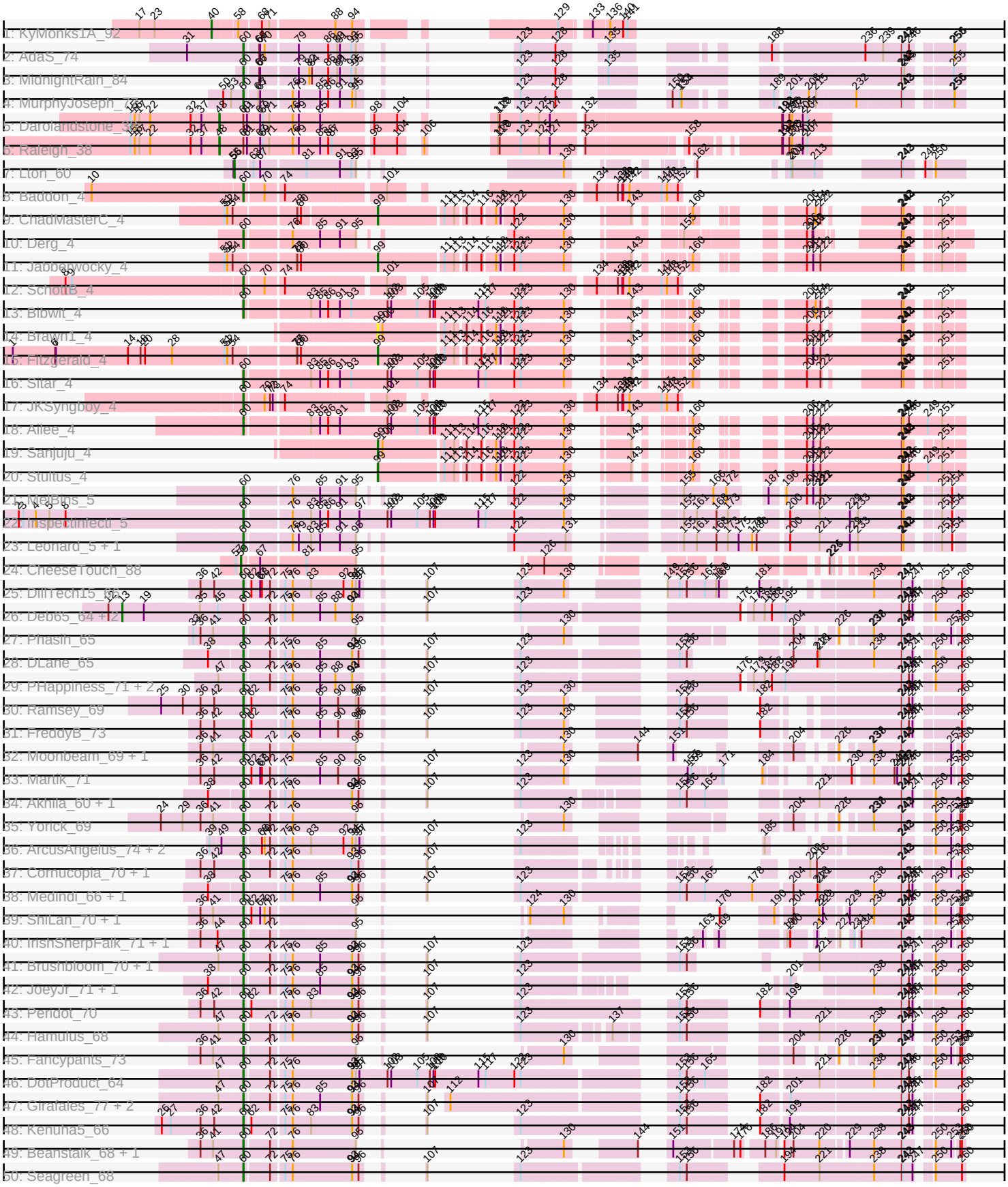
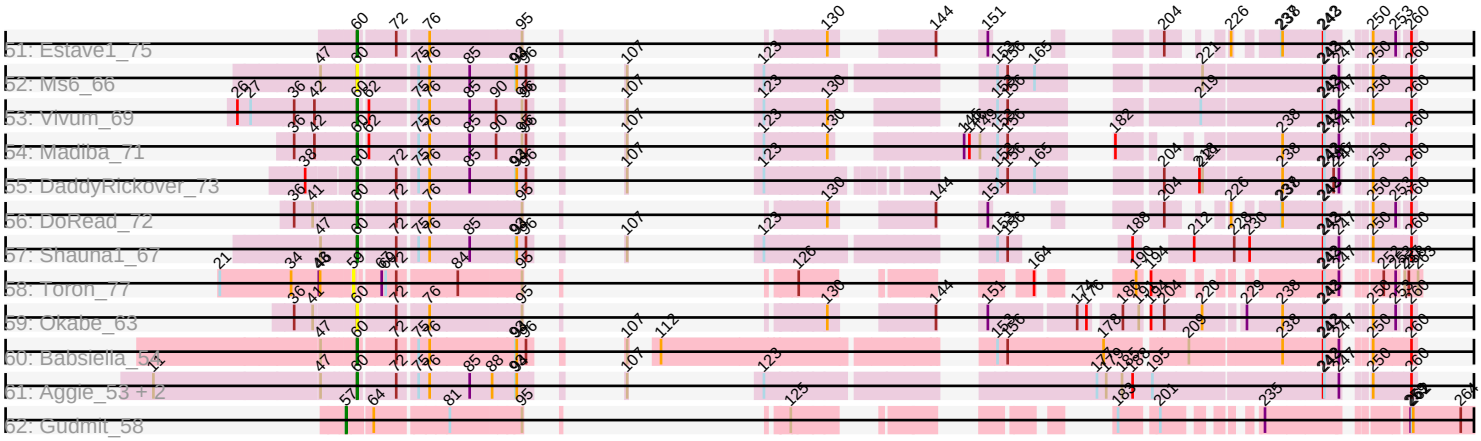
Pham 347522



Pham 347522


51: Estave1_75
52: MS6_66
53: Vivum_69
54: Madiba_71
55: DaddyRickover_73
56: DoRead_72
57: Shauna1_67
58: Toron_77
59: Okabe_63
60: Babsiella_54
61: Aggie_53 + 2
62: Gudmit_58

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 347522 Report

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

Pham number 347522 has 82 members, 5 are drafts.

