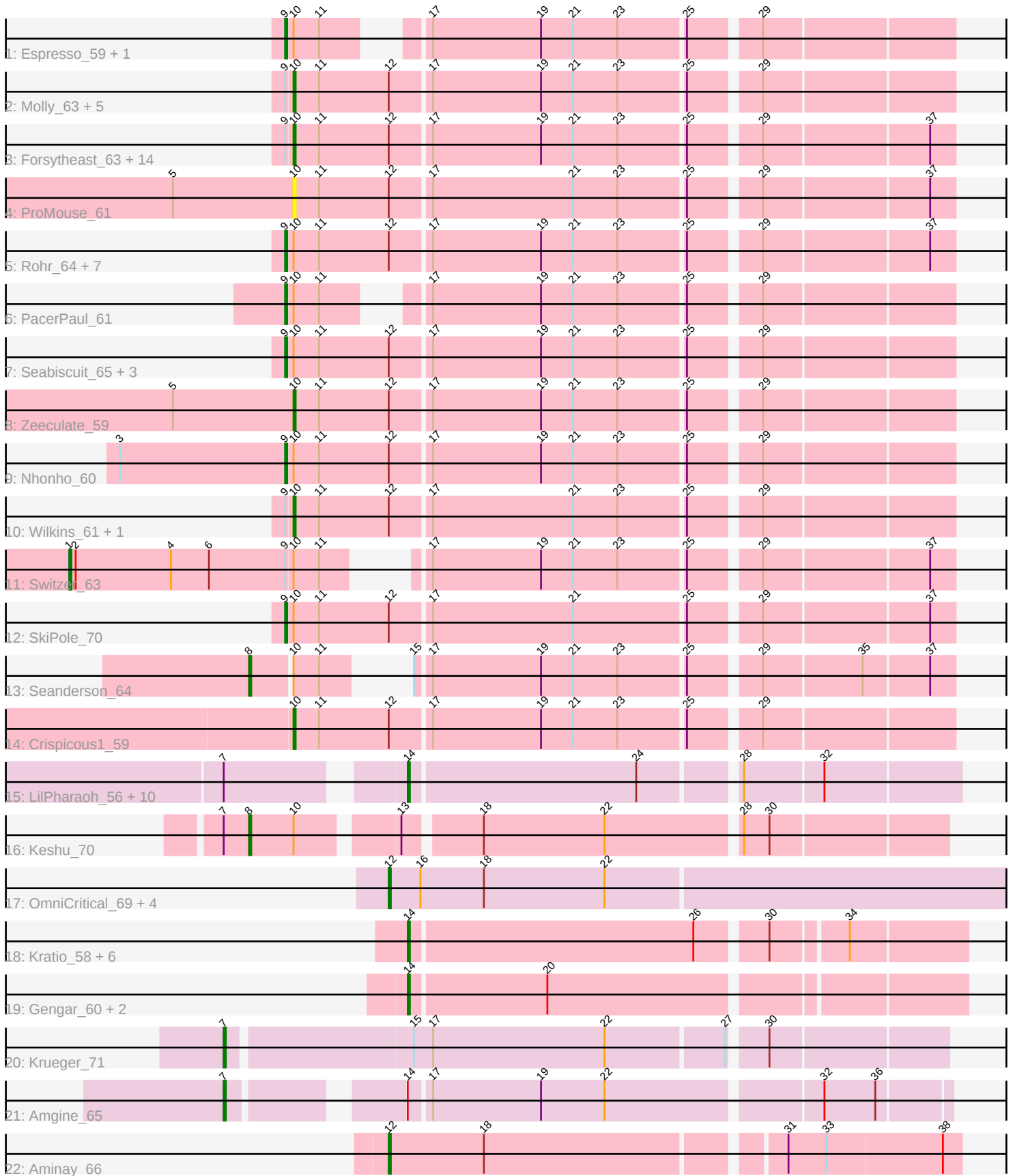


Pham 280381



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 280381 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280381 has 75 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Espresso_59, HarryOW_60
- Track 2 : Molly_63, GMonster_59, Killigrew_61, Briton15_66, McGuire_63, Zephyr_63
- Track 3 : Forsytheast_63, Kykar_63, HermioneGrange_64, Moose_63, Bones_61, Cueyllyss_62, IgnatiusPatJac_62, BigMau_64, Parliament_64, Bob3_63, Bruns_63, Adahisdi_62, SwissCheese_65, U2_60, Arlo_60
- Track 4 : ProMouse_61
- Track 5 : Rohr_64, Petp2012_65, Tasp14_66, Paphu_62, Museum_64, DreamCatcher_65, BluSpix_60, MPlant7149_62
- Track 6 : PacerPaul_61
- Track 7 : Seabiscuit_65, Sibs6_64, Watermelon_62, HanShotFirst_63
- Track 8 : Zeeculate_59
- Track 9 : Nhonho_60
- Track 10 : Wilkins_61, Topgun_60
- Track 11 : Switzer_63
- Track 12 : SkiPole_70
- Track 13 : Seanderson_64
- Track 14 : Crispious1_59
- Track 15 : LilPharaoh_56, Torres_58, Nutello_55, Mdavu_56, SgtBeansprout_56, Trice_55, Binglebops_55, Enkosi_57, Amelie_55, Nikao_58, Teejan_57
- Track 16 : Keshu_70
- Track 17 : OmniCritical_69, Ruthiejr_71, Y10_67, JF1_70, Y2_67
- Track 18 : Kratio_58, DoubleChamp_57, BananenDer11_57, ViviJ_59, InvictusManeo_58, Collard_58, Agent47_60
- Track 19 : Gengar_60, Miryou_64, OkiRoe_61
- Track 20 : Krueger_71
- Track 21 : Amgine_65
- Track 22 : Aminay_66

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

The start number called the most often in the published annotations is 10, it was called in 25 of the 70 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adahisdi_62, Arlo_60, BigMau_64, Bob3_63, Bones_61, Briton15_66, Bruns_63, Crispicous1_59, Cueylyss_62, Forsytheast_63, GMonster_59, HermioneGrange_64, IgnatiusPatJac_62, Killigrew_61, Kykar_63, McGuire_63, Molly_63, Moose_63, Parliament_64, ProMouse_61, SwissCheese_65, Topgun_60, U2_60, Wilkins_61, Zeeculate_59, Zephyr_63,

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

- BluSpix_60, DreamCatcher_65, Espresso_59, HanShotFirst_63, HarryOW_60, Keshu_70, MPlant7149_62, Museum_64, Nhonho_60, PacerPaul_61, Paphu_62, Petp2012_65, Rohr_64, Seabiscuit_65, Seanderson_64, Sibs6_64, SkiPole_70, Switzer_63, Tasp14_66, Watermelon_62,

