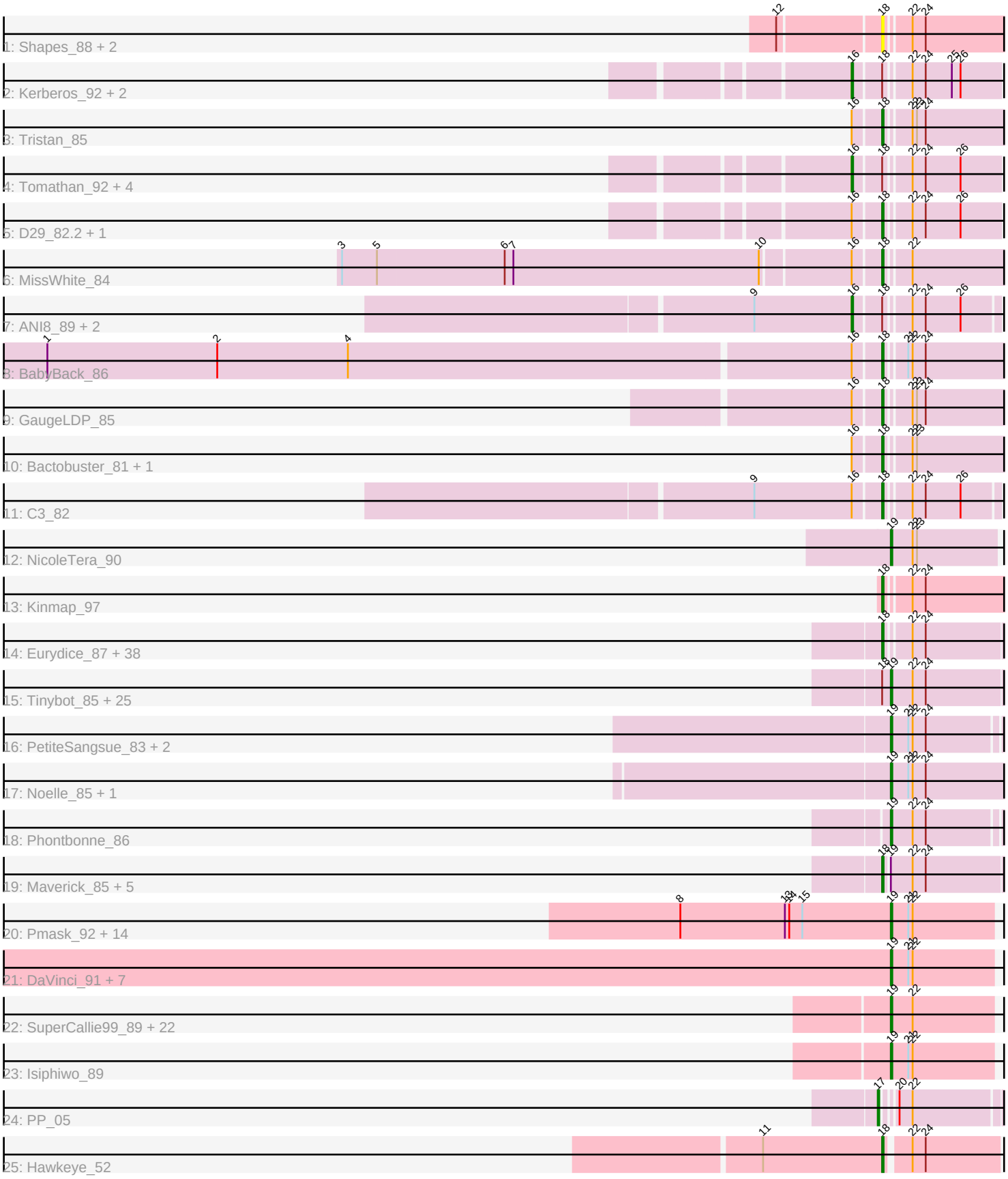
# Pham 341870


1: Shapes_88 + 2
2: Kerberos_92 + 2
3: Tristan_85
4: Tomathan_92 + 4
5: D29_82.2 + 1
6: MissWhite_84
7: ANI8_89 + 2
8: BabyBack_86
9: GaugeLDP_85
10: Bactobuster_81 + 1
11: C3_82
12: NicoleTera_90
13: Kinmap_97
14: Eurydice_87 + 38
15: Tinybot_85 + 25
16: PetiteSangsue_83 + 2
17: Noelle_85 + 1
18: Phontbonne_86
19: Maverick_85 + 5
20: Pmask_92 + 14
21: DaVinci_91 + 7
22: SuperCallie99_89 + 22
23: Isiphiwo_89
24: PP_05
25: Hawkeye_52

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 341870 Report

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

Pham number 341870 has 151 members, 7 are drafts.

Phages represented in each track:
- Track 1 : Shapes_88, Rowdy_88, DustyMartin_88
- Track 2 : Kerberos_92, Pomar16_92, StarStuff_92
- Track 3 : Tristan_85
- Track 4 : Tomathan_92, D32_80, Travvers_92, DBQu4n_92, Naji_81
- Track 5 : D29_82.2, Duplo_93
- Track 6 : MissWhite_84
- Track 7 : ANI8_89, VC3_88, AN9_89
- Track 8 : BabyBack_86
- Track 9 : GaugeLDP_85
- Track 10 : Bactobuster_81, IronMan_86
- Track 11 : C3_82
- Track 12 : NicoleTera_90
- Track 13 : Kinmap_97
- Track 14 : Eurydice_87, Eapen_86, Happiness_85, JoongJeon_85, KFPoly_85, CentreCat_86, DirtyDunning_85, Ohfah_87, BubbleTrouble_85, Holli_85, Kratark_85, Baby16_86, Thanksgivukkah_85, LochMonster_87, Kyee_86, Sparxx_87, ICleared_85, Taquarus_85, PeterPeter_86, Mazhar510_86, Nebs_87, Polymorphads_87, SheldonCooper_86, TygerBlood_86, RockieBear_86, TroyPia_87, Connomayer_86, Cerulean_88, BellusTerra_86, Chaph_86, JetBlade_87, Morrow_88, Alberto7_87, Eros_86, Bartimeaus_86, Phelipe_86, Lunsford_86, Scamp_86, Pumbaa_86
- Track 15 : Tinybot_85, Kremtemulon_83, Funston_85, Maxo_88, Koan_83, YoSam321_86, Kampy_85, Miramae_86, Nemo27_85, Phighter1804_86, Koreni_85, NorthStar_83, Kingmustik0402_86, Cintron_86, Rosa24_82, AvatarAhPeg_86, NotAPhaseMom_85, Ulysses_85, Lorenzo_86, Cocoaberry_86, Stink_86, Cindaradix_81, SenorClean_87, Houdini22_85, SteMason_86, Clarenza_85
- Track 16 : PetiteSangsue_83, Bumblebee11_82, Datway_83
- Track 17 : Noelle_85, Shygu2_84
- Track 18 : Phontbonne_86
- Track 19 : Maverick_85, Bombshell_86, Melvin_88, Pipcraft_82, Mundrea_84, Caelakin_84
- Track 20 : Pmask_92, JewelBug_85, Dorothea_93, Imbriano_94, Hoot_88, Neeharika16_92, EricB_91, Jordennis_91, Polyphemus_86, BABullseye_86, SuperAwesome_93, Cookiedough_93, Kipper29_93, Priamo_93, Newrala_92
- Track 21 : DaVinci_91, VohminGhazi_93, Chartreuse_92, Kazan_94, Candra_94, SmellyB_93, BennyP_95, McFly_93

