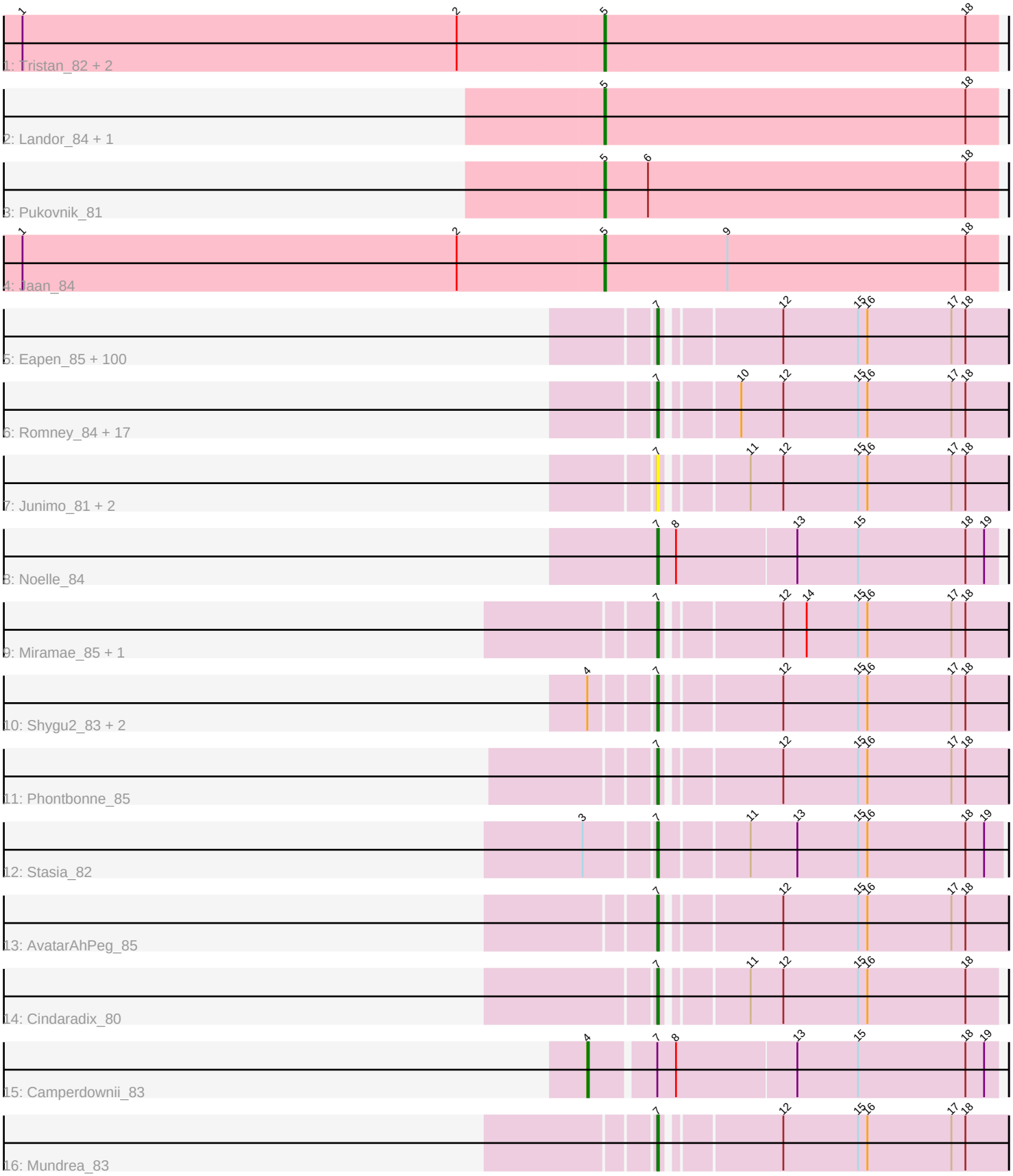
Pham 343578


1: Tristan_82 + 2
2: Landor_84 + 1
3: Pukovnik_81
4: Jaan_84
5: Eapen_85 + 100
6: Romney_84 + 17
7: Junimo_81 + 2
8: Noelle_84
9: Miramae_85 + 1
10: Shygu2_83 + 2
11: Phontbonne_85
12: Stasia_82
13: AvatarAhPeg_85
14: Cindaradix_80
15: Camperdownii_83
16: Mundrea_83

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 343578 Report

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

Pham number 343578 has 141 members, 7 are drafts.

Phages represented in each track:
• Track 1 : Tristan_82, Phaded_80, Bactobuster_78
• Track 2 : Landor_84, IronMan_83
• Track 3 : Pukovnik_81
• Track 4 : Jaan_84
• Track 5 : Eapen_85, Eurydice_86, Happiness_84, Deano_82, Arturo_82, Annyong_84, JoongJeon_84, LappelDuVide_85, Tinybot_84, Peaches_83, Burger_83, Obama12_86, DirtyDunning_84, Ohfah_86, Holli_84, BubbleTrouble_84, Huxley_77, Eagle_84, SenorClean_86, Baby16_85, Citius_85, Flux_86, Funston_84, Thanksgivukkah_84, Broseidon_85, Maverick_84, LittleGuy_85, Iceman_83, Maxo_87, Skadoosh_82, TinaFeyge_83, Kampy_84, Gadost_85, Kyee_85, ChampagnePapi_88, Palestino_84, Kratark_84, Nemo27_84, Melvin_87, NorthStar_82, ICleared_84, Polymorphads_86, Commander_83, Florean_85, Roosevelt_83, MeeZee_84, Eris_84, Lemur_85, Mazhar510_85, Chaph_85, CentreCat_85, Rosa24_81, Jaykayelowell_82, NotAPhaseMom_84, Caelakin_83, Bombshell_85, Ulysses_84, Sultana_85, OKaNui_84, Ruin_85, KekoraPapaka_82, Buckaroo_81, Lorenzo_85, Cocoaberry_85, TygerBlood_85, RockieBear_85, Millski_84, Wander_85, TroyPia_86, Connomayer_85, Dhanush_85, Avle17_85, YoSam321_85, Koreni_84, Pipcraft_81, Houdini22_84, Bruiser_84, Shaka_83, Phelipe_85, KFPoly_84, Alberto7_86, Morrow_87, LHTSCC_88, Medusa_84, Nyxis_84, Blackmoor_84, Phacado_85, HamSlice_81, Taquarus_84, Koan_82, Sabertooth_85, SteMason_85, TiroTheta9_84, Eros_85, Bartimeaus_85, BellusTerra_85, Clarenza_84, Lunsford_85, Iracema64_85, Scamp_85, Nebs_86
• Track 6 : Romney_84, Abdiel_84, BangNhom_82, Pumbaa_85, LochMonster_86, Sparxx_86, Phighter1804_85, Kingmustik0402_85, Spino_84, PeterPeter_85, SheldonCooper_85, Cerulean_87, Wilbur_85, Relief_84, LittleB_85, Albee_85, JetBlade_86, Skipitt_84
• Track 7 : Junimo_81, Northrop_82, Rocksand_82
• Track 8 : Noelle_84
• Track 9 : Miramae_85, Stink_85
• Track 10 : Shygu2_83, Xena_81, Datway_82
• Track 11 : Phontbonne_85
• Track 12 : Stasia_82
• Track 13 : AvatarAhPeg_85
• Track 14 : Cindaradix_80
• Track 15 : Camperdownii_83
• Track 16 : Mundrea_83

