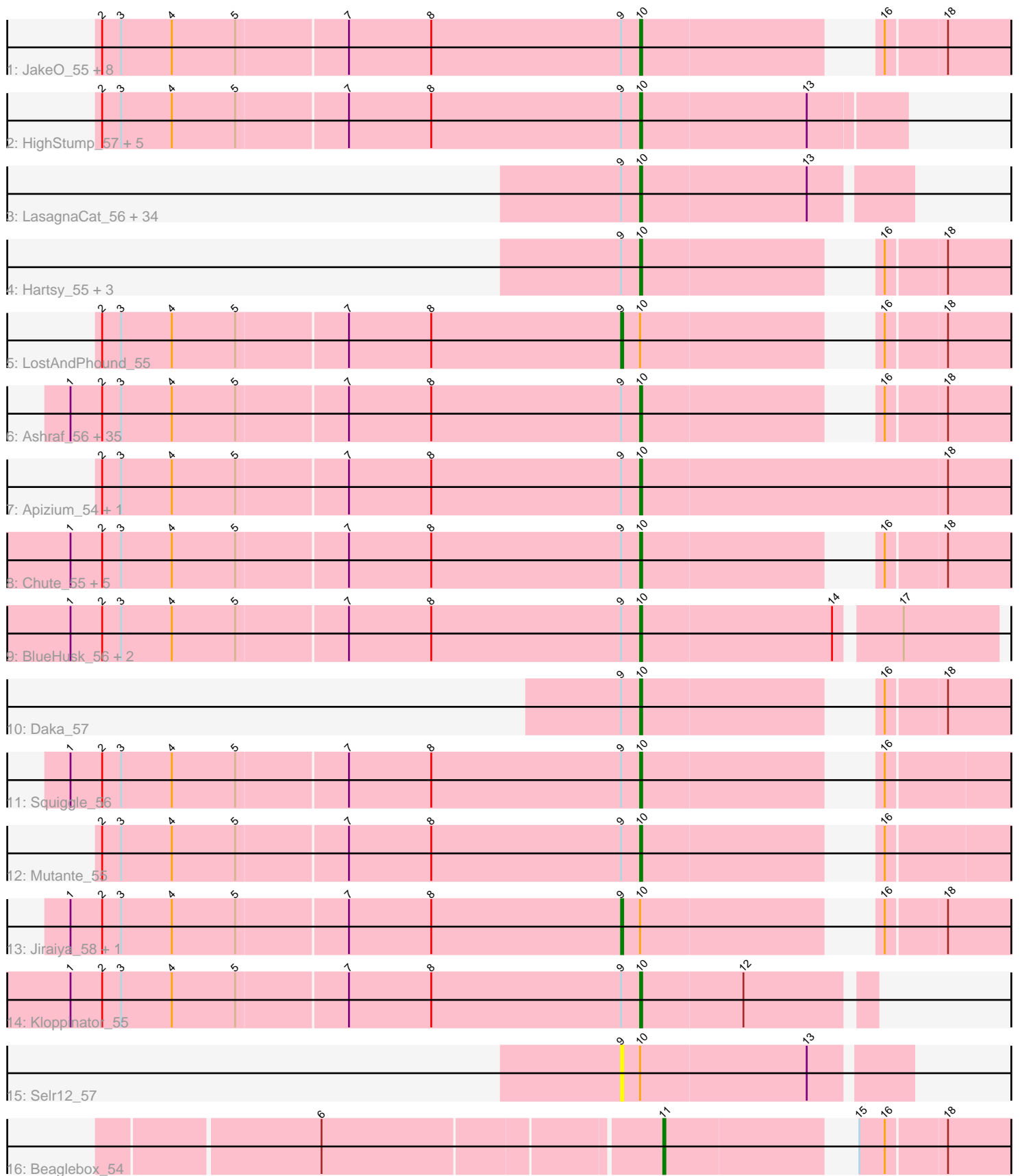


Pham 1074



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 1074 Report

This analysis was run 04/22/24 on database version 561.

Pham number 1074 has 110 members, 19 are drafts.

Phages represented in each track:

- Track 1 : JakeO_55, Scrick_56, Veritas_56, Iridoclysis_56, Riggan_56, Mcshane_54, Slatt_56, DuchessDung_56, Andre_58
- Track 2 : HighStump_57, LeiMonet_57, Longacauda_56, Orwigg_56, Legolas_57, Nicole21_56
- Track 3 : LasagnaCat_56, Magic8_56, Katniss_56, Ricotta_55, Dice_57, Pacifista_57, Orion_56, Scoot17C_56, Gophee_56, Megamind20_56, Skippy_56, DelRivs_54, Olak_55, True_54, Inchworm_57, Simielle_54, Swish_56, BlackStallion_56, Fang_56, Fringe_59, Quisquilliae_56, Lumine_56, Pherdinand_56, Anderson_56, Phamished_56, Phipps_55, JacAttac_56, Nyala_54, FluffyNinja_56, Chah_57, Yoshand_56, Toni_54, FriarPreacher_54, PhrodoBaggins_56, Sigman_56
- Track 4 : Hartsy_55, Charles1_56, CampRoach_56, Burr_55
- Track 5 : LostAndPhound_55
- Track 6 : Ashraf_56, Jiminy_55, Duggie_55, Doddsville_55, MichaelPhcott_55, Emiris_57, Phenghiskhan_55, Kailash_55, Schueller_56, Cobra_56, JangoPhett_55, ImtiyazSitla_56, Zonia_56, YouGoGlencoco_56, PhrankReynolds_54, Durga_57, Trypo_57, CharlieGBrown_55, Maskar_56, Phergie_56, Thunderbird_55, BatteryCK_55, TyrionL_55, Struggle_55, Labeouficaum_55, Derpp_54, Phleuron_55, Oline_55, Wallhey_55, Pinkman_54, LemonSlice_56, GeneCoco_55, Kwksand96_55, Virapocalypse_56, Hocus_55, Mag7_55
- Track 7 : Apizium_54, Vivaldi_56
- Track 8 : Chute_55, Swiphy_57, PhatLouie_56, Coletti_55, Keitherie_56, Virgeve_54
- Track 9 : BlueHusk_56, Prickles_56, DirtJuice_56
- Track 10 : Daka_57
- Track 11 : Squiggle_56
- Track 12 : Mutante_55
- Track 13 : Jiraiya_58, MelsMeow_55
- Track 14 : Kloppinator_55
- Track 15 : Selr12_57
- Track 16 : Beaglebox_54

