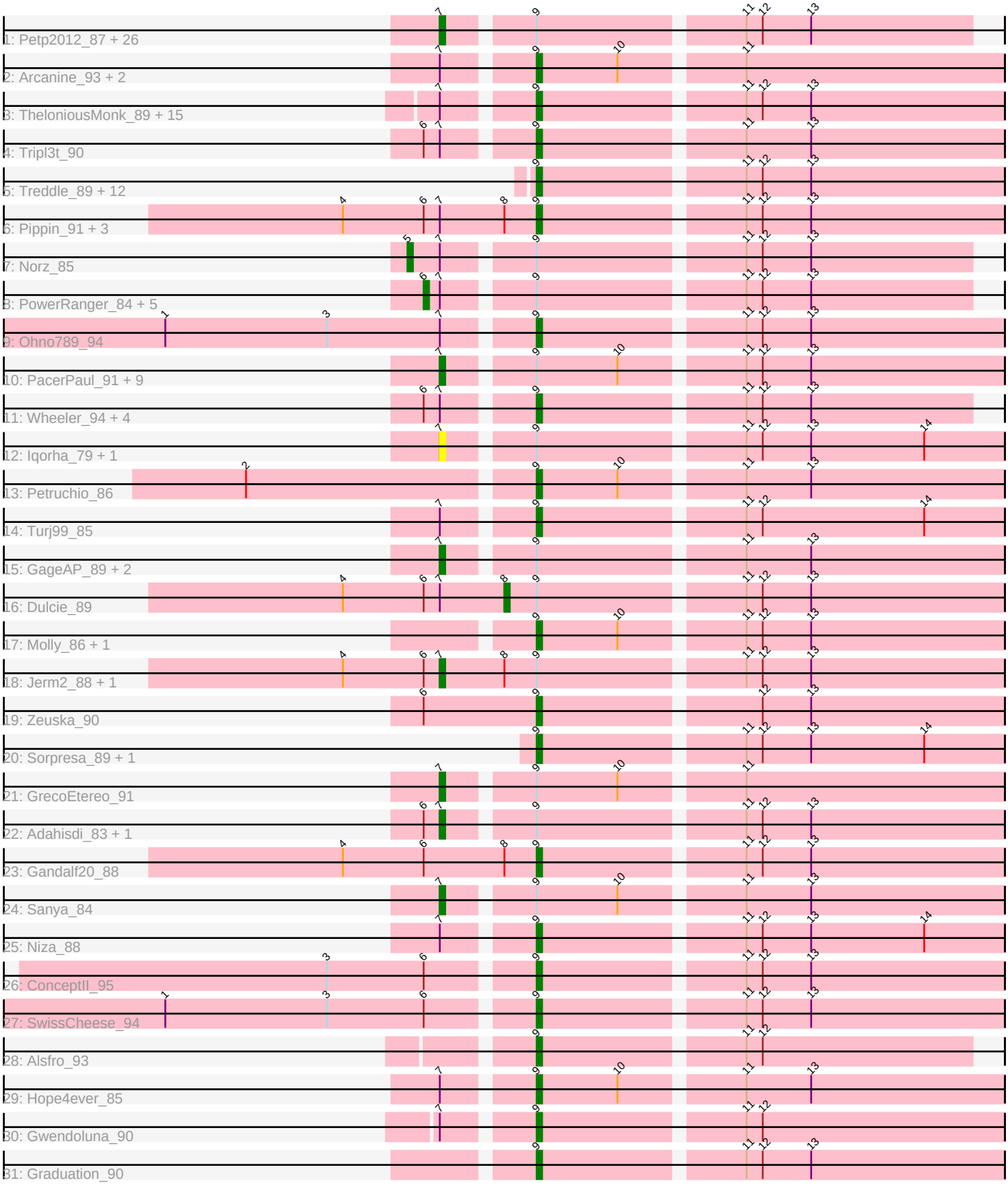
Pham 341957


1: Petp2012_87 + 26
2: Arcanine_93 + 2
3: TheloniousMonk_89 + 15
4: Tripl3t_90
5: Treddle_89 + 12
6: Pippin_91 + 3
7: Norz_85
8: PowerRanger_84 + 5
9: Ohno789_94
10: PacerPaul_91 + 9
11: Wheeler_94 + 4
12: Iqorha_79 + 1
13: Petruchio_86
14: Turj99_85
15: GageAP_89 + 2
16: Dulcie_89
17: Molly_86 + 1
18: Jerm2_88 + 1
19: Zeuska_90
20: Sorpresa_89 + 1
21: GrecoEtereo_91
22: Adahisdi_83 + 1
23: Gandalf20_88
24: Sanya_84
25: Niza_88
26: ConceptII_95
27: SwissCheese_94
28: Alsfro_93
29: Hope4ever_85
30: Gwendoluna_90
31: Graduation_90

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 341957 Report

This analysis was run 11/14/26 on database version 672.

Pham number 341957 has 114 members, 6 are drafts.

