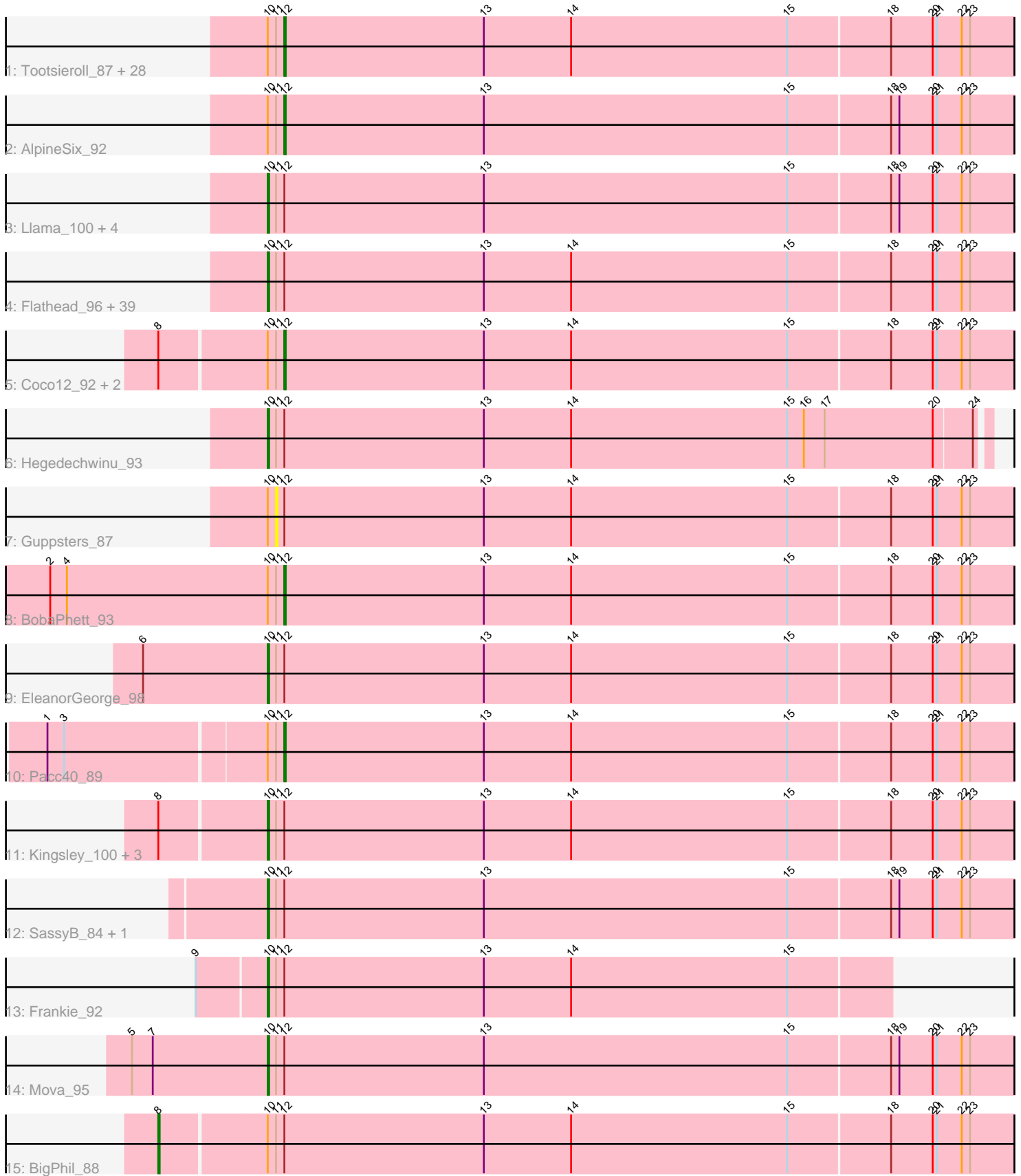


Pham 156290



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 156290 Report

This analysis was run 04/12/24 on database version 558.

Pham number 156290 has 92 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Tootsieroll_87, MulchSalad_95, Veteran_84, Gorge_90, Zizzle_94, Radiance_91, James_95, Zerg_92, BlueCrab_94, Doug_90, Crumble_85, Bubbles123_87, MilanaBonita_86, Mattes_92, Cabrinians_88, Philus_93, Pollywog_95, LilMoolah_94, Job42_93, Yorick_87, Firehouse51_88, Mantra_91, DRBy19_94, Melissauen88_82, Brocalys_83, ShowerHandel_88, Spoonbill_91, Dante_91, Mutaforma13_94
- Track 2 : AlpineSix_92
- Track 3 : Llama_100, Seabastian_101, OfUltron_101, Ochi17_99, Modragons_98
- Track 4 : Flathead_96, ShiLan_94, Hlubikazi_91, Mandlovu_91, Akhila_87, Lizziana_92, MadMen_98, DillTech15_99, Clifton_83, Nivrat_91, Pippy_89, ByChance_81, SiSi_89, Saal_89, Burwell21_85, Jarcob_94, OlympiaSaint_95, LastJedi_82, Maravista_88, NormanBulbieJr_89, Sandalphon_91, Strokeseat_91, Minnie_85, FreddyB_101, Martik_89, TDanisky_102, Whatsapiecost_87, Kersh_97, Koella_84, Beakin_84, SwagPiggett_93, Whouxphf_94, Latretium_94, Demsculpinboyz_106, Sabbb_96, Mozy_98, Blexus_88, Batiatus_91, Sparkdehlily_101, Priscilla_92
- Track 5 : Coco12_92, Phanphagia_96, Shauna1_94
- Track 6 : Hegedechwinu_93
- Track 7 : Guppsters_87
- Track 8 : BobaPhett_93
- Track 9 : EleanorGeorge_98
- Track 10 : Pacc40_89
- Track 11 : Kingsley_100, Velveteen_89, Sarma624_94, Cerasum_90
- Track 12 : SassyB_84, PopTart_84
- Track 13 : Frankie_92
- Track 14 : Mova_95
- Track 15 : BigPhil_88