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

- Agent47_60, Amelie_55, Amgine_65, Aminay_66, BananenDer11_57, Binglebops_55, Collard_58, DoubleChamp_57, Enkosi_57, Gengar_60, InvictusManeo_58, JF1_70, Kratio_58, Krueger_71, LilPharaoh_56, Mdavu_56, Miryou_64, Nikao_58, Nutello_55, OkiRoe_61, OmniCritical_69, Ruthiejr_71, SgtBeansprout_56, Teejan_57, Torres_58, Trice_55, ViviJ_59, Y10_67, Y2_67,

Summary by start number:

Start 1:

- Found in 1 of 75 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Switzer_63 (A1),

Start 7:

- Found in 14 of 75 (18.7%) of genes in pham
- Manual Annotations of this start: 2 of 70
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Amgine_65 (K6), Krueger_71 (K6),

Start 8:

- Found in 2 of 75 (2.7%) of genes in pham
- Manual Annotations of this start: 2 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Keshu_70 (K3), Seanderson_64 (A1),

Start 9:

- Found in 41 of 75 (54.7%) of genes in pham
- Manual Annotations of this start: 17 of 70
- Called 41.5% of time when present
- Phage (with cluster) where this start called: BluSpix_60 (A1), DreamCatcher_65 (A1), Espresso_59 (A1), HanShotFirst_63 (A1), HarryOW_60 (A1), MPlant7149_62 (A1), Museum_64 (A1), Nhonho_60 (A1), PacerPaul_61 (A1), Paphu_62 (A1), Petp2012_65 (A1), Rohr_64 (A1), Seabiscuit_65 (A1), Sibs6_64 (A1), SkiPole_70 (A1), Tasp14_66 (A1), Watermelon_62 (A1),

Start 10:

- Found in 46 of 75 (61.3%) of genes in pham
- Manual Annotations of this start: 25 of 70

- Called 56.5% of time when present
- Phage (with cluster) where this start called: Adahisdi_62 (A1), Arlo_60 (A1), BigMau_64 (A1), Bob3_63 (A1), Bones_61 (A1), Briton15_66 (A1), Bruns_63 (A1), Crispicous1_59 (A1), Cueylyss_62 (A1), Forsytheast_63 (A1), GMonster_59 (A1), HermioneGrange_64 (A1), IgnatiusPatJac_62 (A1), Killigrew_61 (A1), Kykar_63 (A1), McGuire_63 (A1), Molly_63 (A1), Moose_63 (A1), Parliament_64 (A1), ProMouse_61 (A1), SwissCheese_65 (A1), Topgun_60 (A1), U2_60 (A1), Wilkins_61 (A1), Zeeculate_59 (A1), Zephyr_63 (A1),