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

The start number called the most often in the published annotations is 7, it was called in 126 of the 134 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abdiel_84, Albee_85, Alberto7_86, Annyong_84, Arturo_82, AvatarAhPeg_85, Avle17_85, Baby16_85, BangNhom_82, Bartimeaus_85, BellusTerra_85, Blackmoor_84, Bombshell_85, Broseidon_85, Bruiser_84, BubbleTrouble_84, Buckaroo_81, Burger_83, Caelakin_83, CentreCat_85, Cerulean_87, ChampagnePapi_88, Chaph_85, Cindaradix_80, Citius_85, Clarenza_84, Cocoaberry_85, Commander_83, Connomayer_85, Datway_82, Deano_82, Dhanush_85, DirtyDunning_84, Eagle_84, Eapen_85, Eris_84, Eros_85, Eurydice_86, Florean_85, Flux_86, Funston_84, Gadost_85, HamSlice_81, Happiness_84, Holli_84, Houdini22_84, Huxley_77, ICleared_84, Iceman_83, Iracema64_85, Jaykayelowell_82, JetBlade_86, JoongJeon_84, Junimo_81, KFPoly_84, Kampy_84, KekoraPapaka_82, Kingmustik0402_85, Koan_82, Koreni_84, Kratark_84, Kyee_85, LHTSCC_88, LappelDuVide_85, Lemur_85, LittleB_85, LittleGuy_85, LochMonster_86, Lorenzo_85, Lunsford_85, Maverick_84, Maxo_87, Mazhar510_85, Medusa_84, MeeZee_84, Melvin_87, Millski_84, Miramae_85, Morrow_87, Mundrea_83, Nebs_86, Nemo27_84, Noelle_84, NorthStar_82, Northrop_82, NotAPhaseMom_84, Nyxis_84, OKaNui_84, Obama12_86, Ohfah_86, Palestino_84, Peaches_83, PeterPeter_85, Phacado_85, Phelipe_85, Phighter1804_85, Phontbonne_85, Pipcraft_81, Polymorphads_86, Pumbaa_85, Relief_84, RockieBear_85, Rocksand_82, Romney_84, Roosevelt_83, Rosa24_81, Ruin_85, Sabertooth_85, Scamp_85, SenorClean_86, Shaka_83, SheldonCooper_85, Shygu2_83, Skadoosh_82, Skipitt_84, Sparxx_86, Spino_84, Stasia_82, SteMason_85, Stink_85, Sultana_85, Taquarus_84, Thanksgivukkah_84, TinaFeyge_83, Tinybot_84, TiroTheta9_84, TroyPia_86, TygerBlood_85, Ulysses_84, Wander_85, Wilbur_85, Xena_81, YoSam321_85,

Genes that have the "Most Annotated" start but do not call it:
• Camperdownii_83,

Genes that do not have the "Most Annotated" start:
• Bactobuster_78, IronMan_83, Jaan_84, Landor_84, Phaded_80, Pukovnik_81, Tristan_82,

Summary by start number:

Start 4:
• Found in 4 of 141 (2.8%) of genes in pham
• Manual Annotations of this start: 1 of 134
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Camperdownii_83 (A4),

Start 5:
• Found in 7 of 141 (5.0%) of genes in pham
• Manual Annotations of this start: 7 of 134
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Bactobuster_78 (A2), IronMan_83 (A2), Jaan_84 (A2), Landor_84 (A2), Phaded_80 (A2), Pukovnik_81 (A2), Tristan_82 (A2),