• Track 22 : SuperCallie99_89, Zaka_95, Hammer_95, Roksolana_95, Yokurt_94, Hexamo_94, Artemis2UCLA_94, Zulu_96, Rifter_95, BlessJoy_95, CloudWang3_95, Jeffabunny_83, DelvinSonDorr_88, Gruunaga_95, Blue7_96, Wiks_94, Lilbunny_91, Koko_96, Helmet_97, Tucker_95, Gladiator_91, Garak_96, Temprado_96
• Track 23 : Isiphiwo_89
• Track 24 : PP_05
• Track 25 : Hawkeye_52

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

The start number called the most often in the published annotations is 19, it was called in 77 of the 144 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Artemis2UCLA_94, AvatarAhPeg_86, BABullseye_86, BennyP_95, BlessJoy_95, Blue7_96, Bumblebee11_82, Candra_94, Chartreuse_92, Cindaradix_81, Cintron_86, Clarenza_85, CloudWang3_95, Cocoaberry_86, Cookiedough_93, DaVinci_91, Datway_83, DelvinSonDorr_88, Dorothea_93, EricB_91, Funston_85, Garak_96, Gladiator_91, Gruunaga_95, Hammer_95, Helmet_97, Hexamo_94, Hoot_88, Houdini22_85, Imbriano_94, Isiphiwo_89, Jeffabunny_83, JewelBug_85, Jordennis_91, Kampy_85, Kazan_94, Kingmustik0402_86, Kipper29_93, Koan_83, Koko_96, Koreni_85, Kremtemulon_83, Lilbunny_91, Lorenzo_86, Maxo_88, McFly_93, Miramae_86, Neeharika16_92, Nemo27_85, Newrala_92, NicoleTera_90, Noelle_85, NorthStar_83, NotAPhaseMom_85, PetiteSangsue_83, Phighter1804_86, Phontbonne_86, Pmask_92, Polyphemus_86, Priamo_93, Rifter_95, Roksolana_95, Rosa24_82, SenorClean_87, Shygu2_84, SmellyB_93, SteMason_86, Stink_86, SuperAwesome_93, SuperCallie99_89, Temprado_96, Tinybot_85, Tucker_95, Ulysses_85, VohminGhazi_93, Wiks_94, YoSam321_86, Yokurt_94, Zaka_95, Zulu_96,

Genes that have the "Most Annotated" start but do not call it:
• Bombshell_86, Caelakin_84, Maverick_85, Melvin_88, Mundrea_84, Pipcraft_82,

Genes that do not have the "Most Annotated" start:
• AN9_89, ANI8_89, Alberto7_87, Baby16_86, BabyBack_86, Bactobuster_81, Bartimeaus_86, BellusTerra_86, BubbleTrouble_85, C3_82, CentreCat_86, Cerulean_88, Chaph_86, Connomayer_86, D29_82.2, D32_80, DBQu4n_92, DirtyDunning_85, Duplo_93, DustyMartin_88, Eapen_86, Eros_86, Eurydice_87, GaugeLDP_85, Happiness_85, Hawkeye_52, Holli_85, ICleared_85, IronMan_86, JetBlade_87, JoongJeon_85, KFPoly_85, Kerberos_92, Kinmap_97, Kratark_85, Kyee_86, LochMonster_87, Lunsford_86, Mazhar510_86, MissWhite_84, Morrow_88, Naji_81, Nebs_87, Ohfah_87, PP_05, PeterPeter_86, Phelipe_86, Polymorphads_87, Pomar16_92, Pumbaa_86, RockieBear_86, Rowdy_88, Scamp_86, Shapes_88, SheldonCooper_86, Sparxx_87, StarStuff_92, Taquarus_85, Thanksgivukkah_85, Tomathan_92, Travvers_92, Tristan_85, TroyPia_87, TygerBlood_86, VC3_88,

**Summary by start number:**

Start 16:
• Found in 20 of 151 ( 13.2% ) of genes in pham

• Manual Annotations of this start: 10 of 144
• Called 55.0% of time when present
• Phage (with cluster) where this start called: AN9_89 (A2), ANI8_89 (A2), D32_80 (A2), DBQu4n_92 (A2), Kerberos_92 (A2), Naji_81 (A2), Pomar16_92 (A2), StarStuff_92 (A2), Tomathan_92 (A2), Travvers_92 (A2), VC3_88 (A2),

Start 17:
• Found in 1 of 151 ( 0.7% ) of genes in pham
• Manual Annotations of this start: 1 of 144
• Called 100.0% of time when present
• Phage (with cluster) where this start called: PP_05 (A7),

Start 18:
• Found in 96 of 151 ( 63.6% ) of genes in pham
• Manual Annotations of this start: 56 of 144
• Called 61.5% of time when present
• Phage (with cluster) where this start called: Alberto7_87 (A4), Baby16_86 (A4), BabyBack_86 (A2), Bactobuster_81 (A2), Bartimeaus_86 (A4), BellusTerra_86 (A4), Bombshell_86 (A4), BubbleTrouble_85 (A4), C3_82 (A2), Caelakin_84 (A4), CentreCat_86 (A4), Cerulean_88 (A4), Chaph_86 (A4), Connomayer_86 (A4), D29_82.2 (A2), DirtyDunning_85 (A4), Duplo_93 (A2), DustyMartin_88 (A10), Eapen_86 (A4), Eros_86 (A4), Eurydice_87 (A4), GaugeLDP_85 (A2), Happiness_85 (A4), Hawkeye_52 (D2), Holli_85 (A4), ICleared_85 (A4), IronMan_86 (A2), JetBlade_87 (A4), JoongJeon_85 (A4), KFPoly_85 (A4), Kinmap_97 (A21), Kratark_85 (A4), Kyee_86 (A4), LochMonster_87 (A4), Lunsford_86 (A4), Maverick_85 (A4), Mazhar510_86 (A4), Melvin_88 (A4), MissWhite_84 (A2), Morrow_88 (A4), Mundrea_84 (A4), Nebs_87 (A4), Ohfah_87 (A4), PeterPeter_86 (A4), Phelipe_86 (A4), Pipcraft_82 (A4), Polymorphads_87 (A4), Pumbaa_86 (A4), RockieBear_86 (A4), Rowdy_88 (A10), Scamp_86 (A4), Shapes_88 (A10), SheldonCooper_86 (A4), Sparxx_87 (A4), Taquarus_85 (A4), Thanksgivukkah_85 (A4), Tristan_85 (A2), TroyPia_87 (A4), TygerBlood_86 (A4),