Phages represented in each track:
• Track 1 : Petp2012_87, Arlo_95, KikiBouba_85, Anglerfish_91, Kenmech_92, Noxious_87, GMonster_87, Makemake_92, Magnar_89, STLscum_97, Homines_79, Aldrich_81, Hermia_82, Sibs6_94, CatBus_79, Thor_97, Carlyle_89, Euphoria_94, Zephyr_91, PattyP_86, DirtDevil_81, Kugel_92, Ruotula_93, McGuire_90, PascalRango_90, GroundGoblin_81, Chanagan_90
• Track 2 : Arcanine_93, Papez_92, Rajelicia_88
• Track 3 : TheloniousMonk_89, Pelly_93, Moose_94, KyMonks1A_94, Michley_90, Slagathor_90, Ciao_91, Rubeus_87, KSSJEB_89, SarFire_97, DreamCatcher_99, Burton_89, Rufus_92, BPBiebs31_95, Abbyshoes_88, Forsytheast_95
• Track 4 : Tripl3t_90
• Track 5 : Treddle_89, Ajay_83, Pepe_85, Mryolo_83, Bigfoot_85, DrFeelGood_84, Maroc7_91, Ringer_89, Raid_88, Lesedi_87, Alvin_85, Gyzlar_81, CactusRose_95
• Track 6 : Pippin_91, Topgun_87, Marsha_91, Wilkins_88
• Track 7 : Norz_85
• Track 8 : PowerRanger_84, Teodoridan_87, Blackflame_85, ILeeKay_90, Marcell_82, Magnito_90
• Track 9 : Ohno789_94
• Track 10 : PacerPaul_91, Francis47_91, Dynamix_90, Ichabod_94, BeesKnees_93, Briton15_93, Switzer_89, Peterson_87, Seabiscuit_92, Manatee_90
• Track 11 : Wheeler_94, Eyeball_92, BillKnuckles_80, Oogway_85, Dexes_91
• Track 12 : Iqorha_79, Inyanga_79
• Track 13 : Petruchio_86
• Track 14 : Turj99_85
• Track 15 : GageAP_89, Museum_88, Bigchungi_85
• Track 16 : Dulcie_89
• Track 17 : Molly_86, Licorice_89
• Track 18 : Jerm2_88, Solon_81
• Track 19 : Zeuska_90
• Track 20 : Sorpresa_89, Kykar_87
• Track 21 : GrecoEtereo_91
• Track 22 : Adahisdi_83, Puppet_88
• Track 23 : Gandalf20_88
• Track 24 : Sanya_84
• Track 25 : Niza_88
• Track 26 : ConceptII_95
• Track 27 : SwissCheese_94
• Track 28 : Alsfro_93

• Track 29 : Hope4ever_85
• Track 30 : Gwendoluna_90
• Track 31 : Graduation_90

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 58 of the 108 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abbyshoes_88, Ajay_83, Alsfro_93, Alvin_85, Arcanine_93, BPBiebs31_95, Bigfoot_85, BillKnuckles_80, Burton_89, CactusRose_95, Ciao_91, ConceptII_95, Dexes_91, DrFeelGood_84, DreamCatcher_99, Eyeball_92, Forsytheast_95, Gandalf20_88, Graduation_90, Gwendoluna_90, Gyzlar_81, Hope4ever_85, KSSJEB_89, KyMonks1A_94, Kykar_87, Lesedi_87, Licorice_89, Maroc7_91, Marsha_91, Michley_90, Molly_86, Moose_94, Mryolo_83, Niza_88, Ohno789_94, Oogway_85, Papez_92, Pelly_93, Pepe_85, Petruchio_86, Pippin_91, Raid_88, Rajelicia_88, Ringer_89, Rubeus_87, Rufus_92, SarFire_97, Slagathor_90, Sorpresa_89, SwissCheese_94, TheloniousMonk_89, Topgun_87, Treddle_89, Tripl3t_90, Turj99_85, Wheeler_94, Wilkins_88, Zeuska_90,

Genes that have the "Most Annotated" start but do not call it:
• Adahisdi_83, Aldrich_81, Anglerfish_91, Arlo_95, BeesKnees_93, Bigchungi_85, Blackflame_85, Briton15_93, Carlyle_89, CatBus_79, Chanagan_90, DirtDevil_81, Dulcie_89, Dynamix_90, Euphoria_94, Francis47_91, GMonster_87, GageAP_89, GrecoEtereo_91, GroundGoblin_81, Hermia_82, Homines_79, ILeeKay_90, Ichabod_94, Inyanga_79, Iqorha_79, Jerm2_88, Kenmech_92, KikiBouba_85, Kugel_92, Magnar_89, Magnito_90, Makemake_92, Manatee_90, Marcell_82, McGuire_90, Museum_88, Norz_85, Noxious_87, PacerPaul_91, PascalRango_90, PattyP_86, Peterson_87, Petp2012_87, PowerRanger_84, Puppet_88, Ruotula_93, STLscum_97, Sanya_84, Seabiscuit_92, Sibs6_94, Solon_81, Switzer_89, Teodoridan_87, Thor_97, Zephyr_91,

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

Summary by start number:

Start 5:
• Found in 1 of 114 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 108
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Norz_85 (A1),

Start 6:
• Found in 25 of 114 (21.9%) of genes in pham
• Manual Annotations of this start: 4 of 108
• Called 24.0% of time when present
• Phage (with cluster) where this start called: Blackflame_85 (A1), ILeeKay_90 (A1), Magnito_90 (A1), Marcell_82 (A1), PowerRanger_84 (A1), Teodoridan_87 (A1),

Start 7:
• Found in 90 of 114 (78.9%) of genes in pham
• Manual Annotations of this start: 44 of 108
• Called 53.3% of time when present
• Phage (with cluster) where this start called: Adahisdi_83 (A1), Aldrich_81 (A1), Anglerfish_91 (A1), Arlo_95 (A1), BeesKnees_93 (A1), Bigchungi_85 (A1), Briton15_93 (A1), Carlyle_89 (A1), CatBus_79 (A1), Chanagan_90 (A1), DirtDevil_81 (A1), Dynamix_90 (A1), Euphoria_94 (A1), Francis47_91 (A1), GMonster_87 (A1), GageAP_89 (A1), GrecoEtereo_91 (A1), GroundGoblin_81 (A1), Hermia_82 (A1), Homines_79 (A1), Ichabod_94 (A1), Inyanga_79 (A1), Iqorha_79 (A1), Jerm2_88 (A1), Kenmech_92 (A1), KikiBouba_85 (A1), Kugel_92 (A1), Magnar_89 (A1), Makemake_92 (A1), Manatee_90 (A1), McGuire_90 (A1), Museum_88 (A1), Noxious_87 (A1), PacerPaul_91 (A1), PascalRango_90 (A1), PattyP_86 (A1), Peterson_87 (A1), Petp2012_87 (A1), Puppet_88 (A1), Ruotula_93 (A1), STLscum_97 (A1), Sanya_84 (A1), Seabiscuit_92 (A1), Sibs6_94 (A1), Solon_81 (A1), Switzer_89 (A1), Thor_97 (A1), Zephyr_91 (A1),

