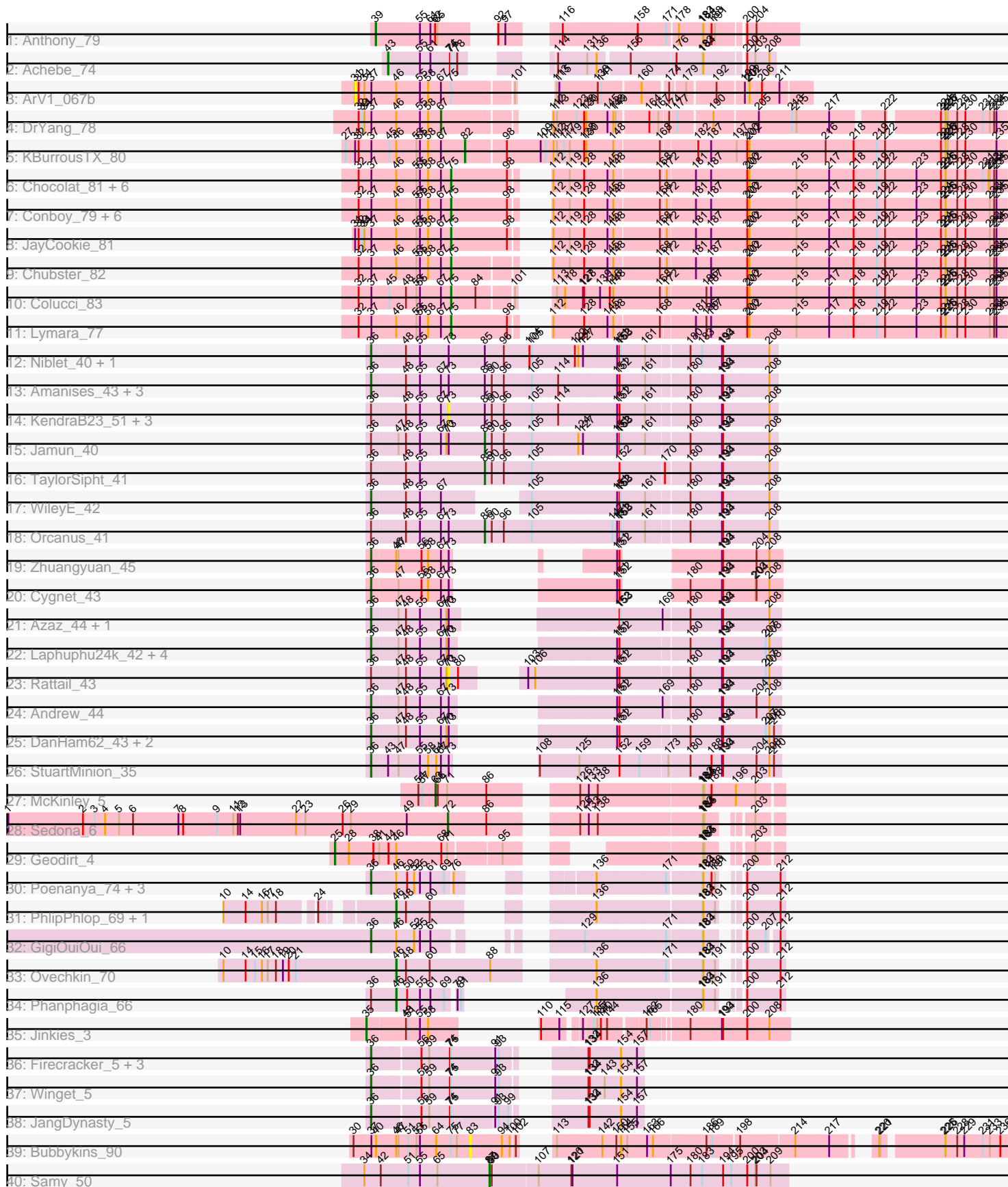


Pham 304976



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 304976 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304976 has 73 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Anthony_79
- Track 2 : Achebe_74
- Track 3 : ArV1_067b
- Track 4 : DrYang_78
- Track 5 : KBurroustX_80
- Track 6 : Chocolat_81, Scavito_82, Kabreeze_81, Chipper1996_820, Mordred_81, JaNo_80, Tophat_82
- Track 7 : Conboy_79, HumptyDumpty_81, MoyaNatalis_80, Linus_81, PrincessTrina_82, EdgarPoe_80, RosiePosie_81
- Track 8 : JayCookie_81
- Track 9 : Chubster_82
- Track 10 : Colucci_83
- Track 11 : Lymara_77
- Track 12 : Niblet_40, Chicken_40
- Track 13 : Amanises_43, Toad24_43, Zixiang_40, Shen_40
- Track 14 : KendraB23_51, Westrich_49, Pelletreau_50, Gravel_50
- Track 15 : Jamun_40
- Track 16 : TaylorSipht_41
- Track 17 : WileyE_42
- Track 18 : Orcanus_41
- Track 19 : Zhuangyuan_45
- Track 20 : Cygnet_43
- Track 21 : Azaz_44, Leona_42
- Track 22 : Laphuphu24k_42, Oppalora_42, Fingolfin_43, Juno112_42, HamCheese_43
- Track 23 : Rattail_43
- Track 24 : Andrew_44
- Track 25 : DanHam62_43, AmiCi24_42, Atlantica_43
- Track 26 : StuartMinion_35
- Track 27 : McKinley_5
- Track 28 : Sedona_6
- Track 29 : Geodirt_4
- Track 30 : Poenanya_74, Doomphist_74, Empress_69, RedBird_72
- Track 31 : PhlipPhlop_69, EmiMonkey_67
- Track 32 : GigiOuiOui_66
- Track 33 : Ovechkin_70
- Track 34 : Phanphagia_66

- Track 35 : Jinkies_3
- Track 36 : Firecracker_5, Corndog_6, Smooch_6, YungJamal_6
- Track 37 : Winget_5
- Track 38 : JangDynasty_5
- Track 39 : Bubbykins_90
- Track 40 : Samy_50

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

The start number called the most often in the published annotations is 36, it was called in 28 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amanises_43, AmiCi24_42, Andrew_44, Atlantica_43, Azaz_44, Chicken_40, Corndog_6, Cygnet_43, DanHam62_43, Doomphist_74, Empress_69, Fingolfin_43, Firecracker_5, GigiOuiOui_66, HamCheese_43, JangDynasty_5, Juno112_42, Laphuphu24k_42, Leona_42, Niblet_40, Oppalora_42, Poenanya_74, RedBird_72, Shen_40, Smooch_6, StuartMinion_35, Toad24_43, WileyE_42, Winget_5, YungJamal_6, Zhuangyuan_45, Zixiang_40,

