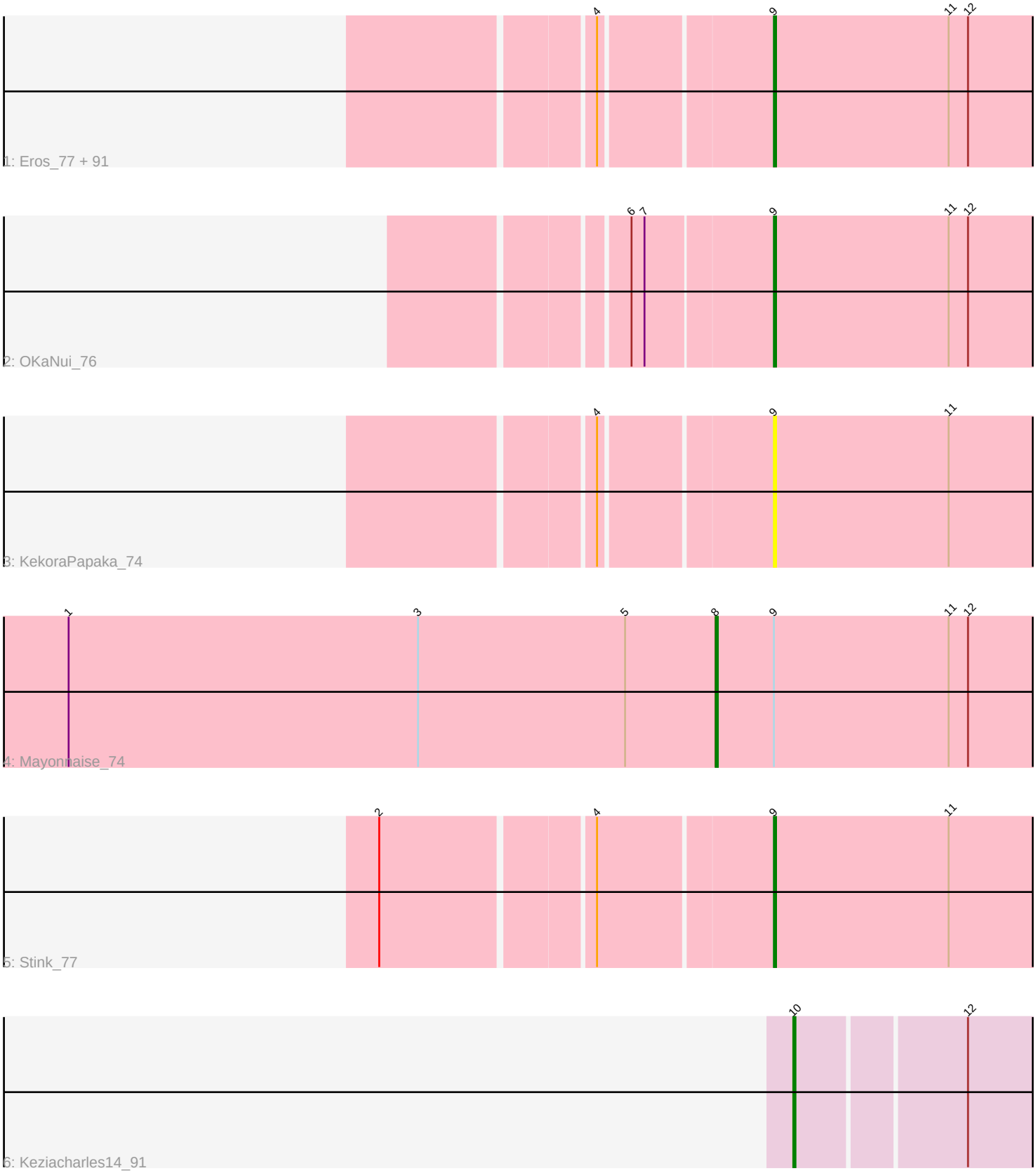
Pham 343761


4
9
11
12
1: Eros_77 + 91
6
7
9
11
12
2: OKaNui_76
4
9
11
3: KekoraPapaka_74
1
3
5
8
9
11
12
4: Mayonnaise_74
2
4
9
11
5: Stink_77
10
12
6: Keziacharles14_91

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 343761 Report

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

Pham number 343761 has 97 members, 7 are drafts.