Start 8:
• Found in 8 of 114 (7.0%) of genes in pham
• Manual Annotations of this start: 1 of 108
• Called 12.5% of time when present
• Phage (with cluster) where this start called: Dulcie_89 (A1),

Start 9:
• Found in 114 of 114 (100.0%) of genes in pham
• Manual Annotations of this start: 58 of 108
• Called 50.9% of time when present
• Phage (with cluster) where this start called: Abbyshoes_88 (A1), Ajay_83 (A1), Alsfro_93 (A1), Alvin_85 (A1), Arcanine_93 (A1), BPBiebs31_95 (A1), Bigfoot_85 (A1), BillKnuckles_80 (A1), Burton_89 (A1), CactusRose_95 (A1), Ciao_91 (A1), ConceptII_95 (A1), Dexes_91 (A1), DrFeelGood_84 (A1), DreamCatcher_99 (A1), Eyeball_92 (A1), Forsytheast_95 (A1), Gandalf20_88 (A1), Graduation_90 (A1), Gwendoluna_90 (A1), Gyzlar_81 (A1), Hope4ever_85 (A1), KSSJEB_89 (A1), KyMonks1A_94 (A1), Kykar_87 (A1), Lesedi_87 (A1), Licorice_89 (A1), Maroc7_91 (A1), Marsha_91 (A1), Michley_90 (A1), Molly_86 (A1), Moose_94 (A1), Mryolo_83 (A1), Niza_88 (A1), Ohno789_94 (A1), Oogway_85 (A1), Papez_92 (A1), Pelly_93 (A1), Pepe_85 (A1), Petruchio_86 (A1), Pippin_91 (A1), Raid_88 (A1), Rajelicia_88 (A1), Ringer_89 (A1), Rubeus_87 (A1), Rufus_92 (A1), SarFire_97 (A1), Slagathor_90 (A1), Sorpresa_89 (A1), SwissCheese_94 (A1), TheloniousMonk_89 (A1), Topgun_87 (A1), Treddle_89 (A1), Tripl3t_90 (A1), Turj99_85 (A1), Wheeler_94 (A1), Wilkins_88 (A1), Zeuska_90 (A1),

Summary by clusters:

There is one cluster represented in this pham: A1

Info for manual annotations of cluster A1:
•Start number 5 was manually annotated 1 time for cluster A1.
•Start number 6 was manually annotated 4 times for cluster A1.
•Start number 7 was manually annotated 44 times for cluster A1.
•Start number 8 was manually annotated 1 time for cluster A1.
•Start number 9 was manually annotated 58 times for cluster A1.

Gene Information:

Gene: Abbyshoes_88 Start: 50629, Stop: 50546, Start Num: 9
Candidate Starts for Abbyshoes_88:
(Start: 7 @50644 has 44 MA's), (Start: 9 @50629 has 58 MA's), (11, 50593), (12, 50590), (13, 50581),

Gene: Adahisdi_83 Start: 50638, Stop: 50540, Start Num: 7
Candidate Starts for Adahisdi_83:
(Start: 6 @50641 has 4 MA's), (Start: 7 @50638 has 44 MA's), (Start: 9 @50623 has 58 MA's), (11, 50587), (12, 50584), (13, 50575),

Gene: Ajay_83 Start: 48796, Stop: 48713, Start Num: 9
Candidate Starts for Ajay_83:
(Start: 9 @48796 has 58 MA's), (11, 48760), (12, 48757), (13, 48748),

Gene: Aldrich_81 Start: 48392, Stop: 48294, Start Num: 7
Candidate Starts for Aldrich_81:
(Start: 7 @48392 has 44 MA's), (Start: 9 @48377 has 58 MA's), (11, 48341), (12, 48338), (13, 48329),

Gene: Alsfro_93 Start: 49532, Stop: 49455, Start Num: 9
Candidate Starts for Alsfro_93:
(Start: 9 @49532 has 58 MA's), (11, 49496), (12, 49493),

Gene: Alvin_85 Start: 48844, Stop: 48761, Start Num: 9
Candidate Starts for Alvin_85:
(Start: 9 @48844 has 58 MA's), (11, 48808), (12, 48805), (13, 48796),

Gene: Anglerfish_91 Start: 51304, Stop: 51206, Start Num: 7
Candidate Starts for Anglerfish_91:
(Start: 7 @51304 has 44 MA's), (Start: 9 @51289 has 58 MA's), (11, 51253), (12, 51250), (13, 51241),

Gene: Arcanine_93 Start: 51576, Stop: 51493, Start Num: 9
Candidate Starts for Arcanine_93:
(Start: 7 @51591 has 44 MA's), (Start: 9 @51576 has 58 MA's), (10, 51561), (11, 51540),

Gene: Arlo_95 Start: 52268, Stop: 52170, Start Num: 7
Candidate Starts for Arlo_95:
(Start: 7 @52268 has 44 MA's), (Start: 9 @52253 has 58 MA's), (11, 52217), (12, 52214), (13, 52205),

Gene: BPBiebs31_95 Start: 52180, Stop: 52097, Start Num: 9
Candidate Starts for BPBiebs31_95:
(Start: 7 @52195 has 44 MA's), (Start: 9 @52180 has 58 MA's), (11, 52144), (12, 52141), (13, 52132),

Gene: BeesKnees_93 Start: 50390, Stop: 50292, Start Num: 7
Candidate Starts for BeesKnees_93:
(Start: 7 @50390 has 44 MA's), (Start: 9 @50375 has 58 MA's), (10, 50360), (11, 50339), (12, 50336), (13, 50327),

