Pham 291140

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 291140 Report

This analysis was run 03/28/26 on database version 641.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 291140 has 67 members, 12 are drafts.

Phages represented in each track:
• Track 1 : Heylee_73, Amavida_72
• Track 2 : Molivia_74
• Track 3 : Anansi_70, SorJuana_70, Rings_71, Gorgeous_70
• Track 4 : Ichor_70, Jaek_70, Yeezus_70, Amigo_71, Boersma_73
• Track 5 : Thunderclap_70
• Track 6 : JustBecause_122, Kela_123
• Track 7 : EhyElimayoE_125
• Track 8 : Sarkar_132, Kradal_124, Quantum_123, Satis_124
• Track 9 : Frankenweenie_134
• Track 10 : Nirvana_129
• Track 11 : Wolfstar_82
• Track 12 : Hubbs_78, DejaVu_80
• Track 13 : Lupine_78
• Track 14 : OlinDD_77, Hortus1_77, Pioneer3_77, Tandem_77, Platte_76, Alleb_76
• Track 15 : Saradis_80
• Track 16 : Pavlo_78
• Track 17 : Roman_81
• Track 18 : Jacko_79
• Track 19 : PhillyPhilly_77
• Track 20 : Uterion_82
• Track 21 : Solimine_81
• Track 22 : Erenyeager_84
• Track 23 : Necrophoxinus_86
• Track 24 : Issa7_83
• Track 25 : HollowPurple_85, ASegato_82, SteakFry_83
• Track 26 : Musetta_83
• Track 27 : Deschain_85, Casablancas_85, DustyDino_88, Yuma_83, RunningBrook_86
• Track 28 : Lyell_84
• Track 29 : Welcome_86
• Track 30 : Fork_80
• Track 31 : Shroomer_87
• Track 32 : StevieWelch_85

- Track 33 : Mistmere_78
- Track 34 : LeeroyJenkins_95
- Track 35 : Lifes_86
- Track 36 : Cassita_89
- Track 37 : WaterT_90
- Track 38 : BarnCat_85
- Track 39 : Commonplace_74
- Track 40 : Nonagon_72
- Track 41 : CN1A_14
- Track 42 : CMP1_51
- Track 43 : Yappy_96

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

The start number called the most often in the published annotations is 18, it was called in 25 of the 55 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- ASegato_82, Alleb_76, Casablancas_85, DejaVu_80, Deschain_85, DustyDino_88, Erenyeager_84, Fork_80, HollowPurple_85, Hortus1_77, Hubbs_78, Issa7_83, Jacko_79, Lupine_78, Lyell_84, Mistmere_78, Musetta_83, Necrophoxinus_86, OlinDD_77, Pavlo_78, PhillyPhilly_77, Pioneer3_77, Platte_76, Roman_81, RunningBrook_86, Saradis_80, Shroomer_87, Solimine_81, SteakFry_83, StevieWelch_85, Tandem_77, Uterion_82, Welcome_86, Yuma_83,

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

Genes that do not have the "Most Annotated" start:
- Amavida_72, Amigo_71, Anansi_70, BarnCat_85, Boersma_73, CMP1_51, CN1A_14, Cassita_89, Commonplace_74, EhyElimayoE_125, Frankenweenie_134, Gorgeous_70, Heylee_73, Ichor_70, Jaek_70, JustBecause_122, Kela_123, Kradal_124, LeeroyJenkins_95, Lifes_86, Molivia_74, Nirvana_129, Nonagon_72, Quantum_123, Rings_71, Sarkar_132, Satis_124, SorJuana_70, Thunderclap_70, WaterT_90, Wolfstar_82, Yappy_96, Yeezus_70,

Summary by start number:

Start 8:
- Found in 9 of 67 (13.4%) of genes in pham
- Manual Annotations of this start: 8 of 55
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EhyElimayoE_125 (BM), Frankenweenie_134 (BM), JustBecause_122 (BM), Kela_123 (BM), Kradal_124 (BM), Nirvana_129 (BM), Quantum_123 (BM), Sarkar_132 (BM), Satis_124 (BM),

Start 14:
- Found in 2 of 67 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 55
- Called 100.0% of time when present

• Phage (with cluster) where this start called: Commonplace_74 (JD), Nonagon_72 (JD),

Start 17:
• Found in 1 of 67 (1.5%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CMP1_51 (singleton),

Start 18:
• Found in 34 of 67 (50.7%) of genes in pham
• Manual Annotations of this start: 25 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ASegato_82 (ED2), Alleb_76 (ED1), Casablancas_85 (ED2), DejaVu_80 (ED1), Deschain_85 (ED2), DustyDino_88 (ED2), Erenyeager_84 (ED2), Fork_80 (ED2), HollowPurple_85 (ED2), Hortus1_77 (ED1), Hubbs_78 (ED1), Issa7_83 (ED2), Jacko_79 (ED1), Lupine_78 (ED1), Lyell_84 (ED2), Mistmere_78 (ED3), Musetta_83 (ED2), Necrophoxinus_86 (ED2), OlinDD_77 (ED1), Pavlo_78 (ED1), PhillyPhilly_77 (ED1), Pioneer3_77 (ED1), Platte_76 (ED1), Roman_81 (ED1), RunningBrook_86 (ED2), Saradis_80 (ED1), Shroomer_87 (ED2), Solimine_81 (ED1), SteakFry_83 (ED2), StevieWelch_85 (ED2), Tandem_77 (ED1), Uterion_82 (ED1), Welcome_86 (ED2), Yuma_83 (ED2),

Start 19:
• Found in 4 of 67 (6.0%) of genes in pham
• Manual Annotations of this start: 1 of 55
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Wolfstar_82 (ED),

Start 27:
• Found in 5 of 67 (7.5%) of genes in pham
• Manual Annotations of this start: 5 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BarnCat_85 (GB), Cassita_89 (GB), LeeroyJenkins_95 (GB), Lifes_86 (GB), WaterT_90 (GB),

Start 30:
• Found in 1 of 67 (1.5%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CN1A_14 (singleton),

Start 31:
• Found in 1 of 67 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Yappy_96 (singleton),

Start 35:
• Found in 13 of 67 (19.4%) of genes in pham
• Manual Annotations of this start: 13 of 55
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Amavida_72 (AQ), Amigo_71 (AQ), Anansi_70 (AQ), Boersma_73 (AQ), Gorgeous_70 (AQ), Heylee_73 (AQ), Ichor_70 (AQ), Jaek_70 (AQ), Molivia_74 (AQ), Rings_71 (AQ), SorJuana_70 (AQ), Thunderclap_70 (AQ), Yeezus_70 (AQ),

Summary by clusters:

There are 9 clusters represented in this pham: AQ, singleton, BM, ED2, ED3, ED1, GB, ED, JD,

Info for manual annotations of cluster AQ:
•Start number 35 was manually annotated 13 times for cluster AQ.

