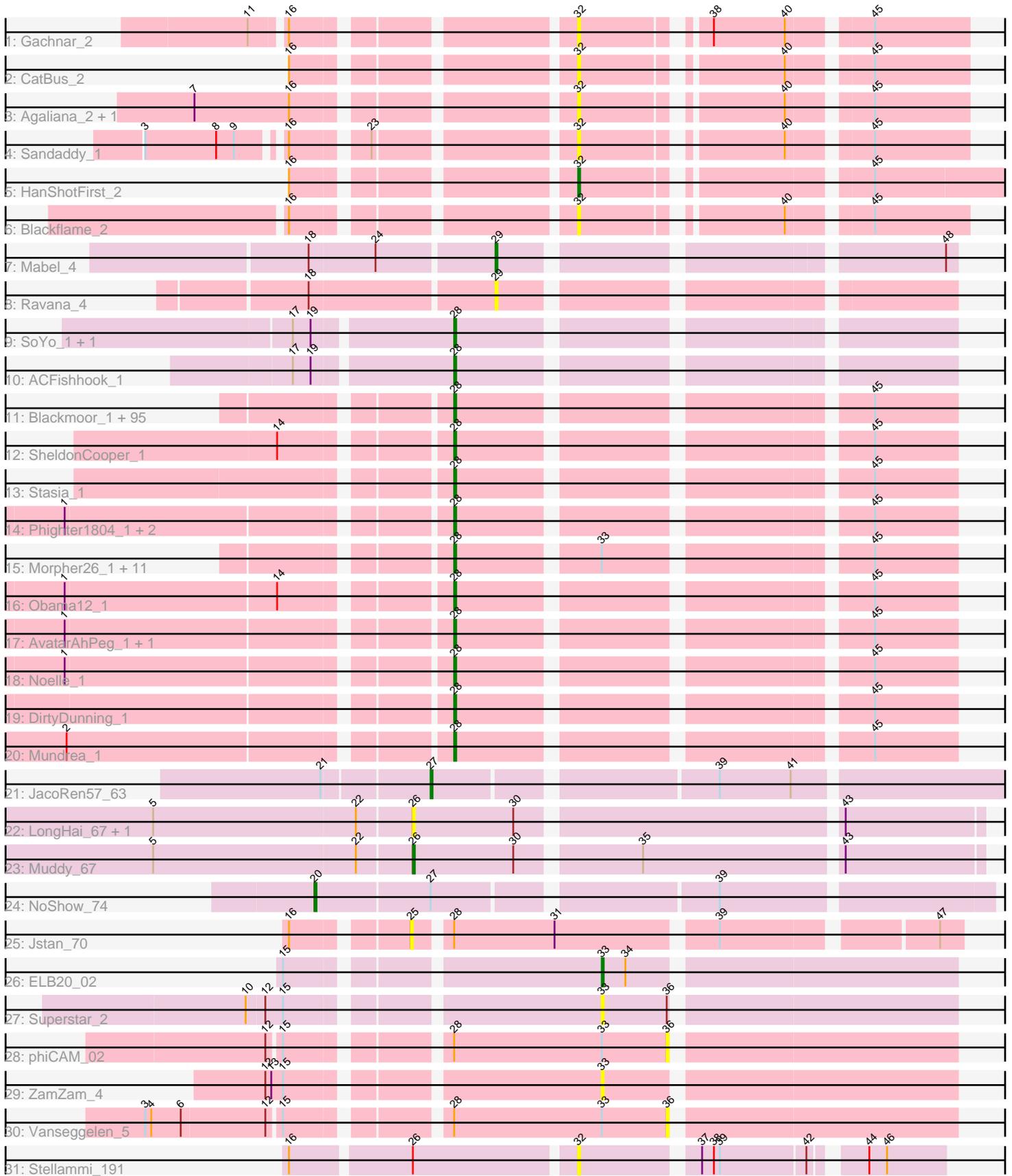# Pham 290927

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 290927 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290927 has 143 members, 16 are drafts.