Phages represented in each track:
- Track 1 : KyMonks1A_92
- Track 2 : AdaS_74
- Track 3 : MidnightRain_84
- Track 4 : MurphyJoseph_77
- Track 5 : Darolandstone_38
- Track 6 : Raleigh_38
- Track 7 : Lton_60
- Track 8 : Baddon_4
- Track 9 : ChadMasterC_4
- Track 10 : Derg_4
- Track 11 : Jabberwocky_4
- Track 12 : SchottB_4
- Track 13 : Bibwit_4
- Track 14 : Brawn1_4
- Track 15 : Fitzgerald_4
- Track 16 : Sitar_4
- Track 17 : JKSyngboy_4
- Track 18 : Ailee_4
- Track 19 : Sanjuju_4
- Track 20 : Stultus_4
- Track 21 : MelBins_5
- Track 22 : Inspectinfecti_5
- Track 23 : Leonard_5, Phinally_5
- Track 24 : CheeseTouch_88
- Track 25 : DillTech15_66
- Track 26 : Deb65_64, Nimbo_63, Geralt_64
- Track 27 : Phasih_65
- Track 28 : DLane_65
- Track 29 : PHappiness_71, Daenerys_70, OldBen_68
- Track 30 : Ramsey_69
- Track 31 : FreddyB_73
- Track 32 : Moonbeam_69, Starcevich_69
- Track 33 : Martik_71
- Track 34 : Akhila_60, MilanaBonita_59
- Track 35 : Yorick_69
- Track 36 : ArcusAngelus_74, Tweety_72, Chevrolet_76
- Track 37 : Cornucopia_70, VRedHorse_68

• Track 38 : Medindi_66, Filuzino_68
• Track 39 : ShiLan_70, Rita_76
• Track 40 : IrishSherpFalk_71, WillSterrel_71
• Track 41 : Brushbloom_70, Batiatus_66
• Track 42 : JoeyJr_71, RitaG_71
• Track 43 : Peridot_70
• Track 44 : Hamulus_68
• Track 45 : Fancypants_73
• Track 46 : DotProduct_64
• Track 47 : Girafales_77, Quico_77, Florinda_80
• Track 48 : Kenuha5_66
• Track 49 : Beanstalk_68, Wachhund_69
• Track 50 : Seagreen_68
• Track 51 : Estave1_75
• Track 52 : Ms6_66
• Track 53 : Vivum_69
• Track 54 : Madiba_71
• Track 55 : DaddyRickover_73
• Track 56 : DoRead_72
• Track 57 : Shauna1_67
• Track 58 : Toron_77
• Track 59 : Okabe_63
• Track 60 : Babsiella_54
• Track 61 : Aggie_53, Silvy_53, Philonius_55
• Track 62 : Gudmit_58

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

The start number called the most often in the published annotations is 60, it was called in 63 of the 77 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AdaS_74, Aggie_53, Ailee_4, Akhila_60, ArcusAngelus_74, Babsiella_54, Baddon_4, Batiatus_66, Beanstalk_68, Bibwit_4, Brushbloom_70, Chevrolet_76, Cornucopia_70, DLane_65, DaddyRickover_73, Daenerys_70, Derg_4, DillTech15_66, DoRead_72, DotProduct_64, Estave1_75, Fancypants_73, Filuzino_68, Florinda_80, FreddyB_73, Girafales_77, Hamulus_68, Inspectinfecti_5, IrishSherpFalk_71, JKSyngboy_4, JoeyJr_71, Kenuha5_66, Leonard_5, Madiba_71, Martik_71, Medindi_66, MelBins_5, MidnightRain_84, MilanaBonita_59, Moonbeam_69, Ms6_66, MurphyJoseph_77, Okabe_63, OldBen_68, PHappiness_71, Peridot_70, Phasih_65, Philonius_55, Phinally_5, Quico_77, Ramsey_69, RitaG_71, Rita_76, SchottB_4, Seagreen_68, Shauna1_67, ShiLan_70, Silvy_53, Sitar_4, Starcevich_69, Tweety_72, VRedHorse_68, Vivum_69, Wachhund_69, WillSterrel_71, Yorick_69,

Genes that have the "Most Annotated" start but do not call it:
• Darolandstone_38, Deb65_64, Geralt_64, Nimbo_63, Raleigh_38,

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

• Brawn1_4, ChadMasterC_4, CheeseTouch_88, Fitzgerald_4, Gudmit_58, Jabberwocky_4, KyMonks1A_92, Lton_60, Sanjuju_4, Stultus_4, Toron_77,

Summary by start number:

Start 13:
• Found in 3 of 82 (3.7%) of genes in pham
• Manual Annotations of this start: 3 of 77
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Deb65_64 (F1), Geralt_64 (F1), Nimbo_63 (F1),

Start 40:
• Found in 1 of 82 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 77
• Called 100.0% of time when present
• Phage (with cluster) where this start called: KyMonks1A_92 (A1),

Start 48:
• Found in 2 of 82 (2.4%) of genes in pham
• Manual Annotations of this start: 2 of 77
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Darolandstone_38 (BC2), Raleigh_38 (BC2),

Start 56:
• Found in 1 of 82 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 77
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Lton_60 (CZ),

Start 57:
• Found in 2 of 82 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 77
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Gudmit_58 (singleton),

Start 59:
• Found in 2 of 82 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 77
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CheeseTouch_88 (DN1), Toron_77 (F6),

Start 60:
• Found in 71 of 82 (86.6%) of genes in pham
• Manual Annotations of this start: 63 of 77
• Called 93.0% of time when present
• Phage (with cluster) where this start called: AdaS_74 (AY), Aggie_53 (N), Ailee_4 (DE1), Akhila_60 (F1), ArcusAngelus_74 (F1), Babsiella_54 (I1), Baddon_4 (DE1), Batiatus_66 (F1), Beanstalk_68 (F1), Bibwit_4 (DE1), Brushbloom_70 (F1), Chevrolet_76 (F1), Cornucopia_70 (F1), DLane_65 (F1), DaddyRickover_73 (F1), Daenerys_70 (F1), Derg_4 (DE1), DillTech15_66 (F1), DoRead_72 (F1), DotProduct_64 (F1), Estave1_75 (F1), Fancypants_73 (F1), Filuzino_68 (F1),

Florinda_80 (F1), FreddyB_73 (F1), Girafales_77 (F1), Hamulus_68 (F1), Inspectinfecti_5 (DE2), IrishSherpFalk_71 (F1), JKSyngboy_4 (DE1), JoeyJr_71 (F1), Kenuha5_66 (F1), Leonard_5 (DE2), Madiba_71 (F1), Martik_71 (F1), Medindi_66 (F1), MelBins_5 (DE2), MidnightRain_84 (AY), MilanaBonita_59 (F1), Moonbeam_69 (F1), Ms6_66 (F1), MurphyJoseph_77 (AY), Okabe_63 (F8), OldBen_68 (F1), PHappiness_71 (F1), Peridot_70 (F1), Phasih_65 (F1), Philonius_55 (N), Phinally_5 (DE2), Quico_77 (F1), Ramsey_69 (F1), RitaG_71 (F1), Rita_76 (F1), SchottB_4 (DE1), Seagreen_68 (F1), Shauna1_67 (F1), ShiLan_70 (F1), Silvy_53 (N), Sitar_4 (DE1), Starcevich_69 (F1), Tweety_72 (F1), VRedHorse_68 (F1), Vivum_69 (F1), Wachhund_69 (F1), WillSterrel_71 (F1), Yorick_69 (F1),

Start 99:
• Found in 6 of 82 (7.3%) of genes in pham
• Manual Annotations of this start: 5 of 77
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Brawn1_4 (DE1), ChadMasterC_4 (DE1), Fitzgerald_4 (DE1), Jabberwocky_4 (DE1), Sanjuju_4 (DE1), Stultus_4 (DE1),

Summary by clusters:

There are 13 clusters represented in this pham: F1, singleton, F6, I1, DE1, DE2, N, A1, CZ, DN1, AY, F8, BC2,

Info for manual annotations of cluster A1:
•Start number 40 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster AY:
•Start number 60 was manually annotated 3 times for cluster AY.

Info for manual annotations of cluster BC2:
•Start number 48 was manually annotated 2 times for cluster BC2.

Info for manual annotations of cluster CZ:
•Start number 56 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster DE1:
•Start number 60 was manually annotated 7 times for cluster DE1.
•Start number 99 was manually annotated 5 times for cluster DE1.