Start 12:

- Found in 46 of 75 (61.3%) of genes in pham
- Manual Annotations of this start: 6 of 70
- Called 13.0% of time when present
- Phage (with cluster) where this start called: Aminay_66 (K7), JF1_70 (K4), OmniCritical_69 (K4), Ruthiejr_71 (K4), Y10_67 (K4), Y2_67 (K4),

Start 14:

- Found in 22 of 75 (29.3%) of genes in pham
- Manual Annotations of this start: 17 of 70
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Agent47_60 (K5), Amelie_55 (K1), BananenDer11_57 (K5), Binglebops_55 (K1), Collard_58 (K5), DoubleChamp_57 (K5), Enkosi_57 (K1), Gengar_60 (K5), InvictusManeo_58 (K5), Kratio_58 (K5), LilPharaoh_56 (K1), Mdavu_56 (K1), Miryou_64 (K5), Nikao_58 (K1), Nutello_55 (K1), OkiRoe_61 (K5), SgtBeansprout_56 (K1), Teejan_57 (K1), Torres_58 (K1), Trice_55 (K1), ViviJ_59 (K5),

Summary by clusters:

There are 7 clusters represented in this pham: K3, A1, K1, K7, K6, K5, K4,

Info for manual annotations of cluster A1:

- Start number 1 was manually annotated 1 time for cluster A1.
- Start number 8 was manually annotated 1 time for cluster A1.
- Start number 9 was manually annotated 17 times for cluster A1.
- Start number 10 was manually annotated 25 times for cluster A1.

Info for manual annotations of cluster K1:

- Start number 14 was manually annotated 9 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 8 was manually annotated 1 time for cluster K3.

Info for manual annotations of cluster K4:

- Start number 12 was manually annotated 5 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 14 was manually annotated 8 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 7 was manually annotated 2 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 12 was manually annotated 1 time for cluster K7.

Gene Information:

Gene: Adahisdi_62 Start: 42536, Stop: 42240, Start Num: 10

Candidate Starts for Adahisdi_62:

(Start: 9 @42539 has 17 MA's), (Start: 10 @42536 has 25 MA's), (11, 42524), (Start: 12 @42491 has 6 MA's), (17, 42473), (19, 42422), (21, 42407), (23, 42386), (25, 42356), (29, 42326), (37, 42251),

Gene: Agent47_60 Start: 40769, Stop: 41017, Start Num: 14

Candidate Starts for Agent47_60:

(Start: 14 @40769 has 17 MA's), (26, 40901), (30, 40931), (34, 40964),

Gene: Amelie_55 Start: 40941, Stop: 41186, Start Num: 14

Candidate Starts for Amelie_55:

(Start: 7 @40869 has 2 MA's), (Start: 14 @40941 has 17 MA's), (24, 41046), (28, 41088), (32, 41124),

Gene: Amgine_65 Start: 44496, Stop: 44807, Start Num: 7

Candidate Starts for Amgine_65:

(Start: 7 @44496 has 2 MA's), (Start: 14 @44565 has 17 MA's), (17, 44574), (19, 44625), (22, 44655), (32, 44751), (36, 44775),

Gene: Aminay_66 Start: 43144, Stop: 43401, Start Num: 12

Candidate Starts for Aminay_66:

(Start: 12 @43144 has 6 MA's), (18, 43189), (31, 43321), (33, 43339), (38, 43393),

Gene: Arlo_60 Start: 40881, Stop: 40585, Start Num: 10

Candidate Starts for Arlo_60:

(Start: 9 @40884 has 17 MA's), (Start: 10 @40881 has 25 MA's), (11, 40869), (Start: 12 @40836 has 6 MA's), (17, 40818), (19, 40767), (21, 40752), (23, 40731), (25, 40701), (29, 40671), (37, 40596),

Gene: BananenDer11_57 Start: 40730, Stop: 40978, Start Num: 14

Candidate Starts for BananenDer11_57:

(Start: 14 @40730 has 17 MA's), (26, 40862), (30, 40892), (34, 40925),

Gene: BigMau_64 Start: 41801, Stop: 41505, Start Num: 10

Candidate Starts for BigMau_64:

(Start: 9 @41804 has 17 MA's), (Start: 10 @41801 has 25 MA's), (11, 41789), (Start: 12 @41756 has 6 MA's), (17, 41738), (19, 41687), (21, 41672), (23, 41651), (25, 41621), (29, 41591), (37, 41516),