Phages represented in each track:
• Track 1 : Gachnar_2
• Track 2 : CatBus_2
• Track 3 : Agaliana_2, ChristmasHams_2
• Track 4 : Sandaddy_1
• Track 5 : HanShotFirst_2
• Track 6 : Blackflame_2
• Track 7 : Mabel_4
• Track 8 : Ravana_4
• Track 9 : SoYo_1, Croquant_2
• Track 10 : ACFishhook_1
• Track 11 : Blackmoor_1, SenorClean_1, LittleGuy_1, Kremtemulon_1, Druantia_1, ICleared_1, Avle17_1, Mayonnaise_1, Cocoaberry_1, Holli_1, Pipcraft_1, Polymorphads_1, BellusTerra_1, Kampy_1, Palestino_1, Medusa_1, Wizard007_1, Melvin_1, Annyong_1, Lunsford_1, Houdini22_1, Lorenzo_1, Phontbonne_1, Koreni_1, Iracema64_1, Nemo27_1, TroyPia_1, Ohfah_1, Sultana_1, Shygu2_1, BubbleTrouble_1, Broseidon_1, OKaNui_1, Sabertooth_1, Taquarus_1, Millski_1, Citius_1, Jaykayelowell_1, Clarenza_1, JetBlade_1, CentreCat_1, Lemur_1, Cintron_1, Romney_1, Sparxx_1, Eapen_1, Nebs_1, NotAPhaseMom_1, Arturo_86, Iceman_1, Florean_1, Kyee_1, Maxo_1, Connomayer_1, Kratark_1, Koan_1, Ruin_1, Nyxis_1, Skipitt_1, Bartimeaus_1, Relief_1, Eris_1, Alberto7_1, Chaph_1, JoongJeon_1, Flux_1, Spino_1, Roosevelt_1, Eros_1, Funston_1, Gadost_1, Albee_1, Eurydice_1, Thanksgivukkah_1, Bombshell_1, NorthStar_1, TinaFeyge_1, LittleB_1, Scamp_1, Morrow_1, Baby16_1, TygerBlood_1, Mazhar510_1, KFPoly_1, Happiness_1, Deano_1, YoSam321_1, Wilbur_1, Dhanush_1, Wander_1, Abdiel_1, PeterPeter_1, Bruiser_1, Phacado_1, Kingmustik0402_1, Camperdownii_1
• Track 12 : SheldonCooper_1
• Track 13 : Stasia_1
• Track 14 : Phighter1804_1, Pumbaa_1, LochMonster_1
• Track 15 : Morpher26_1, Xena_1, Badger_1, Datway_1, PetiteSangsue_1, Cici_1, Wile_1, Katalie136_1, Achebe_1, Perplexer_1, AbbysRanger_1, Bumblebee11_1
• Track 16 : Obama12_1
• Track 17 : AvatarAhPeg_1, Miramae_1
• Track 18 : Noelle_1
• Track 19 : DirtyDunning_1
• Track 20 : Mundrea_1
• Track 21 : JacoRen57_63
• Track 22 : LongHai_67, Salvus_67

- Track 23 : Muddy_67
- Track 24 : NoShow_74
- Track 25 : Jstan_70
- Track 26 : ELB20_02
- Track 27 : Superstar_2
- Track 28 : phiCAM_02
- Track 29 : ZamZam_4
- Track 30 : Vanseggelen_5
- Track 31 : Stellammi_191