Info for manual annotations of cluster DE2:
•Start number 60 was manually annotated 4 times for cluster DE2.

Info for manual annotations of cluster DN1:
•Start number 59 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster F1:
•Start number 13 was manually annotated 3 times for cluster F1.
•Start number 60 was manually annotated 45 times for cluster F1.

Info for manual annotations of cluster I1:
•Start number 60 was manually annotated 1 time for cluster I1.

Info for manual annotations of cluster N:
•Start number 60 was manually annotated 3 times for cluster N.

Gene Information:

Gene: AdaS_74 Start: 41281, Stop: 42669, Start Num: 60
Candidate Starts for AdaS_74:
(31, 41101), (Start: 60 @41281 has 63 MA's), (66, 41320), (67, 41323), (70, 41338), (79, 41434), (86, 41530), (89, 41560), (91, 41566), (93, 41602), (95, 41617), (123, 41674), (128, 41785), (135, 41863), (188, 42127), (236, 42412), (239, 42457), (242, 42511), (243, 42514), (246, 42535), (255, 42631), (256, 42634),

Gene: Aggie_53 Start: 35734, Stop: 37386, Start Num: 60
Candidate Starts for Aggie_53:
(11, 35296), (47, 35668), (Start: 60 @35734 has 63 MA's), (72, 35809), (75, 35845), (76, 35869), (85, 35956), (88, 36007), (93, 36055), (94, 36058), (107, 36106), (123, 36127), (177, 36757), (179, 36778), (185, 36814), (188, 36838), (195, 36883), (242, 37234), (243, 37237), (247, 37267), (250, 37294), (260, 37375),

Gene: Ailee_4 Start: 2435, Stop: 4309, Start Num: 60
Candidate Starts for Ailee_4:
(Start: 60 @2435 has 63 MA's), (83, 2627), (85, 2657), (86, 2684), (91, 2720), (102, 2873), (103, 2885), (105, 2972), (108, 3014), (109, 3026), (110, 3032), (115, 3176), (117, 3200), (122, 3296), (123, 3317), (130, 3452), (143, 3557), (160, 3653), (206, 3821), (211, 3842), (222, 3863), (242, 4112), (243, 4115), (244, 4118), (246, 4136), (249, 4199), (251, 4247),

Gene: Akhila_60 Start: 39092, Stop: 40543, Start Num: 60
Candidate Starts for Akhila_60:
(38, 39011), (Start: 60 @39092 has 63 MA's), (72, 39167), (75, 39203), (76, 39227), (93, 39413), (94, 39416), (96, 39437), (107, 39464), (123, 39485), (153, 39830), (156, 39851), (165, 39911), (221, 40151), (242, 40391), (243, 40394), (247, 40424), (250, 40451), (260, 40532),

Gene: ArcusAngelus_74 Start: 44743, Stop: 45855, Start Num: 60
Candidate Starts for ArcusAngelus_74:
(39, 44644), (49, 44677), (Start: 60 @44743 has 63 MA's), (68, 44791), (70, 44800), (72, 44818), (75, 44854), (76, 44878), (83, 44935), (92, 45040), (94, 45067), (95, 45079), (97, 45091), (107, 45115), (123, 45136), (185, 45472), (242, 45712), (243, 45715), (250, 45772), (253, 45820), (260, 45844),

Gene: Babsiella_54 Start: 36714, Stop: 38561, Start Num: 60
Candidate Starts for Babsiella_54:
(47, 36648), (Start: 60 @36714 has 63 MA's), (72, 36789), (75, 36825), (76, 36849), (93, 37035), (94, 37038), (96, 37059), (107, 37086), (112, 37107), (153, 37737), (156, 37758), (178, 37974), (209, 38139), (238, 38331), (242, 38409), (243, 38412), (247, 38442), (250, 38469), (260, 38550),

Gene: Baddon_4 Start: 2579, Stop: 3649, Start Num: 60
Candidate Starts for Baddon_4:
(10, 2123), (Start: 60 @2579 has 63 MA's), (70, 2636), (74, 2690), (101, 2984), (134, 3377), (138, 3437), (139, 3452), (140, 3455), (142, 3476), (147, 3581), (148, 3599), (152, 3635),

Gene: Batiatus_66 Start: 42780, Stop: 44096, Start Num: 60

Candidate Starts for Batiatus_66:
(47, 42714), (Start: 60 @42780 has 63 MA's), (72, 42855), (75, 42891), (76, 42915), (85, 43002), (93, 43101), (94, 43104), (96, 43125), (107, 43152), (123, 43173), (153, 43572), (156, 43593), (221, 43695), (242, 43944), (243, 43947), (247, 43977), (250, 44004), (260, 44085),

Gene: Beanstalk_68 Start: 43692, Stop: 45113, Start Num: 60
Candidate Starts for Beanstalk_68:
(36, 43569), (41, 43611), (Start: 60 @43692 has 63 MA's), (72, 43767), (76, 43827), (95, 44022), (130, 44145), (144, 44289), (151, 44310), (174, 44499), (176, 44520), (186, 44580), (191, 44616), (194, 44625), (204, 44652), (220, 44736), (229, 44811), (238, 44892), (242, 44970), (243, 44973), (250, 45030), (253, 45078), (258, 45096), (260, 45102),

Gene: Bibwit_4 Start: 2433, Stop: 4142, Start Num: 60
Candidate Starts for Bibwit_4:
(Start: 60 @2433 has 63 MA's), (83, 2625), (85, 2655), (86, 2682), (91, 2718), (93, 2754), (102, 2871), (103, 2883), (105, 2970), (108, 3012), (109, 3024), (110, 3030), (115, 3174), (117, 3198), (122, 3294), (123, 3315), (130, 3450), (143, 3555), (160, 3651), (206, 3819), (214, 3846), (222, 3861), (242, 3996), (243, 3999), (244, 4002), (251, 4080),

Gene: Brawn1_4 Start: 2435, Stop: 3655, Start Num: 99
Candidate Starts for Brawn1_4:
(Start: 99 @2435 has 5 MA's), (100, 2450), (111, 2627), (113, 2657), (114, 2684), (116, 2720), (118, 2756), (121, 2771), (122, 2807), (123, 2828), (130, 2963), (143, 3068), (160, 3164), (206, 3332), (222, 3374), (242, 3509), (243, 3512), (244, 3515), (251, 3593),

Gene: Brushbloom_70 Start: 43712, Stop: 45028, Start Num: 60
Candidate Starts for Brushbloom_70:
(47, 43646), (Start: 60 @43712 has 63 MA's), (72, 43787), (75, 43823), (76, 43847), (85, 43934), (93, 44033), (94, 44036), (96, 44057), (107, 44084), (123, 44105), (153, 44504), (156, 44525), (221, 44627), (242, 44876), (243, 44879), (247, 44909), (250, 44936), (260, 45017),

Gene: ChadMasterC_4 Start: 2379, Stop: 3599, Start Num: 99
Candidate Starts for ChadMasterC_4:
(51, 1923), (52, 1932), (54, 1950), (78, 2130), (80, 2142), (Start: 99 @2379 has 5 MA's), (111, 2571), (113, 2601), (114, 2628), (116, 2664), (118, 2700), (121, 2715), (122, 2751), (130, 2907), (143, 3012), (160, 3108), (206, 3276), (214, 3303), (222, 3318), (242, 3453), (243, 3456), (244, 3459), (251, 3537),

