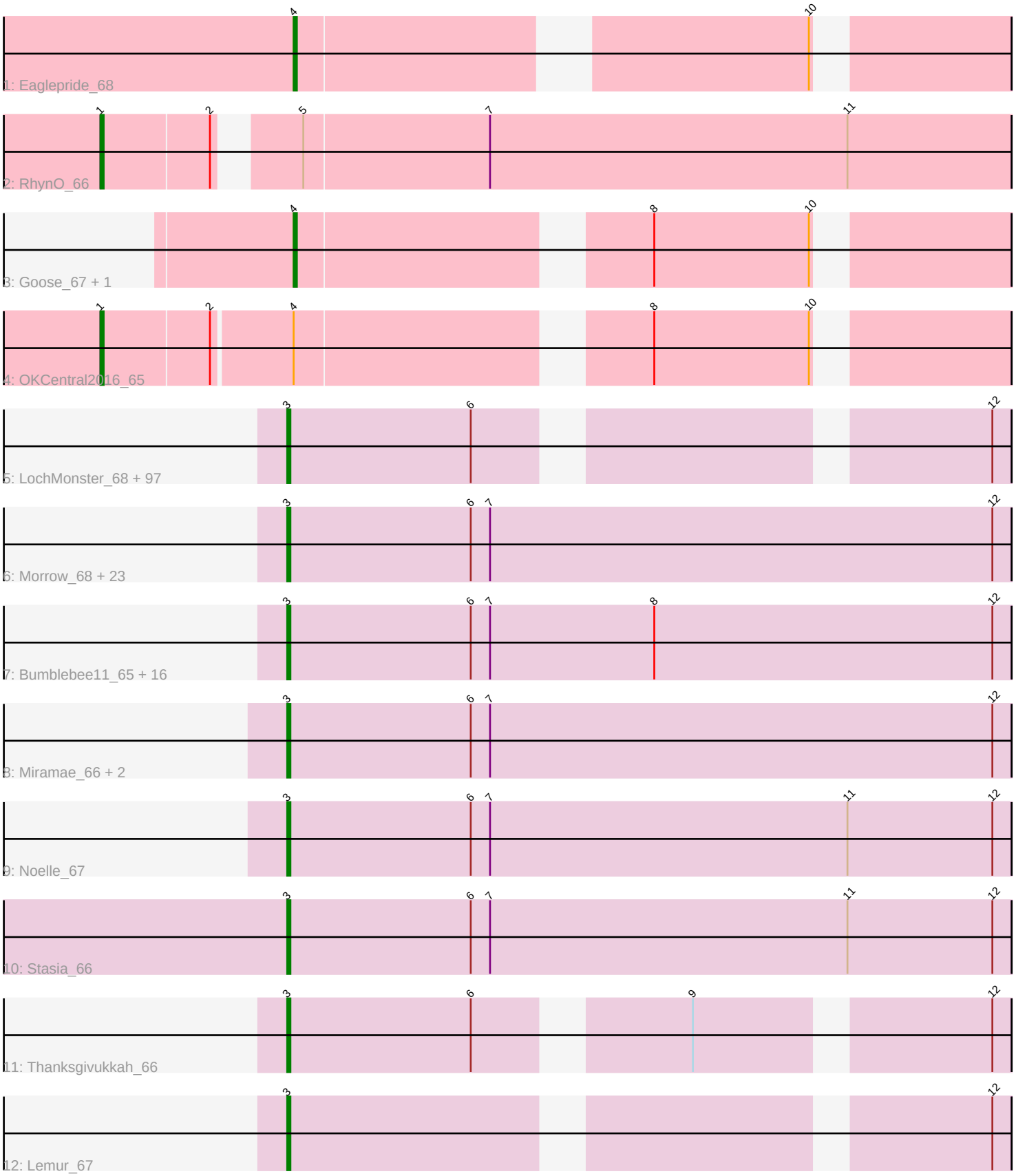
Pham 296314


4
10
1: Eaglepride_68
1
2
5
7
11
2: RhynO_66
4
8
10
3: Goose_67 + 1
1
2
4
8
10
4: OKCentral2016_65
3
6
12
5: LochMonster_68 + 97
3
6
7
12
6: Morrow_68 + 23
3
6
7
8
12
7: Bumblebee11_65 + 16
3
6
7
12
8: Miramae_66 + 2
3
6
7
11
12
9: Noelle_67
3
6
7
11
12
10: Stasia_66
3
6
9
12
11: Thanksgivukkah_66
3
12
12: Lemur_67

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 296314 Report

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

Pham number 296314 has 151 members, 5 are drafts.