Start 19:
• Found in 86 of 151 ( 57.0% ) of genes in pham
• Manual Annotations of this start: 77 of 144
• Called 93.0% of time when present
• Phage (with cluster) where this start called: Artemis2UCLA_94 (A6), AvatarAhPeg_86 (A4), BABullseye_86 (A6), BennyP_95 (A6), BlessJoy_95 (A6), Blue7_96 (A6), Bumblebee11_82 (A4), Candra_94 (A6), Chartreuse_92 (A6), Cindaradix_81 (A4), Cintron_86 (A4), Clarenza_85 (A4), CloudWang3_95 (A6), Cocoaberry_86 (A4), Cookiedough_93 (A6), DaVinci_91 (A6), Datway_83 (A4), DelvinSonDorr_88 (A6), Dorothea_93 (A6), EricB_91 (A6), Funston_85 (A4), Garak_96 (A6), Gladiator_91 (A6), Gruunaga_95 (A6), Hammer_95 (A6), Helmet_97 (A6), Hexamo_94 (A6), Hoot_88 (A6), Houdini22_85 (A4), Imbriano_94 (A6), Isiphiwo_89 (A6), Jeffabunny_83 (A6), JewelBug_85 (A6), Jordennis_91 (A6), Kampy_85 (A4), Kazan_94 (A6), Kingmustik0402_86 (A4), Kipper29_93 (A6), Koan_83 (A4), Koko_96 (A6), Koreni_85 (A4), Kremtemulon_83 (A4), Lilbunny_91 (A6), Lorenzo_86 (A4), Maxo_88 (A4), McFly_93 (A6), Miramae_86 (A4), Neeharika16_92 (A6), Nemo27_85 (A4), Newrala_92 (A6), NicoleTera_90 (A2), Noelle_85 (A4), NorthStar_83 (A4), NotAPhaseMom_85 (A4), PetiteSangsue_83 (A4), Phighter1804_86 (A4), Phontbonne_86 (A4), Pmask_92 (A6), Polyphemus_86 (A6), Priamo_93 (A6), Rifter_95 (A6), Roksolana_95 (A6), Rosa24_82 (A4), SenorClean_87 (A4), Shygu2_84 (A4), SmellyB_93 (A6), SteMason_86 (A4),

Stink_86 (A4), SuperAwesome_93 (A6), SuperCallie99_89 (A6), Temprado_96 (A6), Tinybot_85 (A4), Tucker_95 (A6), Ulysses_85 (A4), VohminGhazi_93 (A6), Wiks_94 (A6), YoSam321_86 (A4), Yokurt_94 (A6), Zaka_95 (A6), Zulu_96 (A6),

**Summary by clusters:**

There are 7 clusters represented in this pham: A21, A10, A2, A4, A7, A6, D2,

Info for manual annotations of cluster A2:
•Start number 16 was manually annotated 10 times for cluster A2.
•Start number 18 was manually annotated 9 times for cluster A2.
•Start number 19 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A21:
•Start number 18 was manually annotated 1 time for cluster A21.

Info for manual annotations of cluster A4:
•Start number 18 was manually annotated 45 times for cluster A4.
•Start number 19 was manually annotated 31 times for cluster A4.

Info for manual annotations of cluster A6:
•Start number 19 was manually annotated 45 times for cluster A6.

Info for manual annotations of cluster A7:
•Start number 17 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster D2:
•Start number 18 was manually annotated 1 time for cluster D2.

***Gene Information:***

Gene: AN9_89 Start: 48160, Stop: 48047, Start Num: 16
Candidate Starts for AN9_89:
(9, 48226), (Start: 16 @48160 has 10 MA's), (Start: 18 @48142 has 56 MA's), (22, 48127), (24, 48118), (26, 48094),

Gene: ANI8_89 Start: 48160, Stop: 48047, Start Num: 16
Candidate Starts for ANI8_89:
(9, 48226), (Start: 16 @48160 has 10 MA's), (Start: 18 @48142 has 56 MA's), (22, 48127), (24, 48118), (26, 48094),

Gene: Alberto7_87 Start: 49235, Stop: 49137, Start Num: 18
Candidate Starts for Alberto7_87:
(Start: 18 @49235 has 56 MA's), (22, 49220), (24, 49211),

Gene: Artemis2UCLA_94 Start: 48593, Stop: 48501, Start Num: 19
Candidate Starts for Artemis2UCLA_94:
(Start: 19 @48593 has 77 MA's), (22, 48578),

Gene: AvatarAhPeg_86 Start: 49151, Stop: 49053, Start Num: 19

Candidate Starts for AvatarAhPeg_86:
(Start: 18 @49154 has 56 MA's), (Start: 19 @49151 has 77 MA's), (22, 49136), (24, 49127),

Gene: BABullseye_86 Start: 46928, Stop: 46836, Start Num: 19
Candidate Starts for BABullseye_86:
(8, 47072), (13, 47000), (14, 46997), (15, 46988), (Start: 19 @46928 has 77 MA's), (21, 46916), (22, 46913),

Gene: Baby16_86 Start: 48909, Stop: 48811, Start Num: 18
Candidate Starts for Baby16_86:
(Start: 18 @48909 has 56 MA's), (22, 48894), (24, 48885),

Gene: BabyBack_86 Start: 50367, Stop: 50266, Start Num: 18
Candidate Starts for BabyBack_86:
(1, 50931), (2, 50814), (4, 50724), (Start: 16 @50385 has 10 MA's), (Start: 18 @50367 has 56 MA's), (21, 50355), (22, 50352), (24, 50343),

Gene: Bactobuster_81 Start: 48864, Stop: 48763, Start Num: 18
Candidate Starts for Bactobuster_81:
(Start: 16 @48882 has 10 MA's), (Start: 18 @48864 has 56 MA's), (22, 48849), (23, 48846),

Gene: Bartimeaus_86 Start: 48900, Stop: 48802, Start Num: 18
Candidate Starts for Bartimeaus_86:
(Start: 18 @48900 has 56 MA's), (22, 48885), (24, 48876),