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

The start number called the most often in the published annotations is 28, it was called in 121 of the 127 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- ACFishhook_1, AbbysRanger_1, Abdiel_1, Achebe_1, Albee_1, Alberto7_1, Annyong_1, Arturo_86, AvatarAhPeg_1, Avle17_1, Baby16_1, Badger_1, Bartimeaus_1, BellusTerra_1, Blackmoor_1, Bombshell_1, Broseidon_1, Bruiser_1, BubbleTrouble_1, Bumblebee11_1, Camperdownii_1, CentreCat_1, Chaph_1, Cici_1, Cintron_1, Citius_1, Clarenza_1, Cocoaberry_1, Connomayer_1, Croquant_2, Datway_1, Deano_1, Dhanush_1, DirtyDunning_1, Druantia_1, Eapen_1, Eris_1, Eros_1, Eurydice_1, Florean_1, Flux_1, Funston_1, Gadost_1, Happiness_1, Holli_1, Houdini22_1, ICleared_1, Iceman_1, Iracema64_1, Jaykayelowell_1, JetBlade_1, JoongJeon_1, KFPoly_1, Kampy_1, Katalie136_1, Kingmustik0402_1, Koan_1, Koreni_1, Kratark_1, Kremtemulon_1, Kyee_1, Lemur_1, LittleB_1, LittleGuy_1, LochMonster_1, Lorenzo_1, Lunsford_1, Maxo_1, Mayonnaise_1, Mazhar510_1, Medusa_1, Melvin_1, Millski_1, Miramae_1, Morpher26_1, Morrow_1, Mundrea_1, Nebs_1, Nemo27_1, Noelle_1, NorthStar_1, NotAPhaseMom_1, Nyxis_1, OKaNui_1, Obama12_1, Ohfah_1, Palestino_1, Perplexer_1, PeterPeter_1, PetiteSangsue_1, Phacado_1, Phighter1804_1, Phontbonne_1, Pipcraft_1, Polymorphads_1, Pumbaa_1, Relief_1, Romney_1, Roosevelt_1, Ruin_1, Sabertooth_1, Scamp_1, SenorClean_1, SheldonCooper_1, Shygu2_1, Skipitt_1, SoYo_1, Sparxx_1, Spino_1, Stasia_1, Sultana_1, Taquarus_1, Thanksgivukkah_1, TinaFeyge_1, TroyPia_1, TygerBlood_1, Wander_1, Wilbur_1, Wile_1, Wizard007_1, Xena_1, YoSam321_1,

Genes that have the "Most Annotated" start but do not call it:
- Jstan_70, Vanseggelen_5, phiCAM_02,

Genes that do not have the "Most Annotated" start:
- Agaliana_2, Blackflame_2, CatBus_2, ChristmasHams_2, ELB20_02, Gachnar_2, HanShotFirst_2, JacoRen57_63, LongHai_67, Mabel_4, Muddy_67, NoShow_74, Ravana_4, Salvus_67, Sandaddy_1, Stellammi_191, Superstar_2, ZamZam_4,

Summary by start number:

Start 20:
- Found in 1 of 143 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 100.0% of time when present

• Phage (with cluster) where this start called: NoShow_74 (AB),

Start 25:
• Found in 1 of 143 (0.7%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jstan_70 (AZ1),

Start 26:
• Found in 4 of 143 (2.8%) of genes in pham
• Manual Annotations of this start: 1 of 127
• Called 75.0% of time when present
• Phage (with cluster) where this start called: LongHai_67 (AB), Muddy_67 (AB), Salvus_67 (AB),

Start 27:
• Found in 2 of 143 (1.4%) of genes in pham
• Manual Annotations of this start: 1 of 127
• Called 50.0% of time when present
• Phage (with cluster) where this start called: JacoRen57_63 (AB),

