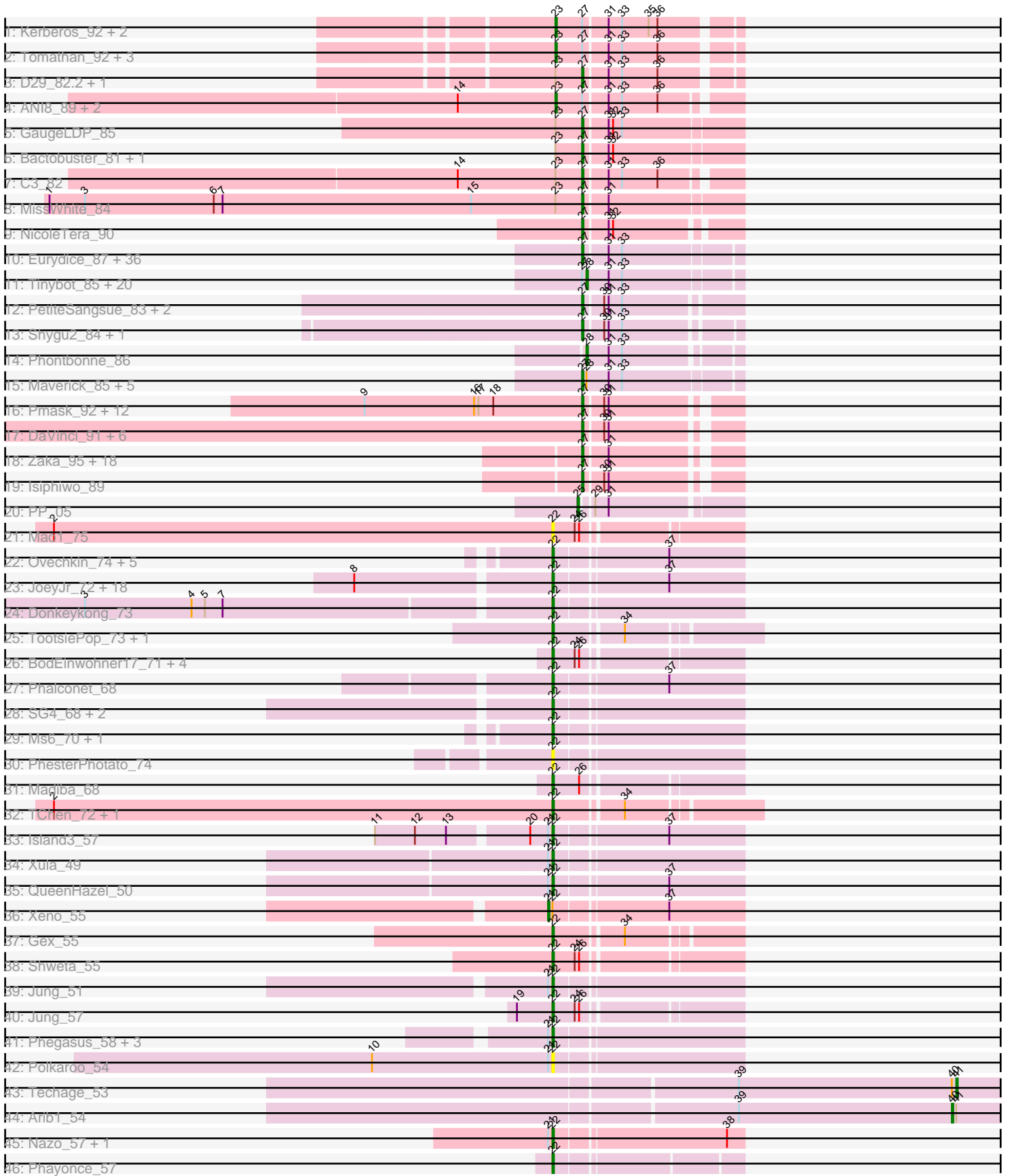


Pham 157608



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 157608 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157608 has 191 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Kerberos_92, Pomar16_92, StarStuff_92
- Track 2 : Tomathan_92, D32_80, DBQu4n_92, Najj_81
- Track 3 : D29_82.2, Duplo_93
- Track 4 : ANI8_89, VC3_88, AN9_89
- Track 5 : GaugeLDP_85
- Track 6 : Bactobuster_81, IronMan_86
- Track 7 : C3_82
- Track 8 : MissWhite_84
- Track 9 : NicoleTera_90
- Track 10 : Eurydice_87, Eapen_86, Happiness_85, JoongJeon_85, KFPoly_85, DirtyDunning_85, Ohfah_87, BubbleTrouble_85, Holli_85, Baby16_86, Thanksgivukkah_85, LochMonster_87, Kye_86, Sparxx_87, ICleared_85, Taquarus_85, Chaph_86, Mazhar510_86, Nebs_87, CentreCat_86, Polymorphads_87, SheldonCooper_86, TygerBlood_86, TroyPia_87, Connomayer_86, Cerulean_88, Kratak_85, JetBlade_87, Morrow_88, Alberto7_87, Pumbaa_86, Eros_86, Bartimeaus_86, Phelipe_86, BellusTerra_86, Scamp_86, PeterPeter_86
- Track 11 : Tinybot_85, Kremtemulon_80, Funston_85, Maxo_88, Cintron_86, Miramae_86, YoSam321_86, Kamy_85, Nemo27_85, Phighter1804_86, NorthStar_83, Kingmustik0402_86, AvatarAhPeg_86, Houdini22_85, NotAPhaseMom_85, Ulysses_85, Lorenzo_86, Koreni_85, Cocoaberry_86, Cindaradix_81, Clarenza_85
- Track 12 : PetiteSangsue_83, Bumblebee11_82, Datway_83
- Track 13 : Shygu2_84, Noelle_85
- Track 14 : Phontbonne_86
- Track 15 : Maverick_85, Bombshell_86, Melvin_88, Pipcraft_82, Mundrea_84, Caelakin_84
- Track 16 : Pmask_92, JewelBug_85, Hoot_88, Neeharika16_92, EricB_91, Jordennis_91, Dorothea_90, BABullseye_86, SuperAwesome_93, Cookiedough_93, Kipper29_93, Priamo_93, Newrala_92
- Track 17 : DaVinci_91, VohminGhazi_93, Chartreuse_91, Kazan_94, Candra_91, SmellyB_93, McFly_93
- Track 18 : Zaka_95, Hammer_95, Roksolana_95, Yokurt_94, Hexamo_94, Artemis2UCLA_94, Zulu_96, Rifter_95, SuperCallie99_89, CloudWang3_95, Jeffabunny_83, Gruunaga_95, Wiks_94, Koko_96, Helmet_96, Tucker_95, Gladiator_91, Blue7_96, Garak_96
- Track 19 : Isiphiwo_89

- Track 20 : PP_05
- Track 21 : Mao1_75
- Track 22 : Ovechkin_74, Kingsley_75, Quico_81, Batiatus_70, Babsiella_59, Florinda_84
- Track 23 : JoeyJr_72, Doomphist_75, KingMidas_71, PHappiness_72, Poenanya_75, Nimbo_64, Leperchaun_70, Geralt_65, Daenerys_71, Inventum_70, RedBird_73, Dorothy_73, Polka14_76, Empress_70, Deb65_65, RitaG_72, Scottish_70, Sassafras_73, OldBen_69
- Track 24 : Donkeykong_73
- Track 25 : TootsiePop_73, Misha28_73
- Track 26 : BodEinwohner17_71, Farewell_68, BuzzLyseyear_73, Andies_53, Tapioca_57
- Track 27 : Phalconet_68
- Track 28 : SG4_68, Hegedechwinu_71, StAnnes_69
- Track 29 : Ms6_70, DLane_69
- Track 30 : PhesterPhotato_74
- Track 31 : Madiba_68
- Track 32 : TChen_72, LunaStella_64
- Track 33 : Island3_57
- Track 34 : Xula_49
- Track 35 : QueenHazel_50
- Track 36 : Xen0_55
- Track 37 : Gex_55
- Track 38 : Shweta_55
- Track 39 : Jung_51
- Track 40 : Jung_57
- Track 41 : Phegasus_58, Mangethe_58, Zilizebeth_58, Majeke_58
- Track 42 : Polkaroo_54
- Track 43 : Techage_53
- Track 44 : Arib1_54
- Track 45 : Nazo_57, BigNuz_56
- Track 46 : Phayonce_57

