117, 23840), (121, 23855), (149, 23999), (160, 24041), (195, 24119), (232, 24254), (233, 24257), (245, 24302), (250, 24329), (251, 24332), (272, 24422), (279, 24461), (280,

24470), (284, 24485), (309, 24632), (311, 24671), (312, 24683), (327, 24773), (328, 24776), (329, 24800), (330, 24809), (340, 24914), (344, 24947), (348, 24977), (374, 25184), (379, 25223), (383, 25253), (405, 25370),

Gene: BrazzalePHS_36 Start: 23506, Stop: 25452, Start Num: 38
Candidate Starts for BrazzalePHS_36:
(Start: 38 @23506 has 39 MA's), (50, 23551), (53, 23575), (57, 23602), (62, 23623), (94, 23779), (103, 23815), (115, 23848), (117, 23854), (121, 23869), (149, 24013), (160, 24055), (195, 24133), (232, 24268), (233, 24271), (245, 24316), (250, 24343), (251, 24346), (272, 24436), (279, 24475), (280, 24484), (284, 24499), (309, 24646), (311, 24685), (312, 24697), (327, 24787), (328, 24790), (329, 24814), (330, 24823), (340, 24928), (344, 24961), (348, 24991), (374, 25198), (379, 25237), (383, 25267), (405, 25384),

Gene: Busephilis_36 Start: 23441, Stop: 25393, Start Num: 38
Candidate Starts for Busephilis_36:
(Start: 38 @23441 has 39 MA's), (50, 23486), (53, 23510), (57, 23537), (62, 23558), (94, 23714), (103, 23750), (115, 23783), (117, 23789), (121, 23804), (149, 23948), (160, 23990), (161, 23993), (195, 24074), (233, 24212), (234, 24218), (245, 24257), (250, 24284), (254, 24305), (257, 24314), (269, 24368), (272, 24377), (276, 24392), (279, 24416), (280, 24425), (284, 24440), (306, 24566), (309, 24587), (311, 24626), (312, 24638), (327, 24728), (328, 24731), (329, 24755), (330, 24764), (333, 24794), (339, 24866), (340, 24869), (344, 24902), (348, 24932), (374, 25139), (379, 25178), (383, 25208), (405, 25325),

Gene: CandC_35 Start: 24614, Stop: 26587, Start Num: 40
Candidate Starts for CandC_35:
(Start: 40 @24614 has 12 MA's), (41, 24617), (68, 24752), (113, 24944), (117, 24959), (128, 25016), (140, 25070), (142, 25082), (149, 25115), (178, 25220), (252, 25454), (266, 25511), (283, 25586), (313, 25796), (315, 25811), (329, 25910), (330, 25919), (335, 25961), (345, 26063), (361, 26159), (373, 26288), (385, 26393), (400, 26486), (402, 26495), (412, 26573),

Gene: Cinna_32 Start: 22859, Stop: 25375, Start Num: 38
Candidate Starts for Cinna_32:
(14, 22466), (Start: 38 @22859 has 39 MA's), (57, 22952), (64, 22985), (71, 23009), (75, 23027), (89, 23111), (97, 23141), (100, 23150), (105, 23168), (109, 23177), (115, 23198), (117, 23204), (121, 23219), (126, 23252), (128, 23261), (143, 23336), (149, 23363), (180, 23570), (186, 23630), (189, 23663), (192, 23735), (193, 23738), (198, 23771), (199, 23774), (200, 23786), (211, 23825), (219, 23870), (221, 23876), (223, 23885), (226, 23942), (246, 24053), (255, 24101), (263, 24140), (268, 24194), (288, 24296), (294, 24407), (302, 24476), (307, 24512), (311, 24569), (316, 24608), (322, 24641), (326, 24665), (328, 24674), (330, 24707), (335, 24749), (339, 24809), (351, 24884), (367, 25019), (372, 25076), (403, 25289), (408, 25334),

Gene: Cranjis_38 Start: 23666, Stop: 25612, Start Num: 38
Candidate Starts for Cranjis_38:
(Start: 38 @23666 has 39 MA's), (50, 23711), (53, 23735), (57, 23762), (62, 23783), (94, 23939), (103, 23975), (115, 24008), (117, 24014), (121, 24029), (149, 24173), (160, 24215), (171, 24260), (195, 24293), (232, 24428), (233, 24431), (245, 24476), (250, 24503), (251, 24506), (272, 24596), (279, 24635), (280, 24644), (284, 24659), (309, 24806), (311, 24845), (312, 24857), (327, 24947), (328, 24950), (329, 24974), (330, 24983), (340, 25088), (344, 25121), (348, 25151), (374, 25358), (379, 25397), (383, 25427), (405, 25544),

Gene: CrazyRich_36 Start: 23475, Stop: 25421, Start Num: 38
Candidate Starts for CrazyRich_36:

(Start: 38 @23475 has 39 MA's), (50, 23520), (53, 23544), (57, 23571), (62, 23592), (94, 23748), (103, 23784), (115, 23817), (117, 23823), (121, 23838), (149, 23982), (160, 24024), (171, 24069), (195, 24102), (232, 24237), (233, 24240), (245, 24285), (250, 24312), (251, 24315), (272, 24405), (279, 24444), (280, 24453), (284, 24468), (309, 24615), (311, 24654), (312, 24666), (327, 24756), (328, 24759), (329, 24783), (330, 24792), (340, 24897), (344, 24930), (348, 24960), (374, 25167), (379, 25206), (383, 25236), (405, 25353),

Gene: Cressida_34 Start: 22922, Stop: 24850, Start Num: 38
Candidate Starts for Cressida_34:
(Start: 38 @22922 has 39 MA's), (64, 23048), (86, 23165), (97, 23204), (100, 23213), (105, 23231), (109, 23240), (117, 23267), (126, 23315), (143, 23399), (149, 23426), (169, 23495), (177, 23522), (197, 23558), (199, 23564), (214, 23615), (225, 23651), (231, 23678), (233, 23684), (248, 23738), (253, 23765), (268, 23816), (277, 23837), (283, 23867), (292, 23900), (307, 23990), (311, 24047), (316, 24086), (317, 24101), (319, 24107), (328, 24152), (329, 24176), (330, 24185), (332, 24197), (335, 24227), (352, 24362), (358, 24401), (364, 24473), (367, 24494), (369, 24512), (372, 24551), (374, 24569), (378, 24602), (380, 24617), (381, 24620), (392, 24704), (401, 24758), (403, 24764),

Gene: Crisis_38 Start: 23460, Stop: 25412, Start Num: 38
Candidate Starts for Crisis_38:
(Start: 38 @23460 has 39 MA's), (50, 23505), (53, 23529), (57, 23556), (62, 23577), (94, 23733), (103, 23769), (115, 23802), (117, 23808), (121, 23823), (149, 23967), (160, 24009), (161, 24012), (195, 24093), (233, 24231), (234, 24237), (245, 24276), (250, 24303), (254, 24324), (257, 24333), (269, 24387), (272, 24396), (276, 24411), (279, 24435), (280, 24444), (284, 24459), (306, 24585), (309, 24606), (311, 24645), (312, 24657), (327, 24747), (328, 24750), (329, 24774), (330, 24783), (333, 24813), (339, 24885), (340, 24888), (344, 24921), (348, 24951), (379, 25197), (383, 25227), (405, 25344),