Gene: Bigchungi_85 Start: 50431, Stop: 50333, Start Num: 7
Candidate Starts for Bigchungi_85:

(Start: 7 @50431 has 44 MA's), (Start: 9 @50416 has 58 MA's), (11, 50380), (13, 50368),

Gene: Bigfoot_85 Start: 50934, Stop: 50848, Start Num: 9
Candidate Starts for Bigfoot_85:
(Start: 9 @50934 has 58 MA's), (11, 50895), (12, 50892), (13, 50883),

Gene: BillKnuckles_80 Start: 49695, Stop: 49612, Start Num: 9
Candidate Starts for BillKnuckles_80:
(Start: 6 @49713 has 4 MA's), (Start: 7 @49710 has 44 MA's), (Start: 9 @49695 has 58 MA's), (11, 49659), (12, 49656), (13, 49647),

Gene: Blackflame_85 Start: 51653, Stop: 51558, Start Num: 6
Candidate Starts for Blackflame_85:
(Start: 6 @51653 has 4 MA's), (Start: 7 @51650 has 44 MA's), (Start: 9 @51635 has 58 MA's), (11, 51599), (12, 51596), (13, 51587),

Gene: Briton15_93 Start: 51953, Stop: 51855, Start Num: 7
Candidate Starts for Briton15_93:
(Start: 7 @51953 has 44 MA's), (Start: 9 @51938 has 58 MA's), (10, 51923), (11, 51902), (12, 51899), (13, 51890),

Gene: Burton_89 Start: 51911, Stop: 51834, Start Num: 9
Candidate Starts for Burton_89:
(Start: 7 @51926 has 44 MA's), (Start: 9 @51911 has 58 MA's), (11, 51875), (12, 51872), (13, 51863),

Gene: CactusRose_95 Start: 51947, Stop: 51864, Start Num: 9
Candidate Starts for CactusRose_95:
(Start: 9 @51947 has 58 MA's), (11, 51911), (12, 51908), (13, 51899),

Gene: Carlyle_89 Start: 50159, Stop: 50061, Start Num: 7
Candidate Starts for Carlyle_89:
(Start: 7 @50159 has 44 MA's), (Start: 9 @50144 has 58 MA's), (11, 50108), (12, 50105), (13, 50096),

Gene: CatBus_79 Start: 48584, Stop: 48486, Start Num: 7
Candidate Starts for CatBus_79:
(Start: 7 @48584 has 44 MA's), (Start: 9 @48569 has 58 MA's), (11, 48533), (12, 48530), (13, 48521),

Gene: Chanagan_90 Start: 50045, Stop: 49947, Start Num: 7
Candidate Starts for Chanagan_90:
(Start: 7 @50045 has 44 MA's), (Start: 9 @50030 has 58 MA's), (11, 49994), (12, 49991), (13, 49982),

Gene: Ciao_91 Start: 49638, Stop: 49555, Start Num: 9
Candidate Starts for Ciao_91:
(Start: 7 @49653 has 44 MA's), (Start: 9 @49638 has 58 MA's), (11, 49602), (12, 49599), (13, 49590),

Gene: ConceptII_95 Start: 52198, Stop: 52115, Start Num: 9
Candidate Starts for ConceptII_95:
(3, 52234), (Start: 6 @52216 has 4 MA's), (Start: 9 @52198 has 58 MA's), (11, 52162), (12, 52159), (13, 52150),

Gene: Dexes_91 Start: 53266, Stop: 53183, Start Num: 9
Candidate Starts for Dexes_91:

(Start: 6 @53284 has 4 MA's), (Start: 7 @53281 has 44 MA's), (Start: 9 @53266 has 58 MA's), (11, 53230), (12, 53227), (13, 53218),

Gene: DirtDevil_81 Start: 48392, Stop: 48294, Start Num: 7
Candidate Starts for DirtDevil_81:
(Start: 7 @48392 has 44 MA's), (Start: 9 @48377 has 58 MA's), (11, 48341), (12, 48338), (13, 48329),

Gene: DrFeelGood_84 Start: 49442, Stop: 49359, Start Num: 9
Candidate Starts for DrFeelGood_84:
(Start: 9 @49442 has 58 MA's), (11, 49406), (12, 49403), (13, 49394),

Gene: DreamCatcher_99 Start: 52317, Stop: 52240, Start Num: 9
Candidate Starts for DreamCatcher_99:
(Start: 7 @52332 has 44 MA's), (Start: 9 @52317 has 58 MA's), (11, 52281), (12, 52278), (13, 52269),

Gene: Dulcie_89 Start: 51953, Stop: 51864, Start Num: 8
Candidate Starts for Dulcie_89:
(4, 51983), (Start: 6 @51968 has 4 MA's), (Start: 7 @51965 has 44 MA's), (Start: 8 @51953 has 1 MA's), (Start: 9 @51947 has 58 MA's), (11, 51911), (12, 51908), (13, 51899),

Gene: Dynamix_90 Start: 49542, Stop: 49444, Start Num: 7
Candidate Starts for Dynamix_90:
(Start: 7 @49542 has 44 MA's), (Start: 9 @49527 has 58 MA's), (10, 49512), (11, 49491), (12, 49488), (13, 49479),

Gene: Euphoria_94 Start: 52885, Stop: 52793, Start Num: 7
Candidate Starts for Euphoria_94:
(Start: 7 @52885 has 44 MA's), (Start: 9 @52870 has 58 MA's), (11, 52834), (12, 52831), (13, 52822),

Gene: Eyeball_92 Start: 51159, Stop: 51076, Start Num: 9
Candidate Starts for Eyeball_92:
(Start: 6 @51177 has 4 MA's), (Start: 7 @51174 has 44 MA's), (Start: 9 @51159 has 58 MA's), (11, 51123), (12, 51120), (13, 51111),

Gene: Forsytheast_95 Start: 51995, Stop: 51912, Start Num: 9
Candidate Starts for Forsytheast_95:
(Start: 7 @52010 has 44 MA's), (Start: 9 @51995 has 58 MA's), (11, 51959), (12, 51956), (13, 51947),