Gene: BellusTerra_86 Start: 48763, Stop: 48665, Start Num: 18
Candidate Starts for BellusTerra_86:
(Start: 18 @48763 has 56 MA's), (22, 48748), (24, 48739),

Gene: BennyP_95 Start: 48770, Stop: 48678, Start Num: 19
Candidate Starts for BennyP_95:
(Start: 19 @48770 has 77 MA's), (21, 48758), (22, 48755),

Gene: BlessJoy_95 Start: 49117, Stop: 49025, Start Num: 19
Candidate Starts for BlessJoy_95:
(Start: 19 @49117 has 77 MA's), (22, 49102),

Gene: Blue7_96 Start: 48827, Stop: 48735, Start Num: 19
Candidate Starts for Blue7_96:
(Start: 19 @48827 has 77 MA's), (22, 48812),

Gene: Bombshell_86 Start: 48898, Stop: 48797, Start Num: 18
Candidate Starts for Bombshell_86:
(Start: 18 @48898 has 56 MA's), (Start: 19 @48895 has 77 MA's), (22, 48880), (24, 48871),

Gene: BubbleTrouble_85 Start: 48925, Stop: 48827, Start Num: 18
Candidate Starts for BubbleTrouble_85:
(Start: 18 @48925 has 56 MA's), (22, 48910), (24, 48901),

Gene: Bumblebee11_82 Start: 48676, Stop: 48578, Start Num: 19
Candidate Starts for Bumblebee11_82:
(Start: 19 @48676 has 77 MA's), (21, 48664), (22, 48661), (24, 48652),

Gene: C3_82 Start: 48142, Stop: 48047, Start Num: 18
Candidate Starts for C3_82:
(9, 48226), (Start: 16 @48160 has 10 MA's), (Start: 18 @48142 has 56 MA's), (22, 48127), (24, 48118), (26, 48094),

Gene: Caelakin_84 Start: 48901, Stop: 48800, Start Num: 18
Candidate Starts for Caelakin_84:
(Start: 18 @48901 has 56 MA's), (Start: 19 @48898 has 77 MA's), (22, 48883), (24, 48874),

Gene: Candra_94 Start: 48632, Stop: 48540, Start Num: 19
Candidate Starts for Candra_94:
(Start: 19 @48632 has 77 MA's), (21, 48620), (22, 48617),

Gene: CentreCat_86 Start: 48938, Stop: 48840, Start Num: 18
Candidate Starts for CentreCat_86:
(Start: 18 @48938 has 56 MA's), (22, 48923), (24, 48914),

Gene: Cerulean_88 Start: 49336, Stop: 49238, Start Num: 18
Candidate Starts for Cerulean_88:
(Start: 18 @49336 has 56 MA's), (22, 49321), (24, 49312),

Gene: Chaph_86 Start: 48909, Stop: 48811, Start Num: 18
Candidate Starts for Chaph_86:
(Start: 18 @48909 has 56 MA's), (22, 48894), (24, 48885),

Gene: Chartreuse_92 Start: 47933, Stop: 47841, Start Num: 19
Candidate Starts for Chartreuse_92:
(Start: 19 @47933 has 77 MA's), (21, 47921), (22, 47918),

Gene: Cindaradix_81 Start: 49097, Stop: 48999, Start Num: 19
Candidate Starts for Cindaradix_81:
(Start: 18 @49100 has 56 MA's), (Start: 19 @49097 has 77 MA's), (22, 49082), (24, 49073),

Gene: Cintron_86 Start: 48973, Stop: 48869, Start Num: 19
Candidate Starts for Cintron_86:
(Start: 18 @48976 has 56 MA's), (Start: 19 @48973 has 77 MA's), (22, 48958), (24, 48949),

Gene: Clarenza_85 Start: 48895, Stop: 48797, Start Num: 19
Candidate Starts for Clarenza_85:
(Start: 18 @48898 has 56 MA's), (Start: 19 @48895 has 77 MA's), (22, 48880), (24, 48871),

Gene: CloudWang3_95 Start: 49122, Stop: 49030, Start Num: 19
Candidate Starts for CloudWang3_95:
(Start: 19 @49122 has 77 MA's), (22, 49107),

Gene: Cocoaberry_86 Start: 48899, Stop: 48801, Start Num: 19
Candidate Starts for Cocoaberry_86:
(Start: 18 @48902 has 56 MA's), (Start: 19 @48899 has 77 MA's), (22, 48884), (24, 48875),

Gene: Connomayer_86 Start: 48898, Stop: 48800, Start Num: 18
Candidate Starts for Connomayer_86:
(Start: 18 @48898 has 56 MA's), (22, 48883), (24, 48874),

Gene: Cookiedough_93 Start: 49247, Stop: 49155, Start Num: 19
Candidate Starts for Cookiedough_93:
(8, 49391), (13, 49319), (14, 49316), (15, 49307), (Start: 19 @49247 has 77 MA's), (21, 49235), (22, 49232),

Gene: D29_82.2 Start: 46114, Stop: 46019, Start Num: 18
Candidate Starts for D29_82.2:
(Start: 16 @46132 has 10 MA's), (Start: 18 @46114 has 56 MA's), (22, 46099), (24, 46090), (26, 46066),

Gene: D32_80 Start: 46132, Stop: 46019, Start Num: 16
Candidate Starts for D32_80:
(Start: 16 @46132 has 10 MA's), (Start: 18 @46114 has 56 MA's), (22, 46099), (24, 46090), (26, 46066),

Gene: DBQu4n_92 Start: 49747, Stop: 49634, Start Num: 16
Candidate Starts for DBQu4n_92:
(Start: 16 @49747 has 10 MA's), (Start: 18 @49729 has 56 MA's), (22, 49714), (24, 49705), (26, 49681),

Gene: DaVinci_91 Start: 47987, Stop: 47895, Start Num: 19
Candidate Starts for DaVinci_91:
(Start: 19 @47987 has 77 MA's), (21, 47975), (22, 47972),

Gene: Datway_83 Start: 48706, Stop: 48611, Start Num: 19
Candidate Starts for Datway_83:
(Start: 19 @48706 has 77 MA's), (21, 48694), (22, 48691), (24, 48682),

Gene: DelvinSonDorr_88 Start: 48196, Stop: 48104, Start Num: 19
Candidate Starts for DelvinSonDorr_88:
(Start: 19 @48196 has 77 MA's), (22, 48181),

Gene: DirtyDunning_85 Start: 48910, Stop: 48812, Start Num: 18
Candidate Starts for DirtyDunning_85:
(Start: 18 @48910 has 56 MA's), (22, 48895), (24, 48886),

