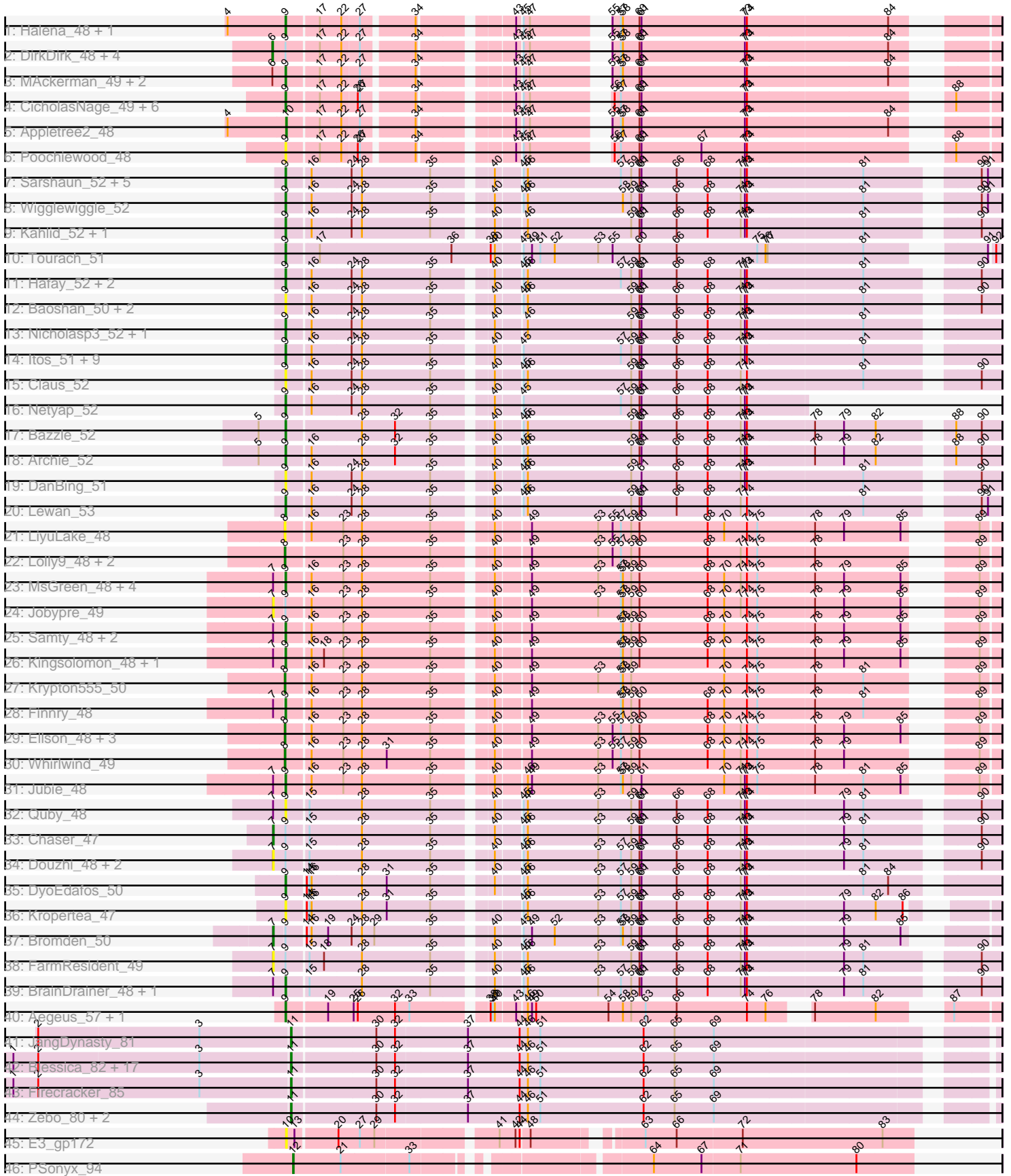


Pham 197953



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 197953 Report

This analysis was run 01/18/25 on database version 583.

Pham number 197953 has 114 members, 26 are drafts.

Phages represented in each track:

- Track 1 : Halena_48, Wamburgexpress_49
- Track 2 : DirkDirk_48, JoeDirt_48, LeBron_49, AvadaKedavra_49, UPIE_49
- Track 3 : MAckerman_49, Silverleaf_49, Enceladus_48
- Track 4 : CicholasNage_49, Calm_49, Wyatt2_49, Rose5_48, Zaria_49, Acquire49_49, Tyson_48
- Track 5 : Appletree2_48
- Track 6 : Poochiewood_48
- Track 7 : Sarshaun_52, Zakai_52, Vetrix_52, Crossroads_52, Soap141_52, GuuelaD_51
- Track 8 : Wigglewiggles_52
- Track 9 : Kahlid_52, Wilder_52
- Track 10 : Tourach_51
- Track 11 : Hafay_52, Loadrie_51, MkaliMitinis3_52
- Track 12 : Baoshan_50, ZhongYanYuan_50, DHan_53
- Track 13 : Nicholasp3_52, Gardann_52
- Track 14 : Itos_51, Winky_52, Breezona_52, Finemlucis_52, BobsGarage_52, BigCheese_52, Faith1_52, Miley16_52, LilDestine_52, DrSeegs_52
- Track 15 : Claus_52
- Track 16 : Netyap_52
- Track 17 : Bazzle_52
- Track 18 : Archie_52
- Track 19 : DanBing_51
- Track 20 : Lewan_53
- Track 21 : LiyuLake_48
- Track 22 : Lolly9_48, MiniLon_50, MiniMac_50
- Track 23 : MsGreen_48, Lumos_49, Clautastrophe_48, Snenia_48, TriFive_49
- Track 24 : Jobypre_49
- Track 25 : Samty_48, Bellis_48, Moostard_48
- Track 26 : Kingsolomon_48, Nicholas_48
- Track 27 : Krypton555_50
- Track 28 : Finnry_48
- Track 29 : Ellson_48, BourbonZero_49, KirDoubleO7_47, DuncansLeg_48
- Track 30 : Whirlwind_49
- Track 31 : Jubie_48
- Track 32 : Quby_48
- Track 33 : Chaser_47
- Track 34 : Douzhi_48, PYPDinur_46, Sheng711_48

- Track 35 : DyoEdafos_50
- Track 36 : Kropertea_47
- Track 37 : Bromden_50
- Track 38 : FarmResident_49
- Track 39 : BrainDrainer_48, Douge_47
- Track 40 : Aegeus_57, Baudelaire_57
- Track 41 : JangDynasty_81
- Track 42 : Blessica_82, MadKillah_83, NiebruSaylor_81, FoulBall_82, Catdawg_81, TelAviv_78, Idergollasper_81, Vorrps_82, Murai_82, Ryadel_85, Vagabond_82, Alkhayr_79, Familton_82, Krili_81, Schuy_83, Mori_82, Winget_82, Shida_81
- Track 43 : Firecracker_85
- Track 44 : Zebo_80, SchoolBus_81, Bora_79
- Track 45 : E3_gp172
- Track 46 : PSonyx_94

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

The start number called the most often in the published annotations is 9, it was called in 52 of the 88 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49_49, Aegeus_57, Archie_52, Baoshan_50, Baudelaire_57, Bazzle_52, Bellis_48, BigCheese_52, BobsGarage_52, BrainDrainer_48, Breezona_52, Calm_49, CicholasNage_49, Claus_52, Clautastrophe_48, Crossroads_52, DHan_53, DanBing_51, Douge_47, DrSeegs_52, DyoEdafos_50, Enceladus_48, Faith1_52, Finemlucis_52, Finnry_48, Gardann_52, GuuelaD_51, Hafay_52, Halena_48, Itos_51, Jubie_48, Kahlid_52, Kingsolomon_48, Kropertea_47, Lewan_53, LilDestine_52, Loadrie_51, Lumos_49, MAckerman_49, Miley16_52, MkaliMitinis3_52, Moostard_48, MsGreen_48, Netyap_52, Nicholas_48, Nicholasp3_52, Poochiewood_48, Quby_48, Rose5_48, Samty_48, Sarshaun_52, Silverleaf_49, Snenia_48, Soap141_52, Tourach_51, TriFive_49, Tyson_48, Vetrix_52, Wamburggrxpress_49, Wigglewiggles_52, Wilder_52, Winky_52, Wyatt2_49, Zakai_52, Zaria_49, ZhongYanYuan_50,