Gene: CheeseTouch_88 Start: 43473, Stop: 44507, Start Num: 59
Candidate Starts for CheeseTouch_88:
(Start: 57 @43464 has 1 MA's), (Start: 59 @43473 has 1 MA's), (67, 43515), (81, 43650), (95, 43803), (126, 43863), (224, 44355), (225, 44358),

Gene: Chevrolet_76 Start: 44744, Stop: 45856, Start Num: 60
Candidate Starts for Chevrolet_76:
(39, 44645), (49, 44678), (Start: 60 @44744 has 63 MA's), (68, 44792), (70, 44801), (72, 44819), (75, 44855), (76, 44879), (83, 44936), (92, 45041), (94, 45068), (95, 45080), (97, 45092), (107, 45116), (123, 45137), (185, 45473), (242, 45713), (243, 45716), (250, 45773), (253, 45821), (260, 45845),

Gene: Cornucopia_70 Start: 43350, Stop: 44651, Start Num: 60
Candidate Starts for Cornucopia_70:
(36, 43227), (42, 43269), (Start: 60 @43350 has 63 MA's), (72, 43425), (75, 43461), (76, 43485), (93, 43671), (96, 43695), (107, 43722), (209, 44238), (216, 44259), (242, 44508), (243, 44511), (253, 44616), (260, 44640),

Gene: DLane_65 Start: 42636, Stop: 44030, Start Num: 60
Candidate Starts for DLane_65:
(38, 42555), (Start: 60 @42636 has 63 MA's), (72, 42711), (75, 42747), (76, 42771), (85, 42858), (93, 42957), (94, 42960), (96, 42981), (107, 43008), (123, 43029), (153, 43428), (156, 43449), (204, 43554), (218, 43632), (221, 43638), (238, 43800), (242, 43878), (243, 43881), (247, 43911), (250, 43938), (260, 44019),

Gene: DaddyRickover_73 Start: 45172, Stop: 46629, Start Num: 60
Candidate Starts for DaddyRickover_73:
(38, 45091), (Start: 60 @45172 has 63 MA's), (72, 45247), (75, 45283), (76, 45307), (85, 45394), (93, 45493), (94, 45496), (96, 45517), (107, 45544), (123, 45565), (153, 45910), (156, 45931), (165, 45991), (204, 46153), (218, 46231), (221, 46237), (238, 46399), (242, 46477), (243, 46480), (246, 46501), (247, 46510), (250, 46537), (260, 46618),

Gene: Daenerys_70 Start: 45291, Stop: 46922, Start Num: 60
Candidate Starts for Daenerys_70:
(47, 45210), (Start: 60 @45291 has 63 MA's), (72, 45366), (75, 45402), (76, 45426), (85, 45513), (88, 45564), (93, 45612), (94, 45615), (107, 45663), (123, 45684), (176, 46293), (179, 46314), (185, 46350), (188, 46374), (195, 46419), (242, 46770), (243, 46773), (246, 46794), (247, 46803), (250, 46830), (260, 46911),

Gene: Darolandstone_38 Start: 28753, Stop: 30447, Start Num: 48
Candidate Starts for Darolandstone_38:
(15, 28456), (16, 28471), (17, 28486), (22, 28522), (32, 28657), (37, 28693), (Start: 48 @28753 has 2 MA's), (Start: 60 @28831 has 63 MA's), (61, 28843), (67, 28885), (69, 28894), (71, 28915), (76, 28993), (79, 29011), (85, 29080), (98, 29233), (104, 29308), (119, 29377), (120, 29383), (123, 29452), (125, 29512), (127, 29545), (132, 29635), (192, 30283), (193, 30286), (198, 30307), (202, 30316), (205, 30352), (207, 30367),

Gene: Deb65_64 Start: 42619, Stop: 44643, Start Num: 13
Candidate Starts for Deb65_64:
(12, 42574), (Start: 13 @42619 has 3 MA's), (19, 42688), (35, 42871), (45, 42928), (Start: 60 @43012 has 63 MA's), (72, 43087), (75, 43123), (76, 43147), (85, 43234), (88, 43285), (93, 43333), (94, 43336), (107, 43384), (123, 43405), (176, 44014), (179, 44035), (185, 44071), (188, 44095), (195, 44140), (242, 44491), (243, 44494), (246, 44515), (247, 44524), (250, 44551), (260, 44632),

Gene: Derg_4 Start: 2405, Stop: 3790, Start Num: 60
Candidate Starts for Derg_4:
(Start: 60 @2405 has 63 MA's), (76, 2540), (85, 2627), (91, 2690), (95, 2741), (122, 2777), (130, 2933), (155, 3158), (206, 3425), (210, 3443), (211, 3446), (242, 3617), (243, 3620), (244, 3623), (251, 3701),

Gene: DillTech15_66 Start: 41528, Stop: 42871, Start Num: 60
Candidate Starts for DillTech15_66:
(36, 41405), (42, 41447), (Start: 60 @41528 has 63 MA's), (62, 41543), (67, 41570), (68, 41576), (72, 41603), (75, 41639), (76, 41663), (83, 41720), (92, 41825), (94, 41852), (95, 41864), (97, 41876), (107, 41900), (123, 41921), (130, 42056), (149, 42206), (153, 42242), (156, 42263), (165, 42323), (167, 42359), (169, 42368), (181, 42395), (238, 42638), (242, 42719), (243, 42722), (247, 42752), (251, 42800), (260, 42860),

Gene: DoRead_72 Start: 43076, Stop: 44179, Start Num: 60
Candidate Starts for DoRead_72:

(36, 42953), (41, 42995), (Start: 60 @43076 has 63 MA's), (72, 43151), (76, 43211), (95, 43406), (130, 43529), (144, 43673), (151, 43694), (204, 43823), (226, 43889), (237, 43955), (238, 43958), (242, 44036), (243, 44039), (250, 44096), (253, 44144), (260, 44168),

Gene: DotProduct_64 Start: 41819, Stop: 43810, Start Num: 60
Candidate Starts for DotProduct_64:
(47, 41753), (Start: 60 @41819 has 63 MA's), (72, 41894), (75, 41930), (76, 41954), (93, 42140), (94, 42143), (95, 42155), (97, 42167), (102, 42257), (103, 42269), (105, 42356), (108, 42398), (109, 42410), (110, 42416), (115, 42560), (117, 42584), (122, 42677), (123, 42698), (153, 43097), (156, 43118), (165, 43178), (221, 43418), (238, 43580), (242, 43658), (243, 43661), (246, 43682), (250, 43718), (260, 43799),

Gene: Estave1_75 Start: 47847, Stop: 48950, Start Num: 60
Candidate Starts for Estave1_75:
(Start: 60 @47847 has 63 MA's), (72, 47922), (76, 47982), (95, 48177), (130, 48300), (144, 48444), (151, 48465), (204, 48594), (226, 48660), (237, 48726), (238, 48729), (242, 48807), (243, 48810), (250, 48867), (253, 48915), (260, 48939),

Gene: Fancypants_73 Start: 46022, Stop: 47248, Start Num: 60
Candidate Starts for Fancypants_73:
(36, 45899), (41, 45941), (Start: 60 @46022 has 63 MA's), (72, 46097), (95, 46352), (130, 46475), (204, 46892), (226, 46958), (237, 47024), (238, 47027), (242, 47105), (243, 47108), (250, 47165), (253, 47213), (258, 47231), (260, 47237),