Phages represented in each track:
• Track 1 : Eros_77, Sabertooth_77, Holli_76, DirtyDunning_76, TiroTheta9_76, MeeZee_76, Caelakin_75, Obama12_78, Morrow_79, LochMonster_78, Rocksand_74, Kingmustik0402_77, Iceman_75, Jaykayelowell_74, Kampy_76, Mazhar510_77, Melvin_79, Eagle_76, Happiness_76, Koan_74, Sparxx_78, Burger_75, Peaches_75, NorthStar_74, Romney_76, Houdini22_76, LittleB_77, Northrop_74, Deano_74, Shaka_75, Eapen_77, PeterPeter_77, Spino_76, SenorClean_78, Ohfah_78, Phelipe_78, LHTSCC_79, JetBlade_78, Broseidon_77, Nyxis_76, Connomayer_77, Bartimeaus_77, TroyPia_78, Cocoaberry_77, Lorenzo_77, Pumbaa_77, SheldonCooper_77, BangNhom_74, ICleared_76, YoSam321_77, Alberto7_78, Taquarus_76, Dhanush_77, Wilbur_77, SteMason_77, Pipcraft_73, Phighter1804_77, Skadoosh_74, Relief_76, Kyee_77, CentreCat_77, Arturo_74, Commander_75, Ruin_77, Polymorphads_78, Albee_77, LittleGuy_77, TygerBlood_77, Koreni_76, Citius_77, Scamp_77, Buckaroo_73, Nemo27_76, Flux_78, RockieBear_77, Skipitt_76, Baby16_77, Lemur_77, Tinybot_76, Gadost_77, Eurydice_78, Lunsford_77, BellusTerra_78, Phontbonne_77, NotAPhaseMom_76, Nebs_78, Medusa_76, Ulysses_76, Druantia_76, Chaph_77, Junimo_73, Rosa24_73
• Track 2 : OKaNui_76
• Track 3 : KekoraPapaka_74
• Track 4 : Mayonnaise_74
• Track 5 : Stink_77
• Track 6 : Keziacharles14_91

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

The start number called the most often in the published annotations is 9, it was called in 88 of the 90 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Albee_77, Alberto7_78, Arturo_74, Baby16_77, BangNhom_74, Bartimeaus_77, BellusTerra_78, Broseidon_77, Buckaroo_73, Burger_75, Caelakin_75, CentreCat_77, Chaph_77, Citius_77, Cocoaberry_77, Commander_75, Connomayer_77, Deano_74, Dhanush_77, DirtyDunning_76, Druantia_76, Eagle_76, Eapen_77, Eros_77, Eurydice_78, Flux_78, Gadost_77, Happiness_76, Holli_76, Houdini22_76, ICleared_76, Iceman_75, Jaykayelowell_74, JetBlade_78, Junimo_73,

Kampy_76, KekoraPapaka_74, Kingmustik0402_77, Koan_74, Koreni_76, Kyee_77, LHTSCC_79, Lemur_77, LittleB_77, LittleGuy_77, LochMonster_78, Lorenzo_77, Lunsford_77, Mazhar510_77, Medusa_76, MeeZee_76, Melvin_79, Morrow_79, Nebs_78, Nemo27_76, NorthStar_74, Northrop_74, NotAPhaseMom_76, Nyxis_76, OKaNui_76, Obama12_78, Ohfah_78, Peaches_75, PeterPeter_77, Phelipe_78, Phighter1804_77, Phontbonne_77, Pipcraft_73, Polymorphads_78, Pumbaa_77, Relief_76, RockieBear_77, Rocksand_74, Romney_76, Rosa24_73, Ruin_77, Sabertooth_77, Scamp_77, SenorClean_78, Shaka_75, SheldonCooper_77, Skadoosh_74, Skipitt_76, Sparxx_78, Spino_76, SteMason_77, Stink_77, Taquarus_76, Tinybot_76, TiroTheta9_76, TroyPia_78, TygerBlood_77, Ulysses_76, Wilbur_77, YoSam321_77,

