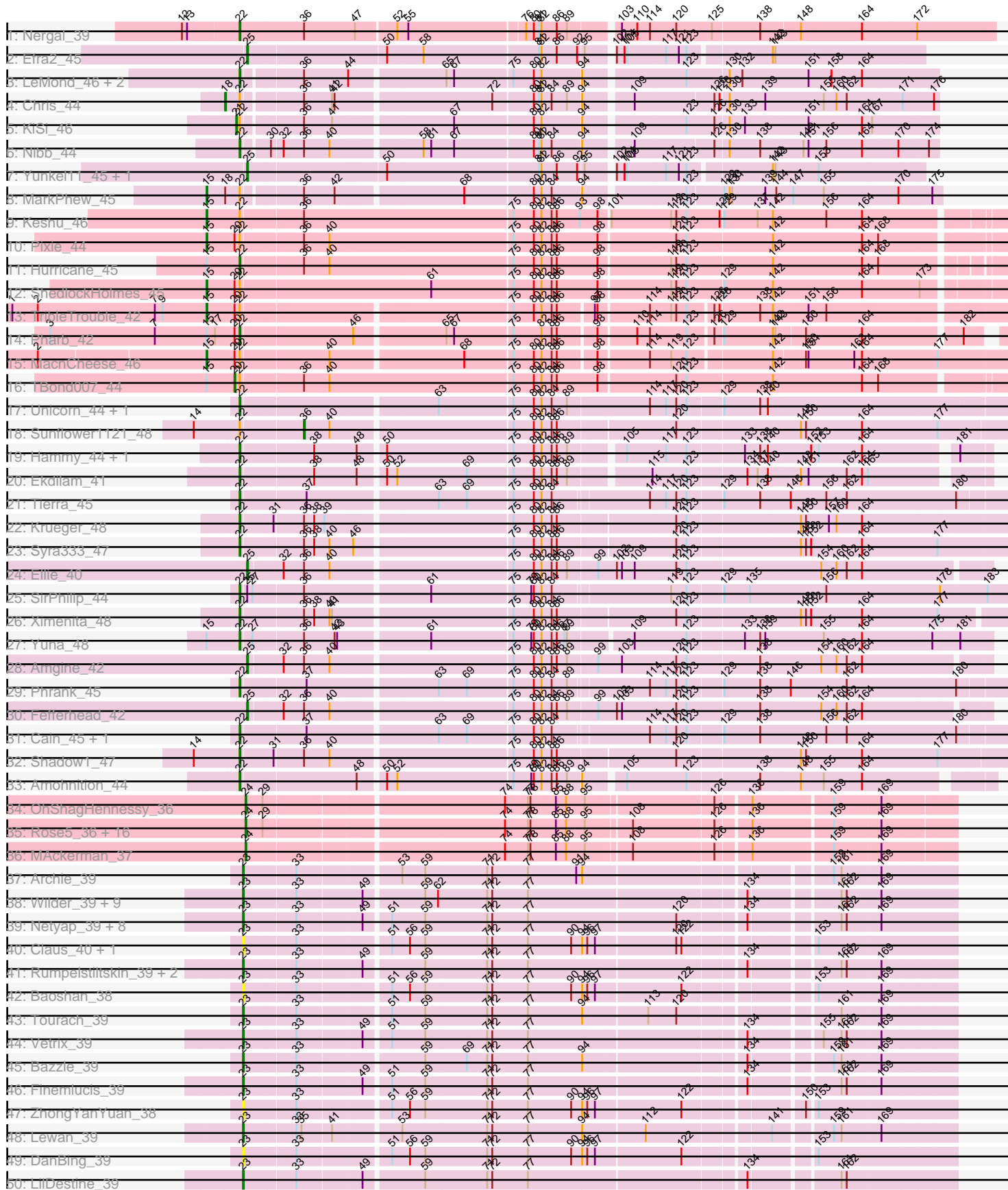
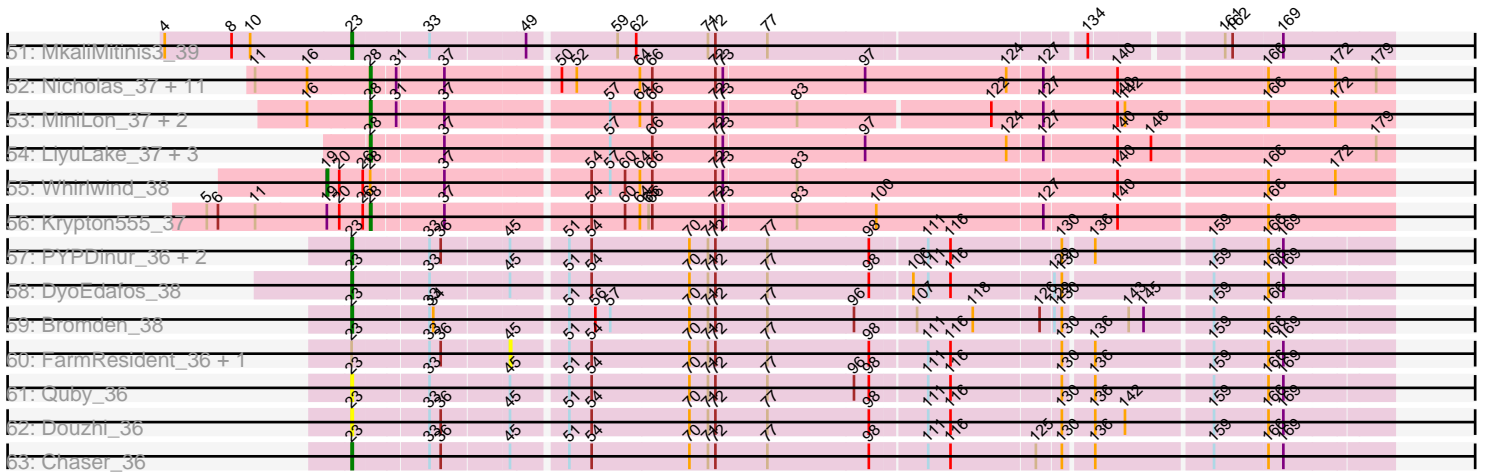


Pham 196375



Pham 196375



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 196375 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196375 has 124 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Nergal_39
- Track 2 : Efra2_45
- Track 3 : LeMond_46, Scarlett_46, Oscar_46
- Track 4 : Chris_44
- Track 5 : KiSi_46
- Track 6 : Nibb_44
- Track 7 : Yunkel11_45, Guanica15_45
- Track 8 : MarkPhew_45
- Track 9 : Keshu_46
- Track 10 : Pixie_44
- Track 11 : Hurricane_45
- Track 12 : ShedlockHolmes_45
- Track 13 : TribbleTrouble_42
- Track 14 : Pharb_42
- Track 15 : MacnCheese_46
- Track 16 : TBond007_44
- Track 17 : Unicorn_44, PhelpsODU_44
- Track 18 : Sunflower1121_48
- Track 19 : Hammy_44, DarthP_44
- Track 20 : Ekdilam_41
- Track 21 : Tierra_45
- Track 22 : Krueger_48
- Track 23 : Syra333_47
- Track 24 : Ellie_40
- Track 25 : SirPhilip_44
- Track 26 : Ximenita_48
- Track 27 : Yuna_48
- Track 28 : Amgine_42
- Track 29 : Phrank_45
- Track 30 : Fefferhead_42
- Track 31 : Cain_45, Bryler_45
- Track 32 : Shadow1_47
- Track 33 : Amohnition_44
- Track 34 : OhShagHennessy_36
- Track 35 : Rose5_36, Calm_37, Tyson_36, LeBron_37, CicholasNage_37, Halena_36, Wyatt2_37, Zaria_37, Wamburggrxpress_37, Acquire49_37, UPIE_37, Enceladus_36, DirkDirk_36, Appletree2_36, JoeDirt_36, Silverleaf_36,

AvadaKedavra_37

- Track 36 : MAckerman_37
- Track 37 : Archie_39
- Track 38 : Wilder_39, Loadrie_39, Kahlid_39, Hafay_39, Soap141_39, GuuelaD_39, Sarshaun_39, Wigglewiggle_39, Zakai_39, Crossroads_39
- Track 39 : Netyap_39, Breezona_39, Winky_39, Faith1_39, Gabriela_39, BigCheese_39, DrSeegs_39, BobsGarage_39, Miley16_39
- Track 40 : Claus_40, DHan_40
- Track 41 : Rumpelstiltskin_39, Gardann_39, Nicholasp3_39
- Track 42 : Baoshan_38
- Track 43 : Tourach_39
- Track 44 : Vetrix_39
- Track 45 : Bazzle_39
- Track 46 : Finemlucis_39
- Track 47 : ZhongYanYuan_38
- Track 48 : Lewan_39
- Track 49 : DanBing_39
- Track 50 : LilDestine_39
- Track 51 : MkaliMitinis3_39
- Track 52 : Nicholas_37, Lumos_37, Jubie_37, Samty_37, Clautastrophe_37, Bellis_37, Moostard_37, Finnry_37, MsGreen_37, Snenia_37, Jobypre_37, Kingsolomon_37
- Track 53 : MiniLon_37, MiniMac_37, Lolly9_37
- Track 54 : LiyuLake_37, DuncansLeg_37, Ellson_37, BourbonZero_36
- Track 55 : Whirlwind_38
- Track 56 : Krypton555_37
- Track 57 : PYPDinur_36, Douge_36, BrainDrainer_37
- Track 58 : DyoEdafos_38
- Track 59 : Bromden_38
- Track 60 : FarmResident_36, Sheng711_36
- Track 61 : Quby_36
- Track 62 : Douzhi_36
- Track 63 : Chaser_36