Phages represented in each track:
• Track 1 : Eaglepride_68
• Track 2 : RhynO_66
• Track 3 : Goose_67, Chupacabra_64
• Track 4 : OKCentral2016_65
• Track 5 : LochMonster_68, Kingmustik0402_67, Lunsford_67, Maverick_66, Eris_66, Phontbonne_67, Kampy_66, Skipitt_66, Spino_66, Phacado_67, Funston_66, Sparxx_68, Blackmoor_66, OKaNui_66, Eros_67, Romney_66, Sabertooth_67, Iracema64_67, DirtyDunning_66, Clarenza_66, Houdini22_66, Shaka_65, PeterPeter_67, Huxley_64, Avle17_67, Iceman_66, KekoraPapaka_64, SenorClean_68, Melvin_69, Koan_64, Mazhar510_67, JoongJeon_66, Peaches_65, Burger_65, NorthStar_65, Mayonnaise_64, LittleGuy_67, HamSlice_63, Pumbaa_67, TinaFeyge_65, Millski_66, Jaykayelowell_64, Eapen_67, Deano_64, Alberto7_68, Taquarus_66, Bruiser_66, Roosevelt_65, LittleB_67, Arturo_64, Kyee_67, KFPoly_66, Broseidon_67, Abdiel_67, Connomayer_67, Palestino_66, Nyxis_66, Ruin_67, Commander_65, Bartimeaus_67, Flux_67, SteMason_63, Koreni_66, Cocoaberry_67, Lorenzo_67, Florean_67, Scamp_67, Nemo27_66, Camperdownii_65, Medusa_67, Gadost_67, YoSam321_67, Bombshell_67, NotAPhaseMom_66, Dhanush_67, Pipcraft_64, Relief_66, Ulysses_66, Phighter1804_67, Sultana_67, Druantia_66, Wilbur_67, Chaph_67, Annyong_66, Wander_67, Holli_66, TygerBlood_67, Albee_67, Maxo_68, MeeZee_66, Citius_67, Baby16_67, RockieBear_64, Rosa24_64, TiroTheta9_66, Tinybot_66, LappelDuVide_67, Caelakin_66
• Track 6 : Morrow_68, BellusTerra_68, LeoAvram_66, Eagle_66, Cerulean_68, Kremtemulon_66, Shygu2_66, Obama12_68, Ohfah_68, Happiness_66, TroyPia_68, BangNhom_65, Cintron_67, LHTSCC_69, Phelipe_68, ChampagnePapi_69, JetBlade_67, Polymorphads_67, SheldonCooper_67, ICleared_66, Eurydice_68, Nebs_68, CentreCat_67, Kratark_66
• Track 7 : Bumblebee11_65, Katalie136_66, Achebe_65, AbbysRanger_66, Cici_66, Datway_66, BubbleTrouble_66, Perplexer_66, Backyardigan_64, Wizard007_66, Mundrea_66, Xena_65, PetiteSangsue_66, Cindaradix_63, Morpher26_66, Wile_65, Badger_65
• Track 8 : Miramae_66, AvatarAhPeg_66, Stink_66
• Track 9 : Noelle_67
• Track 10 : Stasia_66
• Track 11 : Thanksgivukkah_66
• Track 12 : Lemur_67

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

The start number called the most often in the published annotations is 3, it was called in 141 of the 146 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AbbysRanger_66, Abdiel_67, Achebe_65, Albee_67, Alberto7_68, Annyong_66, Arturo_64, AvatarAhPeg_66, Avle17_67, Baby16_67, Backyardigan_64, Badger_65, BangNhom_65, Bartimeaus_67, BellusTerra_68, Blackmoor_66, Bombshell_67, Broseidon_67, Bruiser_66, BubbleTrouble_66, Bumblebee11_65, Burger_65, Caelakin_66, Camperdownii_65, CentreCat_67, Cerulean_68, ChampagnePapi_69, Chaph_67, Cici_66, Cindaradix_63, Cintron_67, Citius_67, Clarenza_66, Cocoaberry_67, Commander_65, Connomayer_67, Datway_66, Deano_64, Dhanush_67, DirtyDunning_66, Druantia_66, Eagle_66, Eapen_67, Eris_66, Eros_67, Eurydice_68, Florean_67, Flux_67, Funston_66, Gadost_67, HamSlice_63, Happiness_66, Holli_66, Houdini22_66, Huxley_64, ICleared_66, Iceman_66, Iracema64_67, Jaykayelowell_64, JetBlade_67, JoongJeon_66, KFPoly_66, Kampy_66, Katalie136_66, KekoraPapaka_64, Kingmustik0402_67, Koan_64, Koreni_66, Kratark_66, Kremtemulon_66, Kyee_67, LHTSCC_69, LappelDuVide_67, Lemur_67, LeoAvram_66, LittleB_67, LittleGuy_67, LochMonster_68, Lorenzo_67, Lunsford_67, Maverick_66, Maxo_68, Mayonnaise_64, Mazhar510_67, Medusa_67, MeeZee_66, Melvin_69, Millski_66, Miramae_66, Morpher26_66, Morrow_68, Mundrea_66, Nebs_68, Nemo27_66, Noelle_67, NorthStar_65, NotAPhaseMom_66, Nyxis_66, OKaNui_66, Obama12_68, Ohfah_68, Palestino_66, Peaches_65, Perplexer_66, PeterPeter_67, PetiteSangsue_66, Phacado_67, Phelipe_68, Phighter1804_67, Phontbonne_67, Pipcraft_64, Polymorphads_67, Pumbaa_67, Relief_66, RockieBear_64, Romney_66, Roosevelt_65, Rosa24_64, Ruin_67, Sabertooth_67, Scamp_67, SenorClean_68, Shaka_65, SheldonCooper_67, Shygu2_66, Skipitt_66, Sparxx_68, Spino_66, Stasia_66, SteMason_63, Stink_66, Sultana_67, Taquarus_66, Thanksgivukkah_66, TinaFeyge_65, Tinybot_66, TiroTheta9_66, TroyPia_68, TygerBlood_67, Ulysses_66, Wander_67, Wilbur_67, Wile_65, Wizard007_66, Xena_65, YoSam321_67,

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

Genes that do not have the "Most Annotated" start:
• Chupacabra_64, Eaglepride_68, Goose_67, OKCentral2016_65, RhynO_66,

Summary by start number:

Start 1:
• Found in 2 of 151 (1.3%) of genes in pham
• Manual Annotations of this start: 2 of 146
• Called 100.0% of time when present
• Phage (with cluster) where this start called: OKCentral2016_65 (A10), RhynO_66 (A10),