Info for manual annotations of cluster BM:
•Start number 8 was manually annotated 8 times for cluster BM.

Info for manual annotations of cluster ED:
•Start number 19 was manually annotated 1 time for cluster ED.

Info for manual annotations of cluster ED1:
•Start number 18 was manually annotated 13 times for cluster ED1.

Info for manual annotations of cluster ED2:
•Start number 18 was manually annotated 12 times for cluster ED2.

Info for manual annotations of cluster GB:
•Start number 27 was manually annotated 5 times for cluster GB.

Info for manual annotations of cluster JD:
•Start number 14 was manually annotated 2 times for cluster JD.

Gene Information:

Gene: ASegato_82 Start: 49650, Stop: 48130, Start Num: 18
Candidate Starts for ASegato_82:
(11, 49683), (Start: 18 @49650 has 25 MA's), (26, 49599), (44, 49491), (58, 49425), (74, 49359), (95, 49242), (100, 49221), (112, 49164), (115, 49131), (116, 49128), (128, 49065), (137, 49014), (139, 49005), (141, 48996), (142, 48990), (149, 48966), (154, 48942), (163, 48903), (167, 48888), (174, 48837), (176, 48819), (190, 48726), (194, 48699), (202, 48654), (235, 48468), (249, 48360), (252, 48330), (261, 48285), (267, 48234), (280, 48171),

Gene: Alleb_76 Start: 48902, Stop: 47379, Start Num: 18
Candidate Starts for Alleb_76:
(10, 48968), (12, 48941), (Start: 18 @48902 has 25 MA's), (42, 48752), (44, 48743), (63, 48647), (73, 48614), (78, 48587), (89, 48533), (96, 48488), (97, 48485), (115, 48380), (116, 48377), (139, 48254), (141, 48245), (145, 48233), (157, 48179), (174, 48086), (189, 47978), (194, 47948), (195, 47942), (196, 47939), (197, 47936), (202, 47903), (205, 47891), (225, 47765), (235, 47717), (247, 47627), (249, 47609), (255, 47561), (275, 47438),

Gene: Amavida_72 Start: 47198, Stop: 45804, Start Num: 35

Candidate Starts for Amavida_72:
(Start: 35 @47198 has 13 MA's), (49, 47129), (67, 47054), (70, 47036), (79, 47006), (97, 46925), (105, 46895), (108, 46871), (154, 46631), (164, 46592), (180, 46478), (188, 46427), (191, 46406), (198, 46376), (200, 46361), (202, 46349), (217, 46268), (225, 46220), (230, 46193), (235, 46172), (243, 46088), (252, 46022), (290, 45833), (292, 45821),

Gene: Amigo_71 Start: 47416, Stop: 46022, Start Num: 35
Candidate Starts for Amigo_71:
(Start: 35 @47416 has 13 MA's), (49, 47347), (67, 47272), (70, 47254), (79, 47224), (97, 47143), (154, 46849), (164, 46810), (180, 46696), (191, 46624), (198, 46594), (200, 46579), (202, 46567), (213, 46516), (221, 46465), (223, 46447), (225, 46438), (235, 46390), (252, 46240), (290, 46051),

Gene: Anansi_70 Start: 47020, Stop: 45626, Start Num: 35
Candidate Starts for Anansi_70:
(Start: 35 @47020 has 13 MA's), (49, 46951), (67, 46876), (70, 46858), (79, 46828), (97, 46747), (123, 46597), (154, 46453), (164, 46414), (180, 46300), (188, 46249), (191, 46228), (198, 46198), (200, 46183), (202, 46171), (217, 46090), (225, 46042), (230, 46015), (235, 45994), (243, 45910), (252, 45844), (290, 45655), (292, 45643),

Gene: BarnCat_85 Start: 49027, Stop: 47570, Start Num: 27
Candidate Starts for BarnCat_85:
(Start: 27 @49027 has 5 MA's), (32, 48997), (53, 48883), (71, 48811), (75, 48799), (84, 48751), (90, 48709), (98, 48673), (104, 48649), (114, 48577), (115, 48571), (117, 48559), (122, 48532), (126, 48511), (140, 48436), (143, 48418), (164, 48322), (165, 48313), (179, 48208), (182, 48178), (183, 48175), (184, 48169), (186, 48157), (187, 48154), (199, 48094), (200, 48085), (214, 47995), (225, 47941), (232, 47905), (245, 47824), (246, 47821), (247, 47818), (248, 47809), (259, 47731), (261, 47725), (271, 47647), (278, 47626), (285, 47599), (287, 47596),

Gene: Boersma_73 Start: 47416, Stop: 46022, Start Num: 35
Candidate Starts for Boersma_73:
(Start: 35 @47416 has 13 MA's), (49, 47347), (67, 47272), (70, 47254), (79, 47224), (97, 47143), (154, 46849), (164, 46810), (180, 46696), (191, 46624), (198, 46594), (200, 46579), (202, 46567), (213, 46516), (221, 46465), (223, 46447), (225, 46438), (235, 46390), (252, 46240), (290, 46051),

Gene: CMP1_51 Start: 48836, Stop: 47235, Start Num: 17
Candidate Starts for CMP1_51:
(17, 48836), (37, 48719), (55, 48617), (65, 48572), (69, 48548), (76, 48533), (98, 48410), (113, 48326), (125, 48242), (129, 48230), (150, 48110), (169, 48029), (181, 47909), (184, 47897), (192, 47855), (198, 47828), (200, 47813), (202, 47801), (204, 47792), (213, 47747), (224, 47681), (239, 47591), (244, 47537), (256, 47456), (264, 47408), (275, 47336), (276, 47333), (283, 47309), (284, 47303), (293, 47261),

Gene: CN1A_14 Start: 6751, Stop: 8316, Start Num: 30
Candidate Starts for CN1A_14:
(30, 6751), (33, 6763), (38, 6793), (39, 6802), (43, 6826), (46, 6844), (50, 6862), (51, 6865), (54, 6877), (61, 6904), (92, 7060), (93, 7069), (99, 7093), (106, 7120), (110, 7147), (120, 7216), (121, 7222), (124, 7234), (133, 7279), (136, 7303), (138, 7309), (147, 7354), (155, 7399), (170, 7456), (178, 7540), (186, 7600), (191, 7627), (192, 7630), (193, 7633), (210, 7735), (212, 7741), (218, 7792), (247, 7984), (249, 8002), (250, 8014), (262, 8080), (266, 8122), (267, 8128), (270, 8155), (272, 8161), (291, 8233), (294, 8284),