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

The start number called the most often in the published annotations is 23, it was called in 31 of the 105 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Archie_39, Baoshan_38, Bazzle_39, BigCheese_39, BobsGarage_39, BrainDrainer_37, Breezona_39, Bromden_38, Chaser_36, Claus_40, Crossroads_39, DHan_40, DanBing_39, Douge_36, Douzhi_36, DrSeegs_39, DyoEdafos_38, Faith1_39, Finemlucis_39, Gabriela_39, Gardann_39, GuuelaD_39, Hafay_39, Kahlid_39, Lewan_39, LilDestine_39, Loadrie_39, Miley16_39, MkaliMitinis3_39, Netyap_39, Nicholasp3_39, PYPDinur_36, Quby_36, Rumpelstiltskin_39, Sarshaun_39, Soap141_39, Tourach_39, Vetrix_39, Wigglewiggle_39, Wilder_39, Winky_39, Zakai_39, ZhongYanYuan_38,

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

- FarmResident_36, Sheng711_36,

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

- Acquire49_37, Amgine_42, Amohndition_44, Appletree2_36, AvadaKedavra_37, Bellis_37, BourbonZero_36, Bryler_45, Cain_45, Calm_37, Chris_44, CicholasNage_37, Clautastrophe_37, DarthP_44, DirkDirk_36, DuncansLeg_37, Efra2_45, Ekdilam_41, Ellie_40, Ellson_37, Enceladus_36, Fefferhead_42, Finnry_37, Guanica15_45, Halena_36, Hammy_44, Hurricane_45, Jobypre_37, JoeDirt_36, Jubie_37, Keshu_46, KiSi_46, Kingsolomon_37, Krueger_48, Krypton555_37, LeBron_37, LeMond_46, LiyuLake_37, Lolly9_37, Lumos_37, MAckerman_37, MacnCheese_46, MarkPhew_45, MiniLon_37, MiniMac_37, Moostard_37, MsGreen_37, Nergal_39, Nibb_44, Nicholas_37, OhShagHennessy_36, Oscar_46, Pharb_42, PhelpsODU_44, Phrank_45, Pixie_44, Rose5_36, Samty_37, Scarlett_46, Shadow1_47, ShedlockHolmes_45, Silverleaf_36, SirPhilip_44, Snenia_37, Sunflower1121_48, Syra333_47, TBond007_44, Tierra_45, TribbleTrouble_42, Tyson_36, UPIE_37, Unicorn_44, Wamburggrxpress_37, Whirlwind_38, Wyatt2_37, Ximenita_48, Yuna_48, Yunkel11_45, Zaria_37,

Summary by start number:

Start 15:

- Found in 10 of 124 (8.1%) of genes in pham
- Manual Annotations of this start: 6 of 105
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Keshu_46 (K3), MacnCheese_46 (K3), MarkPhew_45 (K1), Pixie_44 (K3), ShedlockHolmes_45 (K3), TribbleTrouble_42 (K3),

Start 18:

- Found in 2 of 124 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Chris_44 (K1),

Start 19:

- Found in 2 of 124 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Whirlwind_38 (L3),

Start 20:

- Found in 8 of 124 (6.5%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 12.5% of time when present
- Phage (with cluster) where this start called: TBond007_44 (K3),

Start 21:

- Found in 1 of 124 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KiSi_46 (K1),

Start 22:

- Found in 33 of 124 (26.6%) of genes in pham

- Manual Annotations of this start: 23 of 105
- Called 69.7% of time when present
- Phage (with cluster) where this start called: Amohnition_44 (K6), Bryler_45 (K6), Cain_45 (K6), DarthP_44 (K6), Ekdilam_41 (K6), Hammy_44 (K6), Hurricane_45 (K3), Krueger_48 (K6), LeMond_46 (K1), Nergal_39 (AG), Nibb_44 (K1), Oscar_46 (K1), Pharb_42 (K3), PhelpsODU_44 (K6), Phrank_45 (K6), Scarlett_46 (K1), Shadow1_47 (K6), SirPhilip_44 (K6), Syra333_47 (K6), Tierra_45 (K6), Unicorn_44 (K6), Ximenita_48 (K6), Yuna_48 (K6),

Start 23:

- Found in 45 of 124 (36.3%) of genes in pham
- Manual Annotations of this start: 31 of 105
- Called 95.6% of time when present
- Phage (with cluster) where this start called: Archie_39 (L2), Baoshan_38 (L2), Bazzle_39 (L2), BigCheese_39 (L2), BobsGarage_39 (L2), BrainDrainer_37 (L4), Breezona_39 (L2), Bromden_38 (L4), Chaser_36 (L4), Claus_40 (L2), Crossroads_39 (L2), DHan_40 (L2), DanBing_39 (L2), Douge_36 (L4), Douzhi_36 (L4), DrSeegs_39 (L2), DyoEdafos_38 (L4), Faith1_39 (L2), Finemlucis_39 (L2), Gabriela_39 (L2), Gardann_39 (L2), GuuelaD_39 (L2), Hafay_39 (L2), Kahlid_39 (L2), Lewan_39 (L2), LilDestine_39 (L2), Loadrie_39 (L2), Miley16_39 (L2), MkaliMinitis3_39 (L2), Netyap_39 (L2), Nicholasp3_39 (L2), PYPDinur_36 (L4), Quby_36 (L4), Rumpelstiltskin_39 (L2), Sarshaun_39 (L2), Soap141_39 (L2), Tourach_39 (L2), Vetric_39 (L2), Wigglewiggles_39 (L2), Wilder_39 (L2), Winky_39 (L2), Zakai_39 (L2), ZhongYanYuan_38 (L2),

Start 24:

- Found in 19 of 124 (15.3%) of genes in pham
- Manual Annotations of this start: 19 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acquire49_37 (L1), Appletree2_36 (L1), AvadaKedavra_37 (L1), Calm_37 (L1), CicholasNage_37 (L1), DirkDirk_36 (L1), Enceladus_36 (L1), Halena_36 (L1), JoeDirt_36 (L1), LeBron_37 (L1), MAckerman_37 (L1), OhShagHennessy_36 (L1), Rose5_36 (L1), Silverleaf_36 (L1), Tyson_36 (L1), UPIE_37 (L1), Wamburgxpress_37 (L1), Wyatt2_37 (L1), Zaria_37 (L1),

Start 25:

- Found in 7 of 124 (5.6%) of genes in pham
- Manual Annotations of this start: 6 of 105
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Amgine_42 (K6), Efra2_45 (K1), Ellie_40 (K6), Fefferhead_42 (K6), Guanica15_45 (K1), Yunkel11_45 (K1),

Start 28:

- Found in 21 of 124 (16.9%) of genes in pham
- Manual Annotations of this start: 15 of 105
- Called 95.2% of time when present
- Phage (with cluster) where this start called: Bellis_37 (L3), BourbonZero_36 (L3), Clautastrophe_37 (L3), DuncansLeg_37 (L3), Ellson_37 (L3), Finnry_37 (L3), Jobypre_37 (L3), Jubie_37 (L3), Kingsolomon_37 (L3), Krypton555_37 (L3), LiyuLake_37 (L3), Lolly9_37 (L3), Lumos_37 (L3), MiniLon_37 (L3), MiniMac_37 (L3), Moostard_37 (L3), MsGreen_37 (L3), Nicholas_37 (L3), Samty_37 (L3), Snenia_37 (L3),

Start 36:

- Found in 29 of 124 (23.4%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 3.4% of time when present
- Phage (with cluster) where this start called: Sunflower1121_48 (K6),

Start 45:

- Found in 9 of 124 (7.3%) of genes in pham
- No Manual Annotations of this start.
- Called 22.2% of time when present
- Phage (with cluster) where this start called: FarmResident_36 (L4), Sheng711_36 (L4),

Summary by clusters:

There are 8 clusters represented in this pham: AG, L4, K3, K1, L2, L3, L1, K6,

Info for manual annotations of cluster AG:

- Start number 22 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster K1:

- Start number 15 was manually annotated 1 time for cluster K1.
- Start number 18 was manually annotated 1 time for cluster K1.
- Start number 21 was manually annotated 1 time for cluster K1.
- Start number 22 was manually annotated 4 times for cluster K1.
- Start number 25 was manually annotated 3 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 15 was manually annotated 5 times for cluster K3.
- Start number 20 was manually annotated 1 time for cluster K3.
- Start number 22 was manually annotated 2 times for cluster K3.

Info for manual annotations of cluster K6:

- Start number 22 was manually annotated 16 times for cluster K6.
- Start number 25 was manually annotated 3 times for cluster K6.
- Start number 36 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster L1:

- Start number 24 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 23 was manually annotated 27 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 19 was manually annotated 1 time for cluster L3.
- Start number 28 was manually annotated 15 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 23 was manually annotated 4 times for cluster L4.