Genes that have the "Most Annotated" start but do not call it:
• Mayonnaise_74,

Genes that do not have the "Most Annotated" start:
• Keziacharles14_91,

Summary by start number:

Start 8:
• Found in 1 of 97 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Mayonnaise_74 (A4),

Start 9:
• Found in 96 of 97 (99.0%) of genes in pham
• Manual Annotations of this start: 88 of 90
• Called 99.0% of time when present
• Phage (with cluster) where this start called: Albee_77 (A4), Alberto7_78 (A4), Arturo_74 (A4), Baby16_77 (A4), BangNhom_74 (A4), Bartimeaus_77 (A4), BellusTerra_78 (A4), Broseidon_77 (A4), Buckaroo_73 (A4), Burger_75 (A4), Caelakin_75 (A4), CentreCat_77 (A4), Chaph_77 (A4), Citius_77 (A4), Cocoaberry_77 (A4), Commander_75 (A4), Connomayer_77 (A4), Deano_74 (A4), Dhanush_77 (A4), DirtyDunning_76 (A4), Druantia_76 (A4), Eagle_76 (A4), Eapen_77 (A4), Eros_77 (A4), Eurydice_78 (A4), Flux_78 (A4), Gadost_77 (A4), Happiness_76 (A4), Holli_76 (A4), Houdini22_76 (A4), ICleared_76 (A4), Iceman_75 (A4), Jaykayelowell_74 (A4), JetBlade_78 (A4), Junimo_73 (A4), Kampy_76 (A4), KekoraPapaka_74 (A4), Kingmustik0402_77 (A4), Koan_74 (A4), Koreni_76 (A4), Kyee_77 (A4), LHTSCC_79 (A4), Lemur_77 (A4), LittleB_77 (A4), LittleGuy_77 (A4), LochMonster_78 (A4), Lorenzo_77 (A4), Lunsford_77 (A4), Mazhar510_77 (A4), Medusa_76 (A4), MeeZee_76 (A4), Melvin_79 (A4), Morrow_79 (A4), Nebs_78 (A4), Nemo27_76 (A4), NorthStar_74 (A4), Northrop_74 (A4), NotAPhaseMom_76 (A4), Nyxis_76 (A4), OKaNui_76 (A4), Obama12_78 (A4), Ohfah_78 (A4), Peaches_75 (A4), PeterPeter_77 (A4), Phelipe_78 (A4), Phighter1804_77 (A4), Phontbonne_77 (A4), Pipcraft_73 (A4), Polymorphads_78 (A4), Pumbaa_77 (A4), Relief_76 (A4), RockieBear_77 (A4), Rocksand_74 (A4), Romney_76 (A4), Rosa24_73 (A4), Ruin_77 (A4), Sabertooth_77 (A4), Scamp_77 (A4), SenorClean_78 (A4), Shaka_75 (A4), SheldonCooper_77 (A4), Skadoosh_74 (A4), Skipitt_76 (A4), Sparxx_78 (A4), Spino_76 (A4), SteMason_77 (A4), Stink_77 (A4), Taquarus_76 (A4), Tinybot_76 (A4), TiroTheta9_76 (A4), TroyPia_78 (A4), TygerBlood_77 (A4), Ulysses_76 (A4), Wilbur_77 (A4), YoSam321_77 (A4),

Start 10:
• Found in 1 of 97 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Keziacharles14_91 (A9),

Summary by clusters:

There are 2 clusters represented in this pham: A9, A4,

Info for manual annotations of cluster A4:
•Start number 8 was manually annotated 1 time for cluster A4.
•Start number 9 was manually annotated 88 times for cluster A4.

Info for manual annotations of cluster A9:
•Start number 10 was manually annotated 1 time for cluster A9.