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

- AvadaKedavra_49, Bromden_50, Chaser_47, DirkDirk_48, Douzhi_48, FarmResident_49, Jobypre_49, JoeDirt_48, LeBron_49, PYPDinur_46, Sheng711_48, UPIE_49,

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

- Alkhayr_79, Appletree2_48, Blessica_82, Bora_79, BourbonZero_49, Catdawg_81, DuncansLeg_48, E3_gp172, Ellson_48, Familton_82, Firecracker_85, FoulBall_82, Idergollasper_81, JangDynasty_81, KirDoubleO7_47, Krili_81, Krypton555_50, LiyuLake_48, Lolly9_48, MadKillah_83, MiniLon_50, MiniMac_50, Mori_82, Murai_82, NiebruSaylor_81, PSonyx_94, Ryadel_85, SchoolBus_81, Schuy_83, Shida_81, TelAviv_78, Vagabond_82, Vorrps_82, Whirlwind_49, Winget_82, Zebo_80,

Summary by start number:

Start 6:

- Found in 8 of 114 (7.0%) of genes in pham
- Manual Annotations of this start: 5 of 88
- Called 62.5% of time when present
- Phage (with cluster) where this start called: AvadaKedavra_49 (L1), DirkDirk_48 (L1), JoeDirt_48 (L1), LeBron_49 (L1), UPIE_49 (L1),

Start 7:

- Found in 22 of 114 (19.3%) of genes in pham
- Manual Annotations of this start: 2 of 88
- Called 31.8% of time when present
- Phage (with cluster) where this start called: Bromden_50 (L4), Chaser_47 (L4), Douzhi_48 (L4), FarmResident_49 (L4), Jobypre_49 (L3), PYPDinur_46 (L4), Sheng711_48 (L4),

Start 8:

- Found in 10 of 114 (8.8%) of genes in pham
- Manual Annotations of this start: 6 of 88
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BourbonZero_49 (L3), DuncansLeg_48 (L3), Ellson_48 (L3), KirDoubleO7_47 (L3), Krypton555_50 (L3), LiyuLake_48 (L3), Lolly9_48 (L3), MiniLon_50 (L3), MiniMac_50 (L3), Whirlwind_49 (L3),

Start 9:

- Found in 78 of 114 (68.4%) of genes in pham
- Manual Annotations of this start: 52 of 88
- Called 84.6% of time when present
- Phage (with cluster) where this start called: Acquire49_49 (L1), Aegeus_57 (L5), Archie_52 (L2), Baoshan_50 (L2), Baudelaire_57 (L5), Bazzle_52 (L2), Bellis_48 (L3), BigCheese_52 (L2), BobsGarage_52 (L2), BrainDrainer_48 (L4), Breezona_52 (L2), Calm_49 (L1), CicholasNage_49 (L1), Claus_52 (L2), Clautastrophe_48 (L3), Crossroads_52 (L2), DHan_53 (L2), DanBing_51 (L2), Douge_47 (L4), DrSeegs_52 (L2), DyoEdafos_50 (L4), Enceladus_48 (L1), Faith1_52 (L2), Finemlucis_52 (L2), Finnry_48 (L3), Gardann_52 (L2), GuuelaD_51 (L2), Hafay_52 (L2), Halena_48 (L1), Itos_51 (L2), Jubie_48 (L3), Kahlid_52 (L2), Kingsolomon_48 (L3), Kropertea_47 (L4), Lewan_53 (L2), LilDestine_52 (L2), Loadrie_51 (L2), Lumos_49 (L3), MAckerman_49 (L1), Miley16_52 (L2), MkaliMitinis3_52 (L2), Moostard_48 (L3), MsGreen_48 (L3), Netyap_52 (L2), Nicholas_48 (L3), Nicholasp3_52 (L2), Poochiewood_48 (L1), Quby_48 (L4), Rose5_48 (L1), Samty_48 (L3), Sarshaun_52 (L2), Silverleaf_49 (L1), Snenia_48 (L3), Soap141_52 (L2), Tourach_51 (L2), TriFive_49 (L3), Tyson_48 (L1), Vetrrix_52 (L2), Wamburggrxpress_49 (L1), Wigglewiggles_52 (L2), Wilder_52 (L2), Winky_52 (L2), Wyatt2_49 (L1), Zakai_52 (L2), Zaria_49 (L1), ZhongYanYuan_50 (L2),

Start 10:

- Found in 2 of 114 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 88
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Appletree2_48 (L1), E3_gp172 (singleton),

Start 11:

- Found in 23 of 114 (20.2%) of genes in pham
- Manual Annotations of this start: 21 of 88

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alkhayr_79 (O), Blessica_82 (O), Bora_79 (O), Catdawg_81 (O), Familton_82 (O), Firecracker_85 (O), FoulBall_82 (O), Idergollasper_81 (O), JangDynasty_81 (O), Krili_81 (O), MadKillah_83 (O), Mori_82 (O), Murai_82 (O), NiebruSaylor_81 (O), Ryadel_85 (O), SchoolBus_81 (O), Schuy_83 (O), Shida_81 (O), TelAviv_78 (O), Vagabond_82 (O), Vorrrps_82 (O), Winget_82 (O), Zebo_80 (O),

Start 12:

- Found in 1 of 114 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 88
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PSonyx_94 (singleton),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, O, L4, L5, L2, L3, L1,

Info for manual annotations of cluster L1:

- Start number 6 was manually annotated 5 times for cluster L1.
- Start number 9 was manually annotated 12 times for cluster L1.
- Start number 10 was manually annotated 1 time for cluster L1.

Info for manual annotations of cluster L2:

- Start number 9 was manually annotated 26 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 8 was manually annotated 6 times for cluster L3.
- Start number 9 was manually annotated 10 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 7 was manually annotated 2 times for cluster L4.
- Start number 9 was manually annotated 2 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 9 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster O:

- Start number 11 was manually annotated 21 times for cluster O.

Gene Information:

Gene: Acquire49_49 Start: 36929, Stop: 37807, Start Num: 9

Candidate Starts for Acquire49_49:

(Start: 9 @36929 has 52 MA's), (17, 36971), (22, 37001), (26, 37022), (27, 37025), (34, 37094), (43, 37208), (45, 37214), (47, 37223), (56, 37313), (57, 37322), (60, 37349), (61, 37352), (73, 37502), (74, 37505), (88, 37748),

Gene: Aegeus_57 Start: 40090, Stop: 40989, Start Num: 9

Candidate Starts for Aegeus_57:

(Start: 9 @40090 has 52 MA's), (19, 40144), (25, 40180), (26, 40186), (32, 40240), (33, 40261), (38, 40357), (39, 40360), (40, 40363), (43, 40390), (46, 40402), (49, 40408), (50, 40414), (54, 40519), (58, 40540), (59, 40552), (63, 40573), (66, 40618), (74, 40720), (76, 40747), (78, 40780), (82, 40867), (87, 40927),

Gene: Alkhayr_79 Start: 51906, Stop: 50941, Start Num: 11

Candidate Starts for Alkhayr_79:

(1, 52302), (2, 52266), (3, 52035), (Start: 11 @51906 has 21 MA's), (30, 51789), (32, 51762), (37, 51660), (44, 51585), (46, 51573), (51, 51555), (62, 51405), (65, 51360), (69, 51303),

Gene: Appletree2_48 Start: 36860, Stop: 37738, Start Num: 10

Candidate Starts for Appletree2_48:

(4, 36776), (Start: 10 @36860 has 1 MA's), (17, 36902), (22, 36932), (27, 36956), (34, 37025), (43, 37139), (45, 37145), (47, 37154), (55, 37241), (57, 37253), (58, 37256), (60, 37280), (61, 37283), (73, 37433), (74, 37436), (84, 37634),

Gene: Archie_52 Start: 38816, Stop: 39775, Start Num: 9

Candidate Starts for Archie_52:

(5, 38777), (Start: 9 @38816 has 52 MA's), (16, 38846), (28, 38918), (32, 38966), (35, 39017), (40, 39089), (45, 39122), (46, 39128), (59, 39278), (60, 39290), (61, 39293), (66, 39344), (68, 39389), (71, 39437), (73, 39443), (74, 39446), (78, 39539), (79, 39581), (82, 39626), (88, 39710), (90, 39746),

Gene: AvadaKedavra_49 Start: 36911, Stop: 37807, Start Num: 6

Candidate Starts for AvadaKedavra_49:

(Start: 6 @36911 has 5 MA's), (Start: 9 @36929 has 52 MA's), (17, 36971), (22, 37001), (27, 37025), (34, 37094), (43, 37208), (45, 37214), (47, 37223), (55, 37310), (57, 37322), (58, 37325), (60, 37349), (61, 37352), (73, 37502), (74, 37505), (84, 37703),