Start 7:
• Found in 134 of 141 (95.0%) of genes in pham
• Manual Annotations of this start: 126 of 134
• Called 99.3% of time when present
• Phage (with cluster) where this start called: Abdiel_84 (A4), Albee_85 (A4), Alberto7_86 (A4), Annyong_84 (A4), Arturo_82 (A4), AvatarAhPeg_85 (A4), Avle17_85 (A4), Baby16_85 (A4), BangNhom_82 (A4), Bartimeaus_85 (A4), BellusTerra_85 (A4), Blackmoor_84 (A4), Bombshell_85 (A4), Broseidon_85 (A4), Bruiser_84 (A4), BubbleTrouble_84 (A4), Buckaroo_81 (A4), Burger_83 (A4), Caelakin_83 (A4), CentreCat_85 (A4), Cerulean_87 (A4), ChampagnePapi_88 (A4), Chaph_85 (A4), Cindaradix_80 (A4), Citius_85 (A4), Clarenza_84 (A4), Cocoaberry_85 (A4), Commander_83 (A4), Connomayer_85 (A4), Datway_82 (A4), Deano_82 (A4), Dhanush_85 (A4), DirtyDunning_84 (A4), Eagle_84 (A4), Eapen_85 (A4), Eris_84 (A4), Eros_85 (A4), Eurydice_86 (A4), Florean_85 (A4), Flux_86 (A4), Funston_84 (A4), Gadost_85 (A4), HamSlice_81 (A4), Happiness_84 (A4), Holli_84 (A4), Houdini22_84 (A4), Huxley_77 (A4), ICleared_84 (A4), Iceman_83 (A4), Iracema64_85 (A4), Jaykayelowell_82 (A4), JetBlade_86 (A4), JoongJeon_84 (A4), Junimo_81 (A4), KFPoly_84 (A4), Kampy_84 (A4), KekoraPapaka_82 (A4), Kingmustik0402_85 (A4), Koan_82 (A4), Koreni_84 (A4), Kratark_84 (A4), Kyee_85 (A4), LHTSCC_88 (A4), LappelDuVide_85 (A4), Lemur_85 (A4), LittleB_85 (A4), LittleGuy_85 (A4), LochMonster_86 (A4), Lorenzo_85 (A4), Lunsford_85 (A4), Maverick_84 (A4), Maxo_87 (A4), Mazhar510_85 (A4), Medusa_84 (A4), MeeZee_84 (A4), Melvin_87 (A4), Millski_84 (A4), Miramae_85 (A4), Morrow_87 (A4), Mundrea_83 (A4), Nebs_86 (A4), Nemo27_84 (A4), Noelle_84 (A4), NorthStar_82 (A4), Northrop_82 (A4), NotAPhaseMom_84 (A4), Nyxis_84 (A4), OKaNui_84 (A4), Obama12_86 (A4), Ohfah_86 (A4), Palestino_84 (A4), Peaches_83 (A4), PeterPeter_85 (A4), Phacado_85 (A4), Phelipe_85 (A4), Phighter1804_85 (A4), Phontbonne_85 (A4), Pipcraft_81 (A4), Polymorphads_86 (A4), Pumbaa_85 (A4), Relief_84 (A4), RockieBear_85 (A4), Rocksand_82 (A4), Romney_84 (A4), Roosevelt_83 (A4), Rosa24_81 (A4), Ruin_85 (A4), Sabertooth_85 (A4), Scamp_85 (A4), SenorClean_86 (A4), Shaka_83 (A4), SheldonCooper_85 (A4), Shygu2_83 (A4), Skadoosh_82 (A4), Skipitt_84 (A4), Sparxx_86 (A4), Spino_84 (A4), Stasia_82 (A4), SteMason_85 (A4), Stink_85 (A4), Sultana_85 (A4), Taquarus_84 (A4), Thanksgivukkah_84 (A4), TinaFeyge_83 (A4), Tinybot_84 (A4), TiroTheta9_84 (A4), TroyPia_86 (A4), TygerBlood_85 (A4), Ulysses_84 (A4), Wander_85 (A4), Wilbur_85 (A4), Xena_81 (A4), YoSam321_85 (A4),

Summary by clusters:

There are 2 clusters represented in this pham: A2, A4,

Info for manual annotations of cluster A2:
•Start number 5 was manually annotated 7 times for cluster A2.

Info for manual annotations of cluster A4:
•Start number 4 was manually annotated 1 time for cluster A4.
•Start number 7 was manually annotated 126 times for cluster A4.

Gene Information:

Gene: Abdiel_84 Start: 48815, Stop: 48603, Start Num: 7
Candidate Starts for Abdiel_84:
(Start: 7 @48815 has 126 MA's), (10, 48773), (12, 48746), (15, 48698), (16, 48692), (17, 48638), (18, 48629),

Gene: Albee_85 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for Albee_85:
(Start: 7 @48803 has 126 MA's), (10, 48761), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Alberto7_86 Start: 49140, Stop: 48928, Start Num: 7
Candidate Starts for Alberto7_86:
(Start: 7 @49140 has 126 MA's), (12, 49071), (15, 49023), (16, 49017), (17, 48963), (18, 48954),

Gene: Annyong_84 Start: 48848, Stop: 48636, Start Num: 7
Candidate Starts for Annyong_84:
(Start: 7 @48848 has 126 MA's), (12, 48779), (15, 48731), (16, 48725), (17, 48671), (18, 48662),

Gene: Arturo_82 Start: 48931, Stop: 48719, Start Num: 7
Candidate Starts for Arturo_82:
(Start: 7 @48931 has 126 MA's), (12, 48862), (15, 48814), (16, 48808), (17, 48754), (18, 48745),

Gene: AvatarAhPeg_85 Start: 49056, Stop: 48844, Start Num: 7
Candidate Starts for AvatarAhPeg_85:
(Start: 7 @49056 has 126 MA's), (12, 48987), (15, 48939), (16, 48933), (17, 48879), (18, 48870),

Gene: Avle17_85 Start: 48797, Stop: 48585, Start Num: 7
Candidate Starts for Avle17_85:
(Start: 7 @48797 has 126 MA's), (12, 48728), (15, 48680), (16, 48674), (17, 48620), (18, 48611),

Gene: Baby16_85 Start: 48814, Stop: 48602, Start Num: 7
Candidate Starts for Baby16_85:
(Start: 7 @48814 has 126 MA's), (12, 48745), (15, 48697), (16, 48691), (17, 48637), (18, 48628),

Gene: Bactobuster_78 Start: 47603, Stop: 47352, Start Num: 5
Candidate Starts for Bactobuster_78:
(1, 47975), (2, 47696), (Start: 5 @47603 has 7 MA's), (18, 47372),

Gene: BangNhom_82 Start: 49240, Stop: 49028, Start Num: 7
Candidate Starts for BangNhom_82:
(Start: 7 @49240 has 126 MA's), (10, 49198), (12, 49171), (15, 49123), (16, 49117), (17, 49063), (18, 49054),

Gene: Bartimeaus_85 Start: 48805, Stop: 48593, Start Num: 7
Candidate Starts for Bartimeaus_85:
(Start: 7 @48805 has 126 MA's), (12, 48736), (15, 48688), (16, 48682), (17, 48628), (18, 48619),

