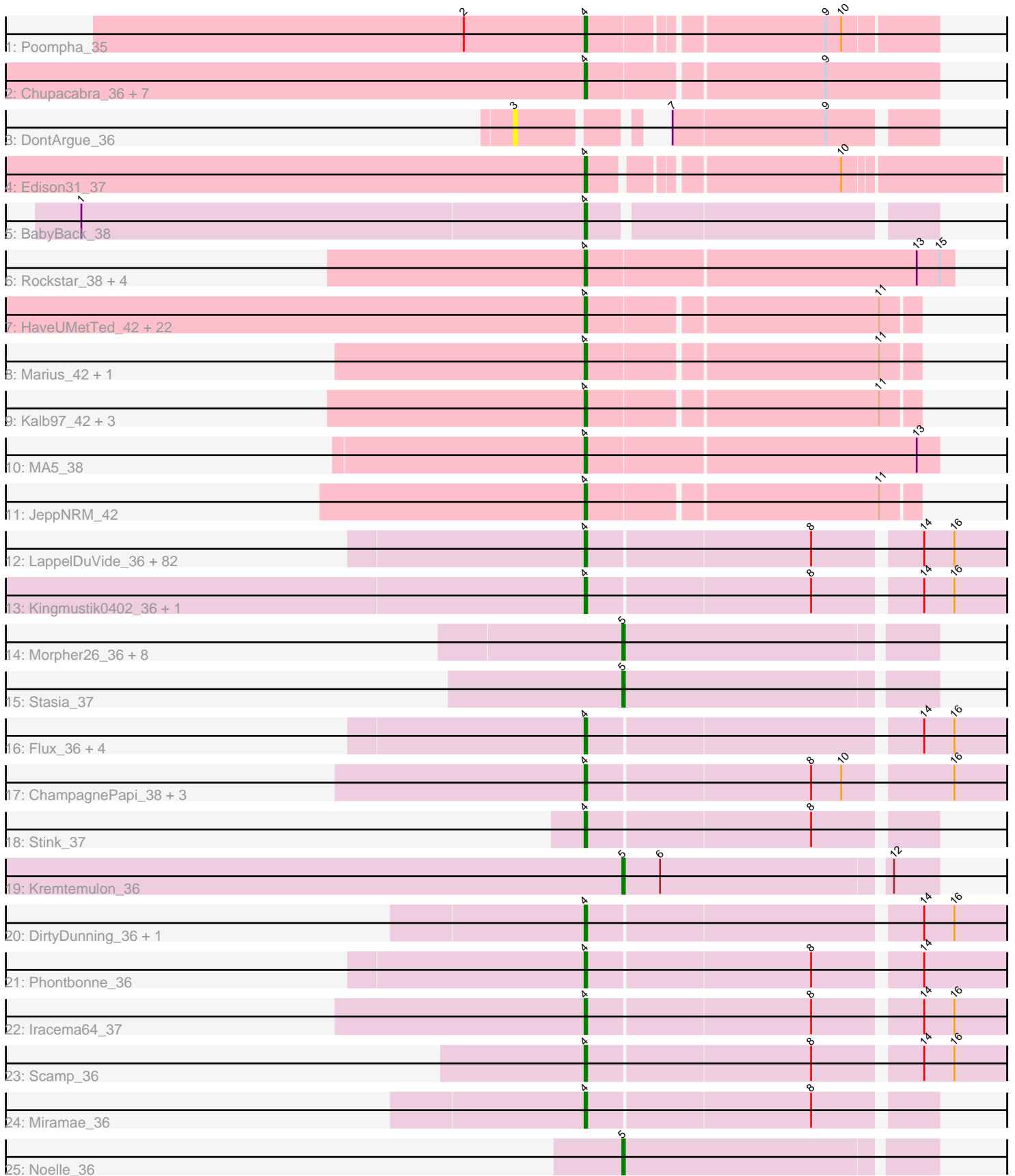


Pham 192370



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 192370 Report

This analysis was run 11/02/24 on database version 579.