Gene: EarickHC_37 Start: 23386, Stop: 25338, Start Num: 38
Candidate Starts for EarickHC_37:
(Start: 38 @23386 has 39 MA's), (50, 23431), (53, 23455), (57, 23482), (62, 23503), (103, 23695), (115, 23728), (117, 23734), (121, 23749), (149, 23893), (160, 23935), (161, 23938), (166, 23956), (195, 24019), (233, 24157), (234, 24163), (245, 24202), (250, 24229), (269, 24313), (272, 24322), (276, 24337), (279, 24361), (280, 24370), (284, 24385), (306, 24511), (309, 24532), (311, 24571), (312, 24583), (327, 24673), (328, 24676), (329, 24700), (330, 24709), (339, 24811), (340, 24814), (344, 24847), (348, 24877), (374, 25084), (379, 25123), (383, 25153), (405, 25270),

Gene: Fireman_37 Start: 24038, Stop: 26530, Start Num: 10
Candidate Starts for Fireman_37:
(Start: 10 @24038 has 6 MA's), (11, 24068), (15, 24131), (19, 24191), (30, 24401), (31, 24419), (33, 24437), (35, 24470), (48, 24548), (52, 24578), (61, 24620), (70, 24671), (73, 24689), (79, 24725), (92, 24794), (98, 24818), (125, 24932), (133, 24977), (135, 24989), (137, 24995), (147, 25043), (163, 25103), (165, 25112), (174, 25157), (231, 25352), (259, 25469), (264, 25493), (281, 25565), (285, 25580), (309, 25718), (314, 25784), (331, 25901), (333, 25925), (336, 25961), (363, 26186), (369, 26219), (372, 26258), (385, 26351), (390, 26381),

Gene: Fransoyer_39 Start: 25911, Stop: 28880, Start Num: 1
Candidate Starts for Fransoyer_39:
(Start: 1 @25911 has 3 MA's), (2, 25941), (3, 26073), (4, 26112), (5, 26157), (6, 26235), (7, 26337), (8, 26361), (9, 26367), (13, 26463), (17, 26559), (20, 26643), (34, 26841), (46, 26916), (51, 26943), (66, 27033), (67, 27036), (69, 27045), (72, 27057), (78, 27090), (81, 27117), (93, 27183), (95, 27189), (106, 27234), (112, 27255), (136, 27384), (146, 27429), (153, 27471), (159, 27486), (162, 27495), (170, 27528), (219, 27660), (237, 27720), (261, 27816), (265, 27834), (272, 27858), (273, 27861), (306, 28047), (311, 28107), (313, 28128), (315, 28143), (321, 28176), (323, 28194), (326, 28209), (332,

28263), (335, 28293), (339, 28353), (340, 28356), (346, 28413), (355, 28443), (359, 28461), (368, 28545), (373, 28602), (379, 28656), (400, 28788), (407, 28836), (408, 28839),

Gene: Fregley_37 Start: 25184, Stop: 27157, Start Num: 40
Candidate Starts for Fregley_37:
(Start: 40 @25184 has 12 MA's), (41, 25187), (68, 25322), (113, 25514), (117, 25529), (128, 25586), (140, 25640), (142, 25652), (149, 25685), (178, 25790), (252, 26024), (266, 26081), (283, 26156), (313, 26366), (315, 26381), (329, 26480), (330, 26489), (335, 26531), (345, 26633), (361, 26729), (373, 26858), (385, 26963), (400, 27056), (402, 27065), (412, 27143),

Gene: Ganandorf_36 Start: 23522, Stop: 25474, Start Num: 38
Candidate Starts for Ganandorf_36:
(Start: 38 @23522 has 39 MA's), (50, 23567), (53, 23591), (57, 23618), (62, 23639), (94, 23795), (103, 23831), (115, 23864), (117, 23870), (121, 23885), (149, 24029), (160, 24071), (161, 24074), (195, 24155), (233, 24293), (234, 24299), (245, 24338), (250, 24365), (254, 24386), (257, 24395), (269, 24449), (272, 24458), (276, 24473), (279, 24497), (280, 24506), (284, 24521), (306, 24647), (309, 24668), (311, 24707), (312, 24719), (327, 24809), (328, 24812), (329, 24836), (330, 24845), (333, 24875), (339, 24947), (340, 24950), (344, 24983), (348, 25013), (374, 25220), (379, 25259), (383, 25289), (405, 25406),

Gene: Germa_38 Start: 23351, Stop: 25303, Start Num: 38
Candidate Starts for Germa_38:
(Start: 38 @23351 has 39 MA's), (50, 23396), (53, 23420), (57, 23447), (62, 23468), (94, 23624), (103, 23660), (115, 23693), (117, 23699), (121, 23714), (149, 23858), (160, 23900), (161, 23903), (195, 23984), (233, 24122), (234, 24128), (245, 24167), (250, 24194), (254, 24215), (257, 24224), (269, 24278), (272, 24287), (276, 24302), (279, 24326), (280, 24335), (284, 24350), (306, 24476), (309, 24497), (311, 24536), (312, 24548), (327, 24638), (328, 24641), (329, 24665), (330, 24674), (333, 24704), (339, 24776), (340, 24779), (344, 24812), (348, 24842), (374, 25049), (379, 25088), (383, 25118), (405, 25235),

Gene: Gina_38 Start: 23314, Stop: 25212, Start Num: 55
Candidate Starts for Gina_38:
(Start: 55 @23314 has 7 MA's), (58, 23344), (60, 23350), (82, 23467), (114, 23590), (116, 23596), (122, 23614), (135, 23677), (137, 23683), (139, 23689), (151, 23752), (154, 23770), (173, 23848), (206, 23959), (212, 23971), (217, 23992), (227, 24028), (231, 24049), (232, 24052), (276, 24229), (281, 24262), (283, 24268), (285, 24277), (297, 24325), (324, 24541), (325, 24547), (329, 24583), (333, 24622), (336, 24658), (343, 24718), (344, 24733), (362, 24841), (369, 24898), (373, 24943), (384, 25030), (403, 25132), (413, 25204),

Gene: Glorp_38 Start: 23523, Stop: 25475, Start Num: 38
Candidate Starts for Glorp_38:
(Start: 38 @23523 has 39 MA's), (50, 23568), (53, 23592), (57, 23619), (62, 23640), (94, 23796), (103, 23832), (115, 23865), (117, 23871), (121, 23886), (149, 24030), (160, 24072), (161, 24075), (195, 24156), (233, 24294), (234, 24300), (245, 24339), (250, 24366), (254, 24387), (257, 24396), (269, 24450), (272, 24459), (276, 24474), (279, 24498), (280, 24507), (284, 24522), (306, 24648), (309, 24669), (311, 24708), (312, 24720), (327, 24810), (328, 24813), (329, 24837), (330, 24846), (333, 24876), (339, 24948), (340, 24951), (344, 24984), (348, 25014), (357, 25050), (374, 25221), (377, 25242), (383, 25290), (405, 25407),

Gene: Hendrix_71 Start: 44066, Stop: 46000, Start Num: 40
Candidate Starts for Hendrix_71:
(Start: 40 @44066 has 12 MA's), (50, 44108), (57, 44156), (96, 44342), (115, 44402), (117, 44408), (126, 44456), (128, 44465), (129, 44471), (141, 44528), (146, 44555), (182, 44684), (194, 44690),

(196, 44696), (203, 44726), (204, 44729), (227, 44792), (231, 44813), (236, 44825), (249, 44876), (266, 44951), (270, 44963), (287, 45026), (313, 45209), (315, 45224), (326, 45284), (328, 45293), (330, 45323), (334, 45362), (335, 45365), (340, 45428), (344, 45461), (360, 45554), (362, 45584), (364, 45614), (367, 45638), (369, 45656), (371, 45686), (391, 45848), (396, 45872), (400, 45899), (404, 45917), (411, 45983), (412, 45986), (413, 45992),