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

The start number called the most often in the published annotations is 10, it was called in 88 of the 91 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anderson_56, Andre_58, Apizium_54, Ashraf_56, BatteryCK_55, BlackStallion_56, BlueHusk_56, Burr_55, CampRoach_56, Chah_57, Charles1_56, CharlieGBrown_55, Chute_55, Cobra_56, Coletti_55, Daka_57, DelRivs_54, Derpp_54, Dice_57, DirtJuice_56, Doddsville_55, DuchessDung_56, Duggie_55, Durga_57, Emir_57, Fang_56, FluffyNinja_56, FriarPreacher_54, Fringe_59, GeneCoco_55, Gophee_56, Hartsy_55, HighStump_57, Hocus_55, ImtiyazSitla_56, Inchworm_57, Iridoclysis_56, JacAttac_56, JakeO_55, JangoPhett_55, Jiminy_55, Kailash_55, Katniss_56, Keitherie_56, Kloppinator_55, Kwksand96_55, Labeouficaum_55, LasagnaCat_56, Legolas_57, LeiMonet_57, LemonSlice_56, Longacauda_56, Lumine_56, Mag7_55, Magic8_56, Maskar_56, Mcshane_54, Megamind20_56, MichaelPhcott_55, Mutante_55, Nicole21_56, Nyala_54, Olak_55, Oline_55, Orion_56, Orwigg_56, Pacifista_57, Phamished_56, PhatLouie_56, PhenghisKhan_55, Pherdinand_56, Phergie_56, Phipps_55, Phleuron_55, PhrankReynolds_54, PhrodoBaggins_56, Pinkman_54, Prickles_56, Quisquillae_56, Ricotta_55, Riggan_56, Schueller_56, Scoot17C_56, Scrick_56, Sigman_56, Simielle_54, Skippy_56, Slatt_56, Squiggle_56, Struggle_55, Swiphy_57, Swish_56, Thunderbird_55, Toni_54, True_54, Trypo_57, TyrionL_55, Veritas_56, Virapocalypse_56, Virgeve_54, Vivaldi_56, Wallhey_55, Yoshand_56, YouGoGlencoco_56, Zonia_56,

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

- Jiraiya_58, LostAndPhound_55, MelsMeow_55, Selr12_57,

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

- Beaglebox_54,

Summary by start number:

Start 9:

- Found in 109 of 110 (99.1%) of genes in pham
- Manual Annotations of this start: 2 of 91
- Called 3.7% of time when present
- Phage (with cluster) where this start called: Jiraiya_58 (B1), LostAndPhound_55 (B1), MelsMeow_55 (B1), Selr12_57 (B1),

Start 10:

- Found in 109 of 110 (99.1%) of genes in pham
- Manual Annotations of this start: 88 of 91
- Called 96.3% of time when present
- Phage (with cluster) where this start called: Anderson_56 (B1), Andre_58 (B1), Apizium_54 (B1), Ashraf_56 (B1), BatteryCK_55 (B1), BlackStallion_56 (B1), BlueHusk_56 (B1), Burr_55 (B1), CampRoach_56 (B1), Chah_57 (B1), Charles1_56 (B1), CharlieGBrown_55 (B1), Chute_55 (B1), Cobra_56 (B1), Coletti_55 (B1), Daka_57 (B1), DelRivs_54 (B1), Derpp_54 (B1), Dice_57 (B1), DirtJuice_56 (B1), Doddsville_55 (B1), DuchessDung_56 (B1), Duggie_55 (B1), Durga_57 (B1), Emir_57 (B1), Fang_56 (B1), FluffyNinja_56 (B1), FriarPreacher_54 (B1), Fringe_59 (B1), GeneCoco_55 (B1), Gophee_56 (B1), Hartsy_55 (B1), HighStump_57 (B1), Hocus_55 (B1), ImtiyazSitla_56 (B1), Inchworm_57 (B1), Iridoclysis_56 (B1), JacAttac_56 (B1), JakeO_55 (B1), JangoPhett_55 (B1), Jiminy_55 (B1), Kailash_55 (B1), Katniss_56 (B1), Keitherie_56 (B1), Kloppinator_55 (B1), Kwksand96_55 (B1),

Labeouficaum_55 (B1), LasagnaCat_56 (B1), Legolas_57 (B1), LeiMonet_57 (B1), LemonSlice_56 (B1), Longacauda_56 (B1), Lumine_56 (B1), Mag7_55 (B1), Magic8_56 (B1), Maskar_56 (B1), Mcshane_54 (B1), Megamind20_56 (B1), MichaelPhcott_55 (B1), Mutante_55 (B1), Nicole21_56 (B1), Nyala_54 (B1), Olak_55 (B1), Oline_55 (B1), Orion_56 (B1), Orwigg_56 (B1), Pacifista_57 (B1), Phamished_56 (B1), PhatLouie_56 (B1), PhenghisKhan_55 (B1), Pherdinand_56 (B1), Phergie_56 (B1), Phipps_55 (B1), Phleuron_55 (B1), PhrankReynolds_54 (B1), PhrodoBaggins_56 (B1), Pinkman_54 (B1), Prickles_56 (B1), Quisquilliae_56 (B1), Ricotta_55 (B1), Riggan_56 (B1), Schueller_56 (B1), Scoot17C_56 (B1), Scrick_56 (B1), Sigman_56 (B1), Simielle_54 (B1), Skippy_56 (B1), Slatt_56 (B1), Squiggle_56 (B1), Struggle_55 (B1), Swiphy_57 (B1), Swish_56 (B1), Thunderbird_55 (B1), Toni_54 (B1), True_54 (B1), Trypo_57 (B1), TyrionL_55 (B1), Veritas_56 (B1), Virapocalypse_56 (B1), Virgeve_54 (B1), Vivaldi_56 (B1), Wallhey_55 (B1), Yoshand_56 (B1), YouGoGlencoco_56 (B1), Zonia_56 (B1),

Start 11:

- Found in 1 of 110 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beaglebox_54 (B1),

Summary by clusters:

There is one cluster represented in this pham: B1

Info for manual annotations of cluster B1:

- Start number 9 was manually annotated 2 times for cluster B1.
- Start number 10 was manually annotated 88 times for cluster B1.
- Start number 11 was manually annotated 1 time for cluster B1.