Gene Information:

Gene: Acquire49_37 Start: 32374, Stop: 31592, Start Num: 24

Candidate Starts for Acquire49_37:

(Start: 24 @32374 has 19 MA's), (29, 32356), (74, 32089), (77, 32062), (78, 32059), (85, 32029), (88, 32017), (95, 31996), (108, 31948), (126, 31855), (136, 31819), (159, 31729), (169, 31675),

Gene: Amgine_42 Start: 35522, Stop: 34689, Start Num: 25

Candidate Starts for Amgine_42:

(Start: 25 @35522 has 6 MA's), (32, 35483), (Start: 36 @35459 has 1 MA's), (40, 35429), (75, 35228), (80, 35204), (82, 35195), (84, 35183), (86, 35177), (89, 35165), (99, 35132), (103, 35105), (120, 35042), (123, 35030), (138, 34946), (154, 34877), (160, 34859), (162, 34847), (164, 34829),

Gene: Amohnition_44 Start: 35581, Stop: 34757, Start Num: 22

Candidate Starts for Amohnition_44:

(Start: 22 @35581 has 23 MA's), (48, 35452), (50, 35425), (52, 35413), (75, 35281), (79, 35260), (80, 35257), (82, 35248), (84, 35236), (86, 35230), (89, 35218), (94, 35203), (105, 35161), (123, 35092), (138, 35011), (148, 34966), (155, 34939), (164, 34894),

Gene: Appletree2_36 Start: 32316, Stop: 31534, Start Num: 24

Candidate Starts for Appletree2_36:

(Start: 24 @32316 has 19 MA's), (29, 32298), (74, 32031), (77, 32004), (78, 32001), (85, 31971), (88, 31959), (95, 31938), (108, 31890), (126, 31797), (136, 31761), (159, 31671), (169, 31617),

Gene: Archie_39 Start: 33946, Stop: 33167, Start Num: 23

Candidate Starts for Archie_39:

(Start: 23 @33946 has 31 MA's), (33, 33889), (53, 33778), (59, 33751), (71, 33679), (72, 33673), (77, 33631), (91, 33574), (94, 33568), (159, 33307), (161, 33298), (169, 33253),

Gene: AvadaKedavra_37 Start: 32383, Stop: 31601, Start Num: 24

Candidate Starts for AvadaKedavra_37:

(Start: 24 @32383 has 19 MA's), (29, 32365), (74, 32098), (77, 32071), (78, 32068), (85, 32038), (88, 32026), (95, 32005), (108, 31957), (126, 31864), (136, 31828), (159, 31738), (169, 31684),

Gene: Baoshan_38 Start: 33577, Stop: 32798, Start Num: 23

Candidate Starts for Baoshan_38:

(Start: 23 @33577 has 31 MA's), (33, 33520), (51, 33421), (56, 33400), (59, 33382), (71, 33310), (72, 33304), (77, 33262), (90, 33211), (94, 33199), (96, 33193), (97, 33184), (122, 33088), (153, 32956), (169, 32884),

Gene: Bazzle_39 Start: 33979, Stop: 33200, Start Num: 23

Candidate Starts for Bazzle_39:

(Start: 23 @33979 has 31 MA's), (33, 33922), (59, 33784), (69, 33736), (71, 33712), (72, 33706), (77, 33664), (94, 33601), (134, 33424), (159, 33340), (161, 33331), (169, 33286),

Gene: Bellis_37 Start: 33980, Stop: 33189, Start Num: 28

Candidate Starts for Bellis_37:

(11, 34070), (16, 34028), (Start: 28 @33980 has 15 MA's), (31, 33962), (37, 33926), (50, 33842), (52, 33830), (64, 33779), (66, 33770), (72, 33719), (73, 33713), (97, 33602), (124, 33488), (127, 33461), (140, 33404), (166, 33290), (172, 33236), (179, 33203),

Gene: BigCheese_39 Start: 33739, Stop: 32960, Start Num: 23

Candidate Starts for BigCheese_39:

(Start: 23 @33739 has 31 MA's), (33, 33682), (49, 33610), (51, 33583), (59, 33544), (71, 33472), (72, 33466), (77, 33424), (120, 33256), (134, 33184), (161, 33091), (162, 33085), (169, 33046),

Gene: BobsGarage_39 Start: 33739, Stop: 32960, Start Num: 23

Candidate Starts for BobsGarage_39:

(Start: 23 @33739 has 31 MA's), (33, 33682), (49, 33610), (51, 33583), (59, 33544), (71, 33472), (72, 33466), (77, 33424), (120, 33256), (134, 33184), (161, 33091), (162, 33085), (169, 33046),

Gene: BourbonZero_36 Start: 33952, Stop: 33161, Start Num: 28

Candidate Starts for BourbonZero_36:

(Start: 28 @33952 has 15 MA's), (37, 33898), (57, 33775), (66, 33742), (72, 33691), (73, 33685), (97, 33574), (124, 33460), (127, 33433), (140, 33376), (146, 33349), (179, 33175),

Gene: BrainDrainer_37 Start: 32627, Stop: 31839, Start Num: 23

Candidate Starts for BrainDrainer_37:

(Start: 23 @32627 has 31 MA's), (33, 32570), (Start: 36 @32561 has 1 MA's), (45, 32510), (51, 32471), (54, 32453), (70, 32375), (71, 32360), (72, 32354), (77, 32312), (98, 32231), (111, 32189), (116, 32171), (130, 32087), (136, 32066), (159, 31976), (166, 31934), (169, 31922),

Gene: Breezona_39 Start: 33739, Stop: 32960, Start Num: 23

Candidate Starts for Breezona_39:

(Start: 23 @33739 has 31 MA's), (33, 33682), (49, 33610), (51, 33583), (59, 33544), (71, 33472), (72, 33466), (77, 33424), (120, 33256), (134, 33184), (161, 33091), (162, 33085), (169, 33046),

Gene: Bromden_38 Start: 33174, Stop: 32386, Start Num: 23

Candidate Starts for Bromden_38:

(Start: 23 @33174 has 31 MA's), (33, 33117), (34, 33114), (51, 33018), (56, 32997), (57, 32985), (70, 32922), (71, 32907), (72, 32901), (77, 32859), (96, 32790), (107, 32745), (118, 32700), (126, 32649), (129, 32640), (130, 32634), (143, 32586), (145, 32574), (159, 32523), (166, 32481),

Gene: Bryler_45 Start: 34405, Stop: 33539, Start Num: 22

Candidate Starts for Bryler_45:

(Start: 22 @34405 has 23 MA's), (37, 34333), (63, 34189), (69, 34156), (75, 34105), (80, 34081), (82, 34072), (84, 34060), (114, 33955), (117, 33937), (120, 33925), (123, 33913), (129, 33874), (138, 33832), (156, 33757), (162, 33733), (180, 33607),

Gene: Cain_45 Start: 34393, Stop: 33527, Start Num: 22

Candidate Starts for Cain_45:

(Start: 22 @34393 has 23 MA's), (37, 34321), (63, 34177), (69, 34144), (75, 34093), (80, 34069), (82, 34060), (84, 34048), (114, 33943), (117, 33925), (120, 33913), (123, 33901), (129, 33862), (138, 33820), (156, 33745), (162, 33721), (180, 33595),

Gene: Calm_37 Start: 32389, Stop: 31607, Start Num: 24

Candidate Starts for Calm_37:

(Start: 24 @32389 has 19 MA's), (29, 32371), (74, 32104), (77, 32077), (78, 32074), (85, 32044), (88, 32032), (95, 32011), (108, 31963), (126, 31870), (136, 31834), (159, 31744), (169, 31690),

Gene: Chaser_36 Start: 32444, Stop: 31656, Start Num: 23

Candidate Starts for Chaser_36:

(Start: 23 @32444 has 31 MA's), (33, 32387), (Start: 36 @32378 has 1 MA's), (45, 32327), (51, 32288), (54, 32270), (70, 32192), (71, 32177), (72, 32171), (77, 32129), (98, 32048), (111, 32006), (116, 31988), (125, 31922), (130, 31904), (136, 31883), (159, 31793), (166, 31751), (169, 31739),

Gene: Chris_44 Start: 35259, Stop: 34477, Start Num: 18

Candidate Starts for Chris_44:

(Start: 18 @35259 has 1 MA's), (Start: 22 @35244 has 23 MA's), (Start: 36 @35181 has 1 MA's), (41, 35148), (42, 35145), (72, 34971), (80, 34926), (81, 34920), (82, 34917), (84, 34905), (89, 34887), (94, 34872), (109, 34821), (126, 34731), (128, 34725), (130, 34716), (139, 34674), (155, 34608), (160, 34593), (162, 34581), (171, 34518), (176, 34482),

Gene: CicholasNage_37 Start: 32410, Stop: 31628, Start Num: 24

Candidate Starts for CicholasNage_37:

(Start: 24 @32410 has 19 MA's), (29, 32392), (74, 32125), (77, 32098), (78, 32095), (85, 32065), (88, 32053), (95, 32032), (108, 31984), (126, 31891), (136, 31855), (159, 31765), (169, 31711),