Gene: Hermeonysus_36 Start: 23395, Stop: 25341, Start Num: 38
Candidate Starts for Hermeonysus_36:
(Start: 38 @23395 has 39 MA's), (50, 23440), (53, 23464), (57, 23491), (62, 23512), (94, 23668), (103, 23704), (115, 23737), (117, 23743), (121, 23758), (149, 23902), (160, 23944), (195, 24022), (232, 24157), (233, 24160), (245, 24205), (250, 24232), (251, 24235), (272, 24325), (279, 24364), (280, 24373), (284, 24388), (309, 24535), (311, 24574), (312, 24586), (327, 24676), (328, 24679), (329, 24703), (330, 24712), (340, 24817), (344, 24850), (348, 24880), (374, 25087), (379, 25126), (383, 25156), (405, 25273),

Gene: Honeyfin_38 Start: 23710, Stop: 25662, Start Num: 38
Candidate Starts for Honeyfin_38:
(Start: 38 @23710 has 39 MA's), (50, 23755), (53, 23779), (57, 23806), (62, 23827), (94, 23983), (103, 24019), (115, 24052), (117, 24058), (121, 24073), (149, 24217), (160, 24259), (161, 24262), (195, 24343), (233, 24481), (234, 24487), (245, 24526), (250, 24553), (254, 24574), (257, 24583), (269, 24637), (272, 24646), (276, 24661), (279, 24685), (280, 24694), (284, 24709), (306, 24835), (309, 24856), (311, 24895), (312, 24907), (327, 24997), (328, 25000), (329, 25024), (330, 25033), (333, 25063), (339, 25135), (340, 25138), (344, 25171), (348, 25201), (374, 25408), (379, 25447), (383, 25477), (405, 25594),

Gene: Jayden_38 Start: 23468, Stop: 25918, Start Num: 10
Candidate Starts for Jayden_38:
(Start: 10 @23468 has 6 MA's), (11, 23498), (12, 23504), (24, 23768), (29, 23834), (32, 23870), (45, 23972), (56, 24026), (74, 24125), (87, 24206), (96, 24233), (100, 24251), (102, 24260), (108, 24278), (110, 24287), (120, 24320), (143, 24425), (160, 24506), (174, 24569), (183, 24602), (217, 24698), (276, 24935), (281, 24968), (285, 24983), (315, 25193), (325, 25253), (332, 25310), (333, 25328), (336, 25364), (341, 25406), (343, 25424), (344, 25439), (350, 25472), (361, 25526), (362, 25547), (363, 25571), (366, 25583), (369, 25604), (370, 25619), (382, 25712), (384, 25736), (403, 25838), (413, 25910),

Gene: Jefe_37 Start: 23447, Stop: 25399, Start Num: 38
Candidate Starts for Jefe_37:
(Start: 38 @23447 has 39 MA's), (50, 23492), (53, 23516), (57, 23543), (62, 23564), (94, 23720), (103, 23756), (115, 23789), (117, 23795), (121, 23810), (149, 23954), (160, 23996), (161, 23999), (195, 24080), (233, 24218), (234, 24224), (245, 24263), (250, 24290), (254, 24311), (257, 24320), (269, 24374), (272, 24383), (276, 24398), (279, 24422), (280, 24431), (284, 24446), (306, 24572), (309, 24593), (311, 24632), (312, 24644), (327, 24734), (328, 24737), (329, 24761), (330, 24770), (333, 24800), (339, 24872), (340, 24875), (344, 24908), (348, 24938), (374, 25145), (379, 25184), (383, 25214), (405, 25331),

Gene: Jollipop_37 Start: 23792, Stop: 25738, Start Num: 38
Candidate Starts for Jollipop_37:
(Start: 38 @23792 has 39 MA's), (50, 23837), (53, 23861), (57, 23888), (62, 23909), (94, 24065), (103, 24101), (115, 24134), (117, 24140), (121, 24155), (149, 24299), (160, 24341), (195, 24419), (232, 24554), (233, 24557), (245, 24602), (250, 24629), (251, 24632), (272, 24722), (279, 24761), (280, 24770), (284, 24785), (309, 24932), (311, 24971), (312, 24983), (327, 25073), (328, 25076), (329, 25100), (330, 25109), (340, 25214), (344, 25247), (348, 25277), (374, 25484), (379, 25523), (383, 25553), (405, 25670),

Gene: KaiHaiDragon_37 Start: 23386, Stop: 25338, Start Num: 38
Candidate Starts for KaiHaiDragon_37:
(Start: 38 @23386 has 39 MA's), (50, 23431), (53, 23455), (57, 23482), (62, 23503), (103, 23695), (115, 23728), (117, 23734), (121, 23749), (149, 23893), (160, 23935), (161, 23938), (166, 23956), (195, 24019), (233, 24157), (234, 24163), (245, 24202), (250, 24229), (269, 24313), (272, 24322), (276, 24337), (279, 24361), (280, 24370), (284, 24385), (306, 24511), (309, 24532), (311, 24571), (312, 24583), (327, 24673), (328, 24676), (329, 24700), (330, 24709), (339, 24811), (340, 24814), (344, 24847), (348, 24877), (374, 25084), (379, 25123), (383, 25153), (405, 25270),

Gene: Kelcole_35 Start: 25066, Stop: 27039, Start Num: 40
Candidate Starts for Kelcole_35:
(Start: 40 @25066 has 12 MA's), (41, 25069), (68, 25204), (113, 25396), (117, 25411), (128, 25468), (140, 25522), (142, 25534), (178, 25672), (252, 25906), (266, 25963), (283, 26038), (313, 26248), (315, 26263), (329, 26362), (330, 26371), (335, 26413), (345, 26515), (361, 26611), (373, 26740), (385, 26845), (400, 26938), (402, 26947), (412, 27025),

Gene: KillerQueen_37 Start: 24861, Stop: 26834, Start Num: 40
Candidate Starts for KillerQueen_37:
(Start: 40 @24861 has 12 MA's), (41, 24864), (68, 24999), (113, 25191), (117, 25206), (128, 25263), (140, 25317), (142, 25329), (178, 25467), (252, 25701), (266, 25758), (283, 25833), (313, 26043), (315, 26058), (329, 26157), (330, 26166), (335, 26208), (345, 26310), (361, 26406), (373, 26535), (385, 26640), (400, 26733), (402, 26742), (412, 26820),

Gene: Kowalski_36 Start: 23502, Stop: 25448, Start Num: 38
Candidate Starts for Kowalski_36:
(Start: 38 @23502 has 39 MA's), (50, 23547), (53, 23571), (57, 23598), (62, 23619), (94, 23775), (103, 23811), (115, 23844), (117, 23850), (121, 23865), (149, 24009), (160, 24051), (195, 24129), (232, 24264), (233, 24267), (245, 24312), (250, 24339), (251, 24342), (272, 24432), (279, 24471), (280, 24480), (284, 24495), (309, 24642), (311, 24681), (312, 24693), (327, 24783), (328, 24786), (329, 24810), (330, 24819), (339, 24921), (340, 24924), (344, 24957), (348, 24987), (374, 25194), (379, 25233), (383, 25263), (405, 25380),