Pham number 192370 has 161 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Poompha_35
- Track 2 : Chupacabra_36, Goose_37, Rowdy_40, Eaglepride_38, OKCentral2016_36, RhynO_37, Shapes_40, DustyMartin_40
- Track 3 : DontArgue_36
- Track 4 : Edison31_37
- Track 5 : BabyBack_38
- Track 6 : Rockstar_38, JF4_38, JF2_38, MK4_38, Phantastic_38
- Track 7 : HaveUMetTed_42, EpicPhail_42, PotatoSplit_43, AugsMagnumOpus_44, Dieselweasel_42, LarryKay_41, LBerry_42, Aglet_42, Phoxy_41, MuchMore_44, Anubis_44, Spike509_41, Taurus_42, Phoebe_42, P28Green_42, JenCasNa_42, LugYA_44, Soshari_43, Daishi_40, SoilDragon_41, HashRod_42, Penny1_42, Lilith_42
- Track 8 : Marius_42, Kalnoky_42
- Track 9 : Kalb97_42, PurpleHaze_41, Groupthink_42, Phranny_42
- Track 10 : MA5_38
- Track 11 : JeppNRM_42
- Track 12 : LappelDuVide_36, Lorenzo_36, Cocoaberry_36, Florean_36, Pumbaa_36, Deano_36, ICleared_36, Avle17_36, Gadost_36, Dhanush_36, Alberto7_37, Taquarus_36, Bruiser_35, Kyee_36, CentreCat_36, TinaFeyge_37, Thanksgivukkah_36, Funston_36, Polymorphads_37, Ruin_36, Koreni_35, TygerBlood_36, Maxo_37, Albee_36, Phighter1804_36, Nemo27_36, Camperdownii_35, Citius_36, Lemur_36, Wizard007_36, LittleGuy_36, JoongJeon_36, TroyPia_37, Caelakin_36, BellusTerra_37, NotAPhaseMom_36, Lunsford_37, LittleB_36, Eris_35, Eurydice_37, Ulysses_35, Annyong_36, Nebs_37, Chaph_36, Druantia_36, Bombshell_36, Wander_36, Sparxx_37, TiroTheta9_36, MeeZee_36, Sabertooth_36, Bartimeaus_36, Blackmoor_36, LochMonster_36, Morrow_37, Maverick_36, Houdini22_36, Happiness_36, Eagle_36, Phacado_36, Melvin_38, Mazhar510_36, Eros_36, Peaches_36, Abdiel_36, Nyxis_36, Baby16_36, Millski_35, Clarenza_36, BubbleTrouble_36, Cintron_36, PeterPeter_36, Shaka_36, Eapen_36, YoSam321_36, Palestino_35, Spino_36, Ohfah_37, Connomayer_36, JetBlade_36, Broseidon_36, KFPoly_36, Phelipe_37
- Track 13 : Kingmustik0402_36, HamSlice_35
- Track 14 : Morpher26_36, Perplexer_36, Datway_36, PetiteSangsue_36, Katalie136_36, Wile_36, Cici_36, AbbysRanger_36, Achebe_35
- Track 15 : Stasia_37
- Track 16 : Flux_36, Wilbur_36, Kratark_36, Romney_36, Iceman_37
- Track 17 : ChampagnePapi_38, SheldonCooper_38, BangNhom_37, LHTSCC_38

- Track 18 : Stink_37
- Track 19 : Kremtemulon_36
- Track 20 : DirtyDunning_36, Shygu2_36
- Track 21 : Phontbonne_36
- Track 22 : Iracema64_37
- Track 23 : Scamp_36
- Track 24 : Miramae_36
- Track 25 : Noelle_36