Gene: Filuzino_68 Start: 42971, Stop: 44581, Start Num: 60
Candidate Starts for Filuzino_68:
(38, 42890), (Start: 60 @42971 has 63 MA's), (75, 43082), (76, 43106), (85, 43193), (93, 43292), (94, 43295), (96, 43316), (107, 43343), (123, 43364), (153, 43763), (156, 43784), (165, 43844), (178, 43994), (204, 44105), (218, 44183), (221, 44189), (238, 44351), (242, 44429), (243, 44432), (246, 44453), (247, 44462), (250, 44489), (260, 44570),

Gene: Fitzgerald_4 Start: 2397, Stop: 3731, Start Num: 99
Candidate Starts for Fitzgerald_4:
(1, 1218), (6, 1359), (7, 1362), (14, 1602), (18, 1644), (20, 1659), (28, 1749), (51, 1923), (52, 1932), (54, 1950), (77, 2127), (78, 2130), (80, 2142), (Start: 99 @2397 has 5 MA's), (111, 2589), (113, 2619), (114, 2646), (116, 2682), (118, 2718), (121, 2733), (122, 2769), (123, 2790), (130, 2925), (143, 3030), (160, 3126), (206, 3294), (211, 3315), (222, 3336), (242, 3585), (243, 3588), (244, 3591), (251, 3669),

Gene: Florinda_80 Start: 44991, Stop: 46736, Start Num: 60
Candidate Starts for Florinda_80:
(47, 44925), (Start: 60 @44991 has 63 MA's), (72, 45066), (75, 45102), (76, 45126), (85, 45213), (93, 45312), (94, 45315), (96, 45336), (107, 45363), (112, 45384), (153, 46014), (156, 46035), (182, 46170), (201, 46251), (242, 46584), (243, 46587), (246, 46608), (247, 46617), (260, 46725),

Gene: FreddyB_73 Start: 44628, Stop: 45971, Start Num: 60
Candidate Starts for FreddyB_73:
(36, 44505), (42, 44547), (Start: 60 @44628 has 63 MA's), (62, 44643), (75, 44739), (76, 44763), (85, 44850), (90, 44910), (95, 44964), (96, 44973), (107, 45000), (123, 45021), (130, 45156), (153, 45342), (156, 45363), (182, 45498), (242, 45819), (243, 45822), (246, 45843), (247, 45852), (260, 45960),

Gene: Geralt_64 Start: 42618, Stop: 44642, Start Num: 13
Candidate Starts for Geralt_64:

(12, 42573), (Start: 13 @42618 has 3 MA's), (19, 42687), (35, 42870), (45, 42927), (Start: 60 @43011 has 63 MA's), (72, 43086), (75, 43122), (76, 43146), (85, 43233), (88, 43284), (93, 43332), (94, 43335), (107, 43383), (123, 43404), (176, 44013), (179, 44034), (185, 44070), (188, 44094), (195, 44139), (242, 44490), (243, 44493), (246, 44514), (247, 44523), (250, 44550), (260, 44631),

Gene: Girafales_77 Start: 44782, Stop: 46527, Start Num: 60
Candidate Starts for Girafales_77:
(47, 44716), (Start: 60 @44782 has 63 MA's), (72, 44857), (75, 44893), (76, 44917), (85, 45004), (93, 45103), (94, 45106), (96, 45127), (107, 45154), (112, 45175), (153, 45805), (156, 45826), (182, 45961), (201, 46042), (242, 46375), (243, 46378), (246, 46399), (247, 46408), (260, 46516),

Gene: Gudmit_58 Start: 34535, Stop: 35920, Start Num: 57
Candidate Starts for Gudmit_58:
(Start: 57 @34535 has 1 MA's), (64, 34586), (81, 34739), (95, 34892), (125, 34937), (183, 35306), (201, 35381), (235, 35516), (259, 35765), (261, 35768), (262, 35771), (264, 35879),

Gene: Hamulus_68 Start: 43189, Stop: 44649, Start Num: 60
Candidate Starts for Hamulus_68:
(47, 43123), (Start: 60 @43189 has 63 MA's), (72, 43264), (75, 43300), (76, 43324), (93, 43510), (94, 43513), (96, 43534), (107, 43561), (123, 43582), (137, 43828), (153, 43936), (156, 43957), (221, 44257), (238, 44419), (242, 44497), (243, 44500), (247, 44530), (250, 44557), (260, 44638),

Gene: Inspectinfecti_5 Start: 2791, Stop: 4749, Start Num: 60
Candidate Starts for Inspectinfecti_5:
(2, 2047), (3, 2062), (4, 2104), (5, 2149), (8, 2203), (Start: 60 @2791 has 63 MA's), (76, 2926), (83, 2983), (85, 3013), (86, 3040), (91, 3076), (97, 3139), (102, 3229), (103, 3241), (105, 3328), (108, 3370), (109, 3382), (110, 3388), (115, 3532), (117, 3556), (122, 3652), (130, 3808), (155, 4033), (161, 4075), (168, 4138), (173, 4174), (200, 4270), (221, 4360), (229, 4444), (233, 4471), (242, 4603), (243, 4606), (244, 4609), (251, 4687), (254, 4717),

Gene: IrishSherpFalk_71 Start: 45147, Stop: 46322, Start Num: 60
Candidate Starts for IrishSherpFalk_71:
(36, 45024), (44, 45072), (Start: 60 @45147 has 63 MA's), (72, 45222), (95, 45477), (163, 45804), (169, 45828), (197, 45924), (200, 45930), (217, 45993), (227, 46026), (231, 46041), (234, 46053), (242, 46179), (243, 46182), (253, 46287), (260, 46311),

Gene: JKSyngboy_4 Start: 2579, Stop: 3643, Start Num: 60
Candidate Starts for JKSyngboy_4:
(Start: 60 @2579 has 63 MA's), (70, 2636), (72, 2654), (73, 2663), (74, 2690), (101, 2984), (134, 3371), (138, 3431), (139, 3446), (140, 3449), (142, 3470), (147, 3575), (148, 3593), (152, 3629),

Gene: Jabberwocky_4 Start: 2397, Stop: 3731, Start Num: 99
Candidate Starts for Jabberwocky_4:
(51, 1923), (52, 1932), (54, 1950), (77, 2127), (78, 2130), (80, 2142), (Start: 99 @2397 has 5 MA's), (111, 2589), (113, 2619), (114, 2646), (116, 2682), (118, 2718), (121, 2733), (122, 2769), (123, 2790), (130, 2925), (143, 3030), (160, 3126), (206, 3294), (211, 3315), (222, 3336), (242, 3585), (243, 3588), (244, 3591), (251, 3669),

Gene: JoeyJr_71 Start: 45459, Stop: 46547, Start Num: 60
Candidate Starts for JoeyJr_71:
(38, 45378), (Start: 60 @45459 has 63 MA's), (72, 45534), (75, 45570), (76, 45594), (85, 45681), (93, 45780), (94, 45783), (96, 45804), (107, 45831), (123, 45852), (201, 46155), (238, 46317), (242, 46395), (243, 46398), (246, 46419), (247, 46428), (250, 46455), (260, 46536),