Start 3:
• Found in 146 of 151 (96.7%) of genes in pham

• Manual Annotations of this start: 141 of 146
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AbbysRanger_66 (A4), Abdiel_67 (A4), Achebe_65 (A4), Albee_67 (A4), Alberto7_68 (A4), Annyong_66 (A4), Arturo_64 (A4), AvatarAhPeg_66 (A4), Avle17_67 (A4), Baby16_67 (A4), Backyardigan_64 (A4), Badger_65 (A4), BangNhom_65 (A4), Bartimeaus_67 (A4), BellusTerra_68 (A4), Blackmoor_66 (A4), Bombshell_67 (A4), Broseidon_67 (A4), Bruiser_66 (A4), BubbleTrouble_66 (A4), Bumblebee11_65 (A4), Burger_65 (A4), Caelakin_66 (A4), Camperdownii_65 (A4), CentreCat_67 (A4), Cerulean_68 (A4), ChampagnePapi_69 (A4), Chaph_67 (A4), Cici_66 (A4), Cindaradix_63 (A4), Cintron_67 (A4), Citius_67 (A4), Clarenza_66 (A4), Cocoaberry_67 (A4), Commander_65 (A4), Connomayer_67 (A4), Datway_66 (A4), Deano_64 (A4), Dhanush_67 (A4), DirtyDunning_66 (A4), Druantia_66 (A4), Eagle_66 (A4), Eapen_67 (A4), Eris_66 (A4), Eros_67 (A4), Eurydice_68 (A4), Florean_67 (A4), Flux_67 (A4), Funston_66 (A4), Gadost_67 (A4), HamSlice_63 (A4), Happiness_66 (A4), Holli_66 (A4), Houdini22_66 (A4), Huxley_64 (A4), ICleared_66 (A4), Iceman_66 (A4), Iracema64_67 (A4), Jaykayelowell_64 (A4), JetBlade_67 (A4), JoongJeon_66 (A4), KFPoly_66 (A4), Kampy_66 (A4), Katalie136_66 (A4), KekoraPapaka_64 (A4), Kingmustik0402_67 (A4), Koan_64 (A4), Koreni_66 (A4), Kratark_66 (A4), Kremtemulon_66 (A4), Kyee_67 (A4), LHTSCC_69 (A4), LappelDuVide_67 (A4), Lemur_67 (A4), LeoAvram_66 (A4), LittleB_67 (A4), LittleGuy_67 (A4), LochMonster_68 (A4), Lorenzo_67 (A4), Lunsford_67 (A4), Maverick_66 (A4), Maxo_68 (A4), Mayonnaise_64 (A4), Mazhar510_67 (A4), Medusa_67 (A4), MeeZee_66 (A4), Melvin_69 (A4), Millski_66 (A4), Miramae_66 (A4), Morpher26_66 (A4), Morrow_68 (A4), Mundrea_66 (A4), Nebs_68 (A4), Nemo27_66 (A4), Noelle_67 (A4), NorthStar_65 (A4), NotAPhaseMom_66 (A4), Nyxis_66 (A4), OKaNui_66 (A4), Obama12_68 (A4), Ohfah_68 (A4), Palestino_66 (A4), Peaches_65 (A4), Perplexer_66 (A4), PeterPeter_67 (A4), PetiteSangsue_66 (A4), Phacado_67 (A4), Phelipe_68 (A4), Phighter1804_67 (A4), Phontbonne_67 (A4), Pipcraft_64 (A4), Polymorphads_67 (A4), Pumbaa_67 (A4), Relief_66 (A4), RockieBear_64 (A4), Romney_66 (A4), Roosevelt_65 (A4), Rosa24_64 (A4), Ruin_67 (A4), Sabertooth_67 (A4), Scamp_67 (A4), SenorClean_68 (A4), Shaka_65 (A4), SheldonCooper_67 (A4), Shygu2_66 (A4), Skipitt_66 (A4), Sparxx_68 (A4), Spino_66 (A4), Stasia_66 (A4), SteMason_63 (A4), Stink_66 (A4), Sultana_67 (A4), Taquarus_66 (A4), Thanksgivukkah_66 (A4), TinaFeyge_65 (A4), Tinybot_66 (A4), TiroTheta9_66 (A4), TroyPia_68 (A4), TygerBlood_67 (A4), Ulysses_66 (A4), Wander_67 (A4), Wilbur_67 (A4), Wile_65 (A4), Wizard007_66 (A4), Xena_65 (A4), YoSam321_67 (A4),

Start 4:
• Found in 4 of 151 (2.6%) of genes in pham
• Manual Annotations of this start: 3 of 146
• Called 75.0% of time when present
• Phage (with cluster) where this start called: Chupacabra_64 (A10), Eaglepride_68 (A10), Goose_67 (A10),

Summary by clusters:

There are 2 clusters represented in this pham: A4, A10,

Info for manual annotations of cluster A10:
•Start number 1 was manually annotated 2 times for cluster A10.
•Start number 4 was manually annotated 3 times for cluster A10.

Info for manual annotations of cluster A4:
•Start number 3 was manually annotated 141 times for cluster A4.