Gene: Kozie_33 Start: 23180, Stop: 25093, Start Num: 55
Candidate Starts for Kozie_33:
(43, 23129), (Start: 55 @23180 has 7 MA's), (82, 23333), (93, 23381), (107, 23432), (133, 23546), (139, 23570), (151, 23633), (178, 23741), (225, 23903), (259, 24047), (276, 24110), (281, 24143), (283, 24149), (285, 24158), (315, 24368), (325, 24428), (329, 24464), (333, 24503), (336, 24539), (343, 24599), (350, 24647), (362, 24722), (363, 24746), (369, 24779), (401, 25007), (403, 25013), (413, 25085),

Gene: LittleFortune_38 Start: 23752, Stop: 25704, Start Num: 38
Candidate Starts for LittleFortune_38:
(Start: 38 @23752 has 39 MA's), (50, 23797), (53, 23821), (57, 23848), (62, 23869), (94, 24025), (103, 24061), (115, 24094), (117, 24100), (121, 24115), (149, 24259), (160, 24301), (161, 24304), (195, 24385), (233, 24523), (234, 24529), (245, 24568), (250, 24595), (254, 24616), (257, 24625), (269, 24679), (272, 24688), (276, 24703), (279, 24727), (280, 24736), (284, 24751), (306, 24877), (309, 24898), (311, 24937), (312, 24949), (327, 25039), (328, 25042), (329, 25066), (330, 25075), (333, 25105), (339, 25177), (340, 25180), (344, 25213), (348, 25243), (374, 25450), (377, 25471), (379, 25489), (383, 25519), (405, 25636),

Gene: Lucretia_37 Start: 23439, Stop: 25391, Start Num: 38
Candidate Starts for Lucretia_37:

(Start: 38 @23439 has 39 MA's), (50, 23484), (53, 23508), (57, 23535), (62, 23556), (94, 23712), (103, 23748), (115, 23781), (117, 23787), (121, 23802), (149, 23946), (160, 23988), (161, 23991), (195, 24072), (233, 24210), (234, 24216), (245, 24255), (254, 24303), (257, 24312), (269, 24366), (272, 24375), (276, 24390), (279, 24414), (280, 24423), (284, 24438), (306, 24564), (309, 24585), (311, 24624), (312, 24636), (327, 24726), (328, 24729), (329, 24753), (330, 24762), (333, 24792), (339, 24864), (340, 24867), (344, 24900), (348, 24930), (374, 25137), (379, 25176), (383, 25206), (405, 25323),

Gene: Marcie_41 Start: 25722, Stop: 27695, Start Num: 40
Candidate Starts for Marcie_41:
(Start: 40 @25722 has 12 MA's), (41, 25725), (68, 25860), (113, 26052), (117, 26067), (128, 26124), (140, 26178), (149, 26223), (182, 26340), (194, 26349), (233, 26484), (266, 26619), (313, 26904), (315, 26919), (318, 26940), (326, 26985), (329, 27018), (334, 27066), (335, 27069), (345, 27171), (373, 27396), (377, 27438), (379, 27456), (395, 27561), (396, 27567), (400, 27594), (412, 27681),

Gene: Margaery_32 Start: 22803, Stop: 24701, Start Num: 38
Candidate Starts for Margaery_32:
(14, 22407), (Start: 38 @22803 has 39 MA's), (57, 22899), (59, 22908), (80, 23007), (90, 23061), (95, 23079), (103, 23112), (115, 23145), (117, 23151), (121, 23166), (131, 23220), (141, 23271), (148, 23307), (149, 23310), (175, 23406), (202, 23466), (221, 23529), (224, 23535), (231, 23562), (249, 23625), (260, 23649), (265, 23673), (283, 23751), (299, 23820), (300, 23841), (303, 23859), (305, 23868), (314, 23976), (327, 24048), (328, 24051), (329, 24075), (332, 24096), (336, 24150), (339, 24186), (347, 24249), (348, 24252), (354, 24273), (361, 24315), (373, 24432), (377, 24468), (409, 24666), (412, 24687),

Gene: Matzah_33 Start: 22835, Stop: 25315, Start Num: 38
Candidate Starts for Matzah_33:
(Start: 38 @22835 has 39 MA's), (57, 22928), (64, 22961), (71, 22985), (75, 23003), (89, 23087), (97, 23117), (100, 23126), (105, 23144), (109, 23153), (115, 23174), (117, 23180), (121, 23195), (126, 23228), (128, 23237), (143, 23312), (149, 23339), (157, 23396), (172, 23495), (180, 23543), (181, 23558), (188, 23600), (190, 23645), (191, 23651), (206, 23747), (213, 23777), (241, 23963), (244, 23978), (247, 23993), (257, 24041), (264, 24080), (268, 24131), (275, 24188), (277, 24206), (278, 24212), (293, 24314), (295, 24362), (296, 24371), (301, 24419), (316, 24560), (322, 24593), (326, 24617), (328, 24626), (330, 24659), (335, 24701), (339, 24761), (353, 24839), (358, 24875), (372, 25025), (377, 25070), (388, 25154), (389, 25157),

Gene: Megan_31 Start: 24332, Stop: 26239, Start Num: 55
Candidate Starts for Megan_31:
(Start: 55 @24332 has 7 MA's), (76, 24440), (84, 24500), (101, 24557), (108, 24581), (116, 24617), (135, 24704), (139, 24716), (145, 24743), (179, 24896), (187, 24926), (220, 25034), (259, 25193), (264, 25217), (267, 25229), (281, 25289), (283, 25295), (285, 25304), (287, 25310), (290, 25322), (326, 25577), (329, 25610), (333, 25649), (336, 25685), (337, 25706), (362, 25868), (367, 25907), (369, 25925), (373, 25970), (403, 26159), (406, 26183), (408, 26198), (413, 26231),

Gene: MementoMori_33 Start: 22559, Stop: 25063, Start Num: 38
Candidate Starts for MementoMori_33:
(Start: 38 @22559 has 39 MA's), (57, 22652), (64, 22685), (71, 22709), (75, 22727), (89, 22811), (97, 22841), (100, 22850), (105, 22868), (109, 22877), (115, 22898), (117, 22904), (121, 22919), (126, 22952), (128, 22961), (149, 23063), (169, 23186), (180, 23270), (189, 23363), (193, 23438), (199, 23474), (211, 23525), (221, 23576), (223, 23585), (226, 23642), (246, 23753), (255, 23801), (263, 23840), (268, 23894), (294, 24107), (302, 24176), (307, 24212), (311, 24269), (316, 24308), (322, 24341), (326, 24365), (328, 24374), (330, 24407), (335, 24449), (339, 24509), (353, 24587), (358, 24623), (372, 24773), (377, 24818), (386, 24884), (388, 24902), (389, 24905),

Gene: Metamorphoo_37 Start: 23324, Stop: 25813, Start Num: 10
Candidate Starts for Metamorphoo_37:
(Start: 10 @23324 has 6 MA's), (19, 23477), (20, 23540), (21, 23552), (37, 23792), (42, 23813), (48, 23834), (58, 23897), (61, 23906), (63, 23924), (65, 23933), (73, 23975), (79, 24011), (85, 24059), (91, 24077), (115, 24167), (117, 24173), (118, 24176), (132, 24245), (156, 24365), (164, 24395), (215, 24569), (218, 24581), (231, 24635), (259, 24752), (264, 24776), (276, 24815), (281, 24848), (285, 24863), (297, 24911), (309, 25001), (314, 25067), (329, 25169), (331, 25184), (333, 25208), (336, 25244), (338, 25277), (342, 25289), (350, 25370), (361, 25424), (362, 25445), (363, 25469), (369, 25502), (372, 25541), (399, 25718), (413, 25805),