Gene: BellusTerra_85 Start: 48668, Stop: 48456, Start Num: 7
Candidate Starts for BellusTerra_85:
(Start: 7 @48668 has 126 MA's), (12, 48599), (15, 48551), (16, 48545), (17, 48491), (18, 48482),

Gene: Blackmoor_84 Start: 48805, Stop: 48593, Start Num: 7
Candidate Starts for Blackmoor_84:
(Start: 7 @48805 has 126 MA's), (12, 48736), (15, 48688), (16, 48682), (17, 48628), (18, 48619),

Gene: Bombshell_85 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Bombshell_85:
(Start: 7 @48800 has 126 MA's), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Broseidon_85 Start: 48806, Stop: 48594, Start Num: 7
Candidate Starts for Broseidon_85:
(Start: 7 @48806 has 126 MA's), (12, 48737), (15, 48689), (16, 48683), (17, 48629), (18, 48620),

Gene: Bruiser_84 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for Bruiser_84:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: BubbleTrouble_84 Start: 48830, Stop: 48618, Start Num: 7
Candidate Starts for BubbleTrouble_84:
(Start: 7 @48830 has 126 MA's), (12, 48761), (15, 48713), (16, 48707), (17, 48653), (18, 48644),

Gene: Buckaroo_81 Start: 48807, Stop: 48595, Start Num: 7
Candidate Starts for Buckaroo_81:
(Start: 7 @48807 has 126 MA's), (12, 48738), (15, 48690), (16, 48684), (17, 48630), (18, 48621),

Gene: Burger_83 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for Burger_83:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Caelakin_83 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for Caelakin_83:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Camperdownii_83 Start: 48398, Stop: 48144, Start Num: 4
Candidate Starts for Camperdownii_83:
(Start: 4 @48398 has 1 MA's), (Start: 7 @48359 has 126 MA's), (8, 48347), (13, 48272), (15, 48233), (18, 48164), (19, 48152),

Gene: CentreCat_85 Start: 48843, Stop: 48631, Start Num: 7
Candidate Starts for CentreCat_85:
(Start: 7 @48843 has 126 MA's), (12, 48774), (15, 48726), (16, 48720), (17, 48666), (18, 48657),

Gene: Cerulean_87 Start: 49241, Stop: 49029, Start Num: 7
Candidate Starts for Cerulean_87:
(Start: 7 @49241 has 126 MA's), (10, 49199), (12, 49172), (15, 49124), (16, 49118), (17, 49064), (18, 49055),

Gene: ChampagnePapi_88 Start: 49243, Stop: 49031, Start Num: 7
Candidate Starts for ChampagnePapi_88:
(Start: 7 @49243 has 126 MA's), (12, 49174), (15, 49126), (16, 49120), (17, 49066), (18, 49057),

Gene: Chaph_85 Start: 48814, Stop: 48602, Start Num: 7
Candidate Starts for Chaph_85:
(Start: 7 @48814 has 126 MA's), (12, 48745), (15, 48697), (16, 48691), (17, 48637), (18, 48628),

Gene: Cindaradix_80 Start: 49002, Stop: 48796, Start Num: 7
Candidate Starts for Cindaradix_80:
(Start: 7 @49002 has 126 MA's), (11, 48954), (12, 48933), (15, 48885), (16, 48879), (18, 48816),

Gene: Citius_85 Start: 48824, Stop: 48612, Start Num: 7
Candidate Starts for Citius_85:
(Start: 7 @48824 has 126 MA's), (12, 48755), (15, 48707), (16, 48701), (17, 48647), (18, 48638),

Gene: Clarenza_84 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Clarenza_84:
(Start: 7 @48800 has 126 MA's), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Cocoaberry_85 Start: 48804, Stop: 48592, Start Num: 7
Candidate Starts for Cocoaberry_85:
(Start: 7 @48804 has 126 MA's), (12, 48735), (15, 48687), (16, 48681), (17, 48627), (18, 48618),

Gene: Commander_83 Start: 48807, Stop: 48595, Start Num: 7
Candidate Starts for Commander_83:
(Start: 7 @48807 has 126 MA's), (12, 48738), (15, 48690), (16, 48684), (17, 48630), (18, 48621),

Gene: Connomayer_85 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for Connomayer_85:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Datway_82 Start: 48614, Stop: 48402, Start Num: 7
Candidate Starts for Datway_82:
(Start: 4 @48650 has 1 MA's), (Start: 7 @48614 has 126 MA's), (12, 48545), (15, 48497), (16, 48491), (17, 48437), (18, 48428),

Gene: Deano_82 Start: 48811, Stop: 48599, Start Num: 7
Candidate Starts for Deano_82:
(Start: 7 @48811 has 126 MA's), (12, 48742), (15, 48694), (16, 48688), (17, 48634), (18, 48625),

Gene: Dhanush_85 Start: 48806, Stop: 48594, Start Num: 7
Candidate Starts for Dhanush_85:
(Start: 7 @48806 has 126 MA's), (12, 48737), (15, 48689), (16, 48683), (17, 48629), (18, 48620),

Gene: DirtyDunning_84 Start: 48815, Stop: 48603, Start Num: 7
Candidate Starts for DirtyDunning_84:
(Start: 7 @48815 has 126 MA's), (12, 48746), (15, 48698), (16, 48692), (17, 48638), (18, 48629),

Gene: Eagle_84 Start: 48865, Stop: 48653, Start Num: 7
Candidate Starts for Eagle_84:
(Start: 7 @48865 has 126 MA's), (12, 48796), (15, 48748), (16, 48742), (17, 48688), (18, 48679),

Gene: Eapen_85 Start: 48798, Stop: 48586, Start Num: 7
Candidate Starts for Eapen_85:
(Start: 7 @48798 has 126 MA's), (12, 48729), (15, 48681), (16, 48675), (17, 48621), (18, 48612),

Gene: Eris_84 Start: 48815, Stop: 48603, Start Num: 7
Candidate Starts for Eris_84:
(Start: 7 @48815 has 126 MA's), (12, 48746), (15, 48698), (16, 48692), (17, 48638), (18, 48629),

