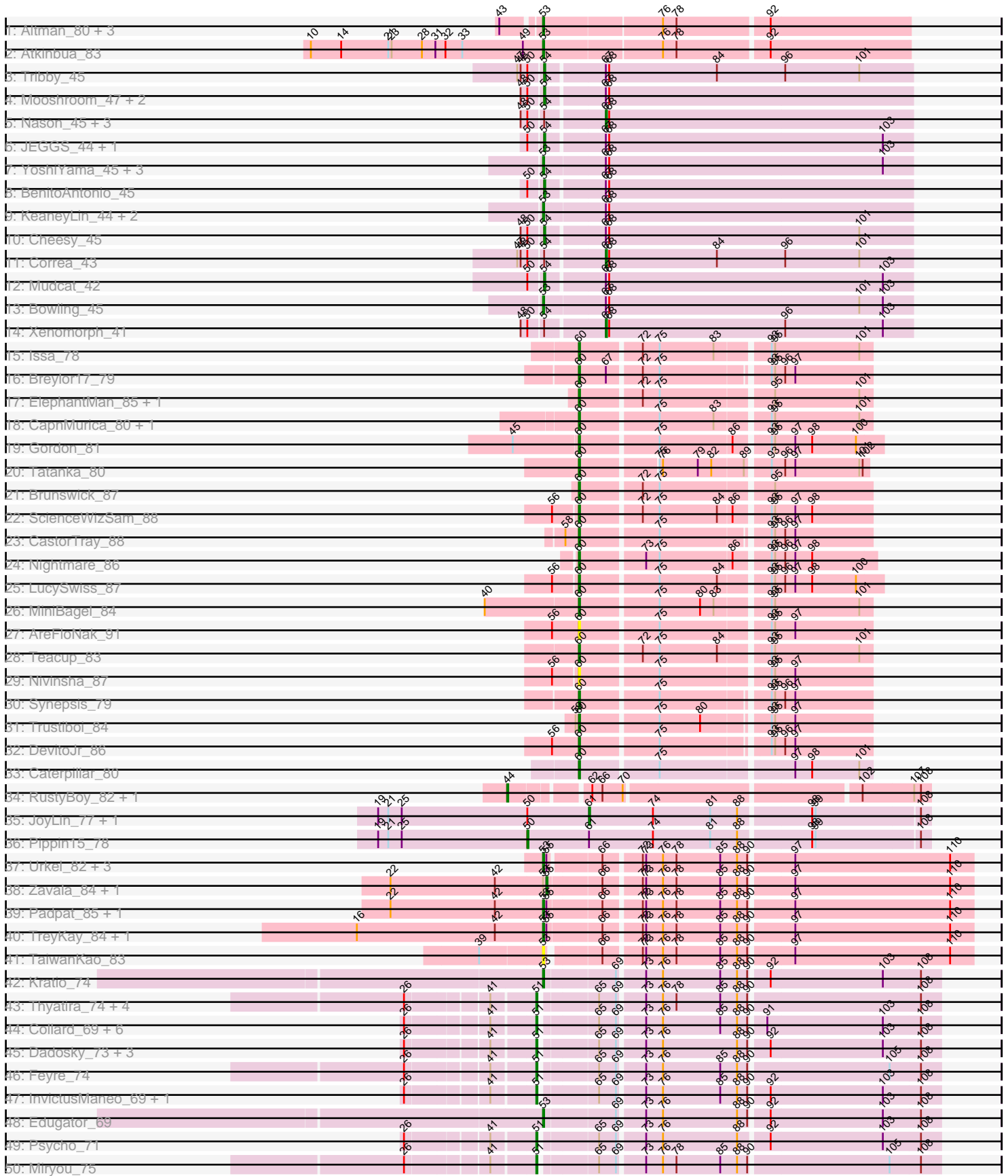
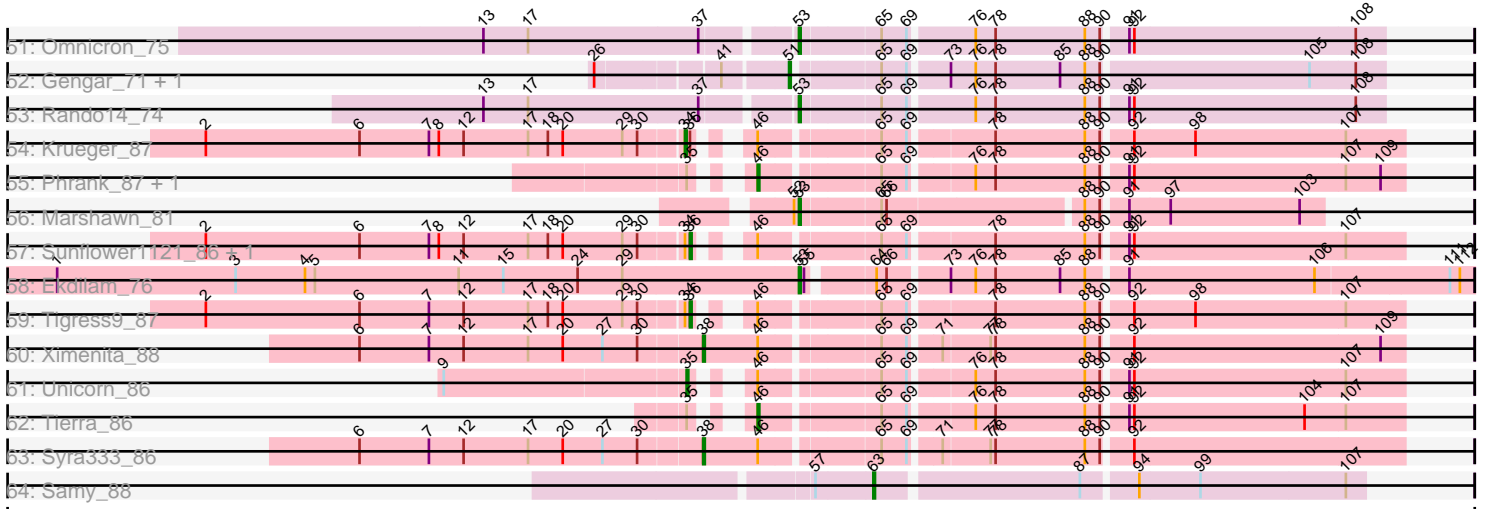