Gene: MisoSoup_29 Start: 19901, Stop: 21790, Start Num: 39
Candidate Starts for MisoSoup_29:
(Start: 39 @19901 has 1 MA's), (49, 19940), (57, 19991), (80, 20096), (115, 20237), (119, 20252), (167, 20465), (209, 20573), (228, 20630), (229, 20636), (237, 20660), (243, 20681), (272, 20786), (274, 20792), (282, 20834), (301, 20918), (308, 20969), (315, 21056), (321, 21086), (336, 21224), (355, 21356), (371, 21506), (374, 21533), (375, 21539), (377, 21554), (379, 21572), (384, 21608), (397, 21674), (400, 21698),

Gene: Nicole72_32 Start: 25270, Stop: 27153, Start Num: 55
Candidate Starts for Nicole72_32:
(Start: 55 @25270 has 7 MA's), (82, 25423), (111, 25537), (123, 25582), (125, 25588), (129, 25612), (136, 25648), (139, 25657), (152, 25711), (184, 25834), (196, 25852), (201, 25876), (225, 25963), (259, 26107), (264, 26131), (276, 26170), (281, 26203), (283, 26209), (285, 26218), (324, 26482), (326, 26491), (329, 26524), (336, 26599), (337, 26620), (343, 26659), (362, 26782), (369, 26839), (373, 26884), (384, 26971), (398, 27040), (403, 27073), (413, 27145),

Gene: NoodlelyBoi_37 Start: 23832, Stop: 25775, Start Num: 38
Candidate Starts for NoodlelyBoi_37:
(Start: 38 @23832 has 39 MA's), (50, 23877), (57, 23928), (62, 23949), (80, 24036), (90, 24090), (103, 24141), (115, 24174), (117, 24180), (121, 24195), (149, 24339), (150, 24348), (160, 24381), (195, 24459), (210, 24522), (216, 24537), (222, 24558), (233, 24597), (234, 24603), (250, 24669), (269, 24750), (274, 24765), (276, 24774), (278, 24792), (279, 24798), (280, 24807), (284, 24822), (298, 24882), (306, 24948), (309, 24969), (312, 25020), (313, 25029), (314, 25038), (326, 25104), (327, 25110), (328, 25113), (329, 25137), (339, 25248), (340, 25251), (344, 25284), (348, 25314), (374, 25521), (387, 25617), (394, 25647), (400, 25683), (401, 25689), (413, 25767),

Gene: OneinaGillian_36 Start: 24713, Stop: 26689, Start Num: 40
Candidate Starts for OneinaGillian_36:
(Start: 40 @24713 has 12 MA's), (41, 24716), (68, 24851), (113, 25043), (117, 25058), (128, 25115), (140, 25169), (142, 25181), (178, 25319), (252, 25553), (266, 25610), (283, 25685), (313, 25895), (315, 25910), (329, 26009), (330, 26018), (335, 26060), (345, 26162), (361, 26258), (373, 26387), (379, 26447), (385, 26495), (400, 26588), (402, 26597), (412, 26675),

Gene: Onika_36 Start: 23477, Stop: 25423, Start Num: 38
Candidate Starts for Onika_36:
(Start: 38 @23477 has 39 MA's), (50, 23522), (53, 23546), (57, 23573), (62, 23594), (94, 23750), (103, 23786), (115, 23819), (117, 23825), (121, 23840), (149, 23984), (160, 24026), (171, 24071), (195, 24104), (232, 24239), (233, 24242), (245, 24287), (250, 24314), (251, 24317), (272, 24407), (279, 24446), (280, 24455), (284, 24470), (309, 24617), (311, 24656), (312, 24668), (327, 24758), (328, 24761), (329, 24785), (330, 24794), (340, 24899), (344, 24932), (348, 24962), (374, 25169), (379, 25208), (383, 25238), (405, 25355),

Gene: Paschalis_36 Start: 23490, Stop: 25430, Start Num: 38
Candidate Starts for Paschalis_36:
(Start: 38 @23490 has 39 MA's), (50, 23535), (53, 23559), (57, 23586), (62, 23607), (94, 23763), (103, 23799), (115, 23832), (117, 23838), (121, 23853), (149, 23997), (160, 24039), (171, 24084), (195, 24117), (226, 24225), (232, 24252), (233, 24255), (245, 24300), (250, 24327), (251, 24330), (272, 24420), (279, 24459), (280, 24468), (284, 24483), (309, 24630), (311, 24669), (312, 24681), (327, 24771), (328, 24774), (329, 24798), (330, 24807), (333, 24837), (340, 24912), (361, 25041), (368, 25110), (369, 25122), (376, 25191), (394, 25302), (400, 25338), (413, 25422),

Gene: PhedwardCullen_36 Start: 23235, Stop: 25181, Start Num: 38
Candidate Starts for PhedwardCullen_36:
(Start: 38 @23235 has 39 MA's), (50, 23280), (53, 23304), (57, 23331), (62, 23352), (94, 23508), (103, 23544), (115, 23577), (117, 23583), (121, 23598), (149, 23742), (160, 23784), (171, 23829), (195, 23862), (232, 23997), (233, 24000), (245, 24045), (250, 24072), (251, 24075), (272, 24165), (279, 24204), (280, 24213), (284, 24228), (309, 24375), (311, 24414), (312, 24426), (327, 24516), (328, 24519), (329, 24543), (330, 24552), (340, 24657), (344, 24690), (348, 24720), (374, 24927), (379, 24966), (383, 24996), (405, 25113),

Gene: Phinky_43 Start: 27523, Stop: 29499, Start Num: 40
Candidate Starts for Phinky_43:
(Start: 40 @27523 has 12 MA's), (47, 27547), (113, 27850), (124, 27901), (130, 27931), (138, 27973), (219, 28234), (233, 28285), (256, 28378), (262, 28405), (283, 28495), (303, 28597), (314, 28714), (329, 28813), (335, 28864), (346, 28984), (356, 29029), (365, 29128), (377, 29242), (379, 29260), (412, 29485),

Gene: Phorgeous_36 Start: 23344, Stop: 25296, Start Num: 38
Candidate Starts for Phorgeous_36:
(Start: 38 @23344 has 39 MA's), (50, 23389), (53, 23413), (57, 23440), (62, 23461), (94, 23617), (103, 23653), (115, 23686), (117, 23692), (121, 23707), (149, 23851), (160, 23893), (161, 23896), (195, 23977), (233, 24115), (234, 24121), (245, 24160), (250, 24187), (254, 24208), (257, 24217), (269, 24271), (272, 24280), (276, 24295), (279, 24319), (280, 24328), (284, 24343), (306, 24469), (309, 24490), (311, 24529), (312, 24541), (327, 24631), (328, 24634), (329, 24658), (330, 24667), (333, 24697), (339, 24769), (340, 24772), (344, 24805), (348, 24835), (374, 25042), (379, 25081), (383, 25111), (405, 25228),

Gene: Phrancesco_37 Start: 23622, Stop: 25574, Start Num: 38
Candidate Starts for Phrancesco_37:
(Start: 38 @23622 has 39 MA's), (50, 23667), (53, 23691), (57, 23718), (62, 23739), (94, 23895), (103, 23931), (115, 23964), (117, 23970), (121, 23985), (149, 24129), (160, 24171), (161, 24174), (195, 24255), (233, 24393), (234, 24399), (245, 24438), (250, 24465), (254, 24486), (257, 24495), (269, 24549), (272, 24558), (276, 24573), (279, 24597), (280, 24606), (284, 24621), (306, 24747), (309, 24768), (311, 24807), (312, 24819), (327, 24909), (328, 24912), (329, 24936), (330, 24945), (333, 24975), (339, 25047), (340, 25050), (344, 25083), (348, 25113), (374, 25320), (379, 25359), (383, 25389), (405, 25506),