Gene: Biglebops_55 Start: 40941, Stop: 41186, Start Num: 14

Candidate Starts for Biglebops_55:

(Start: 7 @40869 has 2 MA's), (Start: 14 @40941 has 17 MA's), (24, 41046), (28, 41088), (32, 41124),

Gene: BluSpix_60 Start: 37016, Stop: 36717, Start Num: 9

Candidate Starts for BluSpix_60:

(Start: 9 @37016 has 17 MA's), (Start: 10 @37013 has 25 MA's), (11, 37001), (Start: 12 @36968 has 6 MA's), (17, 36950), (19, 36899), (21, 36884), (23, 36863), (25, 36833), (29, 36803), (37, 36728),

Gene: Bob3_63 Start: 41074, Stop: 40778, Start Num: 10

Candidate Starts for Bob3_63:

(Start: 9 @41077 has 17 MA's), (Start: 10 @41074 has 25 MA's), (11, 41062), (Start: 12 @41029 has 6 MA's), (17, 41011), (19, 40960), (21, 40945), (23, 40924), (25, 40894), (29, 40864), (37, 40789),

Gene: Bones_61 Start: 42258, Stop: 41962, Start Num: 10

Candidate Starts for Bones_61:

(Start: 9 @42261 has 17 MA's), (Start: 10 @42258 has 25 MA's), (11, 42246), (Start: 12 @42213 has 6 MA's), (17, 42195), (19, 42144), (21, 42129), (23, 42108), (25, 42078), (29, 42048), (37, 41973),

Gene: Briton15_66 Start: 42878, Stop: 42582, Start Num: 10

Candidate Starts for Briton15_66:

(Start: 9 @42881 has 17 MA's), (Start: 10 @42878 has 25 MA's), (11, 42866), (Start: 12 @42833 has 6 MA's), (17, 42815), (19, 42764), (21, 42749), (23, 42728), (25, 42698), (29, 42668),

Gene: Bruns_63 Start: 40455, Stop: 40159, Start Num: 10

Candidate Starts for Bruns_63:

(Start: 9 @40458 has 17 MA's), (Start: 10 @40455 has 25 MA's), (11, 40443), (Start: 12 @40410 has 6 MA's), (17, 40392), (19, 40341), (21, 40326), (23, 40305), (25, 40275), (29, 40245), (37, 40170),

Gene: Collard_58 Start: 40730, Stop: 40978, Start Num: 14

Candidate Starts for Collard_58:

(Start: 14 @40730 has 17 MA's), (26, 40862), (30, 40892), (34, 40925),

Gene: Crispicous1_59 Start: 39995, Stop: 39699, Start Num: 10

Candidate Starts for Crispicous1_59:

(Start: 10 @39995 has 25 MA's), (11, 39983), (Start: 12 @39950 has 6 MA's), (17, 39932), (19, 39881), (21, 39866), (23, 39845), (25, 39815), (29, 39785),

Gene: Cueylyss_62 Start: 42458, Stop: 42162, Start Num: 10

Candidate Starts for Cueylyss_62:

(Start: 9 @42461 has 17 MA's), (Start: 10 @42458 has 25 MA's), (11, 42446), (Start: 12 @42413 has 6 MA's), (17, 42395), (19, 42344), (21, 42329), (23, 42308), (25, 42278), (29, 42248), (37, 42173),

Gene: DoubleChamp_57 Start: 40730, Stop: 40978, Start Num: 14

Candidate Starts for DoubleChamp_57:

(Start: 14 @40730 has 17 MA's), (26, 40862), (30, 40892), (34, 40925),

Gene: DreamCatcher_65 Start: 41754, Stop: 41455, Start Num: 9

Candidate Starts for DreamCatcher_65:

(Start: 9 @41754 has 17 MA's), (Start: 10 @41751 has 25 MA's), (11, 41739), (Start: 12 @41706 has 6 MA's), (17, 41688), (19, 41637), (21, 41622), (23, 41601), (25, 41571), (29, 41541), (37, 41466),

Gene: Enkosi_57 Start: 43554, Stop: 43799, Start Num: 14

Candidate Starts for Enkosi_57:

(Start: 7 @43482 has 2 MA's), (Start: 14 @43554 has 17 MA's), (24, 43659), (28, 43701), (32, 43737),

Gene: Espresso_59 Start: 41111, Stop: 40833, Start Num: 9

Candidate Starts for Espresso_59:

(Start: 9 @41111 has 17 MA's), (Start: 10 @41108 has 25 MA's), (11, 41096), (17, 41066), (19, 41015), (21, 41000), (23, 40979), (25, 40949), (29, 40919),