Gene Information:

Gene: Albee_77 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for Albee_77:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: Alberto7_78 Start: 46290, Stop: 46147, Start Num: 9
Candidate Starts for Alberto7_78:
(4, 46365), (Start: 9 @46290 has 88 MA's), (11, 46209), (12, 46200),

Gene: Arturo_74 Start: 46081, Stop: 45938, Start Num: 9
Candidate Starts for Arturo_74:
(4, 46156), (Start: 9 @46081 has 88 MA's), (11, 46000), (12, 45991),

Gene: Baby16_77 Start: 45964, Stop: 45821, Start Num: 9
Candidate Starts for Baby16_77:
(4, 46039), (Start: 9 @45964 has 88 MA's), (11, 45883), (12, 45874),

Gene: BangNhom_74 Start: 46390, Stop: 46247, Start Num: 9
Candidate Starts for BangNhom_74:
(4, 46465), (Start: 9 @46390 has 88 MA's), (11, 46309), (12, 46300),

Gene: Bartimeaus_77 Start: 45955, Stop: 45812, Start Num: 9
Candidate Starts for Bartimeaus_77:
(4, 46030), (Start: 9 @45955 has 88 MA's), (11, 45874), (12, 45865),

Gene: BellusTerra_78 Start: 45994, Stop: 45851, Start Num: 9
Candidate Starts for BellusTerra_78:
(4, 46069), (Start: 9 @45994 has 88 MA's), (11, 45913), (12, 45904),

Gene: Broseidon_77 Start: 45956, Stop: 45813, Start Num: 9
Candidate Starts for Broseidon_77:
(4, 46031), (Start: 9 @45956 has 88 MA's), (11, 45875), (12, 45866),

Gene: Buckaroo_73 Start: 45957, Stop: 45814, Start Num: 9
Candidate Starts for Buckaroo_73:
(4, 46032), (Start: 9 @45957 has 88 MA's), (11, 45876), (12, 45867),

Gene: Burger_75 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for Burger_75:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: Caelakin_75 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for Caelakin_75:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: CentreCat_77 Start: 45993, Stop: 45850, Start Num: 9
Candidate Starts for CentreCat_77:
(4, 46068), (Start: 9 @45993 has 88 MA's), (11, 45912), (12, 45903),

Gene: Chaph_77 Start: 45964, Stop: 45821, Start Num: 9
Candidate Starts for Chaph_77:
(4, 46039), (Start: 9 @45964 has 88 MA's), (11, 45883), (12, 45874),

Gene: Citius_77 Start: 45974, Stop: 45831, Start Num: 9
Candidate Starts for Citius_77:
(4, 46049), (Start: 9 @45974 has 88 MA's), (11, 45893), (12, 45884),

Gene: Cocoaberry_77 Start: 45954, Stop: 45811, Start Num: 9
Candidate Starts for Cocoaberry_77:
(4, 46029), (Start: 9 @45954 has 88 MA's), (11, 45873), (12, 45864),

Gene: Commander_75 Start: 45951, Stop: 45808, Start Num: 9
Candidate Starts for Commander_75:
(4, 46026), (Start: 9 @45951 has 88 MA's), (11, 45870), (12, 45861),

Gene: Connomayer_77 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for Connomayer_77:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: Deano_74 Start: 45961, Stop: 45818, Start Num: 9
Candidate Starts for Deano_74:
(4, 46036), (Start: 9 @45961 has 88 MA's), (11, 45880), (12, 45871),

Gene: Dhanush_77 Start: 45956, Stop: 45813, Start Num: 9
Candidate Starts for Dhanush_77:
(4, 46031), (Start: 9 @45956 has 88 MA's), (11, 45875), (12, 45866),

Gene: DirtyDunning_76 Start: 45965, Stop: 45822, Start Num: 9
Candidate Starts for DirtyDunning_76:
(4, 46040), (Start: 9 @45965 has 88 MA's), (11, 45884), (12, 45875),

Gene: Druantia_76 Start: 45956, Stop: 45813, Start Num: 9
Candidate Starts for Druantia_76:
(4, 46031), (Start: 9 @45956 has 88 MA's), (11, 45875), (12, 45866),

Gene: Eagle_76 Start: 46015, Stop: 45872, Start Num: 9
Candidate Starts for Eagle_76:
(4, 46090), (Start: 9 @46015 has 88 MA's), (11, 45934), (12, 45925),