Gene Information:

Gene: Anderson_56 Start: 48229, Stop: 48107, Start Num: 10

Candidate Starts for Anderson_56:

(Start: 9 @48238 has 2 MA's), (Start: 10 @48229 has 88 MA's), (13, 48151),

Gene: Andre_58 Start: 48405, Stop: 48244, Start Num: 10

Candidate Starts for Andre_58:

(2, 48657), (3, 48648), (4, 48624), (5, 48594), (7, 48543), (8, 48504), (Start: 9 @48414 has 2 MA's), (Start: 10 @48405 has 88 MA's), (16, 48315), (18, 48288),

Gene: Apizium_54 Start: 47363, Stop: 47178, Start Num: 10

Candidate Starts for Apizium_54:

(2, 47615), (3, 47606), (4, 47582), (5, 47552), (7, 47501), (8, 47462), (Start: 9 @47372 has 2 MA's), (Start: 10 @47363 has 88 MA's), (18, 47219),

Gene: Ashraf_56 Start: 47970, Stop: 47809, Start Num: 10

Candidate Starts for Ashraf_56:

(1, 48237), (2, 48222), (3, 48213), (4, 48189), (5, 48159), (7, 48108), (8, 48069), (Start: 9 @47979 has 2 MA's), (Start: 10 @47970 has 88 MA's), (16, 47880), (18, 47853),

Gene: BatteryCK_55 Start: 47910, Stop: 47749, Start Num: 10

Candidate Starts for BatteryCK_55:

(1, 48177), (2, 48162), (3, 48153), (4, 48129), (5, 48099), (7, 48048), (8, 48009), (Start: 9 @47919 has 2 MA's), (Start: 10 @47910 has 88 MA's), (16, 47820), (18, 47793),

Gene: Beaglebox_54 Start: 47545, Stop: 47387, Start Num: 11

Candidate Starts for Beaglebox_54:

(6, 47698), (Start: 11 @47545 has 1 MA's), (15, 47470), (16, 47458), (18, 47431),

Gene: BlackStallion_56 Start: 47963, Stop: 47841, Start Num: 10

Candidate Starts for BlackStallion_56:

(Start: 9 @47972 has 2 MA's), (Start: 10 @47963 has 88 MA's), (13, 47885),

Gene: BlueHusk_56 Start: 47785, Stop: 47624, Start Num: 10

Candidate Starts for BlueHusk_56:

(1, 48052), (2, 48037), (3, 48028), (4, 48004), (5, 47974), (7, 47923), (8, 47884), (Start: 9 @47794 has 2 MA's), (Start: 10 @47785 has 88 MA's), (14, 47695), (17, 47668),

Gene: Burr_55 Start: 47979, Stop: 47818, Start Num: 10

Candidate Starts for Burr_55:

(Start: 9 @47988 has 2 MA's), (Start: 10 @47979 has 88 MA's), (16, 47889), (18, 47862),

Gene: CampRoach_56 Start: 48409, Stop: 48248, Start Num: 10

Candidate Starts for CampRoach_56:

(Start: 9 @48418 has 2 MA's), (Start: 10 @48409 has 88 MA's), (16, 48319), (18, 48292),

Gene: Chah_57 Start: 47956, Stop: 47834, Start Num: 10

Candidate Starts for Chah_57:

(Start: 9 @47965 has 2 MA's), (Start: 10 @47956 has 88 MA's), (13, 47878),

Gene: Charles1_56 Start: 48265, Stop: 48104, Start Num: 10

Candidate Starts for Charles1_56:

(Start: 9 @48274 has 2 MA's), (Start: 10 @48265 has 88 MA's), (16, 48175), (18, 48148),

Gene: CharlieGBrown_55 Start: 47855, Stop: 47694, Start Num: 10

Candidate Starts for CharlieGBrown_55:

(1, 48122), (2, 48107), (3, 48098), (4, 48074), (5, 48044), (7, 47993), (8, 47954), (Start: 9 @47864 has 2 MA's), (Start: 10 @47855 has 88 MA's), (16, 47765), (18, 47738),

Gene: Chute_55 Start: 48326, Stop: 48165, Start Num: 10

Candidate Starts for Chute_55:

(1, 48593), (2, 48578), (3, 48569), (4, 48545), (5, 48515), (7, 48464), (8, 48425), (Start: 9 @48335 has 2 MA's), (Start: 10 @48326 has 88 MA's), (16, 48236), (18, 48209),

Gene: Cobra_56 Start: 48300, Stop: 48139, Start Num: 10

Candidate Starts for Cobra_56:

(1, 48567), (2, 48552), (3, 48543), (4, 48519), (5, 48489), (7, 48438), (8, 48399), (Start: 9 @48309 has 2 MA's), (Start: 10 @48300 has 88 MA's), (16, 48210), (18, 48183),

Gene: Coletti_55 Start: 48326, Stop: 48165, Start Num: 10

Candidate Starts for Coletti_55:

(1, 48593), (2, 48578), (3, 48569), (4, 48545), (5, 48515), (7, 48464), (8, 48425), (Start: 9 @48335 has 2 MA's), (Start: 10 @48326 has 88 MA's), (16, 48236), (18, 48209),

Gene: Daka_57 Start: 48268, Stop: 48107, Start Num: 10

Candidate Starts for Daka_57:

(Start: 9 @48277 has 2 MA's), (Start: 10 @48268 has 88 MA's), (16, 48178), (18, 48151),

Gene: DelRivs_54 Start: 47971, Stop: 47849, Start Num: 10

Candidate Starts for DelRivs_54:

(Start: 9 @47980 has 2 MA's), (Start: 10 @47971 has 88 MA's), (13, 47893),

Gene: Derpp_54 Start: 47844, Stop: 47683, Start Num: 10

Candidate Starts for Derpp_54:

(1, 48111), (2, 48096), (3, 48087), (4, 48063), (5, 48033), (7, 47982), (8, 47943), (Start: 9 @47853 has 2 MA's), (Start: 10 @47844 has 88 MA's), (16, 47754), (18, 47727),

Gene: Dice_57 Start: 47935, Stop: 47813, Start Num: 10

Candidate Starts for Dice_57:

(Start: 9 @47944 has 2 MA's), (Start: 10 @47935 has 88 MA's), (13, 47857),

Gene: DirtJuice_56 Start: 48257, Stop: 48096, Start Num: 10

Candidate Starts for DirtJuice_56:

(1, 48524), (2, 48509), (3, 48500), (4, 48476), (5, 48446), (7, 48395), (8, 48356), (Start: 9 @48266 has 2 MA's), (Start: 10 @48257 has 88 MA's), (14, 48167), (17, 48140),

Gene: Doddsville_55 Start: 48000, Stop: 47839, Start Num: 10

Candidate Starts for Doddsville_55:

(1, 48267), (2, 48252), (3, 48243), (4, 48219), (5, 48189), (7, 48138), (8, 48099), (Start: 9 @48009 has 2 MA's), (Start: 10 @48000 has 88 MA's), (16, 47910), (18, 47883),

Gene: DuchessDung_56 Start: 47518, Stop: 47357, Start Num: 10

Candidate Starts for DuchessDung_56:

(2, 47770), (3, 47761), (4, 47737), (5, 47707), (7, 47656), (8, 47617), (Start: 9 @47527 has 2 MA's), (Start: 10 @47518 has 88 MA's), (16, 47428), (18, 47401),

Gene: Duggie_55 Start: 47997, Stop: 47836, Start Num: 10

Candidate Starts for Duggie_55:

(1, 48264), (2, 48249), (3, 48240), (4, 48216), (5, 48186), (7, 48135), (8, 48096), (Start: 9 @48006 has 2 MA's), (Start: 10 @47997 has 88 MA's), (16, 47907), (18, 47880),

Gene: Durga_57 Start: 48436, Stop: 48275, Start Num: 10

Candidate Starts for Durga_57:

(1, 48703), (2, 48688), (3, 48679), (4, 48655), (5, 48625), (7, 48574), (8, 48535), (Start: 9 @48445 has 2 MA's), (Start: 10 @48436 has 88 MA's), (16, 48346), (18, 48319),

Gene: Emiris_57 Start: 48404, Stop: 48243, Start Num: 10

Candidate Starts for Emiris_57:

(1, 48671), (2, 48656), (3, 48647), (4, 48623), (5, 48593), (7, 48542), (8, 48503), (Start: 9 @48413 has 2 MA's), (Start: 10 @48404 has 88 MA's), (16, 48314), (18, 48287),

Gene: Fang_56 Start: 47950, Stop: 47828, Start Num: 10

Candidate Starts for Fang_56:

(Start: 9 @47959 has 2 MA's), (Start: 10 @47950 has 88 MA's), (13, 47872),

Gene: FluffyNinja_56 Start: 47964, Stop: 47842, Start Num: 10

Candidate Starts for FluffyNinja_56:

(Start: 9 @47973 has 2 MA's), (Start: 10 @47964 has 88 MA's), (13, 47886),

Gene: FriarPreacher_54 Start: 47841, Stop: 47719, Start Num: 10

Candidate Starts for FriarPreacher_54:

(Start: 9 @47850 has 2 MA's), (Start: 10 @47841 has 88 MA's), (13, 47763),

Gene: Fringe_59 Start: 48875, Stop: 48753, Start Num: 10

Candidate Starts for Fringe_59:

(Start: 9 @48884 has 2 MA's), (Start: 10 @48875 has 88 MA's), (13, 48797),

Gene: GeneCoco_55 Start: 48292, Stop: 48131, Start Num: 10

Candidate Starts for GeneCoco_55:

(1, 48559), (2, 48544), (3, 48535), (4, 48511), (5, 48481), (7, 48430), (8, 48391), (Start: 9 @48301 has 2 MA's), (Start: 10 @48292 has 88 MA's), (16, 48202), (18, 48175),

Gene: Gophee_56 Start: 48236, Stop: 48114, Start Num: 10

Candidate Starts for Gophee_56:

(Start: 9 @48245 has 2 MA's), (Start: 10 @48236 has 88 MA's), (13, 48158),

Gene: Hartsy_55 Start: 48324, Stop: 48163, Start Num: 10

Candidate Starts for Hartsy_55:

(Start: 9 @48333 has 2 MA's), (Start: 10 @48324 has 88 MA's), (16, 48234), (18, 48207),

Gene: HighStump_57 Start: 48498, Stop: 48376, Start Num: 10

Candidate Starts for HighStump_57:

(2, 48750), (3, 48741), (4, 48717), (5, 48687), (7, 48636), (8, 48597), (Start: 9 @48507 has 2 MA's), (Start: 10 @48498 has 88 MA's), (13, 48420),

Gene: Hocus_55 Start: 47981, Stop: 47820, Start Num: 10

Candidate Starts for Hocus_55:

(1, 48248), (2, 48233), (3, 48224), (4, 48200), (5, 48170), (7, 48119), (8, 48080), (Start: 9 @47990 has 2 MA's), (Start: 10 @47981 has 88 MA's), (16, 47891), (18, 47864),

Gene: ImtiyazSitla_56 Start: 47970, Stop: 47809, Start Num: 10

Candidate Starts for ImtiyazSitla_56:

(1, 48237), (2, 48222), (3, 48213), (4, 48189), (5, 48159), (7, 48108), (8, 48069), (Start: 9 @47979 has 2 MA's), (Start: 10 @47970 has 88 MA's), (16, 47880), (18, 47853),