Gene Information:

Gene: AbbysRanger_66 Start: 42647, Stop: 42423, Start Num: 3
Candidate Starts for AbbysRanger_66:
(Start: 3 @42647 has 141 MA's), (6, 42590), (7, 42584), (8, 42533), (12, 42428),

Gene: Abdiel_67 Start: 42370, Stop: 42173, Start Num: 3
Candidate Starts for Abdiel_67:
(Start: 3 @42370 has 141 MA's), (6, 42313), (12, 42178),

Gene: Achebe_65 Start: 42630, Stop: 42406, Start Num: 3
Candidate Starts for Achebe_65:
(Start: 3 @42630 has 141 MA's), (6, 42573), (7, 42567), (8, 42516), (12, 42411),

Gene: Albee_67 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Albee_67:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Alberto7_68 Start: 42694, Stop: 42497, Start Num: 3
Candidate Starts for Alberto7_68:
(Start: 3 @42694 has 141 MA's), (6, 42637), (12, 42502),

Gene: Annyong_66 Start: 42402, Stop: 42205, Start Num: 3
Candidate Starts for Annyong_66:
(Start: 3 @42402 has 141 MA's), (6, 42345), (12, 42210),

Gene: Arturo_64 Start: 42484, Stop: 42287, Start Num: 3
Candidate Starts for Arturo_64:
(Start: 3 @42484 has 141 MA's), (6, 42427), (12, 42292),

Gene: AvatarAhPeg_66 Start: 42517, Stop: 42293, Start Num: 3
Candidate Starts for AvatarAhPeg_66:
(Start: 3 @42517 has 141 MA's), (6, 42460), (7, 42454), (12, 42298),

Gene: Avle17_67 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for Avle17_67:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: Baby16_67 Start: 42368, Stop: 42171, Start Num: 3
Candidate Starts for Baby16_67:
(Start: 3 @42368 has 141 MA's), (6, 42311), (12, 42176),

Gene: Backyardigan_64 Start: 42663, Stop: 42439, Start Num: 3
Candidate Starts for Backyardigan_64:
(Start: 3 @42663 has 141 MA's), (6, 42606), (7, 42600), (8, 42549), (12, 42444),

Gene: Badger_65 Start: 42631, Stop: 42407, Start Num: 3
Candidate Starts for Badger_65:

(Start: 3 @42631 has 141 MA's), (6, 42574), (7, 42568), (8, 42517), (12, 42412),

Gene: BangNhom_65 Start: 42796, Stop: 42572, Start Num: 3
Candidate Starts for BangNhom_65:
(Start: 3 @42796 has 141 MA's), (6, 42739), (7, 42733), (12, 42577),

Gene: Bartimeaus_67 Start: 42359, Stop: 42162, Start Num: 3
Candidate Starts for Bartimeaus_67:
(Start: 3 @42359 has 141 MA's), (6, 42302), (12, 42167),

Gene: BellusTerra_68 Start: 42397, Stop: 42173, Start Num: 3
Candidate Starts for BellusTerra_68:
(Start: 3 @42397 has 141 MA's), (6, 42340), (7, 42334), (12, 42178),

Gene: Blackmoor_66 Start: 42359, Stop: 42162, Start Num: 3
Candidate Starts for Blackmoor_66:
(Start: 3 @42359 has 141 MA's), (6, 42302), (12, 42167),

Gene: Bombshell_67 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for Bombshell_67:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: Broseidon_67 Start: 42359, Stop: 42162, Start Num: 3
Candidate Starts for Broseidon_67:
(Start: 3 @42359 has 141 MA's), (6, 42302), (12, 42167),

Gene: Bruiser_66 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Bruiser_66:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: BubbleTrouble_66 Start: 42384, Stop: 42160, Start Num: 3
Candidate Starts for BubbleTrouble_66:
(Start: 3 @42384 has 141 MA's), (6, 42327), (7, 42321), (8, 42270), (12, 42165),

Gene: Bumblebee11_65 Start: 42633, Stop: 42409, Start Num: 3
Candidate Starts for Bumblebee11_65:
(Start: 3 @42633 has 141 MA's), (6, 42576), (7, 42570), (8, 42519), (12, 42414),

Gene: Burger_65 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Burger_65:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Caelakin_66 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Caelakin_66:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Camperdownii_65 Start: 42031, Stop: 41834, Start Num: 3
Candidate Starts for Camperdownii_65:
(Start: 3 @42031 has 141 MA's), (6, 41974), (12, 41839),

Gene: CentreCat_67 Start: 42396, Stop: 42172, Start Num: 3
Candidate Starts for CentreCat_67:
(Start: 3 @42396 has 141 MA's), (6, 42339), (7, 42333), (12, 42177),

Gene: Cerulean_68 Start: 42797, Stop: 42573, Start Num: 3
Candidate Starts for Cerulean_68:
(Start: 3 @42797 has 141 MA's), (6, 42740), (7, 42734), (12, 42578),

Gene: ChampagnePapi_69 Start: 42796, Stop: 42572, Start Num: 3
Candidate Starts for ChampagnePapi_69:
(Start: 3 @42796 has 141 MA's), (6, 42739), (7, 42733), (12, 42577),

Gene: Chaph_67 Start: 42368, Stop: 42171, Start Num: 3
Candidate Starts for Chaph_67:
(Start: 3 @42368 has 141 MA's), (6, 42311), (12, 42176),

Gene: Chupacabra_64 Start: 41694, Stop: 41500, Start Num: 4
Candidate Starts for Chupacabra_64:
(Start: 4 @41694 has 3 MA's), (8, 41598), (10, 41550),

Gene: Cici_66 Start: 42648, Stop: 42424, Start Num: 3
Candidate Starts for Cici_66:
(Start: 3 @42648 has 141 MA's), (6, 42591), (7, 42585), (8, 42534), (12, 42429),

Gene: Cindaradix_63 Start: 42259, Stop: 42035, Start Num: 3
Candidate Starts for Cindaradix_63:
(Start: 3 @42259 has 141 MA's), (6, 42202), (7, 42196), (8, 42145), (12, 42040),

Gene: Cintron_67 Start: 42507, Stop: 42283, Start Num: 3
Candidate Starts for Cintron_67:
(Start: 3 @42507 has 141 MA's), (6, 42450), (7, 42444), (12, 42288),