Gene: Francis47_91 Start: 52897, Stop: 52799, Start Num: 7
Candidate Starts for Francis47_91:
(Start: 7 @52897 has 44 MA's), (Start: 9 @52882 has 58 MA's), (10, 52867), (11, 52846), (12, 52843), (13, 52834),

Gene: GMonster_87 Start: 50228, Stop: 50130, Start Num: 7
Candidate Starts for GMonster_87:
(Start: 7 @50228 has 44 MA's), (Start: 9 @50213 has 58 MA's), (11, 50177), (12, 50174), (13, 50165),

Gene: GageAP_89 Start: 51224, Stop: 51126, Start Num: 7
Candidate Starts for GageAP_89:
(Start: 7 @51224 has 44 MA's), (Start: 9 @51209 has 58 MA's), (11, 51173), (13, 51161),

Gene: Gandalf20_88 Start: 49694, Stop: 49611, Start Num: 9
Candidate Starts for Gandalf20_88:

(4, 49730), (Start: 6 @49715 has 4 MA's), (Start: 8 @49700 has 1 MA's), (Start: 9 @49694 has 58 MA's), (11, 49658), (12, 49655), (13, 49646),

Gene: Graduation_90 Start: 50285, Stop: 50202, Start Num: 9
Candidate Starts for Graduation_90:
(Start: 9 @50285 has 58 MA's), (11, 50249), (12, 50246), (13, 50237),

Gene: GrecoEtereo_91 Start: 51493, Stop: 51395, Start Num: 7
Candidate Starts for GrecoEtereo_91:
(Start: 7 @51493 has 44 MA's), (Start: 9 @51478 has 58 MA's), (10, 51463), (11, 51442),

Gene: GroundGoblin_81 Start: 48534, Stop: 48436, Start Num: 7
Candidate Starts for GroundGoblin_81:
(Start: 7 @48534 has 44 MA's), (Start: 9 @48519 has 58 MA's), (11, 48483), (12, 48480), (13, 48471),

Gene: Gwendoluna_90 Start: 51012, Stop: 50929, Start Num: 9
Candidate Starts for Gwendoluna_90:
(Start: 7 @51027 has 44 MA's), (Start: 9 @51012 has 58 MA's), (11, 50976), (12, 50973),

Gene: Gyzlar_81 Start: 46954, Stop: 46871, Start Num: 9
Candidate Starts for Gyzlar_81:
(Start: 9 @46954 has 58 MA's), (11, 46918), (12, 46915), (13, 46906),

Gene: Hermia_82 Start: 48584, Stop: 48486, Start Num: 7
Candidate Starts for Hermia_82:
(Start: 7 @48584 has 44 MA's), (Start: 9 @48569 has 58 MA's), (11, 48533), (12, 48530), (13, 48521),

Gene: Homines_79 Start: 45760, Stop: 45662, Start Num: 7
Candidate Starts for Homines_79:
(Start: 7 @45760 has 44 MA's), (Start: 9 @45745 has 58 MA's), (11, 45709), (12, 45706), (13, 45697),

Gene: Hope4ever_85 Start: 49441, Stop: 49358, Start Num: 9
Candidate Starts for Hope4ever_85:
(Start: 7 @49456 has 44 MA's), (Start: 9 @49441 has 58 MA's), (10, 49426), (11, 49405), (13, 49393),

Gene: ILeeKay_90 Start: 50332, Stop: 50231, Start Num: 6
Candidate Starts for ILeeKay_90:
(Start: 6 @50332 has 4 MA's), (Start: 7 @50329 has 44 MA's), (Start: 9 @50314 has 58 MA's), (11, 50278), (12, 50275), (13, 50266),

Gene: Ichabod_94 Start: 52232, Stop: 52134, Start Num: 7
Candidate Starts for Ichabod_94:
(Start: 7 @52232 has 44 MA's), (Start: 9 @52217 has 58 MA's), (10, 52202), (11, 52181), (12, 52178), (13, 52169),

Gene: Inyanga_79 Start: 48587, Stop: 48489, Start Num: 7
Candidate Starts for Inyanga_79:
(Start: 7 @48587 has 44 MA's), (Start: 9 @48572 has 58 MA's), (11, 48536), (12, 48533), (13, 48524), (14, 48503),

Gene: Iqorha_79 Start: 48586, Stop: 48488, Start Num: 7
Candidate Starts for Iqorha_79:

(Start: 7 @48586 has 44 MA's), (Start: 9 @48571 has 58 MA's), (11, 48535), (12, 48532), (13, 48523), (14, 48502),

Gene: Jerm2_88 Start: 51345, Stop: 51244, Start Num: 7
Candidate Starts for Jerm2_88:
(4, 51363), (Start: 6 @51348 has 4 MA's), (Start: 7 @51345 has 44 MA's), (Start: 8 @51333 has 1 MA's), (Start: 9 @51327 has 58 MA's), (11, 51291), (12, 51288), (13, 51279),

Gene: KSSJEB_89 Start: 50056, Stop: 49979, Start Num: 9
Candidate Starts for KSSJEB_89:
(Start: 7 @50071 has 44 MA's), (Start: 9 @50056 has 58 MA's), (11, 50020), (12, 50017), (13, 50008),

Gene: Kenmech_92 Start: 51790, Stop: 51692, Start Num: 7
Candidate Starts for Kenmech_92:
(Start: 7 @51790 has 44 MA's), (Start: 9 @51775 has 58 MA's), (11, 51739), (12, 51736), (13, 51727),

Gene: KikiBouba_85 Start: 48393, Stop: 48295, Start Num: 7
Candidate Starts for KikiBouba_85:
(Start: 7 @48393 has 44 MA's), (Start: 9 @48378 has 58 MA's), (11, 48342), (12, 48339), (13, 48330),