Gene: Eapen_77 Start: 45948, Stop: 45805, Start Num: 9
Candidate Starts for Eapen_77:
(4, 46023), (Start: 9 @45948 has 88 MA's), (11, 45867), (12, 45858),

Gene: Eros_77 Start: 45955, Stop: 45812, Start Num: 9
Candidate Starts for Eros_77:
(4, 46030), (Start: 9 @45955 has 88 MA's), (11, 45874), (12, 45865),

Gene: Eurydice_78 Start: 45990, Stop: 45847, Start Num: 9
Candidate Starts for Eurydice_78:
(4, 46065), (Start: 9 @45990 has 88 MA's), (11, 45909), (12, 45900),

Gene: Flux_78 Start: 45951, Stop: 45808, Start Num: 9
Candidate Starts for Flux_78:
(4, 46026), (Start: 9 @45951 has 88 MA's), (11, 45870), (12, 45861),

Gene: Gadost_77 Start: 45954, Stop: 45811, Start Num: 9
Candidate Starts for Gadost_77:
(4, 46029), (Start: 9 @45954 has 88 MA's), (11, 45873), (12, 45864),

Gene: Happiness_76 Start: 45976, Stop: 45833, Start Num: 9
Candidate Starts for Happiness_76:
(4, 46051), (Start: 9 @45976 has 88 MA's), (11, 45895), (12, 45886),

Gene: Holli_76 Start: 45743, Stop: 45600, Start Num: 9
Candidate Starts for Holli_76:
(4, 45818), (Start: 9 @45743 has 88 MA's), (11, 45662), (12, 45653),

Gene: Houdini22_76 Start: 45954, Stop: 45811, Start Num: 9
Candidate Starts for Houdini22_76:
(4, 46029), (Start: 9 @45954 has 88 MA's), (11, 45873), (12, 45864),

Gene: ICleared_76 Start: 46021, Stop: 45878, Start Num: 9
Candidate Starts for ICleared_76:
(4, 46096), (Start: 9 @46021 has 88 MA's), (11, 45940), (12, 45931),

Gene: Iceman_75 Start: 46243, Stop: 46100, Start Num: 9
Candidate Starts for Iceman_75:
(4, 46318), (Start: 9 @46243 has 88 MA's), (11, 46162), (12, 46153),

Gene: Jaykayelowell_74 Start: 45946, Stop: 45803, Start Num: 9
Candidate Starts for Jaykayelowell_74:
(4, 46021), (Start: 9 @45946 has 88 MA's), (11, 45865), (12, 45856),

Gene: JetBlade_78 Start: 45981, Stop: 45838, Start Num: 9
Candidate Starts for JetBlade_78:
(4, 46056), (Start: 9 @45981 has 88 MA's), (11, 45900), (12, 45891),

Gene: Junimo_73 Start: 45953, Stop: 45810, Start Num: 9

Candidate Starts for Junimo_73:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: Kampy_76 Start: 45956, Stop: 45813, Start Num: 9
Candidate Starts for Kampy_76:
(4, 46031), (Start: 9 @45956 has 88 MA's), (11, 45875), (12, 45866),

Gene: KekoraPapaka_74 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for KekoraPapaka_74:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872),

Gene: Keziacharles14_91 Start: 50723, Stop: 50595, Start Num: 10
Candidate Starts for Keziacharles14_91:
(Start: 10 @50723 has 1 MA's), (12, 50648),

Gene: Kingmustik0402_77 Start: 45942, Stop: 45799, Start Num: 9
Candidate Starts for Kingmustik0402_77:
(4, 46017), (Start: 9 @45942 has 88 MA's), (11, 45861), (12, 45852),

Gene: Koan_74 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for Koan_74:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: Koreni_76 Start: 45634, Stop: 45491, Start Num: 9
Candidate Starts for Koreni_76:
(4, 45709), (Start: 9 @45634 has 88 MA's), (11, 45553), (12, 45544),

Gene: Kyee_77 Start: 45948, Stop: 45805, Start Num: 9
Candidate Starts for Kyee_77:
(4, 46023), (Start: 9 @45948 has 88 MA's), (11, 45867), (12, 45858),