Gene: Inchworm_57 Start: 48369, Stop: 48247, Start Num: 10

Candidate Starts for Inchworm_57:

(Start: 9 @48378 has 2 MA's), (Start: 10 @48369 has 88 MA's), (13, 48291),

Gene: Iridoclysis_56 Start: 48267, Stop: 48106, Start Num: 10

Candidate Starts for Iridoclysis_56:

(2, 48519), (3, 48510), (4, 48486), (5, 48456), (7, 48405), (8, 48366), (Start: 9 @48276 has 2 MA's), (Start: 10 @48267 has 88 MA's), (16, 48177), (18, 48150),

Gene: JacAttac_56 Start: 47929, Stop: 47807, Start Num: 10

Candidate Starts for JacAttac_56:

(Start: 9 @47938 has 2 MA's), (Start: 10 @47929 has 88 MA's), (13, 47851),

Gene: JakeO_55 Start: 48000, Stop: 47839, Start Num: 10

Candidate Starts for JakeO_55:

(2, 48252), (3, 48243), (4, 48219), (5, 48189), (7, 48138), (8, 48099), (Start: 9 @48009 has 2 MA's),
(Start: 10 @48000 has 88 MA's), (16, 47910), (18, 47883),

Gene: JangoPhett_55 Start: 48278, Stop: 48117, Start Num: 10

Candidate Starts for JangoPhett_55:

(1, 48545), (2, 48530), (3, 48521), (4, 48497), (5, 48467), (7, 48416), (8, 48377), (Start: 9 @48287 has
2 MA's), (Start: 10 @48278 has 88 MA's), (16, 48188), (18, 48161),

Gene: Jiminy_55 Start: 47835, Stop: 47674, Start Num: 10

Candidate Starts for Jiminy_55:

(1, 48102), (2, 48087), (3, 48078), (4, 48054), (5, 48024), (7, 47973), (8, 47934), (Start: 9 @47844 has
2 MA's), (Start: 10 @47835 has 88 MA's), (16, 47745), (18, 47718),

Gene: Jiraiya_58 Start: 47997, Stop: 47827, Start Num: 9

Candidate Starts for Jiraiya_58:

(1, 48255), (2, 48240), (3, 48231), (4, 48207), (5, 48177), (7, 48126), (8, 48087), (Start: 9 @47997 has
2 MA's), (Start: 10 @47988 has 88 MA's), (16, 47898), (18, 47871),

Gene: Kailash_55 Start: 48354, Stop: 48193, Start Num: 10

Candidate Starts for Kailash_55:

(1, 48621), (2, 48606), (3, 48597), (4, 48573), (5, 48543), (7, 48492), (8, 48453), (Start: 9 @48363 has
2 MA's), (Start: 10 @48354 has 88 MA's), (16, 48264), (18, 48237),

Gene: Katniss_56 Start: 47956, Stop: 47834, Start Num: 10

Candidate Starts for Katniss_56:

(Start: 9 @47965 has 2 MA's), (Start: 10 @47956 has 88 MA's), (13, 47878),

Gene: Keitherie_56 Start: 48335, Stop: 48174, Start Num: 10

Candidate Starts for Keitherie_56:

(1, 48602), (2, 48587), (3, 48578), (4, 48554), (5, 48524), (7, 48473), (8, 48434), (Start: 9 @48344 has
2 MA's), (Start: 10 @48335 has 88 MA's), (16, 48245), (18, 48218),

Gene: Kloppinator_55 Start: 47816, Stop: 47712, Start Num: 10

Candidate Starts for Kloppinator_55:

(1, 48083), (2, 48068), (3, 48059), (4, 48035), (5, 48005), (7, 47954), (8, 47915), (Start: 9 @47825 has
2 MA's), (Start: 10 @47816 has 88 MA's), (12, 47768),

Gene: Kwksand96_55 Start: 47850, Stop: 47689, Start Num: 10

Candidate Starts for Kwksand96_55:

(1, 48117), (2, 48102), (3, 48093), (4, 48069), (5, 48039), (7, 47988), (8, 47949), (Start: 9 @47859 has
2 MA's), (Start: 10 @47850 has 88 MA's), (16, 47760), (18, 47733),

Gene: Labeouficaum_55 Start: 47844, Stop: 47683, Start Num: 10

Candidate Starts for Labeouficaum_55:

(1, 48111), (2, 48096), (3, 48087), (4, 48063), (5, 48033), (7, 47982), (8, 47943), (Start: 9 @47853 has
2 MA's), (Start: 10 @47844 has 88 MA's), (16, 47754), (18, 47727),

Gene: LasagnaCat_56 Start: 48381, Stop: 48259, Start Num: 10

Candidate Starts for LasagnaCat_56:

(Start: 9 @48390 has 2 MA's), (Start: 10 @48381 has 88 MA's), (13, 48303),

Gene: Legolas_57 Start: 48395, Stop: 48273, Start Num: 10

Candidate Starts for Legolas_57:

(2, 48647), (3, 48638), (4, 48614), (5, 48584), (7, 48533), (8, 48494), (Start: 9 @48404 has 2 MA's),
(Start: 10 @48395 has 88 MA's), (13, 48317),

Gene: LeiMonet_57 Start: 47914, Stop: 47792, Start Num: 10

Candidate Starts for LeiMonet_57:

(2, 48166), (3, 48157), (4, 48133), (5, 48103), (7, 48052), (8, 48013), (Start: 9 @47923 has 2 MA's),
(Start: 10 @47914 has 88 MA's), (13, 47836),

Gene: LemonSlice_56 Start: 47986, Stop: 47825, Start Num: 10

Candidate Starts for LemonSlice_56:

(1, 48253), (2, 48238), (3, 48229), (4, 48205), (5, 48175), (7, 48124), (8, 48085), (Start: 9 @47995 has
2 MA's), (Start: 10 @47986 has 88 MA's), (16, 47896), (18, 47869),

Gene: Longacauda_56 Start: 48358, Stop: 48236, Start Num: 10

Candidate Starts for Longacauda_56:

(2, 48610), (3, 48601), (4, 48577), (5, 48547), (7, 48496), (8, 48457), (Start: 9 @48367 has 2 MA's),
(Start: 10 @48358 has 88 MA's), (13, 48280),

Gene: LostAndPhound_55 Start: 48010, Stop: 47840, Start Num: 9

Candidate Starts for LostAndPhound_55:

(2, 48253), (3, 48244), (4, 48220), (5, 48190), (7, 48139), (8, 48100), (Start: 9 @48010 has 2 MA's),
(Start: 10 @48001 has 88 MA's), (16, 47911), (18, 47884),

Gene: Lumine_56 Start: 48146, Stop: 48024, Start Num: 10

Candidate Starts for Lumine_56:

(Start: 9 @48155 has 2 MA's), (Start: 10 @48146 has 88 MA's), (13, 48068),

Gene: Mag7_55 Start: 47904, Stop: 47743, Start Num: 10

Candidate Starts for Mag7_55:

(1, 48171), (2, 48156), (3, 48147), (4, 48123), (5, 48093), (7, 48042), (8, 48003), (Start: 9 @47913 has
2 MA's), (Start: 10 @47904 has 88 MA's), (16, 47814), (18, 47787),

Gene: Magic8_56 Start: 48300, Stop: 48178, Start Num: 10

Candidate Starts for Magic8_56:

(Start: 9 @48309 has 2 MA's), (Start: 10 @48300 has 88 MA's), (13, 48222),

Gene: Maskar_56 Start: 47970, Stop: 47809, Start Num: 10

Candidate Starts for Maskar_56:

(1, 48237), (2, 48222), (3, 48213), (4, 48189), (5, 48159), (7, 48108), (8, 48069), (Start: 9 @47979 has
2 MA's), (Start: 10 @47970 has 88 MA's), (16, 47880), (18, 47853),

Gene: Mcshane_54 Start: 47982, Stop: 47821, Start Num: 10

Candidate Starts for Mcshane_54:

(2, 48234), (3, 48225), (4, 48201), (5, 48171), (7, 48120), (8, 48081), (Start: 9 @47991 has 2 MA's),
(Start: 10 @47982 has 88 MA's), (16, 47892), (18, 47865),

Gene: Megamind20_56 Start: 47970, Stop: 47848, Start Num: 10

Candidate Starts for Megamind20_56:

(Start: 9 @47979 has 2 MA's), (Start: 10 @47970 has 88 MA's), (13, 47892),

Gene: MelsMeow_55 Start: 48032, Stop: 47862, Start Num: 9

Candidate Starts for MelsMeow_55:

(1, 48290), (2, 48275), (3, 48266), (4, 48242), (5, 48212), (7, 48161), (8, 48122), (Start: 9 @48032 has 2 MA's), (Start: 10 @48023 has 88 MA's), (16, 47933), (18, 47906),

Gene: MichaelPhcott_55 Start: 47901, Stop: 47740, Start Num: 10

Candidate Starts for MichaelPhcott_55:

(1, 48168), (2, 48153), (3, 48144), (4, 48120), (5, 48090), (7, 48039), (8, 48000), (Start: 9 @47910 has 2 MA's), (Start: 10 @47901 has 88 MA's), (16, 47811), (18, 47784),

Gene: Mutante_55 Start: 47994, Stop: 47833, Start Num: 10

Candidate Starts for Mutante_55:

(2, 48246), (3, 48237), (4, 48213), (5, 48183), (7, 48132), (8, 48093), (Start: 9 @48003 has 2 MA's), (Start: 10 @47994 has 88 MA's), (16, 47904),

Gene: Nicole21_56 Start: 48231, Stop: 48109, Start Num: 10

Candidate Starts for Nicole21_56:

(2, 48483), (3, 48474), (4, 48450), (5, 48420), (7, 48369), (8, 48330), (Start: 9 @48240 has 2 MA's), (Start: 10 @48231 has 88 MA's), (13, 48153),

Gene: Nyala_54 Start: 47950, Stop: 47828, Start Num: 10

Candidate Starts for Nyala_54:

(Start: 9 @47959 has 2 MA's), (Start: 10 @47950 has 88 MA's), (13, 47872),

Gene: Olak_55 Start: 47953, Stop: 47831, Start Num: 10

Candidate Starts for Olak_55:

(Start: 9 @47962 has 2 MA's), (Start: 10 @47953 has 88 MA's), (13, 47875),

Gene: Oline_55 Start: 47848, Stop: 47687, Start Num: 10

Candidate Starts for Oline_55:

(1, 48115), (2, 48100), (3, 48091), (4, 48067), (5, 48037), (7, 47986), (8, 47947), (Start: 9 @47857 has 2 MA's), (Start: 10 @47848 has 88 MA's), (16, 47758), (18, 47731),

Gene: Orion_56 Start: 47936, Stop: 47814, Start Num: 10

Candidate Starts for Orion_56:

(Start: 9 @47945 has 2 MA's), (Start: 10 @47936 has 88 MA's), (13, 47858),

Gene: Orwigg_56 Start: 47916, Stop: 47794, Start Num: 10

Candidate Starts for Orwigg_56:

(2, 48168), (3, 48159), (4, 48135), (5, 48105), (7, 48054), (8, 48015), (Start: 9 @47925 has 2 MA's), (Start: 10 @47916 has 88 MA's), (13, 47838),

Gene: Pacifista_57 Start: 47949, Stop: 47827, Start Num: 10

Candidate Starts for Pacifista_57:

(Start: 9 @47958 has 2 MA's), (Start: 10 @47949 has 88 MA's), (13, 47871),

Gene: Phamished_56 Start: 47956, Stop: 47834, Start Num: 10

Candidate Starts for Phamished_56:

(Start: 9 @47965 has 2 MA's), (Start: 10 @47956 has 88 MA's), (13, 47878),

Gene: PhatLouie_56 Start: 48287, Stop: 48126, Start Num: 10

Candidate Starts for PhatLouie_56:

(1, 48554), (2, 48539), (3, 48530), (4, 48506), (5, 48476), (7, 48425), (8, 48386), (Start: 9 @48296 has 2 MA's), (Start: 10 @48287 has 88 MA's), (16, 48197), (18, 48170),