Pham 308366



Pham 308366



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 308366 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308366 has 105 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Altman_80, Licorice_78, Kanely_79, ConceptII_82
- Track 2 : Atkinbua_83
- Track 3 : Tribby_45
- Track 4 : Mooshroom_47, Kardesai_46, Benllo_44
- Track 5 : Nason_45, Stardom_42, Elsa_45, Arcadia_45
- Track 6 : JEGGS_44, Heisenberger_44
- Track 7 : YoshiYama_45, NapoleonB_45, Dynamite_45, Circum_47
- Track 8 : BenitoAntonio_45
- Track 9 : KeaneyLin_44, GoCrazy_44, Hankly_44
- Track 10 : Cheesy_45
- Track 11 : Correa_43
- Track 12 : Mudcat_42
- Track 13 : Bowling_45
- Track 14 : Xenomorph_41
- Track 15 : Issa_78
- Track 16 : Breylor17_79
- Track 17 : ElephantMan_85, Niktson_85
- Track 18 : CapnMurica_80, Tenno_84
- Track 19 : Gordon_81
- Track 20 : Tatanka_80
- Track 21 : Brunswick_87
- Track 22 : ScienceWizSam_88
- Track 23 : CastorTray_88
- Track 24 : Nightmare_86
- Track 25 : LucySwiss_87
- Track 26 : MiniBagel_84
- Track 27 : AreFloNak_91
- Track 28 : Teacup_83
- Track 29 : Nivinsha_87
- Track 30 : Synopsis_79
- Track 31 : Trustiboi_84
- Track 32 : DevitoJr_86
- Track 33 : Caterpillar_80
- Track 34 : RustyBoy_82, Natasha_81
- Track 35 : JoyLin_77, Yotsuba_77
- Track 36 : Pippin15_78
- Track 37 : Urkel_82, SamuelLPlaqson_82, DrHayes_82, Anma_82

- Track 38 : Zavala_84, Beezoo_85
- Track 39 : Padpat_85, Emerson_84
- Track 40 : TreyKay_84, Prithvi_84
- Track 41 : TaiwanKao_83
- Track 42 : Kratio_74
- Track 43 : Thyatira_74, Leston_71, Guillsminger_72, Paola_71, Waterfoul_73
- Track 44 : Collard_69, BananenDer11_71, DoubleChamp_68, Heftyboy_72, ViviJ_77, LilDirt_70, SoSeph_72
- Track 45 : Dadosky_73, AlleyCat_73, Larva_72, Neighly_73
- Track 46 : Feyre_74
- Track 47 : InvictusManeo_69, Agent47_71
- Track 48 : Edugator_69
- Track 49 : Psycho_71
- Track 50 : Miryou_75
- Track 51 : Omnicron_75
- Track 52 : Gengar_71, OkiRoe_72
- Track 53 : Rando14_74
- Track 54 : Krueger_87
- Track 55 : Phrank_87, Cain_87
- Track 56 : Marshawn_81
- Track 57 : Sunflower1121_86, Shadow1_87
- Track 58 : Ekdilam_76
- Track 59 : Tigress9_87
- Track 60 : Ximenita_88
- Track 61 : Unicorn_86
- Track 62 : Tierra_86
- Track 63 : Syra333_86
- Track 64 : Samy_88

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

The start number called the most often in the published annotations is 53, it was called in 25 of the 97 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altman_80, Anma_82, Atkinbua_83, Bowling_45, Circum_47, ConceptII_82, DrHayes_82, Dynamite_45, Edugator_69, Ekdilam_76, Emerson_84, GoCrazy_44, Hankly_44, Kanely_79, KeaneyLin_44, Kratio_74, Licorice_78, Marshawn_81, NapoleonB_45, Omnicron_75, Padpat_85, Prithvi_84, Rando14_74, SamuelLPlaqsom_82, TaiwanKao_83, TreyKay_84, Urkel_82, YoshiYama_45,

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

- Beezoo_85, Zavala_84,

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

- Agent47_71, AlleyCat_73, Arcadia_45, AreFloNak_91, BananenDer11_71, BenitoAntonio_45, Benllo_44, Breylor17_79, Brunswick_87, Cain_87, CapnMurica_80, CastorTray_88, Caterpillar_80, Cheesy_45, Collard_69, Correa_43, Dadosky_73, DevitoJr_86, DoubleChamp_68, ElephantMan_85, Elsa_45, Feyre_74, Gengar_71, Gordon_81, Guillsminger_72, Heftyboy_72, Heisenberger_44,

InvictusManeo_69, Issa_78, JEGGS_44, JoyLin_77, Kardesai_46, Krueger_87, Larva_72, Leston_71, LilDirt_70, LucySwiss_87, MiniBagel_84, Miryou_75, Mooshroom_47, Mudcat_42, Nason_45, Natasha_81, Neighly_73, Nightmare_86, Niktson_85, Nivinsha_87, OkiRoe_72, Paola_71, Phrank_87, Pippin15_78, Psycho_71, RustyBoy_82, Samy_88, ScienceWizSam_88, Shadow1_87, SoSeph_72, Stardom_42, Sunflower1121_86, Synepsis_79, Syra333_86, Tatanka_80, Teacup_83, Tenno_84, Thyatira_74, Tierra_86, Tigress9_87, Tribby_45, Trustiboi_84, Unicorn_86, ViviJ_77, Waterfoul_73, Xenomorph_41, Ximenita_88, Yotsuba_77,

Summary by start number:

Start 34:

- Found in 4 of 105 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Krueger_87 (K6),

Start 35:

- Found in 4 of 105 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Unicorn_86 (K6),

Start 36:

- Found in 4 of 105 (3.8%) of genes in pham
- Manual Annotations of this start: 3 of 97
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Shadow1_87 (K6), Sunflower1121_86 (K6), Tigress9_87 (K6),

Start 38:

- Found in 2 of 105 (1.9%) of genes in pham
- Manual Annotations of this start: 2 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Syra333_86 (K6), Ximenita_88 (K6),

Start 44:

- Found in 2 of 105 (1.9%) of genes in pham
- Manual Annotations of this start: 2 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Natasha_81 (AW), RustyBoy_82 (AW),

Start 46:

- Found in 10 of 105 (9.5%) of genes in pham
- Manual Annotations of this start: 3 of 97
- Called 30.0% of time when present
- Phage (with cluster) where this start called: Cain_87 (K6), Phrank_87 (K6), Tierra_86 (K6),

Start 50:

- Found in 18 of 105 (17.1%) of genes in pham
- Manual Annotations of this start: 1 of 97

- Called 5.6% of time when present
- Phage (with cluster) where this start called: Pippin15_78 (JA),

Start 51:

- Found in 23 of 105 (21.9%) of genes in pham
- Manual Annotations of this start: 21 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agent47_71 (K5), AlleyCat_73 (K5), BananenDer11_71 (K5), Collard_69 (K5), Dadosky_73 (K5), DoubleChamp_68 (K5), Feyre_74 (K5), Gengar_71 (K5), Guillsminger_72 (K5), Heftyboy_72 (K5), InvictusManeo_69 (K5), Larva_72 (K5), Leston_71 (K5), LilDirt_70 (K5), Miryou_75 (K5), Neighly_73 (K3), OkiRoe_72 (K5), Paola_71 (K5), Psycho_71 (K5), SoSeph_72 (K5), Thyatira_74 (K5), ViviJ_77 (K5), Waterfoul_73 (K5),

Start 53:

- Found in 30 of 105 (28.6%) of genes in pham
- Manual Annotations of this start: 25 of 97
- Called 93.3% of time when present
- Phage (with cluster) where this start called: Altman_80 (A1), Anma_82 (K1), Atkinbua_83 (A1), Bowling_45 (AM), Circum_47 (AM), ConceptII_82 (A1), DrHayes_82 (K1), Dynamite_45 (AM), Edugator_69 (K5), Ekdilam_76 (K6), Emerson_84 (K1), GoCrazy_44 (AM), Hankly_44 (AM), Kanely_79 (A1), KeaneyLin_44 (AM), Kratio_74 (K5), Licorice_78 (A1), Marshawn_81 (K6), NapoleonB_45 (AM), Omnicron_75 (K5), Padpat_85 (K1), Prithvi_84 (K1), Rando14_74 (K5), SamuelLPlaqson_82 (K1), TaiwanKao_83 (K1), TreyKay_84 (K1), Urkel_82 (K1), YoshiYama_45 (AM),

Start 54:

- Found in 15 of 105 (14.3%) of genes in pham
- Manual Annotations of this start: 9 of 97
- Called 60.0% of time when present
- Phage (with cluster) where this start called: BenitoAntonio_45 (AM), Benllo_44 (AM), Cheesy_45 (AM), Heisenberger_44 (AM), JEGGS_44 (AM), Kardesai_46 (AM), Mooshroom_47 (AM), Mudcat_42 (AM), Tribby_45 (AM),

Start 55:

- Found in 11 of 105 (10.5%) of genes in pham
- Manual Annotations of this start: 2 of 97
- Called 18.2% of time when present
- Phage (with cluster) where this start called: Beezoo_85 (K1), Zavala_84 (K1),

Start 60:

- Found in 21 of 105 (20.0%) of genes in pham
- Manual Annotations of this start: 19 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AreFloNak_91 (AU1), Breylor17_79 (AU1), Brunswick_87 (AU1), CapnMurica_80 (AU1), CastorTray_88 (AU1), Caterpillar_80 (AU4), DevitoJr_86 (AU1), ElephantMan_85 (AU1), Gordon_81 (AU1), Issa_78 (AU1), LucySwiss_87 (AU1), MiniBagel_84 (AU1), Nightmare_86 (AU1), Niktson_85 (AU1), Nivinsha_87 (AU1), ScienceWizSam_88 (AU1), Synepsis_79 (AU1), Tatanka_80 (AU1), Teacup_83 (AU1), Tenno_84 (AU1), Trustiboi_84 (AU1),

Start 61:

- Found in 3 of 105 (2.9%) of genes in pham
- Manual Annotations of this start: 2 of 97
- Called 66.7% of time when present
- Phage (with cluster) where this start called: JoyLin_77 (JA), Yotsuba_77 (JA),

Start 63:

- Found in 1 of 105 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Samy_88 (singleton),

Start 67:

- Found in 24 of 105 (22.9%) of genes in pham
- Manual Annotations of this start: 5 of 97
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Arcadia_45 (AM), Correa_43 (AM), Elsa_45 (AM), Nason_45 (AM), Stardom_42 (AM), Xenomorph_41 (AM),

Summary by clusters:

There are 11 clusters represented in this pham: A1, singleton, AW, AM, AU1, K1, AU4, K5, JA, K3, K6,

Info for manual annotations of cluster A1:

- Start number 53 was manually annotated 5 times for cluster A1.

Info for manual annotations of cluster AM:

- Start number 53 was manually annotated 7 times for cluster AM.
- Start number 54 was manually annotated 9 times for cluster AM.
- Start number 67 was manually annotated 5 times for cluster AM.

Info for manual annotations of cluster AU1:

- Start number 60 was manually annotated 18 times for cluster AU1.

Info for manual annotations of cluster AU4:

- Start number 60 was manually annotated 1 time for cluster AU4.

Info for manual annotations of cluster AW:

- Start number 44 was manually annotated 2 times for cluster AW.

Info for manual annotations of cluster JA:

- Start number 50 was manually annotated 1 time for cluster JA.
- Start number 61 was manually annotated 2 times for cluster JA.

Info for manual annotations of cluster K1:

- Start number 53 was manually annotated 7 times for cluster K1.
- Start number 55 was manually annotated 2 times for cluster K1.

Info for manual annotations of cluster K5:

- Start number 51 was manually annotated 21 times for cluster K5.
- Start number 53 was manually annotated 4 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 34 was manually annotated 1 time for cluster K6.
- Start number 35 was manually annotated 1 time for cluster K6.
- Start number 36 was manually annotated 3 times for cluster K6.
- Start number 38 was manually annotated 2 times for cluster K6.
- Start number 46 was manually annotated 3 times for cluster K6.
- Start number 53 was manually annotated 2 times for cluster K6.

Gene Information:

Gene: Agent47_71 Start: 48634, Stop: 48969, Start Num: 51

Candidate Starts for Agent47_71:

(26, 48532), (41, 48598), (Start: 51 @48634 has 21 MA's), (65, 48679), (69, 48694), (73, 48715), (76, 48730), (85, 48781), (88, 48796), (90, 48805), (92, 48820), (103, 48919), (108, 48952),

Gene: AlleyCat_73 Start: 48977, Stop: 49312, Start Num: 51

Candidate Starts for AlleyCat_73:

(26, 48875), (41, 48941), (Start: 51 @48977 has 21 MA's), (65, 49022), (69, 49037), (73, 49058), (76, 49073), (88, 49139), (90, 49148), (92, 49163), (103, 49262), (108, 49295),

Gene: Altman_80 Start: 48154, Stop: 47840, Start Num: 53

Candidate Starts for Altman_80:

(43, 48184), (Start: 53 @48154 has 25 MA's), (76, 48052), (78, 48040), (92, 47962),

Gene: Anma_82 Start: 53398, Stop: 53760, Start Num: 53

Candidate Starts for Anma_82:

(Start: 53 @53398 has 25 MA's), (Start: 55 @53401 has 2 MA's), (66, 53443), (72, 53473), (73, 53476), (76, 53491), (78, 53503), (85, 53542), (88, 53557), (90, 53566), (97, 53602), (110, 53740),

Gene: Arcadia_45 Start: 30887, Stop: 31159, Start Num: 67

Candidate Starts for Arcadia_45:

(48, 30821), (Start: 50 @30827 has 1 MA's), (Start: 54 @30839 has 9 MA's), (Start: 67 @30887 has 5 MA's), (68, 30890),

Gene: AreFloNak_91 Start: 53020, Stop: 53265, Start Num: 60

Candidate Starts for AreFloNak_91:

(56, 52996), (Start: 60 @53020 has 19 MA's), (75, 53086), (93, 53176), (95, 53179), (97, 53197),

Gene: Atkinbua_83 Start: 48481, Stop: 48167, Start Num: 53

Candidate Starts for Atkinbua_83:

(10, 48688), (14, 48661), (21, 48619), (23, 48616), (28, 48589), (31, 48577), (32, 48568), (33, 48553), (49, 48499), (Start: 53 @48481 has 25 MA's), (76, 48379), (78, 48367), (92, 48289),

Gene: BananenDer11_71 Start: 48595, Stop: 48930, Start Num: 51

Candidate Starts for BananenDer11_71:

(26, 48493), (41, 48559), (Start: 51 @48595 has 21 MA's), (65, 48640), (69, 48655), (73, 48676), (76, 48691), (85, 48742), (88, 48757), (90, 48766), (91, 48778), (103, 48880), (108, 48913),

Gene: Beezoo_85 Start: 53916, Stop: 54278, Start Num: 55

Candidate Starts for Beezoo_85:

(22, 53778), (42, 53871), (Start: 53 @53913 has 25 MA's), (Start: 55 @53916 has 2 MA's), (66, 53961), (72, 53991), (73, 53994), (76, 54009), (78, 54021), (85, 54060), (88, 54075), (90, 54084), (97, 54120), (110, 54258),

Gene: BenitoAntonio_45 Start: 30416, Stop: 30736, Start Num: 54

Candidate Starts for BenitoAntonio_45:

(Start: 50 @30404 has 1 MA's), (Start: 54 @30416 has 9 MA's), (Start: 67 @30464 has 5 MA's), (68, 30467),

Gene: Benllo_44 Start: 31100, Stop: 31420, Start Num: 54

Candidate Starts for Benllo_44:

(48, 31082), (Start: 50 @31088 has 1 MA's), (Start: 54 @31100 has 9 MA's), (Start: 67 @31148 has 5 MA's), (68, 31151),

Gene: Bowling_45 Start: 30609, Stop: 30932, Start Num: 53

Candidate Starts for Bowling_45:

(Start: 53 @30609 has 25 MA's), (Start: 67 @30660 has 5 MA's), (68, 30663), (101, 30885), (103, 30906),

Gene: Breylor17_79 Start: 52786, Stop: 53028, Start Num: 60

Candidate Starts for Breylor17_79:

(Start: 60 @52786 has 19 MA's), (Start: 67 @52810 has 5 MA's), (72, 52837), (75, 52852), (93, 52939), (95, 52942), (96, 52951), (97, 52960),

Gene: Brunswick_87 Start: 52853, Stop: 53098, Start Num: 60

Candidate Starts for Brunswick_87:

(Start: 60 @52853 has 19 MA's), (72, 52904), (75, 52919), (95, 53012),

Gene: Cain_87 Start: 53307, Stop: 53669, Start Num: 46

Candidate Starts for Cain_87:

(Start: 35 @53289 has 1 MA's), (Start: 46 @53307 has 3 MA's), (65, 53370), (69, 53385), (76, 53418), (78, 53430), (88, 53484), (90, 53493), (91, 53505), (92, 53508), (107, 53634), (109, 53655),

Gene: CapnMurica_80 Start: 52975, Stop: 53220, Start Num: 60

Candidate Starts for CapnMurica_80:

(Start: 60 @52975 has 19 MA's), (75, 53041), (83, 53089), (93, 53131), (95, 53134), (101, 53209),

Gene: CastorTray_88 Start: 53338, Stop: 53580, Start Num: 60

Candidate Starts for CastorTray_88:

(58, 53326), (Start: 60 @53338 has 19 MA's), (75, 53404), (93, 53491), (95, 53494), (96, 53503), (97, 53512),

Gene: Caterpillar_80 Start: 51328, Stop: 51573, Start Num: 60

Candidate Starts for Caterpillar_80:

(Start: 60 @51328 has 19 MA's), (75, 51394), (97, 51505), (98, 51520), (101, 51562),

Gene: Cheesy_45 Start: 30537, Stop: 30857, Start Num: 54

Candidate Starts for Cheesy_45:

(48, 30519), (Start: 50 @30525 has 1 MA's), (Start: 54 @30537 has 9 MA's), (Start: 67 @30585 has 5 MA's), (68, 30588), (101, 30810),

Gene: Circum_47 Start: 31247, Stop: 31570, Start Num: 53

Candidate Starts for Circum_47:

(Start: 53 @31247 has 25 MA's), (Start: 67 @31298 has 5 MA's), (68, 31301), (103, 31544),

Gene: Collard_69 Start: 48595, Stop: 48930, Start Num: 51

Candidate Starts for Collard_69:

(26, 48493), (41, 48559), (Start: 51 @48595 has 21 MA's), (65, 48640), (69, 48655), (73, 48676), (76, 48691), (85, 48742), (88, 48757), (90, 48766), (91, 48778), (103, 48880), (108, 48913),

Gene: Conceptll_82 Start: 49255, Stop: 48941, Start Num: 53

Candidate Starts for Conceptll_82:

(43, 49285), (Start: 53 @49255 has 25 MA's), (76, 49153), (78, 49141), (92, 49063),

Gene: Correa_43 Start: 29770, Stop: 30042, Start Num: 67

Candidate Starts for Correa_43:

(47, 29701), (48, 29704), (Start: 50 @29710 has 1 MA's), (Start: 54 @29722 has 9 MA's), (Start: 67 @29770 has 5 MA's), (68, 29773), (84, 29869), (96, 29929), (101, 29995),

Gene: Dadosky_73 Start: 48979, Stop: 49314, Start Num: 51

Candidate Starts for Dadosky_73:

(26, 48877), (41, 48943), (Start: 51 @48979 has 21 MA's), (65, 49024), (69, 49039), (73, 49060), (76, 49075), (88, 49141), (90, 49150), (92, 49165), (103, 49264), (108, 49297),

Gene: DevitoJr_86 Start: 52897, Stop: 53139, Start Num: 60

Candidate Starts for DevitoJr_86:

(56, 52873), (Start: 60 @52897 has 19 MA's), (75, 52963), (93, 53050), (95, 53053), (96, 53062), (97, 53071),

Gene: DoubleChamp_68 Start: 48595, Stop: 48930, Start Num: 51

Candidate Starts for DoubleChamp_68:

(26, 48493), (41, 48559), (Start: 51 @48595 has 21 MA's), (65, 48640), (69, 48655), (73, 48676), (76, 48691), (85, 48742), (88, 48757), (90, 48766), (91, 48778), (103, 48880), (108, 48913),

Gene: DrHayes_82 Start: 53398, Stop: 53760, Start Num: 53

Candidate Starts for DrHayes_82:

(Start: 53 @53398 has 25 MA's), (Start: 55 @53401 has 2 MA's), (66, 53443), (72, 53473), (73, 53476), (76, 53491), (78, 53503), (85, 53542), (88, 53557), (90, 53566), (97, 53602), (110, 53740),

Gene: Dynamite_45 Start: 30799, Stop: 31122, Start Num: 53

Candidate Starts for Dynamite_45:

(Start: 53 @30799 has 25 MA's), (Start: 67 @30850 has 5 MA's), (68, 30853), (103, 31096),