Gene: Claus_40 Start: 33735, Stop: 32956, Start Num: 23

Candidate Starts for Claus_40:

(Start: 23 @33735 has 31 MA's), (33, 33678), (51, 33579), (56, 33558), (59, 33540), (71, 33468), (72, 33462), (77, 33420), (90, 33369), (94, 33357), (96, 33351), (97, 33342), (120, 33252), (122, 33246), (153, 33114),

Gene: Clautastrophe_37 Start: 33978, Stop: 33187, Start Num: 28

Candidate Starts for Clautastrophe_37:

(11, 34068), (16, 34026), (Start: 28 @33978 has 15 MA's), (31, 33960), (37, 33924), (50, 33840), (52, 33828), (64, 33777), (66, 33768), (72, 33717), (73, 33711), (97, 33600), (124, 33486), (127, 33459), (140, 33402), (166, 33288), (172, 33234), (179, 33201),

Gene: Crossroads_39 Start: 33740, Stop: 32961, Start Num: 23

Candidate Starts for Crossroads_39:

(Start: 23 @33740 has 31 MA's), (33, 33683), (49, 33611), (59, 33545), (62, 33530), (71, 33473), (72, 33467), (77, 33425), (134, 33185), (161, 33092), (162, 33086), (169, 33047),

Gene: DHan_40 Start: 33676, Stop: 32897, Start Num: 23

Candidate Starts for DHan_40:

(Start: 23 @33676 has 31 MA's), (33, 33619), (51, 33520), (56, 33499), (59, 33481), (71, 33409), (72, 33403), (77, 33361), (90, 33310), (94, 33298), (96, 33292), (97, 33283), (120, 33193), (122, 33187), (153, 33055),

Gene: DanBing_39 Start: 33568, Stop: 32789, Start Num: 23

Candidate Starts for DanBing_39:

(Start: 23 @33568 has 31 MA's), (33, 33511), (51, 33412), (56, 33391), (59, 33373), (71, 33301), (72, 33295), (77, 33253), (90, 33202), (94, 33190), (96, 33184), (97, 33175), (122, 33079), (153, 32947),

Gene: DARTH_P_44 Start: 35487, Stop: 34669, Start Num: 22

Candidate Starts for DARTH_P_44:

(Start: 22 @35487 has 23 MA's), (38, 35406), (48, 35358), (50, 35331), (75, 35187), (80, 35163), (82, 35154), (84, 35142), (86, 35136), (89, 35124), (105, 35067), (117, 35022), (123, 34998), (133, 34935), (138, 34917), (140, 34908), (152, 34860), (153, 34851), (164, 34800), (181, 34704),

Gene: DirkDirk_36 Start: 32376, Stop: 31594, Start Num: 24

Candidate Starts for DirkDirk_36:

(Start: 24 @32376 has 19 MA's), (29, 32358), (74, 32091), (77, 32064), (78, 32061), (85, 32031), (88, 32019), (95, 31998), (108, 31950), (126, 31857), (136, 31821), (159, 31731), (169, 31677),

Gene: Douge_36 Start: 32382, Stop: 31594, Start Num: 23

Candidate Starts for Douge_36:

(Start: 23 @32382 has 31 MA's), (33, 32325), (Start: 36 @32316 has 1 MA's), (45, 32265), (51, 32226), (54, 32208), (70, 32130), (71, 32115), (72, 32109), (77, 32067), (98, 31986), (111, 31944), (116, 31926), (130, 31842), (136, 31821), (159, 31731), (166, 31689), (169, 31677),

Gene: Douzhi_36 Start: 32488, Stop: 31700, Start Num: 23

Candidate Starts for Douzhi_36:

(Start: 23 @32488 has 31 MA's), (33, 32431), (Start: 36 @32422 has 1 MA's), (45, 32371), (51, 32332), (54, 32314), (70, 32236), (71, 32221), (72, 32215), (77, 32173), (98, 32092), (111, 32050), (116, 32032), (130, 31948), (136, 31927), (142, 31903), (159, 31837), (166, 31795), (169, 31783),

Gene: DrSeegs_39 Start: 33739, Stop: 32960, Start Num: 23

Candidate Starts for DrSeegs_39:

(Start: 23 @33739 has 31 MA's), (33, 33682), (49, 33610), (51, 33583), (59, 33544), (71, 33472), (72, 33466), (77, 33424), (120, 33256), (134, 33184), (161, 33091), (162, 33085), (169, 33046),

Gene: DuncansLeg_37 Start: 33989, Stop: 33198, Start Num: 28

Candidate Starts for DuncansLeg_37:

(Start: 28 @33989 has 15 MA's), (37, 33935), (57, 33812), (66, 33779), (72, 33728), (73, 33722), (97, 33611), (124, 33497), (127, 33470), (140, 33413), (146, 33386), (179, 33212),

Gene: DyoEdafos_38 Start: 32716, Stop: 31928, Start Num: 23

Candidate Starts for DyoEdafos_38:

(Start: 23 @32716 has 31 MA's), (33, 32659), (45, 32599), (51, 32560), (54, 32542), (70, 32464), (71, 32449), (72, 32443), (77, 32401), (98, 32320), (106, 32290), (111, 32278), (116, 32260), (129, 32182), (130, 32176), (159, 32065), (166, 32023), (169, 32011),

Gene: Efra2_45 Start: 34522, Stop: 33767, Start Num: 25

Candidate Starts for Efra2_45:

(Start: 25 @34522 has 6 MA's), (50, 34366), (58, 34324), (81, 34192), (82, 34189), (86, 34171), (92, 34147), (95, 34141), (102, 34114), (104, 34105), (105, 34102), (117, 34057), (121, 34042), (123, 34033), (142, 33943), (143, 33940),

Gene: Ekdilam_41 Start: 35048, Stop: 34230, Start Num: 22

Candidate Starts for Ekdilam_41:

(Start: 22 @35048 has 23 MA's), (38, 34967), (48, 34919), (50, 34892), (52, 34880), (69, 34799), (75, 34748), (80, 34724), (82, 34715), (84, 34703), (86, 34697), (89, 34685), (115, 34598), (123, 34559), (134, 34493), (137, 34481), (140, 34469), (148, 34433), (151, 34424), (162, 34379), (164, 34361), (165, 34355),

Gene: Ellie_40 Start: 34710, Stop: 33877, Start Num: 25

Candidate Starts for Ellie_40:

(Start: 25 @34710 has 6 MA's), (32, 34671), (Start: 36 @34647 has 1 MA's), (40, 34617), (75, 34416), (80, 34392), (82, 34383), (84, 34371), (86, 34365), (89, 34353), (99, 34320), (102, 34299), (103, 34293), (109, 34278), (120, 34230), (123, 34218), (154, 34065), (160, 34047), (162, 34035), (164, 34017),

Gene: Ellson_37 Start: 33965, Stop: 33174, Start Num: 28

Candidate Starts for Ellson_37:

(Start: 28 @33965 has 15 MA's), (37, 33911), (57, 33788), (66, 33755), (72, 33704), (73, 33698), (97, 33587), (124, 33473), (127, 33446), (140, 33389), (146, 33362), (179, 33188),

Gene: Enceladus_36 Start: 32359, Stop: 31577, Start Num: 24

Candidate Starts for Enceladus_36:

(Start: 24 @32359 has 19 MA's), (29, 32341), (74, 32074), (77, 32047), (78, 32044), (85, 32014), (88, 32002), (95, 31981), (108, 31933), (126, 31840), (136, 31804), (159, 31714), (169, 31660),

Gene: Faith1_39 Start: 33739, Stop: 32960, Start Num: 23

Candidate Starts for Faith1_39:

(Start: 23 @33739 has 31 MA's), (33, 33682), (49, 33610), (51, 33583), (59, 33544), (71, 33472), (72, 33466), (77, 33424), (120, 33256), (134, 33184), (161, 33091), (162, 33085), (169, 33046),

Gene: FarmResident_36 Start: 32309, Stop: 31638, Start Num: 45

Candidate Starts for FarmResident_36:

(Start: 23 @32426 has 31 MA's), (33, 32369), (Start: 36 @32360 has 1 MA's), (45, 32309), (51, 32270), (54, 32252), (70, 32174), (71, 32159), (72, 32153), (77, 32111), (98, 32030), (111, 31988), (116, 31970), (130, 31886), (136, 31865), (159, 31775), (166, 31733), (169, 31721),

Gene: Fefferhead_42 Start: 34661, Stop: 33828, Start Num: 25

Candidate Starts for Fefferhead_42:

(Start: 25 @34661 has 6 MA's), (32, 34622), (Start: 36 @34598 has 1 MA's), (40, 34568), (75, 34367), (80, 34343), (82, 34334), (84, 34322), (86, 34316), (89, 34304), (99, 34271), (102, 34250), (103, 34244), (120, 34181), (123, 34169), (138, 34085), (154, 34016), (160, 33998), (162, 33986), (164, 33968),

Gene: Finemlucis_39 Start: 34015, Stop: 33236, Start Num: 23

Candidate Starts for Finemlucis_39:

(Start: 23 @34015 has 31 MA's), (33, 33958), (49, 33886), (51, 33859), (59, 33820), (71, 33748), (72, 33742), (77, 33700), (134, 33460), (161, 33367), (162, 33361), (169, 33322),

Gene: Finnry_37 Start: 33981, Stop: 33190, Start Num: 28

Candidate Starts for Finnry_37:

(11, 34071), (16, 34029), (Start: 28 @33981 has 15 MA's), (31, 33963), (37, 33927), (50, 33843), (52, 33831), (64, 33780), (66, 33771), (72, 33720), (73, 33714), (97, 33603), (124, 33489), (127, 33462), (140, 33405), (166, 33291), (172, 33237), (179, 33204),

Gene: Gabriela_39 Start: 34001, Stop: 33222, Start Num: 23

Candidate Starts for Gabriela_39:

(Start: 23 @34001 has 31 MA's), (33, 33944), (49, 33872), (51, 33845), (59, 33806), (71, 33734), (72, 33728), (77, 33686), (120, 33518), (134, 33446), (161, 33353), (162, 33347), (169, 33308),

Gene: Gardann_39 Start: 33740, Stop: 32961, Start Num: 23

Candidate Starts for Gardann_39:

(Start: 23 @33740 has 31 MA's), (33, 33683), (49, 33611), (59, 33545), (71, 33473), (72, 33467), (77, 33425), (134, 33185), (161, 33092), (162, 33086), (169, 33047),

Gene: Guanica15_45 Start: 34479, Stop: 33724, Start Num: 25

Candidate Starts for Guanica15_45:

(Start: 25 @34479 has 6 MA's), (50, 34323), (81, 34149), (82, 34146), (86, 34128), (92, 34104), (95, 34098), (102, 34071), (104, 34062), (105, 34059), (117, 34014), (121, 33999), (123, 33990), (142, 33900), (143, 33897), (153, 33846),

Gene: GuuelaD_39 Start: 33777, Stop: 32998, Start Num: 23

Candidate Starts for GuuelaD_39:

(Start: 23 @33777 has 31 MA's), (33, 33720), (49, 33648), (59, 33582), (62, 33567), (71, 33510), (72, 33504), (77, 33462), (134, 33222), (161, 33129), (162, 33123), (169, 33084),

Gene: Hafay_39 Start: 33772, Stop: 32993, Start Num: 23

Candidate Starts for Hafay_39:

(Start: 23 @33772 has 31 MA's), (33, 33715), (49, 33643), (59, 33577), (62, 33562), (71, 33505), (72, 33499), (77, 33457), (134, 33217), (161, 33124), (162, 33118), (169, 33079),

Gene: Halena_36 Start: 32385, Stop: 31603, Start Num: 24

Candidate Starts for Halena_36:

(Start: 24 @32385 has 19 MA's), (29, 32367), (74, 32100), (77, 32073), (78, 32070), (85, 32040), (88, 32028), (95, 32007), (108, 31959), (126, 31866), (136, 31830), (159, 31740), (169, 31686),

Gene: Hammy_44 Start: 35475, Stop: 34657, Start Num: 22

Candidate Starts for Hammy_44:

(Start: 22 @35475 has 23 MA's), (38, 35394), (48, 35346), (50, 35319), (75, 35175), (80, 35151), (82, 35142), (84, 35130), (86, 35124), (89, 35112), (105, 35055), (117, 35010), (123, 34986), (133, 34923), (138, 34905), (140, 34896), (152, 34848), (153, 34839), (164, 34788), (181, 34692),

Gene: Hurricane_45 Start: 35158, Stop: 34283, Start Num: 22

Candidate Starts for Hurricane_45:

(Start: 15 @35194 has 6 MA's), (Start: 22 @35158 has 23 MA's), (Start: 36 @35089 has 1 MA's), (40, 35059), (75, 34849), (80, 34825), (82, 34816), (84, 34804), (86, 34798), (98, 34750), (119, 34669), (120, 34663), (123, 34651), (142, 34552), (164, 34447), (168, 34429),

Gene: Jobypre_37 Start: 33978, Stop: 33187, Start Num: 28

Candidate Starts for Jobypre_37:

(11, 34068), (16, 34026), (Start: 28 @33978 has 15 MA's), (31, 33960), (37, 33924), (50, 33840), (52, 33828), (64, 33777), (66, 33768), (72, 33717), (73, 33711), (97, 33600), (124, 33486), (127, 33459), (140, 33402), (166, 33288), (172, 33234), (179, 33201),

Gene: JoeDirt_36 Start: 32357, Stop: 31575, Start Num: 24

Candidate Starts for JoeDirt_36:

(Start: 24 @32357 has 19 MA's), (29, 32339), (74, 32072), (77, 32045), (78, 32042), (85, 32012), (88, 32000), (95, 31979), (108, 31931), (126, 31838), (136, 31802), (159, 31712), (169, 31658),

Gene: Jubie_37 Start: 33979, Stop: 33188, Start Num: 28

Candidate Starts for Jubie_37:

(11, 34069), (16, 34027), (Start: 28 @33979 has 15 MA's), (31, 33961), (37, 33925), (50, 33841), (52, 33829), (64, 33778), (66, 33769), (72, 33718), (73, 33712), (97, 33601), (124, 33487), (127, 33460), (140, 33403), (166, 33289), (172, 33235), (179, 33202),

Gene: Kahlid_39 Start: 33744, Stop: 32965, Start Num: 23

Candidate Starts for Kahlid_39:

(Start: 23 @33744 has 31 MA's), (33, 33687), (49, 33615), (59, 33549), (62, 33534), (71, 33477), (72, 33471), (77, 33429), (134, 33189), (161, 33096), (162, 33090), (169, 33051),

Gene: Keshu_46 Start: 35253, Stop: 34336, Start Num: 15

Candidate Starts for Keshu_46:

(Start: 15 @35253 has 6 MA's), (Start: 22 @35217 has 23 MA's), (Start: 36 @35148 has 1 MA's), (75, 34908), (80, 34884), (82, 34875), (84, 34863), (86, 34857), (93, 34830), (98, 34809), (101, 34797), (119, 34728), (120, 34722), (123, 34710), (128, 34671), (129, 34668), (137, 34629), (142, 34611), (156, 34548), (164, 34506),

Gene: KiSi_46 Start: 35654, Stop: 34881, Start Num: 21

Candidate Starts for KiSi_46:

(Start: 21 @35654 has 1 MA's), (Start: 22 @35651 has 23 MA's), (Start: 36 @35588 has 1 MA's), (41, 35555), (67, 35423), (80, 35333), (82, 35324), (94, 35279), (123, 35168), (126, 35135), (130, 35120), (133, 35102), (151, 35030), (164, 34967), (167, 34955),

Gene: Kingsolomon_37 Start: 33978, Stop: 33187, Start Num: 28

Candidate Starts for Kingsolomon_37:

(11, 34068), (16, 34026), (Start: 28 @33978 has 15 MA's), (31, 33960), (37, 33924), (50, 33840), (52, 33828), (64, 33777), (66, 33768), (72, 33717), (73, 33711), (97, 33600), (124, 33486), (127, 33459), (140, 33402), (166, 33288), (172, 33234), (179, 33201),

Gene: Krueger_48 Start: 35401, Stop: 34511, Start Num: 22

Candidate Starts for Krueger_48:

(Start: 22 @35401 has 23 MA's), (31, 35365), (Start: 36 @35332 has 1 MA's), (38, 35320), (39, 35308), (75, 35101), (80, 35077), (82, 35068), (84, 35056), (86, 35050), (120, 34918), (123, 34906), (148, 34780), (150, 34774), (157, 34747), (160, 34738), (164, 34708),

Gene: Krypton555_37 Start: 33883, Stop: 33092, Start Num: 28

Candidate Starts for Krypton555_37:

(5, 34012), (6, 34003), (11, 33973), (Start: 19 @33916 has 1 MA's), (Start: 20 @33907 has 1 MA's), (26, 33889), (Start: 28 @33883 has 15 MA's), (37, 33829), (54, 33721), (60, 33694), (64, 33682), (65, 33676), (66, 33673), (72, 33622), (73, 33616), (83, 33559), (100, 33496), (127, 33364), (140, 33307), (166, 33193),

Gene: LeBron_37 Start: 32401, Stop: 31619, Start Num: 24

Candidate Starts for LeBron_37:

(Start: 24 @32401 has 19 MA's), (29, 32383), (74, 32116), (77, 32089), (78, 32086), (85, 32056), (88, 32044), (95, 32023), (108, 31975), (126, 31882), (136, 31846), (159, 31756), (169, 31702),

Gene: LeMond_46 Start: 35651, Stop: 34884, Start Num: 22

Candidate Starts for LeMond_46:

(Start: 22 @35651 has 23 MA's), (Start: 36 @35588 has 1 MA's), (44, 35537), (65, 35432), (67, 35423), (75, 35357), (80, 35333), (82, 35324), (94, 35279), (123, 35168), (130, 35120), (132, 35105), (151, 35030), (158, 35003), (164, 34967),

Gene: Lewan_39 Start: 33732, Stop: 32953, Start Num: 23

Candidate Starts for Lewan_39:

(Start: 23 @33732 has 31 MA's), (33, 33675), (35, 33669), (41, 33636), (53, 33564), (71, 33465), (72, 33459), (77, 33417), (94, 33354), (112, 33285), (141, 33153), (159, 33093), (161, 33084), (169, 33039),

Gene: LilDestine_39 Start: 33737, Stop: 32958, Start Num: 23

Candidate Starts for LilDestine_39:

(Start: 23 @33737 has 31 MA's), (33, 33680), (49, 33608), (59, 33542), (71, 33470), (72, 33464), (77, 33422), (134, 33182), (161, 33089), (162, 33083),

Gene: LiyuLake_37 Start: 33955, Stop: 33164, Start Num: 28

Candidate Starts for LiyuLake_37:

(Start: 28 @33955 has 15 MA's), (37, 33901), (57, 33778), (66, 33745), (72, 33694), (73, 33688), (97, 33577), (124, 33463), (127, 33436), (140, 33379), (146, 33352), (179, 33178),

Gene: Loadrie_39 Start: 33770, Stop: 32991, Start Num: 23

Candidate Starts for Loadrie_39:

(Start: 23 @33770 has 31 MA's), (33, 33713), (49, 33641), (59, 33575), (62, 33560), (71, 33503), (72, 33497), (77, 33455), (134, 33215), (161, 33122), (162, 33116), (169, 33077),

Gene: Lolly9_37 Start: 33775, Stop: 32987, Start Num: 28

Candidate Starts for Lolly9_37:

(16, 33823), (Start: 28 @33775 has 15 MA's), (31, 33754), (37, 33718), (57, 33595), (64, 33571), (66, 33562), (72, 33511), (73, 33505), (83, 33448), (122, 33298), (127, 33259), (140, 33202), (142, 33196), (166, 33088), (172, 33034),

Gene: Lumos_37 Start: 33975, Stop: 33184, Start Num: 28

Candidate Starts for Lumos_37:

(11, 34065), (16, 34023), (Start: 28 @33975 has 15 MA's), (31, 33957), (37, 33921), (50, 33837), (52, 33825), (64, 33774), (66, 33765), (72, 33714), (73, 33708), (97, 33597), (124, 33483), (127, 33456), (140, 33399), (166, 33285), (172, 33231), (179, 33198),

Gene: MAckerman_37 Start: 32379, Stop: 31597, Start Num: 24

Candidate Starts for MAckerman_37:

(Start: 24 @32379 has 19 MA's), (74, 32094), (77, 32067), (78, 32064), (85, 32034), (88, 32022), (95, 32001), (108, 31953), (126, 31860), (136, 31824), (159, 31734), (169, 31680),

Gene: MacnCheese_46 Start: 36148, Stop: 35237, Start Num: 15

Candidate Starts for MacnCheese_46:

(2, 36340), (Start: 15 @36148 has 6 MA's), (Start: 20 @36118 has 1 MA's), (Start: 22 @36112 has 23 MA's), (40, 36013), (68, 35866), (75, 35812), (80, 35788), (82, 35779), (84, 35767), (86, 35761), (98, 35719), (114, 35662), (119, 35638), (123, 35620), (142, 35527), (150, 35491), (151, 35488), (163, 35434), (164, 35425), (177, 35338),

Gene: MarkPhew_45 Start: 35124, Stop: 34315, Start Num: 15

Candidate Starts for MarkPhew_45:

(Start: 15 @35124 has 6 MA's), (Start: 18 @35103 has 1 MA's), (Start: 22 @35088 has 23 MA's), (Start: 36 @35025 has 1 MA's), (42, 34989), (68, 34848), (80, 34770), (82, 34761), (84, 34749), (94, 34716), (123, 34605), (129, 34563), (130, 34557), (131, 34554), (139, 34515), (144, 34503), (147, 34485), (155, 34449), (170, 34362), (175, 34326),

Gene: Miley16_39 Start: 33739, Stop: 32960, Start Num: 23

Candidate Starts for Miley16_39:

(Start: 23 @33739 has 31 MA's), (33, 33682), (49, 33610), (51, 33583), (59, 33544), (71, 33472), (72, 33466), (77, 33424), (120, 33256), (134, 33184), (161, 33091), (162, 33085), (169, 33046),

Gene: MiniLon_37 Start: 33776, Stop: 32988, Start Num: 28

Candidate Starts for MiniLon_37:

(16, 33824), (Start: 28 @33776 has 15 MA's), (31, 33755), (37, 33719), (57, 33596), (64, 33572), (66, 33563), (72, 33512), (73, 33506), (83, 33449), (122, 33299), (127, 33260), (140, 33203), (142, 33197), (166, 33089), (172, 33035),

Gene: MiniMac_37 Start: 33773, Stop: 32985, Start Num: 28

Candidate Starts for MiniMac_37:

(16, 33821), (Start: 28 @33773 has 15 MA's), (31, 33752), (37, 33716), (57, 33593), (64, 33569), (66, 33560), (72, 33509), (73, 33503), (83, 33446), (122, 33296), (127, 33257), (140, 33200), (142, 33194), (166, 33086), (172, 33032),

Gene: MkaliMitinis3_39 Start: 33739, Stop: 32960, Start Num: 23

Candidate Starts for MkaliMitinis3_39:

(4, 33889), (8, 33835), (10, 33820), (Start: 23 @33739 has 31 MA's), (33, 33682), (49, 33610), (59, 33544), (62, 33529), (71, 33472), (72, 33466), (77, 33424), (134, 33184), (161, 33091), (162, 33085), (169, 33046),

Gene: Moostard_37 Start: 33980, Stop: 33189, Start Num: 28

Candidate Starts for Moostard_37:

(11, 34070), (16, 34028), (Start: 28 @33980 has 15 MA's), (31, 33962), (37, 33926), (50, 33842), (52, 33830), (64, 33779), (66, 33770), (72, 33719), (73, 33713), (97, 33602), (124, 33488), (127, 33461), (140, 33404), (166, 33290), (172, 33236), (179, 33203),

Gene: MsGreen_37 Start: 33978, Stop: 33187, Start Num: 28

Candidate Starts for MsGreen_37:

(11, 34068), (16, 34026), (Start: 28 @33978 has 15 MA's), (31, 33960), (37, 33924), (50, 33840), (52, 33828), (64, 33777), (66, 33768), (72, 33717), (73, 33711), (97, 33600), (124, 33486), (127, 33459), (140, 33402), (166, 33288), (172, 33234), (179, 33201),

Gene: Nergal_39 Start: 33105, Stop: 32251, Start Num: 22

Candidate Starts for Nergal_39:

(12, 33171), (13, 33165), (Start: 22 @33105 has 23 MA's), (Start: 36 @33030 has 1 MA's), (47, 32970), (52, 32925), (55, 32913), (76, 32781), (80, 32772), (81, 32766), (82, 32763), (86, 32745), (89, 32733), (103, 32682), (110, 32664), (114, 32649), (120, 32619), (125, 32577), (138, 32523), (148, 32478), (164, 32406), (172, 32343),

Gene: Netyap_39 Start: 33739, Stop: 32960, Start Num: 23

Candidate Starts for Netyap_39:

(Start: 23 @33739 has 31 MA's), (33, 33682), (49, 33610), (51, 33583), (59, 33544), (71, 33472), (72, 33466), (77, 33424), (120, 33256), (134, 33184), (161, 33091), (162, 33085), (169, 33046),

Gene: Nibb_44 Start: 34807, Stop: 34040, Start Num: 22

Candidate Starts for Nibb_44:

(Start: 22 @34807 has 23 MA's), (30, 34780), (32, 34768), (Start: 36 @34744 has 1 MA's), (40, 34714), (58, 34615), (61, 34606), (67, 34579), (80, 34489), (81, 34483), (82, 34480), (84, 34468), (94, 34435), (109, 34384), (126, 34294), (130, 34279), (138, 34243), (149, 34195), (151, 34189), (156, 34168), (164, 34126), (170, 34084), (174, 34051),

Gene: Nicholas_37 Start: 33978, Stop: 33187, Start Num: 28

Candidate Starts for Nicholas_37:

(11, 34068), (16, 34026), (Start: 28 @33978 has 15 MA's), (31, 33960), (37, 33924), (50, 33840), (52, 33828), (64, 33777), (66, 33768), (72, 33717), (73, 33711), (97, 33600), (124, 33486), (127, 33459), (140, 33402), (166, 33288), (172, 33234), (179, 33201),

Gene: Nicholasp3_39 Start: 33740, Stop: 32961, Start Num: 23

Candidate Starts for Nicholasp3_39:

(Start: 23 @33740 has 31 MA's), (33, 33683), (49, 33611), (59, 33545), (71, 33473), (72, 33467), (77, 33425), (134, 33185), (161, 33092), (162, 33086), (169, 33047),

Gene: OhShagHennessy_36 Start: 32347, Stop: 31565, Start Num: 24

Candidate Starts for OhShagHennessy_36:

(Start: 24 @32347 has 19 MA's), (29, 32329), (74, 32062), (77, 32035), (78, 32032), (85, 32002), (88, 31990), (95, 31969), (126, 31828), (136, 31792), (159, 31702), (169, 31648),