Gene: LHTSCC_79 Start: 46393, Stop: 46250, Start Num: 9
Candidate Starts for LHTSCC_79:
(4, 46468), (Start: 9 @46393 has 88 MA's), (11, 46312), (12, 46303),

Gene: Lemur_77 Start: 45950, Stop: 45807, Start Num: 9
Candidate Starts for Lemur_77:
(4, 46025), (Start: 9 @45950 has 88 MA's), (11, 45869), (12, 45860),

Gene: LittleB_77 Start: 45954, Stop: 45811, Start Num: 9
Candidate Starts for LittleB_77:
(4, 46029), (Start: 9 @45954 has 88 MA's), (11, 45873), (12, 45864),

Gene: LittleGuy_77 Start: 45838, Stop: 45695, Start Num: 9
Candidate Starts for LittleGuy_77:
(4, 45913), (Start: 9 @45838 has 88 MA's), (11, 45757), (12, 45748),

Gene: LochMonster_78 Start: 46190, Stop: 46047, Start Num: 9
Candidate Starts for LochMonster_78:
(4, 46265), (Start: 9 @46190 has 88 MA's), (11, 46109), (12, 46100),

Gene: Lorenzo_77 Start: 45951, Stop: 45808, Start Num: 9
Candidate Starts for Lorenzo_77:

(4, 46026), (Start: 9 @45951 has 88 MA's), (11, 45870), (12, 45861),

Gene: Lunsford_77 Start: 45946, Stop: 45803, Start Num: 9
Candidate Starts for Lunsford_77:
(4, 46021), (Start: 9 @45946 has 88 MA's), (11, 45865), (12, 45856),

Gene: Mayonnaise_74 Start: 45977, Stop: 45807, Start Num: 8
Candidate Starts for Mayonnaise_74:
(1, 46277), (3, 46115), (5, 46019), (Start: 8 @45977 has 1 MA's), (Start: 9 @45950 has 88 MA's), (11, 45869), (12, 45860),

Gene: Mazhar510_77 Start: 45951, Stop: 45808, Start Num: 9
Candidate Starts for Mazhar510_77:
(4, 46026), (Start: 9 @45951 has 88 MA's), (11, 45870), (12, 45861),

Gene: Medusa_76 Start: 45966, Stop: 45823, Start Num: 9
Candidate Starts for Medusa_76:
(4, 46041), (Start: 9 @45966 has 88 MA's), (11, 45885), (12, 45876),

Gene: MeeZee_76 Start: 45947, Stop: 45804, Start Num: 9
Candidate Starts for MeeZee_76:
(4, 46022), (Start: 9 @45947 has 88 MA's), (11, 45866), (12, 45857),

Gene: Melvin_79 Start: 45948, Stop: 45805, Start Num: 9
Candidate Starts for Melvin_79:
(4, 46023), (Start: 9 @45948 has 88 MA's), (11, 45867), (12, 45858),

Gene: Morrow_79 Start: 45993, Stop: 45850, Start Num: 9
Candidate Starts for Morrow_79:
(4, 46068), (Start: 9 @45993 has 88 MA's), (11, 45912), (12, 45903),

Gene: Nebs_78 Start: 45993, Stop: 45850, Start Num: 9
Candidate Starts for Nebs_78:
(4, 46068), (Start: 9 @45993 has 88 MA's), (11, 45912), (12, 45903),

Gene: Nemo27_76 Start: 45949, Stop: 45806, Start Num: 9
Candidate Starts for Nemo27_76:
(4, 46024), (Start: 9 @45949 has 88 MA's), (11, 45868), (12, 45859),

Gene: NorthStar_74 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for NorthStar_74:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: Northrop_74 Start: 45949, Stop: 45806, Start Num: 9
Candidate Starts for Northrop_74:
(4, 46024), (Start: 9 @45949 has 88 MA's), (11, 45868), (12, 45859),

Gene: NotAPhaseMom_76 Start: 45954, Stop: 45811, Start Num: 9
Candidate Starts for NotAPhaseMom_76:
(4, 46029), (Start: 9 @45954 has 88 MA's), (11, 45873), (12, 45864),