Start 28:
• Found in 125 of 143 (87.4%) of genes in pham
• Manual Annotations of this start: 121 of 127
• Called 97.6% of time when present
• Phage (with cluster) where this start called: ACFishhook_1 (A3), AbbysRanger_1 (A4), Abdiel_1 (A4), Achebe_1 (A4), Albee_1 (A4), Alberto7_1 (A4), Annyong_1 (A4), Arturo_86 (A4), AvatarAhPeg_1 (A4), Avle17_1 (A4), Baby16_1 (A4), Badger_1 (A4), Bartimeaus_1 (A4), BellusTerra_1 (A4), Blackmoor_1 (A4), Bombshell_1 (A4), Broseidon_1 (A4), Bruiser_1 (A4), BubbleTrouble_1 (A4), Bumblebee11_1 (A4), Camperdownii_1 (A4), CentreCat_1 (A4), Chaph_1 (A4), Cici_1 (A4), Cintron_1 (A4), Citius_1 (A4), Clarenza_1 (A4), Cocoaberry_1 (A4), Connomayer_1 (A4), Croquant_2 (A3), Datway_1 (A4), Deano_1 (A4), Dhanush_1 (A4), DirtyDunning_1 (A4), Druantia_1 (A4), Eapen_1 (A4), Eris_1 (A4), Eros_1 (A4), Eurydice_1 (A4), Florean_1 (A4), Flux_1 (A4), Funston_1 (A4), Gadost_1 (A4), Happiness_1 (A4), Holli_1 (A4), Houdini22_1 (A4), ICleared_1 (A4), Iceman_1 (A4), Iracema64_1 (A4), Jaykayelowell_1 (A4), JetBlade_1 (A4), JoongJeon_1 (A4), KFPoly_1 (A4), Kampy_1 (A4), Katalie136_1 (A4), Kingmustik0402_1 (A4), Koan_1 (A4), Koreni_1 (A4), Kratark_1 (A4), Kremtemulon_1 (A4), Kyee_1 (A4), Lemur_1 (A4), LittleB_1 (A4), LittleGuy_1 (A4), LochMonster_1 (A4), Lorenzo_1 (A4), Lunsford_1 (A4), Maxo_1 (A4), Mayonnaise_1 (A4), Mazhar510_1 (A4), Medusa_1 (A4), Melvin_1 (A4), Millski_1 (A4), Miramae_1 (A4), Morpher26_1 (A4), Morrow_1 (A4), Mundrea_1 (A4), Nebs_1 (A4), Nemo27_1 (A4), Noelle_1 (A4), NorthStar_1 (A4), NotAPhaseMom_1 (A4), Nyxis_1 (A4), OKaNui_1 (A4), Obama12_1 (A4), Ohfah_1 (A4), Palestino_1 (A4), Perplexer_1 (A4), PeterPeter_1 (A4), PetiteSangsue_1 (A4), Phacado_1 (A4), Phighter1804_1 (A4), Phontbonne_1 (A4), Pipcraft_1 (A4), Polymorphads_1 (A4), Pumbaa_1 (A4), Relief_1 (A4), Romney_1 (A4), Roosevelt_1 (A4), Ruin_1 (A4), Sabertooth_1 (A4), Scamp_1 (A4), SenorClean_1 (A4), SheldonCooper_1 (A4), Shygu2_1 (A4), Skipitt_1 (A4), SoYo_1 (A3), Sparxx_1 (A4), Spino_1 (A4), Stasia_1 (A4), Sultana_1 (A4), Taquarus_1 (A4), Thanksgivukkah_1 (A4), TinaFeyge_1 (A4), TroyPia_1 (A4), TygerBlood_1 (A4), Wander_1 (A4), Wilbur_1 (A4), Wile_1 (A4), Wizard007_1 (A4), Xena_1 (A4), YoSam321_1 (A4),

Start 29:
• Found in 2 of 143 (1.4%) of genes in pham
• Manual Annotations of this start: 1 of 127
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Mabel_4 (A11), Ravana_4 (A15),

Start 32:
• Found in 8 of 143 (5.6%) of genes in pham
• Manual Annotations of this start: 1 of 127
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Agaliana_2 (A1), Blackflame_2 (A1), CatBus_2 (A1), ChristmasHams_2 (A1), Gachnar_2 (A1), HanShotFirst_2 (A1), Sandaddy_1 (A1), Stellammi_191 (UNK),

Start 33:
• Found in 17 of 143 (11.9%) of genes in pham
• Manual Annotations of this start: 1 of 127
• Called 17.6% of time when present
• Phage (with cluster) where this start called: ELB20_02 (BD2), Superstar_2 (BD2), ZamZam_4 (BD3),

Start 36:
• Found in 3 of 143 (2.1%) of genes in pham
• No Manual Annotations of this start.
• Called 66.7% of time when present
• Phage (with cluster) where this start called: Vanseggelen_5 (BD3), phiCAM_02 (BD3),

Summary by clusters:

There are 10 clusters represented in this pham: A15, AB, A11, A1, A3, A4, BD3, BD2, AZ1, UNK,

Info for manual annotations of cluster A1:
•Start number 32 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster A11:
•Start number 29 was manually annotated 1 time for cluster A11.