Gene: Casablancas_85 Start: 49567, Stop: 48047, Start Num: 18
Candidate Starts for Casablancas_85:

(11, 49600), (Start: 18 @49567 has 25 MA's), (26, 49516), (44, 49408), (58, 49342), (74, 49276), (96, 49153), (100, 49138), (112, 49081), (115, 49048), (116, 49045), (128, 48982), (137, 48931), (139, 48922), (141, 48913), (154, 48859), (163, 48820), (167, 48805), (176, 48736), (179, 48706), (190, 48643), (202, 48571), (235, 48385), (249, 48277), (252, 48247), (261, 48202), (267, 48151), (280, 48088),

Gene: Cassita_89 Start: 50170, Stop: 48713, Start Num: 27
Candidate Starts for Cassita_89:
(Start: 27 @50170 has 5 MA's), (32, 50140), (53, 50026), (71, 49954), (75, 49942), (84, 49894), (90, 49852), (98, 49816), (104, 49792), (114, 49720), (115, 49714), (117, 49702), (122, 49675), (126, 49654), (140, 49579), (143, 49561), (164, 49465), (165, 49456), (179, 49351), (182, 49321), (183, 49318), (184, 49312), (186, 49300), (187, 49297), (199, 49237), (200, 49228), (214, 49138), (225, 49084), (232, 49048), (245, 48967), (246, 48964), (247, 48961), (248, 48952), (259, 48874), (261, 48868), (271, 48790), (278, 48769), (285, 48742), (287, 48739),

Gene: Commonplace_74 Start: 46896, Stop: 45316, Start Num: 14
Candidate Starts for Commonplace_74:
(Start: 14 @46896 has 2 MA's), (20, 46845), (23, 46830), (39, 46737), (41, 46722), (47, 46692), (50, 46677), (56, 46653), (62, 46626), (74, 46581), (81, 46542), (86, 46527), (91, 46485), (103, 46431), (113, 46368), (128, 46278), (134, 46242), (144, 46185), (148, 46164), (166, 46080), (173, 46029), (185, 45936), (188, 45921), (192, 45897), (195, 45882), (196, 45879), (200, 45855), (201, 45849), (204, 45834), (216, 45750), (219, 45729), (220, 45726), (227, 45696), (228, 45693), (240, 45624), (241, 45612), (245, 45570), (247, 45564), (251, 45525), (254, 45501), (267, 45420), (274, 45378), (275, 45375),

Gene: DejaVu_80 Start: 49301, Stop: 47778, Start Num: 18
Candidate Starts for DejaVu_80:
(2, 49562), (4, 49520), (Start: 18 @49301 has 25 MA's), (36, 49190), (42, 49151), (44, 49142), (63, 49046), (77, 49004), (78, 48986), (89, 48932), (96, 48887), (97, 48884), (116, 48782), (139, 48659), (148, 48623), (157, 48584), (172, 48518), (174, 48491), (176, 48473), (179, 48443), (189, 48383), (194, 48353), (197, 48341), (198, 48335), (247, 48026), (249, 48008), (253, 47966), (255, 47960), (258, 47942), (259, 47939), (282, 47813),

Gene: Deschain_85 Start: 50231, Stop: 48711, Start Num: 18
Candidate Starts for Deschain_85:
(11, 50264), (Start: 18 @50231 has 25 MA's), (26, 50180), (44, 50072), (58, 50006), (74, 49940), (96, 49817), (100, 49802), (112, 49745), (115, 49712), (116, 49709), (128, 49646), (137, 49595), (139, 49586), (141, 49577), (154, 49523), (163, 49484), (167, 49469), (176, 49400), (179, 49370), (190, 49307), (202, 49235), (235, 49049), (249, 48941), (252, 48911), (261, 48866), (267, 48815), (280, 48752),

Gene: DustyDino_88 Start: 50790, Stop: 49270, Start Num: 18
Candidate Starts for DustyDino_88:
(11, 50823), (Start: 18 @50790 has 25 MA's), (26, 50739), (44, 50631), (58, 50565), (74, 50499), (96, 50376), (100, 50361), (112, 50304), (115, 50271), (116, 50268), (128, 50205), (137, 50154), (139, 50145), (141, 50136), (154, 50082), (163, 50043), (167, 50028), (176, 49959), (179, 49929), (190, 49866), (202, 49794), (235, 49608), (249, 49500), (252, 49470), (261, 49425), (267, 49374), (280, 49311),

Gene: EhyElimayoE_125 Start: 82183, Stop: 80540, Start Num: 8
Candidate Starts for EhyElimayoE_125:
(Start: 8 @82183 has 8 MA's), (9, 82159), (21, 82051), (40, 81946), (48, 81907), (59, 81856), (80, 81763), (91, 81703), (96, 81679), (97, 81676), (102, 81649), (117, 81556), (146, 81403), (151, 81379),

(152, 81376), (158, 81343), (161, 81331), (174, 81259), (183, 81181), (191, 81136), (217, 80989), (224, 80950), (226, 80944), (231, 80914), (237, 80884), (238, 80872), (247, 80806), (260, 80716), (261, 80713), (275, 80617), (277, 80611), (279, 80602), (284, 80584),

Gene: Erenyeager_84 Start: 49578, Stop: 48058, Start Num: 18
Candidate Starts for Erenyeager_84:
(11, 49611), (Start: 18 @49578 has 25 MA's), (26, 49527), (42, 49428), (44, 49419), (58, 49353), (74, 49287), (96, 49164), (100, 49149), (112, 49092), (115, 49059), (116, 49056), (128, 48993), (137, 48942), (139, 48933), (141, 48924), (149, 48894), (154, 48870), (163, 48831), (167, 48816), (174, 48765), (176, 48747), (179, 48717), (190, 48654), (202, 48582), (249, 48288), (252, 48258), (253, 48246), (261, 48213), (280, 48099),

Gene: Fork_80 Start: 49528, Stop: 48008, Start Num: 18
Candidate Starts for Fork_80:
(11, 49561), (Start: 18 @49528 has 25 MA's), (26, 49477), (44, 49369), (58, 49303), (74, 49237), (96, 49114), (100, 49099), (112, 49042), (115, 49009), (116, 49006), (128, 48943), (137, 48892), (139, 48883), (141, 48874), (142, 48868), (149, 48844), (154, 48820), (163, 48781), (167, 48766), (174, 48715), (176, 48697), (179, 48667), (194, 48577), (202, 48532), (235, 48346), (249, 48238), (252, 48208), (261, 48163), (267, 48112), (275, 48067), (280, 48049),