Gene: Dorothea_93 Start: 49239, Stop: 49147, Start Num: 19
Candidate Starts for Dorothea_93:
(8, 49383), (13, 49311), (14, 49308), (15, 49299), (Start: 19 @49239 has 77 MA's), (21, 49227), (22, 49224),

Gene: Duplo_93 Start: 49786, Stop: 49691, Start Num: 18
Candidate Starts for Duplo_93:
(Start: 16 @49804 has 10 MA's), (Start: 18 @49786 has 56 MA's), (22, 49771), (24, 49762), (26, 49738),

Gene: DustyMartin_88 Start: 48914, Stop: 48810, Start Num: 18
Candidate Starts for DustyMartin_88:
(12, 48980), (Start: 18 @48914 has 56 MA's), (22, 48899), (24, 48890),

Gene: Eapen_86 Start: 48893, Stop: 48795, Start Num: 18
Candidate Starts for Eapen_86:
(Start: 18 @48893 has 56 MA's), (22, 48878), (24, 48869),

Gene: EricB_91 Start: 48136, Stop: 48044, Start Num: 19
Candidate Starts for EricB_91:
(8, 48280), (13, 48208), (14, 48205), (15, 48196), (Start: 19 @48136 has 77 MA's), (21, 48124), (22, 48121),

Gene: Eros_86 Start: 48906, Stop: 48808, Start Num: 18
Candidate Starts for Eros_86:
(Start: 18 @48906 has 56 MA's), (22, 48891), (24, 48882),

Gene: Eurydice_87 Start: 48935, Stop: 48837, Start Num: 18
Candidate Starts for Eurydice_87:
(Start: 18 @48935 has 56 MA's), (22, 48920), (24, 48911),

Gene: Funston_85 Start: 48895, Stop: 48797, Start Num: 19
Candidate Starts for Funston_85:
(Start: 18 @48898 has 56 MA's), (Start: 19 @48895 has 77 MA's), (22, 48880), (24, 48871),

Gene: Garak_96 Start: 49067, Stop: 48975, Start Num: 19
Candidate Starts for Garak_96:
(Start: 19 @49067 has 77 MA's), (22, 49052),

Gene: GaugeLDP_85 Start: 49917, Stop: 49816, Start Num: 18
Candidate Starts for GaugeLDP_85:
(Start: 16 @49935 has 10 MA's), (Start: 18 @49917 has 56 MA's), (22, 49902), (23, 49899), (24, 49893),

Gene: Gladiator_91 Start: 48787, Stop: 48695, Start Num: 19
Candidate Starts for Gladiator_91:
(Start: 19 @48787 has 77 MA's), (22, 48772),

Gene: Gruunaga_95 Start: 48743, Stop: 48651, Start Num: 19
Candidate Starts for Gruunaga_95:
(Start: 19 @48743 has 77 MA's), (22, 48728),

Gene: Hammer_95 Start: 48440, Stop: 48348, Start Num: 19
Candidate Starts for Hammer_95:
(Start: 19 @48440 has 77 MA's), (22, 48425),

Gene: Happiness_85 Start: 48921, Stop: 48823, Start Num: 18
Candidate Starts for Happiness_85:
(Start: 18 @48921 has 56 MA's), (22, 48906), (24, 48897),

Gene: Hawkeye_52 Start: 38301, Stop: 38384, Start Num: 18
Candidate Starts for Hawkeye_52:
(11, 38220), (Start: 18 @38301 has 56 MA's), (22, 38316), (24, 38325),

Gene: Helmet_97 Start: 49067, Stop: 48975, Start Num: 19
Candidate Starts for Helmet_97:
(Start: 19 @49067 has 77 MA's), (22, 49052),

Gene: Hexamo_94 Start: 48608, Stop: 48516, Start Num: 19
Candidate Starts for Hexamo_94:

(Start: 19 @48608 has 77 MA's), (22, 48593),

Gene: Holli_85 Start: 48688, Stop: 48590, Start Num: 18
Candidate Starts for Holli_85:
(Start: 18 @48688 has 56 MA's), (22, 48673), (24, 48664),

Gene: Hoot_88 Start: 46453, Stop: 46361, Start Num: 19
Candidate Starts for Hoot_88:
(8, 46597), (13, 46525), (14, 46522), (15, 46513), (Start: 19 @46453 has 77 MA's), (21, 46441), (22, 46438),

Gene: Houdini22_85 Start: 48899, Stop: 48801, Start Num: 19
Candidate Starts for Houdini22_85:
(Start: 18 @48902 has 56 MA's), (Start: 19 @48899 has 77 MA's), (22, 48884), (24, 48875),

Gene: ICleared_85 Start: 48966, Stop: 48868, Start Num: 18
Candidate Starts for ICleared_85:
(Start: 18 @48966 has 56 MA's), (22, 48951), (24, 48942),

Gene: Imbriano_94 Start: 49441, Stop: 49349, Start Num: 19
Candidate Starts for Imbriano_94:
(8, 49585), (13, 49513), (14, 49510), (15, 49501), (Start: 19 @49441 has 77 MA's), (21, 49429), (22, 49426),

Gene: IronMan_86 Start: 50377, Stop: 50276, Start Num: 18
Candidate Starts for IronMan_86:
(Start: 16 @50395 has 10 MA's), (Start: 18 @50377 has 56 MA's), (22, 50362), (23, 50359),

Gene: Isiphiwo_89 Start: 48158, Stop: 48066, Start Num: 19
Candidate Starts for Isiphiwo_89:
(Start: 19 @48158 has 77 MA's), (21, 48146), (22, 48143),

Gene: Jeffabunny_83 Start: 45211, Stop: 45119, Start Num: 19
Candidate Starts for Jeffabunny_83:
(Start: 19 @45211 has 77 MA's), (22, 45196),

Gene: JetBlade_87 Start: 48926, Stop: 48828, Start Num: 18
Candidate Starts for JetBlade_87:
(Start: 18 @48926 has 56 MA's), (22, 48911), (24, 48902),

Gene: JewelBug_85 Start: 46932, Stop: 46840, Start Num: 19
Candidate Starts for JewelBug_85:
(8, 47076), (13, 47004), (14, 47001), (15, 46992), (Start: 19 @46932 has 77 MA's), (21, 46920), (22, 46917),

Gene: JoongJeon_85 Start: 48892, Stop: 48794, Start Num: 18
Candidate Starts for JoongJeon_85:
(Start: 18 @48892 has 56 MA's), (22, 48877), (24, 48868),

Gene: Jordennis_91 Start: 48836, Stop: 48744, Start Num: 19
Candidate Starts for Jordennis_91:
(8, 48980), (13, 48908), (14, 48905), (15, 48896), (Start: 19 @48836 has 77 MA's), (21, 48824), (22, 48821),