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 55 of the 88 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila_87, Batiatus_91, Beakin_84, Blexus_88, Burwell21_85, ByChance_81, Cerasum_90, Clifton_83, Demsculpinboyz_106, DillTech15_99, EleanorGeorge_98, Flathead_96, Frankie_92, FreddyB_101, Hegedechwinu_93, Hlubikazi_91, Jarcob_94, Kersh_97, Kingsley_100, Koella_84, LastJedi_82, Latretium_94, Lizziana_92, Llama_100, MadMen_98, Mandlovu_91, Maravista_88, Martik_89, Minnie_85, Modragons_98, Mova_95, Mozy_98, Nivrat_91, NormanBulbieJr_89, Ochi17_99, OfUltron_101, OlympiaSaint_95, Pippy_89, PopTart_84, Priscilla_92, Saal_89, Sabbb_96, Sandalphon_91, Sarma624_94, SassyB_84, Seabastian_101, ShiLan_94, SiSi_89, Sparkdehlily_101, Strokeseat_91, SwagPigglett_93, TDanisky_102, Velveteen_89, Whatsapiecost_87, Whouxphf_94,

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

- AlpineSix_92, BigPhil_88, BlueCrab_94, BobaPhett_93, Brocalys_83, Bubbles123_87, Cabrinians_88, Coco12_92, Crumble_85, DRBy19_94, Dante_91, Doug_90, Firehouse51_88, Gorge_90, Guppsters_87, James_95, Job42_93, LilMoolah_94, Mantra_91, Mattes_92, Melissauren88_82, MilanaBonita_86, MulchSalad_95, Mutaforma13_94, Pacc40_89, Phanphagia_96, Philus_93, Pollywog_95, Radiance_91, Shauna1_94, ShowerHandel_88, Spoonbill_91, Tootsieroll_87, Veteran_84, Yorick_87, Zerg_92, Zizzle_94,

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

-

Summary by start number:

Start 8:

- Found in 8 of 92 (8.7%) of genes in pham
- Manual Annotations of this start: 1 of 88
- Called 12.5% of time when present
- Phage (with cluster) where this start called: BigPhil_88 (F1),

Start 10:

- Found in 92 of 92 (100.0%) of genes in pham
- Manual Annotations of this start: 55 of 88
- Called 59.8% of time when present
- Phage (with cluster) where this start called: Akhila_87 (F1), Batiatus_91 (F1), Beakin_84 (F1), Blexus_88 (F1), Burwell21_85 (F1), ByChance_81 (F1), Cerasum_90 (F1), Clifton_83 (F1), Demsculpinboyz_106 (F2), DillTech15_99 (F1), EleanorGeorge_98 (F1), Flathead_96 (F1), Frankie_92 (F1), FreddyB_101 (F1), Hegedechwinu_93 (F1), Hlubikazi_91 (F1), Jarcob_94 (F1), Kersh_97 (F1), Kingsley_100 (F1), Koella_84 (F1), LastJedi_82 (F1), Latretium_94 (F1), Lizziana_92 (F1), Llama_100 (F1), MadMen_98 (F1), Mandlovu_91 (F1), Maravista_88 (F1), Martik_89 (F1), Minnie_85 (F1), Modragons_98 (F1), Mova_95 (F1), Mozy_98 (F1), Nivrat_91 (F1), NormanBulbieJr_89 (F1), Ochi17_99 (F1), OfUltron_101 (F1), OlympiaSaint_95 (F1), Pippy_89 (F1), PopTart_84 (F1), Priscilla_92 (F1), Saal_89 (F1), Sabbb_96 (F1), Sandalphon_91 (F1), Sarma624_94 (F1), SassyB_84 (F1), Seabastian_101 (F1), ShiLan_94 (F1), SiSi_89 (F1), Sparkdehlily_101 (F1), Strokeseat_91 (F1), SwagPigglett_93 (F1), TDanisky_102 (F1), Velveteen_89 (F1), Whatsapiecost_87 (F1), Whouxphf_94 (F1),

Start 11:

- Found in 92 of 92 (100.0%) of genes in pham
- No Manual Annotations of this start.

- Called 1.1% of time when present
- Phage (with cluster) where this start called: Guppsters_87 (F1),

Start 12:

- Found in 92 of 92 (100.0%) of genes in pham
- Manual Annotations of this start: 32 of 88
- Called 38.0% of time when present
- Phage (with cluster) where this start called: AlpineSix_92 (F1), BlueCrab_94 (F1), BobaPhett_93 (F1), Brocalys_83 (F1), Bubbles123_87 (F1), Cabrinians_88 (F1), Coco12_92 (F1), Crumble_85 (F1), DRBy19_94 (F1), Dante_91 (F1), Doug_90 (F1), Firehouse51_88 (F1), Gorge_90 (F1), James_95 (F1), Job42_93 (F1), LilMoolah_94 (F1), Mantra_91 (F1), Mattes_92 (F1), Melissauren88_82 (F1), MilanaBonita_86 (F1), MulchSalad_95 (F), Mutaforma13_94 (F1), Pacc40_89 (F1), Phanphagia_96 (F1), Philus_93 (F1), Pollywog_95 (F1), Radiance_91 (F1), Shauna1_94 (F1), ShowerHandel_88 (F1), Spoonbill_91 (F1), Tootsieroll_87 (F1), Veteran_84 (F1), Yorick_87 (F1), Zerg_92 (F1), Zizzle_94 (F1),

Summary by clusters:

There are 3 clusters represented in this pham: F1, F2, F,

Info for manual annotations of cluster F1:

- Start number 8 was manually annotated 1 time for cluster F1.
- Start number 10 was manually annotated 54 times for cluster F1.
- Start number 12 was manually annotated 32 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 10 was manually annotated 1 time for cluster F2.