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

- Gravel_50, Jamun_40, KendraB23_51, Orcanus_41, Pelletreau_50, Phanphagia_66, Rattail_43, TaylorSipht_41, Westrich_49,

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

- Achebe_74, Anthony_79, ArV1_067b, Bubbykins_90, Chipper1996_820, Chocolat_81, Chubster_82, Colucci_83, Conboy_79, DrYang_78, EdgarPoe_80, EmiMonkey_67, Geodirt_4, HumptyDumpty_81, JaNo_80, JayCookie_81, Jinkies_3, KBurrousTX_80, Kabreeze_81, Linus_81, Lymara_77, McKinley_5, Mordred_81, MoyaNatalis_80, Ovechkin_70, PhilipPhlop_69, PrincessTrina_82, RosiePosie_81, Samy_50, Scavito_82, Sedona_6, Tophat_82,

Summary by start number:

Start 25:

- Found in 1 of 73 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Geodirt_4 (DE1),

Start 31:

- Found in 3 of 73 (4.1%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: ArV1_067b (AR),

Start 35:

- Found in 1 of 73 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Jinkies_3 (FL),

Start 36:

- Found in 41 of 73 (56.2%) of genes in pham
- Manual Annotations of this start: 28 of 60
- Called 78.0% of time when present
- Phage (with cluster) where this start called: Amanises_43 (AS1), AmiCi24_42 (AS3), Andrew_44 (AS3), Atlantica_43 (AS3), Azaz_44 (AS3), Chicken_40 (AS1), Corndog_6 (O), Cygnet_43 (AS2), DanHam62_43 (AS3), Doomphist_74 (F1), Empress_69 (F1), Fingolfin_43 (AS3), Firecracker_5 (O), GigiOuiOui_66 (F1), HamCheese_43 (AS3), JangDynasty_5 (O), Juno112_42 (AS3), Laphuphu24k_42 (AS3), Leona_42 (AS3), Niblet_40 (AS1), Oppalora_42 (AS3), Poenanya_74 (F1), RedBird_72 (F1), Shen_40 (AS1), Smooch_6 (O), StuartMinion_35 (AS3), Toad24_43 (AS1), WileyE_42 (AS1), Winget_5 (O), YungJamal_6 (O), Zhuangyuan_45 (AS2), Zixiang_40 (AS1),

Start 39:

- Found in 1 of 73 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anthony_79 (A20),

Start 43:

- Found in 2 of 73 (2.7%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Achebe_74 (A4),

Start 46:

- Found in 32 of 73 (43.8%) of genes in pham
- Manual Annotations of this start: 3 of 60
- Called 12.5% of time when present
- Phage (with cluster) where this start called: EmiMonkey_67 (F1), Ovechkin_70 (F1), Phanphagia_66 (F1), PhilipPhlop_69 (F1),

Start 63:

- Found in 1 of 73 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: McKinley_5 (DE1),

Start 67:

- Found in 47 of 73 (64.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 2.1% of time when present
- Phage (with cluster) where this start called: DrYang_78 (AR),

Start 72:

- Found in 1 of 73 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sedona_6 (DE1),

Start 73:

- Found in 27 of 73 (37.0%) of genes in pham
- No Manual Annotations of this start.
- Called 18.5% of time when present
- Phage (with cluster) where this start called: Gravel_50 (AS1), KendraB23_51 (AS1), Pelletreau_50 (AS1), Rattail_43 (AS3), Westrich_49 (AS1),

Start 75:

- Found in 27 of 73 (37.0%) of genes in pham
- Manual Annotations of this start: 17 of 60
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Chipper1996_820 (AR), Chocolat_81 (AR), Chubster_82 (AR), Colucci_83 (AR), Conboy_79 (AR), EdgarPoe_80 (AR), HumptyDumpty_81 (AR), JaNo_80 (AR), JayCookie_81 (AR), Kabreeze_81 (AR), Linus_81 (AR), Lymara_77 (AR), Mordred_81 (AR), MoyaNatalis_80 (AR), PrincessTrina_82 (AR), RosiePosie_81 (AR), Scavito_82 (AR), Tophat_82 (AR),

Start 82:

- Found in 1 of 73 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KBurrousTX_80 (AR),

Start 83:

- Found in 1 of 73 (1.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bubbykins_90 (UNK),

Start 85:

- Found in 13 of 73 (17.8%) of genes in pham
- Manual Annotations of this start: 3 of 60
- Called 23.1% of time when present
- Phage (with cluster) where this start called: Jamun_40 (AS1), Orcanus_41 (AS1), TaylorSipht_41 (AS1),

Start 87:

- Found in 1 of 73 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Samy_50 (singleton),

Summary by clusters:

There are 12 clusters represented in this pham: AS3, F1, singleton, AS2, DE1, AS1, O, A20, AR, A4, UNK, FL,

Info for manual annotations of cluster A20:

- Start number 39 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A4:

- Start number 43 was manually annotated 1 time for cluster A4.

Info for manual annotations of cluster AR:

- Start number 67 was manually annotated 1 time for cluster AR.
- Start number 75 was manually annotated 17 times for cluster AR.
- Start number 82 was manually annotated 1 time for cluster AR.

Info for manual annotations of cluster AS1:

- Start number 36 was manually annotated 6 times for cluster AS1.
- Start number 85 was manually annotated 3 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 36 was manually annotated 2 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 36 was manually annotated 9 times for cluster AS3.

Info for manual annotations of cluster DE1:

- Start number 25 was manually annotated 1 time for cluster DE1.
- Start number 63 was manually annotated 1 time for cluster DE1.
- Start number 72 was manually annotated 1 time for cluster DE1.

Info for manual annotations of cluster F1:

- Start number 36 was manually annotated 5 times for cluster F1.
- Start number 46 was manually annotated 3 times for cluster F1.

Info for manual annotations of cluster FL:

- Start number 35 was manually annotated 1 time for cluster FL.

Info for manual annotations of cluster O:

- Start number 36 was manually annotated 6 times for cluster O.