Gene: Oscar_46 Start: 35554, Stop: 34787, Start Num: 22

Candidate Starts for Oscar_46:

(Start: 22 @35554 has 23 MA's), (Start: 36 @35491 has 1 MA's), (44, 35440), (65, 35335), (67, 35326), (75, 35260), (80, 35236), (82, 35227), (94, 35182), (123, 35071), (130, 35023), (132, 35008), (151, 34933), (158, 34906), (164, 34870),

Gene: PYPDinur_36 Start: 32488, Stop: 31700, Start Num: 23

Candidate Starts for PYPDinur_36:

(Start: 23 @32488 has 31 MA's), (33, 32431), (Start: 36 @32422 has 1 MA's), (45, 32371), (51, 32332), (54, 32314), (70, 32236), (71, 32221), (72, 32215), (77, 32173), (98, 32092), (111, 32050), (116, 32032), (130, 31948), (136, 31927), (159, 31837), (166, 31795), (169, 31783),

Gene: Pharb_42 Start: 33912, Stop: 33067, Start Num: 22

Candidate Starts for Pharb_42:

(3, 34131), (7, 34008), (Start: 15 @33948 has 6 MA's), (17, 33939), (Start: 20 @33918 has 1 MA's), (Start: 22 @33912 has 23 MA's), (46, 33786), (65, 33687), (67, 33678), (75, 33612), (82, 33579), (84, 33567), (86, 33561), (98, 33519), (110, 33477), (114, 33462), (123, 33420), (126, 33393), (129, 33384), (142, 33327), (143, 33324), (150, 33291), (164, 33225), (182, 33117),

Gene: PhelpsODU_44 Start: 34427, Stop: 33552, Start Num: 22

Candidate Starts for PhelpsODU_44:

(Start: 22 @34427 has 23 MA's), (63, 34211), (75, 34127), (80, 34103), (82, 34094), (84, 34082), (89, 34064), (114, 33971), (117, 33953), (120, 33941), (123, 33929), (129, 33890), (138, 33848), (140, 33839),

Gene: Phrank_45 Start: 34384, Stop: 33518, Start Num: 22

Candidate Starts for Phrank_45:

(Start: 22 @34384 has 23 MA's), (37, 34312), (63, 34168), (69, 34135), (75, 34084), (80, 34060), (82, 34051), (84, 34039), (89, 34021), (114, 33934), (117, 33916), (120, 33904), (123, 33892), (129, 33853), (138, 33811), (146, 33778), (162, 33712), (180, 33586),

Gene: Pixie_44 Start: 34706, Stop: 33786, Start Num: 15

Candidate Starts for Pixie_44:

(Start: 15 @34706 has 6 MA's), (Start: 20 @34676 has 1 MA's), (Start: 22 @34670 has 23 MA's), (Start: 36 @34601 has 1 MA's), (40, 34571), (75, 34361), (80, 34337), (82, 34328), (84, 34316), (86, 34310), (98, 34262), (120, 34175), (123, 34163), (142, 34064), (164, 33959), (168, 33941),

Gene: Quby_36 Start: 32381, Stop: 31593, Start Num: 23

Candidate Starts for Quby_36:

(Start: 23 @32381 has 31 MA's), (33, 32324), (45, 32264), (51, 32225), (54, 32207), (70, 32129), (71, 32114), (72, 32108), (77, 32066), (96, 31997), (98, 31985), (111, 31943), (116, 31925), (130, 31841), (136, 31820), (159, 31730), (166, 31688), (169, 31676),

Gene: Rose5_36 Start: 32374, Stop: 31592, Start Num: 24

Candidate Starts for Rose5_36:

(Start: 24 @32374 has 19 MA's), (29, 32356), (74, 32089), (77, 32062), (78, 32059), (85, 32029), (88, 32017), (95, 31996), (108, 31948), (126, 31855), (136, 31819), (159, 31729), (169, 31675),

Gene: Rumpelstiltskin_39 Start: 34006, Stop: 33227, Start Num: 23

Candidate Starts for Rumpelstiltskin_39:

(Start: 23 @34006 has 31 MA's), (33, 33949), (49, 33877), (59, 33811), (71, 33739), (72, 33733), (77, 33691), (134, 33451), (161, 33358), (162, 33352), (169, 33313),

Gene: Samty_37 Start: 33979, Stop: 33188, Start Num: 28

Candidate Starts for Samty_37:

(11, 34069), (16, 34027), (Start: 28 @33979 has 15 MA's), (31, 33961), (37, 33925), (50, 33841), (52, 33829), (64, 33778), (66, 33769), (72, 33718), (73, 33712), (97, 33601), (124, 33487), (127, 33460), (140, 33403), (166, 33289), (172, 33235), (179, 33202),

Gene: Sarshaun_39 Start: 33772, Stop: 32993, Start Num: 23

Candidate Starts for Sarshaun_39:

(Start: 23 @33772 has 31 MA's), (33, 33715), (49, 33643), (59, 33577), (62, 33562), (71, 33505), (72, 33499), (77, 33457), (134, 33217), (161, 33124), (162, 33118), (169, 33079),

Gene: Scarlett_46 Start: 35546, Stop: 34779, Start Num: 22

Candidate Starts for Scarlett_46:

(Start: 22 @35546 has 23 MA's), (Start: 36 @35483 has 1 MA's), (44, 35432), (65, 35327), (67, 35318), (75, 35252), (80, 35228), (82, 35219), (94, 35174), (123, 35063), (130, 35015), (132, 35000), (151, 34925), (158, 34898), (164, 34862),

Gene: Shadow1_47 Start: 35548, Stop: 34661, Start Num: 22

Candidate Starts for Shadow1_47:

(14, 35599), (Start: 22 @35548 has 23 MA's), (31, 35512), (Start: 36 @35479 has 1 MA's), (40, 35449), (75, 35248), (80, 35224), (82, 35215), (84, 35203), (86, 35197), (120, 35065), (148, 34927), (150, 34921), (164, 34855), (177, 34768),

Gene: ShedlockHolmes_45 Start: 35232, Stop: 34315, Start Num: 15

Candidate Starts for ShedlockHolmes_45:

(Start: 15 @35232 has 6 MA's), (Start: 20 @35202 has 1 MA's), (Start: 22 @35196 has 23 MA's), (61, 34980), (75, 34887), (80, 34863), (82, 34854), (84, 34842), (86, 34836), (98, 34788), (119, 34707), (120, 34701), (123, 34689), (129, 34647), (142, 34590), (164, 34485), (173, 34419),

Gene: Sheng711_36 Start: 32371, Stop: 31700, Start Num: 45

Candidate Starts for Sheng711_36:

(Start: 23 @32488 has 31 MA's), (33, 32431), (Start: 36 @32422 has 1 MA's), (45, 32371), (51, 32332), (54, 32314), (70, 32236), (71, 32221), (72, 32215), (77, 32173), (98, 32092), (111, 32050), (116, 32032), (130, 31948), (136, 31927), (159, 31837), (166, 31795), (169, 31783),

Gene: Silverleaf_36 Start: 32374, Stop: 31592, Start Num: 24

Candidate Starts for Silverleaf_36:

(Start: 24 @32374 has 19 MA's), (29, 32356), (74, 32089), (77, 32062), (78, 32059), (85, 32029), (88, 32017), (95, 31996), (108, 31948), (126, 31855), (136, 31819), (159, 31729), (169, 31675),

Gene: SirPhilip_44 Start: 35758, Stop: 34889, Start Num: 22

Candidate Starts for SirPhilip_44:

(Start: 22 @35758 has 23 MA's), (Start: 25 @35752 has 6 MA's), (27, 35746), (Start: 36 @35689 has 1 MA's), (61, 35551), (75, 35458), (79, 35437), (80, 35434), (82, 35425), (84, 35413), (119, 35284), (123, 35266), (129, 35227), (135, 35197), (156, 35110), (178, 34978), (183, 34927),

Gene: Snenia_37 Start: 33979, Stop: 33188, Start Num: 28

Candidate Starts for Snenia_37:

(11, 34069), (16, 34027), (Start: 28 @33979 has 15 MA's), (31, 33961), (37, 33925), (50, 33841), (52, 33829), (64, 33778), (66, 33769), (72, 33718), (73, 33712), (97, 33601), (124, 33487), (127, 33460), (140, 33403), (166, 33289), (172, 33235), (179, 33202),

Gene: Soap141_39 Start: 33772, Stop: 32993, Start Num: 23

Candidate Starts for Soap141_39:

(Start: 23 @33772 has 31 MA's), (33, 33715), (49, 33643), (59, 33577), (62, 33562), (71, 33505), (72, 33499), (77, 33457), (134, 33217), (161, 33124), (162, 33118), (169, 33079),

Gene: Sunflower1121_48 Start: 35580, Stop: 34762, Start Num: 36
Candidate Starts for Sunflower1121_48:

(14, 35700), (Start: 22 @35649 has 23 MA's), (Start: 36 @35580 has 1 MA's), (40, 35550), (75, 35349), (80, 35325), (82, 35316), (84, 35304), (86, 35298), (120, 35166), (148, 35028), (150, 35022), (164, 34956), (177, 34869),