Gene: PhenghisKhan_55 Start: 47907, Stop: 47746, Start Num: 10
Candidate Starts for PhenghisKhan_55:
(1, 48174), (2, 48159), (3, 48150), (4, 48126), (5, 48096), (7, 48045), (8, 48006), (Start: 9 @47916 has 2 MA's), (Start: 10 @47907 has 88 MA's), (16, 47817), (18, 47790),

Gene: Pherdinand_56 Start: 47966, Stop: 47844, Start Num: 10
Candidate Starts for Pherdinand_56:
(Start: 9 @47975 has 2 MA's), (Start: 10 @47966 has 88 MA's), (13, 47888),

Gene: Phergie_56 Start: 47899, Stop: 47738, Start Num: 10
Candidate Starts for Phergie_56:
(1, 48166), (2, 48151), (3, 48142), (4, 48118), (5, 48088), (7, 48037), (8, 47998), (Start: 9 @47908 has 2 MA's), (Start: 10 @47899 has 88 MA's), (16, 47809), (18, 47782),

Gene: Phipps_55 Start: 47784, Stop: 47662, Start Num: 10
Candidate Starts for Phipps_55:
(Start: 9 @47793 has 2 MA's), (Start: 10 @47784 has 88 MA's), (13, 47706),

Gene: Phleuron_55 Start: 47904, Stop: 47743, Start Num: 10
Candidate Starts for Phleuron_55:
(1, 48171), (2, 48156), (3, 48147), (4, 48123), (5, 48093), (7, 48042), (8, 48003), (Start: 9 @47913 has 2 MA's), (Start: 10 @47904 has 88 MA's), (16, 47814), (18, 47787),

Gene: PhrankReynolds_54 Start: 47904, Stop: 47743, Start Num: 10
Candidate Starts for PhrankReynolds_54:
(1, 48171), (2, 48156), (3, 48147), (4, 48123), (5, 48093), (7, 48042), (8, 48003), (Start: 9 @47913 has 2 MA's), (Start: 10 @47904 has 88 MA's), (16, 47814), (18, 47787),

Gene: PhrodoBaggins_56 Start: 48372, Stop: 48250, Start Num: 10
Candidate Starts for PhrodoBaggins_56:
(Start: 9 @48381 has 2 MA's), (Start: 10 @48372 has 88 MA's), (13, 48294),

Gene: Pinkman_54 Start: 47842, Stop: 47681, Start Num: 10
Candidate Starts for Pinkman_54:
(1, 48109), (2, 48094), (3, 48085), (4, 48061), (5, 48031), (7, 47980), (8, 47941), (Start: 9 @47851 has 2 MA's), (Start: 10 @47842 has 88 MA's), (16, 47752), (18, 47725),

Gene: Prickles_56 Start: 48263, Stop: 48102, Start Num: 10
Candidate Starts for Prickles_56:
(1, 48530), (2, 48515), (3, 48506), (4, 48482), (5, 48452), (7, 48401), (8, 48362), (Start: 9 @48272 has 2 MA's), (Start: 10 @48263 has 88 MA's), (14, 48173), (17, 48146),

Gene: Quisquilliae_56 Start: 48272, Stop: 48150, Start Num: 10
Candidate Starts for Quisquilliae_56:
(Start: 9 @48281 has 2 MA's), (Start: 10 @48272 has 88 MA's), (13, 48194),

Gene: Ricotta_55 Start: 47962, Stop: 47840, Start Num: 10
Candidate Starts for Ricotta_55:
(Start: 9 @47971 has 2 MA's), (Start: 10 @47962 has 88 MA's), (13, 47884),

Gene: Riggan_56 Start: 48262, Stop: 48101, Start Num: 10
Candidate Starts for Riggan_56:

(2, 48514), (3, 48505), (4, 48481), (5, 48451), (7, 48400), (8, 48361), (Start: 9 @48271 has 2 MA's),
(Start: 10 @48262 has 88 MA's), (16, 48172), (18, 48145),

Gene: Schueller_56 Start: 47985, Stop: 47824, Start Num: 10

Candidate Starts for Schueller_56:

(1, 48252), (2, 48237), (3, 48228), (4, 48204), (5, 48174), (7, 48123), (8, 48084), (Start: 9 @47994 has 2 MA's), (Start: 10 @47985 has 88 MA's), (16, 47895), (18, 47868),

Gene: Scoot17C_56 Start: 47938, Stop: 47816, Start Num: 10

Candidate Starts for Scoot17C_56:

(Start: 9 @47947 has 2 MA's), (Start: 10 @47938 has 88 MA's), (13, 47860),

Gene: Scrick_56 Start: 48010, Stop: 47849, Start Num: 10

Candidate Starts for Scrick_56:

(2, 48262), (3, 48253), (4, 48229), (5, 48199), (7, 48148), (8, 48109), (Start: 9 @48019 has 2 MA's),
(Start: 10 @48010 has 88 MA's), (16, 47920), (18, 47893),

Gene: Selr12_57 Start: 47987, Stop: 47856, Start Num: 9

Candidate Starts for Selr12_57:

(Start: 9 @47987 has 2 MA's), (Start: 10 @47978 has 88 MA's), (13, 47900),

Gene: Sigman_56 Start: 47929, Stop: 47807, Start Num: 10

Candidate Starts for Sigman_56:

(Start: 9 @47938 has 2 MA's), (Start: 10 @47929 has 88 MA's), (13, 47851),

Gene: Simielle_54 Start: 47932, Stop: 47810, Start Num: 10

Candidate Starts for Simielle_54:

(Start: 9 @47941 has 2 MA's), (Start: 10 @47932 has 88 MA's), (13, 47854),

Gene: Skippy_56 Start: 48229, Stop: 48107, Start Num: 10

Candidate Starts for Skippy_56:

(Start: 9 @48238 has 2 MA's), (Start: 10 @48229 has 88 MA's), (13, 48151),

Gene: Slatt_56 Start: 48294, Stop: 48133, Start Num: 10

Candidate Starts for Slatt_56:

(2, 48546), (3, 48537), (4, 48513), (5, 48483), (7, 48432), (8, 48393), (Start: 9 @48303 has 2 MA's),
(Start: 10 @48294 has 88 MA's), (16, 48204), (18, 48177),

Gene: Squiggle_56 Start: 48004, Stop: 47843, Start Num: 10

Candidate Starts for Squiggle_56:

(1, 48271), (2, 48256), (3, 48247), (4, 48223), (5, 48193), (7, 48142), (8, 48103), (Start: 9 @48013 has 2 MA's), (Start: 10 @48004 has 88 MA's), (16, 47914),

Gene: Struggle_55 Start: 47833, Stop: 47672, Start Num: 10

Candidate Starts for Struggle_55:

(1, 48100), (2, 48085), (3, 48076), (4, 48052), (5, 48022), (7, 47971), (8, 47932), (Start: 9 @47842 has 2 MA's), (Start: 10 @47833 has 88 MA's), (16, 47743), (18, 47716),

Gene: Swiphy_57 Start: 48287, Stop: 48126, Start Num: 10

Candidate Starts for Swiphy_57:

(1, 48554), (2, 48539), (3, 48530), (4, 48506), (5, 48476), (7, 48425), (8, 48386), (Start: 9 @48296 has 2 MA's), (Start: 10 @48287 has 88 MA's), (16, 48197), (18, 48170),

Gene: Swish_56 Start: 47951, Stop: 47829, Start Num: 10
Candidate Starts for Swish_56:
(Start: 9 @47960 has 2 MA's), (Start: 10 @47951 has 88 MA's), (13, 47873),

Gene: Thunderbird_55 Start: 47988, Stop: 47827, Start Num: 10
Candidate Starts for Thunderbird_55:
(1, 48255), (2, 48240), (3, 48231), (4, 48207), (5, 48177), (7, 48126), (8, 48087), (Start: 9 @47997 has 2 MA's), (Start: 10 @47988 has 88 MA's), (16, 47898), (18, 47871),

Gene: Toni_54 Start: 47947, Stop: 47825, Start Num: 10
Candidate Starts for Toni_54:
(Start: 9 @47956 has 2 MA's), (Start: 10 @47947 has 88 MA's), (13, 47869),

Gene: True_54 Start: 47953, Stop: 47831, Start Num: 10
Candidate Starts for True_54:
(Start: 9 @47962 has 2 MA's), (Start: 10 @47953 has 88 MA's), (13, 47875),

Gene: Trypo_57 Start: 48419, Stop: 48258, Start Num: 10
Candidate Starts for Trypo_57:
(1, 48686), (2, 48671), (3, 48662), (4, 48638), (5, 48608), (7, 48557), (8, 48518), (Start: 9 @48428 has 2 MA's), (Start: 10 @48419 has 88 MA's), (16, 48329), (18, 48302),

Gene: TyrionL_55 Start: 47844, Stop: 47683, Start Num: 10
Candidate Starts for TyrionL_55:
(1, 48111), (2, 48096), (3, 48087), (4, 48063), (5, 48033), (7, 47982), (8, 47943), (Start: 9 @47853 has 2 MA's), (Start: 10 @47844 has 88 MA's), (16, 47754), (18, 47727),

Gene: Veritas_56 Start: 48113, Stop: 47952, Start Num: 10
Candidate Starts for Veritas_56:
(2, 48365), (3, 48356), (4, 48332), (5, 48302), (7, 48251), (8, 48212), (Start: 9 @48122 has 2 MA's), (Start: 10 @48113 has 88 MA's), (16, 48023), (18, 47996),

Gene: Virapocalypse_56 Start: 48278, Stop: 48117, Start Num: 10
Candidate Starts for Virapocalypse_56:
(1, 48545), (2, 48530), (3, 48521), (4, 48497), (5, 48467), (7, 48416), (8, 48377), (Start: 9 @48287 has 2 MA's), (Start: 10 @48278 has 88 MA's), (16, 48188), (18, 48161),

Gene: Virgeve_54 Start: 47715, Stop: 47554, Start Num: 10
Candidate Starts for Virgeve_54:
(1, 47982), (2, 47967), (3, 47958), (4, 47934), (5, 47904), (7, 47853), (8, 47814), (Start: 9 @47724 has 2 MA's), (Start: 10 @47715 has 88 MA's), (16, 47625), (18, 47598),

Gene: Vivaldi_56 Start: 48147, Stop: 47962, Start Num: 10
Candidate Starts for Vivaldi_56:
(2, 48399), (3, 48390), (4, 48366), (5, 48336), (7, 48285), (8, 48246), (Start: 9 @48156 has 2 MA's), (Start: 10 @48147 has 88 MA's), (18, 48003),

Gene: Wallhey_55 Start: 47848, Stop: 47687, Start Num: 10
Candidate Starts for Wallhey_55:
(1, 48115), (2, 48100), (3, 48091), (4, 48067), (5, 48037), (7, 47986), (8, 47947), (Start: 9 @47857 has 2 MA's), (Start: 10 @47848 has 88 MA's), (16, 47758), (18, 47731),

Gene: Yoshand_56 Start: 47964, Stop: 47842, Start Num: 10

Candidate Starts for Yoshand_56:

(Start: 9 @47973 has 2 MA's), (Start: 10 @47964 has 88 MA's), (13, 47886),

Gene: YouGoGlencoco_56 Start: 48282, Stop: 48121, Start Num: 10

Candidate Starts for YouGoGlencoco_56:

(1, 48549), (2, 48534), (3, 48525), (4, 48501), (5, 48471), (7, 48420), (8, 48381), (Start: 9 @48291 has 2 MA's), (Start: 10 @48282 has 88 MA's), (16, 48192), (18, 48165),

Gene: Zonia_56 Start: 48299, Stop: 48138, Start Num: 10

Candidate Starts for Zonia_56:

(1, 48566), (2, 48551), (3, 48542), (4, 48518), (5, 48488), (7, 48437), (8, 48398), (Start: 9 @48308 has 2 MA's), (Start: 10 @48299 has 88 MA's), (16, 48209), (18, 48182),