Gene: Citius_67 Start: 42378, Stop: 42181, Start Num: 3
Candidate Starts for Citius_67:
(Start: 3 @42378 has 141 MA's), (6, 42321), (12, 42186),

Gene: Clarenza_66 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for Clarenza_66:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: Cocoaberry_67 Start: 42361, Stop: 42164, Start Num: 3
Candidate Starts for Cocoaberry_67:
(Start: 3 @42361 has 141 MA's), (6, 42304), (12, 42169),

Gene: Commander_65 Start: 42356, Stop: 42159, Start Num: 3
Candidate Starts for Commander_65:
(Start: 3 @42356 has 141 MA's), (6, 42299), (12, 42164),

Gene: Connomayer_67 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Connomayer_67:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Datway_66 Start: 42619, Stop: 42395, Start Num: 3
Candidate Starts for Datway_66:
(Start: 3 @42619 has 141 MA's), (6, 42562), (7, 42556), (8, 42505), (12, 42400),

Gene: Deano_64 Start: 42365, Stop: 42168, Start Num: 3
Candidate Starts for Deano_64:
(Start: 3 @42365 has 141 MA's), (6, 42308), (12, 42173),

Gene: Dhanush_67 Start: 42360, Stop: 42163, Start Num: 3
Candidate Starts for Dhanush_67:
(Start: 3 @42360 has 141 MA's), (6, 42303), (12, 42168),

Gene: DirtyDunning_66 Start: 42372, Stop: 42175, Start Num: 3
Candidate Starts for DirtyDunning_66:
(Start: 3 @42372 has 141 MA's), (6, 42315), (12, 42180),

Gene: Druantia_66 Start: 42360, Stop: 42163, Start Num: 3
Candidate Starts for Druantia_66:
(Start: 3 @42360 has 141 MA's), (6, 42303), (12, 42168),

Gene: Eagle_66 Start: 42418, Stop: 42194, Start Num: 3
Candidate Starts for Eagle_66:
(Start: 3 @42418 has 141 MA's), (6, 42361), (7, 42355), (12, 42199),

Gene: Eaglepride_68 Start: 41798, Stop: 41607, Start Num: 4
Candidate Starts for Eaglepride_68:
(Start: 4 @41798 has 3 MA's), (10, 41657),

Gene: Eapen_67 Start: 42352, Stop: 42155, Start Num: 3
Candidate Starts for Eapen_67:
(Start: 3 @42352 has 141 MA's), (6, 42295), (12, 42160),

Gene: Eris_66 Start: 42372, Stop: 42175, Start Num: 3
Candidate Starts for Eris_66:
(Start: 3 @42372 has 141 MA's), (6, 42315), (12, 42180),

Gene: Eros_67 Start: 42359, Stop: 42162, Start Num: 3
Candidate Starts for Eros_67:
(Start: 3 @42359 has 141 MA's), (6, 42302), (12, 42167),

Gene: Eurydice_68 Start: 42393, Stop: 42169, Start Num: 3
Candidate Starts for Eurydice_68:
(Start: 3 @42393 has 141 MA's), (6, 42336), (7, 42330), (12, 42174),

Gene: Florean_67 Start: 42356, Stop: 42159, Start Num: 3
Candidate Starts for Florean_67:
(Start: 3 @42356 has 141 MA's), (6, 42299), (12, 42164),

Gene: Flux_67 Start: 42356, Stop: 42159, Start Num: 3
Candidate Starts for Flux_67:
(Start: 3 @42356 has 141 MA's), (6, 42299), (12, 42164),

Gene: Funston_66 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Funston_66:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Gadost_67 Start: 42361, Stop: 42164, Start Num: 3

Candidate Starts for Gadost_67:
(Start: 3 @42361 has 141 MA's), (6, 42304), (12, 42169),

Gene: Goose_67 Start: 41510, Stop: 41316, Start Num: 4
Candidate Starts for Goose_67:
(Start: 4 @41510 has 3 MA's), (8, 41414), (10, 41366),

Gene: HamSlice_63 Start: 42355, Stop: 42158, Start Num: 3
Candidate Starts for HamSlice_63:
(Start: 3 @42355 has 141 MA's), (6, 42298), (12, 42163),

Gene: Happiness_66 Start: 42379, Stop: 42155, Start Num: 3
Candidate Starts for Happiness_66:
(Start: 3 @42379 has 141 MA's), (6, 42322), (7, 42316), (12, 42160),

Gene: Holli_66 Start: 42147, Stop: 41950, Start Num: 3
Candidate Starts for Holli_66:
(Start: 3 @42147 has 141 MA's), (6, 42090), (12, 41955),

Gene: Houdini22_66 Start: 42361, Stop: 42164, Start Num: 3
Candidate Starts for Houdini22_66:
(Start: 3 @42361 has 141 MA's), (6, 42304), (12, 42169),

Gene: Huxley_64 Start: 42421, Stop: 42224, Start Num: 3
Candidate Starts for Huxley_64:
(Start: 3 @42421 has 141 MA's), (6, 42364), (12, 42229),

Gene: ICleared_66 Start: 42425, Stop: 42201, Start Num: 3
Candidate Starts for ICleared_66:
(Start: 3 @42425 has 141 MA's), (6, 42368), (7, 42362), (12, 42206),

Gene: Iceman_66 Start: 42646, Stop: 42449, Start Num: 3
Candidate Starts for Iceman_66:
(Start: 3 @42646 has 141 MA's), (6, 42589), (12, 42454),

Gene: Iracema64_67 Start: 42624, Stop: 42427, Start Num: 3
Candidate Starts for Iracema64_67:
(Start: 3 @42624 has 141 MA's), (6, 42567), (12, 42432),