Gene: Kenuha5_66 Start: 44310, Stop: 45839, Start Num: 60
Candidate Starts for Kenuha5_66:
(26, 44061), (27, 44091), (36, 44187), (42, 44229), (Start: 60 @44310 has 63 MA's), (62, 44325), (75, 44421), (76, 44445), (83, 44502), (93, 44631), (94, 44634), (96, 44655), (107, 44682), (123, 44703), (153, 45117), (156, 45138), (182, 45273), (199, 45354), (242, 45687), (243, 45690), (246, 45711), (247, 45720), (260, 45828),

Gene: KyMonks1A_92 Start: 50898, Stop: 49912, Start Num: 40
Candidate Starts for KyMonks1A_92:
(17, 51117), (23, 51069), (Start: 40 @50898 has 1 MA's), (58, 50829), (68, 50763), (71, 50739), (88, 50544), (94, 50493), (129, 50109), (133, 50034), (136, 49989), (140, 49950), (141, 49938),

Gene: Leonard_5 Start: 2785, Stop: 4344, Start Num: 60
Candidate Starts for Leonard_5:
(Start: 60 @2785 has 63 MA's), (76, 2920), (79, 2938), (83, 2977), (85, 3007), (91, 3070), (95, 3121), (122, 3157), (131, 3319), (155, 3538), (161, 3580), (168, 3643), (173, 3679), (175, 3715), (178, 3760), (180, 3775), (200, 3862), (221, 3952), (229, 4039), (233, 4066), (242, 4198), (243, 4201), (244, 4204), (251, 4282), (254, 4312),

Gene: Lton_60 Start: 35512, Stop: 36642, Start Num: 56
Candidate Starts for Lton_60:
(55, 35509), (Start: 56 @35512 has 1 MA's), (63, 35560), (67, 35578), (81, 35713), (91, 35821), (93, 35857), (95, 35872), (130, 36064), (162, 36241), (201, 36268), (203, 36274), (213, 36346), (242, 36490), (243, 36493), (248, 36532), (250, 36550),

Gene: Madiba_71 Start: 44963, Stop: 46402, Start Num: 60
Candidate Starts for Madiba_71:
(36, 44840), (42, 44882), (Start: 60 @44963 has 63 MA's), (62, 44978), (75, 45074), (76, 45098), (85, 45185), (90, 45245), (95, 45299), (96, 45308), (107, 45335), (123, 45356), (130, 45491), (145, 45698), (146, 45710), (149, 45734), (153, 45770), (156, 45791), (182, 45926), (238, 46169), (242, 46250), (243, 46253), (247, 46283), (260, 46391),

Gene: Martik_71 Start: 45731, Stop: 46957, Start Num: 60
Candidate Starts for Martik_71:
(36, 45608), (42, 45650), (Start: 60 @45731 has 63 MA's), (62, 45746), (67, 45773), (68, 45779), (72, 45806), (75, 45842), (85, 45953), (90, 46013), (96, 46076), (107, 46103), (123, 46124), (130, 46259), (157, 46466), (159, 46478), (171, 46553), (184, 46562), (230, 46682), (238, 46736), (240, 46790), (241, 46799), (242, 46814), (243, 46817), (246, 46838), (253, 46922), (260, 46946),

Gene: Medindi_66 Start: 41626, Stop: 43236, Start Num: 60
Candidate Starts for Medindi_66:
(38, 41545), (Start: 60 @41626 has 63 MA's), (75, 41737), (76, 41761), (85, 41848), (93, 41947), (94, 41950), (96, 41971), (107, 41998), (123, 42019), (153, 42418), (156, 42439), (165, 42499), (178, 42649), (204, 42760), (218, 42838), (221, 42844), (238, 43006), (242, 43084), (243, 43087), (246, 43108), (247, 43117), (250, 43144), (260, 43225),

Gene: MelBins_5 Start: 2786, Stop: 4273, Start Num: 60
Candidate Starts for MelBins_5:
(Start: 60 @2786 has 63 MA's), (76, 2921), (85, 3008), (91, 3071), (95, 3122), (122, 3158), (130, 3314), (155, 3539), (166, 3632), (172, 3674), (187, 3737), (196, 3773), (206, 3836), (211, 3857), (221, 3875), (222, 3878), (242, 4127), (243, 4130), (244, 4133), (251, 4211), (254, 4241),

Gene: MidnightRain_84 Start: 45169, Stop: 46623, Start Num: 60
Candidate Starts for MidnightRain_84:
(Start: 60 @45169 has 63 MA's), (66, 45208), (67, 45211), (79, 45322), (82, 45355), (84, 45364), (86, 45418), (89, 45448), (91, 45454), (93, 45490), (95, 45505), (123, 45562), (128, 45673), (135, 45751), (242, 46465), (243, 46468), (245, 46474), (255, 46585),

Gene: MilanaBonita_59 Start: 39092, Stop: 40543, Start Num: 60
Candidate Starts for MilanaBonita_59:
(38, 39011), (Start: 60 @39092 has 63 MA's), (72, 39167), (75, 39203), (76, 39227), (93, 39413), (94, 39416), (96, 39437), (107, 39464), (123, 39485), (153, 39830), (156, 39851), (165, 39911), (221, 40151), (242, 40391), (243, 40394), (247, 40424), (250, 40451), (260, 40532),

Gene: Moonbeam_69 Start: 44939, Stop: 46042, Start Num: 60
Candidate Starts for Moonbeam_69:
(36, 44816), (41, 44858), (Start: 60 @44939 has 63 MA's), (72, 45014), (76, 45074), (95, 45269), (130, 45392), (144, 45536), (151, 45557), (204, 45686), (226, 45752), (237, 45818), (238, 45821), (242, 45899), (243, 45902), (253, 46007), (260, 46031),

Gene: Ms6_66 Start: 38754, Stop: 40259, Start Num: 60
Candidate Starts for Ms6_66:
(47, 38688), (Start: 60 @38754 has 63 MA's), (75, 38865), (76, 38889), (85, 38976), (93, 39075), (94, 39078), (96, 39099), (107, 39126), (123, 39147), (153, 39546), (156, 39567), (165, 39627), (221, 39867), (242, 40107), (243, 40110), (247, 40140), (250, 40167), (260, 40248),

Gene: MurphyJoseph_77 Start: 42444, Stop: 43799, Start Num: 60
Candidate Starts for MurphyJoseph_77:
(50, 42384), (53, 42408), (Start: 60 @42444 has 63 MA's), (65, 42480), (67, 42486), (76, 42579), (79, 42597), (85, 42666), (86, 42693), (91, 42729), (94, 42768), (95, 42780), (123, 42837), (128, 42948), (150, 43128), (153, 43149), (154, 43155), (189, 43296), (201, 43332), (208, 43383), (215, 43404), (232, 43521), (242, 43641), (243, 43644), (255, 43761), (256, 43764),

Gene: Nimbo_63 Start: 42621, Stop: 44645, Start Num: 13
Candidate Starts for Nimbo_63:
(12, 42576), (Start: 13 @42621 has 3 MA's), (19, 42690), (35, 42873), (45, 42930), (Start: 60 @43014 has 63 MA's), (72, 43089), (75, 43125), (76, 43149), (85, 43236), (88, 43287), (93, 43335), (94, 43338), (107, 43386), (123, 43407), (176, 44016), (179, 44037), (185, 44073), (188, 44097), (195, 44142), (242, 44493), (243, 44496), (246, 44517), (247, 44526), (250, 44553), (260, 44634),