Gene: Frankenweenie_134 Start: 87252, Stop: 85606, Start Num: 8
Candidate Starts for Frankenweenie_134:
(3, 87378), (Start: 8 @87252 has 8 MA's), (21, 87120), (59, 86925), (83, 86823), (96, 86748), (97, 86745), (128, 86571), (135, 86529), (146, 86472), (156, 86427), (182, 86253), (187, 86229), (193, 86199), (196, 86187), (199, 86172), (207, 86124), (226, 86010), (231, 85980), (236, 85959), (237, 85950), (238, 85938), (245, 85878), (260, 85782), (261, 85779), (277, 85677), (284, 85650),

Gene: Gorgeous_70 Start: 47020, Stop: 45626, Start Num: 35
Candidate Starts for Gorgeous_70:
(Start: 35 @47020 has 13 MA's), (49, 46951), (67, 46876), (70, 46858), (79, 46828), (97, 46747), (123, 46597), (154, 46453), (164, 46414), (180, 46300), (188, 46249), (191, 46228), (198, 46198), (200, 46183), (202, 46171), (217, 46090), (225, 46042), (230, 46015), (235, 45994), (243, 45910), (252, 45844), (290, 45655), (292, 45643),

Gene: Heylee_73 Start: 47198, Stop: 45804, Start Num: 35
Candidate Starts for Heylee_73:
(Start: 35 @47198 has 13 MA's), (49, 47129), (67, 47054), (70, 47036), (79, 47006), (97, 46925), (105, 46895), (108, 46871), (154, 46631), (164, 46592), (180, 46478), (188, 46427), (191, 46406), (198, 46376), (200, 46361), (202, 46349), (217, 46268), (225, 46220), (230, 46193), (235, 46172), (243, 46088), (252, 46022), (290, 45833), (292, 45821),

Gene: HollowPurple_85 Start: 50087, Stop: 48567, Start Num: 18
Candidate Starts for HollowPurple_85:
(11, 50120), (Start: 18 @50087 has 25 MA's), (26, 50036), (44, 49928), (58, 49862), (74, 49796), (95, 49679), (100, 49658), (112, 49601), (115, 49568), (116, 49565), (128, 49502), (137, 49451), (139, 49442), (141, 49433), (142, 49427), (149, 49403), (154, 49379), (163, 49340), (167, 49325), (174, 49274), (176, 49256), (190, 49163), (194, 49136), (202, 49091), (235, 48905), (249, 48797), (252, 48767), (261, 48722), (267, 48671), (280, 48608),

Gene: Hortus1_77 Start: 49476, Stop: 47953, Start Num: 18
Candidate Starts for Hortus1_77:
(10, 49542), (12, 49515), (Start: 18 @49476 has 25 MA's), (42, 49326), (44, 49317), (63, 49221), (73, 49188), (78, 49161), (89, 49107), (96, 49062), (97, 49059), (115, 48954), (116, 48951), (139, 48828),

(141, 48819), (145, 48807), (157, 48753), (174, 48660), (189, 48552), (194, 48522), (195, 48516), (196, 48513), (197, 48510), (202, 48477), (205, 48465), (225, 48339), (235, 48291), (247, 48201), (249, 48183), (255, 48135), (275, 48012),

Gene: Hubbs_78 Start: 49505, Stop: 47982, Start Num: 18
Candidate Starts for Hubbs_78:
(2, 49766), (4, 49724), (Start: 18 @49505 has 25 MA's), (36, 49394), (42, 49355), (44, 49346), (63, 49250), (77, 49208), (78, 49190), (89, 49136), (96, 49091), (97, 49088), (116, 48986), (139, 48863), (148, 48827), (157, 48788), (172, 48722), (174, 48695), (176, 48677), (179, 48647), (189, 48587), (194, 48557), (197, 48545), (198, 48539), (247, 48230), (249, 48212), (253, 48170), (255, 48164), (258, 48146), (259, 48143), (282, 48017),

Gene: Ichor_70 Start: 47416, Stop: 46022, Start Num: 35
Candidate Starts for Ichor_70:
(Start: 35 @47416 has 13 MA's), (49, 47347), (67, 47272), (70, 47254), (79, 47224), (97, 47143), (154, 46849), (164, 46810), (180, 46696), (191, 46624), (198, 46594), (200, 46579), (202, 46567), (213, 46516), (221, 46465), (223, 46447), (225, 46438), (235, 46390), (252, 46240), (290, 46051),

Gene: Issa7_83 Start: 49544, Stop: 48024, Start Num: 18
Candidate Starts for Issa7_83:
(11, 49577), (Start: 18 @49544 has 25 MA's), (26, 49493), (44, 49385), (58, 49319), (74, 49253), (96, 49130), (100, 49115), (112, 49058), (115, 49025), (116, 49022), (128, 48959), (137, 48908), (139, 48899), (141, 48890), (142, 48884), (149, 48860), (154, 48836), (163, 48797), (167, 48782), (174, 48731), (176, 48713), (179, 48683), (195, 48587), (202, 48548), (235, 48362), (249, 48254), (252, 48224), (261, 48179), (280, 48065),

Gene: Jacko_79 Start: 48477, Stop: 46960, Start Num: 18
Candidate Starts for Jacko_79:
(15, 48495), (Start: 18 @48477 has 25 MA's), (26, 48426), (42, 48327), (44, 48318), (52, 48279), (63, 48222), (94, 48072), (97, 48060), (115, 47958), (116, 47955), (132, 47874), (137, 47841), (139, 47832), (154, 47769), (157, 47757), (172, 47691), (179, 47616), (189, 47556), (202, 47481), (210, 47430), (225, 47343), (241, 47250), (247, 47205), (249, 47187), (252, 47157), (255, 47139), (259, 47118), (269, 47043), (275, 47016), (282, 46992),

Gene: Jaek_70 Start: 47416, Stop: 46022, Start Num: 35
Candidate Starts for Jaek_70:
(Start: 35 @47416 has 13 MA's), (49, 47347), (67, 47272), (70, 47254), (79, 47224), (97, 47143), (154, 46849), (164, 46810), (180, 46696), (191, 46624), (198, 46594), (200, 46579), (202, 46567), (213, 46516), (221, 46465), (223, 46447), (225, 46438), (235, 46390), (252, 46240), (290, 46051),