Gene: Forsytheast_63 Start: 40623, Stop: 40327, Start Num: 10

Candidate Starts for Forsytheast_63:

(Start: 9 @40626 has 17 MA's), (Start: 10 @40623 has 25 MA's), (11, 40611), (Start: 12 @40578 has 6 MA's), (17, 40560), (19, 40509), (21, 40494), (23, 40473), (25, 40443), (29, 40413), (37, 40338),

Gene: GMonster_59 Start: 40681, Stop: 40385, Start Num: 10

Candidate Starts for GMonster_59:

(Start: 9 @40684 has 17 MA's), (Start: 10 @40681 has 25 MA's), (11, 40669), (Start: 12 @40636 has 6 MA's), (17, 40618), (19, 40567), (21, 40552), (23, 40531), (25, 40501), (29, 40471),

Gene: Gengar_60 Start: 42478, Stop: 42726, Start Num: 14

Candidate Starts for Gengar_60:

(Start: 14 @42478 has 17 MA's), (20, 42541),

Gene: HanShotFirst_63 Start: 42830, Stop: 42531, Start Num: 9

Candidate Starts for HanShotFirst_63:

(Start: 9 @42830 has 17 MA's), (Start: 10 @42827 has 25 MA's), (11, 42815), (Start: 12 @42782 has 6 MA's), (17, 42764), (19, 42713), (21, 42698), (23, 42677), (25, 42647), (29, 42617),

Gene: HarryOW_60 Start: 40966, Stop: 40688, Start Num: 9

Candidate Starts for HarryOW_60:

(Start: 9 @40966 has 17 MA's), (Start: 10 @40963 has 25 MA's), (11, 40951), (17, 40921), (19, 40870), (21, 40855), (23, 40834), (25, 40804), (29, 40774),

Gene: HermioneGrange_64 Start: 42295, Stop: 41999, Start Num: 10

Candidate Starts for HermioneGrange_64:

(Start: 9 @42298 has 17 MA's), (Start: 10 @42295 has 25 MA's), (11, 42283), (Start: 12 @42250 has 6 MA's), (17, 42232), (19, 42181), (21, 42166), (23, 42145), (25, 42115), (29, 42085), (37, 42010),

Gene: IgnatiusPatJac_62 Start: 40958, Stop: 40662, Start Num: 10

Candidate Starts for IgnatiusPatJac_62:

(Start: 9 @40961 has 17 MA's), (Start: 10 @40958 has 25 MA's), (11, 40946), (Start: 12 @40913 has 6 MA's), (17, 40895), (19, 40844), (21, 40829), (23, 40808), (25, 40778), (29, 40748), (37, 40673),

Gene: InvictusManeo_58 Start: 40773, Stop: 41021, Start Num: 14

Candidate Starts for InvictusManeo_58:

(Start: 14 @40773 has 17 MA's), (26, 40905), (30, 40935), (34, 40968),

Gene: JF1_70 Start: 43533, Stop: 43847, Start Num: 12

Candidate Starts for JF1_70:

(Start: 12 @43533 has 6 MA's), (16, 43548), (18, 43578), (22, 43635),

Gene: Keshu_70 Start: 44135, Stop: 44440, Start Num: 8

Candidate Starts for Keshu_70:

(Start: 7 @44129 has 2 MA's), (Start: 8 @44135 has 2 MA's), (Start: 10 @44156 has 25 MA's), (13, 44198), (18, 44231), (22, 44288), (28, 44348), (30, 44360),

Gene: Killigrew_61 Start: 41393, Stop: 41097, Start Num: 10

Candidate Starts for Killigrew_61:

(Start: 9 @41396 has 17 MA's), (Start: 10 @41393 has 25 MA's), (11, 41381), (Start: 12 @41348 has 6 MA's), (17, 41330), (19, 41279), (21, 41264), (23, 41243), (25, 41213), (29, 41183),

Gene: Kratio_58 Start: 40509, Stop: 40757, Start Num: 14

Candidate Starts for Kratio_58:

(Start: 14 @40509 has 17 MA's), (26, 40641), (30, 40671), (34, 40704),

Gene: Krueger_71 Start: 43668, Stop: 43991, Start Num: 7

Candidate Starts for Krueger_71:

(Start: 7 @43668 has 2 MA's), (15, 43752), (17, 43761), (22, 43842), (27, 43896), (30, 43911),

Gene: Kykar_63 Start: 41758, Stop: 41462, Start Num: 10

Candidate Starts for Kykar_63:

(Start: 9 @41761 has 17 MA's), (Start: 10 @41758 has 25 MA's), (11, 41746), (Start: 12 @41713 has 6 MA's), (17, 41695), (19, 41644), (21, 41629), (23, 41608), (25, 41578), (29, 41548), (37, 41473),