Info for manual annotations of cluster A3:
•Start number 28 was manually annotated 2 times for cluster A3.

Info for manual annotations of cluster A4:
•Start number 28 was manually annotated 119 times for cluster A4.

Info for manual annotations of cluster AB:
•Start number 20 was manually annotated 1 time for cluster AB.
•Start number 26 was manually annotated 1 time for cluster AB.
•Start number 27 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster BD2:

•Start number 33 was manually annotated 1 time for cluster BD2.

Gene Information:

Gene: ACFishhook_1 Start: 596, Stop: 823, Start Num: 28
Candidate Starts for ACFishhook_1:
(17, 521), (19, 530), (Start: 28 @596 has 121 MA's),

Gene: AbbysRanger_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for AbbysRanger_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: Abdiel_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Abdiel_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Achebe_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for Achebe_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: Agaliana_2 Start: 958, Stop: 1131, Start Num: 32
Candidate Starts for Agaliana_2:
(7, 787), (16, 835), (Start: 32 @958 has 1 MA's), (40, 1048), (45, 1084),

Gene: Albee_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Albee_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Alberto7_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Alberto7_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Annyong_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Annyong_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Arturo_86 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Arturo_86:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: AvatarAhPeg_1 Start: 535, Stop: 762, Start Num: 28
Candidate Starts for AvatarAhPeg_1:
(1, 355), (Start: 28 @535 has 121 MA's), (45, 721),

Gene: Avle17_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Avle17_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Baby16_1 Start: 538, Stop: 765, Start Num: 28

Candidate Starts for Baby16_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Badger_1 Start: 543, Stop: 770, Start Num: 28
Candidate Starts for Badger_1:
(Start: 28 @543 has 121 MA's), (Start: 33 @609 has 1 MA's), (45, 729),

Gene: Bartimeaus_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Bartimeaus_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: BellusTerra_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for BellusTerra_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Blackflame_2 Start: 840, Stop: 1013, Start Num: 32
Candidate Starts for Blackflame_2:
(16, 717), (Start: 32 @840 has 1 MA's), (40, 930), (45, 966),

Gene: Blackmoor_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Blackmoor_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Bombshell_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Bombshell_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Broseidon_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Broseidon_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Bruiser_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Bruiser_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: BubbleTrouble_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for BubbleTrouble_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Bumblebee11_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for Bumblebee11_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: Camperdownii_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Camperdownii_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: CatBus_2 Start: 873, Stop: 1046, Start Num: 32
Candidate Starts for CatBus_2:
(16, 750), (Start: 32 @873 has 1 MA's), (40, 963), (45, 999),

Gene: CentreCat_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for CentreCat_1:

(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Chaph_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Chaph_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: ChristmasHams_2 Start: 958, Stop: 1131, Start Num: 32
Candidate Starts for ChristmasHams_2:
(7, 787), (16, 835), (Start: 32 @958 has 1 MA's), (40, 1048), (45, 1084),

Gene: Cici_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for Cici_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: Cintron_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Cintron_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Citius_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Citius_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Clarenza_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Clarenza_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Cocoaberry_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Cocoaberry_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Connomayer_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Connomayer_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Croquant_2 Start: 592, Stop: 819, Start Num: 28
Candidate Starts for Croquant_2:
(17, 517), (19, 526), (Start: 28 @592 has 121 MA's),

Gene: Datway_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for Datway_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: Deano_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Deano_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Dhanush_1 Start: 537, Stop: 764, Start Num: 28
Candidate Starts for Dhanush_1:
(Start: 28 @537 has 121 MA's), (45, 723),