Gene: PierreOrion_37 Start: 23645, Stop: 25597, Start Num: 38
Candidate Starts for PierreOrion_37:
(Start: 38 @23645 has 39 MA's), (50, 23690), (53, 23714), (57, 23741), (62, 23762), (94, 23918), (103, 23954), (115, 23987), (117, 23993), (121, 24008), (149, 24152), (160, 24194), (161, 24197), (195, 24278), (233, 24416), (234, 24422), (245, 24461), (254, 24509), (257, 24518), (269, 24572), (272, 24581), (276, 24596), (279, 24620), (280, 24629), (284, 24644), (306, 24770), (309, 24791), (311, 24830), (312, 24842), (327, 24932), (328, 24935), (329, 24959), (330, 24968), (333, 24998), (339, 25070), (340, 25073), (344, 25106), (348, 25136), (374, 25343), (379, 25382), (383, 25412), (405,

25529),

Gene: PiperSansNom_37 Start: 23797, Stop: 25737, Start Num: 38
Candidate Starts for PiperSansNom_37:
(Start: 38 @23797 has 39 MA's), (50, 23842), (53, 23866), (57, 23893), (62, 23914), (94, 24070), (103, 24106), (115, 24139), (117, 24145), (121, 24160), (149, 24304), (160, 24346), (171, 24391), (195, 24424), (226, 24532), (232, 24559), (233, 24562), (245, 24607), (250, 24634), (251, 24637), (272, 24727), (279, 24766), (280, 24775), (284, 24790), (311, 24976), (327, 25078), (328, 25081), (329, 25105), (330, 25114), (333, 25144), (340, 25219), (361, 25348), (368, 25417), (369, 25429), (376, 25498), (394, 25609), (400, 25645), (413, 25729),

Gene: Piperis_37 Start: 23467, Stop: 25419, Start Num: 38
Candidate Starts for Piperis_37:
(Start: 38 @23467 has 39 MA's), (50, 23512), (53, 23536), (57, 23563), (62, 23584), (94, 23740), (103, 23776), (115, 23809), (117, 23815), (121, 23830), (149, 23974), (160, 24016), (161, 24019), (195, 24100), (233, 24238), (234, 24244), (245, 24283), (250, 24310), (269, 24394), (272, 24403), (276, 24418), (279, 24442), (280, 24451), (284, 24466), (306, 24592), (309, 24613), (311, 24652), (312, 24664), (327, 24754), (328, 24757), (329, 24781), (330, 24790), (333, 24820), (339, 24892), (340, 24895), (344, 24928), (348, 24958), (357, 24994), (374, 25165), (377, 25186), (383, 25234), (405, 25351),

Gene: Pulchra_38 Start: 23867, Stop: 25813, Start Num: 38
Candidate Starts for Pulchra_38:
(Start: 38 @23867 has 39 MA's), (50, 23912), (53, 23936), (57, 23963), (62, 23984), (94, 24140), (103, 24176), (115, 24209), (117, 24215), (121, 24230), (149, 24374), (160, 24416), (195, 24494), (232, 24629), (233, 24632), (245, 24677), (250, 24704), (251, 24707), (272, 24797), (279, 24836), (280, 24845), (284, 24860), (309, 25007), (311, 25046), (312, 25058), (327, 25148), (328, 25151), (329, 25175), (330, 25184), (340, 25289), (344, 25322), (348, 25352), (374, 25559), (379, 25598), (383, 25628), (405, 25745),

Gene: Quhwah_40 Start: 24093, Stop: 26045, Start Num: 38
Candidate Starts for Quhwah_40:
(Start: 38 @24093 has 39 MA's), (50, 24138), (53, 24162), (57, 24189), (62, 24210), (94, 24366), (103, 24402), (115, 24435), (117, 24441), (121, 24456), (149, 24600), (160, 24642), (161, 24645), (166, 24663), (195, 24726), (233, 24864), (234, 24870), (245, 24909), (250, 24936), (254, 24957), (257, 24966), (269, 25020), (272, 25029), (276, 25044), (279, 25068), (280, 25077), (284, 25092), (306, 25218), (309, 25239), (311, 25278), (312, 25290), (327, 25380), (328, 25383), (329, 25407), (330, 25416), (333, 25446), (339, 25518), (340, 25521), (344, 25554), (379, 25830), (383, 25860), (405, 25977),

Gene: Ramiel05_36 Start: 23502, Stop: 25448, Start Num: 38
Candidate Starts for Ramiel05_36:
(Start: 38 @23502 has 39 MA's), (50, 23547), (53, 23571), (57, 23598), (62, 23619), (94, 23775), (103, 23811), (115, 23844), (117, 23850), (121, 23865), (149, 24009), (160, 24051), (195, 24129), (232, 24264), (233, 24267), (245, 24312), (250, 24339), (251, 24342), (272, 24432), (279, 24471), (280, 24480), (284, 24495), (309, 24642), (311, 24681), (312, 24693), (327, 24783), (328, 24786), (329, 24810), (330, 24819), (339, 24921), (340, 24924), (344, 24957), (348, 24987), (374, 25194), (379, 25233), (383, 25263), (405, 25380),

Gene: Rasputia_72 Start: 44029, Stop: 45960, Start Num: 40
Candidate Starts for Rasputia_72:
(Start: 40 @44029 has 12 MA's), (44, 44047), (50, 44071), (57, 44119), (96, 44305), (103, 44332), (115, 44365), (117, 44371), (126, 44419), (128, 44428), (129, 44434), (134, 44464), (141, 44491),

(196, 44659), (203, 44692), (227, 44758), (233, 44785), (237, 44794), (238, 44797), (239, 44800), (249, 44842), (271, 44935), (291, 45007), (310, 45118), (313, 45175), (315, 45190), (326, 45250), (328, 45259), (334, 45328), (335, 45331), (353, 45469), (369, 45616), (371, 45646), (372, 45652), (373, 45658), (379, 45718), (385, 45766), (393, 45817), (396, 45832), (400, 45859), (404, 45877), (410, 45940), (412, 45946), (413, 45952),

Gene: RobinRose_38 Start: 25217, Stop: 27190, Start Num: 40
Candidate Starts for RobinRose_38:
(Start: 40 @25217 has 12 MA's), (41, 25220), (68, 25355), (113, 25547), (117, 25562), (128, 25619), (140, 25673), (142, 25685), (178, 25823), (252, 26057), (266, 26114), (283, 26189), (313, 26399), (315, 26414), (329, 26513), (330, 26522), (335, 26564), (345, 26666), (361, 26762), (373, 26891), (385, 26996), (400, 27089), (402, 27098), (412, 27176),