Gene: Edugator_69 Start: 50149, Stop: 50484, Start Num: 53

Candidate Starts for Edugator_69:

(Start: 53 @50149 has 25 MA's), (69, 50209), (73, 50230), (76, 50245), (88, 50311), (90, 50320), (92, 50335), (103, 50434), (108, 50467),

Gene: Ekdilam_76 Start: 53484, Stop: 53864, Start Num: 53

Candidate Starts for Ekdilam_76:

(1, 53037), (3, 53145), (4, 53187), (5, 53193), (11, 53280), (15, 53307), (24, 53352), (29, 53379), (Start: 53 @53484 has 25 MA's), (Start: 55 @53487 has 2 MA's), (64, 53520), (66, 53526), (73, 53559), (76, 53574), (78, 53586), (85, 53625), (88, 53640), (91, 53661), (106, 53772), (111, 53850), (112, 53856),

Gene: ElephantMan_85 Start: 53383, Stop: 53628, Start Num: 60

Candidate Starts for ElephantMan_85:

(Start: 60 @53383 has 19 MA's), (72, 53434), (75, 53449), (95, 53542), (101, 53617),

Gene: Elsa_45 Start: 30887, Stop: 31159, Start Num: 67

Candidate Starts for Elsa_45:

(48, 30821), (Start: 50 @30827 has 1 MA's), (Start: 54 @30839 has 9 MA's), (Start: 67 @30887 has 5 MA's), (68, 30890),

Gene: Emerson_84 Start: 53319, Stop: 53684, Start Num: 53

Candidate Starts for Emerson_84:

(22, 53184), (42, 53277), (Start: 53 @53319 has 25 MA's), (Start: 55 @53322 has 2 MA's), (66, 53367), (72, 53397), (73, 53400), (76, 53415), (78, 53427), (85, 53466), (88, 53481), (90, 53490), (97, 53526), (110, 53664),

Gene: Feyre_74 Start: 52395, Stop: 52730, Start Num: 51

Candidate Starts for Feyre_74:

(26, 52293), (41, 52359), (Start: 51 @52395 has 21 MA's), (65, 52440), (69, 52455), (73, 52476), (76, 52491), (85, 52542), (88, 52557), (90, 52566), (105, 52686), (108, 52713),

Gene: Gengar_71 Start: 50405, Stop: 50740, Start Num: 51

Candidate Starts for Gengar_71:

(26, 50303), (41, 50369), (Start: 51 @50405 has 21 MA's), (65, 50450), (69, 50465), (73, 50486), (76, 50501), (78, 50513), (85, 50552), (88, 50567), (90, 50576), (105, 50696), (108, 50723),

Gene: GoCrazy_44 Start: 30725, Stop: 31048, Start Num: 53

Candidate Starts for GoCrazy_44:

(Start: 53 @30725 has 25 MA's), (Start: 67 @30776 has 5 MA's), (68, 30779),

Gene: Gordon_81 Start: 53106, Stop: 53360, Start Num: 60

Candidate Starts for Gordon_81:

(45, 53049), (Start: 60 @53106 has 19 MA's), (75, 53172), (86, 53235), (93, 53262), (95, 53265), (97, 53283), (98, 53298), (100, 53337),

Gene: Guillsminger_72 Start: 50326, Stop: 50661, Start Num: 51

Candidate Starts for Guillsminger_72:

(26, 50224), (41, 50290), (Start: 51 @50326 has 21 MA's), (65, 50371), (69, 50386), (73, 50407), (76, 50422), (78, 50434), (85, 50473), (88, 50488), (90, 50497), (108, 50644),

Gene: Hankly_44 Start: 30026, Stop: 30349, Start Num: 53

Candidate Starts for Hankly_44:

(Start: 53 @30026 has 25 MA's), (Start: 67 @30077 has 5 MA's), (68, 30080),

Gene: Heftyboy_72 Start: 50674, Stop: 51009, Start Num: 51

Candidate Starts for Heftyboy_72:

(26, 50572), (41, 50638), (Start: 51 @50674 has 21 MA's), (65, 50719), (69, 50734), (73, 50755), (76, 50770), (85, 50821), (88, 50836), (90, 50845), (91, 50857), (103, 50959), (108, 50992),

Gene: Heisenberger_44 Start: 30280, Stop: 30600, Start Num: 54

Candidate Starts for Heisenberger_44:

(Start: 50 @30268 has 1 MA's), (Start: 54 @30280 has 9 MA's), (Start: 67 @30328 has 5 MA's), (68, 30331), (103, 30574),

Gene: InvictusManeo_69 Start: 48638, Stop: 48973, Start Num: 51

Candidate Starts for InvictusManeo_69:

(26, 48536), (41, 48602), (Start: 51 @48638 has 21 MA's), (65, 48683), (69, 48698), (73, 48719), (76, 48734), (85, 48785), (88, 48800), (90, 48809), (92, 48824), (103, 48923), (108, 48956),

Gene: Issa_78 Start: 52041, Stop: 52286, Start Num: 60

Candidate Starts for Issa_78:

(Start: 60 @52041 has 19 MA's), (72, 52092), (75, 52107), (83, 52155), (93, 52197), (95, 52200), (101, 52275),

Gene: JEGGS_44 Start: 30334, Stop: 30654, Start Num: 54

Candidate Starts for JEGGS_44:

(Start: 50 @30322 has 1 MA's), (Start: 54 @30334 has 9 MA's), (Start: 67 @30382 has 5 MA's), (68, 30385), (103, 30628),

Gene: JoyLin_77 Start: 51377, Stop: 51670, Start Num: 61

Candidate Starts for JoyLin_77:

(19, 51191), (21, 51200), (25, 51212), (Start: 50 @51323 has 1 MA's), (Start: 61 @51377 has 2 MA's), (74, 51434), (81, 51485), (88, 51509), (98, 51569), (99, 51572), (108, 51662),

Gene: Kanely_79 Start: 47931, Stop: 47617, Start Num: 53

Candidate Starts for Kanely_79:

(43, 47961), (Start: 53 @47931 has 25 MA's), (76, 47829), (78, 47817), (92, 47739),

Gene: Kardesai_46 Start: 31000, Stop: 31320, Start Num: 54

Candidate Starts for Kardesai_46:

(48, 30982), (Start: 50 @30988 has 1 MA's), (Start: 54 @31000 has 9 MA's), (Start: 67 @31048 has 5 MA's), (68, 31051),

Gene: KeaneyLin_44 Start: 30725, Stop: 31048, Start Num: 53

Candidate Starts for KeaneyLin_44:

(Start: 53 @30725 has 25 MA's), (Start: 67 @30776 has 5 MA's), (68, 30779),

Gene: Kratio_74 Start: 50196, Stop: 50531, Start Num: 53

Candidate Starts for Kratio_74:

(Start: 53 @50196 has 25 MA's), (69, 50256), (73, 50277), (76, 50292), (85, 50343), (88, 50358), (90, 50367), (92, 50382), (103, 50481), (108, 50514),

Gene: Krueger_87 Start: 53565, Stop: 53948, Start Num: 34

Candidate Starts for Krueger_87:

(2, 53280), (6, 53373), (7, 53415), (8, 53421), (12, 53436), (17, 53475), (18, 53487), (20, 53496), (29, 53532), (30, 53541), (Start: 34 @53565 has 1 MA's), (Start: 36 @53568 has 3 MA's), (Start: 46 @53586 has 3 MA's), (65, 53649), (69, 53664), (78, 53709), (88, 53763), (90, 53772), (92, 53787), (98, 53823), (107, 53913),

Gene: Larva_72 Start: 49851, Stop: 50186, Start Num: 51

Candidate Starts for Larva_72:

(26, 49749), (41, 49815), (Start: 51 @49851 has 21 MA's), (65, 49896), (69, 49911), (73, 49932), (76, 49947), (88, 50013), (90, 50022), (92, 50037), (103, 50136), (108, 50169),

Gene: Leston_71 Start: 50443, Stop: 50778, Start Num: 51

Candidate Starts for Leston_71:

(26, 50341), (41, 50407), (Start: 51 @50443 has 21 MA's), (65, 50488), (69, 50503), (73, 50524), (76, 50539), (78, 50551), (85, 50590), (88, 50605), (90, 50614), (108, 50761),

Gene: Licorice_78 Start: 49232, Stop: 48918, Start Num: 53

Candidate Starts for Licorice_78:

(43, 49262), (Start: 53 @49232 has 25 MA's), (76, 49130), (78, 49118), (92, 49040),

Gene: LilDirt_70 Start: 48396, Stop: 48731, Start Num: 51

Candidate Starts for LilDirt_70:

(26, 48294), (41, 48360), (Start: 51 @48396 has 21 MA's), (65, 48441), (69, 48456), (73, 48477), (76, 48492), (85, 48543), (88, 48558), (90, 48567), (91, 48579), (103, 48681), (108, 48714),

Gene: LucySwiss_87 Start: 52913, Stop: 53167, Start Num: 60

Candidate Starts for LucySwiss_87:

(56, 52892), (Start: 60 @52913 has 19 MA's), (75, 52979), (84, 53030), (93, 53069), (95, 53072), (96, 53081), (97, 53090), (98, 53105), (100, 53144),

Gene: Marshawn_81 Start: 53759, Stop: 54055, Start Num: 53

Candidate Starts for Marshawn_81:

(52, 53756), (Start: 53 @53759 has 25 MA's), (65, 53804), (66, 53807), (88, 53918), (90, 53927), (91, 53939), (97, 53963), (103, 54041),

Gene: MiniBagel_84 Start: 52801, Stop: 53046, Start Num: 60

Candidate Starts for MiniBagel_84:

(40, 52720), (Start: 60 @52801 has 19 MA's), (75, 52867), (80, 52903), (83, 52915), (93, 52957), (95, 52960), (101, 53035),

Gene: Miryou_75 Start: 53062, Stop: 53397, Start Num: 51

Candidate Starts for Miryou_75:

(26, 52960), (41, 53026), (Start: 51 @53062 has 21 MA's), (65, 53107), (69, 53122), (73, 53143), (76, 53158), (78, 53170), (85, 53209), (88, 53224), (90, 53233), (105, 53353), (108, 53380),

Gene: Mooshroom_47 Start: 31000, Stop: 31320, Start Num: 54

Candidate Starts for Mooshroom_47:

(48, 30982), (Start: 50 @30988 has 1 MA's), (Start: 54 @31000 has 9 MA's), (Start: 67 @31048 has 5 MA's), (68, 31051),

Gene: Mudcat_42 Start: 31693, Stop: 32013, Start Num: 54

Candidate Starts for Mudcat_42:

(Start: 50 @31681 has 1 MA's), (Start: 54 @31693 has 9 MA's), (Start: 67 @31741 has 5 MA's), (68, 31744), (103, 31987),

Gene: NapoleonB_45 Start: 30799, Stop: 31122, Start Num: 53

Candidate Starts for NapoleonB_45:

(Start: 53 @30799 has 25 MA's), (Start: 67 @30850 has 5 MA's), (68, 30853), (103, 31096),

Gene: Nason_45 Start: 30887, Stop: 31159, Start Num: 67

Candidate Starts for Nason_45:

(48, 30821), (Start: 50 @30827 has 1 MA's), (Start: 54 @30839 has 9 MA's), (Start: 67 @30887 has 5 MA's), (68, 30890),

Gene: Natasha_81 Start: 49017, Stop: 49358, Start Num: 44

Candidate Starts for Natasha_81:

(Start: 44 @49017 has 2 MA's), (62, 49077), (66, 49086), (70, 49104), (102, 49299), (107, 49344), (108, 49350),

Gene: Neighly_73 Start: 49850, Stop: 50185, Start Num: 51

Candidate Starts for Neighly_73:

(26, 49748), (41, 49814), (Start: 51 @49850 has 21 MA's), (65, 49895), (69, 49910), (73, 49931), (76, 49946), (88, 50012), (90, 50021), (92, 50036), (103, 50135), (108, 50168),

Gene: Nightmare_86 Start: 53676, Stop: 53924, Start Num: 60

Candidate Starts for Nightmare_86:

(Start: 60 @53676 has 19 MA's), (73, 53730), (75, 53742), (86, 53805), (93, 53832), (95, 53835), (96, 53844), (97, 53853), (98, 53868),

Gene: Niktson_85 Start: 53383, Stop: 53628, Start Num: 60

Candidate Starts for Niktson_85:

(Start: 60 @53383 has 19 MA's), (72, 53434), (75, 53449), (95, 53542), (101, 53617),

Gene: Nivinsha_87 Start: 53024, Stop: 53269, Start Num: 60

Candidate Starts for Nivinsha_87:

(56, 53003), (Start: 60 @53024 has 19 MA's), (75, 53090), (93, 53180), (95, 53183), (97, 53201),

Gene: OkiRoe_72 Start: 50747, Stop: 51082, Start Num: 51

Candidate Starts for OkiRoe_72:

(26, 50645), (41, 50711), (Start: 51 @50747 has 21 MA's), (65, 50792), (69, 50807), (73, 50828), (76, 50843), (78, 50855), (85, 50894), (88, 50909), (90, 50918), (105, 51038), (108, 51065),

Gene: Omnicron_75 Start: 51710, Stop: 52045, Start Num: 53

Candidate Starts for Omnicron_75:

(13, 51533), (17, 51560), (37, 51662), (Start: 53 @51710 has 25 MA's), (65, 51755), (69, 51770), (76, 51806), (78, 51818), (88, 51872), (90, 51881), (91, 51893), (92, 51896), (108, 52028),