Gene: DirtyDunning_1 Start: 536, Stop: 763, Start Num: 28
Candidate Starts for DirtyDunning_1:
(Start: 28 @536 has 121 MA's), (45, 722),

Gene: Druantia_1 Start: 539, Stop: 766, Start Num: 28
Candidate Starts for Druantia_1:
(Start: 28 @539 has 121 MA's), (45, 725),

Gene: ELB20_02 Start: 804, Stop: 974, Start Num: 33
Candidate Starts for ELB20_02:
(15, 660), (Start: 33 @804 has 1 MA's), (34, 816),

Gene: Eapen_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Eapen_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Eris_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Eris_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Eros_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Eros_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Eurydice_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Eurydice_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Florean_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Florean_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Flux_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Flux_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Funston_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Funston_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Gachnar_2 Start: 892, Stop: 1065, Start Num: 32
Candidate Starts for Gachnar_2:
(11, 754), (16, 769), (Start: 32 @892 has 1 MA's), (38, 946), (40, 982), (45, 1018),

Gene: Gadost_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Gadost_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: HanShotFirst_2 Start: 873, Stop: 1067, Start Num: 32
Candidate Starts for HanShotFirst_2:
(16, 750), (Start: 32 @873 has 1 MA's), (45, 999),

Gene: Happiness_1 Start: 537, Stop: 764, Start Num: 28
Candidate Starts for Happiness_1:
(Start: 28 @537 has 121 MA's), (45, 723),

Gene: Holli_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Holli_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Houdini22_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Houdini22_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: ICleared_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for ICleared_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Iceman_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Iceman_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Iracema64_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Iracema64_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: JacoRen57_63 Start: 47251, Stop: 47520, Start Num: 27
Candidate Starts for JacoRen57_63:
(21, 47200), (Start: 27 @47251 has 1 MA's), (39, 47383), (41, 47419),

Gene: Jaykayelowell_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Jaykayelowell_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: JetBlade_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for JetBlade_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: JoongJeon_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for JoongJeon_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Jstan_70 Start: 43158, Stop: 43409, Start Num: 25
Candidate Starts for Jstan_70:
(16, 43107), (25, 43158), (Start: 28 @43173 has 121 MA's), (31, 43224), (39, 43299), (47, 43398),

Gene: KFPoly_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for KFPoly_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Kampy_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Kampy_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Katalie136_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for Katalie136_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: Kingmustik0402_1 Start: 538, Stop: 765, Start Num: 28

Candidate Starts for Kingmustik0402_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Koan_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Koan_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Koreni_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Koreni_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Kratark_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Kratark_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Kremtemulon_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Kremtemulon_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Kyee_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Kyee_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Lemur_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Lemur_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: LittleB_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for LittleB_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: LittleGuy_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for LittleGuy_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: LochMonster_1 Start: 536, Stop: 763, Start Num: 28
Candidate Starts for LochMonster_1:
(1, 356), (Start: 28 @536 has 121 MA's), (45, 722),

Gene: LongHai_67 Start: 46426, Stop: 46698, Start Num: 26
Candidate Starts for LongHai_67:
(5, 46297), (22, 46399), (Start: 26 @46426 has 1 MA's), (30, 46477), (43, 46630),

Gene: Lorenzo_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Lorenzo_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Lunsford_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Lunsford_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Mabel_4 Start: 2458, Stop: 2664, Start Num: 29
Candidate Starts for Mabel_4:

(18, 2368), (24, 2401), (Start: 29 @2458 has 1 MA's), (48, 2659),

Gene: Maxo_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Maxo_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Mayonnaise_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Mayonnaise_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Mazhar510_1 Start: 539, Stop: 766, Start Num: 28
Candidate Starts for Mazhar510_1:
(Start: 28 @539 has 121 MA's), (45, 725),

Gene: Medusa_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Medusa_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Melvin_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Melvin_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Millski_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Millski_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Miramae_1 Start: 535, Stop: 762, Start Num: 28
Candidate Starts for Miramae_1:
(1, 355), (Start: 28 @535 has 121 MA's), (45, 721),