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

The start number called the most often in the published annotations is 27, it was called in 90 of the 177 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alberto7_87, Artemis2UCLA_94, BABullseye_86, Baby16_86, Bactobuster_81, Bartimeaus_86, BellusTerra_86, Blue7_96, Bombshell_86, BubbleTrouble_85, Bumblebee11_82, C3_82, Caelakin_84, Candra_91, CentreCat_86, Cerulean_88, Chaph_86, Chartreuse_91, CloudWang3_95, Connomayer_86, Cookiedough_93, D29_82.2, DaVinci_91, Datway_83, DirtyDunning_85, Dorothea_90, Duplo_93, Eapen_86, EricB_91, Eros_86, Eurydice_87, Garak_96, GaugeLDP_85, Gladiator_91, Gruunaga_95, Hammer_95, Happiness_85, Helmet_96, Hexamo_94, Holli_85, Hoot_88, ICleared_85, IronMan_86, Isiphiwo_89, Jeffabunny_83, JetBlade_87, JewelBug_85, JoongJeon_85, Jordennis_91, KFPoly_85, Kazan_94, Kipper29_93, Koko_96, Kratark_85, Kyee_86, LochMonster_87, Maverick_85, Mazhar510_86, McFly_93, Melvin_88, MissWhite_84, Morrow_88, Mundrea_84,

Nebs_87, Neeharika16_92, Newrala_92, NicoleTera_90, Noelle_85, Ohfah_87, PeterPeter_86, PetiteSangsue_83, Phelipe_86, Pipcraft_82, Pmask_92, Polymorphads_87, Priamo_93, Pumbaa_86, Rifler_95, Roksolana_95, Scamp_86, SheldonCooper_86, Shygu2_84, SmellyB_93, Sparxx_87, SuperAwesome_93, SuperCallie99_89, Taquarus_85, Thanksgivukkah_85, TroyPia_87, Tucker_95, TygerBlood_86, VohminGhazi_93, Wiks_94, Yokurt_94, Zaka_95, Zulu_96,

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

- AN9_89, ANI8_89, AvatarAhPeg_86, Cindaradix_81, Cintron_86, Clarenza_85, Cocoaberry_86, D32_80, DBQu4n_92, Funston_85, Houdini22_85, Kamy_85, Kerberos_92, Kingmustik0402_86, Koreni_85, Kremtemulon_80, Lorenzo_86, Maxo_88, Miramae_86, Naji_81, Nemo27_85, NorthStar_83, NotAPhaseMom_85, Phighter1804_86, Pomar16_92, StarStuff_92, Tinybot_85, Tomathan_92, Ulysses_85, VC3_88, YoSam321_86,

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

- Andies_53, Arib1_54, Babsiella_59, Batiatus_70, BigNuz_56, BodEinwohner17_71, BuzzLyseyear_73, DLane_69, Daenerys_71, Deb65_65, Donkeykong_73, Doomphist_75, Dorothy_73, Empress_70, Farewell_68, Florinda_84, Geralt_65, Gex_55, Hegedechwinu_71, Inventum_70, Island3_57, JoeyJr_72, Jung_51, Jung_57, KingMidas_71, Kingsley_75, Leperchaun_70, LunaStella_64, Madiba_68, Majeke_58, Mangethe_58, Mao1_75, Misha28_73, Ms6_70, Nazo_57, Nimbo_64, OldBen_69, Ovechkin_74, PHappiness_72, PP_05, Phalconet_68, Phayonce_57, Phegasus_58, PhesterPhotato_74, Phontbonne_86, Poenanya_75, Polka14_76, Polkaroo_54, QueenHazel_50, Quico_81, RedBird_73, RitaG_72, SG4_68, Sassafras_73, Scottish_70, Shweta_55, StAnnes_69, TChen_72, Tapioca_57, Techage_53, TootsiePop_73, Xeno_55, Xula_49, Zilizebeth_58,

Summary by start number:

Start 21:

- Found in 12 of 191 (6.3%) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Xeno_55 (N),

Start 22:

- Found in 60 of 191 (31.4%) of genes in pham
- Manual Annotations of this start: 52 of 177
- Called 98.3% of time when present
- Phage (with cluster) where this start called: Andies_53 (N), Babsiella_59 (I1), Batiatus_70 (F1), BigNuz_56 (P4), BodEinwohner17_71 (F1), BuzzLyseyear_73 (F1), DLane_69 (F1), Daenerys_71 (F1), Deb65_65 (F1), Donkeykong_73 (F1), Doomphist_75 (F1), Dorothy_73 (F1), Empress_70 (F1), Farewell_68 (AF), Florinda_84 (F1), Geralt_65 (F1), Gex_55 (N), Hegedechwinu_71 (F1), Inventum_70 (F1), Island3_57 (I1), JoeyJr_72 (F1), Jung_51 (P1), Jung_57 (P1), KingMidas_71 (F1), Kingsley_75 (F1), Leperchaun_70 (F1), LunaStella_64 (F4), Madiba_68 (F1), Majeke_58 (P1), Mangethe_58 (P1), Mao1_75 (AD), Misha28_73 (F1), Ms6_70 (F1), Nazo_57 (P4), Nimbo_64 (F1), OldBen_69 (F1), Ovechkin_74 (F1), PHappiness_72 (F1), Phalconet_68 (F1), Phayonce_57 (P5), Phegasus_58 (P1), PhesterPhotato_74 (F1), Poenanya_75 (F1), Polka14_76 (F1), Polkaroo_54 (P1), QueenHazel_50 (I1), Quico_81 (F1), RedBird_73 (F1), RitaG_72 (F1), SG4_68 (F1), Sassafras_73 (F1), Scottish_70 (F1), Shweta_55 (N), StAnnes_69 (F1), TChen_72 (F4), Tapioca_57 (N),

TootsiePop_73 (F1), Xula_49 (I1), Zilizebeth_58 (P1),

Start 23:

- Found in 17 of 191 (8.9%) of genes in pham
- Manual Annotations of this start: 10 of 177
- Called 58.8% 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), VC3_88 (A2),

Start 25:

- Found in 1 of 191 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PP_05 (A7),

Start 27:

- Found in 127 of 191 (66.5%) of genes in pham
- Manual Annotations of this start: 90 of 177
- Called 75.6% of time when present
- Phage (with cluster) where this start called: Alberto7_87 (A4), Artemis2UCLA_94 (A6), BABullseye_86 (A6), Baby16_86 (A4), Bactobuster_81 (A2), Bartimeaus_86 (A4), BellusTerra_86 (A4), Blue7_96 (A6), Bombshell_86 (A4), BubbleTrouble_85 (A4), Bumblebee11_82 (A4), C3_82 (A2), Caelakin_84 (A4), Candra_91 (A6), CentreCat_86 (A4), Cerulean_88 (A4), Chaph_86 (A4), Chartreuse_91 (A6), CloudWang3_95 (A6), Connomayer_86 (A4), Cookiedough_93 (A6), D29_82.2 (A2), DaVinci_91 (A6), Datway_83 (A4), DirtyDunning_85 (A4), Dorothea_90 (A6), Duplo_93 (A2), Eapen_86 (A4), EricB_91 (A6), Eros_86 (A4), Eurydice_87 (A4), Garak_96 (A6), GaugeLDP_85 (A2), Gladiator_91 (A6), Gruunaga_95 (A6), Hammer_95 (A6), Happiness_85 (A4), Helmet_96 (A6), Hexamo_94 (A6), Holli_85 (A4), Hoot_88 (A6), ICleared_85 (A4), IronMan_86 (A2), Isiphiwo_89 (A6), Jeffabunny_83 (A6), JetBlade_87 (A4), JewelBug_85 (A6), JoongJeon_85 (A4), Jordennis_91 (A6), KFPoly_85 (A4), Kazan_94 (A6), Kipper29_93 (A6), Koko_96 (A6), Kratak_85 (A4), Kyee_86 (A4), LochMonster_87 (A4), Maverick_85 (A4), Mazhar510_86 (A4), McFly_93 (A6), Melvin_88 (A4), MissWhite_84 (A2), Morrow_88 (A4), Mundrea_84 (A4), Nebs_87 (A4), Neeharika16_92 (A6), Newrala_92 (A6), NicoleTera_90 (A2), Noelle_85 (A4), Ohfah_87 (A4), PeterPeter_86 (A4), PetiteSangsue_83 (A4), Phelipe_86 (A4), Pipcraft_82 (A4), Pmask_92 (A6), Polymorphads_87 (A4), Priamo_93 (A6), Pumbaa_86 (A4), Rifter_95 (A6), Roksolana_95 (A6), Scamp_86 (A4), SheldonCooper_86 (A4), Shygu2_84 (A4), SmellyB_93 (A6), Sparxx_87 (A4), SuperAwesome_93 (A6), SuperCallie99_89 (A6), Taquarus_85 (A4), Thanksgivukkah_85 (A4), TroyPia_87 (A4), Tucker_95 (A6), TygerBlood_86 (A4), VohminGhazi_93 (A6), Wiks_94 (A6), Yokurt_94 (A6), Zaka_95 (A6), Zulu_96 (A6),

Start 28:

- Found in 28 of 191 (14.7%) of genes in pham
- Manual Annotations of this start: 21 of 177
- Called 78.6% of time when present
- Phage (with cluster) where this start called: AvatarAhPeg_86 (A4), Cindaradix_81 (A4), Cintron_86 (A4), Clarenza_85 (A4), Cocoaberry_86 (A4), Funston_85 (A4), Houdini22_85 (A4), Kamy_85 (A4), Kingmustik0402_86 (A4), Koreni_85 (A4), Kremtemulon_80 (A4), Lorenzo_86 (A4), Maxo_88 (A4), Miramae_86 (A4),

Nemo27_85 (A4), NorthStar_83 (A4), NotAPhaseMom_85 (A4), Phighter1804_86 (A4), Phontbonne_86 (A4), Tinybot_85 (A4), Ulysses_85 (A4), YoSam321_86 (A4),

Start 40:

- Found in 2 of 191 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Arib1_54 (P1),

Start 41:

- Found in 2 of 191 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Techage_53 (P1),

Summary by clusters:

There are 13 clusters represented in this pham: F1, P1, F4, AD, P4, P5, I1, AF, N, A2, A4, A7, A6,

Info for manual annotations of cluster A2:

- Start number 23 was manually annotated 10 times for cluster A2.
- Start number 27 was manually annotated 8 times for cluster A2.

Info for manual annotations of cluster A4:

- Start number 27 was manually annotated 48 times for cluster A4.
- Start number 28 was manually annotated 21 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 27 was manually annotated 34 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 25 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster F1:

- Start number 22 was manually annotated 34 times for cluster F1.

Info for manual annotations of cluster F4:

- Start number 22 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster I1:

- Start number 22 was manually annotated 4 times for cluster I1.

Info for manual annotations of cluster N:

- Start number 21 was manually annotated 1 time for cluster N.
- Start number 22 was manually annotated 4 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 22 was manually annotated 6 times for cluster P1.
- Start number 40 was manually annotated 1 time for cluster P1.
- Start number 41 was manually annotated 1 time for cluster P1.

Info for manual annotations of cluster P4:

- Start number 22 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 22 was manually annotated 1 time for cluster P5.

Gene Information:

Gene: AN9_89 Start: 48160, Stop: 48047, Start Num: 23

Candidate Starts for AN9_89:

(14, 48226), (Start: 23 @48160 has 10 MA's), (Start: 27 @48142 has 90 MA's), (31, 48127), (33, 48118), (36, 48094),

Gene: ANI8_89 Start: 48160, Stop: 48047, Start Num: 23

Candidate Starts for ANI8_89:

(14, 48226), (Start: 23 @48160 has 10 MA's), (Start: 27 @48142 has 90 MA's), (31, 48127), (33, 48118), (36, 48094),

Gene: Alberto7_87 Start: 49235, Stop: 49137, Start Num: 27

Candidate Starts for Alberto7_87:

(Start: 27 @49235 has 90 MA's), (31, 49220), (33, 49211),

Gene: Andies_53 Start: 38224, Stop: 38349, Start Num: 22

Candidate Starts for Andies_53:

(Start: 22 @38224 has 52 MA's), (24, 38239), (26, 38242),

Gene: Arib1_54 Start: 36196, Stop: 36321, Start Num: 40

Candidate Starts for Arib1_54:

(39, 36052), (Start: 40 @36196 has 1 MA's), (Start: 41 @36199 has 1 MA's),

Gene: Artemis2UCLA_94 Start: 48593, Stop: 48501, Start Num: 27

Candidate Starts for Artemis2UCLA_94:

(Start: 27 @48593 has 90 MA's), (31, 48578),

Gene: AvatarAhPeg_86 Start: 49151, Stop: 49053, Start Num: 28

Candidate Starts for AvatarAhPeg_86:

(Start: 27 @49154 has 90 MA's), (Start: 28 @49151 has 21 MA's), (31, 49136), (33, 49127),

Gene: BABullseye_86 Start: 46928, Stop: 46836, Start Num: 27

Candidate Starts for BABullseye_86:

(9, 47072), (16, 47000), (17, 46997), (18, 46988), (Start: 27 @46928 has 90 MA's), (30, 46916), (31, 46913),

Gene: Babsiella_59 Start: 39433, Stop: 39555, Start Num: 22

Candidate Starts for Babsiella_59:

(Start: 22 @39433 has 52 MA's), (37, 39505),

Gene: Baby16_86 Start: 48909, Stop: 48811, Start Num: 27

Candidate Starts for Baby16_86:

(Start: 27 @48909 has 90 MA's), (31, 48894), (33, 48885),

Gene: Bactobuster_81 Start: 48864, Stop: 48763, Start Num: 27
Candidate Starts for Bactobuster_81:
(Start: 23 @48882 has 10 MA's), (Start: 27 @48864 has 90 MA's), (31, 48849), (32, 48846),

Gene: Bartimeaus_86 Start: 48900, Stop: 48802, Start Num: 27
Candidate Starts for Bartimeaus_86:
(Start: 27 @48900 has 90 MA's), (31, 48885), (33, 48876),

Gene: Batiatus_70 Start: 44968, Stop: 45090, Start Num: 22
Candidate Starts for Batiatus_70:
(Start: 22 @44968 has 52 MA's), (37, 45040),

Gene: BellusTerra_86 Start: 48763, Stop: 48665, Start Num: 27
Candidate Starts for BellusTerra_86:
(Start: 27 @48763 has 90 MA's), (31, 48748), (33, 48739),

Gene: BigNuz_56 Start: 39756, Stop: 39878, Start Num: 22
Candidate Starts for BigNuz_56:
(Start: 21 @39753 has 1 MA's), (Start: 22 @39756 has 52 MA's), (38, 39867),

Gene: Blue7_96 Start: 48827, Stop: 48735, Start Num: 27
Candidate Starts for Blue7_96:
(Start: 27 @48827 has 90 MA's), (31, 48812),

Gene: BodEinwohner17_71 Start: 45997, Stop: 46113, Start Num: 22
Candidate Starts for BodEinwohner17_71:
(Start: 22 @45997 has 52 MA's), (24, 46012), (26, 46015),