Gene: Padpat_85 Start: 53319, Stop: 53684, Start Num: 53

Candidate Starts for Padpat_85:

(22, 53184), (42, 53277), (Start: 53 @53319 has 25 MA's), (Start: 55 @53322 has 2 MA's), (66, 53367), (72, 53397), (73, 53400), (76, 53415), (78, 53427), (85, 53466), (88, 53481), (90, 53490), (97, 53526), (110, 53664),

Gene: Paola_71 Start: 50326, Stop: 50661, Start Num: 51

Candidate Starts for Paola_71:

(26, 50224), (41, 50290), (Start: 51 @50326 has 21 MA's), (65, 50371), (69, 50386), (73, 50407), (76, 50422), (78, 50434), (85, 50473), (88, 50488), (90, 50497), (108, 50644),

Gene: Phrank_87 Start: 53294, Stop: 53656, Start Num: 46

Candidate Starts for Phrank_87:

(Start: 35 @53276 has 1 MA's), (Start: 46 @53294 has 3 MA's), (65, 53357), (69, 53372), (76, 53405), (78, 53417), (88, 53471), (90, 53480), (91, 53492), (92, 53495), (107, 53621), (109, 53642),

Gene: Pippin15_78 Start: 47872, Stop: 48219, Start Num: 50

Candidate Starts for Pippin15_78:

(19, 47740), (21, 47749), (25, 47761), (Start: 50 @47872 has 1 MA's), (Start: 61 @47926 has 2 MA's), (74, 47983), (81, 48034), (88, 48058), (98, 48118), (99, 48121), (108, 48211),

Gene: Prithvi_84 Start: 53449, Stop: 53814, Start Num: 53

Candidate Starts for Prithvi_84:

(16, 53284), (42, 53407), (Start: 53 @53449 has 25 MA's), (Start: 55 @53452 has 2 MA's), (66, 53497), (72, 53527), (73, 53530), (76, 53545), (78, 53557), (85, 53596), (88, 53611), (90, 53620), (97, 53656), (110, 53794),

Gene: Psycho_71 Start: 48976, Stop: 49311, Start Num: 51

Candidate Starts for Psycho_71:

(26, 48874), (41, 48940), (Start: 51 @48976 has 21 MA's), (65, 49021), (69, 49036), (73, 49057), (76, 49072), (88, 49138), (92, 49162), (103, 49261), (108, 49294),

Gene: Rando14_74 Start: 50386, Stop: 50721, Start Num: 53

Candidate Starts for Rando14_74:

(13, 50209), (17, 50236), (37, 50338), (Start: 53 @50386 has 25 MA's), (65, 50431), (69, 50446), (76, 50482), (78, 50494), (88, 50548), (90, 50557), (91, 50569), (92, 50572), (108, 50704),

Gene: RustyBoy_82 Start: 49216, Stop: 49557, Start Num: 44

Candidate Starts for RustyBoy_82:

(Start: 44 @49216 has 2 MA's), (62, 49276), (66, 49285), (70, 49303), (102, 49498), (107, 49543), (108, 49549),

Gene: SamuelLPlaqson_82 Start: 53398, Stop: 53760, Start Num: 53

Candidate Starts for SamuelLPlaqson_82:

(Start: 53 @53398 has 25 MA's), (Start: 55 @53401 has 2 MA's), (66, 53443), (72, 53473), (73, 53476), (76, 53491), (78, 53503), (85, 53542), (88, 53557), (90, 53566), (97, 53602), (110, 53740),

Gene: Samy_88 Start: 54138, Stop: 54419, Start Num: 63

Candidate Starts for Samy_88:

(57, 54105), (Start: 63 @54138 has 1 MA's), (87, 54255), (94, 54285), (99, 54321), (107, 54408),

Gene: ScienceWizSam_88 Start: 53067, Stop: 53312, Start Num: 60

Candidate Starts for ScienceWizSam_88:

(56, 53046), (Start: 60 @53067 has 19 MA's), (72, 53118), (75, 53133), (84, 53184), (86, 53196), (93, 53223), (95, 53226), (97, 53244), (98, 53259),

Gene: Shadow1_87 Start: 53708, Stop: 54088, Start Num: 36

Candidate Starts for Shadow1_87:

(2, 53420), (6, 53513), (7, 53555), (8, 53561), (12, 53576), (17, 53615), (18, 53627), (20, 53636), (29, 53672), (30, 53681), (Start: 34 @53705 has 1 MA's), (Start: 36 @53708 has 3 MA's), (Start: 46 @53726 has 3 MA's), (65, 53789), (69, 53804), (78, 53849), (88, 53903), (90, 53912), (91, 53924), (92, 53927), (107, 54053),

Gene: SoSeph_72 Start: 50674, Stop: 51009, Start Num: 51

Candidate Starts for SoSeph_72:

(26, 50572), (41, 50638), (Start: 51 @50674 has 21 MA's), (65, 50719), (69, 50734), (73, 50755), (76, 50770), (85, 50821), (88, 50836), (90, 50845), (91, 50857), (103, 50959), (108, 50992),

Gene: Stardom_42 Start: 29512, Stop: 29784, Start Num: 67

Candidate Starts for Stardom_42:

(48, 29446), (Start: 50 @29452 has 1 MA's), (Start: 54 @29464 has 9 MA's), (Start: 67 @29512 has 5 MA's), (68, 29515),

Gene: Sunflower1121_86 Start: 53252, Stop: 53632, Start Num: 36

Candidate Starts for Sunflower1121_86:

(2, 52964), (6, 53057), (7, 53099), (8, 53105), (12, 53120), (17, 53159), (18, 53171), (20, 53180), (29, 53216), (30, 53225), (Start: 34 @53249 has 1 MA's), (Start: 36 @53252 has 3 MA's), (Start: 46 @53270 has 3 MA's), (65, 53333), (69, 53348), (78, 53393), (88, 53447), (90, 53456), (91, 53468), (92, 53471), (107, 53597),

Gene: Synopsis_79 Start: 52500, Stop: 52742, Start Num: 60

Candidate Starts for Synopsis_79:

(Start: 60 @52500 has 19 MA's), (75, 52566), (93, 52653), (95, 52656), (96, 52665), (97, 52674),

Gene: Syra333_86 Start: 53606, Stop: 54001, Start Num: 38

Candidate Starts for Syra333_86:

(6, 53402), (7, 53444), (12, 53465), (17, 53504), (20, 53525), (27, 53549), (30, 53570), (Start: 38 @53606 has 2 MA's), (Start: 46 @53639 has 3 MA's), (65, 53702), (69, 53717), (71, 53732), (77, 53759), (78, 53762), (88, 53816), (90, 53825), (92, 53840),

Gene: TaiwanKao_83 Start: 53164, Stop: 53523, Start Num: 53

Candidate Starts for TaiwanKao_83:

(39, 53110), (Start: 53 @53164 has 25 MA's), (66, 53206), (72, 53236), (73, 53239), (76, 53254), (78, 53266), (85, 53305), (88, 53320), (90, 53329), (97, 53365), (110, 53503),