Gene: Baoshan_50 Start: 38540, Stop: 39499, Start Num: 9

Candidate Starts for Baoshan_50:

(Start: 9 @38540 has 52 MA's), (16, 38570), (24, 38627), (28, 38642), (35, 38741), (40, 38813), (45, 38846), (46, 38852), (59, 39002), (60, 39014), (61, 39017), (66, 39068), (68, 39113), (71, 39161), (73, 39167), (74, 39170), (81, 39332), (90, 39470),

Gene: Baudelaire_57 Start: 40090, Stop: 40989, Start Num: 9

Candidate Starts for Baudelaire_57:

(Start: 9 @40090 has 52 MA's), (19, 40144), (25, 40180), (26, 40186), (32, 40240), (33, 40261), (38, 40357), (39, 40360), (40, 40363), (43, 40390), (46, 40402), (49, 40408), (50, 40414), (54, 40519), (58, 40540), (59, 40552), (63, 40573), (66, 40618), (74, 40720), (76, 40747), (78, 40780), (82, 40867), (87, 40927),

Gene: Bazzle_52 Start: 38886, Stop: 39845, Start Num: 9

Candidate Starts for Bazzle_52:

(5, 38847), (Start: 9 @38886 has 52 MA's), (28, 38988), (32, 39036), (35, 39087), (40, 39159), (45, 39192), (46, 39198), (59, 39348), (60, 39360), (61, 39363), (66, 39414), (68, 39459), (71, 39507), (73, 39513), (74, 39516), (78, 39609), (79, 39651), (82, 39696), (88, 39780), (90, 39816),

Gene: Bellis_48 Start: 38579, Stop: 39511, Start Num: 9

Candidate Starts for Bellis_48:

(Start: 7 @38564 has 2 MA's), (Start: 9 @38579 has 52 MA's), (16, 38609), (23, 38654), (28, 38681), (35, 38780), (40, 38852), (49, 38897), (57, 39026), (58, 39029), (59, 39041), (60, 39053), (68, 39152), (70, 39176), (74, 39209), (75, 39224), (78, 39302), (79, 39344), (85, 39425), (89, 39485),

Gene: BigCheese_52 Start: 38647, Stop: 39606, Start Num: 9

Candidate Starts for BigCheese_52:

(Start: 9 @38647 has 52 MA's), (16, 38677), (24, 38734), (28, 38749), (35, 38848), (40, 38920), (45, 38953), (57, 39094), (59, 39109), (60, 39121), (61, 39124), (66, 39175), (68, 39220), (71, 39268), (73, 39274), (74, 39277), (81, 39439),

Gene: Blessica_82 Start: 52454, Stop: 51489, Start Num: 11

Candidate Starts for Blessica_82:

(1, 52850), (2, 52814), (3, 52583), (Start: 11 @52454 has 21 MA's), (30, 52337), (32, 52310), (37, 52208), (44, 52133), (46, 52121), (51, 52103), (62, 51953), (65, 51908), (69, 51851),

Gene: BobsGarage_52 Start: 38647, Stop: 39606, Start Num: 9

Candidate Starts for BobsGarage_52:

(Start: 9 @38647 has 52 MA's), (16, 38677), (24, 38734), (28, 38749), (35, 38848), (40, 38920), (45, 38953), (57, 39094), (59, 39109), (60, 39121), (61, 39124), (66, 39175), (68, 39220), (71, 39268), (73, 39274), (74, 39277), (81, 39439),

Gene: Bora_79 Start: 51835, Stop: 50870, Start Num: 11

Candidate Starts for Bora_79:

(Start: 11 @51835 has 21 MA's), (30, 51718), (32, 51691), (37, 51589), (44, 51514), (46, 51502), (51, 51484), (62, 51334), (65, 51289), (69, 51232),

Gene: BourbonZero_49 Start: 38619, Stop: 39551, Start Num: 8

Candidate Starts for BourbonZero_49:

(Start: 8 @38619 has 6 MA's), (16, 38649), (23, 38694), (28, 38721), (35, 38820), (40, 38892), (49, 38937), (53, 39033), (55, 39054), (57, 39066), (59, 39081), (60, 39093), (68, 39192), (70, 39216), (71, 39240), (74, 39249), (75, 39264), (78, 39342), (79, 39384), (85, 39465), (89, 39525),

Gene: BrainDrainer_48 Start: 37229, Stop: 38188, Start Num: 9

Candidate Starts for BrainDrainer_48:

(Start: 7 @37214 has 2 MA's), (Start: 9 @37229 has 52 MA's), (15, 37256), (28, 37331), (35, 37430), (40, 37502), (45, 37535), (46, 37541), (53, 37643), (57, 37676), (59, 37691), (60, 37703), (61, 37706), (66, 37757), (68, 37802), (71, 37850), (73, 37856), (74, 37859), (79, 37994), (81, 38021), (90, 38159),

Gene: Breezona_52 Start: 38647, Stop: 39606, Start Num: 9

Candidate Starts for Breezona_52:

(Start: 9 @38647 has 52 MA's), (16, 38677), (24, 38734), (28, 38749), (35, 38848), (40, 38920), (45, 38953), (57, 39094), (59, 39109), (60, 39121), (61, 39124), (66, 39175), (68, 39220), (71, 39268), (73, 39274), (74, 39277), (81, 39439),

Gene: Bromden_50 Start: 38042, Stop: 38989, Start Num: 7

Candidate Starts for Bromden_50:

(Start: 7 @38042 has 2 MA's), (Start: 9 @38057 has 52 MA's), (14, 38081), (16, 38087), (19, 38111), (24, 38144), (28, 38159), (29, 38177), (35, 38258), (40, 38330), (45, 38363), (49, 38375), (52, 38408), (53, 38471), (57, 38504), (58, 38507), (59, 38519), (60, 38531), (61, 38534), (66, 38585), (68, 38630), (71, 38678), (73, 38684), (74, 38687), (79, 38822), (85, 38903),

Gene: Calm_49 Start: 36944, Stop: 37822, Start Num: 9

Candidate Starts for Calm_49:

(Start: 9 @36944 has 52 MA's), (17, 36986), (22, 37016), (26, 37037), (27, 37040), (34, 37109), (43, 37223), (45, 37229), (47, 37238), (56, 37328), (57, 37337), (60, 37364), (61, 37367), (73, 37517), (74, 37520), (88, 37763),

Gene: Catdawg_81 Start: 52190, Stop: 51225, Start Num: 11

Candidate Starts for Catdawg_81:

(1, 52586), (2, 52550), (3, 52319), (Start: 11 @52190 has 21 MA's), (30, 52073), (32, 52046), (37, 51944), (44, 51869), (46, 51857), (51, 51839), (62, 51689), (65, 51644), (69, 51587),

Gene: Chaser_47 Start: 36982, Stop: 37956, Start Num: 7

Candidate Starts for Chaser_47:

(Start: 7 @36982 has 2 MA's), (Start: 9 @36997 has 52 MA's), (15, 37024), (28, 37099), (35, 37198), (40, 37270), (45, 37303), (46, 37309), (53, 37411), (59, 37459), (60, 37471), (61, 37474), (66, 37525), (68, 37570), (71, 37618), (73, 37624), (74, 37627), (79, 37762), (81, 37789), (90, 37927),

Gene: CicholasNage_49 Start: 36965, Stop: 37843, Start Num: 9

Candidate Starts for CicholasNage_49:

(Start: 9 @36965 has 52 MA's), (17, 37007), (22, 37037), (26, 37058), (27, 37061), (34, 37130), (43, 37244), (45, 37250), (47, 37259), (56, 37349), (57, 37358), (60, 37385), (61, 37388), (73, 37538), (74, 37541), (88, 37784),

Gene: Claus_52 Start: 38659, Stop: 39618, Start Num: 9

Candidate Starts for Claus_52:

(Start: 9 @38659 has 52 MA's), (16, 38689), (24, 38746), (28, 38761), (35, 38860), (40, 38932), (45, 38965), (46, 38971), (59, 39121), (60, 39133), (61, 39136), (66, 39187), (68, 39232), (71, 39280), (74, 39289), (81, 39451), (90, 39589),

Gene: Clautastrophe_48 Start: 38576, Stop: 39508, Start Num: 9

Candidate Starts for Clautastrophe_48:

(Start: 7 @38561 has 2 MA's), (Start: 9 @38576 has 52 MA's), (16, 38606), (23, 38651), (28, 38678), (35, 38777), (40, 38849), (49, 38894), (53, 38990), (57, 39023), (58, 39026), (59, 39038), (60, 39050), (68, 39149), (70, 39173), (71, 39197), (74, 39206), (75, 39221), (78, 39299), (79, 39341), (85, 39422), (89, 39482),

Gene: Crossroads_52 Start: 38649, Stop: 39641, Start Num: 9

Candidate Starts for Crossroads_52:

(Start: 9 @38649 has 52 MA's), (16, 38679), (24, 38736), (28, 38751), (35, 38850), (40, 38922), (45, 38955), (46, 38961), (57, 39096), (59, 39111), (60, 39123), (61, 39126), (66, 39177), (68, 39222), (71, 39270), (73, 39276), (74, 39279), (81, 39441), (90, 39612), (91, 39621),

Gene: DHan_53 Start: 38594, Stop: 39553, Start Num: 9

Candidate Starts for DHan_53:

(Start: 9 @38594 has 52 MA's), (16, 38624), (24, 38681), (28, 38696), (35, 38795), (40, 38867), (45, 38900), (46, 38906), (59, 39056), (60, 39068), (61, 39071), (66, 39122), (68, 39167), (71, 39215), (73, 39221), (74, 39224), (81, 39386), (90, 39524),

Gene: DanBing_51 Start: 38504, Stop: 39463, Start Num: 9

Candidate Starts for DanBing_51:

(Start: 9 @38504 has 52 MA's), (16, 38534), (24, 38591), (28, 38606), (35, 38705), (40, 38777), (45, 38810), (46, 38816), (59, 38966), (61, 38981), (66, 39032), (68, 39077), (71, 39125), (73, 39131), (74, 39134), (81, 39296), (90, 39434),

Gene: DirkDirk_48 Start: 36889, Stop: 37785, Start Num: 6

Candidate Starts for DirkDirk_48:

(Start: 6 @36889 has 5 MA's), (Start: 9 @36907 has 52 MA's), (17, 36949), (22, 36979), (27, 37003), (34, 37072), (43, 37186), (45, 37192), (47, 37201), (55, 37288), (57, 37300), (58, 37303), (60, 37327), (61, 37330), (73, 37480), (74, 37483), (84, 37681),

Gene: Douge_47 Start: 36984, Stop: 37943, Start Num: 9

Candidate Starts for Douge_47:

(Start: 7 @36969 has 2 MA's), (Start: 9 @36984 has 52 MA's), (15, 37011), (28, 37086), (35, 37185), (40, 37257), (45, 37290), (46, 37296), (53, 37398), (57, 37431), (59, 37446), (60, 37458), (61, 37461), (66, 37512), (68, 37557), (71, 37605), (73, 37611), (74, 37614), (79, 37749), (81, 37776), (90, 37914),

Gene: Douzhi_48 Start: 37043, Stop: 38017, Start Num: 7

Candidate Starts for Douzhi_48:

(Start: 7 @37043 has 2 MA's), (Start: 9 @37058 has 52 MA's), (15, 37085), (28, 37160), (35, 37259), (40, 37331), (45, 37364), (46, 37370), (53, 37472), (57, 37505), (59, 37520), (60, 37532), (61, 37535), (66, 37586), (68, 37631), (71, 37679), (73, 37685), (74, 37688), (79, 37823), (81, 37850), (90, 37988),

Gene: DrSeegs_52 Start: 38647, Stop: 39606, Start Num: 9

Candidate Starts for DrSeegs_52:

(Start: 9 @38647 has 52 MA's), (16, 38677), (24, 38734), (28, 38749), (35, 38848), (40, 38920), (45, 38953), (57, 39094), (59, 39109), (60, 39121), (61, 39124), (66, 39175), (68, 39220), (71, 39268), (73, 39274), (74, 39277), (81, 39439),

Gene: DuncansLeg_48 Start: 38602, Stop: 39534, Start Num: 8

Candidate Starts for DuncansLeg_48:

(Start: 8 @38602 has 6 MA's), (16, 38632), (23, 38677), (28, 38704), (35, 38803), (40, 38875), (49, 38920), (53, 39016), (55, 39037), (57, 39049), (59, 39064), (60, 39076), (68, 39175), (70, 39199), (71, 39223), (74, 39232), (75, 39247), (78, 39325), (79, 39367), (85, 39448), (89, 39508),

Gene: DyoEdafos_50 Start: 37265, Stop: 38224, Start Num: 9

Candidate Starts for DyoEdafos_50:

(Start: 9 @37265 has 52 MA's), (14, 37289), (15, 37292), (16, 37295), (28, 37367), (31, 37403), (35, 37466), (40, 37538), (45, 37571), (46, 37577), (53, 37679), (57, 37712), (59, 37727), (60, 37739), (61, 37742), (66, 37793), (68, 37838), (71, 37886), (73, 37892), (74, 37895), (81, 38057), (84, 38093),

Gene: E3_gp172 Start: 117552, Stop: 118379, Start Num: 10

Candidate Starts for E3_gp172:

(Start: 10 @117552 has 1 MA's), (13, 117564), (20, 117621), (27, 117651), (29, 117672), (41, 117828), (42, 117849), (44, 117855), (48, 117867), (63, 117996), (66, 118041), (72, 118134), (83, 118335),

Gene: Ellson_48 Start: 38632, Stop: 39564, Start Num: 8

Candidate Starts for Ellson_48:

(Start: 8 @38632 has 6 MA's), (16, 38662), (23, 38707), (28, 38734), (35, 38833), (40, 38905), (49, 38950), (53, 39046), (55, 39067), (57, 39079), (59, 39094), (60, 39106), (68, 39205), (70, 39229), (71, 39253), (74, 39262), (75, 39277), (78, 39355), (79, 39397), (85, 39478), (89, 39538),

Gene: Enceladus_48 Start: 36902, Stop: 37780, Start Num: 9

Candidate Starts for Enceladus_48:

(Start: 6 @36884 has 5 MA's), (Start: 9 @36902 has 52 MA's), (17, 36944), (22, 36974), (27, 36998), (34, 37067), (43, 37181), (45, 37187), (47, 37196), (55, 37283), (57, 37295), (58, 37298), (60, 37322), (61, 37325), (73, 37475), (74, 37478), (84, 37676),

Gene: Faith1_52 Start: 38647, Stop: 39606, Start Num: 9

Candidate Starts for Faith1_52:

(Start: 9 @38647 has 52 MA's), (16, 38677), (24, 38734), (28, 38749), (35, 38848), (40, 38920), (45, 38953), (57, 39094), (59, 39109), (60, 39121), (61, 39124), (66, 39175), (68, 39220), (71, 39268), (73, 39274), (74, 39277), (81, 39439),

Gene: Familton_82 Start: 52147, Stop: 51182, Start Num: 11

Candidate Starts for Familton_82:

(1, 52543), (2, 52507), (3, 52276), (Start: 11 @52147 has 21 MA's), (30, 52030), (32, 52003), (37, 51901), (44, 51826), (46, 51814), (51, 51796), (62, 51646), (65, 51601), (69, 51544),

Gene: FarmResident_49 Start: 37014, Stop: 37988, Start Num: 7

Candidate Starts for FarmResident_49:

(Start: 7 @37014 has 2 MA's), (Start: 9 @37029 has 52 MA's), (15, 37056), (18, 37077), (28, 37131), (35, 37230), (40, 37302), (45, 37335), (46, 37341), (53, 37443), (59, 37491), (60, 37503), (61, 37506), (66, 37557), (68, 37602), (71, 37650), (73, 37656), (74, 37659), (79, 37794), (81, 37821), (90, 37959),

Gene: Finemlucis_52 Start: 38933, Stop: 39892, Start Num: 9

Candidate Starts for Finemlucis_52:

(Start: 9 @38933 has 52 MA's), (16, 38963), (24, 39020), (28, 39035), (35, 39134), (40, 39206), (45, 39239), (57, 39380), (59, 39395), (60, 39407), (61, 39410), (66, 39461), (68, 39506), (71, 39554), (73, 39560), (74, 39563), (81, 39725),

Gene: Finnry_48 Start: 38580, Stop: 39512, Start Num: 9

Candidate Starts for Finnry_48:

(Start: 7 @38565 has 2 MA's), (Start: 9 @38580 has 52 MA's), (16, 38610), (23, 38655), (28, 38682), (35, 38781), (40, 38853), (49, 38898), (57, 39027), (58, 39030), (59, 39042), (60, 39054), (68, 39153), (70, 39177), (74, 39210), (75, 39225), (78, 39303), (81, 39372), (89, 39486),