Gene: LilPharaoh_56 Start: 40669, Stop: 40914, Start Num: 14

Candidate Starts for LilPharaoh_56:

(Start: 7 @40597 has 2 MA's), (Start: 14 @40669 has 17 MA's), (24, 40774), (28, 40816), (32, 40852),

Gene: MPlant7149_62 Start: 40186, Stop: 39887, Start Num: 9

Candidate Starts for MPlant7149_62:

(Start: 9 @40186 has 17 MA's), (Start: 10 @40183 has 25 MA's), (11, 40171), (Start: 12 @40138 has 6 MA's), (17, 40120), (19, 40069), (21, 40054), (23, 40033), (25, 40003), (29, 39973), (37, 39898),

Gene: McGuire_63 Start: 40458, Stop: 40162, Start Num: 10

Candidate Starts for McGuire_63:

(Start: 9 @40461 has 17 MA's), (Start: 10 @40458 has 25 MA's), (11, 40446), (Start: 12 @40413 has 6 MA's), (17, 40395), (19, 40344), (21, 40329), (23, 40308), (25, 40278), (29, 40248),

Gene: Mdavu_56 Start: 40930, Stop: 41175, Start Num: 14

Candidate Starts for Mdavu_56:

(Start: 7 @40858 has 2 MA's), (Start: 14 @40930 has 17 MA's), (24, 41035), (28, 41077), (32, 41113),

Gene: Miryou_64 Start: 45175, Stop: 45423, Start Num: 14

Candidate Starts for Miryou_64:

(Start: 14 @45175 has 17 MA's), (20, 45238),

Gene: Molly_63 Start: 41563, Stop: 41267, Start Num: 10

Candidate Starts for Molly_63:

(Start: 9 @41566 has 17 MA's), (Start: 10 @41563 has 25 MA's), (11, 41551), (Start: 12 @41518 has 6 MA's), (17, 41500), (19, 41449), (21, 41434), (23, 41413), (25, 41383), (29, 41353),

Gene: Moose_63 Start: 40623, Stop: 40327, Start Num: 10

Candidate Starts for Moose_63:

(Start: 9 @40626 has 17 MA's), (Start: 10 @40623 has 25 MA's), (11, 40611), (Start: 12 @40578 has 6 MA's), (17, 40560), (19, 40509), (21, 40494), (23, 40473), (25, 40443), (29, 40413), (37, 40338),

Gene: Museum_64 Start: 42785, Stop: 42486, Start Num: 9

Candidate Starts for Museum_64:

(Start: 9 @42785 has 17 MA's), (Start: 10 @42782 has 25 MA's), (11, 42770), (Start: 12 @42737 has 6 MA's), (17, 42719), (19, 42668), (21, 42653), (23, 42632), (25, 42602), (29, 42572), (37, 42497),

Gene: Nhonho_60 Start: 41685, Stop: 41386, Start Num: 9

Candidate Starts for Nhonho_60:

(3, 41763), (Start: 9 @41685 has 17 MA's), (Start: 10 @41682 has 25 MA's), (11, 41670), (Start: 12 @41637 has 6 MA's), (17, 41619), (19, 41568), (21, 41553), (23, 41532), (25, 41502), (29, 41472),

Gene: Nikao_58 Start: 43554, Stop: 43799, Start Num: 14

Candidate Starts for Nikao_58:

(Start: 7 @43482 has 2 MA's), (Start: 14 @43554 has 17 MA's), (24, 43659), (28, 43701), (32, 43737),

Gene: Nutello_55 Start: 40941, Stop: 41186, Start Num: 14

Candidate Starts for Nutello_55:

(Start: 7 @40869 has 2 MA's), (Start: 14 @40941 has 17 MA's), (24, 41046), (28, 41088), (32, 41124),

Gene: OkiRoe_61 Start: 42847, Stop: 43095, Start Num: 14

Candidate Starts for OkiRoe_61:

(Start: 14 @42847 has 17 MA's), (20, 42910),

Gene: OmniCritical_69 Start: 43407, Stop: 43721, Start Num: 12

Candidate Starts for OmniCritical_69:

(Start: 12 @43407 has 6 MA's), (16, 43422), (18, 43452), (22, 43509),

Gene: PacerPaul_61 Start: 41105, Stop: 40827, Start Num: 9

Candidate Starts for PacerPaul_61:

(Start: 9 @41105 has 17 MA's), (Start: 10 @41102 has 25 MA's), (11, 41090), (17, 41060), (19, 41009), (21, 40994), (23, 40973), (25, 40943), (29, 40913),