Gene: Morpher26_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for Morpher26_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: Morrow_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Morrow_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Muddy_67 Start: 46594, Stop: 46866, Start Num: 26
Candidate Starts for Muddy_67:
(5, 46465), (22, 46567), (Start: 26 @46594 has 1 MA's), (30, 46645), (35, 46702), (43, 46798),

Gene: Mundrea_1 Start: 539, Stop: 766, Start Num: 28
Candidate Starts for Mundrea_1:
(2, 359), (Start: 28 @539 has 121 MA's), (45, 725),

Gene: Nebs_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Nebs_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Nemo27_1 Start: 537, Stop: 764, Start Num: 28
Candidate Starts for Nemo27_1:
(Start: 28 @537 has 121 MA's), (45, 723),

Gene: NoShow_74 Start: 49650, Stop: 49970, Start Num: 20
Candidate Starts for NoShow_74:
(Start: 20 @49650 has 1 MA's), (Start: 27 @49707 has 1 MA's), (39, 49839),

Gene: Noelle_1 Start: 526, Stop: 753, Start Num: 28
Candidate Starts for Noelle_1:
(1, 346), (Start: 28 @526 has 121 MA's), (45, 712),

Gene: NorthStar_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for NorthStar_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: NotAPhaseMom_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for NotAPhaseMom_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Nyxis_1 Start: 539, Stop: 766, Start Num: 28
Candidate Starts for Nyxis_1:
(Start: 28 @539 has 121 MA's), (45, 725),

Gene: OKaNui_1 Start: 537, Stop: 764, Start Num: 28
Candidate Starts for OKaNui_1:
(Start: 28 @537 has 121 MA's), (45, 723),

Gene: Obama12_1 Start: 537, Stop: 764, Start Num: 28
Candidate Starts for Obama12_1:
(1, 357), (14, 462), (Start: 28 @537 has 121 MA's), (45, 723),

Gene: Ohfah_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Ohfah_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Palestino_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Palestino_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Perplexer_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for Perplexer_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: PeterPeter_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for PeterPeter_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: PetiteSangsue_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for PetiteSangsue_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: Phacado_1 Start: 537, Stop: 764, Start Num: 28
Candidate Starts for Phacado_1:
(Start: 28 @537 has 121 MA's), (45, 723),

Gene: Phighter1804_1 Start: 536, Stop: 763, Start Num: 28
Candidate Starts for Phighter1804_1:
(1, 356), (Start: 28 @536 has 121 MA's), (45, 722),

Gene: Phontbonne_1 Start: 536, Stop: 763, Start Num: 28
Candidate Starts for Phontbonne_1:
(Start: 28 @536 has 121 MA's), (45, 722),

Gene: Pipcraft_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Pipcraft_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Polymorphads_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Polymorphads_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Pumbaa_1 Start: 536, Stop: 763, Start Num: 28
Candidate Starts for Pumbaa_1:
(1, 356), (Start: 28 @536 has 121 MA's), (45, 722),

Gene: Ravana_4 Start: 2368, Stop: 2574, Start Num: 29
Candidate Starts for Ravana_4:
(18, 2278), (Start: 29 @2368 has 1 MA's),

Gene: Relief_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Relief_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Romney_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Romney_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Roosevelt_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Roosevelt_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Ruin_1 Start: 537, Stop: 764, Start Num: 28
Candidate Starts for Ruin_1:
(Start: 28 @537 has 121 MA's), (45, 723),

Gene: Sabertooth_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Sabertooth_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Salvus_67 Start: 46426, Stop: 46698, Start Num: 26
Candidate Starts for Salvus_67:
(5, 46297), (22, 46399), (Start: 26 @46426 has 1 MA's), (30, 46477), (43, 46630),

Gene: Sandaddy_1 Start: 722, Stop: 895, Start Num: 32
Candidate Starts for Sandaddy_1:
(3, 536), (8, 572), (9, 581), (16, 599), (23, 632), (Start: 32 @722 has 1 MA's), (40, 812), (45, 848),

