



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 296306 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296306 has 157 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Kimona_54
- Track 2 : Kinmap_56
- Track 3 : Heathen_57, Scout_57, Roimos_57, DropBear_57, Kachowdy_57, Marchesa_57, Zarafa_57, HelDan_57
- Track 4 : Phantastic_58, MK4_57, JF2_55, JF4_55, Isca_56
- Track 5 : Margo_56, MA5_57, Lambert1_56, QuinnKiro_55, Panamaxus_54, Texage_55, Caviar_56, Pocahontas_56, Todacoro_56, Norbert_55, Popcicle_56, Hookmount_56, Veracruz_55, Noella_56, ResDef_56, EtoileNova_57
- Track 6 : LittleGuy_54, Wander_54, Koreni_53, Polymorphads_55, Nemo27_54, Lemur_54, Rosa24_53, Ulysses_53, PeterPeter_54, Gadost_54, Taquarus_54, Avle17_54, NotAPhaseMom_54, Sultana_54, Phighter1804_54, TroyPia_55, Caelakin_54, Lunsford_55, Bruiser_53, Pipcraft_52, DirtyDunning_53, Phacado_54, Funston_53, Thanksgivukkah_53, Scamp_54, Houdini22_54, Tinybot_53, Iceman_54, Eris_53, Anyyong_54, Palestino_53, Kyee_54, OKaNui_54, Cocoaberry_54, Pumbaa_54, LeoAvram_54, MeeZee_54, ICleared_54, Spino_53, LochMonster_55, Kingmustik0402_54, Relief_53, Maverick_54, JoongJeon_53, Mazhar510_54, Eagle_54, Mayonnaise_53
- Track 7 : Nyxis_54, Commander_54, TygerBlood_54, RockieBear_53, Bombshell_54, Nebs_55, Medusa_54, BellusTerra_55, SeniorClean_54, Chaph_54, Connomayer_54, KFPoly_53, Phelipe_55, Ruin_54, JetBlade_54, Eros_54, Morrow_55, Kremtemulon_54, Bartimeaus_54, LittleB_54, Blackmoor_54, Huxley_54, Alberto7_55, Shaka_54, Koan_52, Maxo_55, Burger_52, Baby16_54, Millski_53, Romney_54, SteMason_53, Albee_54, Iracema64_55, Clarenza_53, Eapen_54, Citius_54, Camperdownii_52, Wizard007_54, Flux_54, Cintron_53, BubbleTrouble_53, Noelle_54, Skipitt_53, Sabertooth_54, Ohfah_55, Eurydice_55, Druantia_54, Abdiel_54, LappelDuVide_54, Broseidon_54, Sparxx_55, Holli_53, Stasia_53, Lorenzo_54, Florean_54, YoSam321_54, Roosevelt_53, NorthStar_53, Dhanush_54, Wilbur_54, KekoraPapaka_54, Jaykayelowell_52, Melvin_56, Deano_53, CentreCat_54
- Track 8 : Bumblebee11_52, Xena_52, Cici_53, Wile_53, Datway_53, Badger_52, AbbysRanger_53, PetiteSangsue_53, Phontbonne_54, Perplexer_53, Katalie136_53, Achebe_52, Morpher26_53, Shygu2_53

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

The start number called the most often in the published annotations is 7, it was called in 121 of the 145 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbysRanger_53, Abdiel_54, Achebe_52, Albee_54, Alberto7_55, Annyong_54, Avle17_54, Baby16_54, Badger_52, Bartimeaus_54, BellusTerra_55, Blackmoor_54, Bombshell_54, Broseidon_54, Bruiser_53, BubbleTrouble_53, Bumblebee11_52, Burger_52, Caelakin_54, Camperdownii_52, CentreCat_54, Chaph_54, Cici_53, Cintron_53, Citius_54, Clarenza_53, Cocoaberry_54, Commander_54, Connomayer_54, Datway_53, Deano_53, Dhanush_54, DirtyDunning_53, Druantia_54, Eagle_54, Eapen_54, Eris_53, Eros_54, Eurydice_55, Florean_54, Flux_54, Funston_53, Gadost_54, Holli_53, Houdini22_54, Huxley_54, ICleared_54, Iceman_54, Iracema64_55, Jaykayelowell_52, JetBlade_54, JoongJeon_53, KFPoly_53, Katalie136_53, KekoraPapaka_54, Kingmustik0402_54, Kinmap_56, Koan_52, Koreni_53, Kremtemulon_54, Kyee_54, LappelDuVide_54, Lemur_54, LeoAvram_54, LittleB_54, LittleGuy_54, LochMonster_55, Lorenzo_54, Lunsford_55, Maverick_54, Maxo_55, Mayonnaise_53, Mazhar510_54, Medusa_54, MeeZee_54, Melvin_56, Millski_53, Morpher26_53, Morrow_55, Nebs_55, Nemo27_54, Noelle_54, NorthStar_53, NotAPhaseMom_54, Nyxis_54, OKaNui_54, Ohfah_55, Palestino_53, Perplexer_53, PeterPeter_54, PetiteSangsue_53, Phacado_54, Felipe_55, Phighter1804_54, Phontbonne_54, Pipcraft_52, Polymorphads_55, Pumbaa_54, Relief_53, RockieBear_53, Romney_54, Roosevelt_53, Rosa24_53, Ruin_54, Sabertooth_54, Scamp_54, SeniorClean_54, Shaka_54, Shygu2_53, Skipitt_53, Sparxx_55, Spino_53, Stasia_53, SteMason_53, Sultana_54, Taquarus_54, Thanksgivukkah_53, Tinybot_53, TroyPia_55, TygerBlood_54, Ulysses_53, Wander_54, Wilbur_54, Wile_53, Wizard007_54, Xena_52, YoSam321_54,