Gene: Eros_85 Start: 48811, Stop: 48599, Start Num: 7
Candidate Starts for Eros_85:
(Start: 7 @48811 has 126 MA's), (12, 48742), (15, 48694), (16, 48688), (17, 48634), (18, 48625),

Gene: Eurydice_86 Start: 48840, Stop: 48628, Start Num: 7
Candidate Starts for Eurydice_86:
(Start: 7 @48840 has 126 MA's), (12, 48771), (15, 48723), (16, 48717), (17, 48663), (18, 48654),

Gene: Florean_85 Start: 48802, Stop: 48590, Start Num: 7
Candidate Starts for Florean_85:
(Start: 7 @48802 has 126 MA's), (12, 48733), (15, 48685), (16, 48679), (17, 48625), (18, 48616),

Gene: Flux_86 Start: 48801, Stop: 48589, Start Num: 7
Candidate Starts for Flux_86:
(Start: 7 @48801 has 126 MA's), (12, 48732), (15, 48684), (16, 48678), (17, 48624), (18, 48615),

Gene: Funston_84 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Funston_84:
(Start: 7 @48800 has 126 MA's), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Gadost_85 Start: 48804, Stop: 48592, Start Num: 7
Candidate Starts for Gadost_85:
(Start: 7 @48804 has 126 MA's), (12, 48735), (15, 48687), (16, 48681), (17, 48627), (18, 48618),

Gene: HamSlice_81 Start: 48802, Stop: 48590, Start Num: 7
Candidate Starts for HamSlice_81:
(Start: 7 @48802 has 126 MA's), (12, 48733), (15, 48685), (16, 48679), (17, 48625), (18, 48616),

Gene: Happiness_84 Start: 48826, Stop: 48614, Start Num: 7
Candidate Starts for Happiness_84:
(Start: 7 @48826 has 126 MA's), (12, 48757), (15, 48709), (16, 48703), (17, 48649), (18, 48640),

Gene: Holli_84 Start: 48593, Stop: 48381, Start Num: 7
Candidate Starts for Holli_84:
(Start: 7 @48593 has 126 MA's), (12, 48524), (15, 48476), (16, 48470), (17, 48416), (18, 48407),

Gene: Houdini22_84 Start: 48804, Stop: 48592, Start Num: 7
Candidate Starts for Houdini22_84:
(Start: 7 @48804 has 126 MA's), (12, 48735), (15, 48687), (16, 48681), (17, 48627), (18, 48618),

Gene: Huxley_77 Start: 46696, Stop: 46484, Start Num: 7
Candidate Starts for Huxley_77:
(Start: 7 @46696 has 126 MA's), (12, 46627), (15, 46579), (16, 46573), (17, 46519), (18, 46510),

Gene: ICleared_84 Start: 48871, Stop: 48659, Start Num: 7
Candidate Starts for ICleared_84:
(Start: 7 @48871 has 126 MA's), (12, 48802), (15, 48754), (16, 48748), (17, 48694), (18, 48685),

Gene: Iceman_83 Start: 49093, Stop: 48881, Start Num: 7
Candidate Starts for Iceman_83:
(Start: 7 @49093 has 126 MA's), (12, 49024), (15, 48976), (16, 48970), (17, 48916), (18, 48907),

Gene: Iracema64_85 Start: 49067, Stop: 48855, Start Num: 7
Candidate Starts for Iracema64_85:
(Start: 7 @49067 has 126 MA's), (12, 48998), (15, 48950), (16, 48944), (17, 48890), (18, 48881),

Gene: IronMan_83 Start: 49127, Stop: 48876, Start Num: 5
Candidate Starts for IronMan_83:
(Start: 5 @49127 has 7 MA's), (18, 48896),

Gene: Jaan_84 Start: 49235, Stop: 48984, Start Num: 5
Candidate Starts for Jaan_84:
(1, 49607), (2, 49328), (Start: 5 @49235 has 7 MA's), (9, 49157), (18, 49004),

Gene: Jaykayelowell_82 Start: 48796, Stop: 48584, Start Num: 7
Candidate Starts for Jaykayelowell_82:
(Start: 7 @48796 has 126 MA's), (12, 48727), (15, 48679), (16, 48673), (17, 48619), (18, 48610),

Gene: JetBlade_86 Start: 48831, Stop: 48619, Start Num: 7
Candidate Starts for JetBlade_86:
(Start: 7 @48831 has 126 MA's), (10, 48789), (12, 48762), (15, 48714), (16, 48708), (17, 48654), (18, 48645),

Gene: JoongJeon_84 Start: 48797, Stop: 48585, Start Num: 7
Candidate Starts for JoongJeon_84:
(Start: 7 @48797 has 126 MA's), (12, 48728), (15, 48680), (16, 48674), (17, 48620), (18, 48611),

Gene: Junimo_81 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for Junimo_81:
(Start: 7 @48803 has 126 MA's), (11, 48755), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: KFPoly_84 Start: 48797, Stop: 48585, Start Num: 7
Candidate Starts for KFPoly_84:
(Start: 7 @48797 has 126 MA's), (12, 48728), (15, 48680), (16, 48674), (17, 48620), (18, 48611),

Gene: Kampy_84 Start: 48806, Stop: 48594, Start Num: 7
Candidate Starts for Kampy_84:
(Start: 7 @48806 has 126 MA's), (12, 48737), (15, 48689), (16, 48683), (17, 48629), (18, 48620),

Gene: KekoraPapaka_82 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for KekoraPapaka_82:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Kingmustik0402_85 Start: 48792, Stop: 48580, Start Num: 7
Candidate Starts for Kingmustik0402_85:
(Start: 7 @48792 has 126 MA's), (10, 48750), (12, 48723), (15, 48675), (16, 48669), (17, 48615), (18, 48606),

Gene: Koan_82 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for Koan_82:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Koreni_84 Start: 48484, Stop: 48272, Start Num: 7
Candidate Starts for Koreni_84:

(Start: 7 @48484 has 126 MA's), (12, 48415), (15, 48367), (16, 48361), (17, 48307), (18, 48298),

Gene: Kratark_84 Start: 48837, Stop: 48625, Start Num: 7
Candidate Starts for Kratark_84:
(Start: 7 @48837 has 126 MA's), (12, 48768), (15, 48720), (16, 48714), (17, 48660), (18, 48651),