Gene: Jaykayelowell_64 Start: 42350, Stop: 42153, Start Num: 3
Candidate Starts for Jaykayelowell_64:
(Start: 3 @42350 has 141 MA's), (6, 42293), (12, 42158),

Gene: JetBlade_67 Start: 42387, Stop: 42163, Start Num: 3
Candidate Starts for JetBlade_67:
(Start: 3 @42387 has 141 MA's), (6, 42330), (7, 42324), (12, 42168),

Gene: JoongJeon_66 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for JoongJeon_66:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: KFPoly_66 Start: 42351, Stop: 42154, Start Num: 3
Candidate Starts for KFPoly_66:

(Start: 3 @42351 has 141 MA's), (6, 42294), (12, 42159),

Gene: Kampy_66 Start: 42359, Stop: 42162, Start Num: 3
Candidate Starts for Kampy_66:
(Start: 3 @42359 has 141 MA's), (6, 42302), (12, 42167),

Gene: Katalie136_66 Start: 42633, Stop: 42409, Start Num: 3
Candidate Starts for Katalie136_66:
(Start: 3 @42633 has 141 MA's), (6, 42576), (7, 42570), (8, 42519), (12, 42414),

Gene: KekoraPapaka_64 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for KekoraPapaka_64:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Kingmustik0402_67 Start: 42346, Stop: 42149, Start Num: 3
Candidate Starts for Kingmustik0402_67:
(Start: 3 @42346 has 141 MA's), (6, 42289), (12, 42154),

Gene: Koan_64 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Koan_64:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Koreni_66 Start: 42038, Stop: 41841, Start Num: 3
Candidate Starts for Koreni_66:
(Start: 3 @42038 has 141 MA's), (6, 41981), (12, 41846),

Gene: Kratark_66 Start: 42394, Stop: 42170, Start Num: 3
Candidate Starts for Kratark_66:
(Start: 3 @42394 has 141 MA's), (6, 42337), (7, 42331), (12, 42175),

Gene: Kremtemulon_66 Start: 42490, Stop: 42266, Start Num: 3
Candidate Starts for Kremtemulon_66:
(Start: 3 @42490 has 141 MA's), (6, 42433), (7, 42427), (12, 42271),

Gene: Kyee_67 Start: 42355, Stop: 42158, Start Num: 3
Candidate Starts for Kyee_67:
(Start: 3 @42355 has 141 MA's), (6, 42298), (12, 42163),

Gene: LHTSCC_69 Start: 42796, Stop: 42572, Start Num: 3
Candidate Starts for LHTSCC_69:
(Start: 3 @42796 has 141 MA's), (6, 42739), (7, 42733), (12, 42577),

Gene: LappelDuVide_67 Start: 42356, Stop: 42159, Start Num: 3
Candidate Starts for LappelDuVide_67:
(Start: 3 @42356 has 141 MA's), (6, 42299), (12, 42164),

Gene: Lemur_67 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for Lemur_67:
(Start: 3 @42354 has 141 MA's), (12, 42162),

Gene: LeoAvram_66 Start: 42387, Stop: 42163, Start Num: 3
Candidate Starts for LeoAvram_66:
(Start: 3 @42387 has 141 MA's), (6, 42330), (7, 42324), (12, 42168),

Gene: LittleB_67 Start: 42358, Stop: 42161, Start Num: 3
Candidate Starts for LittleB_67:
(Start: 3 @42358 has 141 MA's), (6, 42301), (12, 42166),

Gene: LittleGuy_67 Start: 42253, Stop: 42056, Start Num: 3
Candidate Starts for LittleGuy_67:
(Start: 3 @42253 has 141 MA's), (6, 42196), (12, 42061),

Gene: LochMonster_68 Start: 42596, Stop: 42399, Start Num: 3
Candidate Starts for LochMonster_68:
(Start: 3 @42596 has 141 MA's), (6, 42539), (12, 42404),

Gene: Lorenzo_67 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Lorenzo_67:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Lunsford_67 Start: 42351, Stop: 42154, Start Num: 3
Candidate Starts for Lunsford_67:
(Start: 3 @42351 has 141 MA's), (6, 42294), (12, 42159),

Gene: Maverick_66 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Maverick_66:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Maxo_68 Start: 42359, Stop: 42162, Start Num: 3
Candidate Starts for Maxo_68:
(Start: 3 @42359 has 141 MA's), (6, 42302), (12, 42167),

Gene: Mayonnaise_64 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Mayonnaise_64:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Mazhar510_67 Start: 42358, Stop: 42161, Start Num: 3
Candidate Starts for Mazhar510_67:
(Start: 3 @42358 has 141 MA's), (6, 42301), (12, 42166),

Gene: Medusa_67 Start: 42371, Stop: 42174, Start Num: 3
Candidate Starts for Medusa_67:
(Start: 3 @42371 has 141 MA's), (6, 42314), (12, 42179),

Gene: MeeZee_66 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for MeeZee_66:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: Melvin_69 Start: 42352, Stop: 42155, Start Num: 3
Candidate Starts for Melvin_69:
(Start: 3 @42352 has 141 MA's), (6, 42295), (12, 42160),

Gene: Millski_66 Start: 42358, Stop: 42161, Start Num: 3
Candidate Starts for Millski_66:
(Start: 3 @42358 has 141 MA's), (6, 42301), (12, 42166),

Gene: Miramae_66 Start: 42179, Stop: 41955, Start Num: 3
Candidate Starts for Miramae_66:
(Start: 3 @42179 has 141 MA's), (6, 42122), (7, 42116), (12, 41960),