Gene: Tatanka_80 Start: 52808, Stop: 53047, Start Num: 60

Candidate Starts for Tatanka_80:

(Start: 60 @52808 has 19 MA's), (75, 52871), (76, 52874), (79, 52904), (82, 52916), (89, 52943), (93, 52961), (96, 52973), (97, 52982), (101, 53039), (102, 53042),

Gene: Teacup_83 Start: 53119, Stop: 53364, Start Num: 60

Candidate Starts for Teacup_83:

(Start: 60 @53119 has 19 MA's), (72, 53170), (75, 53185), (84, 53236), (93, 53275), (95, 53278), (101, 53353),

Gene: Tenno_84 Start: 53009, Stop: 53254, Start Num: 60

Candidate Starts for Tenno_84:

(Start: 60 @53009 has 19 MA's), (75, 53075), (83, 53123), (93, 53165), (95, 53168), (101, 53243),

Gene: Thyatira_74 Start: 52678, Stop: 53013, Start Num: 51

Candidate Starts for Thyatira_74:

(26, 52576), (41, 52642), (Start: 51 @52678 has 21 MA's), (65, 52723), (69, 52738), (73, 52759), (76, 52774), (78, 52786), (85, 52825), (88, 52840), (90, 52849), (108, 52996),

Gene: Tierra_86 Start: 53708, Stop: 54070, Start Num: 46

Candidate Starts for Tierra_86:

(Start: 35 @53690 has 1 MA's), (Start: 46 @53708 has 3 MA's), (65, 53771), (69, 53786), (76, 53819), (78, 53831), (88, 53885), (90, 53894), (91, 53906), (92, 53909), (104, 54011), (107, 54035),

Gene: Tigress9_87 Start: 53896, Stop: 54276, Start Num: 36

Candidate Starts for Tigress9_87:

(2, 53608), (6, 53701), (7, 53743), (12, 53764), (17, 53803), (18, 53815), (20, 53824), (29, 53860), (30, 53869), (Start: 34 @53893 has 1 MA's), (Start: 36 @53896 has 3 MA's), (Start: 46 @53914 has 3 MA's), (65, 53977), (69, 53992), (78, 54037), (88, 54091), (90, 54100), (92, 54115), (98, 54151), (107, 54241),

Gene: TreyKay_84 Start: 53449, Stop: 53814, Start Num: 53

Candidate Starts for TreyKay_84:

(16, 53284), (42, 53407), (Start: 53 @53449 has 25 MA's), (Start: 55 @53452 has 2 MA's), (66, 53497), (72, 53527), (73, 53530), (76, 53545), (78, 53557), (85, 53596), (88, 53611), (90, 53620), (97, 53656), (110, 53794),

Gene: Tribby_45 Start: 30555, Stop: 30875, Start Num: 54

Candidate Starts for Tribby_45:

(47, 30534), (48, 30537), (Start: 50 @30543 has 1 MA's), (Start: 54 @30555 has 9 MA's), (Start: 67 @30603 has 5 MA's), (68, 30606), (84, 30702), (96, 30762), (101, 30828),

Gene: Trustiboi_84 Start: 53082, Stop: 53324, Start Num: 60

Candidate Starts for Trustiboi_84:

(59, 53079), (Start: 60 @53082 has 19 MA's), (75, 53148), (80, 53184), (93, 53235), (95, 53238), (97, 53256),

Gene: Unicorn_86 Start: 53416, Stop: 53796, Start Num: 35

Candidate Starts for Unicorn_86:

(9, 53275), (Start: 35 @53416 has 1 MA's), (Start: 46 @53434 has 3 MA's), (65, 53497), (69, 53512), (76, 53545), (78, 53557), (88, 53611), (90, 53620), (91, 53632), (92, 53635), (107, 53761),

Gene: Urkel_82 Start: 53398, Stop: 53760, Start Num: 53

Candidate Starts for Urkel_82:

(Start: 53 @53398 has 25 MA's), (Start: 55 @53401 has 2 MA's), (66, 53443), (72, 53473), (73, 53476), (76, 53491), (78, 53503), (85, 53542), (88, 53557), (90, 53566), (97, 53602), (110, 53740),

Gene: ViviJ_77 Start: 50683, Stop: 51018, Start Num: 51

Candidate Starts for ViviJ_77:

(26, 50581), (41, 50647), (Start: 51 @50683 has 21 MA's), (65, 50728), (69, 50743), (73, 50764), (76, 50779), (85, 50830), (88, 50845), (90, 50854), (91, 50866), (103, 50968), (108, 51001),

Gene: Waterfoul_73 Start: 50748, Stop: 51083, Start Num: 51

Candidate Starts for Waterfoul_73:

(26, 50646), (41, 50712), (Start: 51 @50748 has 21 MA's), (65, 50793), (69, 50808), (73, 50829), (76, 50844), (78, 50856), (85, 50895), (88, 50910), (90, 50919), (108, 51066),

Gene: Xenomorph_41 Start: 30314, Stop: 30586, Start Num: 67

Candidate Starts for Xenomorph_41:

(48, 30248), (Start: 50 @30254 has 1 MA's), (Start: 54 @30266 has 9 MA's), (Start: 67 @30314 has 5 MA's), (68, 30317), (96, 30473), (103, 30560),

Gene: Ximenita_88 Start: 53930, Stop: 54325, Start Num: 38

Candidate Starts for Ximenita_88:

(6, 53726), (7, 53768), (12, 53789), (17, 53828), (20, 53849), (27, 53873), (30, 53894), (Start: 38 @53930 has 2 MA's), (Start: 46 @53963 has 3 MA's), (65, 54026), (69, 54041), (71, 54056), (77, 54083), (78, 54086), (88, 54140), (90, 54149), (92, 54164), (109, 54311),

Gene: YoshiYama_45 Start: 30831, Stop: 31154, Start Num: 53

Candidate Starts for YoshiYama_45:

(Start: 53 @30831 has 25 MA's), (Start: 67 @30882 has 5 MA's), (68, 30885), (103, 31128),

Gene: Yotsuba_77 Start: 51395, Stop: 51688, Start Num: 61

Candidate Starts for Yotsuba_77:

(19, 51209), (21, 51218), (25, 51230), (Start: 50 @51341 has 1 MA's), (Start: 61 @51395 has 2 MA's), (74, 51452), (81, 51503), (88, 51527), (98, 51587), (99, 51590), (108, 51680),

Gene: Zavala_84 Start: 53392, Stop: 53754, Start Num: 55

Candidate Starts for Zavala_84:

(22, 53254), (42, 53347), (Start: 53 @53389 has 25 MA's), (Start: 55 @53392 has 2 MA's), (66, 53437), (72, 53467), (73, 53470), (76, 53485), (78, 53497), (85, 53536), (88, 53551), (90, 53560), (97, 53596), (110, 53734),