Gene: Bombshell_86 Start: 48898, Stop: 48797, Start Num: 27
Candidate Starts for Bombshell_86:
(Start: 27 @48898 has 90 MA's), (Start: 28 @48895 has 21 MA's), (31, 48880), (33, 48871),

Gene: BubbleTrouble_85 Start: 48925, Stop: 48827, Start Num: 27
Candidate Starts for BubbleTrouble_85:
(Start: 27 @48925 has 90 MA's), (31, 48910), (33, 48901),

Gene: Bumblebee11_82 Start: 48676, Stop: 48578, Start Num: 27
Candidate Starts for Bumblebee11_82:
(Start: 27 @48676 has 90 MA's), (30, 48664), (31, 48661), (33, 48652),

Gene: BuzzLyseyear_73 Start: 47467, Stop: 47583, Start Num: 22
Candidate Starts for BuzzLyseyear_73:
(Start: 22 @47467 has 52 MA's), (24, 47482), (26, 47485),

Gene: C3_82 Start: 48142, Stop: 48047, Start Num: 27
Candidate Starts for C3_82:
(14, 48226), (Start: 23 @48160 has 10 MA's), (Start: 27 @48142 has 90 MA's), (31, 48127), (33, 48118), (36, 48094),

Gene: Caelakin_84 Start: 48901, Stop: 48800, Start Num: 27
Candidate Starts for Caelakin_84:
(Start: 27 @48901 has 90 MA's), (Start: 28 @48898 has 21 MA's), (31, 48883), (33, 48874),

Gene: Candra_91 Start: 48632, Stop: 48540, Start Num: 27

Candidate Starts for Candra_91:

(Start: 27 @48632 has 90 MA's), (30, 48620), (31, 48617),

Gene: CentreCat_86 Start: 48938, Stop: 48840, Start Num: 27

Candidate Starts for CentreCat_86:

(Start: 27 @48938 has 90 MA's), (31, 48923), (33, 48914),

Gene: Cerulean_88 Start: 49336, Stop: 49238, Start Num: 27

Candidate Starts for Cerulean_88:

(Start: 27 @49336 has 90 MA's), (31, 49321), (33, 49312),

Gene: Chaph_86 Start: 48909, Stop: 48811, Start Num: 27

Candidate Starts for Chaph_86:

(Start: 27 @48909 has 90 MA's), (31, 48894), (33, 48885),

Gene: Chartreuse_91 Start: 47933, Stop: 47841, Start Num: 27

Candidate Starts for Chartreuse_91:

(Start: 27 @47933 has 90 MA's), (30, 47921), (31, 47918),

Gene: Cindaradix_81 Start: 49097, Stop: 48999, Start Num: 28

Candidate Starts for Cindaradix_81:

(Start: 27 @49100 has 90 MA's), (Start: 28 @49097 has 21 MA's), (31, 49082), (33, 49073),

Gene: Cintron_86 Start: 48973, Stop: 48869, Start Num: 28

Candidate Starts for Cintron_86:

(Start: 27 @48976 has 90 MA's), (Start: 28 @48973 has 21 MA's), (31, 48958), (33, 48949),

Gene: Clarenza_85 Start: 48895, Stop: 48797, Start Num: 28

Candidate Starts for Clarenza_85:

(Start: 27 @48898 has 90 MA's), (Start: 28 @48895 has 21 MA's), (31, 48880), (33, 48871),

Gene: CloudWang3_95 Start: 49122, Stop: 49030, Start Num: 27

Candidate Starts for CloudWang3_95:

(Start: 27 @49122 has 90 MA's), (31, 49107),

Gene: Cocoaberry_86 Start: 48899, Stop: 48801, Start Num: 28

Candidate Starts for Cocoaberry_86:

(Start: 27 @48902 has 90 MA's), (Start: 28 @48899 has 21 MA's), (31, 48884), (33, 48875),

Gene: Connomayer_86 Start: 48898, Stop: 48800, Start Num: 27

Candidate Starts for Connomayer_86:

(Start: 27 @48898 has 90 MA's), (31, 48883), (33, 48874),

Gene: Cookiedough_93 Start: 49247, Stop: 49155, Start Num: 27

Candidate Starts for Cookiedough_93:

(9, 49391), (16, 49319), (17, 49316), (18, 49307), (Start: 27 @49247 has 90 MA's), (30, 49235), (31, 49232),

Gene: D29_82.2 Start: 46114, Stop: 46019, Start Num: 27

Candidate Starts for D29_82.2:

(Start: 23 @46132 has 10 MA's), (Start: 27 @46114 has 90 MA's), (31, 46099), (33, 46090), (36, 46066),

Gene: D32_80 Start: 46132, Stop: 46019, Start Num: 23

Candidate Starts for D32_80:

(Start: 23 @46132 has 10 MA's), (Start: 27 @46114 has 90 MA's), (31, 46099), (33, 46090), (36, 46066),

Gene: DBQu4n_92 Start: 49747, Stop: 49634, Start Num: 23

Candidate Starts for DBQu4n_92:

(Start: 23 @49747 has 10 MA's), (Start: 27 @49729 has 90 MA's), (31, 49714), (33, 49705), (36, 49681),

Gene: DLane_69 Start: 44902, Stop: 45024, Start Num: 22

Candidate Starts for DLane_69:

(Start: 22 @44902 has 52 MA's),

Gene: DaVinci_91 Start: 47987, Stop: 47895, Start Num: 27

Candidate Starts for DaVinci_91:

(Start: 27 @47987 has 90 MA's), (30, 47975), (31, 47972),

Gene: Daenerys_71 Start: 46948, Stop: 47070, Start Num: 22

Candidate Starts for Daenerys_71:

(8, 46825), (Start: 22 @46948 has 52 MA's), (37, 47020),

Gene: Datway_83 Start: 48706, Stop: 48611, Start Num: 27

Candidate Starts for Datway_83:

(Start: 27 @48706 has 90 MA's), (30, 48694), (31, 48691), (33, 48682),

Gene: Deb65_65 Start: 44669, Stop: 44791, Start Num: 22

Candidate Starts for Deb65_65:

(8, 44546), (Start: 22 @44669 has 52 MA's), (37, 44741),

Gene: DirtyDunning_85 Start: 48910, Stop: 48812, Start Num: 27

Candidate Starts for DirtyDunning_85:

(Start: 27 @48910 has 90 MA's), (31, 48895), (33, 48886),

Gene: Donkeykong_73 Start: 46520, Stop: 46642, Start Num: 22

Candidate Starts for Donkeykong_73:

(3, 46217), (4, 46289), (5, 46298), (7, 46310), (Start: 22 @46520 has 52 MA's),

Gene: Doomphist_75 Start: 46761, Stop: 46883, Start Num: 22

Candidate Starts for Doomphist_75:

(8, 46638), (Start: 22 @46761 has 52 MA's), (37, 46833),

Gene: Dorothea_90 Start: 49239, Stop: 49147, Start Num: 27

Candidate Starts for Dorothea_90:

(9, 49383), (16, 49311), (17, 49308), (18, 49299), (Start: 27 @49239 has 90 MA's), (30, 49227), (31, 49224),

Gene: Dorothy_73 Start: 45386, Stop: 45508, Start Num: 22

Candidate Starts for Dorothy_73:

(8, 45263), (Start: 22 @45386 has 52 MA's), (37, 45458),

Gene: Duplo_93 Start: 49786, Stop: 49691, Start Num: 27
Candidate Starts for Duplo_93:
(Start: 23 @49804 has 10 MA's), (Start: 27 @49786 has 90 MA's), (31, 49771), (33, 49762), (36, 49738),

Gene: Eapen_86 Start: 48893, Stop: 48795, Start Num: 27
Candidate Starts for Eapen_86:
(Start: 27 @48893 has 90 MA's), (31, 48878), (33, 48869),

Gene: Empress_70 Start: 45572, Stop: 45694, Start Num: 22
Candidate Starts for Empress_70:
(8, 45449), (Start: 22 @45572 has 52 MA's), (37, 45644),