Gene: KFPoly_85 Start: 48892, Stop: 48794, Start Num: 18
Candidate Starts for KFPoly_85:
(Start: 18 @48892 has 56 MA's), (22, 48877), (24, 48868),

Gene: Kampy_85 Start: 48901, Stop: 48803, Start Num: 19
Candidate Starts for Kampy_85:
(Start: 18 @48904 has 56 MA's), (Start: 19 @48901 has 77 MA's), (22, 48886), (24, 48877),

Gene: Kazan_94 Start: 48602, Stop: 48510, Start Num: 19
Candidate Starts for Kazan_94:
(Start: 19 @48602 has 77 MA's), (21, 48590), (22, 48587),

Gene: Kerberos_92 Start: 49767, Stop: 49654, Start Num: 16
Candidate Starts for Kerberos_92:
(Start: 16 @49767 has 10 MA's), (Start: 18 @49749 has 56 MA's), (22, 49734), (24, 49725), (25, 49707), (26, 49701),

Gene: Kingmustik0402_86 Start: 48887, Stop: 48789, Start Num: 19
Candidate Starts for Kingmustik0402_86:
(Start: 18 @48890 has 56 MA's), (Start: 19 @48887 has 77 MA's), (22, 48872), (24, 48863),

Gene: Kinmap_97 Start: 49864, Stop: 49757, Start Num: 18
Candidate Starts for Kinmap_97:
(Start: 18 @49864 has 56 MA's), (22, 49849), (24, 49840),

Gene: Kipper29_93 Start: 48611, Stop: 48519, Start Num: 19
Candidate Starts for Kipper29_93:
(8, 48755), (13, 48683), (14, 48680), (15, 48671), (Start: 19 @48611 has 77 MA's), (21, 48599), (22, 48596),

Gene: Koan_83 Start: 48898, Stop: 48800, Start Num: 19
Candidate Starts for Koan_83:
(Start: 18 @48901 has 56 MA's), (Start: 19 @48898 has 77 MA's), (22, 48883), (24, 48874),

Gene: Koko_96 Start: 49457, Stop: 49365, Start Num: 19
Candidate Starts for Koko_96:
(Start: 19 @49457 has 77 MA's), (22, 49442),

Gene: Koreni_85 Start: 48579, Stop: 48481, Start Num: 19
Candidate Starts for Koreni_85:
(Start: 18 @48582 has 56 MA's), (Start: 19 @48579 has 77 MA's), (22, 48564), (24, 48555),

Gene: Kratark_85 Start: 48932, Stop: 48834, Start Num: 18
Candidate Starts for Kratark_85:
(Start: 18 @48932 has 56 MA's), (22, 48917), (24, 48908),

Gene: Kremtemulon_83 Start: 48731, Stop: 48633, Start Num: 19
Candidate Starts for Kremtemulon_83:
(Start: 18 @48734 has 56 MA's), (Start: 19 @48731 has 77 MA's), (22, 48716), (24, 48707),

Gene: Kyee_86 Start: 48893, Stop: 48795, Start Num: 18
Candidate Starts for Kyee_86:

(Start: 18 @48893 has 56 MA's), (22, 48878), (24, 48869),

Gene: Lilbunny_91 Start: 47315, Stop: 47223, Start Num: 19
Candidate Starts for Lilbunny_91:
(Start: 19 @47315 has 77 MA's), (22, 47300),

Gene: LochMonster_87 Start: 49135, Stop: 49037, Start Num: 18
Candidate Starts for LochMonster_87:
(Start: 18 @49135 has 56 MA's), (22, 49120), (24, 49111),

Gene: Lorenzo_86 Start: 48896, Stop: 48798, Start Num: 19
Candidate Starts for Lorenzo_86:
(Start: 18 @48899 has 56 MA's), (Start: 19 @48896 has 77 MA's), (22, 48881), (24, 48872),

Gene: Lunsford_86 Start: 48891, Stop: 48793, Start Num: 18
Candidate Starts for Lunsford_86:
(Start: 18 @48891 has 56 MA's), (22, 48876), (24, 48867),

Gene: Maverick_85 Start: 48898, Stop: 48797, Start Num: 18
Candidate Starts for Maverick_85:
(Start: 18 @48898 has 56 MA's), (Start: 19 @48895 has 77 MA's), (22, 48880), (24, 48871),

Gene: Maxo_88 Start: 48901, Stop: 48803, Start Num: 19
Candidate Starts for Maxo_88:
(Start: 18 @48904 has 56 MA's), (Start: 19 @48901 has 77 MA's), (22, 48886), (24, 48877),

Gene: Mazhar510_86 Start: 48896, Stop: 48798, Start Num: 18
Candidate Starts for Mazhar510_86:
(Start: 18 @48896 has 56 MA's), (22, 48881), (24, 48872),

Gene: McFly_93 Start: 48941, Stop: 48849, Start Num: 19
Candidate Starts for McFly_93:
(Start: 19 @48941 has 77 MA's), (21, 48929), (22, 48926),

Gene: Melvin_88 Start: 48896, Stop: 48795, Start Num: 18
Candidate Starts for Melvin_88:
(Start: 18 @48896 has 56 MA's), (Start: 19 @48893 has 77 MA's), (22, 48878), (24, 48869),

Gene: Miramae_86 Start: 48814, Stop: 48716, Start Num: 19
Candidate Starts for Miramae_86:
(Start: 18 @48817 has 56 MA's), (Start: 19 @48814 has 77 MA's), (22, 48799), (24, 48790),

Gene: MissWhite_84 Start: 46424, Stop: 46323, Start Num: 18
Candidate Starts for MissWhite_84:
(3, 46784), (5, 46760), (6, 46673), (7, 46667), (10, 46499), (Start: 16 @46442 has 10 MA's), (Start: 18 @46424 has 56 MA's), (22, 46409),

Gene: Morrow_88 Start: 48938, Stop: 48840, Start Num: 18
Candidate Starts for Morrow_88:
(Start: 18 @48938 has 56 MA's), (22, 48923), (24, 48914),

Gene: Mundrea_84 Start: 48776, Stop: 48678, Start Num: 18
Candidate Starts for Mundrea_84:

(Start: 18 @48776 has 56 MA's), (Start: 19 @48773 has 77 MA's), (22, 48758), (24, 48749),

Gene: Naji_81 Start: 46132, Stop: 46019, Start Num: 16
Candidate Starts for Naji_81:
(Start: 16 @46132 has 10 MA's), (Start: 18 @46114 has 56 MA's), (22, 46099), (24, 46090), (26, 46066),

Gene: Nebs_87 Start: 48938, Stop: 48840, Start Num: 18
Candidate Starts for Nebs_87:
(Start: 18 @48938 has 56 MA's), (22, 48923), (24, 48914),