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

- Kimona_54,

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

- Caviar_56, DropBear_57, EtoileNova_57, Heathen_57, HeIDan_57, Hookmount_56, Isca_56, JF2_55, JF4_55, Kachowdy_57, Lambert1_56, MA5_57, MK4_57, Marchesa_57, Margo_56, Noella_56, Norbert_55, Panamaxus_54, Phantastic_58, Pocahontas_56, Popcicle_56, QuinnKiro_55, ResDef_56, Roimos_57, Scout_57, Texage_55, Todacoro_56, Veracruz_55, Zarafa_57,

Summary by start number:

Start 7:

- Found in 128 of 157 (81.5%) of genes in pham
- Manual Annotations of this start: 121 of 145
- Called 99.2% of time when present
- Phage (with cluster) where this start called: AbbysRanger_53 (A4), Abdiel_54 (A4), Achebe_52 (A4), Albee_54 (A4), Alberto7_55 (A4), Annyong_54 (A4), Avle17_54 (A4), Baby16_54 (A4), Badger_52 (A4), Bartimeaus_54 (A4), BellusTerra_55 (A4), Blackmoor_54 (A4), Bombshell_54 (A4), Broseidon_54 (A4), Bruiser_53 (A4), BubbleTrouble_53 (A4), Bumblebee11_52 (A4), Burger_52 (A4), Caelakin_54 (A4), Camperdownii_52 (A4), CentreCat_54 (A4), Chaph_54 (A4), Cici_53 (A4), Cintron_53 (A4), Citius_54 (A4), Clarenza_53 (A4), Cocoaberry_54 (A4), Commander_54 (A4), Connomayer_54 (A4), Datway_53 (A4), Deano_53 (A4), Dhanush_54 (A4), DirtyDunning_53 (A4), Druantia_54 (A4), Eagle_54 (A4), Eapen_54 (A4), Eris_53

(A4), Eros_54 (A4), Eurydice_55 (A4), Florean_54 (A4), Flux_54 (A4), Funston_53 (A4), Gadost_54 (A4), Holli_53 (A4), Houdini22_54 (A4), Huxley_54 (A4), ICleared_54 (A4), Iceman_54 (A4), Iracema64_55 (A4), Jaykayelowell_52 (A4), JetBlade_54 (A4), JoongJeon_53 (A4), KFPoly_53 (A4), Katalie136_53 (A4), KekoraPapaka_54 (A4), Kingmustik0402_54 (A4), Kinmap_56 (A21), Koan_52 (A4), Koreni_53 (A4), Kremtemulon_54 (A4), Kyee_54 (A4), LappelDuVide_54 (A4), Lemur_54 (A4), LeoAvram_54 (A4), LittleB_54 (A4), LittleGuy_54 (A4), LochMonster_55 (A4), Lorenzo_54 (A4), Lunsford_55 (A4), Maverick_54 (A4), Maxo_55 (A4), Mayonnaise_53 (A4), Mazhar510_54 (A4), Medusa_54 (A4), MeeZee_54 (A4), Melvin_56 (A4), Millski_53 (A4), Morpher26_53 (A4), Morrow_55 (A4), Nebs_55 (A4), Nemo27_54 (A4), Noelle_54 (A4), NorthStar_53 (A4), NotAPhaseMom_54 (A4), Nyxis_54 (A4), OKaNui_54 (A4), Ohfah_55 (A4), Palestino_53 (A4), Perplexer_53 (A4), PeterPeter_54 (A4), PetiteSangsue_53 (A4), Phacado_54 (A4), Phelipe_55 (A4), Phighter1804_54 (A4), Phontbonne_54 (A4), Pipcraft_52 (A4), Polymorphads_55 (A4), Pumbaa_54 (A4), Relief_53 (A4), RockieBear_53 (A4), Romney_54 (A4), Roosevelt_53 (A4), Rosa24_53 (A4), Ruin_54 (A4), Sabertooth_54 (A4), Scamp_54 (A4), SenorClean_54 (A4), Shaka_54 (A4), Shygu2_53 (A4), Skipitt_53 (A4), Sparxx_55 (A4), Spino_53 (A4), Stasia_53 (A4), SteMason_53 (A4), Sultana_54 (A4), Taquarus_54 (A4), Thanksgivukkah_53 (A4), Tinybot_53 (A4), TroyPia_55 (A4), TygerBlood_54 (A4), Ulysses_53 (A4), Wander_54 (A4), Wilbur_54 (A4), Wile_53 (A4), Wizard007_54 (A4), Xena_52 (A4), YoSam321_54 (A4),