Gene: EricB_91 Start: 48136, Stop: 48044, Start Num: 27
Candidate Starts for EricB_91:
(9, 48280), (16, 48208), (17, 48205), (18, 48196), (Start: 27 @48136 has 90 MA's), (30, 48124), (31, 48121),

Gene: Eros_86 Start: 48906, Stop: 48808, Start Num: 27
Candidate Starts for Eros_86:
(Start: 27 @48906 has 90 MA's), (31, 48891), (33, 48882),

Gene: Eurydice_87 Start: 48935, Stop: 48837, Start Num: 27
Candidate Starts for Eurydice_87:
(Start: 27 @48935 has 90 MA's), (31, 48920), (33, 48911),

Gene: Farewell_68 Start: 47122, Stop: 47238, Start Num: 22
Candidate Starts for Farewell_68:
(Start: 22 @47122 has 52 MA's), (24, 47137), (26, 47140),

Gene: Florinda_84 Start: 47608, Stop: 47730, Start Num: 22
Candidate Starts for Florinda_84:
(Start: 22 @47608 has 52 MA's), (37, 47680),

Gene: Funston_85 Start: 48895, Stop: 48797, Start Num: 28
Candidate Starts for Funston_85:
(Start: 27 @48898 has 90 MA's), (Start: 28 @48895 has 21 MA's), (31, 48880), (33, 48871),

Gene: Garak_96 Start: 49067, Stop: 48975, Start Num: 27
Candidate Starts for Garak_96:
(Start: 27 @49067 has 90 MA's), (31, 49052),

Gene: GaugeLDP_85 Start: 49917, Stop: 49816, Start Num: 27
Candidate Starts for GaugeLDP_85:
(Start: 23 @49935 has 10 MA's), (Start: 27 @49917 has 90 MA's), (31, 49902), (32, 49899), (33, 49893),

Gene: Geralt_65 Start: 44668, Stop: 44790, Start Num: 22
Candidate Starts for Geralt_65:
(8, 44545), (Start: 22 @44668 has 52 MA's), (37, 44740),

Gene: Gex_55 Start: 36173, Stop: 36286, Start Num: 22

Candidate Starts for Gex_55:
(Start: 22 @36173 has 52 MA's), (34, 36215),

Gene: Gladiator_91 Start: 48787, Stop: 48695, Start Num: 27
Candidate Starts for Gladiator_91:
(Start: 27 @48787 has 90 MA's), (31, 48772),

Gene: Gruunaga_95 Start: 48743, Stop: 48651, Start Num: 27
Candidate Starts for Gruunaga_95:
(Start: 27 @48743 has 90 MA's), (31, 48728),

Gene: Hammer_95 Start: 48440, Stop: 48348, Start Num: 27
Candidate Starts for Hammer_95:
(Start: 27 @48440 has 90 MA's), (31, 48425),

Gene: Happiness_85 Start: 48921, Stop: 48823, Start Num: 27
Candidate Starts for Happiness_85:
(Start: 27 @48921 has 90 MA's), (31, 48906), (33, 48897),

Gene: Hegedechwinu_71 Start: 42986, Stop: 43108, Start Num: 22
Candidate Starts for Hegedechwinu_71:
(Start: 22 @42986 has 52 MA's),

Gene: Helmet_96 Start: 49067, Stop: 48975, Start Num: 27
Candidate Starts for Helmet_96:
(Start: 27 @49067 has 90 MA's), (31, 49052),

Gene: Hexamo_94 Start: 48608, Stop: 48516, Start Num: 27
Candidate Starts for Hexamo_94:
(Start: 27 @48608 has 90 MA's), (31, 48593),

Gene: Holli_85 Start: 48688, Stop: 48590, Start Num: 27
Candidate Starts for Holli_85:
(Start: 27 @48688 has 90 MA's), (31, 48673), (33, 48664),

Gene: Hoot_88 Start: 46453, Stop: 46361, Start Num: 27
Candidate Starts for Hoot_88:
(9, 46597), (16, 46525), (17, 46522), (18, 46513), (Start: 27 @46453 has 90 MA's), (30, 46441), (31, 46438),

Gene: Houdini22_85 Start: 48899, Stop: 48801, Start Num: 28
Candidate Starts for Houdini22_85:
(Start: 27 @48902 has 90 MA's), (Start: 28 @48899 has 21 MA's), (31, 48884), (33, 48875),

Gene: ICleared_85 Start: 48966, Stop: 48868, Start Num: 27
Candidate Starts for ICleared_85:
(Start: 27 @48966 has 90 MA's), (31, 48951), (33, 48942),

Gene: Inventum_70 Start: 45584, Stop: 45706, Start Num: 22
Candidate Starts for Inventum_70:
(8, 45461), (Start: 22 @45584 has 52 MA's), (37, 45656),

Gene: IronMan_86 Start: 50377, Stop: 50276, Start Num: 27

Candidate Starts for IronMan_86:
(Start: 23 @50395 has 10 MA's), (Start: 27 @50377 has 90 MA's), (31, 50362), (32, 50359),

Gene: Isiphiwo_89 Start: 48158, Stop: 48066, Start Num: 27
Candidate Starts for Isiphiwo_89:
(Start: 27 @48158 has 90 MA's), (30, 48146), (31, 48143),

Gene: Island3_57 Start: 38289, Stop: 38411, Start Num: 22
Candidate Starts for Island3_57:
(11, 38178), (12, 38205), (13, 38226), (20, 38274), (Start: 21 @38286 has 1 MA's), (Start: 22 @38289 has 52 MA's), (37, 38361),

Gene: Jeffabunny_83 Start: 45211, Stop: 45119, Start Num: 27
Candidate Starts for Jeffabunny_83:
(Start: 27 @45211 has 90 MA's), (31, 45196),

Gene: JetBlade_87 Start: 48926, Stop: 48828, Start Num: 27
Candidate Starts for JetBlade_87:
(Start: 27 @48926 has 90 MA's), (31, 48911), (33, 48902),

Gene: JewelBug_85 Start: 46932, Stop: 46840, Start Num: 27
Candidate Starts for JewelBug_85:
(9, 47076), (16, 47004), (17, 47001), (18, 46992), (Start: 27 @46932 has 90 MA's), (30, 46920), (31, 46917),

Gene: JoeyJr_72 Start: 46573, Stop: 46695, Start Num: 22
Candidate Starts for JoeyJr_72:
(8, 46450), (Start: 22 @46573 has 52 MA's), (37, 46645),

Gene: JoongJeon_85 Start: 48892, Stop: 48794, Start Num: 27
Candidate Starts for JoongJeon_85:
(Start: 27 @48892 has 90 MA's), (31, 48877), (33, 48868),

Gene: Jordennis_91 Start: 48836, Stop: 48744, Start Num: 27
Candidate Starts for Jordennis_91:
(9, 48980), (16, 48908), (17, 48905), (18, 48896), (Start: 27 @48836 has 90 MA's), (30, 48824), (31, 48821),

Gene: Jung_51 Start: 35878, Stop: 36000, Start Num: 22
Candidate Starts for Jung_51:
(Start: 21 @35875 has 1 MA's), (Start: 22 @35878 has 52 MA's),

Gene: Jung_57 Start: 38107, Stop: 38223, Start Num: 22
Candidate Starts for Jung_57:
(19, 38083), (Start: 22 @38107 has 52 MA's), (24, 38122), (26, 38125),

Gene: KFPoly_85 Start: 48892, Stop: 48794, Start Num: 27
Candidate Starts for KFPoly_85:
(Start: 27 @48892 has 90 MA's), (31, 48877), (33, 48868),

Gene: Kampy_85 Start: 48901, Stop: 48803, Start Num: 28
Candidate Starts for Kampy_85:
(Start: 27 @48904 has 90 MA's), (Start: 28 @48901 has 21 MA's), (31, 48886), (33, 48877),

Gene: Kazan_94 Start: 48602, Stop: 48510, Start Num: 27

Candidate Starts for Kazan_94:

(Start: 27 @48602 has 90 MA's), (30, 48590), (31, 48587),

Gene: Kerberos_92 Start: 49767, Stop: 49654, Start Num: 23

Candidate Starts for Kerberos_92:

(Start: 23 @49767 has 10 MA's), (Start: 27 @49749 has 90 MA's), (31, 49734), (33, 49725), (35, 49707), (36, 49701),

Gene: KingMidas_71 Start: 45987, Stop: 46109, Start Num: 22

Candidate Starts for KingMidas_71:

(8, 45864), (Start: 22 @45987 has 52 MA's), (37, 46059),

Gene: Kingmustik0402_86 Start: 48887, Stop: 48789, Start Num: 28

Candidate Starts for Kingmustik0402_86:

(Start: 27 @48890 has 90 MA's), (Start: 28 @48887 has 21 MA's), (31, 48872), (33, 48863),

Gene: Kingsley_75 Start: 48363, Stop: 48485, Start Num: 22

Candidate Starts for Kingsley_75:

(Start: 22 @48363 has 52 MA's), (37, 48435),

Gene: Kipper29_93 Start: 48611, Stop: 48519, Start Num: 27

Candidate Starts for Kipper29_93:

(9, 48755), (16, 48683), (17, 48680), (18, 48671), (Start: 27 @48611 has 90 MA's), (30, 48599), (31, 48596),

Gene: Koko_96 Start: 49457, Stop: 49365, Start Num: 27

Candidate Starts for Koko_96:

(Start: 27 @49457 has 90 MA's), (31, 49442),

Gene: Koreni_85 Start: 48579, Stop: 48481, Start Num: 28

Candidate Starts for Koreni_85:

(Start: 27 @48582 has 90 MA's), (Start: 28 @48579 has 21 MA's), (31, 48564), (33, 48555),

Gene: Kratak_85 Start: 48932, Stop: 48834, Start Num: 27

Candidate Starts for Kratak_85:

(Start: 27 @48932 has 90 MA's), (31, 48917), (33, 48908),

Gene: Kremtemulon_80 Start: 48731, Stop: 48633, Start Num: 28

Candidate Starts for Kremtemulon_80:

(Start: 27 @48734 has 90 MA's), (Start: 28 @48731 has 21 MA's), (31, 48716), (33, 48707),

Gene: Kyee_86 Start: 48893, Stop: 48795, Start Num: 27

Candidate Starts for Kyee_86:

(Start: 27 @48893 has 90 MA's), (31, 48878), (33, 48869),

Gene: Leperchaun_70 Start: 45807, Stop: 45929, Start Num: 22

Candidate Starts for Leperchaun_70:

(8, 45684), (Start: 22 @45807 has 52 MA's), (37, 45879),

Gene: LochMonster_87 Start: 49135, Stop: 49037, Start Num: 27

Candidate Starts for LochMonster_87:

(Start: 27 @49135 has 90 MA's), (31, 49120), (33, 49111),

Gene: Lorenzo_86 Start: 48896, Stop: 48798, Start Num: 28

Candidate Starts for Lorenzo_86:

(Start: 27 @48899 has 90 MA's), (Start: 28 @48896 has 21 MA's), (31, 48881), (33, 48872),

Gene: LunaStella_64 Start: 45241, Stop: 45366, Start Num: 22

Candidate Starts for LunaStella_64:

(2, 44905), (Start: 22 @45241 has 52 MA's), (34, 45283),

Gene: Madiba_68 Start: 44600, Stop: 44716, Start Num: 22

Candidate Starts for Madiba_68:

(Start: 22 @44600 has 52 MA's), (26, 44618),

Gene: Majeke_58 Start: 37716, Stop: 37838, Start Num: 22

Candidate Starts for Majeke_58:

(Start: 21 @37713 has 1 MA's), (Start: 22 @37716 has 52 MA's),

Gene: Mangethe_58 Start: 37716, Stop: 37838, Start Num: 22

Candidate Starts for Mangethe_58:

(Start: 21 @37713 has 1 MA's), (Start: 22 @37716 has 52 MA's),

Gene: Mao1_75 Start: 53391, Stop: 53507, Start Num: 22

Candidate Starts for Mao1_75:

(2, 53055), (Start: 22 @53391 has 52 MA's), (24, 53406), (26, 53409),

Gene: Maverick_85 Start: 48898, Stop: 48797, Start Num: 27

Candidate Starts for Maverick_85:

(Start: 27 @48898 has 90 MA's), (Start: 28 @48895 has 21 MA's), (31, 48880), (33, 48871),

Gene: Maxo_88 Start: 48901, Stop: 48803, Start Num: 28

Candidate Starts for Maxo_88:

(Start: 27 @48904 has 90 MA's), (Start: 28 @48901 has 21 MA's), (31, 48886), (33, 48877),

Gene: Mazhar510_86 Start: 48896, Stop: 48798, Start Num: 27

Candidate Starts for Mazhar510_86:

(Start: 27 @48896 has 90 MA's), (31, 48881), (33, 48872),

Gene: McFly_93 Start: 48941, Stop: 48849, Start Num: 27

Candidate Starts for McFly_93:

(Start: 27 @48941 has 90 MA's), (30, 48929), (31, 48926),

Gene: Melvin_88 Start: 48896, Stop: 48795, Start Num: 27

Candidate Starts for Melvin_88:

(Start: 27 @48896 has 90 MA's), (Start: 28 @48893 has 21 MA's), (31, 48878), (33, 48869),

Gene: Miramae_86 Start: 48814, Stop: 48716, Start Num: 28

Candidate Starts for Miramae_86:

(Start: 27 @48817 has 90 MA's), (Start: 28 @48814 has 21 MA's), (31, 48799), (33, 48790),

Gene: Misha28_73 Start: 45868, Stop: 45993, Start Num: 22

Candidate Starts for Misha28_73:

(Start: 22 @45868 has 52 MA's), (34, 45910),

Gene: MissWhite_84 Start: 46424, Stop: 46323, Start Num: 27

Candidate Starts for MissWhite_84:

(1, 46784), (3, 46760), (6, 46673), (7, 46667), (15, 46499), (Start: 23 @46442 has 10 MA's), (Start: 27 @46424 has 90 MA's), (31, 46409),

Gene: Morrow_88 Start: 48938, Stop: 48840, Start Num: 27

Candidate Starts for Morrow_88:

(Start: 27 @48938 has 90 MA's), (31, 48923), (33, 48914),

Gene: Ms6_70 Start: 41131, Stop: 41253, Start Num: 22

Candidate Starts for Ms6_70:

(Start: 22 @41131 has 52 MA's),

Gene: Mundrea_84 Start: 48776, Stop: 48678, Start Num: 27

Candidate Starts for Mundrea_84:

(Start: 27 @48776 has 90 MA's), (Start: 28 @48773 has 21 MA's), (31, 48758), (33, 48749),

Gene: Naji_81 Start: 46132, Stop: 46019, Start Num: 23

Candidate Starts for Naji_81:

(Start: 23 @46132 has 10 MA's), (Start: 27 @46114 has 90 MA's), (31, 46099), (33, 46090), (36, 46066),

Gene: Nazo_57 Start: 39956, Stop: 40078, Start Num: 22

Candidate Starts for Nazo_57:

(Start: 21 @39953 has 1 MA's), (Start: 22 @39956 has 52 MA's), (38, 40067),

Gene: Nebs_87 Start: 48938, Stop: 48840, Start Num: 27

Candidate Starts for Nebs_87:

(Start: 27 @48938 has 90 MA's), (31, 48923), (33, 48914),

Gene: Neeharika16_92 Start: 48698, Stop: 48606, Start Num: 27

Candidate Starts for Neeharika16_92:

(9, 48842), (16, 48770), (17, 48767), (18, 48758), (Start: 27 @48698 has 90 MA's), (30, 48686), (31, 48683),

Gene: Nemo27_85 Start: 48894, Stop: 48796, Start Num: 28

Candidate Starts for Nemo27_85:

(Start: 27 @48897 has 90 MA's), (Start: 28 @48894 has 21 MA's), (31, 48879), (33, 48870),

Gene: Newrala_92 Start: 49044, Stop: 48952, Start Num: 27

Candidate Starts for Newrala_92:

(9, 49188), (16, 49116), (17, 49113), (18, 49104), (Start: 27 @49044 has 90 MA's), (30, 49032), (31, 49029),

Gene: NicoleTera_90 Start: 49767, Stop: 49672, Start Num: 27

Candidate Starts for NicoleTera_90:

(Start: 27 @49767 has 90 MA's), (31, 49752), (32, 49749),

Gene: Nimbo_64 Start: 44671, Stop: 44793, Start Num: 22

Candidate Starts for Nimbo_64:

(8, 44548), (Start: 22 @44671 has 52 MA's), (37, 44743),

Gene: Noelle_85 Start: 49016, Stop: 48912, Start Num: 27
Candidate Starts for Noelle_85:
(Start: 27 @49016 has 90 MA's), (30, 49004), (31, 49001), (33, 48992),

Gene: NorthStar_83 Start: 48898, Stop: 48800, Start Num: 28
Candidate Starts for NorthStar_83:
(Start: 27 @48901 has 90 MA's), (Start: 28 @48898 has 21 MA's), (31, 48883), (33, 48874),

Gene: NotAPhaseMom_85 Start: 48899, Stop: 48801, Start Num: 28
Candidate Starts for NotAPhaseMom_85:
(Start: 27 @48902 has 90 MA's), (Start: 28 @48899 has 21 MA's), (31, 48884), (33, 48875),

Gene: Ohfah_87 Start: 48938, Stop: 48840, Start Num: 27
Candidate Starts for Ohfah_87:
(Start: 27 @48938 has 90 MA's), (31, 48923), (33, 48914),

Gene: OldBen_69 Start: 46063, Stop: 46185, Start Num: 22
Candidate Starts for OldBen_69:
(8, 45940), (Start: 22 @46063 has 52 MA's), (37, 46135),

Gene: Ovechkin_74 Start: 46191, Stop: 46313, Start Num: 22
Candidate Starts for Ovechkin_74:
(Start: 22 @46191 has 52 MA's), (37, 46263),

Gene: PHappiness_72 Start: 46892, Stop: 47014, Start Num: 22
Candidate Starts for PHappiness_72:
(8, 46769), (Start: 22 @46892 has 52 MA's), (37, 46964),

Gene: PP_05 Start: 1199, Stop: 1101, Start Num: 25
Candidate Starts for PP_05:
(Start: 25 @1199 has 1 MA's), (29, 1193), (31, 1184),

Gene: PeterPeter_86 Start: 48892, Stop: 48794, Start Num: 27
Candidate Starts for PeterPeter_86:
(Start: 27 @48892 has 90 MA's), (31, 48877), (33, 48868),

Gene: PetiteSangsue_83 Start: 48680, Stop: 48582, Start Num: 27
Candidate Starts for PetiteSangsue_83:
(Start: 27 @48680 has 90 MA's), (30, 48668), (31, 48665), (33, 48656),

Gene: Phalconet_68 Start: 43304, Stop: 43426, Start Num: 22
Candidate Starts for Phalconet_68:
(Start: 22 @43304 has 52 MA's), (37, 43376),

Gene: Phayonce_57 Start: 40353, Stop: 40469, Start Num: 22
Candidate Starts for Phayonce_57:
(Start: 22 @40353 has 52 MA's),

Gene: Phegasus_58 Start: 37683, Stop: 37805, Start Num: 22
Candidate Starts for Phegasus_58:
(Start: 21 @37680 has 1 MA's), (Start: 22 @37683 has 52 MA's),

Gene: Phelipe_86 Start: 48859, Stop: 48761, Start Num: 27

Candidate Starts for Phelipe_86:
(Start: 27 @48859 has 90 MA's), (31, 48844), (33, 48835),

Gene: PhesterPhotato_74 Start: 45630, Stop: 45752, Start Num: 22
Candidate Starts for PhesterPhotato_74:
(Start: 22 @45630 has 52 MA's),

Gene: Phighter1804_86 Start: 48959, Stop: 48861, Start Num: 28
Candidate Starts for Phighter1804_86:
(Start: 27 @48962 has 90 MA's), (Start: 28 @48959 has 21 MA's), (31, 48944), (33, 48935),

Gene: Phontbonne_86 Start: 48796, Stop: 48701, Start Num: 28
Candidate Starts for Phontbonne_86:
(Start: 28 @48796 has 21 MA's), (31, 48781), (33, 48772),

Gene: Pipcraft_82 Start: 48902, Stop: 48801, Start Num: 27
Candidate Starts for Pipcraft_82:
(Start: 27 @48902 has 90 MA's), (Start: 28 @48899 has 21 MA's), (31, 48884), (33, 48875),

Gene: Pmask_92 Start: 49245, Stop: 49153, Start Num: 27
Candidate Starts for Pmask_92:
(9, 49389), (16, 49317), (17, 49314), (18, 49305), (Start: 27 @49245 has 90 MA's), (30, 49233), (31, 49230),

Gene: Poenanya_75 Start: 46761, Stop: 46883, Start Num: 22
Candidate Starts for Poenanya_75:
(8, 46638), (Start: 22 @46761 has 52 MA's), (37, 46833),

Gene: Polka14_76 Start: 47551, Stop: 47673, Start Num: 22
Candidate Starts for Polka14_76:
(8, 47428), (Start: 22 @47551 has 52 MA's), (37, 47623),

Gene: Polkaroo_54 Start: 37256, Stop: 37378, Start Num: 22
Candidate Starts for Polkaroo_54:
(10, 37136), (Start: 21 @37253 has 1 MA's), (Start: 22 @37256 has 52 MA's),

Gene: Polymorphads_87 Start: 48919, Stop: 48821, Start Num: 27
Candidate Starts for Polymorphads_87:
(Start: 27 @48919 has 90 MA's), (31, 48904), (33, 48895),

Gene: Pomar16_92 Start: 49840, Stop: 49727, Start Num: 23
Candidate Starts for Pomar16_92:
(Start: 23 @49840 has 10 MA's), (Start: 27 @49822 has 90 MA's), (31, 49807), (33, 49798), (35, 49780), (36, 49774),

Gene: Priamo_93 Start: 48288, Stop: 48196, Start Num: 27
Candidate Starts for Priamo_93:
(9, 48432), (16, 48360), (17, 48357), (18, 48348), (Start: 27 @48288 has 90 MA's), (30, 48276), (31, 48273),

Gene: Pumbaa_86 Start: 48843, Stop: 48745, Start Num: 27
Candidate Starts for Pumbaa_86:
(Start: 27 @48843 has 90 MA's), (31, 48828), (33, 48819),

Gene: QueenHazel_50 Start: 36087, Stop: 36209, Start Num: 22
Candidate Starts for QueenHazel_50:
(Start: 21 @36084 has 1 MA's), (Start: 22 @36087 has 52 MA's), (37, 36159),

Gene: Quico_81 Start: 47428, Stop: 47550, Start Num: 22
Candidate Starts for Quico_81:
(Start: 22 @47428 has 52 MA's), (37, 47500),

Gene: RedBird_73 Start: 45253, Stop: 45375, Start Num: 22
Candidate Starts for RedBird_73:
(8, 45130), (Start: 22 @45253 has 52 MA's), (37, 45325),

Gene: Rifter_95 Start: 48235, Stop: 48143, Start Num: 27
Candidate Starts for Rifter_95:
(Start: 27 @48235 has 90 MA's), (31, 48220),

Gene: RitaG_72 Start: 46694, Stop: 46816, Start Num: 22
Candidate Starts for RitaG_72:
(8, 46571), (Start: 22 @46694 has 52 MA's), (37, 46766),