Gene: Neeharika16_92 Start: 48698, Stop: 48606, Start Num: 19
Candidate Starts for Neeharika16_92:
(8, 48842), (13, 48770), (14, 48767), (15, 48758), (Start: 19 @48698 has 77 MA's), (21, 48686), (22, 48683),

Gene: Nemo27_85 Start: 48894, Stop: 48796, Start Num: 19
Candidate Starts for Nemo27_85:
(Start: 18 @48897 has 56 MA's), (Start: 19 @48894 has 77 MA's), (22, 48879), (24, 48870),

Gene: Newrala_92 Start: 49044, Stop: 48952, Start Num: 19
Candidate Starts for Newrala_92:
(8, 49188), (13, 49116), (14, 49113), (15, 49104), (Start: 19 @49044 has 77 MA's), (21, 49032), (22, 49029),

Gene: NicoleTera_90 Start: 49767, Stop: 49672, Start Num: 19
Candidate Starts for NicoleTera_90:
(Start: 19 @49767 has 77 MA's), (22, 49752), (23, 49749),

Gene: Noelle_85 Start: 49016, Stop: 48912, Start Num: 19
Candidate Starts for Noelle_85:
(Start: 19 @49016 has 77 MA's), (21, 49004), (22, 49001), (24, 48992),

Gene: NorthStar_83 Start: 48898, Stop: 48800, Start Num: 19
Candidate Starts for NorthStar_83:
(Start: 18 @48901 has 56 MA's), (Start: 19 @48898 has 77 MA's), (22, 48883), (24, 48874),

Gene: NotAPhaseMom_85 Start: 48899, Stop: 48801, Start Num: 19
Candidate Starts for NotAPhaseMom_85:
(Start: 18 @48902 has 56 MA's), (Start: 19 @48899 has 77 MA's), (22, 48884), (24, 48875),

Gene: Ohfah_87 Start: 48938, Stop: 48840, Start Num: 18
Candidate Starts for Ohfah_87:
(Start: 18 @48938 has 56 MA's), (22, 48923), (24, 48914),

Gene: PP_05 Start: 1199, Stop: 1101, Start Num: 17
Candidate Starts for PP_05:
(Start: 17 @1199 has 1 MA's), (20, 1193), (22, 1184),

Gene: PeterPeter_86 Start: 48892, Stop: 48794, Start Num: 18
Candidate Starts for PeterPeter_86:
(Start: 18 @48892 has 56 MA's), (22, 48877), (24, 48868),

Gene: PetiteSangsue_83 Start: 48680, Stop: 48582, Start Num: 19
Candidate Starts for PetiteSangsue_83:
(Start: 19 @48680 has 77 MA's), (21, 48668), (22, 48665), (24, 48656),

Gene: Phelipe_86 Start: 48859, Stop: 48761, Start Num: 18
Candidate Starts for Phelipe_86:
(Start: 18 @48859 has 56 MA's), (22, 48844), (24, 48835),

Gene: Phighter1804_86 Start: 48959, Stop: 48861, Start Num: 19
Candidate Starts for Phighter1804_86:
(Start: 18 @48962 has 56 MA's), (Start: 19 @48959 has 77 MA's), (22, 48944), (24, 48935),

Gene: Phontbonne_86 Start: 48796, Stop: 48701, Start Num: 19
Candidate Starts for Phontbonne_86:
(Start: 19 @48796 has 77 MA's), (22, 48781), (24, 48772),

Gene: Pipcraft_82 Start: 48902, Stop: 48801, Start Num: 18
Candidate Starts for Pipcraft_82:
(Start: 18 @48902 has 56 MA's), (Start: 19 @48899 has 77 MA's), (22, 48884), (24, 48875),

Gene: Pmask_92 Start: 49245, Stop: 49153, Start Num: 19
Candidate Starts for Pmask_92:
(8, 49389), (13, 49317), (14, 49314), (15, 49305), (Start: 19 @49245 has 77 MA's), (21, 49233), (22, 49230),

Gene: Polymorphads_87 Start: 48919, Stop: 48821, Start Num: 18
Candidate Starts for Polymorphads_87:
(Start: 18 @48919 has 56 MA's), (22, 48904), (24, 48895),

Gene: Polyphemus_86 Start: 47016, Stop: 46924, Start Num: 19
Candidate Starts for Polyphemus_86:
(8, 47160), (13, 47088), (14, 47085), (15, 47076), (Start: 19 @47016 has 77 MA's), (21, 47004), (22, 47001),

Gene: Pomar16_92 Start: 49840, Stop: 49727, Start Num: 16
Candidate Starts for Pomar16_92:
(Start: 16 @49840 has 10 MA's), (Start: 18 @49822 has 56 MA's), (22, 49807), (24, 49798), (25, 49780), (26, 49774),

Gene: Priamo_93 Start: 48288, Stop: 48196, Start Num: 19
Candidate Starts for Priamo_93:
(8, 48432), (13, 48360), (14, 48357), (15, 48348), (Start: 19 @48288 has 77 MA's), (21, 48276), (22, 48273),

Gene: Pumbaa_86 Start: 48843, Stop: 48745, Start Num: 18
Candidate Starts for Pumbaa_86:
(Start: 18 @48843 has 56 MA's), (22, 48828), (24, 48819),

Gene: Rifter_95 Start: 48235, Stop: 48143, Start Num: 19
Candidate Starts for Rifter_95:
(Start: 19 @48235 has 77 MA's), (22, 48220),

Gene: RockieBear_86 Start: 48903, Stop: 48805, Start Num: 18

Candidate Starts for RockieBear_86:
(Start: 18 @48903 has 56 MA's), (22, 48888), (24, 48879),

Gene: Roksolana_95 Start: 48951, Stop: 48859, Start Num: 19
Candidate Starts for Roksolana_95:
(Start: 19 @48951 has 77 MA's), (22, 48936),

Gene: Rosa24_82 Start: 48926, Stop: 48828, Start Num: 19
Candidate Starts for Rosa24_82:
(Start: 18 @48929 has 56 MA's), (Start: 19 @48926 has 77 MA's), (22, 48911), (24, 48902),

Gene: Rowdy_88 Start: 48914, Stop: 48810, Start Num: 18
Candidate Starts for Rowdy_88:
(12, 48980), (Start: 18 @48914 has 56 MA's), (22, 48899), (24, 48890),

Gene: Scamp_86 Start: 48900, Stop: 48802, Start Num: 18
Candidate Starts for Scamp_86:
(Start: 18 @48900 has 56 MA's), (22, 48885), (24, 48876),