Gene: Scamp_1 Start: 538, Stop: 765, Start Num: 28

Candidate Starts for Scamp_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: SenorClean_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for SenorClean_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: SheldonCooper_1 Start: 536, Stop: 763, Start Num: 28
Candidate Starts for SheldonCooper_1:
(14, 461), (Start: 28 @536 has 121 MA's), (45, 722),

Gene: Shygu2_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for Shygu2_1:
(Start: 28 @542 has 121 MA's), (45, 728),

Gene: Skipitt_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Skipitt_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: SoYo_1 Start: 592, Stop: 819, Start Num: 28
Candidate Starts for SoYo_1:
(17, 517), (19, 526), (Start: 28 @592 has 121 MA's),

Gene: Sparxx_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Sparxx_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Spino_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Spino_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Stasia_1 Start: 544, Stop: 771, Start Num: 28
Candidate Starts for Stasia_1:
(Start: 28 @544 has 121 MA's), (45, 730),

Gene: Stellammi_191 Start: 80430, Stop: 80594, Start Num: 32
Candidate Starts for Stellammi_191:
(16, 80295), (Start: 26 @80352 has 1 MA's), (Start: 32 @80430 has 1 MA's), (37, 80484), (38, 80490),
(39, 80493), (42, 80535), (44, 80556), (46, 80565),

Gene: Sultana_1 Start: 539, Stop: 766, Start Num: 28
Candidate Starts for Sultana_1:
(Start: 28 @539 has 121 MA's), (45, 725),

Gene: Superstar_2 Start: 802, Stop: 972, Start Num: 33
Candidate Starts for Superstar_2:
(10, 640), (12, 649), (15, 658), (Start: 33 @802 has 1 MA's), (36, 835),

Gene: Taquarus_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Taquarus_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Thanksgivukkah_1 Start: 539, Stop: 766, Start Num: 28

Candidate Starts for Thanksgivukkah_1:
(Start: 28 @539 has 121 MA's), (45, 725),

Gene: TinaFeyge_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for TinaFeyge_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: TroyPia_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for TroyPia_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: TygerBlood_1 Start: 540, Stop: 767, Start Num: 28
Candidate Starts for TygerBlood_1:
(Start: 28 @540 has 121 MA's), (45, 726),

Gene: Vanseggelen_5 Start: 1149, Stop: 1286, Start Num: 36
Candidate Starts for Vanseggelen_5:
(3, 906), (4, 909), (6, 924), (12, 966), (15, 972), (Start: 28 @1041 has 121 MA's), (Start: 33 @1116 has 1 MA's), (36, 1149),

Gene: Wander_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Wander_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Wilbur_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for Wilbur_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: Wile_1 Start: 543, Stop: 770, Start Num: 28
Candidate Starts for Wile_1:
(Start: 28 @543 has 121 MA's), (Start: 33 @609 has 1 MA's), (45, 729),

Gene: Wizard007_1 Start: 540, Stop: 767, Start Num: 28
Candidate Starts for Wizard007_1:
(Start: 28 @540 has 121 MA's), (45, 726),

Gene: Xena_1 Start: 542, Stop: 769, Start Num: 28
Candidate Starts for Xena_1:
(Start: 28 @542 has 121 MA's), (Start: 33 @608 has 1 MA's), (45, 728),

Gene: YoSam321_1 Start: 538, Stop: 765, Start Num: 28
Candidate Starts for YoSam321_1:
(Start: 28 @538 has 121 MA's), (45, 724),

Gene: ZamZam_4 Start: 1080, Stop: 1250, Start Num: 33
Candidate Starts for ZamZam_4:
(12, 927), (13, 930), (15, 936), (Start: 33 @1080 has 1 MA's),

Gene: phiCAM_02 Start: 1171, Stop: 1308, Start Num: 36
Candidate Starts for phiCAM_02:
(12, 988), (15, 994), (Start: 28 @1063 has 121 MA's), (Start: 33 @1138 has 1 MA's), (36, 1171),