Gene: Morpher26_66 Start: 42654, Stop: 42430, Start Num: 3
Candidate Starts for Morpher26_66:
(Start: 3 @42654 has 141 MA's), (6, 42597), (7, 42591), (8, 42540), (12, 42435),

Gene: Morrow_68 Start: 42399, Stop: 42175, Start Num: 3
Candidate Starts for Morrow_68:
(Start: 3 @42399 has 141 MA's), (6, 42342), (7, 42336), (12, 42180),

Gene: Mundrea_66 Start: 42647, Stop: 42423, Start Num: 3
Candidate Starts for Mundrea_66:
(Start: 3 @42647 has 141 MA's), (6, 42590), (7, 42584), (8, 42533), (12, 42428),

Gene: Nebs_68 Start: 42396, Stop: 42172, Start Num: 3
Candidate Starts for Nebs_68:
(Start: 3 @42396 has 141 MA's), (6, 42339), (7, 42333), (12, 42177),

Gene: Nemo27_66 Start: 42356, Stop: 42159, Start Num: 3
Candidate Starts for Nemo27_66:
(Start: 3 @42356 has 141 MA's), (6, 42299), (12, 42164),

Gene: Noelle_67 Start: 42962, Stop: 42738, Start Num: 3
Candidate Starts for Noelle_67:
(Start: 3 @42962 has 141 MA's), (6, 42905), (7, 42899), (11, 42788), (12, 42743),

Gene: NorthStar_65 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for NorthStar_65:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: NotAPhaseMom_66 Start: 42361, Stop: 42164, Start Num: 3
Candidate Starts for NotAPhaseMom_66:
(Start: 3 @42361 has 141 MA's), (6, 42304), (12, 42169),

Gene: Nyxis_66 Start: 42247, Stop: 42050, Start Num: 3
Candidate Starts for Nyxis_66:
(Start: 3 @42247 has 141 MA's), (6, 42190), (12, 42055),

Gene: OKCentral2016_65 Start: 41306, Stop: 41055, Start Num: 1
Candidate Starts for OKCentral2016_65:
(Start: 1 @41306 has 2 MA's), (2, 41273), (Start: 4 @41249 has 3 MA's), (8, 41153), (10, 41105),

Gene: OKaNui_66 Start: 42407, Stop: 42210, Start Num: 3
Candidate Starts for OKaNui_66:
(Start: 3 @42407 has 141 MA's), (6, 42350), (12, 42215),

Gene: Obama12_68 Start: 42780, Stop: 42556, Start Num: 3
Candidate Starts for Obama12_68:
(Start: 3 @42780 has 141 MA's), (6, 42723), (7, 42717), (12, 42561),

Gene: Ohfah_68 Start: 42396, Stop: 42172, Start Num: 3

Candidate Starts for Ohfah_68:
(Start: 3 @42396 has 141 MA's), (6, 42339), (7, 42333), (12, 42177),

Gene: Palestino_66 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Palestino_66:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Peaches_65 Start: 42356, Stop: 42159, Start Num: 3
Candidate Starts for Peaches_65:
(Start: 3 @42356 has 141 MA's), (6, 42299), (12, 42164),

Gene: Perplexer_66 Start: 42630, Stop: 42406, Start Num: 3
Candidate Starts for Perplexer_66:
(Start: 3 @42630 has 141 MA's), (6, 42573), (7, 42567), (8, 42516), (12, 42411),

Gene: PeterPeter_67 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for PeterPeter_67:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: PetiteSangsue_66 Start: 42633, Stop: 42409, Start Num: 3
Candidate Starts for PetiteSangsue_66:
(Start: 3 @42633 has 141 MA's), (6, 42576), (7, 42570), (8, 42519), (12, 42414),

Gene: Phacado_67 Start: 42356, Stop: 42159, Start Num: 3
Candidate Starts for Phacado_67:
(Start: 3 @42356 has 141 MA's), (6, 42299), (12, 42164),

Gene: Phelipe_68 Start: 42396, Stop: 42172, Start Num: 3
Candidate Starts for Phelipe_68:
(Start: 3 @42396 has 141 MA's), (6, 42339), (7, 42333), (12, 42177),

Gene: Phighter1804_67 Start: 42421, Stop: 42224, Start Num: 3
Candidate Starts for Phighter1804_67:
(Start: 3 @42421 has 141 MA's), (6, 42364), (12, 42229),

Gene: Phontbonne_67 Start: 42263, Stop: 42066, Start Num: 3
Candidate Starts for Phontbonne_67:
(Start: 3 @42263 has 141 MA's), (6, 42206), (12, 42071),

Gene: Pipcraft_64 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Pipcraft_64:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Polymorphads_67 Start: 42377, Stop: 42153, Start Num: 3
Candidate Starts for Polymorphads_67:
(Start: 3 @42377 has 141 MA's), (6, 42320), (7, 42314), (12, 42158),

Gene: Pumbaa_67 Start: 42302, Stop: 42105, Start Num: 3
Candidate Starts for Pumbaa_67:
(Start: 3 @42302 has 141 MA's), (6, 42245), (12, 42110),

Gene: Relief_66 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for Relief_66:

(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: RhynO_66 Start: 41808, Stop: 41539, Start Num: 1
Candidate Starts for RhynO_66:
(Start: 1 @41808 has 2 MA's), (2, 41775), (5, 41757), (7, 41700), (11, 41589),

Gene: RockieBear_64 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for RockieBear_64:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Romney_66 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for Romney_66:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: Roosevelt_65 Start: 42359, Stop: 42162, Start Num: 3
Candidate Starts for Roosevelt_65:
(Start: 3 @42359 has 141 MA's), (6, 42302), (12, 42167),