Gene Information:

Gene: Akhila_87 Start: 50296, Stop: 50835, Start Num: 10

Candidate Starts for Akhila_87:

(Start: 10 @50296 has 55 MA's), (11, 50302), (Start: 12 @50308 has 32 MA's), (13, 50452), (14, 50515), (15, 50671), (18, 50743), (20, 50773), (21, 50776), (22, 50794), (23, 50800),

Gene: AlpineSix_92 Start: 51234, Stop: 51761, Start Num: 12

Candidate Starts for AlpineSix_92:

(Start: 10 @51222 has 55 MA's), (11, 51228), (Start: 12 @51234 has 32 MA's), (13, 51378), (15, 51597), (18, 51669), (19, 51675), (20, 51699), (21, 51702), (22, 51720), (23, 51726),

Gene: Batiatus_91 Start: 51505, Stop: 52044, Start Num: 10

Candidate Starts for Batiatus_91:

(Start: 10 @51505 has 55 MA's), (11, 51511), (Start: 12 @51517 has 32 MA's), (13, 51661), (14, 51724), (15, 51880), (18, 51952), (20, 51982), (21, 51985), (22, 52003), (23, 52009),

Gene: Beakin_84 Start: 48258, Stop: 48797, Start Num: 10

Candidate Starts for Beakin_84:

(Start: 10 @48258 has 55 MA's), (11, 48264), (Start: 12 @48270 has 32 MA's), (13, 48414), (14, 48477), (15, 48633), (18, 48705), (20, 48735), (21, 48738), (22, 48756), (23, 48762),

Gene: BigPhil_88 Start: 48225, Stop: 48836, Start Num: 8

Candidate Starts for BigPhil_88:

(Start: 8 @48225 has 1 MA's), (Start: 10 @48297 has 55 MA's), (11, 48303), (Start: 12 @48309 has 32 MA's), (13, 48453), (14, 48516), (15, 48672), (18, 48744), (20, 48774), (21, 48777), (22, 48795), (23, 48801),

Gene: Blexus_88 Start: 51633, Stop: 52172, Start Num: 10

Candidate Starts for Blexus_88:

(Start: 10 @51633 has 55 MA's), (11, 51639), (Start: 12 @51645 has 32 MA's), (13, 51789), (14, 51852), (15, 52008), (18, 52080), (20, 52110), (21, 52113), (22, 52131), (23, 52137),

Gene: BlueCrab_94 Start: 52594, Stop: 53121, Start Num: 12

Candidate Starts for BlueCrab_94:

(Start: 10 @52582 has 55 MA's), (11, 52588), (Start: 12 @52594 has 32 MA's), (13, 52738), (14, 52801), (15, 52957), (18, 53029), (20, 53059), (21, 53062), (22, 53080), (23, 53086),

Gene: BobaPhett_93 Start: 53327, Stop: 53854, Start Num: 12

Candidate Starts for BobaPhett_93:

(2, 53162), (4, 53174), (Start: 10 @53315 has 55 MA's), (11, 53321), (Start: 12 @53327 has 32 MA's), (13, 53471), (14, 53534), (15, 53690), (18, 53762), (20, 53792), (21, 53795), (22, 53813), (23, 53819),

Gene: Brocalys_83 Start: 48806, Stop: 49333, Start Num: 12

Candidate Starts for Brocalys_83:

(Start: 10 @48794 has 55 MA's), (11, 48800), (Start: 12 @48806 has 32 MA's), (13, 48950), (14, 49013), (15, 49169), (18, 49241), (20, 49271), (21, 49274), (22, 49292), (23, 49298),

Gene: Bubbles123_87 Start: 51527, Stop: 52054, Start Num: 12

Candidate Starts for Bubbles123_87:

(Start: 10 @51515 has 55 MA's), (11, 51521), (Start: 12 @51527 has 32 MA's), (13, 51671), (14, 51734), (15, 51890), (18, 51962), (20, 51992), (21, 51995), (22, 52013), (23, 52019),

Gene: Burwell21_85 Start: 51080, Stop: 51619, Start Num: 10

Candidate Starts for Burwell21_85:

(Start: 10 @51080 has 55 MA's), (11, 51086), (Start: 12 @51092 has 32 MA's), (13, 51236), (14, 51299), (15, 51455), (18, 51527), (20, 51557), (21, 51560), (22, 51578), (23, 51584),

Gene: ByChance_81 Start: 46706, Stop: 47245, Start Num: 10

Candidate Starts for ByChance_81:

(Start: 10 @46706 has 55 MA's), (11, 46712), (Start: 12 @46718 has 32 MA's), (13, 46862), (14, 46925), (15, 47081), (18, 47153), (20, 47183), (21, 47186), (22, 47204), (23, 47210),

Gene: Cabrinians_88 Start: 50726, Stop: 51253, Start Num: 12

Candidate Starts for Cabrinians_88:

(Start: 10 @50714 has 55 MA's), (11, 50720), (Start: 12 @50726 has 32 MA's), (13, 50870), (14, 50933), (15, 51089), (18, 51161), (20, 51191), (21, 51194), (22, 51212), (23, 51218),

Gene: Cerasum_90 Start: 48315, Stop: 48854, Start Num: 10

Candidate Starts for Cerasum_90:

(Start: 8 @48243 has 1 MA's), (Start: 10 @48315 has 55 MA's), (11, 48321), (Start: 12 @48327 has 32 MA's), (13, 48471), (14, 48534), (15, 48690), (18, 48762), (20, 48792), (21, 48795), (22, 48813), (23, 48819),

Gene: Clifton_83 Start: 49769, Stop: 50308, Start Num: 10

Candidate Starts for Clifton_83:

(Start: 10 @49769 has 55 MA's), (11, 49775), (Start: 12 @49781 has 32 MA's), (13, 49925), (14, 49988), (15, 50144), (18, 50216), (20, 50246), (21, 50249), (22, 50267), (23, 50273),

Gene: Coco12_92 Start: 52384, Stop: 52911, Start Num: 12

Candidate Starts for Coco12_92:

(Start: 8 @52300 has 1 MA's), (Start: 10 @52372 has 55 MA's), (11, 52378), (Start: 12 @52384 has 32 MA's), (13, 52528), (14, 52591), (15, 52747), (18, 52819), (20, 52849), (21, 52852), (22, 52870), (23, 52876),

Gene: Crumble_85 Start: 47451, Stop: 47978, Start Num: 12

Candidate Starts for Crumble_85:

(Start: 10 @47439 has 55 MA's), (11, 47445), (Start: 12 @47451 has 32 MA's), (13, 47595), (14, 47658), (15, 47814), (18, 47886), (20, 47916), (21, 47919), (22, 47937), (23, 47943),

Gene: DRBy19_94 Start: 53090, Stop: 53617, Start Num: 12

Candidate Starts for DRBy19_94:

(Start: 10 @53078 has 55 MA's), (11, 53084), (Start: 12 @53090 has 32 MA's), (13, 53234), (14, 53297), (15, 53453), (18, 53525), (20, 53555), (21, 53558), (22, 53576), (23, 53582),

Gene: Dante_91 Start: 53012, Stop: 53539, Start Num: 12

Candidate Starts for Dante_91:

(Start: 10 @53000 has 55 MA's), (11, 53006), (Start: 12 @53012 has 32 MA's), (13, 53156), (14, 53219), (15, 53375), (18, 53447), (20, 53477), (21, 53480), (22, 53498), (23, 53504),

Gene: Demsculpinboyz_106 Start: 51661, Stop: 52200, Start Num: 10

Candidate Starts for Demsculpinboyz_106:

(Start: 10 @51661 has 55 MA's), (11, 51667), (Start: 12 @51673 has 32 MA's), (13, 51817), (14, 51880), (15, 52036), (18, 52108), (20, 52138), (21, 52141), (22, 52159), (23, 52165),

Gene: DillTech15_99 Start: 51826, Stop: 52365, Start Num: 10

Candidate Starts for DillTech15_99:

(Start: 10 @51826 has 55 MA's), (11, 51832), (Start: 12 @51838 has 32 MA's), (13, 51982), (14, 52045), (15, 52201), (18, 52273), (20, 52303), (21, 52306), (22, 52324), (23, 52330),

Gene: Doug_90 Start: 52926, Stop: 53453, Start Num: 12

Candidate Starts for Doug_90:

(Start: 10 @52914 has 55 MA's), (11, 52920), (Start: 12 @52926 has 32 MA's), (13, 53070), (14, 53133), (15, 53289), (18, 53361), (20, 53391), (21, 53394), (22, 53412), (23, 53418),

Gene: EleanorGeorge_98 Start: 54144, Stop: 54683, Start Num: 10

Candidate Starts for EleanorGeorge_98:

(6, 54057), (Start: 10 @54144 has 55 MA's), (11, 54150), (Start: 12 @54156 has 32 MA's), (13, 54300), (14, 54363), (15, 54519), (18, 54591), (20, 54621), (21, 54624), (22, 54642), (23, 54648),

Gene: Firehouse51_88 Start: 52378, Stop: 52905, Start Num: 12

Candidate Starts for Firehouse51_88:

(Start: 10 @52366 has 55 MA's), (11, 52372), (Start: 12 @52378 has 32 MA's), (13, 52522), (14, 52585), (15, 52741), (18, 52813), (20, 52843), (21, 52846), (22, 52864), (23, 52870),

Gene: Flathead_96 Start: 51870, Stop: 52409, Start Num: 10

Candidate Starts for Flathead_96:

(Start: 10 @51870 has 55 MA's), (11, 51876), (Start: 12 @51882 has 32 MA's), (13, 52026), (14, 52089), (15, 52245), (18, 52317), (20, 52347), (21, 52350), (22, 52368), (23, 52374),

Gene: Frankie_92 Start: 51409, Stop: 51855, Start Num: 10

Candidate Starts for Frankie_92:

(9, 51361), (Start: 10 @51409 has 55 MA's), (11, 51415), (Start: 12 @51421 has 32 MA's), (13, 51565), (14, 51628), (15, 51784),

Gene: FreddyB_101 Start: 52361, Stop: 52900, Start Num: 10

Candidate Starts for FreddyB_101:

(Start: 10 @52361 has 55 MA's), (11, 52367), (Start: 12 @52373 has 32 MA's), (13, 52517), (14, 52580), (15, 52736), (18, 52808), (20, 52838), (21, 52841), (22, 52859), (23, 52865),

Gene: Gorge_90 Start: 52000, Stop: 52527, Start Num: 12

Candidate Starts for Gorge_90:

(Start: 10 @51988 has 55 MA's), (11, 51994), (Start: 12 @52000 has 32 MA's), (13, 52144), (14, 52207), (15, 52363), (18, 52435), (20, 52465), (21, 52468), (22, 52486), (23, 52492),

Gene: Guppsters_87 Start: 49358, Stop: 49891, Start Num: 11

Candidate Starts for Guppsters_87:

(Start: 10 @49352 has 55 MA's), (11, 49358), (Start: 12 @49364 has 32 MA's), (13, 49508), (14, 49571), (15, 49727), (18, 49799), (20, 49829), (21, 49832), (22, 49850), (23, 49856),

Gene: Hegedechwinu_93 Start: 50606, Stop: 51121, Start Num: 10

Candidate Starts for Hegedechwinu_93:

(Start: 10 @50606 has 55 MA's), (11, 50612), (Start: 12 @50618 has 32 MA's), (13, 50762), (14, 50825), (15, 50981), (16, 50993), (17, 51008), (20, 51086), (24, 51113),

Gene: Hlubikazi_91 Start: 49975, Stop: 50514, Start Num: 10

Candidate Starts for Hlubikazi_91:

(Start: 10 @49975 has 55 MA's), (11, 49981), (Start: 12 @49987 has 32 MA's), (13, 50131), (14, 50194), (15, 50350), (18, 50422), (20, 50452), (21, 50455), (22, 50473), (23, 50479),