Gene: Paphu_62 Start: 41937, Stop: 41638, Start Num: 9

Candidate Starts for Paphu_62:

(Start: 9 @41937 has 17 MA's), (Start: 10 @41934 has 25 MA's), (11, 41922), (Start: 12 @41889 has 6 MA's), (17, 41871), (19, 41820), (21, 41805), (23, 41784), (25, 41754), (29, 41724), (37, 41649),

Gene: Parliament_64 Start: 43726, Stop: 43430, Start Num: 10

Candidate Starts for Parliament_64:

(Start: 9 @43729 has 17 MA's), (Start: 10 @43726 has 25 MA's), (11, 43714), (Start: 12 @43681 has 6 MA's), (17, 43663), (19, 43612), (21, 43597), (23, 43576), (25, 43546), (29, 43516), (37, 43441),

Gene: Petp2012_65 Start: 43269, Stop: 42970, Start Num: 9

Candidate Starts for Petp2012_65:

(Start: 9 @43269 has 17 MA's), (Start: 10 @43266 has 25 MA's), (11, 43254), (Start: 12 @43221 has 6 MA's), (17, 43203), (19, 43152), (21, 43137), (23, 43116), (25, 43086), (29, 43056), (37, 42981),

Gene: ProMouse_61 Start: 41373, Stop: 41077, Start Num: 10

Candidate Starts for ProMouse_61:

(5, 41430), (Start: 10 @41373 has 25 MA's), (11, 41361), (Start: 12 @41328 has 6 MA's), (17, 41310), (21, 41244), (23, 41223), (25, 41193), (29, 41163), (37, 41088),

Gene: Rohr_64 Start: 42615, Stop: 42316, Start Num: 9

Candidate Starts for Rohr_64:

(Start: 9 @42615 has 17 MA's), (Start: 10 @42612 has 25 MA's), (11, 42600), (Start: 12 @42567 has 6 MA's), (17, 42549), (19, 42498), (21, 42483), (23, 42462), (25, 42432), (29, 42402), (37, 42327),

Gene: Ruthiejr_71 Start: 43418, Stop: 43732, Start Num: 12

Candidate Starts for Ruthiejr_71:

(Start: 12 @43418 has 6 MA's), (16, 43433), (18, 43463), (22, 43520),

Gene: Seabiscuit_65 Start: 40723, Stop: 40424, Start Num: 9

Candidate Starts for Seabiscuit_65:

(Start: 9 @40723 has 17 MA's), (Start: 10 @40720 has 25 MA's), (11, 40708), (Start: 12 @40675 has 6 MA's), (17, 40657), (19, 40606), (21, 40591), (23, 40570), (25, 40540), (29, 40510),

Gene: Seanderson_64 Start: 43120, Stop: 42836, Start Num: 8

Candidate Starts for Seanderson_64:

(Start: 8 @43120 has 2 MA's), (Start: 10 @43102 has 25 MA's), (11, 43090), (15, 43075), (17, 43069), (19, 43018), (21, 43003), (23, 42982), (25, 42952), (29, 42922), (35, 42877), (37, 42847),

Gene: SgtBeansprout_56 Start: 40941, Stop: 41186, Start Num: 14

Candidate Starts for SgtBeansprout_56:

(Start: 7 @40869 has 2 MA's), (Start: 14 @40941 has 17 MA's), (24, 41046), (28, 41088), (32, 41124),

Gene: Sibs6_64 Start: 39832, Stop: 39533, Start Num: 9

Candidate Starts for Sibs6_64:

(Start: 9 @39832 has 17 MA's), (Start: 10 @39829 has 25 MA's), (11, 39817), (Start: 12 @39784 has 6 MA's), (17, 39766), (19, 39715), (21, 39700), (23, 39679), (25, 39649), (29, 39619),

Gene: SkiPole_70 Start: 42720, Stop: 42421, Start Num: 9

Candidate Starts for SkiPole_70:

(Start: 9 @42720 has 17 MA's), (Start: 10 @42717 has 25 MA's), (11, 42705), (Start: 12 @42672 has 6 MA's), (17, 42654), (21, 42588), (25, 42537), (29, 42507), (37, 42432),

Gene: SwissCheese_65 Start: 41123, Stop: 40827, Start Num: 10

Candidate Starts for SwissCheese_65:

(Start: 9 @41126 has 17 MA's), (Start: 10 @41123 has 25 MA's), (11, 41111), (Start: 12 @41078 has 6 MA's), (17, 41060), (19, 41009), (21, 40994), (23, 40973), (25, 40943), (29, 40913), (37, 40838),

Gene: Switzer_63 Start: 42783, Stop: 42412, Start Num: 1

Candidate Starts for Switzer_63:

(Start: 1 @42783 has 1 MA's), (2, 42780), (4, 42735), (6, 42717), (Start: 9 @42681 has 17 MA's), (Start: 10 @42678 has 25 MA's), (11, 42666), (17, 42645), (19, 42594), (21, 42579), (23, 42558), (25, 42528), (29, 42498), (37, 42423),

Gene: Tasp14_66 Start: 43218, Stop: 42919, Start Num: 9

Candidate Starts for Tasp14_66:

(Start: 9 @43218 has 17 MA's), (Start: 10 @43215 has 25 MA's), (11, 43203), (Start: 12 @43170 has 6 MA's), (17, 43152), (19, 43101), (21, 43086), (23, 43065), (25, 43035), (29, 43005), (37, 42930),

Gene: Teejan_57 Start: 43554, Stop: 43799, Start Num: 14

Candidate Starts for Teejan_57:

(Start: 7 @43482 has 2 MA's), (Start: 14 @43554 has 17 MA's), (24, 43659), (28, 43701), (32, 43737),

Gene: Topgun_60 Start: 40325, Stop: 40029, Start Num: 10

Candidate Starts for Topgun_60:

(Start: 9 @40328 has 17 MA's), (Start: 10 @40325 has 25 MA's), (11, 40313), (Start: 12 @40280 has 6 MA's), (17, 40262), (21, 40196), (23, 40175), (25, 40145), (29, 40115),

Gene: Torres_58 Start: 43555, Stop: 43800, Start Num: 14

Candidate Starts for Torres_58:

(Start: 7 @43483 has 2 MA's), (Start: 14 @43555 has 17 MA's), (24, 43660), (28, 43702), (32, 43738),

Gene: Trice_55 Start: 40942, Stop: 41187, Start Num: 14

Candidate Starts for Trice_55:

(Start: 7 @40870 has 2 MA's), (Start: 14 @40942 has 17 MA's), (24, 41047), (28, 41089), (32, 41125),

Gene: U2_60 Start: 41888, Stop: 41592, Start Num: 10

Candidate Starts for U2_60:

(Start: 9 @41891 has 17 MA's), (Start: 10 @41888 has 25 MA's), (11, 41876), (Start: 12 @41843 has 6 MA's), (17, 41825), (19, 41774), (21, 41759), (23, 41738), (25, 41708), (29, 41678), (37, 41603),

Gene: ViviJ_59 Start: 40530, Stop: 40778, Start Num: 14

Candidate Starts for ViviJ_59:

(Start: 14 @40530 has 17 MA's), (26, 40662), (30, 40692), (34, 40725),

Gene: Watermelon_62 Start: 40661, Stop: 40362, Start Num: 9

Candidate Starts for Watermelon_62:

(Start: 9 @40661 has 17 MA's), (Start: 10 @40658 has 25 MA's), (11, 40646), (Start: 12 @40613 has 6 MA's), (17, 40595), (19, 40544), (21, 40529), (23, 40508), (25, 40478), (29, 40448),

Gene: Wilkins_61 Start: 40255, Stop: 39959, Start Num: 10

Candidate Starts for Wilkins_61:

(Start: 9 @40258 has 17 MA's), (Start: 10 @40255 has 25 MA's), (11, 40243), (Start: 12 @40210 has 6 MA's), (17, 40192), (21, 40126), (23, 40105), (25, 40075), (29, 40045),

Gene: Y10_67 Start: 43533, Stop: 43847, Start Num: 12

Candidate Starts for Y10_67:

(Start: 12 @43533 has 6 MA's), (16, 43548), (18, 43578), (22, 43635),

Gene: Y2_67 Start: 43533, Stop: 43847, Start Num: 12

Candidate Starts for Y2_67:

(Start: 12 @43533 has 6 MA's), (16, 43548), (18, 43578), (22, 43635),

Gene: Zeeculate_59 Start: 41408, Stop: 41112, Start Num: 10

Candidate Starts for Zeeculate_59:

(5, 41465), (Start: 10 @41408 has 25 MA's), (11, 41396), (Start: 12 @41363 has 6 MA's), (17, 41345), (19, 41294), (21, 41279), (23, 41258), (25, 41228), (29, 41198),

Gene: Zephyr_63 Start: 40825, Stop: 40529, Start Num: 10

Candidate Starts for Zephyr_63:

(Start: 9 @40828 has 17 MA's), (Start: 10 @40825 has 25 MA's), (11, 40813), (Start: 12 @40780 has 6 MA's), (17, 40762), (19, 40711), (21, 40696), (23, 40675), (25, 40645), (29, 40615),