Gene: Rosa24_64 Start: 42388, Stop: 42191, Start Num: 3
Candidate Starts for Rosa24_64:
(Start: 3 @42388 has 141 MA's), (6, 42331), (12, 42196),

Gene: Ruin_67 Start: 42350, Stop: 42153, Start Num: 3
Candidate Starts for Ruin_67:
(Start: 3 @42350 has 141 MA's), (6, 42293), (12, 42158),

Gene: Sabertooth_67 Start: 42359, Stop: 42162, Start Num: 3
Candidate Starts for Sabertooth_67:
(Start: 3 @42359 has 141 MA's), (6, 42302), (12, 42167),

Gene: Scamp_67 Start: 42359, Stop: 42162, Start Num: 3
Candidate Starts for Scamp_67:
(Start: 3 @42359 has 141 MA's), (6, 42302), (12, 42167),

Gene: SenorClean_68 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for SenorClean_68:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Shaka_65 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for Shaka_65:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: SheldonCooper_67 Start: 42797, Stop: 42573, Start Num: 3
Candidate Starts for SheldonCooper_67:
(Start: 3 @42797 has 141 MA's), (6, 42740), (7, 42734), (12, 42578),

Gene: Shygu2_66 Start: 42684, Stop: 42460, Start Num: 3
Candidate Starts for Shygu2_66:
(Start: 3 @42684 has 141 MA's), (6, 42627), (7, 42621), (12, 42465),

Gene: Skipitt_66 Start: 42351, Stop: 42154, Start Num: 3
Candidate Starts for Skipitt_66:
(Start: 3 @42351 has 141 MA's), (6, 42294), (12, 42159),

Gene: Sparxx_68 Start: 42352, Stop: 42155, Start Num: 3
Candidate Starts for Sparxx_68:
(Start: 3 @42352 has 141 MA's), (6, 42295), (12, 42160),

Gene: Spino_66 Start: 42360, Stop: 42163, Start Num: 3
Candidate Starts for Spino_66:
(Start: 3 @42360 has 141 MA's), (6, 42303), (12, 42168),

Gene: Stasia_66 Start: 42567, Stop: 42343, Start Num: 3
Candidate Starts for Stasia_66:
(Start: 3 @42567 has 141 MA's), (6, 42510), (7, 42504), (11, 42393), (12, 42348),

Gene: SteMason_63 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for SteMason_63:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: Stink_66 Start: 42459, Stop: 42235, Start Num: 3
Candidate Starts for Stink_66:
(Start: 3 @42459 has 141 MA's), (6, 42402), (7, 42396), (12, 42240),

Gene: Sultana_67 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for Sultana_67:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Taquarus_66 Start: 42360, Stop: 42163, Start Num: 3
Candidate Starts for Taquarus_66:
(Start: 3 @42360 has 141 MA's), (6, 42303), (12, 42168),

Gene: Thanksgivukkah_66 Start: 42355, Stop: 42158, Start Num: 3
Candidate Starts for Thanksgivukkah_66:
(Start: 3 @42355 has 141 MA's), (6, 42298), (9, 42244), (12, 42163),

Gene: TinaFeyge_65 Start: 42352, Stop: 42155, Start Num: 3
Candidate Starts for TinaFeyge_65:
(Start: 3 @42352 has 141 MA's), (6, 42295), (12, 42160),

Gene: Tinybot_66 Start: 42387, Stop: 42190, Start Num: 3
Candidate Starts for Tinybot_66:
(Start: 3 @42387 has 141 MA's), (6, 42330), (12, 42195),

Gene: TiroTheta9_66 Start: 42351, Stop: 42154, Start Num: 3
Candidate Starts for TiroTheta9_66:
(Start: 3 @42351 has 141 MA's), (6, 42294), (12, 42159),

Gene: TroyPia_68 Start: 42391, Stop: 42167, Start Num: 3
Candidate Starts for TroyPia_68:
(Start: 3 @42391 has 141 MA's), (6, 42334), (7, 42328), (12, 42172),

Gene: TygerBlood_67 Start: 42357, Stop: 42160, Start Num: 3
Candidate Starts for TygerBlood_67:
(Start: 3 @42357 has 141 MA's), (6, 42300), (12, 42165),

Gene: Ulysses_66 Start: 42043, Stop: 41846, Start Num: 3
Candidate Starts for Ulysses_66:
(Start: 3 @42043 has 141 MA's), (6, 41986), (12, 41851),

Gene: Wander_67 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for Wander_67:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: Wilbur_67 Start: 42354, Stop: 42157, Start Num: 3
Candidate Starts for Wilbur_67:
(Start: 3 @42354 has 141 MA's), (6, 42297), (12, 42162),

Gene: Wile_65 Start: 42663, Stop: 42439, Start Num: 3
Candidate Starts for Wile_65:
(Start: 3 @42663 has 141 MA's), (6, 42606), (7, 42600), (8, 42549), (12, 42444),

Gene: Wizard007_66 Start: 42389, Stop: 42165, Start Num: 3
Candidate Starts for Wizard007_66:
(Start: 3 @42389 has 141 MA's), (6, 42332), (7, 42326), (8, 42275), (12, 42170),

Gene: Xena_65 Start: 42630, Stop: 42406, Start Num: 3
Candidate Starts for Xena_65:
(Start: 3 @42630 has 141 MA's), (6, 42573), (7, 42567), (8, 42516), (12, 42411),

Gene: YoSam321_67 Start: 42351, Stop: 42154, Start Num: 3
Candidate Starts for YoSam321_67:
(Start: 3 @42351 has 141 MA's), (6, 42294), (12, 42159),