Gene: Kyee_85 Start: 48798, Stop: 48586, Start Num: 7
Candidate Starts for Kyee_85:
(Start: 7 @48798 has 126 MA's), (12, 48729), (15, 48681), (16, 48675), (17, 48621), (18, 48612),

Gene: LHTSCC_88 Start: 49244, Stop: 49032, Start Num: 7
Candidate Starts for LHTSCC_88:
(Start: 7 @49244 has 126 MA's), (12, 49175), (15, 49127), (16, 49121), (17, 49067), (18, 49058),

Gene: Landor_84 Start: 49160, Stop: 48909, Start Num: 5
Candidate Starts for Landor_84:
(Start: 5 @49160 has 7 MA's), (18, 48929),

Gene: LappelDuVide_85 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for LappelDuVide_85:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Lemur_85 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Lemur_85:
(Start: 7 @48800 has 126 MA's), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: LittleB_85 Start: 48804, Stop: 48592, Start Num: 7
Candidate Starts for LittleB_85:
(Start: 7 @48804 has 126 MA's), (10, 48762), (12, 48735), (15, 48687), (16, 48681), (17, 48627), (18, 48618),

Gene: LittleGuy_85 Start: 48694, Stop: 48482, Start Num: 7
Candidate Starts for LittleGuy_85:
(Start: 7 @48694 has 126 MA's), (12, 48625), (15, 48577), (16, 48571), (17, 48517), (18, 48508),

Gene: LochMonster_86 Start: 49040, Stop: 48828, Start Num: 7
Candidate Starts for LochMonster_86:
(Start: 7 @49040 has 126 MA's), (10, 48998), (12, 48971), (15, 48923), (16, 48917), (17, 48863), (18, 48854),

Gene: Lorenzo_85 Start: 48801, Stop: 48589, Start Num: 7
Candidate Starts for Lorenzo_85:
(Start: 7 @48801 has 126 MA's), (12, 48732), (15, 48684), (16, 48678), (17, 48624), (18, 48615),

Gene: Lunsford_85 Start: 48796, Stop: 48584, Start Num: 7
Candidate Starts for Lunsford_85:
(Start: 7 @48796 has 126 MA's), (12, 48727), (15, 48679), (16, 48673), (17, 48619), (18, 48610),

Gene: Maverick_84 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Maverick_84:
(Start: 7 @48800 has 126 MA's), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Maxo_87 Start: 48806, Stop: 48594, Start Num: 7

Candidate Starts for Maxo_87:
(Start: 7 @48806 has 126 MA's), (12, 48737), (15, 48689), (16, 48683), (17, 48629), (18, 48620),

Gene: Mazhar510_85 Start: 48801, Stop: 48589, Start Num: 7
Candidate Starts for Mazhar510_85:
(Start: 7 @48801 has 126 MA's), (12, 48732), (15, 48684), (16, 48678), (17, 48624), (18, 48615),

Gene: Medusa_84 Start: 48816, Stop: 48604, Start Num: 7
Candidate Starts for Medusa_84:
(Start: 7 @48816 has 126 MA's), (12, 48747), (15, 48699), (16, 48693), (17, 48639), (18, 48630),

Gene: MeeZee_84 Start: 48797, Stop: 48585, Start Num: 7
Candidate Starts for MeeZee_84:
(Start: 7 @48797 has 126 MA's), (12, 48728), (15, 48680), (16, 48674), (17, 48620), (18, 48611),

Gene: Melvin_87 Start: 48798, Stop: 48586, Start Num: 7
Candidate Starts for Melvin_87:
(Start: 7 @48798 has 126 MA's), (12, 48729), (15, 48681), (16, 48675), (17, 48621), (18, 48612),

Gene: Millski_84 Start: 48804, Stop: 48592, Start Num: 7
Candidate Starts for Millski_84:
(Start: 7 @48804 has 126 MA's), (12, 48735), (15, 48687), (16, 48681), (17, 48627), (18, 48618),

Gene: Miramae_85 Start: 48719, Stop: 48507, Start Num: 7
Candidate Starts for Miramae_85:
(Start: 7 @48719 has 126 MA's), (12, 48650), (14, 48635), (15, 48602), (16, 48596), (17, 48542), (18, 48533),

Gene: Morrow_87 Start: 48843, Stop: 48631, Start Num: 7
Candidate Starts for Morrow_87:
(Start: 7 @48843 has 126 MA's), (12, 48774), (15, 48726), (16, 48720), (17, 48666), (18, 48657),

Gene: Mundrea_83 Start: 48681, Stop: 48469, Start Num: 7
Candidate Starts for Mundrea_83:
(Start: 7 @48681 has 126 MA's), (12, 48612), (15, 48564), (16, 48558), (17, 48504), (18, 48495),

Gene: Nebs_86 Start: 48843, Stop: 48631, Start Num: 7
Candidate Starts for Nebs_86:
(Start: 7 @48843 has 126 MA's), (12, 48774), (15, 48726), (16, 48720), (17, 48666), (18, 48657),

Gene: Nemo27_84 Start: 48799, Stop: 48587, Start Num: 7
Candidate Starts for Nemo27_84:
(Start: 7 @48799 has 126 MA's), (12, 48730), (15, 48682), (16, 48676), (17, 48622), (18, 48613),

Gene: Noelle_84 Start: 48915, Stop: 48700, Start Num: 7
Candidate Starts for Noelle_84:
(Start: 7 @48915 has 126 MA's), (8, 48903), (13, 48828), (15, 48789), (18, 48720), (19, 48708),

Gene: NorthStar_82 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for NorthStar_82:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Northrop_82 Start: 48799, Stop: 48587, Start Num: 7

Candidate Starts for Northrop_82:
(Start: 7 @48799 has 126 MA's), (11, 48751), (12, 48730), (15, 48682), (16, 48676), (17, 48622), (18, 48613),

Gene: NotAPhaseMom_84 Start: 48804, Stop: 48592, Start Num: 7
Candidate Starts for NotAPhaseMom_84:
(Start: 7 @48804 has 126 MA's), (12, 48735), (15, 48687), (16, 48681), (17, 48627), (18, 48618),