Gene: Kugel_92 Start: 51304, Stop: 51206, Start Num: 7
Candidate Starts for Kugel_92:
(Start: 7 @51304 has 44 MA's), (Start: 9 @51289 has 58 MA's), (11, 51253), (12, 51250), (13, 51241),

Gene: KyMonks1A_94 Start: 51292, Stop: 51209, Start Num: 9
Candidate Starts for KyMonks1A_94:
(Start: 7 @51307 has 44 MA's), (Start: 9 @51292 has 58 MA's), (11, 51256), (12, 51253), (13, 51244),

Gene: Kykar_87 Start: 49592, Stop: 49509, Start Num: 9
Candidate Starts for Kykar_87:
(Start: 9 @49592 has 58 MA's), (11, 49556), (12, 49553), (13, 49544), (14, 49523),

Gene: Lesedi_87 Start: 49771, Stop: 49694, Start Num: 9
Candidate Starts for Lesedi_87:
(Start: 9 @49771 has 58 MA's), (11, 49735), (12, 49732), (13, 49723),

Gene: Licorice_89 Start: 52066, Stop: 51983, Start Num: 9
Candidate Starts for Licorice_89:
(Start: 9 @52066 has 58 MA's), (10, 52051), (11, 52030), (12, 52027), (13, 52018),

Gene: Magnar_89 Start: 50350, Stop: 50252, Start Num: 7
Candidate Starts for Magnar_89:
(Start: 7 @50350 has 44 MA's), (Start: 9 @50335 has 58 MA's), (11, 50299), (12, 50296), (13, 50287),

Gene: Magnito_90 Start: 50887, Stop: 50792, Start Num: 6
Candidate Starts for Magnito_90:
(Start: 6 @50887 has 4 MA's), (Start: 7 @50884 has 44 MA's), (Start: 9 @50869 has 58 MA's), (11, 50833), (12, 50830), (13, 50821),

Gene: Makemake_92 Start: 51796, Stop: 51698, Start Num: 7
Candidate Starts for Makemake_92:
(Start: 7 @51796 has 44 MA's), (Start: 9 @51781 has 58 MA's), (11, 51745), (12, 51742), (13, 51733),

Gene: Manatee_90 Start: 49955, Stop: 49857, Start Num: 7
Candidate Starts for Manatee_90:
(Start: 7 @49955 has 44 MA's), (Start: 9 @49940 has 58 MA's), (10, 49925), (11, 49904), (12, 49901), (13, 49892),

Gene: Marcell_82 Start: 48491, Stop: 48390, Start Num: 6
Candidate Starts for Marcell_82:
(Start: 6 @48491 has 4 MA's), (Start: 7 @48488 has 44 MA's), (Start: 9 @48473 has 58 MA's), (11, 48437), (12, 48434), (13, 48425),

Gene: Maroc7_91 Start: 52663, Stop: 52580, Start Num: 9
Candidate Starts for Maroc7_91:
(Start: 9 @52663 has 58 MA's), (11, 52627), (12, 52624), (13, 52615),

Gene: Marsha_91 Start: 52564, Stop: 52481, Start Num: 9
Candidate Starts for Marsha_91:
(4, 52600), (Start: 6 @52585 has 4 MA's), (Start: 7 @52582 has 44 MA's), (Start: 8 @52570 has 1 MA's), (Start: 9 @52564 has 58 MA's), (11, 52528), (12, 52525), (13, 52516),

Gene: McGuire_90 Start: 50189, Stop: 50091, Start Num: 7
Candidate Starts for McGuire_90:
(Start: 7 @50189 has 44 MA's), (Start: 9 @50174 has 58 MA's), (11, 50138), (12, 50135), (13, 50126),

Gene: Michley_90 Start: 50247, Stop: 50164, Start Num: 9
Candidate Starts for Michley_90:
(Start: 7 @50262 has 44 MA's), (Start: 9 @50247 has 58 MA's), (11, 50211), (12, 50208), (13, 50199),

Gene: Molly_86 Start: 48601, Stop: 48518, Start Num: 9
Candidate Starts for Molly_86:
(Start: 9 @48601 has 58 MA's), (10, 48586), (11, 48565), (12, 48562), (13, 48553),

Gene: Moose_94 Start: 51995, Stop: 51912, Start Num: 9
Candidate Starts for Moose_94:
(Start: 7 @52010 has 44 MA's), (Start: 9 @51995 has 58 MA's), (11, 51959), (12, 51956), (13, 51947),

Gene: Mryolo_83 Start: 48668, Stop: 48585, Start Num: 9
Candidate Starts for Mryolo_83:
(Start: 9 @48668 has 58 MA's), (11, 48632), (12, 48629), (13, 48620),

Gene: Museum_88 Start: 50349, Stop: 50251, Start Num: 7
Candidate Starts for Museum_88:
(Start: 7 @50349 has 44 MA's), (Start: 9 @50334 has 58 MA's), (11, 50298), (13, 50286),

Gene: Niza_88 Start: 50973, Stop: 50890, Start Num: 9
Candidate Starts for Niza_88:
(Start: 7 @50988 has 44 MA's), (Start: 9 @50973 has 58 MA's), (11, 50937), (12, 50934), (13, 50925), (14, 50904),

Gene: Norz_85 Start: 52077, Stop: 51979, Start Num: 5
Candidate Starts for Norz_85:
(Start: 5 @52077 has 1 MA's), (Start: 7 @52071 has 44 MA's), (Start: 9 @52056 has 58 MA's), (11, 52020), (12, 52017), (13, 52008),

Gene: Noxious_87 Start: 48930, Stop: 48832, Start Num: 7
Candidate Starts for Noxious_87:
(Start: 7 @48930 has 44 MA's), (Start: 9 @48915 has 58 MA's), (11, 48879), (12, 48876), (13, 48867),