Gene: Firecracker_85 Start: 53537, Stop: 52572, Start Num: 11

Candidate Starts for Firecracker_85:

(1, 53936), (2, 53900), (3, 53666), (Start: 11 @53537 has 21 MA's), (30, 53420), (32, 53393), (37, 53291), (44, 53216), (46, 53204), (51, 53186), (62, 53036), (65, 52991), (69, 52934),

Gene: FoulBall_82 Start: 52189, Stop: 51224, Start Num: 11

Candidate Starts for FoulBall_82:

(1, 52585), (2, 52549), (3, 52318), (Start: 11 @52189 has 21 MA's), (30, 52072), (32, 52045), (37, 51943), (44, 51868), (46, 51856), (51, 51838), (62, 51688), (65, 51643), (69, 51586),

Gene: Gardann_52 Start: 38648, Stop: 39607, Start Num: 9

Candidate Starts for Gardann_52:

(Start: 9 @38648 has 52 MA's), (16, 38678), (24, 38735), (28, 38750), (35, 38849), (40, 38921), (46, 38960), (59, 39110), (60, 39122), (61, 39125), (66, 39176), (68, 39221), (71, 39269), (73, 39275), (74, 39278), (81, 39440),

Gene: GuuelaD_51 Start: 38686, Stop: 39678, Start Num: 9

Candidate Starts for GuuelaD_51:

(Start: 9 @38686 has 52 MA's), (16, 38716), (24, 38773), (28, 38788), (35, 38887), (40, 38959), (45, 38992), (46, 38998), (57, 39133), (59, 39148), (60, 39160), (61, 39163), (66, 39214), (68, 39259), (71, 39307), (73, 39313), (74, 39316), (81, 39478), (90, 39649), (91, 39658),

Gene: Hafay_52 Start: 38709, Stop: 39668, Start Num: 9

Candidate Starts for Hafay_52:

(Start: 9 @38709 has 52 MA's), (16, 38739), (24, 38796), (28, 38811), (35, 38910), (40, 38982), (45, 39015), (46, 39021), (57, 39156), (59, 39171), (60, 39183), (61, 39186), (66, 39237), (68, 39282), (71, 39330), (73, 39336), (74, 39339), (81, 39501), (90, 39639),

Gene: Halena_48 Start: 36944, Stop: 37822, Start Num: 9

Candidate Starts for Halena_48:

(4, 36860), (Start: 9 @36944 has 52 MA's), (17, 36986), (22, 37016), (27, 37040), (34, 37109), (43, 37223), (45, 37229), (47, 37238), (55, 37325), (57, 37337), (58, 37340), (60, 37364), (61, 37367), (73, 37517), (74, 37520), (84, 37718),

Gene: Idergollasper_81 Start: 52141, Stop: 51176, Start Num: 11

Candidate Starts for Idergollasper_81:

(1, 52537), (2, 52501), (3, 52270), (Start: 11 @52141 has 21 MA's), (30, 52024), (32, 51997), (37, 51895), (44, 51820), (46, 51808), (51, 51790), (62, 51640), (65, 51595), (69, 51538),

Gene: Itos_51 Start: 37553, Stop: 38512, Start Num: 9

Candidate Starts for Itos_51:

(Start: 9 @37553 has 52 MA's), (16, 37583), (24, 37640), (28, 37655), (35, 37754), (40, 37826), (45, 37859), (57, 38000), (59, 38015), (60, 38027), (61, 38030), (66, 38081), (68, 38126), (71, 38174), (73, 38180), (74, 38183), (81, 38345),

Gene: JangDynasty_81 Start: 52208, Stop: 51243, Start Num: 11

Candidate Starts for JangDynasty_81:

(2, 52568), (3, 52337), (Start: 11 @52208 has 21 MA's), (30, 52091), (32, 52064), (37, 51962), (44, 51887), (46, 51875), (51, 51857), (62, 51707), (65, 51662), (69, 51605),

Gene: Jobypre_49 Start: 38561, Stop: 39508, Start Num: 7

Candidate Starts for Jobypre_49:

(Start: 7 @38561 has 2 MA's), (Start: 9 @38576 has 52 MA's), (16, 38606), (23, 38651), (28, 38678), (35, 38777), (40, 38849), (49, 38894), (53, 38990), (57, 39023), (58, 39026), (59, 39038), (60, 39050), (68, 39149), (70, 39173), (71, 39197), (74, 39206), (75, 39221), (78, 39299), (79, 39341), (85, 39422), (89, 39482),

Gene: JoeDirt_48 Start: 36882, Stop: 37778, Start Num: 6

Candidate Starts for JoeDirt_48:

(Start: 6 @36882 has 5 MA's), (Start: 9 @36900 has 52 MA's), (17, 36942), (22, 36972), (27, 36996), (34, 37065), (43, 37179), (45, 37185), (47, 37194), (55, 37281), (57, 37293), (58, 37296), (60, 37320), (61, 37323), (73, 37473), (74, 37476), (84, 37674),

Gene: Jubie_48 Start: 38577, Stop: 39509, Start Num: 9

Candidate Starts for Jubie_48:

(Start: 7 @38562 has 2 MA's), (Start: 9 @38577 has 52 MA's), (16, 38607), (23, 38652), (28, 38679), (35, 38778), (40, 38850), (46, 38889), (49, 38895), (53, 38991), (57, 39024), (58, 39027), (59, 39039), (61, 39054), (70, 39174), (71, 39198), (73, 39204), (74, 39207), (75, 39222), (78, 39300), (81, 39369), (85, 39423), (89, 39483),

Gene: Kahlid_52 Start: 38653, Stop: 39612, Start Num: 9

Candidate Starts for Kahlid_52:

(Start: 9 @38653 has 52 MA's), (16, 38683), (24, 38740), (28, 38755), (35, 38854), (40, 38926), (46, 38965), (59, 39115), (60, 39127), (61, 39130), (66, 39181), (68, 39226), (71, 39274), (73, 39280), (74, 39283), (81, 39445), (90, 39583),

Gene: Kingsolomon_48 Start: 38576, Stop: 39508, Start Num: 9

Candidate Starts for Kingsolomon_48:

(Start: 7 @38561 has 2 MA's), (Start: 9 @38576 has 52 MA's), (16, 38606), (18, 38624), (23, 38651), (28, 38678), (35, 38777), (40, 38849), (49, 38894), (57, 39023), (58, 39026), (59, 39038), (60, 39050), (68, 39149), (70, 39173), (74, 39206), (75, 39221), (78, 39299), (79, 39341), (85, 39422), (89, 39482),

Gene: KirDoubleO7_47 Start: 38606, Stop: 39538, Start Num: 8

Candidate Starts for KirDoubleO7_47:

(Start: 8 @38606 has 6 MA's), (16, 38636), (23, 38681), (28, 38708), (35, 38807), (40, 38879), (49, 38924), (53, 39020), (55, 39041), (57, 39053), (59, 39068), (60, 39080), (68, 39179), (70, 39203), (71, 39227), (74, 39236), (75, 39251), (78, 39329), (79, 39371), (85, 39452), (89, 39512),

Gene: Krili_81 Start: 51702, Stop: 50737, Start Num: 11

Candidate Starts for Krili_81:

(1, 52098), (2, 52062), (3, 51831), (Start: 11 @51702 has 21 MA's), (30, 51585), (32, 51558), (37, 51456), (44, 51381), (46, 51369), (51, 51351), (62, 51201), (65, 51156), (69, 51099),

Gene: Kropertea_47 Start: 37115, Stop: 38050, Start Num: 9

Candidate Starts for Kropertea_47:

(Start: 9 @37115 has 52 MA's), (14, 37139), (15, 37142), (16, 37145), (28, 37217), (31, 37253), (35, 37316), (45, 37421), (46, 37427), (53, 37529), (57, 37562), (59, 37577), (60, 37589), (61, 37592), (66, 37643), (68, 37688), (71, 37736), (73, 37742), (74, 37745), (79, 37880), (82, 37925), (86, 37964),

Gene: Krypton555_50 Start: 38550, Stop: 39482, Start Num: 8

Candidate Starts for Krypton555_50:

(Start: 8 @38550 has 6 MA's), (16, 38580), (23, 38625), (28, 38652), (35, 38751), (40, 38823), (49, 38868), (53, 38964), (57, 38997), (58, 39000), (59, 39012), (70, 39147), (74, 39180), (75, 39195), (78, 39273), (81, 39342), (89, 39456),