Gene: Syra333_47 Start: 35315, Stop: 34425, Start Num: 22
Candidate Starts for Syra333_47:

(Start: 22 @35315 has 23 MA's), (Start: 36 @35246 has 1 MA's), (38, 35234), (40, 35216), (46, 35189), (75, 35015), (80, 34991), (82, 34982), (84, 34970), (86, 34964), (120, 34832), (123, 34820), (148, 34694), (150, 34688), (152, 34682), (164, 34622), (177, 34535),

Gene: TBond007_44 Start: 34675, Stop: 33785, Start Num: 20
Candidate Starts for TBond007_44:

(Start: 15 @34705 has 6 MA's), (Start: 20 @34675 has 1 MA's), (Start: 22 @34669 has 23 MA's), (Start: 36 @34600 has 1 MA's), (40, 34570), (75, 34360), (80, 34336), (82, 34327), (84, 34315), (86, 34309), (98, 34261), (120, 34174), (123, 34162), (142, 34063), (164, 33958), (168, 33940),

Gene: Tierra_45 Start: 35195, Stop: 34329, Start Num: 22
Candidate Starts for Tierra_45:

(Start: 22 @35195 has 23 MA's), (37, 35123), (63, 34979), (69, 34946), (75, 34895), (80, 34871), (82, 34862), (84, 34850), (114, 34745), (117, 34727), (120, 34715), (123, 34703), (129, 34664), (138, 34622), (146, 34589), (156, 34547), (162, 34523), (180, 34397),

Gene: Tourach_39 Start: 33734, Stop: 32955, Start Num: 23
Candidate Starts for Tourach_39:

(Start: 23 @33734 has 31 MA's), (33, 33677), (51, 33578), (59, 33539), (71, 33467), (72, 33461), (77, 33419), (94, 33356), (113, 33284), (120, 33251), (161, 33086), (169, 33041),

Gene: TribelTrouble_42 Start: 34597, Stop: 33695, Start Num: 15
Candidate Starts for TribelTrouble_42:

(1, 34825), (2, 34795), (7, 34657), (9, 34648), (Start: 15 @34597 has 6 MA's), (Start: 20 @34567 has 1 MA's), (Start: 22 @34561 has 23 MA's), (75, 34261), (80, 34237), (82, 34228), (84, 34216), (86, 34210), (97, 34171), (98, 34168), (114, 34111), (119, 34087), (120, 34081), (123, 34069), (126, 34042), (128, 34036), (138, 33991), (142, 33976), (151, 33934), (156, 33913),

Gene: Tyson_36 Start: 32375, Stop: 31593, Start Num: 24
Candidate Starts for Tyson_36:

(Start: 24 @32375 has 19 MA's), (29, 32357), (74, 32090), (77, 32063), (78, 32060), (85, 32030), (88, 32018), (95, 31997), (108, 31949), (126, 31856), (136, 31820), (159, 31730), (169, 31676),

Gene: UPIE_37 Start: 32373, Stop: 31591, Start Num: 24
Candidate Starts for UPIE_37:

(Start: 24 @32373 has 19 MA's), (29, 32355), (74, 32088), (77, 32061), (78, 32058), (85, 32028), (88, 32016), (95, 31995), (108, 31947), (126, 31854), (136, 31818), (159, 31728), (169, 31674),

Gene: Unicorn_44 Start: 34427, Stop: 33552, Start Num: 22
Candidate Starts for Unicorn_44:

(Start: 22 @34427 has 23 MA's), (63, 34211), (75, 34127), (80, 34103), (82, 34094), (84, 34082), (89, 34064), (114, 33971), (117, 33953), (120, 33941), (123, 33929), (129, 33890), (138, 33848), (140,

33839),

Gene: Vetrrix_39 Start: 33745, Stop: 32966, Start Num: 23

Candidate Starts for Vetrrix_39:

(Start: 23 @33745 has 31 MA's), (33, 33688), (49, 33616), (51, 33589), (59, 33550), (71, 33478), (72, 33472), (77, 33430), (134, 33190), (155, 33118), (161, 33097), (162, 33091), (169, 33052),

Gene: Wamburgrxpress_37 Start: 32388, Stop: 31606, Start Num: 24

Candidate Starts for Wamburgrxpress_37:

(Start: 24 @32388 has 19 MA's), (29, 32370), (74, 32103), (77, 32076), (78, 32073), (85, 32043), (88, 32031), (95, 32010), (108, 31962), (126, 31869), (136, 31833), (159, 31743), (169, 31689),

Gene: Whirlwind_38 Start: 33757, Stop: 32933, Start Num: 19

Candidate Starts for Whirlwind_38:

(Start: 19 @33757 has 1 MA's), (Start: 20 @33748 has 1 MA's), (26, 33730), (Start: 28 @33724 has 15 MA's), (37, 33670), (54, 33562), (57, 33547), (60, 33535), (64, 33523), (66, 33514), (72, 33463), (73, 33457), (83, 33400), (140, 33148), (166, 33034), (172, 32980),

Gene: Wigglewigggle_39 Start: 33771, Stop: 32992, Start Num: 23

Candidate Starts for Wigglewigggle_39:

(Start: 23 @33771 has 31 MA's), (33, 33714), (49, 33642), (59, 33576), (62, 33561), (71, 33504), (72, 33498), (77, 33456), (134, 33216), (161, 33123), (162, 33117), (169, 33078),

Gene: Wilder_39 Start: 33744, Stop: 32965, Start Num: 23

Candidate Starts for Wilder_39:

(Start: 23 @33744 has 31 MA's), (33, 33687), (49, 33615), (59, 33549), (62, 33534), (71, 33477), (72, 33471), (77, 33429), (134, 33189), (161, 33096), (162, 33090), (169, 33051),

Gene: Winky_39 Start: 33739, Stop: 32960, Start Num: 23

Candidate Starts for Winky_39:

(Start: 23 @33739 has 31 MA's), (33, 33682), (49, 33610), (51, 33583), (59, 33544), (71, 33472), (72, 33466), (77, 33424), (120, 33256), (134, 33184), (161, 33091), (162, 33085), (169, 33046),

Gene: Wyatt2_37 Start: 32374, Stop: 31592, Start Num: 24

Candidate Starts for Wyatt2_37:

(Start: 24 @32374 has 19 MA's), (29, 32356), (74, 32089), (77, 32062), (78, 32059), (85, 32029), (88, 32017), (95, 31996), (108, 31948), (126, 31855), (136, 31819), (159, 31729), (169, 31675),

Gene: Ximenita_48 Start: 35501, Stop: 34620, Start Num: 22

Candidate Starts for Ximenita_48:

(Start: 22 @35501 has 23 MA's), (Start: 36 @35432 has 1 MA's), (38, 35420), (40, 35402), (41, 35399), (75, 35201), (80, 35177), (82, 35168), (84, 35156), (86, 35150), (120, 35018), (123, 35006), (148, 34880), (150, 34874), (152, 34868), (164, 34808), (177, 34721),

Gene: Yuna_48 Start: 36294, Stop: 35452, Start Num: 22

Candidate Starts for Yuna_48:

(Start: 15 @36330 has 6 MA's), (Start: 22 @36294 has 23 MA's), (27, 36282), (Start: 36 @36225 has 1 MA's), (42, 36189), (43, 36186), (61, 36087), (75, 35994), (79, 35973), (80, 35970), (82, 35961), (84, 35949), (86, 35943), (87, 35934), (89, 35931), (109, 35862), (123, 35802), (133, 35739), (138, 35721), (139, 35715), (155, 35649), (164, 35604), (175, 35523), (181, 35490),

Gene: Yunkel11_45 Start: 34478, Stop: 33723, Start Num: 25

Candidate Starts for Yunkel11_45:

(Start: 25 @34478 has 6 MA's), (50, 34322), (81, 34148), (82, 34145), (86, 34127), (92, 34103), (95, 34097), (102, 34070), (104, 34061), (105, 34058), (117, 34013), (121, 33998), (123, 33989), (142, 33899), (143, 33896), (153, 33845),

Gene: Zakai_39 Start: 33996, Stop: 33217, Start Num: 23

Candidate Starts for Zakai_39:

(Start: 23 @33996 has 31 MA's), (33, 33939), (49, 33867), (59, 33801), (62, 33786), (71, 33729), (72, 33723), (77, 33681), (134, 33441), (161, 33348), (162, 33342), (169, 33303),

Gene: Zaria_37 Start: 32389, Stop: 31607, Start Num: 24

Candidate Starts for Zaria_37:

(Start: 24 @32389 has 19 MA's), (29, 32371), (74, 32104), (77, 32077), (78, 32074), (85, 32044), (88, 32032), (95, 32011), (108, 31963), (126, 31870), (136, 31834), (159, 31744), (169, 31690),

Gene: ZhongYanYuan_38 Start: 33577, Stop: 32798, Start Num: 23

Candidate Starts for ZhongYanYuan_38:

(Start: 23 @33577 has 31 MA's), (33, 33520), (51, 33421), (56, 33400), (59, 33382), (71, 33310), (72, 33304), (77, 33262), (90, 33211), (94, 33199), (96, 33193), (97, 33184), (122, 33088), (150, 32965), (153, 32956),