Gene: Okabe_63 Start: 39739, Stop: 41160, Start Num: 60
Candidate Starts for Okabe_63:
(36, 39616), (41, 39658), (Start: 60 @39739 has 63 MA's), (72, 39814), (76, 39874), (95, 40069), (130, 40192), (144, 40336), (151, 40357), (174, 40546), (176, 40567), (186, 40627), (191, 40663), (194, 40672), (204, 40699), (220, 40783), (229, 40858), (238, 40939), (242, 41017), (243, 41020), (250, 41077), (253, 41125), (260, 41149),

Gene: OldBen_68 Start: 44406, Stop: 46037, Start Num: 60
Candidate Starts for OldBen_68:
(47, 44325), (Start: 60 @44406 has 63 MA's), (72, 44481), (75, 44517), (76, 44541), (85, 44628), (88, 44679), (93, 44727), (94, 44730), (107, 44778), (123, 44799), (176, 45408), (179, 45429), (185, 45465), (188, 45489), (195, 45534), (242, 45885), (243, 45888), (246, 45909), (247, 45918), (250, 45945), (260, 46026),

Gene: PHappiness_71 Start: 45235, Stop: 46866, Start Num: 60

Candidate Starts for PHappiness_71:
(47, 45154), (Start: 60 @45235 has 63 MA's), (72, 45310), (75, 45346), (76, 45370), (85, 45457), (88, 45508), (93, 45556), (94, 45559), (107, 45607), (123, 45628), (176, 46237), (179, 46258), (185, 46294), (188, 46318), (195, 46363), (242, 46714), (243, 46717), (246, 46738), (247, 46747), (250, 46774), (260, 46855),

Gene: Peridot_70 Start: 43687, Stop: 45216, Start Num: 60
Candidate Starts for Peridot_70:
(36, 43564), (42, 43606), (Start: 60 @43687 has 63 MA's), (62, 43702), (75, 43798), (76, 43822), (83, 43879), (93, 44008), (94, 44011), (96, 44032), (107, 44059), (123, 44080), (153, 44494), (156, 44515), (182, 44650), (199, 44731), (242, 45064), (243, 45067), (246, 45088), (247, 45097), (260, 45205),

Gene: Phasih_65 Start: 42908, Stop: 44134, Start Num: 60
Candidate Starts for Phasih_65:
(33, 42761), (36, 42785), (41, 42827), (Start: 60 @42908 has 63 MA's), (72, 42983), (95, 43238), (130, 43361), (204, 43778), (226, 43844), (237, 43910), (238, 43913), (242, 43991), (243, 43994), (253, 44099), (260, 44123),

Gene: Philonius_55 Start: 35263, Stop: 36915, Start Num: 60
Candidate Starts for Philonius_55:
(11, 34825), (47, 35197), (Start: 60 @35263 has 63 MA's), (72, 35338), (75, 35374), (76, 35398), (85, 35485), (88, 35536), (93, 35584), (94, 35587), (107, 35635), (123, 35656), (177, 36286), (179, 36307), (185, 36343), (188, 36367), (195, 36412), (242, 36763), (243, 36766), (247, 36796), (250, 36823), (260, 36904),

Gene: Phinally_5 Start: 2785, Stop: 4341, Start Num: 60
Candidate Starts for Phinally_5:
(Start: 60 @2785 has 63 MA's), (76, 2920), (79, 2938), (83, 2977), (85, 3007), (91, 3070), (95, 3121), (122, 3157), (131, 3319), (155, 3538), (161, 3580), (168, 3643), (173, 3679), (175, 3715), (178, 3760), (180, 3775), (200, 3862), (221, 3952), (229, 4036), (233, 4063), (242, 4195), (243, 4198), (244, 4201), (251, 4279), (254, 4309),

Gene: Quico_77 Start: 44811, Stop: 46556, Start Num: 60
Candidate Starts for Quico_77:
(47, 44745), (Start: 60 @44811 has 63 MA's), (72, 44886), (75, 44922), (76, 44946), (85, 45033), (93, 45132), (94, 45135), (96, 45156), (107, 45183), (112, 45204), (153, 45834), (156, 45855), (182, 45990), (201, 46071), (242, 46404), (243, 46407), (246, 46428), (247, 46437), (260, 46545),

Gene: Raleigh_38 Start: 29256, Stop: 30815, Start Num: 48
Candidate Starts for Raleigh_38:
(15, 28959), (16, 28974), (17, 28989), (22, 29025), (32, 29160), (37, 29196), (Start: 48 @29256 has 2 MA's), (Start: 60 @29334 has 63 MA's), (61, 29346), (67, 29388), (69, 29397), (71, 29418), (76, 29496), (79, 29514), (85, 29583), (86, 29610), (87, 29622), (98, 29736), (104, 29811), (106, 29847), (119, 29880), (120, 29886), (123, 29955), (125, 30015), (127, 30048), (132, 30138), (158, 30435), (192, 30651), (193, 30654), (198, 30675), (202, 30684), (205, 30720), (207, 30735),

Gene: Ramsey_69 Start: 45364, Stop: 46707, Start Num: 60
Candidate Starts for Ramsey_69:
(25, 45112), (30, 45184), (36, 45241), (42, 45283), (Start: 60 @45364 has 63 MA's), (62, 45379), (75, 45475), (76, 45499), (85, 45586), (90, 45646), (95, 45700), (96, 45709), (107, 45736), (123, 45757), (130, 45892), (153, 46078), (156, 46099), (182, 46234), (242, 46555), (243, 46558), (246, 46579), (247, 46588), (260, 46696),

Gene: Rita_76 Start: 46350, Stop: 47519, Start Num: 60
Candidate Starts for Rita_76:
(36, 46227), (41, 46269), (Start: 60 @46350 has 63 MA's), (62, 46365), (67, 46392), (70, 46407), (72, 46425), (95, 46680), (124, 46698), (130, 46803), (170, 46950), (190, 47019), (204, 47061), (220, 47145), (223, 47154), (229, 47217), (238, 47298), (242, 47376), (243, 47379), (246, 47400), (250, 47436), (253, 47484), (258, 47502), (260, 47508),

Gene: RitaG_71 Start: 45580, Stop: 46668, Start Num: 60
Candidate Starts for RitaG_71:
(38, 45499), (Start: 60 @45580 has 63 MA's), (72, 45655), (75, 45691), (76, 45715), (85, 45802), (93, 45901), (94, 45904), (96, 45925), (107, 45952), (123, 45973), (201, 46276), (238, 46438), (242, 46516), (243, 46519), (246, 46540), (247, 46549), (250, 46576), (260, 46657),

Gene: Sanjuju_4 Start: 2435, Stop: 3769, Start Num: 99
Candidate Starts for Sanjuju_4:
(Start: 99 @2435 has 5 MA's), (100, 2450), (111, 2627), (113, 2657), (114, 2684), (116, 2720), (118, 2756), (121, 2771), (122, 2807), (123, 2828), (130, 2963), (143, 3068), (160, 3164), (206, 3332), (211, 3353), (222, 3374), (242, 3623), (243, 3626), (244, 3629), (251, 3707),

Gene: SchottB_4 Start: 2583, Stop: 3653, Start Num: 60
Candidate Starts for SchottB_4:
(8, 2040), (9, 2061), (Start: 60 @2583 has 63 MA's), (70, 2640), (74, 2694), (101, 2988), (134, 3381), (138, 3441), (139, 3456), (140, 3459), (142, 3480), (147, 3585), (148, 3603), (152, 3639),