Start 8:

- Found in 1 of 157 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 145
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kimona_54 (A19),

Start 9:

- Found in 29 of 157 (18.5%) of genes in pham
- Manual Annotations of this start: 23 of 145
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Caviar_56 (A3), DropBear_57 (A3), EtoileNova_57 (A3), Heathen_57 (A3), HelDan_57 (A3), Hookmount_56 (A3), Isca_56 (A3), JF2_55 (A3), JF4_55 (A3), Kachowdy_57 (A3), Lambert1_56 (A3), MA5_57 (A3), MK4_57 (A3), Marchesa_57 (A3), Margo_56 (A3), Noella_56 (A3), Norbert_55 (A3), Panamaxus_54 (A3), Phantastic_58 (A3), Pocahontas_56 (A3), Popcicle_56 (A3), QuinnKiro_55 (A3), ResDef_56 (A3), Roimos_57 (A3), Scout_57 (A3), Texage_55 (A3), Todacoro_56 (A3), Veracruz_55 (A3), Zarafa_57 (A3),

Summary by clusters:

There are 4 clusters represented in this pham: A21, A3, A19, A4,

Info for manual annotations of cluster A19:

- Start number 8 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A3:

- Start number 9 was manually annotated 23 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 7 was manually annotated 121 times for cluster A4.

Gene Information:

Gene: AbbysRanger_53 Start: 37450, Stop: 37343, Start Num: 7
Candidate Starts for AbbysRanger_53:
(Start: 7 @37450 has 121 MA's),

Gene: Abdiel_54 Start: 37484, Stop: 37374, Start Num: 7
Candidate Starts for Abdiel_54:
(6, 37685), (Start: 7 @37484 has 121 MA's),

Gene: Achebe_52 Start: 37433, Stop: 37326, Start Num: 7
Candidate Starts for Achebe_52:
(Start: 7 @37433 has 121 MA's),

Gene: Albee_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Albee_54:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Alberto7_55 Start: 37820, Stop: 37710, Start Num: 7
Candidate Starts for Alberto7_55:
(6, 38021), (Start: 7 @37820 has 121 MA's),

Gene: Annyong_54 Start: 37528, Stop: 37418, Start Num: 7
Candidate Starts for Annyong_54:
(Start: 7 @37528 has 121 MA's),

Gene: Avle17_54 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Avle17_54:
(Start: 7 @37480 has 121 MA's),

Gene: Baby16_54 Start: 37494, Stop: 37384, Start Num: 7
Candidate Starts for Baby16_54:
(6, 37695), (Start: 7 @37494 has 121 MA's),

Gene: Badger_52 Start: 37434, Stop: 37327, Start Num: 7
Candidate Starts for Badger_52:
(Start: 7 @37434 has 121 MA's),

Gene: Bartimeaus_54 Start: 37485, Stop: 37375, Start Num: 7
Candidate Starts for Bartimeaus_54:
(6, 37686), (Start: 7 @37485 has 121 MA's),

Gene: BellusTerra_55 Start: 37484, Stop: 37374, Start Num: 7
Candidate Starts for BellusTerra_55:
(6, 37685), (Start: 7 @37484 has 121 MA's),

Gene: Blackmoor_54 Start: 37485, Stop: 37375, Start Num: 7
Candidate Starts for Blackmoor_54:
(6, 37686), (Start: 7 @37485 has 121 MA's),

Gene: Bombshell_54 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Bombshell_54:
(6, 37681), (Start: 7 @37480 has 121 MA's),

Gene: Broseidon_54 Start: 37485, Stop: 37375, Start Num: 7
Candidate Starts for Broseidon_54:
(6, 37686), (Start: 7 @37485 has 121 MA's),

Gene: Bruiser_53 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Bruiser_53:
(Start: 7 @37483 has 121 MA's),

Gene: BubbleTrouble_53 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for BubbleTrouble_53:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Bumblebee11_52 Start: 37436, Stop: 37329, Start Num: 7
Candidate Starts for Bumblebee11_52:
(Start: 7 @37436 has 121 MA's),