Gene Information:

Gene: Achebe_74 Start: 46689, Stop: 45955, Start Num: 43

Candidate Starts for Achebe_74:

(Start: 43 @46689 has 1 MA's), (55, 46611), (61, 46590), (74, 46542), (Start: 75 @46539 has 17 MA's), (78, 46527), (114, 46434), (131, 46362), (136, 46344), (156, 46278), (176, 46173), (183, 46113), (184, 46110), (200, 46023), (203, 46002), (208, 45966),

Gene: Amanises_43 Start: 28549, Stop: 29547, Start Num: 36

Candidate Starts for Amanises_43:

(Start: 36 @28549 has 28 MA's), (48, 28630), (55, 28666), (Start: 67 @28714 has 1 MA's), (73, 28732), (Start: 85 @28825 has 3 MA's), (90, 28843), (96, 28873), (105, 28945), (114, 29011), (151, 29158), (152, 29164), (161, 29230), (180, 29332), (193, 29407), (194, 29410), (208, 29527),

Gene: AmiCi24_42 Start: 27168, Stop: 27965, Start Num: 36

Candidate Starts for AmiCi24_42:

(Start: 36 @27168 has 28 MA's), (47, 27234), (48, 27249), (55, 27285), (Start: 67 @27333 has 1 MA's), (70, 27345), (73, 27351), (151, 27567), (152, 27573), (180, 27741), (193, 27816), (194, 27819), (207, 27927), (208, 27936), (210, 27948),

Gene: Andrew_44 Start: 27053, Stop: 27850, Start Num: 36

Candidate Starts for Andrew_44:

(Start: 36 @27053 has 28 MA's), (47, 27119), (48, 27134), (55, 27170), (Start: 67 @27218 has 1 MA's), (73, 27236), (151, 27452), (152, 27458), (169, 27563), (180, 27626), (193, 27701), (194, 27704), (204, 27788), (208, 27821),

Gene: Anthony_79 Start: 47520, Stop: 46663, Start Num: 39

Candidate Starts for Anthony_79:

(Start: 39 @47520 has 1 MA's), (55, 47415), (61, 47394), (62, 47382), (65, 47376), (92, 47298), (97, 47280), (116, 47214), (158, 47034), (171, 46965), (178, 46941), (183, 46887), (184, 46884), (188, 46863), (191, 46854), (200, 46791), (204, 46767),

Gene: ArV1_067b Start: 51785, Stop: 52711, Start Num: 31

Candidate Starts for ArV1_067b:

(31, 51785), (32, 51794), (34, 51809), (37, 51827), (Start: 46 @51887 has 3 MA's), (55, 51944), (58, 51959), (Start: 67 @51992 has 1 MA's), (Start: 75 @52016 has 17 MA's), (101, 52154), (113, 52163), (115, 52169), (138, 52256), (141, 52265), (160, 52352), (174, 52400), (179, 52424), (192, 52484), (199, 52547), (201, 52556), (202, 52559), (206, 52589), (211, 52634),

Gene: Atlantica_43 Start: 27170, Stop: 27967, Start Num: 36

Candidate Starts for Atlantica_43:

(Start: 36 @27170 has 28 MA's), (47, 27236), (48, 27251), (55, 27287), (Start: 67 @27335 has 1 MA's), (70, 27347), (73, 27353), (151, 27569), (152, 27575), (180, 27743), (193, 27818), (194, 27821), (207, 27929), (208, 27938), (210, 27950),

Gene: Azaz_44 Start: 27236, Stop: 28045, Start Num: 36

Candidate Starts for Azaz_44:

(Start: 36 @27236 has 28 MA's), (47, 27302), (48, 27317), (55, 27353), (Start: 67 @27401 has 1 MA's), (70, 27413), (73, 27419), (152, 27653), (153, 27656), (169, 27758), (180, 27821), (193, 27896), (194, 27899), (208, 28016),

Gene: Bubbykins_90 Start: 55572, Stop: 56735, Start Num: 83

Candidate Starts for Bubbykins_90:

(30, 55296), (37, 55341), (40, 55353), (Start: 46 @55401 has 3 MA's), (47, 55407), (51, 55428), (53, 55449), (55, 55458), (64, 55494), (Start: 75 @55530 has 17 MA's), (77, 55542), (83, 55572), (94, 55647), (100, 55665), (102, 55674), (113, 55692), (142, 55803), (150, 55836), (154, 55848), (155, 55863), (163, 55914), (166, 55929), (186, 56058), (189, 56073), (198, 56133), (214, 56262), (217, 56349), (220, 56418), (221, 56421), (225, 56559), (226, 56562), (228, 56592), (229, 56610), (231, 56658), (233, 56676), (236, 56703),

Gene: Chicken_40 Start: 27850, Stop: 28848, Start Num: 36

Candidate Starts for Chicken_40:

(Start: 36 @27850 has 28 MA's), (48, 27931), (55, 27967), (73, 28033), (Start: 85 @28126 has 3 MA's), (96, 28174), (104, 28240), (105, 28246), (122, 28354), (124, 28360), (127, 28372), (151, 28459), (152, 28465), (153, 28468), (161, 28531), (180, 28633), (183, 28660), (193, 28708), (194, 28711), (208, 28828),

Gene: Chipper1996_820 Start: 52852, Stop: 54129, Start Num: 75

Candidate Starts for Chipper1996_820:

(32, 52630), (37, 52663), (Start: 46 @52723 has 3 MA's), (53, 52771), (55, 52780), (58, 52795), (Start: 67 @52828 has 1 MA's), (Start: 75 @52852 has 17 MA's), (98, 52990), (112, 53014), (119, 53053), (128, 53086), (145, 53137), (148, 53149), (168, 53260), (172, 53272), (181, 53338), (187, 53377), (200, 53470), (202, 53476), (215, 53593), (217, 53677), (218, 53740), (219, 53800), (222, 53821),

(223, 53902), (224, 53965), (225, 53974), (226, 53977), (228, 54007), (230, 54028), (231, 54073), (232, 54088), (233, 54091), (234, 54097), (235, 54103),

Gene: Chocolat_81 Start: 52559, Stop: 53836, Start Num: 75

Candidate Starts for Chocolat_81:

(32, 52337), (37, 52370), (Start: 46 @52430 has 3 MA's), (53, 52478), (55, 52487), (58, 52502), (Start: 67 @52535 has 1 MA's), (Start: 75 @52559 has 17 MA's), (98, 52697), (112, 52721), (119, 52760), (128, 52793), (145, 52844), (148, 52856), (168, 52967), (172, 52979), (181, 53045), (187, 53084), (200, 53177), (202, 53183), (215, 53300), (217, 53384), (218, 53447), (219, 53507), (222, 53528), (223, 53609), (224, 53672), (225, 53681), (226, 53684), (228, 53714), (230, 53735), (231, 53780), (232, 53795), (233, 53798), (234, 53804), (235, 53810),

Gene: Chubster_82 Start: 53253, Stop: 54518, Start Num: 75

Candidate Starts for Chubster_82:

(32, 53031), (37, 53064), (Start: 46 @53124 has 3 MA's), (53, 53172), (55, 53181), (58, 53196), (Start: 67 @53229 has 1 MA's), (Start: 75 @53253 has 17 MA's), (112, 53403), (119, 53442), (128, 53475), (145, 53526), (148, 53538), (168, 53649), (172, 53661), (181, 53727), (187, 53766), (200, 53859), (202, 53865), (215, 53982), (217, 54066), (218, 54129), (219, 54189), (222, 54210), (223, 54291), (224, 54354), (225, 54363), (226, 54366), (228, 54396), (230, 54417), (233, 54480), (234, 54486), (235, 54492),