Gene: Seagreen_68 Start: 42620, Stop: 44155, Start Num: 60
Candidate Starts for Seagreen_68:
(47, 42554), (Start: 60 @42620 has 63 MA's), (72, 42695), (75, 42731), (76, 42755), (93, 42941), (94, 42944), (96, 42965), (107, 42992), (123, 43013), (153, 43412), (156, 43433), (194, 43649), (221, 43754), (238, 43925), (242, 44003), (243, 44006), (247, 44036), (250, 44063), (260, 44144),

Gene: Shauna1_67 Start: 43160, Stop: 44527, Start Num: 60
Candidate Starts for Shauna1_67:
(47, 43094), (Start: 60 @43160 has 63 MA's), (72, 43235), (75, 43271), (76, 43295), (85, 43382), (93, 43481), (94, 43484), (96, 43505), (107, 43532), (123, 43553), (153, 43952), (156, 43973), (188, 44033), (212, 44105), (228, 44189), (230, 44222), (242, 44375), (243, 44378), (247, 44408), (250, 44435), (260, 44516),

Gene: ShiLan_70 Start: 46343, Stop: 47512, Start Num: 60
Candidate Starts for ShiLan_70:
(36, 46220), (41, 46262), (Start: 60 @46343 has 63 MA's), (62, 46358), (67, 46385), (70, 46400), (72, 46418), (95, 46673), (124, 46691), (130, 46796), (170, 46943), (190, 47012), (204, 47054), (220, 47138), (223, 47147), (229, 47210), (238, 47291), (242, 47369), (243, 47372), (246, 47393), (250, 47429), (253, 47477), (258, 47495), (260, 47501),

Gene: Silvy_53 Start: 35734, Stop: 37386, Start Num: 60
Candidate Starts for Silvy_53:
(11, 35296), (47, 35668), (Start: 60 @35734 has 63 MA's), (72, 35809), (75, 35845), (76, 35869), (85, 35956), (88, 36007), (93, 36055), (94, 36058), (107, 36106), (123, 36127), (177, 36757), (179, 36778), (185, 36814), (188, 36838), (195, 36883), (242, 37234), (243, 37237), (247, 37267), (250, 37294), (260, 37375),

Gene: Sitar_4 Start: 2434, Stop: 4143, Start Num: 60
Candidate Starts for Sitar_4:

(Start: 60 @2434 has 63 MA's), (83, 2626), (85, 2656), (86, 2683), (91, 2719), (93, 2755), (102, 2872), (103, 2884), (105, 2971), (108, 3013), (109, 3025), (110, 3031), (115, 3175), (117, 3199), (122, 3295), (123, 3316), (130, 3451), (143, 3556), (160, 3652), (206, 3820), (222, 3862), (242, 3997), (243, 4000), (244, 4003), (251, 4081),

Gene: Starcevich_69 Start: 45704, Stop: 46807, Start Num: 60
Candidate Starts for Starcevich_69:
(36, 45581), (41, 45623), (Start: 60 @45704 has 63 MA's), (72, 45779), (76, 45839), (95, 46034), (130, 46157), (144, 46301), (151, 46322), (204, 46451), (226, 46517), (237, 46583), (238, 46586), (242, 46664), (243, 46667), (253, 46772), (260, 46796),

Gene: Stultus_4 Start: 2433, Stop: 3818, Start Num: 99
Candidate Starts for Stultus_4:
(Start: 99 @2433 has 5 MA's), (111, 2625), (113, 2655), (114, 2682), (116, 2718), (118, 2754), (121, 2769), (122, 2805), (123, 2826), (130, 2961), (143, 3066), (160, 3162), (206, 3330), (211, 3351), (222, 3372), (242, 3621), (243, 3624), (244, 3627), (246, 3645), (249, 3708), (251, 3756),

Gene: Toron_77 Start: 47150, Stop: 48340, Start Num: 59
Candidate Starts for Toron_77:
(21, 46868), (34, 47030), (43, 47087), (46, 47090), (Start: 59 @47150 has 1 MA's), (67, 47192), (69, 47201), (72, 47225), (84, 47345), (95, 47480), (126, 47540), (164, 47825), (190, 47912), (194, 47927), (242, 48185), (243, 48188), (247, 48218), (252, 48269), (253, 48293), (257, 48302), (258, 48311), (263, 48332),

Gene: Tweety_72 Start: 45824, Stop: 46936, Start Num: 60
Candidate Starts for Tweety_72:
(39, 45725), (49, 45758), (Start: 60 @45824 has 63 MA's), (68, 45872), (70, 45881), (72, 45899), (75, 45935), (76, 45959), (83, 46016), (92, 46121), (94, 46148), (95, 46160), (97, 46172), (107, 46196), (123, 46217), (185, 46553), (242, 46793), (243, 46796), (250, 46853), (253, 46901), (260, 46925),

Gene: VRedHorse_68 Start: 42168, Stop: 43469, Start Num: 60
Candidate Starts for VRedHorse_68:
(36, 42045), (42, 42087), (Start: 60 @42168 has 63 MA's), (72, 42243), (75, 42279), (76, 42303), (93, 42489), (96, 42513), (107, 42540), (209, 43056), (216, 43077), (242, 43326), (243, 43329), (253, 43434), (260, 43458),

Gene: Vivum_69 Start: 45738, Stop: 47165, Start Num: 60
Candidate Starts for Vivum_69:
(26, 45489), (27, 45519), (36, 45615), (42, 45657), (Start: 60 @45738 has 63 MA's), (62, 45753), (75, 45849), (76, 45873), (85, 45960), (90, 46020), (95, 46074), (96, 46083), (107, 46110), (123, 46131), (130, 46266), (153, 46452), (156, 46473), (219, 46773), (242, 47013), (243, 47016), (247, 47046), (250, 47073), (260, 47154),

Gene: Wachhund_69 Start: 42634, Stop: 44055, Start Num: 60
Candidate Starts for Wachhund_69:
(36, 42511), (41, 42553), (Start: 60 @42634 has 63 MA's), (72, 42709), (76, 42769), (95, 42964), (130, 43087), (144, 43231), (151, 43252), (174, 43441), (176, 43462), (186, 43522), (191, 43558), (194, 43567), (204, 43594), (220, 43678), (229, 43753), (238, 43834), (242, 43912), (243, 43915), (250, 43972), (253, 44020), (258, 44038), (260, 44044),

Gene: WillSterrel_71 Start: 45180, Stop: 46355, Start Num: 60
Candidate Starts for WillSterrel_71:

(36, 45057), (44, 45105), (Start: 60 @45180 has 63 MA's), (72, 45255), (95, 45510), (163, 45837), (169, 45861), (197, 45957), (200, 45963), (217, 46026), (227, 46059), (231, 46074), (234, 46086), (242, 46212), (243, 46215), (253, 46320), (260, 46344),

Gene: Yorick_69 Start: 45654, Stop: 46880, Start Num: 60
Candidate Starts for Yorick_69:
(24, 45402), (29, 45474), (36, 45531), (41, 45573), (Start: 60 @45654 has 63 MA's), (72, 45729), (76, 45789), (95, 45984), (130, 46107), (204, 46524), (226, 46590), (237, 46656), (238, 46659), (242, 46737), (243, 46740), (250, 46797), (253, 46845), (258, 46863), (260, 46869),