Gene: SenorClean_87 Start: 48898, Stop: 48800, Start Num: 19
Candidate Starts for SenorClean_87:
(Start: 18 @48901 has 56 MA's), (Start: 19 @48898 has 77 MA's), (22, 48883), (24, 48874),

Gene: Shapes_88 Start: 48914, Stop: 48810, Start Num: 18
Candidate Starts for Shapes_88:
(12, 48980), (Start: 18 @48914 has 56 MA's), (22, 48899), (24, 48890),

Gene: SheldonCooper_86 Start: 49336, Stop: 49238, Start Num: 18
Candidate Starts for SheldonCooper_86:
(Start: 18 @49336 has 56 MA's), (22, 49321), (24, 49312),

Gene: Shygu2_84 Start: 48839, Stop: 48744, Start Num: 19
Candidate Starts for Shygu2_84:
(Start: 19 @48839 has 77 MA's), (21, 48827), (22, 48824), (24, 48815),

Gene: SmellyB_93 Start: 48596, Stop: 48504, Start Num: 19
Candidate Starts for SmellyB_93:
(Start: 19 @48596 has 77 MA's), (21, 48584), (22, 48581),

Gene: Sparxx_87 Start: 48894, Stop: 48796, Start Num: 18
Candidate Starts for Sparxx_87:
(Start: 18 @48894 has 56 MA's), (22, 48879), (24, 48870),

Gene: StarStuff_92 Start: 49802, Stop: 49689, Start Num: 16
Candidate Starts for StarStuff_92:
(Start: 16 @49802 has 10 MA's), (Start: 18 @49784 has 56 MA's), (22, 49769), (24, 49760), (25, 49742), (26, 49736),

Gene: SteMason_86 Start: 48895, Stop: 48797, Start Num: 19
Candidate Starts for SteMason_86:
(Start: 18 @48898 has 56 MA's), (Start: 19 @48895 has 77 MA's), (22, 48880), (24, 48871),

Gene: Stink_86 Start: 49122, Stop: 49024, Start Num: 19

Candidate Starts for Stink_86:
(Start: 18 @49125 has 56 MA's), (Start: 19 @49122 has 77 MA's), (22, 49107), (24, 49098),

Gene: SuperAwesome_93 Start: 49284, Stop: 49192, Start Num: 19
Candidate Starts for SuperAwesome_93:
(8, 49428), (13, 49356), (14, 49353), (15, 49344), (Start: 19 @49284 has 77 MA's), (21, 49272), (22, 49269),

Gene: SuperCallie99_89 Start: 48659, Stop: 48567, Start Num: 19
Candidate Starts for SuperCallie99_89:
(Start: 19 @48659 has 77 MA's), (22, 48644),

Gene: Taquarus_85 Start: 48907, Stop: 48809, Start Num: 18
Candidate Starts for Taquarus_85:
(Start: 18 @48907 has 56 MA's), (22, 48892), (24, 48883),

Gene: Temprado_96 Start: 49067, Stop: 48975, Start Num: 19
Candidate Starts for Temprado_96:
(Start: 19 @49067 has 77 MA's), (22, 49052),

Gene: Thanksgivukkah_85 Start: 48896, Stop: 48798, Start Num: 18
Candidate Starts for Thanksgivukkah_85:
(Start: 18 @48896 has 56 MA's), (22, 48881), (24, 48872),

Gene: Tinybot_85 Start: 48925, Stop: 48827, Start Num: 19
Candidate Starts for Tinybot_85:
(Start: 18 @48928 has 56 MA's), (Start: 19 @48925 has 77 MA's), (22, 48910), (24, 48901),

Gene: Tomathan_92 Start: 49881, Stop: 49768, Start Num: 16
Candidate Starts for Tomathan_92:
(Start: 16 @49881 has 10 MA's), (Start: 18 @49863 has 56 MA's), (22, 49848), (24, 49839), (26, 49815),

Gene: Travvers_92 Start: 49798, Stop: 49685, Start Num: 16
Candidate Starts for Travvers_92:
(Start: 16 @49798 has 10 MA's), (Start: 18 @49780 has 56 MA's), (22, 49765), (24, 49756), (26, 49732),

Gene: Tristan_85 Start: 50209, Stop: 50108, Start Num: 18
Candidate Starts for Tristan_85:
(Start: 16 @50227 has 10 MA's), (Start: 18 @50209 has 56 MA's), (22, 50194), (23, 50191), (24, 50185),

Gene: TroyPia_87 Start: 48933, Stop: 48835, Start Num: 18
Candidate Starts for TroyPia_87:
(Start: 18 @48933 has 56 MA's), (22, 48918), (24, 48909),

Gene: Tucker_95 Start: 48821, Stop: 48729, Start Num: 19
Candidate Starts for Tucker_95:
(Start: 19 @48821 has 77 MA's), (22, 48806),

Gene: TygerBlood_86 Start: 48898, Stop: 48800, Start Num: 18
Candidate Starts for TygerBlood_86:

(Start: 18 @48898 has 56 MA's), (22, 48883), (24, 48874),

Gene: Ulysses_85 Start: 48581, Stop: 48483, Start Num: 19
Candidate Starts for Ulysses_85:
(Start: 18 @48584 has 56 MA's), (Start: 19 @48581 has 77 MA's), (22, 48566), (24, 48557),

Gene: VC3_88 Start: 48160, Stop: 48047, Start Num: 16
Candidate Starts for VC3_88:
(9, 48226), (Start: 16 @48160 has 10 MA's), (Start: 18 @48142 has 56 MA's), (22, 48127), (24, 48118), (26, 48094),

Gene: VohminGhazi_93 Start: 48597, Stop: 48505, Start Num: 19
Candidate Starts for VohminGhazi_93:
(Start: 19 @48597 has 77 MA's), (21, 48585), (22, 48582),

Gene: Wiks_94 Start: 48698, Stop: 48606, Start Num: 19
Candidate Starts for Wiks_94:
(Start: 19 @48698 has 77 MA's), (22, 48683),

Gene: YoSam321_86 Start: 48893, Stop: 48795, Start Num: 19
Candidate Starts for YoSam321_86:
(Start: 18 @48896 has 56 MA's), (Start: 19 @48893 has 77 MA's), (22, 48878), (24, 48869),

Gene: Yokurt_94 Start: 48698, Stop: 48606, Start Num: 19
Candidate Starts for Yokurt_94:
(Start: 19 @48698 has 77 MA's), (22, 48683),

Gene: Zaka_95 Start: 48698, Stop: 48606, Start Num: 19
Candidate Starts for Zaka_95:
(Start: 19 @48698 has 77 MA's), (22, 48683),

Gene: Zulu_96 Start: 49075, Stop: 48983, Start Num: 19
Candidate Starts for Zulu_96:
(Start: 19 @49075 has 77 MA's), (22, 49060),