Gene: Nyxis_84 Start: 48688, Stop: 48476, Start Num: 7
Candidate Starts for Nyxis_84:
(Start: 7 @48688 has 126 MA's), (12, 48619), (15, 48571), (16, 48565), (17, 48511), (18, 48502),

Gene: OKaNui_84 Start: 48854, Stop: 48642, Start Num: 7
Candidate Starts for OKaNui_84:
(Start: 7 @48854 has 126 MA's), (12, 48785), (15, 48737), (16, 48731), (17, 48677), (18, 48668),

Gene: Obama12_86 Start: 49227, Stop: 49015, Start Num: 7
Candidate Starts for Obama12_86:
(Start: 7 @49227 has 126 MA's), (12, 49158), (15, 49110), (16, 49104), (17, 49050), (18, 49041),

Gene: Ohfah_86 Start: 48843, Stop: 48631, Start Num: 7
Candidate Starts for Ohfah_86:
(Start: 7 @48843 has 126 MA's), (12, 48774), (15, 48726), (16, 48720), (17, 48666), (18, 48657),

Gene: Palestino_84 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Palestino_84:
(Start: 7 @48800 has 126 MA's), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Peaches_83 Start: 48808, Stop: 48596, Start Num: 7
Candidate Starts for Peaches_83:
(Start: 7 @48808 has 126 MA's), (12, 48739), (15, 48691), (16, 48685), (17, 48631), (18, 48622),

Gene: PeterPeter_85 Start: 48797, Stop: 48585, Start Num: 7
Candidate Starts for PeterPeter_85:
(Start: 7 @48797 has 126 MA's), (10, 48755), (12, 48728), (15, 48680), (16, 48674), (17, 48620), (18, 48611),

Gene: Phacado_85 Start: 48799, Stop: 48587, Start Num: 7
Candidate Starts for Phacado_85:
(Start: 7 @48799 has 126 MA's), (12, 48730), (15, 48682), (16, 48676), (17, 48622), (18, 48613),

Gene: Phaded_80 Start: 49118, Stop: 48867, Start Num: 5
Candidate Starts for Phaded_80:
(1, 49490), (2, 49211), (Start: 5 @49118 has 7 MA's), (18, 48887),

Gene: Phelipe_85 Start: 48764, Stop: 48552, Start Num: 7
Candidate Starts for Phelipe_85:
(Start: 7 @48764 has 126 MA's), (12, 48695), (15, 48647), (16, 48641), (17, 48587), (18, 48578),

Gene: Phighter1804_85 Start: 48864, Stop: 48652, Start Num: 7
Candidate Starts for Phighter1804_85:
(Start: 7 @48864 has 126 MA's), (10, 48822), (12, 48795), (15, 48747), (16, 48741), (17, 48687), (18, 48678),

Gene: Phontbonne_85 Start: 48704, Stop: 48492, Start Num: 7
Candidate Starts for Phontbonne_85:
(Start: 7 @48704 has 126 MA's), (12, 48635), (15, 48587), (16, 48581), (17, 48527), (18, 48518),

Gene: Pipcraft_81 Start: 48804, Stop: 48592, Start Num: 7
Candidate Starts for Pipcraft_81:
(Start: 7 @48804 has 126 MA's), (12, 48735), (15, 48687), (16, 48681), (17, 48627), (18, 48618),

Gene: Polymorphads_86 Start: 48824, Stop: 48612, Start Num: 7
Candidate Starts for Polymorphads_86:
(Start: 7 @48824 has 126 MA's), (12, 48755), (15, 48707), (16, 48701), (17, 48647), (18, 48638),

Gene: Pukovnik_81 Start: 48588, Stop: 48337, Start Num: 5
Candidate Starts for Pukovnik_81:
(Start: 5 @48588 has 7 MA's), (6, 48561), (18, 48357),

Gene: Pumbaa_85 Start: 48748, Stop: 48536, Start Num: 7
Candidate Starts for Pumbaa_85:
(Start: 7 @48748 has 126 MA's), (10, 48706), (12, 48679), (15, 48631), (16, 48625), (17, 48571), (18, 48562),

Gene: Relief_84 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Relief_84:
(Start: 7 @48800 has 126 MA's), (10, 48758), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: RockieBear_85 Start: 48808, Stop: 48596, Start Num: 7
Candidate Starts for RockieBear_85:
(Start: 7 @48808 has 126 MA's), (12, 48739), (15, 48691), (16, 48685), (17, 48631), (18, 48622),

Gene: Rocksand_82 Start: 48799, Stop: 48587, Start Num: 7
Candidate Starts for Rocksand_82:
(Start: 7 @48799 has 126 MA's), (11, 48751), (12, 48730), (15, 48682), (16, 48676), (17, 48622), (18, 48613),

Gene: Romney_84 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Romney_84:
(Start: 7 @48800 has 126 MA's), (10, 48758), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Roosevelt_83 Start: 48805, Stop: 48593, Start Num: 7
Candidate Starts for Roosevelt_83:
(Start: 7 @48805 has 126 MA's), (12, 48736), (15, 48688), (16, 48682), (17, 48628), (18, 48619),

Gene: Rosa24_81 Start: 48831, Stop: 48619, Start Num: 7
Candidate Starts for Rosa24_81:
(Start: 7 @48831 has 126 MA's), (12, 48762), (15, 48714), (16, 48708), (17, 48654), (18, 48645),

Gene: Ruin_85 Start: 48796, Stop: 48584, Start Num: 7
Candidate Starts for Ruin_85:
(Start: 7 @48796 has 126 MA's), (12, 48727), (15, 48679), (16, 48673), (17, 48619), (18, 48610),

Gene: Sabertooth_85 Start: 48808, Stop: 48596, Start Num: 7
Candidate Starts for Sabertooth_85:
(Start: 7 @48808 has 126 MA's), (12, 48739), (15, 48691), (16, 48685), (17, 48631), (18, 48622),