Gene: RobsFeet_38 Start: 23605, Stop: 26094, Start Num: 10
Candidate Starts for RobsFeet_38:
(Start: 10 @23605 has 6 MA's), (19, 23758), (20, 23821), (21, 23833), (37, 24073), (42, 24094), (48, 24115), (58, 24178), (61, 24187), (63, 24205), (65, 24214), (73, 24256), (79, 24292), (85, 24340), (91, 24358), (115, 24448), (117, 24454), (118, 24457), (132, 24526), (156, 24646), (164, 24676), (196, 24775), (215, 24850), (218, 24862), (231, 24916), (259, 25033), (264, 25057), (276, 25096), (281, 25129), (285, 25144), (297, 25192), (309, 25282), (314, 25348), (329, 25450), (331, 25465), (333, 25489), (336, 25525), (338, 25558), (342, 25570), (350, 25651), (361, 25705), (362, 25726), (363, 25750), (369, 25783), (372, 25822), (399, 25999), (413, 26086),

Gene: Rockwell_36 Start: 23502, Stop: 25448, Start Num: 38
Candidate Starts for Rockwell_36:
(Start: 38 @23502 has 39 MA's), (50, 23547), (53, 23571), (57, 23598), (62, 23619), (94, 23775), (103, 23811), (115, 23844), (117, 23850), (121, 23865), (149, 24009), (160, 24051), (171, 24096), (195, 24129), (232, 24264), (233, 24267), (245, 24312), (250, 24339), (251, 24342), (272, 24432), (279, 24471), (280, 24480), (284, 24495), (309, 24642), (311, 24681), (312, 24693), (327, 24783), (328, 24786), (329, 24810), (330, 24819), (340, 24924), (344, 24957), (348, 24987), (374, 25194), (379, 25233), (383, 25263), (405, 25380),

Gene: Romm_38 Start: 25217, Stop: 27190, Start Num: 40
Candidate Starts for Romm_38:
(Start: 40 @25217 has 12 MA's), (41, 25220), (68, 25355), (113, 25547), (117, 25562), (128, 25619), (140, 25673), (142, 25685), (178, 25823), (252, 26057), (266, 26114), (283, 26189), (313, 26399), (315, 26414), (329, 26513), (330, 26522), (335, 26564), (345, 26666), (361, 26762), (373, 26891), (385, 26996), (400, 27089), (402, 27098), (412, 27176),

Gene: RubyRalph_39 Start: 25839, Stop: 28808, Start Num: 1
Candidate Starts for RubyRalph_39:
(Start: 1 @25839 has 3 MA's), (2, 25869), (3, 26001), (4, 26040), (5, 26085), (6, 26163), (7, 26265), (8, 26289), (9, 26295), (13, 26391), (17, 26487), (20, 26571), (34, 26769), (46, 26844), (51, 26871), (66, 26961), (67, 26964), (69, 26973), (72, 26985), (78, 27018), (81, 27045), (93, 27111), (95, 27117), (106, 27162), (112, 27183), (136, 27312), (146, 27357), (153, 27399), (159, 27414), (162, 27423), (170, 27456), (219, 27588), (237, 27648), (261, 27744), (265, 27762), (272, 27786), (273, 27789), (306, 27975), (311, 28035), (313, 28056), (315, 28071), (321, 28104), (323, 28122), (326, 28137), (332, 28191), (335, 28221), (339, 28281), (340, 28284), (346, 28341), (355, 28371), (359, 28389), (368, 28473), (373, 28530), (379, 28584), (400, 28716), (407, 28764), (408, 28767),

Gene: SadLad_41 Start: 26782, Stop: 29751, Start Num: 1
Candidate Starts for SadLad_41:

(Start: 1 @26782 has 3 MA's), (2, 26812), (3, 26944), (4, 26983), (5, 27028), (6, 27106), (7, 27208), (8, 27232), (9, 27238), (13, 27334), (17, 27430), (20, 27514), (34, 27712), (46, 27787), (51, 27814), (66, 27904), (67, 27907), (69, 27916), (72, 27928), (78, 27961), (81, 27988), (93, 28054), (95, 28060), (106, 28105), (112, 28126), (136, 28255), (146, 28300), (153, 28342), (159, 28357), (162, 28366), (170, 28399), (219, 28531), (237, 28591), (261, 28687), (265, 28705), (272, 28729), (273, 28732), (306, 28918), (311, 28978), (313, 28999), (315, 29014), (321, 29047), (323, 29065), (326, 29080), (332, 29134), (335, 29164), (339, 29224), (340, 29227), (346, 29284), (355, 29314), (359, 29332), (368, 29416), (373, 29473), (379, 29527), (400, 29659), (407, 29707), (408, 29710),

Gene: Savannah_36 Start: 23529, Stop: 25475, Start Num: 38
Candidate Starts for Savannah_36:
(Start: 38 @23529 has 39 MA's), (50, 23574), (53, 23598), (57, 23625), (62, 23646), (94, 23802), (103, 23838), (115, 23871), (117, 23877), (121, 23892), (149, 24036), (160, 24078), (195, 24156), (232, 24291), (233, 24294), (245, 24339), (250, 24366), (251, 24369), (272, 24459), (279, 24498), (280, 24507), (284, 24522), (309, 24669), (311, 24708), (312, 24720), (327, 24810), (328, 24813), (329, 24837), (330, 24846), (339, 24948), (340, 24951), (344, 24984), (348, 25014), (374, 25221), (379, 25260), (383, 25290), (405, 25407),

Gene: Scumberland_38 Start: 23718, Stop: 25670, Start Num: 38
Candidate Starts for Scumberland_38:
(Start: 38 @23718 has 39 MA's), (50, 23763), (53, 23787), (57, 23814), (62, 23835), (94, 23991), (103, 24027), (115, 24060), (117, 24066), (121, 24081), (149, 24225), (160, 24267), (161, 24270), (195, 24351), (233, 24489), (234, 24495), (245, 24534), (250, 24561), (254, 24582), (257, 24591), (269, 24645), (272, 24654), (276, 24669), (279, 24693), (280, 24702), (284, 24717), (306, 24843), (309, 24864), (311, 24903), (312, 24915), (327, 25005), (328, 25008), (329, 25032), (330, 25041), (333, 25071), (339, 25143), (340, 25146), (344, 25179), (348, 25209), (374, 25416), (377, 25437), (379, 25455), (383, 25485), (405, 25602),

Gene: Selwyn23_38 Start: 23695, Stop: 25647, Start Num: 38
Candidate Starts for Selwyn23_38:
(Start: 38 @23695 has 39 MA's), (50, 23740), (53, 23764), (57, 23791), (62, 23812), (94, 23968), (103, 24004), (115, 24037), (117, 24043), (121, 24058), (149, 24202), (160, 24244), (161, 24247), (195, 24328), (233, 24466), (234, 24472), (245, 24511), (250, 24538), (254, 24559), (257, 24568), (269, 24622), (272, 24631), (276, 24646), (279, 24670), (280, 24679), (284, 24694), (306, 24820), (309, 24841), (311, 24880), (312, 24892), (327, 24982), (328, 24985), (329, 25009), (330, 25018), (333, 25048), (339, 25120), (340, 25123), (344, 25156), (348, 25186), (374, 25393), (377, 25414), (379, 25432), (383, 25462), (405, 25579),

Gene: Shotgun_36 Start: 23328, Stop: 25274, Start Num: 38
Candidate Starts for Shotgun_36:
(Start: 38 @23328 has 39 MA's), (50, 23373), (53, 23397), (57, 23424), (62, 23445), (94, 23601), (103, 23637), (115, 23670), (117, 23676), (121, 23691), (149, 23835), (160, 23877), (171, 23922), (195, 23955), (226, 24063), (232, 24090), (233, 24093), (245, 24138), (250, 24165), (251, 24168), (272, 24258), (279, 24297), (280, 24306), (284, 24321), (311, 24507), (327, 24609), (328, 24612), (329, 24636), (330, 24645), (333, 24675), (340, 24750), (344, 24783), (348, 24813), (374, 25020), (379, 25059), (383, 25089), (405, 25206),