Gene: Ohno789_94 Start: 52114, Stop: 52031, Start Num: 9
Candidate Starts for Ohno789_94:
(1, 52180), (3, 52150), (Start: 7 @52129 has 44 MA's), (Start: 9 @52114 has 58 MA's), (11, 52078), (12, 52075), (13, 52066),

Gene: Oogway_85 Start: 50664, Stop: 50581, Start Num: 9
Candidate Starts for Oogway_85:
(Start: 6 @50682 has 4 MA's), (Start: 7 @50679 has 44 MA's), (Start: 9 @50664 has 58 MA's), (11, 50628), (12, 50625), (13, 50616),

Gene: PacerPaul_91 Start: 51694, Stop: 51596, Start Num: 7
Candidate Starts for PacerPaul_91:
(Start: 7 @51694 has 44 MA's), (Start: 9 @51679 has 58 MA's), (10, 51664), (11, 51643), (12, 51640), (13, 51631),

Gene: Papez_92 Start: 51226, Stop: 51143, Start Num: 9
Candidate Starts for Papez_92:
(Start: 7 @51241 has 44 MA's), (Start: 9 @51226 has 58 MA's), (10, 51211), (11, 51190),

Gene: PascalRango_90 Start: 51385, Stop: 51287, Start Num: 7
Candidate Starts for PascalRango_90:
(Start: 7 @51385 has 44 MA's), (Start: 9 @51370 has 58 MA's), (11, 51334), (12, 51331), (13, 51322),

Gene: PattyP_86 Start: 49896, Stop: 49804, Start Num: 7
Candidate Starts for PattyP_86:
(Start: 7 @49896 has 44 MA's), (Start: 9 @49881 has 58 MA's), (11, 49845), (12, 49842), (13, 49833),

Gene: Pelly_93 Start: 53033, Stop: 52950, Start Num: 9
Candidate Starts for Pelly_93:
(Start: 7 @53048 has 44 MA's), (Start: 9 @53033 has 58 MA's), (11, 52997), (12, 52994), (13, 52985),

Gene: Pepe_85 Start: 49814, Stop: 49731, Start Num: 9
Candidate Starts for Pepe_85:
(Start: 9 @49814 has 58 MA's), (11, 49778), (12, 49775), (13, 49766),

Gene: Peterson_87 Start: 50656, Stop: 50558, Start Num: 7
Candidate Starts for Peterson_87:
(Start: 7 @50656 has 44 MA's), (Start: 9 @50641 has 58 MA's), (10, 50626), (11, 50605), (12, 50602), (13, 50593),

Gene: Petp2012_87 Start: 50639, Stop: 50547, Start Num: 7
Candidate Starts for Petp2012_87:
(Start: 7 @50639 has 44 MA's), (Start: 9 @50624 has 58 MA's), (11, 50588), (12, 50585), (13, 50576),

Gene: Petruchio_86 Start: 48307, Stop: 48224, Start Num: 9
Candidate Starts for Petruchio_86:
(2, 48358), (Start: 9 @48307 has 58 MA's), (10, 48292), (11, 48271), (13, 48259),

Gene: Pippin_91 Start: 50255, Stop: 50172, Start Num: 9

Candidate Starts for Pippin_91:
(4, 50291), (Start: 6 @50276 has 4 MA's), (Start: 7 @50273 has 44 MA's), (Start: 8 @50261 has 1 MA's), (Start: 9 @50255 has 58 MA's), (11, 50219), (12, 50216), (13, 50207),

Gene: PowerRanger_84 Start: 50634, Stop: 50539, Start Num: 6
Candidate Starts for PowerRanger_84:
(Start: 6 @50634 has 4 MA's), (Start: 7 @50631 has 44 MA's), (Start: 9 @50616 has 58 MA's), (11, 50580), (12, 50577), (13, 50568),

Gene: Puppet_88 Start: 51041, Stop: 50943, Start Num: 7
Candidate Starts for Puppet_88:
(Start: 6 @51044 has 4 MA's), (Start: 7 @51041 has 44 MA's), (Start: 9 @51026 has 58 MA's), (11, 50990), (12, 50987), (13, 50978),

Gene: Raid_88 Start: 50775, Stop: 50698, Start Num: 9
Candidate Starts for Raid_88:
(Start: 9 @50775 has 58 MA's), (11, 50739), (12, 50736), (13, 50727),

Gene: Rajelicia_88 Start: 52146, Stop: 52063, Start Num: 9
Candidate Starts for Rajelicia_88:
(Start: 7 @52161 has 44 MA's), (Start: 9 @52146 has 58 MA's), (10, 52131), (11, 52110),

Gene: Ringer_89 Start: 51081, Stop: 50998, Start Num: 9
Candidate Starts for Ringer_89:
(Start: 9 @51081 has 58 MA's), (11, 51045), (12, 51042), (13, 51033),

Gene: Rubeus_87 Start: 48344, Stop: 48261, Start Num: 9
Candidate Starts for Rubeus_87:
(Start: 7 @48359 has 44 MA's), (Start: 9 @48344 has 58 MA's), (11, 48308), (12, 48305), (13, 48296),

Gene: Rufus_92 Start: 51661, Stop: 51578, Start Num: 9
Candidate Starts for Rufus_92:
(Start: 7 @51676 has 44 MA's), (Start: 9 @51661 has 58 MA's), (11, 51625), (12, 51622), (13, 51613),

Gene: Ruotula_93 Start: 51901, Stop: 51803, Start Num: 7
Candidate Starts for Ruotula_93:
(Start: 7 @51901 has 44 MA's), (Start: 9 @51886 has 58 MA's), (11, 51850), (12, 51847), (13, 51838),

Gene: STLscum_97 Start: 51040, Stop: 50942, Start Num: 7
Candidate Starts for STLscum_97:
(Start: 7 @51040 has 44 MA's), (Start: 9 @51025 has 58 MA's), (11, 50989), (12, 50986), (13, 50977),