Gene: Burger_52 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Burger_52:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Caelakin_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Caelakin_54:
(Start: 7 @37483 has 121 MA's),

Gene: Camperdownii_52 Start: 37157, Stop: 37047, Start Num: 7
Candidate Starts for Camperdownii_52:
(6, 37358), (Start: 7 @37157 has 121 MA's),

Gene: Caviar_56 Start: 37855, Stop: 37757, Start Num: 9
Candidate Starts for Caviar_56:
(Start: 9 @37855 has 23 MA's), (10, 37837),

Gene: CentreCat_54 Start: 37486, Stop: 37376, Start Num: 7
Candidate Starts for CentreCat_54:
(6, 37687), (Start: 7 @37486 has 121 MA's),

Gene: Chaph_54 Start: 37494, Stop: 37384, Start Num: 7
Candidate Starts for Chaph_54:
(6, 37695), (Start: 7 @37494 has 121 MA's),

Gene: Cici_53 Start: 37451, Stop: 37344, Start Num: 7
Candidate Starts for Cici_53:
(Start: 7 @37451 has 121 MA's),

Gene: Cintron_53 Start: 37460, Stop: 37350, Start Num: 7
Candidate Starts for Cintron_53:
(6, 37661), (Start: 7 @37460 has 121 MA's),

Gene: Citius_54 Start: 37504, Stop: 37394, Start Num: 7
Candidate Starts for Citius_54:
(6, 37705), (Start: 7 @37504 has 121 MA's),

Gene: Clarenza_53 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Clarenza_53:
(6, 37681), (Start: 7 @37480 has 121 MA's),

Gene: Cocoaberry_54 Start: 37487, Stop: 37377, Start Num: 7
Candidate Starts for Cocoaberry_54:
(Start: 7 @37487 has 121 MA's),

Gene: Commander_54 Start: 37482, Stop: 37372, Start Num: 7
Candidate Starts for Commander_54:
(6, 37683), (Start: 7 @37482 has 121 MA's),

Gene: Connomayer_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Connomayer_54:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Datway_53 Start: 37422, Stop: 37315, Start Num: 7
Candidate Starts for Datway_53:
(Start: 7 @37422 has 121 MA's),

Gene: Deano_53 Start: 37491, Stop: 37381, Start Num: 7
Candidate Starts for Deano_53:
(6, 37692), (Start: 7 @37491 has 121 MA's),

Gene: Dhanush_54 Start: 37486, Stop: 37376, Start Num: 7
Candidate Starts for Dhanush_54:
(6, 37687), (Start: 7 @37486 has 121 MA's),

Gene: DirtyDunning_53 Start: 37495, Stop: 37385, Start Num: 7
Candidate Starts for DirtyDunning_53:
(Start: 7 @37495 has 121 MA's),

Gene: DropBear_57 Start: 37792, Stop: 37700, Start Num: 9
Candidate Starts for DropBear_57:
(Start: 9 @37792 has 23 MA's), (10, 37774),

Gene: Druantia_54 Start: 37486, Stop: 37376, Start Num: 7
Candidate Starts for Druantia_54:
(6, 37687), (Start: 7 @37486 has 121 MA's),

Gene: Eagle_54 Start: 37508, Stop: 37398, Start Num: 7
Candidate Starts for Eagle_54:
(Start: 7 @37508 has 121 MA's),

Gene: Eapen_54 Start: 37478, Stop: 37368, Start Num: 7
Candidate Starts for Eapen_54:
(6, 37679), (Start: 7 @37478 has 121 MA's),

Gene: Eris_53 Start: 37483, Stop: 37373, Start Num: 7

Candidate Starts for Eris_53:
(Start: 7 @37483 has 121 MA's),

Gene: Eros_54 Start: 37485, Stop: 37375, Start Num: 7
Candidate Starts for Eros_54:
(6, 37686), (Start: 7 @37485 has 121 MA's),

Gene: EtoileNova_57 Start: 37859, Stop: 37761, Start Num: 9
Candidate Starts for EtoileNova_57:
(Start: 9 @37859 has 23 MA's), (10, 37841),

Gene: Eurydice_55 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Eurydice_55:
(6, 37681), (Start: 7 @37480 has 121 MA's),

Gene: Florean_54 Start: 37482, Stop: 37372, Start Num: 7
Candidate Starts for Florean_54:
(6, 37683), (Start: 7 @37482 has 121 MA's),

Gene: Flux_54 Start: 37482, Stop: 37372, Start Num: 7
Candidate Starts for Flux_54:
(6, 37683), (Start: 7 @37482 has 121 MA's),

Gene: Funston_53 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Funston_53:
(Start: 7 @37483 has 121 MA's),