Gene: JustBecause_122 Start: 81387, Stop: 79741, Start Num: 8
Candidate Starts for JustBecause_122:
(6, 81426), (Start: 8 @81387 has 8 MA's), (16, 81297), (Start: 19 @81279 has 1 MA's), (21, 81255), (25, 81237), (59, 81060), (83, 80958), (96, 80883), (97, 80880), (110, 80817), (158, 80547), (161, 80535), (174, 80463), (199, 80307), (209, 80247), (212, 80232), (226, 80145), (231, 80115), (238, 80073), (245, 80013), (260, 79917), (261, 79914), (284, 79785),

Gene: Kela_123 Start: 81267, Stop: 79621, Start Num: 8
Candidate Starts for Kela_123:
(6, 81306), (Start: 8 @81267 has 8 MA's), (16, 81177), (Start: 19 @81159 has 1 MA's), (21, 81135), (25, 81117), (59, 80940), (83, 80838), (96, 80763), (97, 80760), (110, 80697), (158, 80427), (161, 80415), (174, 80343), (199, 80187), (209, 80127), (212, 80112), (226, 80025), (231, 79995), (238, 79953), (245, 79893), (260, 79797), (261, 79794), (284, 79665),

Gene: Kradal_124 Start: 82180, Stop: 80537, Start Num: 8
Candidate Starts for Kradal_124:
(Start: 8 @82180 has 8 MA's), (9, 82156), (21, 82048), (40, 81943), (48, 81904), (59, 81853), (80, 81760), (91, 81700), (96, 81676), (97, 81673), (102, 81646), (117, 81553), (146, 81400), (151, 81376), (152, 81373), (158, 81340), (161, 81328), (174, 81256), (183, 81178), (191, 81133), (217, 80986), (226, 80941), (231, 80911), (237, 80881), (238, 80869), (247, 80803), (260, 80713), (261, 80710), (275, 80614), (277, 80608), (284, 80581),

Gene: LeeroyJenkins_95 Start: 51345, Stop: 49888, Start Num: 27
Candidate Starts for LeeroyJenkins_95:
(Start: 27 @51345 has 5 MA's), (28, 51342), (32, 51315), (53, 51201), (75, 51117), (84, 51069), (90, 51027), (98, 50991), (104, 50967), (114, 50895), (115, 50889), (117, 50877), (122, 50850), (126, 50829), (140, 50754), (143, 50736), (164, 50640), (165, 50631), (179, 50526), (182, 50496), (183, 50493), (184, 50487), (186, 50475), (187, 50472), (199, 50412), (200, 50403), (214, 50313), (225, 50259), (232, 50223), (245, 50142), (246, 50139), (247, 50136), (248, 50127), (259, 50049), (261, 50043), (271, 49965), (278, 49944), (285, 49917), (287, 49914),

Gene: Lifes_86 Start: 48144, Stop: 46666, Start Num: 27
Candidate Starts for Lifes_86:
(Start: 27 @48144 has 5 MA's), (29, 48135), (34, 48114), (64, 47964), (82, 47880), (88, 47859), (117, 47685), (118, 47679), (130, 47625), (143, 47547), (162, 47454), (175, 47379), (180, 47337), (187, 47289), (193, 47259), (200, 47220), (204, 47199), (206, 47187), (222, 47082), (224, 47067), (227, 47055), (233, 47025), (242, 46953), (247, 46917), (252, 46869), (254, 46854), (257, 46836), (261, 46824), (265, 46791), (278, 46725), (281, 46713), (287, 46695), (289, 46683),

Gene: Lupine_78 Start: 49414, Stop: 47891, Start Num: 18
Candidate Starts for Lupine_78:
(2, 49675), (4, 49633), (Start: 18 @49414 has 25 MA's), (36, 49303), (42, 49264), (44, 49255), (63, 49159), (77, 49117), (78, 49099), (89, 49045), (96, 49000), (116, 48895), (139, 48772), (148, 48736), (157, 48697), (172, 48631), (174, 48604), (176, 48586), (179, 48556), (189, 48496), (194, 48466), (197, 48454), (198, 48448), (247, 48139), (249, 48121), (253, 48079), (255, 48073), (258, 48055), (259, 48052),

Gene: Lyell_84 Start: 49739, Stop: 48219, Start Num: 18
Candidate Starts for Lyell_84:
(11, 49772), (Start: 18 @49739 has 25 MA's), (22, 49706), (26, 49688), (44, 49580), (58, 49514), (74, 49448), (96, 49325), (100, 49310), (112, 49253), (115, 49220), (116, 49217), (128, 49154), (137, 49103), (139, 49094), (141, 49085), (149, 49055), (154, 49031), (163, 48992), (167, 48977), (174, 48926), (176, 48908), (194, 48788), (202, 48743), (249, 48449), (252, 48419), (261, 48374), (267, 48323), (280, 48260),

Gene: Mistmere_78 Start: 48079, Stop: 46562, Start Num: 18
Candidate Starts for Mistmere_78:
(5, 48235), (16, 48091), (Start: 18 @48079 has 25 MA's), (36, 47968), (42, 47929), (44, 47920), (72, 47797), (77, 47782), (89, 47710), (101, 47644), (107, 47617), (115, 47560), (116, 47557), (128, 47494), (139, 47434), (163, 47332), (174, 47266), (197, 47116), (202, 47083), (205, 47071), (225, 46945), (234, 46900), (245, 46813), (247, 46807), (249, 46789), (261, 46714), (268, 46657),

Gene: Molivia_74 Start: 46115, Stop: 44718, Start Num: 35
Candidate Starts for Molivia_74:
(Start: 35 @46115 has 13 MA's), (45, 46064), (55, 46013), (57, 46010), (60, 45992), (66, 45974), (70, 45953), (100, 45830), (123, 45692), (153, 45551), (164, 45509), (171, 45488), (180, 45395), (190,

45338), (191, 45323), (198, 45293), (203, 45260), (217, 45185), (225, 45137), (230, 45110), (232, 45101), (235, 45089), (247, 44987), (251, 44948), (252, 44939), (273, 44807), (286, 44762), (292, 44738),

Gene: Musetta_83 Start: 50079, Stop: 48559, Start Num: 18
Candidate Starts for Musetta_83:
(11, 50112), (Start: 18 @50079 has 25 MA's), (26, 50028), (44, 49920), (58, 49854), (74, 49788), (96, 49665), (100, 49650), (112, 49593), (115, 49560), (116, 49557), (128, 49494), (137, 49443), (139, 49434), (141, 49425), (154, 49371), (163, 49332), (167, 49317), (174, 49266), (176, 49248), (179, 49218), (194, 49128), (202, 49083), (249, 48789), (252, 48759), (261, 48714), (280, 48600),