Gene: LeBron_49 Start: 36926, Stop: 37822, Start Num: 6

Candidate Starts for LeBron_49:

(Start: 6 @36926 has 5 MA's), (Start: 9 @36944 has 52 MA's), (17, 36986), (22, 37016), (27, 37040), (34, 37109), (43, 37223), (45, 37229), (47, 37238), (55, 37325), (57, 37337), (58, 37340), (60, 37364), (61, 37367), (73, 37517), (74, 37520), (84, 37718),

Gene: Lewan_53 Start: 38671, Stop: 39630, Start Num: 9

Candidate Starts for Lewan_53:

(Start: 9 @38671 has 52 MA's), (16, 38701), (24, 38758), (28, 38773), (35, 38872), (40, 38944), (45, 38977), (46, 38983), (59, 39133), (60, 39145), (61, 39148), (66, 39199), (68, 39244), (71, 39292), (74, 39301), (81, 39463), (90, 39601), (91, 39610),

Gene: LilDestine_52 Start: 38645, Stop: 39604, Start Num: 9

Candidate Starts for LilDestine_52:

(Start: 9 @38645 has 52 MA's), (16, 38675), (24, 38732), (28, 38747), (35, 38846), (40, 38918), (45, 38951), (57, 39092), (59, 39107), (60, 39119), (61, 39122), (66, 39173), (68, 39218), (71, 39266), (73, 39272), (74, 39275), (81, 39437),

Gene: LiyuLake_48 Start: 38622, Stop: 39554, Start Num: 8

Candidate Starts for LiyuLake_48:

(Start: 8 @38622 has 6 MA's), (16, 38652), (23, 38697), (28, 38724), (35, 38823), (40, 38895), (49, 38940), (53, 39036), (55, 39057), (57, 39069), (59, 39084), (60, 39096), (68, 39195), (70, 39219), (74, 39252), (75, 39267), (78, 39345), (79, 39387), (85, 39468), (89, 39528),

Gene: Loadrie_51 Start: 38707, Stop: 39666, Start Num: 9

Candidate Starts for Loadrie_51:

(Start: 9 @38707 has 52 MA's), (16, 38737), (24, 38794), (28, 38809), (35, 38908), (40, 38980), (45, 39013), (46, 39019), (57, 39154), (59, 39169), (60, 39181), (61, 39184), (66, 39235), (68, 39280), (71, 39328), (73, 39334), (74, 39337), (81, 39499), (90, 39637),

Gene: Lolly9_48 Start: 38388, Stop: 39320, Start Num: 8

Candidate Starts for Lolly9_48:

(Start: 8 @38388 has 6 MA's), (23, 38463), (28, 38490), (35, 38589), (40, 38661), (49, 38706), (53, 38802), (55, 38823), (57, 38835), (59, 38850), (60, 38862), (68, 38961), (71, 39009), (74, 39018), (75, 39033), (78, 39111), (89, 39294),

Gene: Lumos_49 Start: 38573, Stop: 39505, Start Num: 9

Candidate Starts for Lumos_49:

(Start: 7 @38558 has 2 MA's), (Start: 9 @38573 has 52 MA's), (16, 38603), (23, 38648), (28, 38675), (35, 38774), (40, 38846), (49, 38891), (53, 38987), (57, 39020), (58, 39023), (59, 39035), (60, 39047), (68, 39146), (70, 39170), (71, 39194), (74, 39203), (75, 39218), (78, 39296), (79, 39338), (85, 39419), (89, 39479),

Gene: MAckerman_49 Start: 36937, Stop: 37815, Start Num: 9

Candidate Starts for MAckerman_49:

(Start: 6 @36919 has 5 MA's), (Start: 9 @36937 has 52 MA's), (17, 36979), (22, 37009), (27, 37033), (34, 37102), (43, 37216), (45, 37222), (47, 37231), (55, 37318), (57, 37330), (58, 37333), (60, 37357), (61, 37360), (73, 37510), (74, 37513), (84, 37711),

Gene: MadKillah_83 Start: 51971, Stop: 51006, Start Num: 11

Candidate Starts for MadKillah_83:

(1, 52367), (2, 52331), (3, 52100), (Start: 11 @51971 has 21 MA's), (30, 51854), (32, 51827), (37, 51725), (44, 51650), (46, 51638), (51, 51620), (62, 51470), (65, 51425), (69, 51368),

Gene: Miley16_52 Start: 38647, Stop: 39606, Start Num: 9

Candidate Starts for Miley16_52:

(Start: 9 @38647 has 52 MA's), (16, 38677), (24, 38734), (28, 38749), (35, 38848), (40, 38920), (45, 38953), (57, 39094), (59, 39109), (60, 39121), (61, 39124), (66, 39175), (68, 39220), (71, 39268), (73, 39274), (74, 39277), (81, 39439),

Gene: MiniLon_50 Start: 38389, Stop: 39321, Start Num: 8

Candidate Starts for MiniLon_50:

(Start: 8 @38389 has 6 MA's), (23, 38464), (28, 38491), (35, 38590), (40, 38662), (49, 38707), (53, 38803), (55, 38824), (57, 38836), (59, 38851), (60, 38863), (68, 38962), (71, 39010), (74, 39019), (75, 39034), (78, 39112), (89, 39295),

Gene: MiniMac_50 Start: 38387, Stop: 39319, Start Num: 8

Candidate Starts for MiniMac_50:

(Start: 8 @38387 has 6 MA's), (23, 38462), (28, 38489), (35, 38588), (40, 38660), (49, 38705), (53, 38801), (55, 38822), (57, 38834), (59, 38849), (60, 38861), (68, 38960), (71, 39008), (74, 39017), (75, 39032), (78, 39110), (89, 39293),

Gene: MkaliMitinis3_52 Start: 38677, Stop: 39636, Start Num: 9

Candidate Starts for MkaliMitinis3_52:

(Start: 9 @38677 has 52 MA's), (16, 38707), (24, 38764), (28, 38779), (35, 38878), (40, 38950), (45, 38983), (46, 38989), (57, 39124), (59, 39139), (60, 39151), (61, 39154), (66, 39205), (68, 39250), (71, 39298), (73, 39304), (74, 39307), (81, 39469), (90, 39607),

Gene: Moostard_48 Start: 38579, Stop: 39511, Start Num: 9

Candidate Starts for Moostard_48:

(Start: 7 @38564 has 2 MA's), (Start: 9 @38579 has 52 MA's), (16, 38609), (23, 38654), (28, 38681), (35, 38780), (40, 38852), (49, 38897), (57, 39026), (58, 39029), (59, 39041), (60, 39053), (68, 39152), (70, 39176), (74, 39209), (75, 39224), (78, 39302), (79, 39344), (85, 39425), (89, 39485),

Gene: Mori_82 Start: 52230, Stop: 51265, Start Num: 11

Candidate Starts for Mori_82:

(1, 52626), (2, 52590), (3, 52359), (Start: 11 @52230 has 21 MA's), (30, 52113), (32, 52086), (37, 51984), (44, 51909), (46, 51897), (51, 51879), (62, 51729), (65, 51684), (69, 51627),

Gene: MsGreen_48 Start: 38576, Stop: 39508, Start Num: 9

Candidate Starts for MsGreen_48:

(Start: 7 @38561 has 2 MA's), (Start: 9 @38576 has 52 MA's), (16, 38606), (23, 38651), (28, 38678), (35, 38777), (40, 38849), (49, 38894), (53, 38990), (57, 39023), (58, 39026), (59, 39038), (60, 39050), (68, 39149), (70, 39173), (71, 39197), (74, 39206), (75, 39221), (78, 39299), (79, 39341), (85, 39422), (89, 39482),

Gene: Murai_82 Start: 52363, Stop: 51398, Start Num: 11

Candidate Starts for Murai_82:

(1, 52759), (2, 52723), (3, 52492), (Start: 11 @52363 has 21 MA's), (30, 52246), (32, 52219), (37, 52117), (44, 52042), (46, 52030), (51, 52012), (62, 51862), (65, 51817), (69, 51760),

Gene: Netyap_52 Start: 38647, Stop: 39360, Start Num: 9

Candidate Starts for Netyap_52:

(Start: 9 @38647 has 52 MA's), (16, 38677), (24, 38734), (28, 38749), (35, 38848), (40, 38920), (45, 38953), (57, 39094), (59, 39109), (60, 39121), (61, 39124), (66, 39175), (68, 39220), (71, 39268), (73, 39274), (74, 39277),