Gene: Nyxis_76 Start: 45832, Stop: 45689, Start Num: 9
Candidate Starts for Nyxis_76:

(4, 45907), (Start: 9 @45832 has 88 MA's), (11, 45751), (12, 45742),

Gene: OKaNui_76 Start: 46003, Stop: 45860, Start Num: 9
Candidate Starts for OKaNui_76:
(6, 46066), (7, 46060), (Start: 9 @46003 has 88 MA's), (11, 45922), (12, 45913),

Gene: Obama12_78 Start: 46377, Stop: 46234, Start Num: 9
Candidate Starts for Obama12_78:
(4, 46452), (Start: 9 @46377 has 88 MA's), (11, 46296), (12, 46287),

Gene: Ohfah_78 Start: 45993, Stop: 45850, Start Num: 9
Candidate Starts for Ohfah_78:
(4, 46068), (Start: 9 @45993 has 88 MA's), (11, 45912), (12, 45903),

Gene: Peaches_75 Start: 45952, Stop: 45809, Start Num: 9
Candidate Starts for Peaches_75:
(4, 46027), (Start: 9 @45952 has 88 MA's), (11, 45871), (12, 45862),

Gene: PeterPeter_77 Start: 45947, Stop: 45804, Start Num: 9
Candidate Starts for PeterPeter_77:
(4, 46022), (Start: 9 @45947 has 88 MA's), (11, 45866), (12, 45857),

Gene: Phelipe_78 Start: 45993, Stop: 45850, Start Num: 9
Candidate Starts for Phelipe_78:
(4, 46068), (Start: 9 @45993 has 88 MA's), (11, 45912), (12, 45903),

Gene: Phighter1804_77 Start: 46014, Stop: 45871, Start Num: 9
Candidate Starts for Phighter1804_77:
(4, 46089), (Start: 9 @46014 has 88 MA's), (11, 45933), (12, 45924),

Gene: Phontbonne_77 Start: 45848, Stop: 45705, Start Num: 9
Candidate Starts for Phontbonne_77:
(4, 45923), (Start: 9 @45848 has 88 MA's), (11, 45767), (12, 45758),

Gene: Pipcraft_73 Start: 45954, Stop: 45811, Start Num: 9
Candidate Starts for Pipcraft_73:
(4, 46029), (Start: 9 @45954 has 88 MA's), (11, 45873), (12, 45864),

Gene: Polymorphads_78 Start: 45974, Stop: 45831, Start Num: 9
Candidate Starts for Polymorphads_78:
(4, 46049), (Start: 9 @45974 has 88 MA's), (11, 45893), (12, 45884),

Gene: Pumbaa_77 Start: 45898, Stop: 45755, Start Num: 9
Candidate Starts for Pumbaa_77:
(4, 45973), (Start: 9 @45898 has 88 MA's), (11, 45817), (12, 45808),

Gene: Relief_76 Start: 45950, Stop: 45807, Start Num: 9
Candidate Starts for Relief_76:
(4, 46025), (Start: 9 @45950 has 88 MA's), (11, 45869), (12, 45860),

Gene: RockieBear_77 Start: 45952, Stop: 45809, Start Num: 9
Candidate Starts for RockieBear_77:
(4, 46027), (Start: 9 @45952 has 88 MA's), (11, 45871), (12, 45862),

Gene: Rocksand_74 Start: 45949, Stop: 45806, Start Num: 9
Candidate Starts for Rocksand_74:
(4, 46024), (Start: 9 @45949 has 88 MA's), (11, 45868), (12, 45859),

Gene: Romney_76 Start: 45950, Stop: 45807, Start Num: 9
Candidate Starts for Romney_76:
(4, 46025), (Start: 9 @45950 has 88 MA's), (11, 45869), (12, 45860),

Gene: Rosa24_73 Start: 45981, Stop: 45838, Start Num: 9
Candidate Starts for Rosa24_73:
(4, 46056), (Start: 9 @45981 has 88 MA's), (11, 45900), (12, 45891),

Gene: Ruin_77 Start: 45946, Stop: 45803, Start Num: 9
Candidate Starts for Ruin_77:
(4, 46021), (Start: 9 @45946 has 88 MA's), (11, 45865), (12, 45856),