Gene: Gadost_54 Start: 37487, Stop: 37377, Start Num: 7
Candidate Starts for Gadost_54:
(Start: 7 @37487 has 121 MA's),

Gene: Heathen_57 Start: 37581, Stop: 37489, Start Num: 9
Candidate Starts for Heathen_57:
(Start: 9 @37581 has 23 MA's), (10, 37563),

Gene: HelDan_57 Start: 37797, Stop: 37705, Start Num: 9
Candidate Starts for HelDan_57:
(Start: 9 @37797 has 23 MA's), (10, 37779),

Gene: Holli_53 Start: 37273, Stop: 37163, Start Num: 7
Candidate Starts for Holli_53:
(6, 37474), (Start: 7 @37273 has 121 MA's),

Gene: Hookmount_56 Start: 37856, Stop: 37758, Start Num: 9
Candidate Starts for Hookmount_56:
(Start: 9 @37856 has 23 MA's), (10, 37838),

Gene: Houdini22_54 Start: 37487, Stop: 37377, Start Num: 7
Candidate Starts for Houdini22_54:
(Start: 7 @37487 has 121 MA's),

Gene: Huxley_54 Start: 37544, Stop: 37434, Start Num: 7
Candidate Starts for Huxley_54:

(6, 37745), (Start: 7 @37544 has 121 MA's),

Gene: ICleared_54 Start: 37512, Stop: 37402, Start Num: 7
Candidate Starts for ICleared_54:
(Start: 7 @37512 has 121 MA's),

Gene: Iceman_54 Start: 37769, Stop: 37659, Start Num: 7
Candidate Starts for Iceman_54:
(Start: 7 @37769 has 121 MA's),

Gene: Iracema64_55 Start: 37747, Stop: 37637, Start Num: 7
Candidate Starts for Iracema64_55:
(6, 37948), (Start: 7 @37747 has 121 MA's),

Gene: Isca_56 Start: 37366, Stop: 37271, Start Num: 9
Candidate Starts for Isca_56:
(4, 37609), (6, 37570), (Start: 9 @37366 has 23 MA's), (10, 37348),

Gene: JF2_55 Start: 36067, Stop: 35972, Start Num: 9
Candidate Starts for JF2_55:
(4, 36310), (6, 36271), (Start: 9 @36067 has 23 MA's), (10, 36049),

Gene: JF4_55 Start: 36067, Stop: 35972, Start Num: 9
Candidate Starts for JF4_55:
(4, 36310), (6, 36271), (Start: 9 @36067 has 23 MA's), (10, 36049),

Gene: Jaykayelowell_52 Start: 37476, Stop: 37366, Start Num: 7
Candidate Starts for Jaykayelowell_52:
(6, 37677), (Start: 7 @37476 has 121 MA's),

Gene: JetBlade_54 Start: 37477, Stop: 37367, Start Num: 7
Candidate Starts for JetBlade_54:
(6, 37678), (Start: 7 @37477 has 121 MA's),

Gene: JoongJeon_53 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for JoongJeon_53:
(Start: 7 @37480 has 121 MA's),

Gene: KFPoly_53 Start: 37477, Stop: 37367, Start Num: 7
Candidate Starts for KFPoly_53:
(6, 37678), (Start: 7 @37477 has 121 MA's),

Gene: Kachowdy_57 Start: 37833, Stop: 37741, Start Num: 9
Candidate Starts for Kachowdy_57:
(Start: 9 @37833 has 23 MA's), (10, 37815),

Gene: Katalie136_53 Start: 37436, Stop: 37329, Start Num: 7
Candidate Starts for Katalie136_53:
(Start: 7 @37436 has 121 MA's),

Gene: KekoraPapaka_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for KekoraPapaka_54:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Kimona_54 Start: 36110, Stop: 35979, Start Num: 8
Candidate Starts for Kimona_54:
(Start: 7 @36113 has 121 MA's), (Start: 8 @36110 has 1 MA's),

Gene: Kingmustik0402_54 Start: 37472, Stop: 37362, Start Num: 7
Candidate Starts for Kingmustik0402_54:
(Start: 7 @37472 has 121 MA's),

Gene: Kinmap_56 Start: 36677, Stop: 36573, Start Num: 7
Candidate Starts for Kinmap_56:
(1, 37124), (2, 37091), (3, 37082), (5, 36905), (6, 36878), (Start: 7 @36677 has 121 MA's),

Gene: Koan_52 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Koan_52:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Koreni_53 Start: 37164, Stop: 37054, Start Num: 7
Candidate Starts for Koreni_53:
(Start: 7 @37164 has 121 MA's),

Gene: Kremtemulon_54 Start: 37431, Stop: 37321, Start Num: 7
Candidate Starts for Kremtemulon_54:
(6, 37632), (Start: 7 @37431 has 121 MA's),