Gene: Colucci_83 Start: 53289, Stop: 54554, Start Num: 75

Candidate Starts for Colucci_83:

(32, 53067), (37, 53100), (45, 53142), (48, 53181), (53, 53208), (55, 53217), (Start: 67 @53265 has 1 MA's), (Start: 75 @53289 has 17 MA's), (84, 53346), (101, 53427), (113, 53445), (118, 53466), (127, 53505), (128, 53508), (139, 53541), (146, 53562), (148, 53571), (168, 53685), (172, 53697), (186, 53790), (187, 53802), (200, 53895), (202, 53901), (215, 54018), (217, 54102), (218, 54165), (219, 54225), (222, 54246), (223, 54327), (224, 54390), (225, 54399), (226, 54402), (228, 54432), (230, 54453), (233, 54516), (234, 54522), (235, 54528),

Gene: Conboy_79 Start: 52341, Stop: 53618, Start Num: 75

Candidate Starts for Conboy_79:

(32, 52119), (37, 52152), (Start: 46 @52212 has 3 MA's), (53, 52260), (55, 52269), (58, 52284), (Start: 67 @52317 has 1 MA's), (Start: 75 @52341 has 17 MA's), (98, 52479), (112, 52503), (119, 52542), (128, 52575), (145, 52626), (148, 52638), (168, 52749), (172, 52761), (181, 52827), (187, 52866), (200, 52959), (202, 52965), (215, 53082), (217, 53166), (218, 53229), (219, 53289), (222, 53310), (223, 53391), (224, 53454), (225, 53463), (226, 53466), (228, 53496), (230, 53517), (233, 53580), (234, 53586), (235, 53592),

Gene: Corndog_6 Start: 2141, Stop: 1578, Start Num: 36

Candidate Starts for Corndog_6:

(Start: 36 @2141 has 28 MA's), (56, 2024), (59, 2009), (74, 1958), (Start: 75 @1955 has 17 MA's), (91, 1847), (93, 1838), (132, 1709), (134, 1706), (154, 1631), (157, 1595),

Gene: Cygnet_43 Start: 28047, Stop: 28715, Start Num: 36

Candidate Starts for Cygnet_43:

(Start: 36 @28047 has 28 MA's), (47, 28113), (56, 28167), (58, 28179), (Start: 67 @28212 has 1 MA's), (73, 28230), (151, 28431), (152, 28437), (180, 28488), (193, 28563), (194, 28566), (203, 28647), (204, 28650), (208, 28683),

Gene: DanHam62_43 Start: 27169, Stop: 27966, Start Num: 36

Candidate Starts for DanHam62_43:

(Start: 36 @27169 has 28 MA's), (47, 27235), (48, 27250), (55, 27286), (Start: 67 @27334 has 1 MA's), (70, 27346), (73, 27352), (151, 27568), (152, 27574), (180, 27742), (193, 27817), (194, 27820), (207, 27928), (208, 27937), (210, 27949),

Gene: Doomphist_74 Start: 45998, Stop: 46735, Start Num: 36

Candidate Starts for Doomphist_74:

(Start: 36 @45998 has 28 MA's), (Start: 46 @46055 has 3 MA's), (50, 46079), (52, 46097), (55, 46112), (61, 46133), (69, 46166), (76, 46184), (136, 46343), (171, 46505), (183, 46583), (184, 46586), (188, 46607), (191, 46616), (200, 46643), (212, 46724),

Gene: DrYang_78 Start: 53011, Stop: 54216, Start Num: 67

Candidate Starts for DrYang_78:

(32, 52813), (33, 52822), (34, 52828), (37, 52846), (Start: 46 @52906 has 3 MA's), (55, 52963), (58, 52978), (Start: 67 @53011 has 1 MA's), (112, 53182), (113, 53191), (123, 53236), (128, 53254), (130, 53260), (145, 53305), (148, 53317), (149, 53323), (164, 53395), (167, 53413), (174, 53434), (177, 53449), (190, 53527), (205, 53632), (213, 53713), (215, 53725), (217, 53809), (222, 53932), (224, 54052), (225, 54061), (226, 54064), (227, 54070), (228, 54094), (230, 54115), (231, 54160), (233, 54178), (234, 54184), (235, 54190),

Gene: EdgarPoe_80 Start: 52716, Stop: 53993, Start Num: 75

Candidate Starts for EdgarPoe_80:

(32, 52494), (37, 52527), (Start: 46 @52587 has 3 MA's), (53, 52635), (55, 52644), (58, 52659), (Start: 67 @52692 has 1 MA's), (Start: 75 @52716 has 17 MA's), (98, 52854), (112, 52878), (119, 52917), (128, 52950), (145, 53001), (148, 53013), (168, 53124), (172, 53136), (181, 53202), (187, 53241), (200, 53334), (202, 53340), (215, 53457), (217, 53541), (218, 53604), (219, 53664), (222, 53685), (223, 53766), (224, 53829), (225, 53838), (226, 53841), (228, 53871), (230, 53892), (233, 53955), (234, 53961), (235, 53967),

Gene: EmiMonkey_67 Start: 47844, Stop: 48557, Start Num: 46

Candidate Starts for EmiMonkey_67:

(10, 47481), (14, 47538), (16, 47580), (17, 47595), (18, 47616), (24, 47697), (Start: 46 @47844 has 3 MA's), (48, 47865), (60, 47925), (136, 48165), (183, 48405), (184, 48408), (191, 48438), (200, 48465), (212, 48546),

Gene: Empress_69 Start: 44809, Stop: 45546, Start Num: 36

Candidate Starts for Empress_69:

(Start: 36 @44809 has 28 MA's), (Start: 46 @44866 has 3 MA's), (50, 44890), (52, 44908), (55, 44923), (61, 44944), (69, 44977), (76, 44995), (136, 45154), (171, 45316), (183, 45394), (184, 45397), (188, 45418), (191, 45427), (200, 45454), (212, 45535),

Gene: Fingolfin_43 Start: 27172, Stop: 27969, Start Num: 36

Candidate Starts for Fingolfin_43:

(Start: 36 @27172 has 28 MA's), (47, 27238), (48, 27253), (55, 27289), (Start: 67 @27337 has 1 MA's), (70, 27349), (73, 27355), (151, 27571), (152, 27577), (180, 27745), (193, 27820), (194, 27823), (207, 27931), (208, 27940),

Gene: Firecracker_5 Start: 1850, Stop: 1287, Start Num: 36

Candidate Starts for Firecracker_5:

(Start: 36 @1850 has 28 MA's), (56, 1733), (59, 1718), (74, 1667), (Start: 75 @1664 has 17 MA's), (91, 1556), (93, 1547), (132, 1418), (134, 1415), (154, 1340), (157, 1304),

Gene: Geodirt_4 Start: 2785, Stop: 3651, Start Num: 25

Candidate Starts for Geodirt_4:

(Start: 25 @2785 has 1 MA's), (28, 2821), (38, 2884), (41, 2899), (44, 2920), (Start: 46 @2938 has 3 MA's), (68, 3049), (71, 3064), (95, 3181), (183, 3505), (184, 3508), (185, 3511), (203, 3589),

Gene: GigiOuiOui_66 Start: 44414, Stop: 45145, Start Num: 36

Candidate Starts for GigiOuiOui_66:

(Start: 36 @44414 has 28 MA's), (Start: 46 @44471 has 3 MA's), (52, 44513), (55, 44528), (61, 44549), (129, 44729), (171, 44921), (183, 45002), (184, 45005), (200, 45062), (207, 45110), (212, 45134),

Gene: Gravel_50 Start: 28545, Stop: 29360, Start Num: 73

Candidate Starts for Gravel_50:

(Start: 36 @28362 has 28 MA's), (48, 28443), (55, 28479), (Start: 67 @28527 has 1 MA's), (73, 28545), (Start: 85 @28638 has 3 MA's), (90, 28656), (96, 28686), (105, 28758), (114, 28824), (151, 28971), (152, 28977), (161, 29043), (180, 29145), (193, 29220), (194, 29223), (208, 29340),

Gene: HamCheese_43 Start: 27156, Stop: 27953, Start Num: 36

Candidate Starts for HamCheese_43:

(Start: 36 @27156 has 28 MA's), (47, 27222), (48, 27237), (55, 27273), (Start: 67 @27321 has 1 MA's), (70, 27333), (73, 27339), (151, 27555), (152, 27561), (180, 27729), (193, 27804), (194, 27807), (207, 27915), (208, 27924),

Gene: HumptyDumpty_81 Start: 52519, Stop: 53796, Start Num: 75

Candidate Starts for HumptyDumpty_81:

(32, 52297), (37, 52330), (Start: 46 @52390 has 3 MA's), (53, 52438), (55, 52447), (58, 52462), (Start: 67 @52495 has 1 MA's), (Start: 75 @52519 has 17 MA's), (98, 52657), (112, 52681), (119, 52720), (128, 52753), (145, 52804), (148, 52816), (168, 52927), (172, 52939), (181, 53005), (187, 53044), (200, 53137), (202, 53143), (215, 53260), (217, 53344), (218, 53407), (219, 53467), (222, 53488), (223, 53569), (224, 53632), (225, 53641), (226, 53644), (228, 53674), (230, 53695), (233, 53758), (234, 53764), (235, 53770),

Gene: JaNo_80 Start: 52490, Stop: 53767, Start Num: 75

Candidate Starts for JaNo_80:

(32, 52268), (37, 52301), (Start: 46 @52361 has 3 MA's), (53, 52409), (55, 52418), (58, 52433), (Start: 67 @52466 has 1 MA's), (Start: 75 @52490 has 17 MA's), (98, 52628), (112, 52652), (119, 52691), (128, 52724), (145, 52775), (148, 52787), (168, 52898), (172, 52910), (181, 52976), (187, 53015), (200, 53108), (202, 53114), (215, 53231), (217, 53315), (218, 53378), (219, 53438), (222, 53459), (223, 53540), (224, 53603), (225, 53612), (226, 53615), (228, 53645), (230, 53666), (231, 53711), (232, 53726), (233, 53729), (234, 53735), (235, 53741),

Gene: Jamun_40 Start: 27823, Stop: 28545, Start Num: 85

Candidate Starts for Jamun_40:

(Start: 36 @27547 has 28 MA's), (47, 27613), (48, 27628), (55, 27664), (Start: 67 @27712 has 1 MA's), (70, 27724), (73, 27730), (Start: 85 @27823 has 3 MA's), (90, 27841), (96, 27871), (105, 27943), (124, 28057), (127, 28069), (151, 28156), (152, 28162), (153, 28165), (161, 28228), (180, 28330), (193, 28405), (194, 28408), (208, 28525),

Gene: JangDynasty_5 Start: 1854, Stop: 1291, Start Num: 36

Candidate Starts for JangDynasty_5:

(Start: 36 @1854 has 28 MA's), (56, 1737), (59, 1722), (74, 1671), (Start: 75 @1668 has 17 MA's), (91, 1560), (93, 1551), (99, 1527), (132, 1422), (134, 1419), (154, 1344), (157, 1308),

Gene: JayCookie_81 Start: 53052, Stop: 54329, Start Num: 75

Candidate Starts for JayCookie_81:

(31, 52821), (32, 52830), (33, 52839), (34, 52845), (37, 52863), (Start: 46 @52923 has 3 MA's), (53, 52971), (55, 52980), (58, 52995), (Start: 67 @53028 has 1 MA's), (Start: 75 @53052 has 17 MA's), (98, 53190), (112, 53214), (119, 53253), (128, 53286), (145, 53337), (148, 53349), (168, 53460), (172, 53472), (181, 53538), (187, 53577), (200, 53670), (202, 53676), (215, 53793), (217, 53877), (218, 53940), (219, 54000), (222, 54021), (223, 54102), (224, 54165), (225, 54174), (226, 54177), (228, 54207), (230, 54228), (233, 54291), (234, 54297), (235, 54303),

Gene: Jinkies_3 Start: 2349, Stop: 3125, Start Num: 35

Candidate Starts for Jinkies_3:

(Start: 35 @2349 has 1 MA's), (48, 2442), (51, 2448), (55, 2478), (58, 2493), (110, 2571), (115, 2616), (127, 2649), (135, 2670), (137, 2676), (140, 2685), (144, 2700), (162, 2784), (165, 2793), (180, 2871), (193, 2952), (194, 2955), (200, 3015), (208, 3072),

Gene: Juno112_42 Start: 27172, Stop: 27969, Start Num: 36

Candidate Starts for Juno112_42:

(Start: 36 @27172 has 28 MA's), (47, 27238), (48, 27253), (55, 27289), (Start: 67 @27337 has 1 MA's), (70, 27349), (73, 27355), (151, 27571), (152, 27577), (180, 27745), (193, 27820), (194, 27823), (207, 27931), (208, 27940),

Gene: KBurrousTX_80 Start: 54664, Stop: 55992, Start Num: 82

Candidate Starts for KBurrousTX_80:

(27, 54379), (31, 54403), (32, 54412), (37, 54445), (45, 54487), (Start: 46 @54505 has 3 MA's), (53, 54553), (55, 54562), (58, 54577), (Start: 67 @54610 has 1 MA's), (Start: 82 @54664 has 1 MA's), (98, 54760), (109, 54847), (111, 54859), (112, 54880), (113, 54889), (117, 54907), (119, 54919), (128, 54952), (130, 54958), (148, 55015), (168, 55126), (182, 55210), (187, 55243), (197, 55309), (200, 55336), (202, 55342), (216, 55534), (218, 55606), (219, 55666), (222, 55687), (224, 55828), (225, 55837), (226, 55840), (227, 55846), (228, 55870), (230, 55891), (235, 55966),