Gene: Scamp_85 Start: 48805, Stop: 48593, Start Num: 7
Candidate Starts for Scamp_85:
(Start: 7 @48805 has 126 MA's), (12, 48736), (15, 48688), (16, 48682), (17, 48628), (18, 48619),

Gene: SenorClean_86 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for SenorClean_86:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Shaka_83 Start: 48801, Stop: 48589, Start Num: 7
Candidate Starts for Shaka_83:
(Start: 7 @48801 has 126 MA's), (12, 48732), (15, 48684), (16, 48678), (17, 48624), (18, 48615),

Gene: SheldonCooper_85 Start: 49241, Stop: 49029, Start Num: 7
Candidate Starts for SheldonCooper_85:
(Start: 7 @49241 has 126 MA's), (10, 49199), (12, 49172), (15, 49124), (16, 49118), (17, 49064), (18, 49055),

Gene: Shygu2_83 Start: 48747, Stop: 48535, Start Num: 7
Candidate Starts for Shygu2_83:
(Start: 4 @48783 has 1 MA's), (Start: 7 @48747 has 126 MA's), (12, 48678), (15, 48630), (16, 48624), (17, 48570), (18, 48561),

Gene: Skadoosh_82 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Skadoosh_82:
(Start: 7 @48800 has 126 MA's), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Skipitt_84 Start: 48797, Stop: 48585, Start Num: 7
Candidate Starts for Skipitt_84:
(Start: 7 @48797 has 126 MA's), (10, 48755), (12, 48728), (15, 48680), (16, 48674), (17, 48620), (18, 48611),

Gene: Sparxx_86 Start: 48799, Stop: 48587, Start Num: 7
Candidate Starts for Sparxx_86:
(Start: 7 @48799 has 126 MA's), (10, 48757), (12, 48730), (15, 48682), (16, 48676), (17, 48622), (18, 48613),

Gene: Spino_84 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for Spino_84:
(Start: 7 @48803 has 126 MA's), (10, 48761), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Stasia_82 Start: 48786, Stop: 48571, Start Num: 7
Candidate Starts for Stasia_82:
(3, 48828), (Start: 7 @48786 has 126 MA's), (11, 48732), (13, 48702), (15, 48663), (16, 48657), (18, 48594), (19, 48582),

Gene: SteMason_85 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for SteMason_85:
(Start: 7 @48800 has 126 MA's), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Stink_85 Start: 49027, Stop: 48815, Start Num: 7
Candidate Starts for Stink_85:
(Start: 7 @49027 has 126 MA's), (12, 48958), (14, 48943), (15, 48910), (16, 48904), (17, 48850), (18, 48841),

Gene: Sultana_85 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Sultana_85:
(Start: 7 @48800 has 126 MA's), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Taquarus_84 Start: 48812, Stop: 48600, Start Num: 7
Candidate Starts for Taquarus_84:
(Start: 7 @48812 has 126 MA's), (12, 48743), (15, 48695), (16, 48689), (17, 48635), (18, 48626),

Gene: Thanksgivukkah_84 Start: 48801, Stop: 48589, Start Num: 7
Candidate Starts for Thanksgivukkah_84:
(Start: 7 @48801 has 126 MA's), (12, 48732), (15, 48684), (16, 48678), (17, 48624), (18, 48615),

Gene: TinaFeyge_83 Start: 48798, Stop: 48586, Start Num: 7
Candidate Starts for TinaFeyge_83:
(Start: 7 @48798 has 126 MA's), (12, 48729), (15, 48681), (16, 48675), (17, 48621), (18, 48612),

Gene: Tinybot_84 Start: 48830, Stop: 48618, Start Num: 7
Candidate Starts for Tinybot_84:
(Start: 7 @48830 has 126 MA's), (12, 48761), (15, 48713), (16, 48707), (17, 48653), (18, 48644),

Gene: TiroTheta9_84 Start: 48797, Stop: 48585, Start Num: 7
Candidate Starts for TiroTheta9_84:
(Start: 7 @48797 has 126 MA's), (12, 48728), (15, 48680), (16, 48674), (17, 48620), (18, 48611),

Gene: Tristan_82 Start: 48950, Stop: 48699, Start Num: 5
Candidate Starts for Tristan_82:
(1, 49322), (2, 49043), (Start: 5 @48950 has 7 MA's), (18, 48719),

Gene: TroyPia_86 Start: 48838, Stop: 48626, Start Num: 7
Candidate Starts for TroyPia_86:
(Start: 7 @48838 has 126 MA's), (12, 48769), (15, 48721), (16, 48715), (17, 48661), (18, 48652),

Gene: TygerBlood_85 Start: 48803, Stop: 48591, Start Num: 7
Candidate Starts for TygerBlood_85:
(Start: 7 @48803 has 126 MA's), (12, 48734), (15, 48686), (16, 48680), (17, 48626), (18, 48617),

Gene: Ulysses_84 Start: 48486, Stop: 48274, Start Num: 7
Candidate Starts for Ulysses_84:
(Start: 7 @48486 has 126 MA's), (12, 48417), (15, 48369), (16, 48363), (17, 48309), (18, 48300),

Gene: Wander_85 Start: 48797, Stop: 48585, Start Num: 7
Candidate Starts for Wander_85:
(Start: 7 @48797 has 126 MA's), (12, 48728), (15, 48680), (16, 48674), (17, 48620), (18, 48611),

Gene: Wilbur_85 Start: 48800, Stop: 48588, Start Num: 7
Candidate Starts for Wilbur_85:

(Start: 7 @48800 has 126 MA's), (10, 48758), (12, 48731), (15, 48683), (16, 48677), (17, 48623), (18, 48614),

Gene: Xena_81 Start: 48622, Stop: 48410, Start Num: 7
Candidate Starts for Xena_81:
(Start: 4 @48658 has 1 MA's), (Start: 7 @48622 has 126 MA's), (12, 48553), (15, 48505), (16, 48499), (17, 48445), (18, 48436),

Gene: YoSam321_85 Start: 48798, Stop: 48586, Start Num: 7
Candidate Starts for YoSam321_85:
(Start: 7 @48798 has 126 MA's), (12, 48729), (15, 48681), (16, 48675), (17, 48621), (18, 48612),