Gene: Necrophoxinus_86 Start: 50425, Stop: 48905, Start Num: 18
Candidate Starts for Necrophoxinus_86:
(11, 50458), (Start: 18 @50425 has 25 MA's), (22, 50392), (26, 50374), (42, 50275), (44, 50266), (58, 50200), (74, 50134), (100, 49996), (112, 49939), (115, 49906), (116, 49903), (128, 49840), (137, 49789), (139, 49780), (141, 49771), (149, 49741), (154, 49717), (163, 49678), (167, 49663), (174, 49612), (176, 49594), (179, 49564), (190, 49501), (202, 49429), (249, 49135), (252, 49105), (261, 49060), (267, 49009), (275, 48964), (280, 48946),

Gene: Nirvana_129 Start: 85649, Stop: 84003, Start Num: 8
Candidate Starts for Nirvana_129:
(Start: 8 @85649 has 8 MA's), (Start: 19 @85541 has 1 MA's), (21, 85517), (24, 85502), (25, 85499), (59, 85322), (83, 85220), (96, 85145), (97, 85142), (128, 84968), (135, 84926), (146, 84869), (160, 84803), (176, 84707), (182, 84650), (193, 84596), (196, 84584), (199, 84569), (207, 84521), (226, 84407), (231, 84377), (237, 84347), (238, 84335), (260, 84179), (261, 84176), (284, 84047),

Gene: Nonagon_72 Start: 46348, Stop: 44768, Start Num: 14
Candidate Starts for Nonagon_72:
(7, 46438), (Start: 14 @46348 has 2 MA's), (20, 46297), (23, 46282), (39, 46189), (41, 46174), (47, 46144), (50, 46129), (56, 46105), (62, 46078), (74, 46033), (81, 45994), (86, 45979), (91, 45937), (103, 45883), (113, 45820), (128, 45730), (131, 45715), (134, 45694), (144, 45637), (148, 45616), (166, 45532), (173, 45481), (185, 45388), (188, 45373), (192, 45349), (195, 45334), (196, 45331), (200, 45307), (201, 45301), (204, 45286), (216, 45202), (219, 45181), (220, 45178), (227, 45148), (228, 45145), (240, 45076), (241, 45064), (245, 45022), (247, 45016), (251, 44977), (254, 44953), (267, 44872), (274, 44830), (275, 44827),

Gene: OlinDD_77 Start: 49475, Stop: 47952, Start Num: 18
Candidate Starts for OlinDD_77:
(10, 49541), (12, 49514), (Start: 18 @49475 has 25 MA's), (42, 49325), (44, 49316), (63, 49220), (73, 49187), (78, 49160), (89, 49106), (96, 49061), (97, 49058), (115, 48953), (116, 48950), (139, 48827), (141, 48818), (145, 48806), (157, 48752), (174, 48659), (189, 48551), (194, 48521), (195, 48515), (196, 48512), (197, 48509), (202, 48476), (205, 48464), (225, 48338), (235, 48290), (247, 48200), (249, 48182), (255, 48134), (275, 48011),

Gene: Pavlo_78 Start: 49360, Stop: 47837, Start Num: 18
Candidate Starts for Pavlo_78:
(2, 49621), (Start: 18 @49360 has 25 MA's), (36, 49249), (42, 49210), (44, 49201), (63, 49105), (77, 49063), (78, 49045), (89, 48991), (96, 48946), (97, 48943), (116, 48841), (139, 48718), (148, 48682), (157, 48643), (172, 48577), (174, 48550), (176, 48532), (179, 48502), (189, 48442), (194, 48412), (197, 48400), (198, 48394), (247, 48085), (249, 48067), (253, 48025), (255, 48019), (258, 48001), (259, 47998), (282, 47872),

Gene: PhillyPhilly_77 Start: 48897, Stop: 47374, Start Num: 18

Candidate Starts for PhillyPhilly_77:
(Start: 18 @48897 has 25 MA's), (36, 48786), (42, 48747), (44, 48738), (52, 48699), (63, 48642), (77, 48600), (89, 48528), (96, 48483), (97, 48480), (116, 48378), (139, 48255), (148, 48219), (157, 48180), (172, 48114), (174, 48087), (176, 48069), (179, 48039), (189, 47979), (194, 47949), (197, 47937), (198, 47931), (247, 47622), (249, 47604), (253, 47562), (255, 47556), (258, 47538), (259, 47535),

Gene: Pioneer3_77 Start: 49273, Stop: 47750, Start Num: 18
Candidate Starts for Pioneer3_77:
(10, 49339), (12, 49312), (Start: 18 @49273 has 25 MA's), (42, 49123), (44, 49114), (63, 49018), (73, 48985), (78, 48958), (89, 48904), (96, 48859), (97, 48856), (115, 48751), (116, 48748), (139, 48625), (141, 48616), (145, 48604), (157, 48550), (174, 48457), (189, 48349), (194, 48319), (195, 48313), (196, 48310), (197, 48307), (202, 48274), (205, 48262), (225, 48136), (235, 48088), (247, 47998), (249, 47980), (255, 47932), (275, 47809),

Gene: Platte_76 Start: 49041, Stop: 47518, Start Num: 18
Candidate Starts for Platte_76:
(10, 49107), (12, 49080), (Start: 18 @49041 has 25 MA's), (42, 48891), (44, 48882), (63, 48786), (73, 48753), (78, 48726), (89, 48672), (96, 48627), (97, 48624), (115, 48519), (116, 48516), (139, 48393), (141, 48384), (145, 48372), (157, 48318), (174, 48225), (189, 48117), (194, 48087), (195, 48081), (196, 48078), (197, 48075), (202, 48042), (205, 48030), (225, 47904), (235, 47856), (247, 47766), (249, 47748), (255, 47700), (275, 47577),

Gene: Quantum_123 Start: 82180, Stop: 80537, Start Num: 8
Candidate Starts for Quantum_123:
(Start: 8 @82180 has 8 MA's), (9, 82156), (21, 82048), (40, 81943), (48, 81904), (59, 81853), (80, 81760), (91, 81700), (96, 81676), (97, 81673), (102, 81646), (117, 81553), (146, 81400), (151, 81376), (152, 81373), (158, 81340), (161, 81328), (174, 81256), (183, 81178), (191, 81133), (217, 80986), (226, 80941), (231, 80911), (237, 80881), (238, 80869), (247, 80803), (260, 80713), (261, 80710), (275, 80614), (277, 80608), (284, 80581),