Gene: Kabreeze_81 Start: 52576, Stop: 53853, Start Num: 75

Candidate Starts for Kabreeze_81:

(32, 52354), (37, 52387), (Start: 46 @52447 has 3 MA's), (53, 52495), (55, 52504), (58, 52519), (Start: 67 @52552 has 1 MA's), (Start: 75 @52576 has 17 MA's), (98, 52714), (112, 52738), (119, 52777), (128, 52810), (145, 52861), (148, 52873), (168, 52984), (172, 52996), (181, 53062), (187, 53101), (200, 53194), (202, 53200), (215, 53317), (217, 53401), (218, 53464), (219, 53524), (222, 53545), (223, 53626), (224, 53689), (225, 53698), (226, 53701), (228, 53731), (230, 53752), (231, 53797), (232, 53812), (233, 53815), (234, 53821), (235, 53827),

Gene: KendraB23_51 Start: 28732, Stop: 29547, Start Num: 73

Candidate Starts for KendraB23_51:

(Start: 36 @28549 has 28 MA's), (48, 28630), (55, 28666), (Start: 67 @28714 has 1 MA's), (73, 28732), (Start: 85 @28825 has 3 MA's), (90, 28843), (96, 28873), (105, 28945), (114, 29011), (151, 29158), (152, 29164), (161, 29230), (180, 29332), (193, 29407), (194, 29410), (208, 29527),

Gene: Laphuphu24k_42 Start: 27156, Stop: 27953, Start Num: 36

Candidate Starts for Laphuphu24k_42:

(Start: 36 @27156 has 28 MA's), (47, 27222), (48, 27237), (55, 27273), (Start: 67 @27321 has 1 MA's), (70, 27333), (73, 27339), (151, 27555), (152, 27561), (180, 27729), (193, 27804), (194, 27807), (207, 27915), (208, 27924),

Gene: Leona_42 Start: 27237, Stop: 28046, Start Num: 36

Candidate Starts for Leona_42:

(Start: 36 @27237 has 28 MA's), (47, 27303), (48, 27318), (55, 27354), (Start: 67 @27402 has 1 MA's), (70, 27414), (73, 27420), (152, 27654), (153, 27657), (169, 27759), (180, 27822), (193, 27897), (194,

27900), (208, 28017),

Gene: Linus_81 Start: 53024, Stop: 54301, Start Num: 75

Candidate Starts for Linus_81:

(32, 52802), (37, 52835), (Start: 46 @52895 has 3 MA's), (53, 52943), (55, 52952), (58, 52967), (Start: 67 @53000 has 1 MA's), (Start: 75 @53024 has 17 MA's), (98, 53162), (112, 53186), (119, 53225), (128, 53258), (145, 53309), (148, 53321), (168, 53432), (172, 53444), (181, 53510), (187, 53549), (200, 53642), (202, 53648), (215, 53765), (217, 53849), (218, 53912), (219, 53972), (222, 53993), (223, 54074), (224, 54137), (225, 54146), (226, 54149), (228, 54179), (230, 54200), (233, 54263), (234, 54269), (235, 54275),

Gene: Lymara_77 Start: 51381, Stop: 52658, Start Num: 75

Candidate Starts for Lymara_77:

(32, 51159), (37, 51192), (Start: 46 @51252 has 3 MA's), (53, 51300), (55, 51309), (58, 51324), (Start: 67 @51357 has 1 MA's), (Start: 75 @51381 has 17 MA's), (98, 51519), (112, 51543), (128, 51615), (145, 51666), (148, 51678), (168, 51789), (181, 51867), (186, 51894), (187, 51906), (200, 51999), (202, 52005), (215, 52122), (217, 52206), (218, 52269), (219, 52329), (222, 52350), (223, 52431), (224, 52494), (225, 52503), (226, 52506), (228, 52536), (230, 52557), (233, 52620), (234, 52626), (235, 52632),

Gene: McKinley_5 Start: 3198, Stop: 3983, Start Num: 63

Candidate Starts for McKinley_5:

(54, 3156), (57, 3165), (Start: 63 @3198 has 1 MA's), (66, 3204), (71, 3228), (86, 3327), (126, 3495), (133, 3516), (138, 3537), (183, 3786), (184, 3789), (185, 3792), (188, 3810), (196, 3873), (203, 3921),

Gene: Mordred_81 Start: 52615, Stop: 53892, Start Num: 75

Candidate Starts for Mordred_81:

(32, 52393), (37, 52426), (Start: 46 @52486 has 3 MA's), (53, 52534), (55, 52543), (58, 52558), (Start: 67 @52591 has 1 MA's), (Start: 75 @52615 has 17 MA's), (98, 52753), (112, 52777), (119, 52816), (128, 52849), (145, 52900), (148, 52912), (168, 53023), (172, 53035), (181, 53101), (187, 53140), (200, 53233), (202, 53239), (215, 53356), (217, 53440), (218, 53503), (219, 53563), (222, 53584), (223, 53665), (224, 53728), (225, 53737), (226, 53740), (228, 53770), (230, 53791), (231, 53836), (232, 53851), (233, 53854), (234, 53860), (235, 53866),

Gene: MoyaNatalis_80 Start: 52498, Stop: 53775, Start Num: 75

Candidate Starts for MoyaNatalis_80:

(32, 52276), (37, 52309), (Start: 46 @52369 has 3 MA's), (53, 52417), (55, 52426), (58, 52441), (Start: 67 @52474 has 1 MA's), (Start: 75 @52498 has 17 MA's), (98, 52636), (112, 52660), (119, 52699), (128, 52732), (145, 52783), (148, 52795), (168, 52906), (172, 52918), (181, 52984), (187, 53023), (200, 53116), (202, 53122), (215, 53239), (217, 53323), (218, 53386), (219, 53446), (222, 53467), (223, 53548), (224, 53611), (225, 53620), (226, 53623), (228, 53653), (230, 53674), (233, 53737), (234, 53743), (235, 53749),

Gene: Niblet_40 Start: 27937, Stop: 28935, Start Num: 36

Candidate Starts for Niblet_40:

(Start: 36 @27937 has 28 MA's), (48, 28018), (55, 28054), (73, 28120), (Start: 85 @28213 has 3 MA's), (96, 28261), (104, 28327), (105, 28333), (122, 28441), (124, 28447), (127, 28459), (151, 28546), (152, 28552), (153, 28555), (161, 28618), (180, 28720), (183, 28747), (193, 28795), (194, 28798), (208, 28915),

Gene: Oppalora_42 Start: 27170, Stop: 27967, Start Num: 36

Candidate Starts for Oppalora_42:

(Start: 36 @27170 has 28 MA's), (47, 27236), (48, 27251), (55, 27287), (Start: 67 @27335 has 1 MA's), (70, 27347), (73, 27353), (151, 27569), (152, 27575), (180, 27743), (193, 27818), (194, 27821), (207, 27929), (208, 27938),

Gene: Orcanus_41 Start: 28182, Stop: 28904, Start Num: 85

Candidate Starts for Orcanus_41:

(Start: 36 @27906 has 28 MA's), (48, 27987), (55, 28023), (Start: 67 @28071 has 1 MA's), (73, 28089), (Start: 85 @28182 has 3 MA's), (90, 28200), (96, 28230), (105, 28302), (147, 28503), (151, 28515), (152, 28521), (153, 28524), (161, 28587), (180, 28689), (193, 28764), (194, 28767), (208, 28884),

Gene: Ovechkin_70 Start: 44498, Stop: 45319, Start Num: 46

Candidate Starts for Ovechkin_70:

(10, 44057), (14, 44114), (15, 44138), (16, 44156), (17, 44171), (18, 44192), (19, 44210), (20, 44225), (21, 44243), (Start: 46 @44498 has 3 MA's), (48, 44519), (60, 44579), (88, 44735), (136, 44927), (171, 45089), (183, 45167), (184, 45170), (191, 45200), (200, 45227), (212, 45308),

Gene: Pelletreau_50 Start: 28545, Stop: 29360, Start Num: 73

Candidate Starts for Pelletreau_50:

(Start: 36 @28362 has 28 MA's), (48, 28443), (55, 28479), (Start: 67 @28527 has 1 MA's), (73, 28545), (Start: 85 @28638 has 3 MA's), (90, 28656), (96, 28686), (105, 28758), (114, 28824), (151, 28971), (152, 28977), (161, 29043), (180, 29145), (193, 29220), (194, 29223), (208, 29340),

Gene: Phanphagia_66 Start: 43660, Stop: 44277, Start Num: 46

Candidate Starts for Phanphagia_66:

(Start: 36 @43603 has 28 MA's), (Start: 46 @43660 has 3 MA's), (50, 43684), (55, 43717), (61, 43738), (69, 43771), (79, 43789), (81, 43798), (136, 43876), (183, 44125), (184, 44128), (191, 44158), (200, 44185), (212, 44266),

Gene: PhlipPhlop_69 Start: 47844, Stop: 48557, Start Num: 46

Candidate Starts for PhlipPhlop_69:

(10, 47481), (14, 47538), (16, 47580), (17, 47595), (18, 47616), (24, 47697), (Start: 46 @47844 has 3 MA's), (48, 47865), (60, 47925), (136, 48165), (183, 48405), (184, 48408), (191, 48438), (200, 48465), (212, 48546),

Gene: Poenanya_74 Start: 45998, Stop: 46735, Start Num: 36

Candidate Starts for Poenanya_74:

(Start: 36 @45998 has 28 MA's), (Start: 46 @46055 has 3 MA's), (50, 46079), (52, 46097), (55, 46112), (61, 46133), (69, 46166), (76, 46184), (136, 46343), (171, 46505), (183, 46583), (184, 46586), (188, 46607), (191, 46616), (200, 46643), (212, 46724),

Gene: PrincessTrina_82 Start: 52920, Stop: 54197, Start Num: 75

Candidate Starts for PrincessTrina_82:

(32, 52698), (37, 52731), (Start: 46 @52791 has 3 MA's), (53, 52839), (55, 52848), (58, 52863), (Start: 67 @52896 has 1 MA's), (Start: 75 @52920 has 17 MA's), (98, 53058), (112, 53082), (119, 53121), (128, 53154), (145, 53205), (148, 53217), (168, 53328), (172, 53340), (181, 53406), (187, 53445), (200, 53538), (202, 53544), (215, 53661), (217, 53745), (218, 53808), (219, 53868), (222, 53889), (223, 53970), (224, 54033), (225, 54042), (226, 54045), (228, 54075), (230, 54096), (233, 54159), (234, 54165), (235, 54171),

Gene: Rattail_43 Start: 27437, Stop: 28150, Start Num: 73

Candidate Starts for Rattail_43:

(Start: 36 @27254 has 28 MA's), (47, 27320), (48, 27335), (55, 27371), (Start: 67 @27419 has 1 MA's), (70, 27431), (73, 27437), (80, 27461), (103, 27530), (106, 27548), (151, 27752), (152, 27758), (180,

27926), (193, 28001), (194, 28004), (207, 28112), (208, 28121),

Gene: RedBird_72 Start: 44502, Stop: 45227, Start Num: 36

Candidate Starts for RedBird_72:

(Start: 36 @44502 has 28 MA's), (Start: 46 @44559 has 3 MA's), (50, 44583), (52, 44589), (55, 44604), (61, 44625), (69, 44658), (76, 44676), (136, 44835), (171, 44997), (183, 45075), (184, 45078), (188, 45099), (191, 45108), (200, 45135), (212, 45216),

Gene: RosiePosie_81 Start: 52704, Stop: 53981, Start Num: 75

Candidate Starts for RosiePosie_81:

(32, 52482), (37, 52515), (Start: 46 @52575 has 3 MA's), (53, 52623), (55, 52632), (58, 52647), (Start: 67 @52680 has 1 MA's), (Start: 75 @52704 has 17 MA's), (98, 52842), (112, 52866), (119, 52905), (128, 52938), (145, 52989), (148, 53001), (168, 53112), (172, 53124), (181, 53190), (187, 53229), (200, 53322), (202, 53328), (215, 53445), (217, 53529), (218, 53592), (219, 53652), (222, 53673), (223, 53754), (224, 53817), (225, 53826), (226, 53829), (228, 53859), (230, 53880), (233, 53943), (234, 53949), (235, 53955),

Gene: Samy_50 Start: 33615, Stop: 34364, Start Num: 87

Candidate Starts for Samy_50:

(34, 33303), (42, 33345), (51, 33414), (55, 33444), (65, 33483), (Start: 87 @33615 has 1 MA's), (89, 33618), (90, 33621), (107, 33735), (120, 33819), (121, 33822), (151, 33933), (175, 34071), (180, 34122), (183, 34152), (194, 34203), (195, 34224), (200, 34260), (203, 34281), (204, 34284), (209, 34320),

Gene: Scavito_82 Start: 52664, Stop: 53941, Start Num: 75

Candidate Starts for Scavito_82:

(32, 52442), (37, 52475), (Start: 46 @52535 has 3 MA's), (53, 52583), (55, 52592), (58, 52607), (Start: 67 @52640 has 1 MA's), (Start: 75 @52664 has 17 MA's), (98, 52802), (112, 52826), (119, 52865), (128, 52898), (145, 52949), (148, 52961), (168, 53072), (172, 53084), (181, 53150), (187, 53189), (200, 53282), (202, 53288), (215, 53405), (217, 53489), (218, 53552), (219, 53612), (222, 53633), (223, 53714), (224, 53777), (225, 53786), (226, 53789), (228, 53819), (230, 53840), (231, 53885), (232, 53900), (233, 53903), (234, 53909), (235, 53915),