Gene: Shrubaron_37 Start: 23239, Stop: 25728, Start Num: 10
Candidate Starts for Shrubaron_37:
(Start: 10 @23239 has 6 MA's), (19, 23392), (20, 23455), (21, 23467), (37, 23707), (42, 23728), (48, 23749), (58, 23812), (61, 23821), (63, 23839), (65, 23848), (73, 23890), (79, 23926), (85, 23974), (91, 23992), (115, 24082), (117, 24088), (118, 24091), (132, 24160), (156, 24280), (164, 24310), (196, 24409), (215, 24484), (218, 24496), (231, 24550), (259, 24667), (264, 24691), (276, 24730), (281,

24763), (285, 24778), (297, 24826), (309, 24916), (314, 24982), (329, 25084), (331, 25099), (333, 25123), (336, 25159), (338, 25192), (342, 25204), (350, 25285), (361, 25339), (362, 25360), (363, 25384), (369, 25417), (372, 25456), (399, 25633), (413, 25720),

Gene: SirFrank_36 Start: 23432, Stop: 25330, Start Num: 38
Candidate Starts for SirFrank_36:
(Start: 38 @23432 has 39 MA's), (50, 23477), (57, 23528), (62, 23549), (80, 23636), (90, 23690), (103, 23741), (115, 23774), (117, 23780), (121, 23795), (149, 23939), (208, 24089), (233, 24164), (234, 24170), (239, 24182), (240, 24188), (242, 24194), (250, 24233), (258, 24257), (280, 24365), (284, 24380), (286, 24386), (289, 24395), (304, 24482), (312, 24575), (313, 24584), (314, 24593), (327, 24665), (328, 24668), (329, 24692), (339, 24803), (340, 24806), (344, 24839), (348, 24869), (374, 25076), (394, 25202), (400, 25238), (401, 25244), (413, 25322),

Gene: Skugga_35 Start: 23330, Stop: 25228, Start Num: 55
Candidate Starts for Skugga_35:
(Start: 55 @23330 has 7 MA's), (58, 23360), (60, 23366), (82, 23483), (83, 23495), (99, 23546), (104, 23570), (114, 23606), (116, 23612), (122, 23630), (135, 23693), (137, 23699), (144, 23726), (155, 23789), (170, 23846), (173, 23864), (206, 23975), (212, 23987), (217, 24008), (232, 24068), (235, 24083), (276, 24245), (281, 24278), (283, 24284), (285, 24293), (297, 24341), (324, 24557), (325, 24563), (329, 24599), (333, 24638), (336, 24674), (343, 24734), (344, 24749), (362, 24857), (369, 24914), (384, 25046), (403, 25148), (413, 25220),

Gene: Smarties_45 Start: 25427, Stop: 27295, Start Num: 55
Candidate Starts for Smarties_45:
(Start: 55 @25427 has 7 MA's), (58, 25457), (60, 25463), (82, 25580), (84, 25595), (125, 25742), (127, 25754), (129, 25766), (130, 25769), (152, 25865), (156, 25883), (161, 25895), (176, 25949), (185, 25979), (217, 26075), (230, 26126), (231, 26132), (259, 26249), (276, 26312), (281, 26345), (283, 26351), (285, 26360), (315, 26570), (325, 26630), (329, 26666), (332, 26687), (333, 26705), (336, 26741), (343, 26801), (361, 26903), (362, 26924), (369, 26981), (401, 27209), (403, 27215),

Gene: Teamocil_38 Start: 23413, Stop: 25311, Start Num: 55
Candidate Starts for Teamocil_38:
(Start: 55 @23413 has 7 MA's), (58, 23443), (60, 23449), (82, 23566), (114, 23689), (116, 23695), (122, 23713), (135, 23776), (137, 23782), (139, 23788), (151, 23851), (154, 23869), (173, 23947), (206, 24058), (212, 24070), (217, 24091), (227, 24127), (231, 24148), (232, 24151), (276, 24328), (281, 24361), (283, 24367), (285, 24376), (297, 24424), (324, 24640), (325, 24646), (329, 24682), (333, 24721), (336, 24757), (343, 24817), (344, 24832), (362, 24940), (369, 24997), (373, 25042), (384, 25129), (403, 25231), (413, 25303),

Gene: Tempo_36 Start: 25093, Stop: 27066, Start Num: 40
Candidate Starts for Tempo_36:
(Start: 40 @25093 has 12 MA's), (41, 25096), (68, 25231), (113, 25423), (117, 25438), (128, 25495), (140, 25549), (142, 25561), (149, 25594), (178, 25699), (252, 25933), (266, 25990), (283, 26065), (313, 26275), (315, 26290), (329, 26389), (330, 26398), (335, 26440), (345, 26542), (361, 26638), (373, 26767), (385, 26872), (400, 26965), (402, 26974), (412, 27052),

Gene: Tyrumbra_35 Start: 23381, Stop: 25870, Start Num: 10
Candidate Starts for Tyrumbra_35:
(Start: 10 @23381 has 6 MA's), (11, 23411), (15, 23474), (19, 23534), (25, 23681), (27, 23708), (35, 23813), (61, 23963), (70, 24011), (73, 24029), (79, 24065), (92, 24134), (98, 24158), (105, 24188), (125, 24272), (133, 24317), (135, 24329), (137, 24335), (147, 24383), (165, 24452), (174, 24497), (231, 24692), (259, 24809), (264, 24833), (281, 24905), (285, 24920), (309, 25058), (314, 25124), (329, 25226), (331, 25241), (333, 25265), (336, 25301), (346, 25418), (349, 25421), (369, 25559),

(372, 25598), (373, 25604), (386, 25700),

Gene: Yeti_37 Start: 23497, Stop: 25449, Start Num: 38
Candidate Starts for Yeti_37:
(Start: 38 @23497 has 39 MA's), (50, 23542), (53, 23566), (57, 23593), (62, 23614), (94, 23770), (103, 23806), (115, 23839), (117, 23845), (121, 23860), (149, 24004), (160, 24046), (161, 24049), (195, 24130), (233, 24268), (234, 24274), (245, 24313), (250, 24340), (254, 24361), (257, 24370), (269, 24424), (272, 24433), (276, 24448), (279, 24472), (280, 24481), (284, 24496), (306, 24622), (309, 24643), (311, 24682), (312, 24694), (327, 24784), (328, 24787), (329, 24811), (330, 24820), (333, 24850), (339, 24922), (340, 24925), (344, 24958), (348, 24988), (374, 25195), (379, 25234), (383, 25264), (405, 25381),

Gene: Zapato_36 Start: 23358, Stop: 25736, Start Num: 16
Candidate Starts for Zapato_36:
(16, 23358), (17, 23388), (18, 23394), (22, 23511), (23, 23526), (26, 23559), (28, 23586), (31, 23637), (36, 23703), (54, 23799), (77, 23925), (80, 23943), (84, 23976), (88, 23997), (99, 24033), (110, 24078), (156, 24303), (158, 24309), (168, 24345), (174, 24381), (186, 24426), (195, 24435), (217, 24516), (276, 24753), (281, 24786), (285, 24801), (315, 25011), (325, 25071), (333, 25146), (336, 25182), (341, 25224), (343, 25242), (350, 25290), (361, 25344), (362, 25365), (363, 25389), (366, 25401), (369, 25422), (370, 25437), (382, 25530), (403, 25656), (413, 25728),