Gene: Rings_71 Start: 47461, Stop: 46067, Start Num: 35
Candidate Starts for Rings_71:
(Start: 35 @47461 has 13 MA's), (49, 47392), (67, 47317), (70, 47299), (79, 47269), (97, 47188), (123, 47038), (154, 46894), (164, 46855), (180, 46741), (188, 46690), (191, 46669), (198, 46639), (200, 46624), (202, 46612), (217, 46531), (225, 46483), (230, 46456), (235, 46435), (243, 46351), (252, 46285), (290, 46096), (292, 46084),

Gene: Roman_81 Start: 50015, Stop: 48492, Start Num: 18
Candidate Starts for Roman_81:
(2, 50276), (Start: 18 @50015 has 25 MA's), (36, 49904), (42, 49865), (44, 49856), (63, 49760), (77, 49718), (78, 49700), (96, 49601), (97, 49598), (111, 49538), (116, 49496), (139, 49373), (148, 49337), (157, 49298), (172, 49232), (174, 49205), (176, 49187), (179, 49157), (189, 49097), (194, 49067), (197, 49055), (198, 49049), (247, 48740), (249, 48722), (253, 48680), (255, 48674), (258, 48656), (259, 48653),

Gene: RunningBrook_86 Start: 50790, Stop: 49270, Start Num: 18
Candidate Starts for RunningBrook_86:
(11, 50823), (Start: 18 @50790 has 25 MA's), (26, 50739), (44, 50631), (58, 50565), (74, 50499), (96, 50376), (100, 50361), (112, 50304), (115, 50271), (116, 50268), (128, 50205), (137, 50154), (139, 50145), (141, 50136), (154, 50082), (163, 50043), (167, 50028), (176, 49959), (179, 49929), (190, 49866), (202, 49794), (235, 49608), (249, 49500), (252, 49470), (261, 49425), (267, 49374), (280, 49311),

Gene: Saradis_80 Start: 48976, Stop: 47453, Start Num: 18
Candidate Starts for Saradis_80:
(Start: 18 @48976 has 25 MA's), (36, 48865), (42, 48826), (44, 48817), (63, 48721), (77, 48679), (78, 48661), (89, 48607), (96, 48562), (97, 48559), (116, 48457), (139, 48334), (148, 48298), (157, 48259), (172, 48193), (174, 48166), (176, 48148), (179, 48118), (189, 48058), (194, 48028), (197, 48016), (198, 48010), (247, 47701), (249, 47683), (253, 47641), (255, 47635), (258, 47617), (259, 47614), (282, 47488),

Gene: Sarkar_132 Start: 82180, Stop: 80537, Start Num: 8
Candidate Starts for Sarkar_132:
(Start: 8 @82180 has 8 MA's), (9, 82156), (21, 82048), (40, 81943), (48, 81904), (59, 81853), (80, 81760), (91, 81700), (96, 81676), (97, 81673), (102, 81646), (117, 81553), (146, 81400), (151, 81376), (152, 81373), (158, 81340), (161, 81328), (174, 81256), (183, 81178), (191, 81133), (217, 80986), (226, 80941), (231, 80911), (237, 80881), (238, 80869), (247, 80803), (260, 80713), (261, 80710), (275, 80614), (277, 80608), (284, 80581),

Gene: Satis_124 Start: 82176, Stop: 80533, Start Num: 8
Candidate Starts for Satis_124:
(Start: 8 @82176 has 8 MA's), (9, 82152), (21, 82044), (40, 81939), (48, 81900), (59, 81849), (80, 81756), (91, 81696), (96, 81672), (97, 81669), (102, 81642), (117, 81549), (146, 81396), (151, 81372), (152, 81369), (158, 81336), (161, 81324), (174, 81252), (183, 81174), (191, 81129), (217, 80982), (226, 80937), (231, 80907), (237, 80877), (238, 80865), (247, 80799), (260, 80709), (261, 80706), (275, 80610), (277, 80604), (284, 80577),

Gene: Shroomer_87 Start: 50030, Stop: 48510, Start Num: 18
Candidate Starts for Shroomer_87:
(11, 50063), (Start: 18 @50030 has 25 MA's), (26, 49979), (44, 49871), (58, 49805), (74, 49739), (96, 49616), (100, 49601), (112, 49544), (115, 49511), (116, 49508), (128, 49445), (137, 49394), (139, 49385), (141, 49376), (142, 49370), (149, 49346), (154, 49322), (163, 49283), (167, 49268), (174, 49217), (176, 49199), (190, 49106), (194, 49079), (202, 49034), (235, 48848), (249, 48740), (252, 48710), (261, 48665), (280, 48551),

Gene: Solimine_81 Start: 49872, Stop: 48349, Start Num: 18
Candidate Starts for Solimine_81:
(2, 50133), (4, 50091), (Start: 18 @49872 has 25 MA's), (36, 49761), (42, 49722), (44, 49713), (63, 49617), (77, 49575), (78, 49557), (89, 49503), (96, 49458), (97, 49455), (116, 49353), (139, 49230), (148, 49194), (157, 49155), (172, 49089), (174, 49062), (176, 49044), (179, 49014), (189, 48954), (194, 48924), (197, 48912), (198, 48906), (247, 48597), (249, 48579), (253, 48537), (255, 48531), (258, 48513), (259, 48510), (275, 48408), (282, 48384),

Gene: SorJuana_70 Start: 47020, Stop: 45626, Start Num: 35
Candidate Starts for SorJuana_70:
(Start: 35 @47020 has 13 MA's), (49, 46951), (67, 46876), (70, 46858), (79, 46828), (97, 46747), (123, 46597), (154, 46453), (164, 46414), (180, 46300), (188, 46249), (191, 46228), (198, 46198), (200, 46183), (202, 46171), (217, 46090), (225, 46042), (230, 46015), (235, 45994), (243, 45910), (252, 45844), (290, 45655), (292, 45643),

Gene: SteakFry_83 Start: 50087, Stop: 48567, Start Num: 18
Candidate Starts for SteakFry_83:
(11, 50120), (Start: 18 @50087 has 25 MA's), (26, 50036), (44, 49928), (58, 49862), (74, 49796), (95, 49679), (100, 49658), (112, 49601), (115, 49568), (116, 49565), (128, 49502), (137, 49451), (139, 49442), (141, 49433), (142, 49427), (149, 49403), (154, 49379), (163, 49340), (167, 49325), (174, 49274), (176, 49256), (190, 49163), (194, 49136), (202, 49091), (235, 48905), (249, 48797), (252,