Gene: Sedona_6 Start: 4350, Stop: 5051, Start Num: 72

Candidate Starts for Sedona_6:

(1, 3228), (2, 3420), (3, 3450), (4, 3477), (5, 3513), (6, 3549), (7, 3666), (8, 3678), (9, 3765), (11, 3807), (12, 3819), (13, 3825), (22, 3969), (23, 3993), (26, 4089), (29, 4110), (49, 4245), (Start: 72 @4350 has 1 MA's), (86, 4446), (126, 4614), (133, 4635), (138, 4656), (183, 4905), (184, 4908), (185, 4911), (203, 4989),

Gene: Shen_40 Start: 26463, Stop: 27461, Start Num: 36

Candidate Starts for Shen_40:

(Start: 36 @26463 has 28 MA's), (48, 26544), (55, 26580), (Start: 67 @26628 has 1 MA's), (73, 26646), (Start: 85 @26739 has 3 MA's), (90, 26757), (96, 26787), (105, 26859), (114, 26925), (151, 27072), (152, 27078), (161, 27144), (180, 27246), (193, 27321), (194, 27324), (208, 27441),

Gene: Smooch_6 Start: 2139, Stop: 1576, Start Num: 36

Candidate Starts for Smooch_6:

(Start: 36 @2139 has 28 MA's), (56, 2022), (59, 2007), (74, 1956), (Start: 75 @1953 has 17 MA's), (91, 1845), (93, 1836), (132, 1707), (134, 1704), (154, 1629), (157, 1593),

Gene: StuartMinion_35 Start: 24235, Stop: 25020, Start Num: 36

Candidate Starts for StuartMinion_35:

(Start: 36 @24235 has 28 MA's), (Start: 43 @24274 has 1 MA's), (47, 24301), (55, 24352), (58, 24367), (64, 24388), (Start: 67 @24400 has 1 MA's), (73, 24418), (108, 24430), (125, 24526), (152, 24625), (159, 24676), (173, 24745), (180, 24796), (188, 24844), (193, 24871), (194, 24874), (204, 24958), (208, 24991), (210, 25003),

Gene: TaylorSipt_41 Start: 27587, Stop: 28306, Start Num: 85

Candidate Starts for TaylorSipt_41:

(Start: 36 @27311 has 28 MA's), (48, 27392), (55, 27428), (Start: 85 @27587 has 3 MA's), (90, 27605), (96, 27635), (105, 27707), (152, 27923), (170, 28034), (180, 28091), (193, 28166), (194, 28169), (208, 28286),

Gene: Toad24_43 Start: 28602, Stop: 29600, Start Num: 36

Candidate Starts for Toad24_43:

(Start: 36 @28602 has 28 MA's), (48, 28683), (55, 28719), (Start: 67 @28767 has 1 MA's), (73, 28785), (Start: 85 @28878 has 3 MA's), (90, 28896), (96, 28926), (105, 28998), (114, 29064), (151, 29211), (152, 29217), (161, 29283), (180, 29385), (193, 29460), (194, 29463), (208, 29580),

Gene: Tophat_82 Start: 52853, Stop: 54130, Start Num: 75

Candidate Starts for Tophat_82:

(32, 52631), (37, 52664), (Start: 46 @52724 has 3 MA's), (53, 52772), (55, 52781), (58, 52796), (Start: 67 @52829 has 1 MA's), (Start: 75 @52853 has 17 MA's), (98, 52991), (112, 53015), (119, 53054), (128, 53087), (145, 53138), (148, 53150), (168, 53261), (172, 53273), (181, 53339), (187, 53378), (200, 53471), (202, 53477), (215, 53594), (217, 53678), (218, 53741), (219, 53801), (222, 53822), (223, 53903), (224, 53966), (225, 53975), (226, 53978), (228, 54008), (230, 54029), (231, 54074), (232, 54089), (233, 54092), (234, 54098), (235, 54104),

Gene: Westrich_49 Start: 28469, Stop: 29284, Start Num: 73

Candidate Starts for Westrich_49:

(Start: 36 @28286 has 28 MA's), (48, 28367), (55, 28403), (Start: 67 @28451 has 1 MA's), (73, 28469), (Start: 85 @28562 has 3 MA's), (90, 28580), (96, 28610), (105, 28682), (114, 28748), (151, 28895), (152, 28901), (161, 28967), (180, 29069), (193, 29144), (194, 29147), (208, 29264),

Gene: WileyE_42 Start: 27504, Stop: 28385, Start Num: 36

Candidate Starts for WileyE_42:

(Start: 36 @27504 has 28 MA's), (48, 27585), (55, 27621), (Start: 67 @27669 has 1 MA's), (105, 27783), (151, 27996), (152, 28002), (153, 28005), (161, 28068), (180, 28170), (193, 28245), (194, 28248), (208, 28365),

Gene: Winget_5 Start: 1850, Stop: 1287, Start Num: 36

Candidate Starts for Winget_5:

(Start: 36 @1850 has 28 MA's), (56, 1733), (59, 1718), (74, 1667), (Start: 75 @1664 has 17 MA's), (91, 1556), (93, 1547), (132, 1418), (134, 1415), (143, 1379), (154, 1340), (157, 1304),

Gene: YungJamal_6 Start: 2139, Stop: 1576, Start Num: 36

Candidate Starts for YungJamal_6:

(Start: 36 @2139 has 28 MA's), (56, 2022), (59, 2007), (74, 1956), (Start: 75 @1953 has 17 MA's), (91, 1845), (93, 1836), (132, 1707), (134, 1704), (154, 1629), (157, 1593),

Gene: Zhuangyuan_45 Start: 27978, Stop: 28547, Start Num: 36

Candidate Starts for Zhuangyuan_45:

(Start: 36 @27978 has 28 MA's), (Start: 46 @28038 has 3 MA's), (47, 28044), (56, 28098), (58, 28110), (Start: 67 @28143 has 1 MA's), (73, 28161), (151, 28263), (152, 28269), (193, 28395), (194, 28398), (204, 28482), (208, 28515),

Gene: Zixiang_40 Start: 27967, Stop: 28965, Start Num: 36

Candidate Starts for Zixiang_40:

(Start: 36 @27967 has 28 MA's), (48, 28048), (55, 28084), (Start: 67 @28132 has 1 MA's), (73, 28150),
(Start: 85 @28243 has 3 MA's), (90, 28261), (96, 28291), (105, 28363), (114, 28429), (151, 28576),
(152, 28582), (161, 28648), (180, 28750), (193, 28825), (194, 28828), (208, 28945),