Gene: Sanya_84 Start: 50058, Stop: 49960, Start Num: 7
Candidate Starts for Sanya_84:
(Start: 7 @50058 has 44 MA's), (Start: 9 @50043 has 58 MA's), (10, 50028), (11, 50007), (13, 49995),

Gene: SarFire_97 Start: 52989, Stop: 52906, Start Num: 9
Candidate Starts for SarFire_97:
(Start: 7 @53004 has 44 MA's), (Start: 9 @52989 has 58 MA's), (11, 52953), (12, 52950), (13, 52941),

Gene: Seabiscuit_92 Start: 50421, Stop: 50323, Start Num: 7
Candidate Starts for Seabiscuit_92:

(Start: 7 @50421 has 44 MA's), (Start: 9 @50406 has 58 MA's), (10, 50391), (11, 50370), (12, 50367), (13, 50358),

Gene: Sibs6_94 Start: 49530, Stop: 49432, Start Num: 7
Candidate Starts for Sibs6_94:
(Start: 7 @49530 has 44 MA's), (Start: 9 @49515 has 58 MA's), (11, 49479), (12, 49476), (13, 49467),

Gene: Slagathor_90 Start: 50887, Stop: 50804, Start Num: 9
Candidate Starts for Slagathor_90:
(Start: 7 @50902 has 44 MA's), (Start: 9 @50887 has 58 MA's), (11, 50851), (12, 50848), (13, 50839),

Gene: Solon_81 Start: 47450, Stop: 47349, Start Num: 7
Candidate Starts for Solon_81:
(4, 47468), (Start: 6 @47453 has 4 MA's), (Start: 7 @47450 has 44 MA's), (Start: 8 @47438 has 1 MA's), (Start: 9 @47432 has 58 MA's), (11, 47396), (12, 47393), (13, 47384),

Gene: Sorpresa_89 Start: 50624, Stop: 50541, Start Num: 9
Candidate Starts for Sorpresa_89:
(Start: 9 @50624 has 58 MA's), (11, 50588), (12, 50585), (13, 50576), (14, 50555),

Gene: SwissCheese_94 Start: 51121, Stop: 51038, Start Num: 9
Candidate Starts for SwissCheese_94:
(1, 51187), (3, 51157), (Start: 6 @51139 has 4 MA's), (Start: 9 @51121 has 58 MA's), (11, 51085), (12, 51082), (13, 51073),

Gene: Switzer_89 Start: 51214, Stop: 51116, Start Num: 7
Candidate Starts for Switzer_89:
(Start: 7 @51214 has 44 MA's), (Start: 9 @51199 has 58 MA's), (10, 51184), (11, 51163), (12, 51160), (13, 51151),

Gene: Teodoridan_87 Start: 48628, Stop: 48527, Start Num: 6
Candidate Starts for Teodoridan_87:
(Start: 6 @48628 has 4 MA's), (Start: 7 @48625 has 44 MA's), (Start: 9 @48610 has 58 MA's), (11, 48574), (12, 48571), (13, 48562),

Gene: TheloniousMonk_89 Start: 51367, Stop: 51284, Start Num: 9
Candidate Starts for TheloniousMonk_89:
(Start: 7 @51382 has 44 MA's), (Start: 9 @51367 has 58 MA's), (11, 51331), (12, 51328), (13, 51319),

Gene: Thor_97 Start: 52362, Stop: 52264, Start Num: 7
Candidate Starts for Thor_97:
(Start: 7 @52362 has 44 MA's), (Start: 9 @52347 has 58 MA's), (11, 52311), (12, 52308), (13, 52299),

Gene: Topgun_87 Start: 48928, Stop: 48845, Start Num: 9
Candidate Starts for Topgun_87:
(4, 48964), (Start: 6 @48949 has 4 MA's), (Start: 7 @48946 has 44 MA's), (Start: 8 @48934 has 1 MA's), (Start: 9 @48928 has 58 MA's), (11, 48892), (12, 48889), (13, 48880),

Gene: Treddle_89 Start: 51278, Stop: 51195, Start Num: 9
Candidate Starts for Treddle_89:
(Start: 9 @51278 has 58 MA's), (11, 51242), (12, 51239), (13, 51230),

Gene: Tripl3t_90 Start: 52885, Stop: 52802, Start Num: 9

Candidate Starts for Tripl3t_90:
(Start: 6 @52903 has 4 MA's), (Start: 7 @52900 has 44 MA's), (Start: 9 @52885 has 58 MA's), (11, 52849), (13, 52837),

Gene: Turj99_85 Start: 50450, Stop: 50367, Start Num: 9
Candidate Starts for Turj99_85:
(Start: 7 @50465 has 44 MA's), (Start: 9 @50450 has 58 MA's), (11, 50414), (12, 50411), (14, 50381),

Gene: Wheeler_94 Start: 52531, Stop: 52454, Start Num: 9
Candidate Starts for Wheeler_94:
(Start: 6 @52549 has 4 MA's), (Start: 7 @52546 has 44 MA's), (Start: 9 @52531 has 58 MA's), (11, 52495), (12, 52492), (13, 52483),

Gene: Wilkins_88 Start: 48858, Stop: 48775, Start Num: 9
Candidate Starts for Wilkins_88:
(4, 48894), (Start: 6 @48879 has 4 MA's), (Start: 7 @48876 has 44 MA's), (Start: 8 @48864 has 1 MA's), (Start: 9 @48858 has 58 MA's), (11, 48822), (12, 48819), (13, 48810),

Gene: Zephyr_91 Start: 51624, Stop: 51526, Start Num: 7
Candidate Starts for Zephyr_91:
(Start: 7 @51624 has 44 MA's), (Start: 9 @51609 has 58 MA's), (11, 51573), (12, 51570), (13, 51561),

Gene: Zeuska_90 Start: 51653, Stop: 51570, Start Num: 9
Candidate Starts for Zeuska_90:
(Start: 6 @51674 has 4 MA's), (Start: 9 @51653 has 58 MA's), (12, 51614), (13, 51605),