Gene: James_95 Start: 53382, Stop: 53909, Start Num: 12

Candidate Starts for James_95:

(Start: 10 @53370 has 55 MA's), (11, 53376), (Start: 12 @53382 has 32 MA's), (13, 53526), (14, 53589), (15, 53745), (18, 53817), (20, 53847), (21, 53850), (22, 53868), (23, 53874),

Gene: Jarcob_94 Start: 52969, Stop: 53508, Start Num: 10

Candidate Starts for Jarcob_94:

(Start: 10 @52969 has 55 MA's), (11, 52975), (Start: 12 @52981 has 32 MA's), (13, 53125), (14, 53188), (15, 53344), (18, 53416), (20, 53446), (21, 53449), (22, 53467), (23, 53473),

Gene: Job42_93 Start: 54041, Stop: 54568, Start Num: 12

Candidate Starts for Job42_93:

(Start: 10 @54029 has 55 MA's), (11, 54035), (Start: 12 @54041 has 32 MA's), (13, 54185), (14, 54248), (15, 54404), (18, 54476), (20, 54506), (21, 54509), (22, 54527), (23, 54533),

Gene: Kersh_97 Start: 54402, Stop: 54941, Start Num: 10

Candidate Starts for Kersh_97:

(Start: 10 @54402 has 55 MA's), (11, 54408), (Start: 12 @54414 has 32 MA's), (13, 54558), (14, 54621), (15, 54777), (18, 54849), (20, 54879), (21, 54882), (22, 54900), (23, 54906),

Gene: Kingsley_100 Start: 54979, Stop: 55518, Start Num: 10

Candidate Starts for Kingsley_100:

(Start: 8 @54907 has 1 MA's), (Start: 10 @54979 has 55 MA's), (11, 54985), (Start: 12 @54991 has 32 MA's), (13, 55135), (14, 55198), (15, 55354), (18, 55426), (20, 55456), (21, 55459), (22, 55477), (23, 55483),

Gene: Koella_84 Start: 48132, Stop: 48671, Start Num: 10

Candidate Starts for Koella_84:

(Start: 10 @48132 has 55 MA's), (11, 48138), (Start: 12 @48144 has 32 MA's), (13, 48288), (14, 48351), (15, 48507), (18, 48579), (20, 48609), (21, 48612), (22, 48630), (23, 48636),

Gene: LastJedi_82 Start: 49188, Stop: 49727, Start Num: 10

Candidate Starts for LastJedi_82:

(Start: 10 @49188 has 55 MA's), (11, 49194), (Start: 12 @49200 has 32 MA's), (13, 49344), (14, 49407), (15, 49563), (18, 49635), (20, 49665), (21, 49668), (22, 49686), (23, 49692),

Gene: Latretium_94 Start: 52235, Stop: 52774, Start Num: 10

Candidate Starts for Latretium_94:

(Start: 10 @52235 has 55 MA's), (11, 52241), (Start: 12 @52247 has 32 MA's), (13, 52391), (14, 52454), (15, 52610), (18, 52682), (20, 52712), (21, 52715), (22, 52733), (23, 52739),

Gene: LilMoolah_94 Start: 52181, Stop: 52708, Start Num: 12

Candidate Starts for LilMoolah_94:

(Start: 10 @52169 has 55 MA's), (11, 52175), (Start: 12 @52181 has 32 MA's), (13, 52325), (14, 52388), (15, 52544), (18, 52616), (20, 52646), (21, 52649), (22, 52667), (23, 52673),

Gene: Lizziana_92 Start: 52437, Stop: 52976, Start Num: 10

Candidate Starts for Lizziana_92:

(Start: 10 @52437 has 55 MA's), (11, 52443), (Start: 12 @52449 has 32 MA's), (13, 52593), (14, 52656), (15, 52812), (18, 52884), (20, 52914), (21, 52917), (22, 52935), (23, 52941),

Gene: Llama_100 Start: 52975, Stop: 53514, Start Num: 10

Candidate Starts for Llama_100:

(Start: 10 @52975 has 55 MA's), (11, 52981), (Start: 12 @52987 has 32 MA's), (13, 53131), (15, 53350), (18, 53422), (19, 53428), (20, 53452), (21, 53455), (22, 53473), (23, 53479),

Gene: MadMen_98 Start: 52283, Stop: 52822, Start Num: 10

Candidate Starts for MadMen_98:

(Start: 10 @52283 has 55 MA's), (11, 52289), (Start: 12 @52295 has 32 MA's), (13, 52439), (14, 52502), (15, 52658), (18, 52730), (20, 52760), (21, 52763), (22, 52781), (23, 52787),

Gene: Mandlovu_91 Start: 49917, Stop: 50456, Start Num: 10

Candidate Starts for Mandlovu_91:

(Start: 10 @49917 has 55 MA's), (11, 49923), (Start: 12 @49929 has 32 MA's), (13, 50073), (14, 50136), (15, 50292), (18, 50364), (20, 50394), (21, 50397), (22, 50415), (23, 50421),

Gene: Mantra_91 Start: 51360, Stop: 51887, Start Num: 12

Candidate Starts for Mantra_91:

(Start: 10 @51348 has 55 MA's), (11, 51354), (Start: 12 @51360 has 32 MA's), (13, 51504), (14, 51567), (15, 51723), (18, 51795), (20, 51825), (21, 51828), (22, 51846), (23, 51852),

Gene: Maravista_88 Start: 53097, Stop: 53636, Start Num: 10

Candidate Starts for Maravista_88:

(Start: 10 @53097 has 55 MA's), (11, 53103), (Start: 12 @53109 has 32 MA's), (13, 53253), (14, 53316), (15, 53472), (18, 53544), (20, 53574), (21, 53577), (22, 53595), (23, 53601),

Gene: Martik_89 Start: 52454, Stop: 52993, Start Num: 10

Candidate Starts for Martik_89:

(Start: 10 @52454 has 55 MA's), (11, 52460), (Start: 12 @52466 has 32 MA's), (13, 52610), (14, 52673), (15, 52829), (18, 52901), (20, 52931), (21, 52934), (22, 52952), (23, 52958),

Gene: Mattes_92 Start: 52118, Stop: 52645, Start Num: 12

Candidate Starts for Mattes_92:

(Start: 10 @52106 has 55 MA's), (11, 52112), (Start: 12 @52118 has 32 MA's), (13, 52262), (14, 52325), (15, 52481), (18, 52553), (20, 52583), (21, 52586), (22, 52604), (23, 52610),

Gene: Melissauren88_82 Start: 47962, Stop: 48489, Start Num: 12

Candidate Starts for Melissauren88_82:

(Start: 10 @47950 has 55 MA's), (11, 47956), (Start: 12 @47962 has 32 MA's), (13, 48106), (14, 48169), (15, 48325), (18, 48397), (20, 48427), (21, 48430), (22, 48448), (23, 48454),

Gene: MilanaBonita_86 Start: 50308, Stop: 50835, Start Num: 12

Candidate Starts for MilanaBonita_86:

(Start: 10 @50296 has 55 MA's), (11, 50302), (Start: 12 @50308 has 32 MA's), (13, 50452), (14, 50515), (15, 50671), (18, 50743), (20, 50773), (21, 50776), (22, 50794), (23, 50800),

Gene: Minnie_85 Start: 52072, Stop: 52611, Start Num: 10

Candidate Starts for Minnie_85:

(Start: 10 @52072 has 55 MA's), (11, 52078), (Start: 12 @52084 has 32 MA's), (13, 52228), (14, 52291), (15, 52447), (18, 52519), (20, 52549), (21, 52552), (22, 52570), (23, 52576),

Gene: Modragons_98 Start: 52963, Stop: 53502, Start Num: 10

Candidate Starts for Modragons_98:

(Start: 10 @52963 has 55 MA's), (11, 52969), (Start: 12 @52975 has 32 MA's), (13, 53119), (15, 53338), (18, 53410), (19, 53416), (20, 53440), (21, 53443), (22, 53461), (23, 53467),

Gene: Mova_95 Start: 52107, Stop: 52646, Start Num: 10

Candidate Starts for Mova_95:

(5, 52011), (7, 52026), (Start: 10 @52107 has 55 MA's), (11, 52113), (Start: 12 @52119 has 32 MA's), (13, 52263), (15, 52482), (18, 52554), (19, 52560), (20, 52584), (21, 52587), (22, 52605), (23, 52611),

Gene: Mozy_98 Start: 51874, Stop: 52413, Start Num: 10

Candidate Starts for Mozy_98:

(Start: 10 @51874 has 55 MA's), (11, 51880), (Start: 12 @51886 has 32 MA's), (13, 52030), (14, 52093), (15, 52249), (18, 52321), (20, 52351), (21, 52354), (22, 52372), (23, 52378),

Gene: MulchSalad_95 Start: 52947, Stop: 53474, Start Num: 12

Candidate Starts for MulchSalad_95:

(Start: 10 @52935 has 55 MA's), (11, 52941), (Start: 12 @52947 has 32 MA's), (13, 53091), (14, 53154), (15, 53310), (18, 53382), (20, 53412), (21, 53415), (22, 53433), (23, 53439),

Gene: Mutaforma13_94 Start: 51220, Stop: 51747, Start Num: 12

Candidate Starts for Mutaforma13_94:

(Start: 10 @51208 has 55 MA's), (11, 51214), (Start: 12 @51220 has 32 MA's), (13, 51364), (14, 51427), (15, 51583), (18, 51655), (20, 51685), (21, 51688), (22, 51706), (23, 51712),

Gene: Nivrat_91 Start: 52042, Stop: 52581, Start Num: 10

Candidate Starts for Nivrat_91:

(Start: 10 @52042 has 55 MA's), (11, 52048), (Start: 12 @52054 has 32 MA's), (13, 52198), (14, 52261), (15, 52417), (18, 52489), (20, 52519), (21, 52522), (22, 52540), (23, 52546),

Gene: NormanBulbieJr_89 Start: 52146, Stop: 52685, Start Num: 10

Candidate Starts for NormanBulbieJr_89:

(Start: 10 @52146 has 55 MA's), (11, 52152), (Start: 12 @52158 has 32 MA's), (13, 52302), (14, 52365), (15, 52521), (18, 52593), (20, 52623), (21, 52626), (22, 52644), (23, 52650),

Gene: Ochi17_99 Start: 52570, Stop: 53109, Start Num: 10

Candidate Starts for Ochi17_99:

(Start: 10 @52570 has 55 MA's), (11, 52576), (Start: 12 @52582 has 32 MA's), (13, 52726), (15, 52945), (18, 53017), (19, 53023), (20, 53047), (21, 53050), (22, 53068), (23, 53074),

Gene: OfUltron_101 Start: 53119, Stop: 53658, Start Num: 10

Candidate Starts for OfUltron_101:

(Start: 10 @53119 has 55 MA's), (11, 53125), (Start: 12 @53131 has 32 MA's), (13, 53275), (15, 53494), (18, 53566), (19, 53572), (20, 53596), (21, 53599), (22, 53617), (23, 53623),

Gene: OlympiaSaint_95 Start: 52312, Stop: 52851, Start Num: 10

Candidate Starts for OlympiaSaint_95:

(Start: 10 @52312 has 55 MA's), (11, 52318), (Start: 12 @52324 has 32 MA's), (13, 52468), (14, 52531), (15, 52687), (18, 52759), (20, 52789), (21, 52792), (22, 52810), (23, 52816),

Gene: Pacc40_89 Start: 52550, Stop: 53077, Start Num: 12

Candidate Starts for Pacc40_89:

(1, 52388), (3, 52400), (Start: 10 @52538 has 55 MA's), (11, 52544), (Start: 12 @52550 has 32 MA's), (13, 52694), (14, 52757), (15, 52913), (18, 52985), (20, 53015), (21, 53018), (22, 53036), (23, 53042),

Gene: Phanphagia_96 Start: 53230, Stop: 53757, Start Num: 12

Candidate Starts for Phanphagia_96:

(Start: 8 @53146 has 1 MA's), (Start: 10 @53218 has 55 MA's), (11, 53224), (Start: 12 @53230 has 32 MA's), (13, 53374), (14, 53437), (15, 53593), (18, 53665), (20, 53695), (21, 53698), (22, 53716), (23, 53722),

Gene: Philus_93 Start: 53066, Stop: 53593, Start Num: 12

Candidate Starts for Philus_93:

(Start: 10 @53054 has 55 MA's), (11, 53060), (Start: 12 @53066 has 32 MA's), (13, 53210), (14, 53273), (15, 53429), (18, 53501), (20, 53531), (21, 53534), (22, 53552), (23, 53558),

Gene: Pippy_89 Start: 50417, Stop: 50956, Start Num: 10

Candidate Starts for Pippy_89:

(Start: 10 @50417 has 55 MA's), (11, 50423), (Start: 12 @50429 has 32 MA's), (13, 50573), (14, 50636), (15, 50792), (18, 50864), (20, 50894), (21, 50897), (22, 50915), (23, 50921),

Gene: Pollywog_95 Start: 53379, Stop: 53906, Start Num: 12

Candidate Starts for Pollywog_95:

(Start: 10 @53367 has 55 MA's), (11, 53373), (Start: 12 @53379 has 32 MA's), (13, 53523), (14, 53586), (15, 53742), (18, 53814), (20, 53844), (21, 53847), (22, 53865), (23, 53871),

Gene: PopTart_84 Start: 49091, Stop: 49630, Start Num: 10

Candidate Starts for PopTart_84:

(Start: 10 @49091 has 55 MA's), (11, 49097), (Start: 12 @49103 has 32 MA's), (13, 49247), (15, 49466), (18, 49538), (19, 49544), (20, 49568), (21, 49571), (22, 49589), (23, 49595),

Gene: Priscilla_92 Start: 52244, Stop: 52783, Start Num: 10

Candidate Starts for Priscilla_92:

(Start: 10 @52244 has 55 MA's), (11, 52250), (Start: 12 @52256 has 32 MA's), (13, 52400), (14, 52463), (15, 52619), (18, 52691), (20, 52721), (21, 52724), (22, 52742), (23, 52748),

Gene: Radiance_91 Start: 51665, Stop: 52192, Start Num: 12

Candidate Starts for Radiance_91:

(Start: 10 @51653 has 55 MA's), (11, 51659), (Start: 12 @51665 has 32 MA's), (13, 51809), (14, 51872), (15, 52028), (18, 52100), (20, 52130), (21, 52133), (22, 52151), (23, 52157),

Gene: Saal_89 Start: 51808, Stop: 52347, Start Num: 10

Candidate Starts for Saal_89:

(Start: 10 @51808 has 55 MA's), (11, 51814), (Start: 12 @51820 has 32 MA's), (13, 51964), (14, 52027), (15, 52183), (18, 52255), (20, 52285), (21, 52288), (22, 52306), (23, 52312),

Gene: Sabbb_96 Start: 50248, Stop: 50787, Start Num: 10

Candidate Starts for Sabbb_96:

(Start: 10 @50248 has 55 MA's), (11, 50254), (Start: 12 @50260 has 32 MA's), (13, 50404), (14, 50467), (15, 50623), (18, 50695), (20, 50725), (21, 50728), (22, 50746), (23, 50752),

Gene: Sandalphon_91 Start: 52800, Stop: 53339, Start Num: 10

Candidate Starts for Sandalphon_91:

(Start: 10 @52800 has 55 MA's), (11, 52806), (Start: 12 @52812 has 32 MA's), (13, 52956), (14, 53019), (15, 53175), (18, 53247), (20, 53277), (21, 53280), (22, 53298), (23, 53304),

Gene: Sarma624_94 Start: 48991, Stop: 49530, Start Num: 10

Candidate Starts for Sarma624_94:

(Start: 8 @48919 has 1 MA's), (Start: 10 @48991 has 55 MA's), (11, 48997), (Start: 12 @49003 has 32 MA's), (13, 49147), (14, 49210), (15, 49366), (18, 49438), (20, 49468), (21, 49471), (22, 49489), (23, 49495),

Gene: SassyB_84 Start: 49091, Stop: 49630, Start Num: 10

Candidate Starts for SassyB_84:

(Start: 10 @49091 has 55 MA's), (11, 49097), (Start: 12 @49103 has 32 MA's), (13, 49247), (15, 49466), (18, 49538), (19, 49544), (20, 49568), (21, 49571), (22, 49589), (23, 49595),

Gene: Seabastian_101 Start: 53120, Stop: 53659, Start Num: 10

Candidate Starts for Seabastian_101:

(Start: 10 @53120 has 55 MA's), (11, 53126), (Start: 12 @53132 has 32 MA's), (13, 53276), (15, 53495), (18, 53567), (19, 53573), (20, 53597), (21, 53600), (22, 53618), (23, 53624),

Gene: Shauna1_94 Start: 52846, Stop: 53373, Start Num: 12

Candidate Starts for Shauna1_94:

(Start: 8 @52762 has 1 MA's), (Start: 10 @52834 has 55 MA's), (11, 52840), (Start: 12 @52846 has 32 MA's), (13, 52990), (14, 53053), (15, 53209), (18, 53281), (20, 53311), (21, 53314), (22, 53332), (23, 53338),

Gene: ShiLan_94 Start: 53825, Stop: 54364, Start Num: 10

Candidate Starts for ShiLan_94:

(Start: 10 @53825 has 55 MA's), (11, 53831), (Start: 12 @53837 has 32 MA's), (13, 53981), (14, 54044), (15, 54200), (18, 54272), (20, 54302), (21, 54305), (22, 54323), (23, 54329),