Gene: Sabertooth_77 Start: 45958, Stop: 45815, Start Num: 9
Candidate Starts for Sabertooth_77:
(4, 46033), (Start: 9 @45958 has 88 MA's), (11, 45877), (12, 45868),

Gene: Scamp_77 Start: 45955, Stop: 45812, Start Num: 9
Candidate Starts for Scamp_77:
(4, 46030), (Start: 9 @45955 has 88 MA's), (11, 45874), (12, 45865),

Gene: SenorClean_78 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for SenorClean_78:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: Shaka_75 Start: 45951, Stop: 45808, Start Num: 9
Candidate Starts for Shaka_75:
(4, 46026), (Start: 9 @45951 has 88 MA's), (11, 45870), (12, 45861),

Gene: SheldonCooper_77 Start: 46391, Stop: 46248, Start Num: 9
Candidate Starts for SheldonCooper_77:
(4, 46466), (Start: 9 @46391 has 88 MA's), (11, 46310), (12, 46301),

Gene: Skadoosh_74 Start: 45950, Stop: 45807, Start Num: 9
Candidate Starts for Skadoosh_74:
(4, 46025), (Start: 9 @45950 has 88 MA's), (11, 45869), (12, 45860),

Gene: Skipitt_76 Start: 45947, Stop: 45804, Start Num: 9
Candidate Starts for Skipitt_76:
(4, 46022), (Start: 9 @45947 has 88 MA's), (11, 45866), (12, 45857),

Gene: Sparxx_78 Start: 45949, Stop: 45806, Start Num: 9
Candidate Starts for Sparxx_78:
(4, 46024), (Start: 9 @45949 has 88 MA's), (11, 45868), (12, 45859),

Gene: Spino_76 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for Spino_76:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: SteMason_77 Start: 45950, Stop: 45807, Start Num: 9
Candidate Starts for SteMason_77:
(4, 46025), (Start: 9 @45950 has 88 MA's), (11, 45869), (12, 45860),

Gene: Stink_77 Start: 46085, Stop: 45942, Start Num: 9
Candidate Starts for Stink_77:
(2, 46256), (4, 46163), (Start: 9 @46085 has 88 MA's), (11, 46004),

Gene: Taquarus_76 Start: 45956, Stop: 45813, Start Num: 9
Candidate Starts for Taquarus_76:
(4, 46031), (Start: 9 @45956 has 88 MA's), (11, 45875), (12, 45866),

Gene: Tinybot_76 Start: 45980, Stop: 45837, Start Num: 9
Candidate Starts for Tinybot_76:
(4, 46055), (Start: 9 @45980 has 88 MA's), (11, 45899), (12, 45890),

Gene: TiroTheta9_76 Start: 45947, Stop: 45804, Start Num: 9
Candidate Starts for TiroTheta9_76:
(4, 46022), (Start: 9 @45947 has 88 MA's), (11, 45866), (12, 45857),

Gene: TroyPia_78 Start: 45988, Stop: 45845, Start Num: 9
Candidate Starts for TroyPia_78:
(4, 46063), (Start: 9 @45988 has 88 MA's), (11, 45907), (12, 45898),

Gene: TygerBlood_77 Start: 45953, Stop: 45810, Start Num: 9
Candidate Starts for TygerBlood_77:
(4, 46028), (Start: 9 @45953 has 88 MA's), (11, 45872), (12, 45863),

Gene: Ulysses_76 Start: 45636, Stop: 45493, Start Num: 9
Candidate Starts for Ulysses_76:
(4, 45711), (Start: 9 @45636 has 88 MA's), (11, 45555), (12, 45546),

Gene: Wilbur_77 Start: 45950, Stop: 45807, Start Num: 9
Candidate Starts for Wilbur_77:
(4, 46025), (Start: 9 @45950 has 88 MA's), (11, 45869), (12, 45860),

Gene: YoSam321_77 Start: 45948, Stop: 45805, Start Num: 9
Candidate Starts for YoSam321_77:
(4, 46023), (Start: 9 @45948 has 88 MA's), (11, 45867), (12, 45858),