48767), (261, 48722), (267, 48671), (280, 48608),

Gene: StevieWelch_85 Start: 49882, Stop: 48362, Start Num: 18
Candidate Starts for StevieWelch_85:
(11, 49915), (Start: 18 @49882 has 25 MA's), (26, 49831), (44, 49723), (58, 49657), (74, 49591), (96, 49468), (100, 49453), (112, 49396), (115, 49363), (116, 49360), (128, 49297), (137, 49246), (139, 49237), (141, 49228), (142, 49222), (149, 49198), (154, 49174), (163, 49135), (167, 49120), (174, 49069), (176, 49051), (190, 48958), (194, 48931), (202, 48886), (235, 48700), (249, 48592), (252, 48562), (261, 48517), (267, 48466), (275, 48421), (280, 48403),

Gene: Tandem_77 Start: 49353, Stop: 47830, Start Num: 18
Candidate Starts for Tandem_77:
(10, 49419), (12, 49392), (Start: 18 @49353 has 25 MA's), (42, 49203), (44, 49194), (63, 49098), (73, 49065), (78, 49038), (89, 48984), (96, 48939), (97, 48936), (115, 48831), (116, 48828), (139, 48705), (141, 48696), (145, 48684), (157, 48630), (174, 48537), (189, 48429), (194, 48399), (195, 48393), (196, 48390), (197, 48387), (202, 48354), (205, 48342), (225, 48216), (235, 48168), (247, 48078), (249, 48060), (255, 48012), (275, 47889),

Gene: Thunderclap_70 Start: 47442, Stop: 46048, Start Num: 35
Candidate Starts for Thunderclap_70:
(Start: 35 @47442 has 13 MA's), (49, 47373), (67, 47298), (70, 47280), (79, 47250), (97, 47169), (108, 47115), (123, 47019), (154, 46875), (164, 46836), (180, 46722), (188, 46671), (191, 46650), (198, 46620), (200, 46605), (202, 46593), (217, 46512), (225, 46464), (230, 46437), (235, 46416), (243, 46332), (252, 46266), (290, 46077), (292, 46065),

Gene: Uterion_82 Start: 49462, Stop: 47939, Start Num: 18
Candidate Starts for Uterion_82:
(2, 49723), (4, 49681), (Start: 18 @49462 has 25 MA's), (36, 49351), (42, 49312), (44, 49303), (52, 49264), (63, 49207), (77, 49165), (78, 49147), (89, 49093), (96, 49048), (97, 49045), (116, 48943), (139, 48820), (148, 48784), (157, 48745), (172, 48679), (174, 48652), (176, 48634), (179, 48604), (189, 48544), (194, 48514), (197, 48502), (198, 48496), (247, 48187), (249, 48169), (253, 48127), (255, 48121), (258, 48103), (259, 48100), (282, 47974),

Gene: WaterT_90 Start: 50077, Stop: 48617, Start Num: 27
Candidate Starts for WaterT_90:
(Start: 27 @50077 has 5 MA's), (32, 50047), (53, 49933), (75, 49849), (98, 49723), (104, 49699), (115, 49621), (117, 49609), (118, 49603), (119, 49597), (122, 49582), (126, 49561), (140, 49486), (143, 49468), (164, 49372), (165, 49363), (179, 49258), (182, 49228), (183, 49225), (184, 49219), (186, 49207), (187, 49204), (199, 49144), (200, 49135), (214, 49045), (225, 48991), (232, 48955), (245, 48874), (246, 48871), (247, 48868), (248, 48859), (259, 48781), (261, 48775), (271, 48697), (278, 48676), (285, 48649), (287, 48646), (289, 48634),

Gene: Welcome_86 Start: 50242, Stop: 48722, Start Num: 18
Candidate Starts for Welcome_86:
(11, 50275), (Start: 18 @50242 has 25 MA's), (26, 50191), (44, 50083), (58, 50017), (74, 49951), (100, 49813), (112, 49756), (115, 49723), (116, 49720), (128, 49657), (137, 49606), (139, 49597), (141, 49588), (142, 49582), (149, 49558), (154, 49534), (163, 49495), (167, 49480), (174, 49429), (190, 49318), (194, 49291), (202, 49246), (249, 48952), (252, 48922), (261, 48877), (267, 48826), (275, 48781), (280, 48763),

Gene: Wolfstar_82 Start: 50847, Stop: 49330, Start Num: 19
Candidate Starts for Wolfstar_82:

(1, 51207), (13, 50889), (Start: 19 @50847 has 1 MA's), (42, 50703), (44, 50694), (63, 50598), (73, 50565), (89, 50484), (96, 50439), (97, 50436), (116, 50334), (139, 50211), (141, 50202), (157, 50136), (187, 49941), (189, 49935), (194, 49905), (195, 49899), (197, 49893), (225, 49722), (249, 49560), (255, 49512), (268, 49428), (275, 49389), (282, 49365),

Gene: Yappy_96 Start: 49042, Stop: 47645, Start Num: 31
Candidate Starts for Yappy_96:
(Start: 31 @49042 has 1 MA's), (49, 48952), (51, 48940), (57, 48919), (68, 48868), (85, 48811), (87, 48805), (107, 48712), (109, 48700), (115, 48649), (123, 48604), (127, 48586), (140, 48526), (159, 48439), (168, 48412), (177, 48346), (191, 48232), (198, 48202), (202, 48175), (205, 48166), (208, 48142), (211, 48130), (214, 48097), (215, 48094), (218, 48076), (223, 48046), (229, 48022), (233, 48007), (242, 47932), (246, 47899), (252, 47848), (256, 47827), (263, 47785), (267, 47752), (282, 47686), (288, 47665),

Gene: Yeezus_70 Start: 47415, Stop: 46021, Start Num: 35
Candidate Starts for Yeezus_70:
(Start: 35 @47415 has 13 MA's), (49, 47346), (67, 47271), (70, 47253), (79, 47223), (97, 47142), (154, 46848), (164, 46809), (180, 46695), (191, 46623), (198, 46593), (200, 46578), (202, 46566), (213, 46515), (221, 46464), (223, 46446), (225, 46437), (235, 46389), (252, 46239), (290, 46050),

Gene: Yuma_83 Start: 49751, Stop: 48231, Start Num: 18
Candidate Starts for Yuma_83:
(11, 49784), (Start: 18 @49751 has 25 MA's), (26, 49700), (44, 49592), (58, 49526), (74, 49460), (96, 49337), (100, 49322), (112, 49265), (115, 49232), (116, 49229), (128, 49166), (137, 49115), (139, 49106), (141, 49097), (154, 49043), (163, 49004), (167, 48989), (176, 48920), (179, 48890), (190, 48827), (202, 48755), (235, 48569), (249, 48461), (252, 48431), (261, 48386), (267, 48335), (280, 48272),