Gene: ShowerHandel_88 Start: 50656, Stop: 51183, Start Num: 12

Candidate Starts for ShowerHandel_88:

(Start: 10 @50644 has 55 MA's), (11, 50650), (Start: 12 @50656 has 32 MA's), (13, 50800), (14, 50863), (15, 51019), (18, 51091), (20, 51121), (21, 51124), (22, 51142), (23, 51148),

Gene: SiSi_89 Start: 50873, Stop: 51412, Start Num: 10

Candidate Starts for SiSi_89:

(Start: 10 @50873 has 55 MA's), (11, 50879), (Start: 12 @50885 has 32 MA's), (13, 51029), (14, 51092), (15, 51248), (18, 51320), (20, 51350), (21, 51353), (22, 51371), (23, 51377),

Gene: Sparkdehlily_101 Start: 50985, Stop: 51524, Start Num: 10

Candidate Starts for Sparkdehlily_101:

(Start: 10 @50985 has 55 MA's), (11, 50991), (Start: 12 @50997 has 32 MA's), (13, 51141), (14, 51204), (15, 51360), (18, 51432), (20, 51462), (21, 51465), (22, 51483), (23, 51489),

Gene: Spoonbill_91 Start: 49750, Stop: 50277, Start Num: 12

Candidate Starts for Spoonbill_91:

(Start: 10 @49738 has 55 MA's), (11, 49744), (Start: 12 @49750 has 32 MA's), (13, 49894), (14, 49957), (15, 50113), (18, 50185), (20, 50215), (21, 50218), (22, 50236), (23, 50242),

Gene: Strokeseat_91 Start: 49974, Stop: 50513, Start Num: 10

Candidate Starts for Strokeseat_91:

(Start: 10 @49974 has 55 MA's), (11, 49980), (Start: 12 @49986 has 32 MA's), (13, 50130), (14, 50193), (15, 50349), (18, 50421), (20, 50451), (21, 50454), (22, 50472), (23, 50478),

Gene: SwagPigglett_93 Start: 52944, Stop: 53483, Start Num: 10

Candidate Starts for SwagPigglett_93:

(Start: 10 @52944 has 55 MA's), (11, 52950), (Start: 12 @52956 has 32 MA's), (13, 53100), (14, 53163), (15, 53319), (18, 53391), (20, 53421), (21, 53424), (22, 53442), (23, 53448),

Gene: TDanisky_102 Start: 50985, Stop: 51524, Start Num: 10

Candidate Starts for TDanisky_102:

(Start: 10 @50985 has 55 MA's), (11, 50991), (Start: 12 @50997 has 32 MA's), (13, 51141), (14, 51204), (15, 51360), (18, 51432), (20, 51462), (21, 51465), (22, 51483), (23, 51489),

Gene: Tootsieroll_87 Start: 52222, Stop: 52749, Start Num: 12

Candidate Starts for Tootsieroll_87:

(Start: 10 @52210 has 55 MA's), (11, 52216), (Start: 12 @52222 has 32 MA's), (13, 52366), (14, 52429), (15, 52585), (18, 52657), (20, 52687), (21, 52690), (22, 52708), (23, 52714),

Gene: Velveteen_89 Start: 48991, Stop: 49530, Start Num: 10

Candidate Starts for Velveteen_89:

(Start: 8 @48919 has 1 MA's), (Start: 10 @48991 has 55 MA's), (11, 48997), (Start: 12 @49003 has 32 MA's), (13, 49147), (14, 49210), (15, 49366), (18, 49438), (20, 49468), (21, 49471), (22, 49489), (23, 49495),

Gene: Veteran_84 Start: 50753, Stop: 51280, Start Num: 12

Candidate Starts for Veteran_84:

(Start: 10 @50741 has 55 MA's), (11, 50747), (Start: 12 @50753 has 32 MA's), (13, 50897), (14, 50960), (15, 51116), (18, 51188), (20, 51218), (21, 51221), (22, 51239), (23, 51245),

Gene: Whatsapiecost_87 Start: 46858, Stop: 47397, Start Num: 10

Candidate Starts for Whatsapiecost_87:

(Start: 10 @46858 has 55 MA's), (11, 46864), (Start: 12 @46870 has 32 MA's), (13, 47014), (14, 47077), (15, 47233), (18, 47305), (20, 47335), (21, 47338), (22, 47356), (23, 47362),

Gene: Whouxphf_94 Start: 52249, Stop: 52788, Start Num: 10

Candidate Starts for Whouxphf_94:

(Start: 10 @52249 has 55 MA's), (11, 52255), (Start: 12 @52261 has 32 MA's), (13, 52405), (14, 52468), (15, 52624), (18, 52696), (20, 52726), (21, 52729), (22, 52747), (23, 52753),

Gene: Yorick_87 Start: 52497, Stop: 53024, Start Num: 12

Candidate Starts for Yorick_87:

(Start: 10 @52485 has 55 MA's), (11, 52491), (Start: 12 @52497 has 32 MA's), (13, 52641), (14, 52704), (15, 52860), (18, 52932), (20, 52962), (21, 52965), (22, 52983), (23, 52989),

Gene: Zerg_92 Start: 51755, Stop: 52282, Start Num: 12

Candidate Starts for Zerg_92:

(Start: 10 @51743 has 55 MA's), (11, 51749), (Start: 12 @51755 has 32 MA's), (13, 51899), (14, 51962), (15, 52118), (18, 52190), (20, 52220), (21, 52223), (22, 52241), (23, 52247),

Gene: Zizzle_94 Start: 53147, Stop: 53674, Start Num: 12

Candidate Starts for Zizzle_94:

(Start: 10 @53135 has 55 MA's), (11, 53141), (Start: 12 @53147 has 32 MA's), (13, 53291), (14, 53354), (15, 53510), (18, 53582), (20, 53612), (21, 53615), (22, 53633), (23, 53639),