Gene: Kyee_54 Start: 37481, Stop: 37371, Start Num: 7
Candidate Starts for Kyee_54:
(Start: 7 @37481 has 121 MA's),

Gene: Lambert1_56 Start: 37855, Stop: 37757, Start Num: 9
Candidate Starts for Lambert1_56:
(Start: 9 @37855 has 23 MA's), (10, 37837),

Gene: LappelDuVide_54 Start: 37482, Stop: 37372, Start Num: 7
Candidate Starts for LappelDuVide_54:
(6, 37683), (Start: 7 @37482 has 121 MA's),

Gene: Lemur_54 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Lemur_54:
(Start: 7 @37480 has 121 MA's),

Gene: LeoAvram_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for LeoAvram_54:
(Start: 7 @37483 has 121 MA's),

Gene: LittleB_54 Start: 37484, Stop: 37374, Start Num: 7
Candidate Starts for LittleB_54:
(6, 37685), (Start: 7 @37484 has 121 MA's),

Gene: LittleGuy_54 Start: 37379, Stop: 37269, Start Num: 7
Candidate Starts for LittleGuy_54:
(Start: 7 @37379 has 121 MA's),

Gene: LochMonster_55 Start: 37719, Stop: 37609, Start Num: 7
Candidate Starts for LochMonster_55:
(Start: 7 @37719 has 121 MA's),

Gene: Lorenzo_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Lorenzo_54:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Lunsford_55 Start: 37477, Stop: 37367, Start Num: 7
Candidate Starts for Lunsford_55:
(Start: 7 @37477 has 121 MA's),

Gene: MA5_57 Start: 37267, Stop: 37175, Start Num: 9
Candidate Starts for MA5_57:
(Start: 9 @37267 has 23 MA's), (10, 37249),

Gene: MK4_57 Start: 37351, Stop: 37256, Start Num: 9
Candidate Starts for MK4_57:
(4, 37594), (6, 37555), (Start: 9 @37351 has 23 MA's), (10, 37333),

Gene: Marchesa_57 Start: 37783, Stop: 37691, Start Num: 9
Candidate Starts for Marchesa_57:
(Start: 9 @37783 has 23 MA's), (10, 37765),

Gene: Margo_56 Start: 37881, Stop: 37783, Start Num: 9
Candidate Starts for Margo_56:
(Start: 9 @37881 has 23 MA's), (10, 37863),

Gene: Maverick_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Maverick_54:
(Start: 7 @37483 has 121 MA's),

Gene: Maxo_55 Start: 37485, Stop: 37375, Start Num: 7
Candidate Starts for Maxo_55:
(6, 37686), (Start: 7 @37485 has 121 MA's),

Gene: Mayonnaise_53 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Mayonnaise_53:
(Start: 7 @37483 has 121 MA's),

Gene: Mazhar510_54 Start: 37484, Stop: 37374, Start Num: 7
Candidate Starts for Mazhar510_54:
(Start: 7 @37484 has 121 MA's),

Gene: Medusa_54 Start: 37482, Stop: 37372, Start Num: 7
Candidate Starts for Medusa_54:
(6, 37683), (Start: 7 @37482 has 121 MA's),

Gene: MeeZee_54 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for MeeZee_54:
(Start: 7 @37480 has 121 MA's),

Gene: Melvin_56 Start: 37478, Stop: 37368, Start Num: 7

Candidate Starts for Melvin_56:
(6, 37679), (Start: 7 @37478 has 121 MA's),

Gene: Millski_53 Start: 37484, Stop: 37374, Start Num: 7
Candidate Starts for Millski_53:
(6, 37685), (Start: 7 @37484 has 121 MA's),

Gene: Morpher26_53 Start: 37457, Stop: 37350, Start Num: 7
Candidate Starts for Morpher26_53:
(Start: 7 @37457 has 121 MA's),

Gene: Morrow_55 Start: 37489, Stop: 37379, Start Num: 7
Candidate Starts for Morrow_55:
(6, 37690), (Start: 7 @37489 has 121 MA's),

Gene: Nebs_55 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Nebs_55:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Nemo27_54 Start: 37482, Stop: 37372, Start Num: 7
Candidate Starts for Nemo27_54:
(Start: 7 @37482 has 121 MA's),

Gene: Noella_56 Start: 37856, Stop: 37758, Start Num: 9
Candidate Starts for Noella_56:
(Start: 9 @37856 has 23 MA's), (10, 37838),

Gene: Noelle_54 Start: 37758, Stop: 37648, Start Num: 7
Candidate Starts for Noelle_54:
(6, 37959), (Start: 7 @37758 has 121 MA's),