Gene: Nicholas_48 Start: 38576, Stop: 39508, Start Num: 9

Candidate Starts for Nicholas_48:

(Start: 7 @38561 has 2 MA's), (Start: 9 @38576 has 52 MA's), (16, 38606), (18, 38624), (23, 38651), (28, 38678), (35, 38777), (40, 38849), (49, 38894), (57, 39023), (58, 39026), (59, 39038), (60, 39050), (68, 39149), (70, 39173), (74, 39206), (75, 39221), (78, 39299), (79, 39341), (85, 39422), (89, 39482),

Gene: Nicholasp3_52 Start: 38648, Stop: 39607, Start Num: 9

Candidate Starts for Nicholasp3_52:

(Start: 9 @38648 has 52 MA's), (16, 38678), (24, 38735), (28, 38750), (35, 38849), (40, 38921), (46, 38960), (59, 39110), (60, 39122), (61, 39125), (66, 39176), (68, 39221), (71, 39269), (73, 39275), (74, 39278), (81, 39440),

Gene: NiebruSaylor_81 Start: 51621, Stop: 50656, Start Num: 11

Candidate Starts for NiebruSaylor_81:

(1, 52017), (2, 51981), (3, 51750), (Start: 11 @51621 has 21 MA's), (30, 51504), (32, 51477), (37, 51375), (44, 51300), (46, 51288), (51, 51270), (62, 51120), (65, 51075), (69, 51018),

Gene: PSonyx_94 Start: 52171, Stop: 51347, Start Num: 12

Candidate Starts for PSonyx_94:

(Start: 12 @52171 has 1 MA's), (21, 52102), (33, 52006), (64, 51718), (67, 51649), (71, 51595), (80, 51427),

Gene: PYPDinur_46 Start: 37075, Stop: 38049, Start Num: 7

Candidate Starts for PYPDinur_46:

(Start: 7 @37075 has 2 MA's), (Start: 9 @37090 has 52 MA's), (15, 37117), (28, 37192), (35, 37291), (40, 37363), (45, 37396), (46, 37402), (53, 37504), (57, 37537), (59, 37552), (60, 37564), (61, 37567), (66, 37618), (68, 37663), (71, 37711), (73, 37717), (74, 37720), (79, 37855), (81, 37882), (90, 38020),

Gene: Pochiewood_48 Start: 36917, Stop: 37795, Start Num: 9

Candidate Starts for Poochiewood_48:

(Start: 9 @36917 has 52 MA's), (17, 36959), (22, 36989), (26, 37010), (27, 37013), (34, 37082), (43, 37196), (45, 37202), (47, 37211), (56, 37301), (57, 37310), (60, 37337), (61, 37340), (67, 37427), (73, 37490), (74, 37493), (88, 37736),

Gene: Quby_48 Start: 36985, Stop: 37944, Start Num: 9

Candidate Starts for Quby_48:

(Start: 7 @36970 has 2 MA's), (Start: 9 @36985 has 52 MA's), (15, 37012), (28, 37087), (35, 37186), (40, 37258), (45, 37291), (46, 37297), (53, 37399), (59, 37447), (60, 37459), (61, 37462), (66, 37513), (68, 37558), (71, 37606), (73, 37612), (74, 37615), (79, 37750), (81, 37777), (90, 37915),

Gene: Rose5_48 Start: 36929, Stop: 37807, Start Num: 9

Candidate Starts for Rose5_48:

(Start: 9 @36929 has 52 MA's), (17, 36971), (22, 37001), (26, 37022), (27, 37025), (34, 37094), (43, 37208), (45, 37214), (47, 37223), (56, 37313), (57, 37322), (60, 37349), (61, 37352), (73, 37502), (74, 37505), (88, 37748),

Gene: Ryadel_85 Start: 52977, Stop: 52012, Start Num: 11

Candidate Starts for Ryadel_85:

(1, 53373), (2, 53337), (3, 53106), (Start: 11 @52977 has 21 MA's), (30, 52860), (32, 52833), (37, 52731), (44, 52656), (46, 52644), (51, 52626), (62, 52476), (65, 52431), (69, 52374),

Gene: Samty_48 Start: 38578, Stop: 39510, Start Num: 9

Candidate Starts for Samty_48:

(Start: 7 @38563 has 2 MA's), (Start: 9 @38578 has 52 MA's), (16, 38608), (23, 38653), (28, 38680), (35, 38779), (40, 38851), (49, 38896), (57, 39025), (58, 39028), (59, 39040), (60, 39052), (68, 39151), (70, 39175), (74, 39208), (75, 39223), (78, 39301), (79, 39343), (85, 39424), (89, 39484),

Gene: Sarshaun_52 Start: 38709, Stop: 39668, Start Num: 9

Candidate Starts for Sarshaun_52:

(Start: 9 @38709 has 52 MA's), (16, 38739), (24, 38796), (28, 38811), (35, 38910), (40, 38982), (45, 39015), (46, 39021), (57, 39156), (59, 39171), (60, 39183), (61, 39186), (66, 39237), (68, 39282), (71, 39330), (73, 39336), (74, 39339), (81, 39501), (90, 39639), (91, 39648),

Gene: SchoolBus_81 Start: 52125, Stop: 51160, Start Num: 11

Candidate Starts for SchoolBus_81:

(Start: 11 @52125 has 21 MA's), (30, 52008), (32, 51981), (37, 51879), (44, 51804), (46, 51792), (51, 51774), (62, 51624), (65, 51579), (69, 51522),

Gene: Schuy_83 Start: 51974, Stop: 51009, Start Num: 11

Candidate Starts for Schuy_83:

(1, 52370), (2, 52334), (3, 52103), (Start: 11 @51974 has 21 MA's), (30, 51857), (32, 51830), (37, 51728), (44, 51653), (46, 51641), (51, 51623), (62, 51473), (65, 51428), (69, 51371),

Gene: Sheng711_48 Start: 37053, Stop: 38027, Start Num: 7

Candidate Starts for Sheng711_48:

(Start: 7 @37053 has 2 MA's), (Start: 9 @37068 has 52 MA's), (15, 37095), (28, 37170), (35, 37269), (40, 37341), (45, 37374), (46, 37380), (53, 37482), (57, 37515), (59, 37530), (60, 37542), (61, 37545), (66, 37596), (68, 37641), (71, 37689), (73, 37695), (74, 37698), (79, 37833), (81, 37860), (90, 37998),

Gene: Shida_81 Start: 51814, Stop: 50849, Start Num: 11

Candidate Starts for Shida_81:

(1, 52210), (2, 52174), (3, 51943), (Start: 11 @51814 has 21 MA's), (30, 51697), (32, 51670), (37, 51568), (44, 51493), (46, 51481), (51, 51463), (62, 51313), (65, 51268), (69, 51211),

Gene: Silverleaf_49 Start: 36922, Stop: 37800, Start Num: 9

Candidate Starts for Silverleaf_49:

(Start: 6 @36904 has 5 MA's), (Start: 9 @36922 has 52 MA's), (17, 36964), (22, 36994), (27, 37018), (34, 37087), (43, 37201), (45, 37207), (47, 37216), (55, 37303), (57, 37315), (58, 37318), (60, 37342), (61, 37345), (73, 37495), (74, 37498), (84, 37696),

Gene: Snenia_48 Start: 38577, Stop: 39509, Start Num: 9

Candidate Starts for Snenia_48:

(Start: 7 @38562 has 2 MA's), (Start: 9 @38577 has 52 MA's), (16, 38607), (23, 38652), (28, 38679), (35, 38778), (40, 38850), (49, 38895), (53, 38991), (57, 39024), (58, 39027), (59, 39039), (60, 39051), (68, 39150), (70, 39174), (71, 39198), (74, 39207), (75, 39222), (78, 39300), (79, 39342), (85, 39423), (89, 39483),

Gene: Soap141_52 Start: 38709, Stop: 39668, Start Num: 9

Candidate Starts for Soap141_52:

(Start: 9 @38709 has 52 MA's), (16, 38739), (24, 38796), (28, 38811), (35, 38910), (40, 38982), (45, 39015), (46, 39021), (57, 39156), (59, 39171), (60, 39183), (61, 39186), (66, 39237), (68, 39282), (71, 39330), (73, 39336), (74, 39339), (81, 39501), (90, 39639), (91, 39648),

Gene: TelAviv_78 Start: 52108, Stop: 51143, Start Num: 11

Candidate Starts for TelAviv_78:

(1, 52504), (2, 52468), (3, 52237), (Start: 11 @52108 has 21 MA's), (30, 51991), (32, 51964), (37, 51862), (44, 51787), (46, 51775), (51, 51757), (62, 51607), (65, 51562), (69, 51505),

Gene: Tourach_51 Start: 38673, Stop: 39623, Start Num: 9

Candidate Starts for Tourach_51:

(Start: 9 @38673 has 52 MA's), (17, 38715), (36, 38904), (38, 38958), (40, 38964), (45, 38997), (49, 39009), (51, 39021), (52, 39042), (53, 39105), (55, 39126), (60, 39165), (66, 39219), (75, 39336), (76, 39348), (77, 39351), (81, 39483), (91, 39609), (92, 39615),

Gene: TriFive_49 Start: 38576, Stop: 39508, Start Num: 9

Candidate Starts for TriFive_49:

(Start: 7 @38561 has 2 MA's), (Start: 9 @38576 has 52 MA's), (16, 38606), (23, 38651), (28, 38678), (35, 38777), (40, 38849), (49, 38894), (53, 38990), (57, 39023), (58, 39026), (59, 39038), (60, 39050), (68, 39149), (70, 39173), (71, 39197), (74, 39206), (75, 39221), (78, 39299), (79, 39341), (85, 39422), (89, 39482),

Gene: Tyson_48 Start: 36931, Stop: 37809, Start Num: 9

Candidate Starts for Tyson_48:

(Start: 9 @36931 has 52 MA's), (17, 36973), (22, 37003), (26, 37024), (27, 37027), (34, 37096), (43, 37210), (45, 37216), (47, 37225), (56, 37315), (57, 37324), (60, 37351), (61, 37354), (73, 37504), (74, 37507), (88, 37750),

Gene: UPIE_49 Start: 36898, Stop: 37794, Start Num: 6

Candidate Starts for UPIE_49:

(Start: 6 @36898 has 5 MA's), (Start: 9 @36916 has 52 MA's), (17, 36958), (22, 36988), (27, 37012), (34, 37081), (43, 37195), (45, 37201), (47, 37210), (55, 37297), (57, 37309), (58, 37312), (60, 37336), (61, 37339), (73, 37489), (74, 37492), (84, 37690),

Gene: Vagabond_82 Start: 52022, Stop: 51057, Start Num: 11

Candidate Starts for Vagabond_82:

(1, 52418), (2, 52382), (3, 52151), (Start: 11 @52022 has 21 MA's), (30, 51905), (32, 51878), (37, 51776), (44, 51701), (46, 51689), (51, 51671), (62, 51521), (65, 51476), (69, 51419),

Gene: Vetric_52 Start: 38653, Stop: 39612, Start Num: 9

Candidate Starts for Vetric_52:

(Start: 9 @38653 has 52 MA's), (16, 38683), (24, 38740), (28, 38755), (35, 38854), (40, 38926), (45, 38959), (46, 38965), (57, 39100), (59, 39115), (60, 39127), (61, 39130), (66, 39181), (68, 39226), (71, 39274), (73, 39280), (74, 39283), (81, 39445), (90, 39583), (91, 39592),

Gene: Vorrps_82 Start: 52231, Stop: 51266, Start Num: 11

Candidate Starts for Vorrps_82:

(1, 52627), (2, 52591), (3, 52360), (Start: 11 @52231 has 21 MA's), (30, 52114), (32, 52087), (37, 51985), (44, 51910), (46, 51898), (51, 51880), (62, 51730), (65, 51685), (69, 51628),

Gene: Wamburgxpress_49 Start: 36932, Stop: 37810, Start Num: 9

Candidate Starts for Wamburgxpress_49:

(4, 36848), (Start: 9 @36932 has 52 MA's), (17, 36974), (22, 37004), (27, 37028), (34, 37097), (43, 37211), (45, 37217), (47, 37226), (55, 37313), (57, 37325), (58, 37328), (60, 37352), (61, 37355), (73, 37505), (74, 37508), (84, 37706),

Gene: Whirlwind_49 Start: 38392, Stop: 39324, Start Num: 8

Candidate Starts for Whirlwind_49:

(Start: 8 @38392 has 6 MA's), (16, 38422), (23, 38467), (28, 38494), (31, 38530), (35, 38593), (40, 38665), (49, 38710), (53, 38806), (55, 38827), (57, 38839), (59, 38854), (60, 38866), (68, 38965), (70, 38989), (71, 39013), (74, 39022), (75, 39037), (78, 39115), (79, 39157), (89, 39298),

Gene: Wigglewigggle_52 Start: 38708, Stop: 39667, Start Num: 9

Candidate Starts for Wigglewigggle_52:

(Start: 9 @38708 has 52 MA's), (16, 38738), (24, 38795), (28, 38810), (35, 38909), (40, 38981), (45, 39014), (46, 39020), (58, 39158), (59, 39170), (60, 39182), (61, 39185), (66, 39236), (68, 39281), (71, 39329), (73, 39335), (74, 39338), (81, 39500), (90, 39638), (91, 39647),

Gene: Wilder_52 Start: 38653, Stop: 39612, Start Num: 9

Candidate Starts for Wilder_52:

(Start: 9 @38653 has 52 MA's), (16, 38683), (24, 38740), (28, 38755), (35, 38854), (40, 38926), (46, 38965), (59, 39115), (60, 39127), (61, 39130), (66, 39181), (68, 39226), (71, 39274), (73, 39280), (74, 39283), (81, 39445), (90, 39583),

Gene: Winget_82 Start: 52401, Stop: 51436, Start Num: 11

Candidate Starts for Winget_82:

(1, 52797), (2, 52761), (3, 52530), (Start: 11 @52401 has 21 MA's), (30, 52284), (32, 52257), (37, 52155), (44, 52080), (46, 52068), (51, 52050), (62, 51900), (65, 51855), (69, 51798),

Gene: Winky_52 Start: 38647, Stop: 39606, Start Num: 9

Candidate Starts for Winky_52:

(Start: 9 @38647 has 52 MA's), (16, 38677), (24, 38734), (28, 38749), (35, 38848), (40, 38920), (45, 38953), (57, 39094), (59, 39109), (60, 39121), (61, 39124), (66, 39175), (68, 39220), (71, 39268), (73, 39274), (74, 39277), (81, 39439),

Gene: Wyatt2_49 Start: 36929, Stop: 37807, Start Num: 9

Candidate Starts for Wyatt2_49:

(Start: 9 @36929 has 52 MA's), (17, 36971), (22, 37001), (26, 37022), (27, 37025), (34, 37094), (43, 37208), (45, 37214), (47, 37223), (56, 37313), (57, 37322), (60, 37349), (61, 37352), (73, 37502), (74, 37505), (88, 37748),

Gene: Zakai_52 Start: 38905, Stop: 39897, Start Num: 9

Candidate Starts for Zakai_52:

(Start: 9 @38905 has 52 MA's), (16, 38935), (24, 38992), (28, 39007), (35, 39106), (40, 39178), (45, 39211), (46, 39217), (57, 39352), (59, 39367), (60, 39379), (61, 39382), (66, 39433), (68, 39478), (71, 39526), (73, 39532), (74, 39535), (81, 39697), (90, 39868), (91, 39877),

Gene: Zaria_49 Start: 36944, Stop: 37822, Start Num: 9

Candidate Starts for Zaria_49:

(Start: 9 @36944 has 52 MA's), (17, 36986), (22, 37016), (26, 37037), (27, 37040), (34, 37109), (43, 37223), (45, 37229), (47, 37238), (56, 37328), (57, 37337), (60, 37364), (61, 37367), (73, 37517), (74, 37520), (88, 37763),

Gene: Zebo_80 Start: 52134, Stop: 51169, Start Num: 11

Candidate Starts for Zebo_80:

(Start: 11 @52134 has 21 MA's), (30, 52017), (32, 51990), (37, 51888), (44, 51813), (46, 51801), (51, 51783), (62, 51633), (65, 51588), (69, 51531),

Gene: ZhongYanYuan_50 Start: 38504, Stop: 39463, Start Num: 9

Candidate Starts for ZhongYanYuan_50:

(Start: 9 @38504 has 52 MA's), (16, 38534), (24, 38591), (28, 38606), (35, 38705), (40, 38777), (45, 38810), (46, 38816), (59, 38966), (60, 38978), (61, 38981), (66, 39032), (68, 39077), (71, 39125), (73, 39131), (74, 39134), (81, 39296), (90, 39434),