Gene: Roksolana_95 Start: 48951, Stop: 48859, Start Num: 27
Candidate Starts for Roksolana_95:
(Start: 27 @48951 has 90 MA's), (31, 48936),

Gene: SG4_68 Start: 43359, Stop: 43481, Start Num: 22
Candidate Starts for SG4_68:
(Start: 22 @43359 has 52 MA's),

Gene: Sassafras_73 Start: 45583, Stop: 45705, Start Num: 22
Candidate Starts for Sassafras_73:
(8, 45460), (Start: 22 @45583 has 52 MA's), (37, 45655),

Gene: Scamp_86 Start: 48900, Stop: 48802, Start Num: 27
Candidate Starts for Scamp_86:
(Start: 27 @48900 has 90 MA's), (31, 48885), (33, 48876),

Gene: Scottish_70 Start: 45242, Stop: 45364, Start Num: 22
Candidate Starts for Scottish_70:
(8, 45119), (Start: 22 @45242 has 52 MA's), (37, 45314),

Gene: SheldonCooper_86 Start: 49336, Stop: 49238, Start Num: 27
Candidate Starts for SheldonCooper_86:
(Start: 27 @49336 has 90 MA's), (31, 49321), (33, 49312),

Gene: Shweta_55 Start: 36817, Stop: 36933, Start Num: 22
Candidate Starts for Shweta_55:
(Start: 22 @36817 has 52 MA's), (24, 36832), (26, 36835),

Gene: Shygu2_84 Start: 48839, Stop: 48744, Start Num: 27
Candidate Starts for Shygu2_84:
(Start: 27 @48839 has 90 MA's), (30, 48827), (31, 48824), (33, 48815),

Gene: SmellyB_93 Start: 48596, Stop: 48504, Start Num: 27
Candidate Starts for SmellyB_93:
(Start: 27 @48596 has 90 MA's), (30, 48584), (31, 48581),

Gene: Sparxx_87 Start: 48894, Stop: 48796, Start Num: 27
Candidate Starts for Sparxx_87:
(Start: 27 @48894 has 90 MA's), (31, 48879), (33, 48870),

Gene: StAnnes_69 Start: 44436, Stop: 44558, Start Num: 22
Candidate Starts for StAnnes_69:
(Start: 22 @44436 has 52 MA's),

Gene: StarStuff_92 Start: 49802, Stop: 49689, Start Num: 23
Candidate Starts for StarStuff_92:
(Start: 23 @49802 has 10 MA's), (Start: 27 @49784 has 90 MA's), (31, 49769), (33, 49760), (35, 49742), (36, 49736),

Gene: SuperAwesome_93 Start: 49284, Stop: 49192, Start Num: 27
Candidate Starts for SuperAwesome_93:
(9, 49428), (16, 49356), (17, 49353), (18, 49344), (Start: 27 @49284 has 90 MA's), (30, 49272), (31, 49269),

Gene: SuperCallie99_89 Start: 48659, Stop: 48567, Start Num: 27
Candidate Starts for SuperCallie99_89:
(Start: 27 @48659 has 90 MA's), (31, 48644),

Gene: TChen_72 Start: 47192, Stop: 47317, Start Num: 22
Candidate Starts for TChen_72:
(2, 46856), (Start: 22 @47192 has 52 MA's), (34, 47234),

Gene: Tapioca_57 Start: 38663, Stop: 38788, Start Num: 22
Candidate Starts for Tapioca_57:
(Start: 22 @38663 has 52 MA's), (24, 38678), (26, 38681),

Gene: Taquarus_85 Start: 48907, Stop: 48809, Start Num: 27
Candidate Starts for Taquarus_85:
(Start: 27 @48907 has 90 MA's), (31, 48892), (33, 48883),

Gene: Techage_53 Start: 36249, Stop: 36371, Start Num: 41
Candidate Starts for Techage_53:
(39, 36102), (Start: 40 @36246 has 1 MA's), (Start: 41 @36249 has 1 MA's),

Gene: Thanksgivukkah_85 Start: 48896, Stop: 48798, Start Num: 27
Candidate Starts for Thanksgivukkah_85:
(Start: 27 @48896 has 90 MA's), (31, 48881), (33, 48872),

Gene: Tinybot_85 Start: 48925, Stop: 48827, Start Num: 28
Candidate Starts for Tinybot_85:
(Start: 27 @48928 has 90 MA's), (Start: 28 @48925 has 21 MA's), (31, 48910), (33, 48901),

Gene: Tomathan_92 Start: 49881, Stop: 49768, Start Num: 23
Candidate Starts for Tomathan_92:

(Start: 23 @49881 has 10 MA's), (Start: 27 @49863 has 90 MA's), (31, 49848), (33, 49839), (36, 49815),

Gene: TootsiePop_73 Start: 45868, Stop: 45993, Start Num: 22
Candidate Starts for TootsiePop_73:
(Start: 22 @45868 has 52 MA's), (34, 45910),

Gene: TroyPia_87 Start: 48933, Stop: 48835, Start Num: 27
Candidate Starts for TroyPia_87:
(Start: 27 @48933 has 90 MA's), (31, 48918), (33, 48909),

Gene: Tucker_95 Start: 48821, Stop: 48729, Start Num: 27
Candidate Starts for Tucker_95:
(Start: 27 @48821 has 90 MA's), (31, 48806),

Gene: TygerBlood_86 Start: 48898, Stop: 48800, Start Num: 27
Candidate Starts for TygerBlood_86:
(Start: 27 @48898 has 90 MA's), (31, 48883), (33, 48874),

Gene: Ulysses_85 Start: 48581, Stop: 48483, Start Num: 28
Candidate Starts for Ulysses_85:
(Start: 27 @48584 has 90 MA's), (Start: 28 @48581 has 21 MA's), (31, 48566), (33, 48557),

Gene: VC3_88 Start: 48160, Stop: 48047, Start Num: 23
Candidate Starts for VC3_88:
(14, 48226), (Start: 23 @48160 has 10 MA's), (Start: 27 @48142 has 90 MA's), (31, 48127), (33, 48118), (36, 48094),

Gene: VohminGhazi_93 Start: 48597, Stop: 48505, Start Num: 27
Candidate Starts for VohminGhazi_93:
(Start: 27 @48597 has 90 MA's), (30, 48585), (31, 48582),

Gene: Wiks_94 Start: 48698, Stop: 48606, Start Num: 27
Candidate Starts for Wiks_94:
(Start: 27 @48698 has 90 MA's), (31, 48683),

Gene: Xeno_55 Start: 35530, Stop: 35655, Start Num: 21
Candidate Starts for Xeno_55:
(Start: 21 @35530 has 1 MA's), (Start: 22 @35533 has 52 MA's), (37, 35605),

Gene: Xula_49 Start: 35689, Stop: 35811, Start Num: 22
Candidate Starts for Xula_49:
(Start: 21 @35686 has 1 MA's), (Start: 22 @35689 has 52 MA's),

Gene: YoSam321_86 Start: 48893, Stop: 48795, Start Num: 28
Candidate Starts for YoSam321_86:
(Start: 27 @48896 has 90 MA's), (Start: 28 @48893 has 21 MA's), (31, 48878), (33, 48869),

Gene: Yokurt_94 Start: 48698, Stop: 48606, Start Num: 27
Candidate Starts for Yokurt_94:
(Start: 27 @48698 has 90 MA's), (31, 48683),

Gene: Zaka_95 Start: 48698, Stop: 48606, Start Num: 27

Candidate Starts for Zaka_95:

(Start: 27 @48698 has 90 MA's), (31, 48683),

Gene: Zilizebeth_58 Start: 37707, Stop: 37829, Start Num: 22

Candidate Starts for Zilizebeth_58:

(Start: 21 @37704 has 1 MA's), (Start: 22 @37707 has 52 MA's),

Gene: Zulu_96 Start: 49075, Stop: 48983, Start Num: 27

Candidate Starts for Zulu_96:

(Start: 27 @49075 has 90 MA's), (31, 49060),