Gene: Norbert_55 Start: 37855, Stop: 37757, Start Num: 9
Candidate Starts for Norbert_55:
(Start: 9 @37855 has 23 MA's), (10, 37837),

Gene: NorthStar_53 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for NorthStar_53:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: NotAPhaseMom_54 Start: 37487, Stop: 37377, Start Num: 7
Candidate Starts for NotAPhaseMom_54:
(Start: 7 @37487 has 121 MA's),

Gene: Nyxis_54 Start: 37373, Stop: 37263, Start Num: 7
Candidate Starts for Nyxis_54:
(6, 37574), (Start: 7 @37373 has 121 MA's),

Gene: OKaNui_54 Start: 37533, Stop: 37423, Start Num: 7
Candidate Starts for OKaNui_54:
(Start: 7 @37533 has 121 MA's),

Gene: Ohfah_55 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Ohfah_55:

(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Palestino_53 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Palestino_53:
(Start: 7 @37483 has 121 MA's),

Gene: Panamaxus_54 Start: 37855, Stop: 37757, Start Num: 9
Candidate Starts for Panamaxus_54:
(Start: 9 @37855 has 23 MA's), (10, 37837),

Gene: Perplexer_53 Start: 37433, Stop: 37326, Start Num: 7
Candidate Starts for Perplexer_53:
(Start: 7 @37433 has 121 MA's),

Gene: PeterPeter_54 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for PeterPeter_54:
(Start: 7 @37480 has 121 MA's),

Gene: PetiteSangsue_53 Start: 37436, Stop: 37329, Start Num: 7
Candidate Starts for PetiteSangsue_53:
(Start: 7 @37436 has 121 MA's),

Gene: Phacado_54 Start: 37482, Stop: 37372, Start Num: 7
Candidate Starts for Phacado_54:
(Start: 7 @37482 has 121 MA's),

Gene: Phantastic_58 Start: 37528, Stop: 37433, Start Num: 9
Candidate Starts for Phantastic_58:
(4, 37771), (6, 37732), (Start: 9 @37528 has 23 MA's), (10, 37510),

Gene: Phelipe_55 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Phelipe_55:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Phighter1804_54 Start: 37544, Stop: 37434, Start Num: 7
Candidate Starts for Phighter1804_54:
(Start: 7 @37544 has 121 MA's),

Gene: Phontbonne_54 Start: 37374, Stop: 37264, Start Num: 7
Candidate Starts for Phontbonne_54:
(Start: 7 @37374 has 121 MA's),

Gene: Pipcraft_52 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Pipcraft_52:
(Start: 7 @37483 has 121 MA's),

Gene: Pocahontas_56 Start: 37852, Stop: 37754, Start Num: 9
Candidate Starts for Pocahontas_56:
(Start: 9 @37852 has 23 MA's), (10, 37834),

Gene: Polymorphads_55 Start: 37476, Stop: 37366, Start Num: 7
Candidate Starts for Polymorphads_55:
(Start: 7 @37476 has 121 MA's),

Gene: Popcicle_56 Start: 37852, Stop: 37754, Start Num: 9
Candidate Starts for Popcicle_56:
(Start: 9 @37852 has 23 MA's), (10, 37834),

Gene: Pumbaa_54 Start: 37428, Stop: 37318, Start Num: 7
Candidate Starts for Pumbaa_54:
(Start: 7 @37428 has 121 MA's),

Gene: QuinnKiro_55 Start: 37855, Stop: 37757, Start Num: 9
Candidate Starts for QuinnKiro_55:
(Start: 9 @37855 has 23 MA's), (10, 37837),

Gene: Relief_53 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Relief_53:
(Start: 7 @37480 has 121 MA's),

Gene: ResDef_56 Start: 37855, Stop: 37757, Start Num: 9
Candidate Starts for ResDef_56:
(Start: 9 @37855 has 23 MA's), (10, 37837),

Gene: RockieBear_53 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for RockieBear_53:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Roimos_57 Start: 37713, Stop: 37621, Start Num: 9
Candidate Starts for Roimos_57:
(Start: 9 @37713 has 23 MA's), (10, 37695),

Gene: Romney_54 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Romney_54:
(6, 37681), (Start: 7 @37480 has 121 MA's),

Gene: Roosevelt_53 Start: 37485, Stop: 37375, Start Num: 7
Candidate Starts for Roosevelt_53:
(6, 37686), (Start: 7 @37485 has 121 MA's),

Gene: Rosa24_53 Start: 37511, Stop: 37401, Start Num: 7
Candidate Starts for Rosa24_53:
(Start: 7 @37511 has 121 MA's),

Gene: Ruin_54 Start: 37476, Stop: 37366, Start Num: 7
Candidate Starts for Ruin_54:
(6, 37677), (Start: 7 @37476 has 121 MA's),

Gene: Sabertooth_54 Start: 37485, Stop: 37375, Start Num: 7
Candidate Starts for Sabertooth_54:
(6, 37686), (Start: 7 @37485 has 121 MA's),

Gene: Scamp_54 Start: 37485, Stop: 37375, Start Num: 7
Candidate Starts for Scamp_54:
(Start: 7 @37485 has 121 MA's),

Gene: Scout_57 Start: 37044, Stop: 36952, Start Num: 9
Candidate Starts for Scout_57:
(Start: 9 @37044 has 23 MA's), (10, 37026),

Gene: SenorClean_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for SenorClean_54:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Shaka_54 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Shaka_54:
(6, 37681), (Start: 7 @37480 has 121 MA's),

Gene: Shygu2_53 Start: 37485, Stop: 37378, Start Num: 7
Candidate Starts for Shygu2_53:
(Start: 7 @37485 has 121 MA's),

Gene: Skipitt_53 Start: 37477, Stop: 37367, Start Num: 7
Candidate Starts for Skipitt_53:
(6, 37678), (Start: 7 @37477 has 121 MA's),

Gene: Sparxx_55 Start: 37478, Stop: 37368, Start Num: 7
Candidate Starts for Sparxx_55:
(6, 37679), (Start: 7 @37478 has 121 MA's),

Gene: Spino_53 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Spino_53:
(Start: 7 @37483 has 121 MA's),

Gene: Stasia_53 Start: 37361, Stop: 37254, Start Num: 7
Candidate Starts for Stasia_53:
(6, 37562), (Start: 7 @37361 has 121 MA's),

Gene: SteMason_53 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for SteMason_53:
(6, 37681), (Start: 7 @37480 has 121 MA's),

Gene: Sultana_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for Sultana_54:
(Start: 7 @37483 has 121 MA's),

Gene: Taquarus_54 Start: 37486, Stop: 37376, Start Num: 7
Candidate Starts for Taquarus_54:
(Start: 7 @37486 has 121 MA's),

Gene: Texage_55 Start: 37856, Stop: 37758, Start Num: 9
Candidate Starts for Texage_55:
(Start: 9 @37856 has 23 MA's), (10, 37838),

Gene: Thanksgivukkah_53 Start: 37481, Stop: 37371, Start Num: 7
Candidate Starts for Thanksgivukkah_53:
(Start: 7 @37481 has 121 MA's),

Gene: Tinybot_53 Start: 37510, Stop: 37400, Start Num: 7

Candidate Starts for Tinybot_53:
(Start: 7 @37510 has 121 MA's),

Gene: Todacoro_56 Start: 37855, Stop: 37757, Start Num: 9
Candidate Starts for Todacoro_56:
(Start: 9 @37855 has 23 MA's), (10, 37837),

Gene: TroyPia_55 Start: 37481, Stop: 37371, Start Num: 7
Candidate Starts for TroyPia_55:
(Start: 7 @37481 has 121 MA's),

Gene: TygerBlood_54 Start: 37483, Stop: 37373, Start Num: 7
Candidate Starts for TygerBlood_54:
(6, 37684), (Start: 7 @37483 has 121 MA's),

Gene: Ulysses_53 Start: 37160, Stop: 37050, Start Num: 7
Candidate Starts for Ulysses_53:
(Start: 7 @37160 has 121 MA's),

Gene: Veracruz_55 Start: 37855, Stop: 37757, Start Num: 9
Candidate Starts for Veracruz_55:
(Start: 9 @37855 has 23 MA's), (10, 37837),

Gene: Wander_54 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Wander_54:
(Start: 7 @37480 has 121 MA's),

Gene: Wilbur_54 Start: 37480, Stop: 37370, Start Num: 7
Candidate Starts for Wilbur_54:
(6, 37681), (Start: 7 @37480 has 121 MA's),

Gene: Wile_53 Start: 37467, Stop: 37360, Start Num: 7
Candidate Starts for Wile_53:
(Start: 7 @37467 has 121 MA's),

Gene: Wizard007_54 Start: 37488, Stop: 37378, Start Num: 7
Candidate Starts for Wizard007_54:
(6, 37689), (Start: 7 @37488 has 121 MA's),

Gene: Xena_52 Start: 37433, Stop: 37326, Start Num: 7
Candidate Starts for Xena_52:
(Start: 7 @37433 has 121 MA's),

Gene: YoSam321_54 Start: 37477, Stop: 37367, Start Num: 7
Candidate Starts for YoSam321_54:
(6, 37678), (Start: 7 @37477 has 121 MA's),

Gene: Zarafa_57 Start: 37806, Stop: 37714, Start Num: 9
Candidate Starts for Zarafa_57:
(Start: 9 @37806 has 23 MA's), (10, 37788),