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

The start number called the most often in the published annotations is 4, it was called in 145 of the 157 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abdiel_36, Aglet_42, Albee_36, Alberto7_37, Annyong_36, Anubis_44, AugsMagnumOpus_44, Avle17_36, Baby16_36, BabyBack_38, BangNhom_37, Bartimeaus_36, BellusTerra_37, Blackmoor_36, Bombshell_36, Broseidon_36, Bruiser_35, BubbleTrouble_36, Caelakin_36, Camperdownii_35, CentreCat_36, ChampagnePapi_38, Chaph_36, Chupacabra_36, Cintron_36, Citius_36, Clarenza_36, Cocoaberry_36, Connomayer_36, Daishi_40, Deano_36, Dhanush_36, Dieselweasel_42, DirtyDunning_36, Druantia_36, DustyMartin_40, Eagle_36, Eaglepride_38, Eapen_36, Edison31_37, EpicPhail_42, Eris_35, Eros_36, Eurydice_37, Florean_36, Flux_36, Funston_36, Gadost_36, Goose_37, Groupthink_42, HamSlice_35, Happiness_36, HashRod_42, HaveUMetTed_42, Houdini22_36, ICleared_36, Iceman_37, Iracema64_37, JF2_38, JF4_38, JenCasNa_42, JeppNRM_42, JetBlade_36, JoongJeon_36, KFPoly_36, Kalb97_42, Kalnoky_42, Kingmustik0402_36, Koreni_35, Kratak_36, Kye_36, LBerry_42, LHTSCC_38, LappelDuVide_36, LarryKay_41, Lemur_36, Lilith_42, LittleB_36, LittleGuy_36, LochMonster_36, Lorenzo_36, LugYA_44, Lunsford_37, MA5_38, MK4_38, Marius_42, Maverick_36, Maxo_37, Mazhar510_36, MeeZee_36, Melvin_38, Millski_35, Miramae_36, Morrow_37, MuchMore_44, Nebs_37, Nemo27_36, NotAPhaseMom_36, Nyxis_36, OKCentral2016_36, Ohfah_37, P28Green_42, Palestino_35, Peaches_36, Penny1_42, PeterPeter_36, Phacado_36, Phantastic_38, Felipe_37, Phighter1804_36, Phoebe_42, Phontbonne_36, Phoxy_41, Phranny_42, Polymorphads_37, Poompha_35, PotatoSplit_43, Pumbaa_36, PurpleHaze_41, RhynO_37, Rockstar_38, Romney_36, Rowdy_40, Ruin_36, Sabertooth_36, Scamp_36, Shaka_36, Shapes_40, SheldonCooper_38, Shygu2_36, SoilDragon_41, Soshari_43, Sparxx_37, Spike509_41, Spino_36, Stink_37, Taquarus_36, Taurus_42, Thanksgivukkah_36, TinaFeyge_37, TiroTheta9_36, TroyPia_37, TygerBlood_36, Ulysses_35, Wander_36, Wilbur_36, Wizard007_36, YoSam321_36,

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

-

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

- AbbysRanger_36, Achebe_35, Cici_36, Datway_36, DontArgue_36, Katalie136_36, Kremtemulon_36, Morpher26_36, Noelle_36, Perplexer_36, PetiteSangsue_36, Stasia_37, Wile_36,

Summary by start number:

Start 3:

- Found in 1 of 161 (0.6%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DontArgue_36 (A10),

Start 4:

- Found in 148 of 161 (91.9%) of genes in pham
- Manual Annotations of this start: 145 of 157
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abdiel_36 (A4), Aglet_42 (A3), Albee_36 (A4), Alberto7_37 (A4), Annyong_36 (A4), Anubis_44 (A3), AugsMagnumOpus_44 (A3), Avle17_36 (A4), Baby16_36 (A4), BabyBack_38 (A2), BangNhom_37 (A4), Bartimeaus_36 (A4), BellusTerra_37 (A4), Blackmoor_36 (A4), Bombshell_36 (A4), Broseidon_36 (A4), Bruiser_35 (A4), BubbleTrouble_36 (A4), Caelakin_36 (A4), Camperdownii_35 (A4), CentreCat_36 (A4), ChampagnePapi_38 (A4), Chaph_36 (A4), Chupacabra_36 (A10), Cintron_36 (A4), Citius_36 (A4), Clarenza_36 (A4), Cocoaberry_36 (A4), Connomayer_36 (A4), Daishi_40 (A3), Deano_36 (A4), Dhanush_36 (A4), Dieselweasel_42 (A3), DirtyDunning_36 (A4), Druantia_36 (A4), DustyMartin_40 (A10), Eagle_36 (A4), Eaglepride_38 (A10), Eapen_36 (A4), Edison31_37 (A10), EpicPhail_42 (A3), Eris_35 (A4), Eros_36 (A4), Eurydice_37 (A4), Florean_36 (A4), Flux_36 (A4), Funston_36 (A4), Gadost_36 (A4), Goose_37 (A10), Groupthink_42 (A3), HamSlice_35 (A4), Happiness_36 (A4), HashRod_42 (A3), HaveUMetTed_42 (A3), Houdini22_36 (A4), ICleared_36 (A4), Iceman_37 (A4), Iracema64_37 (A4), JF2_38 (A3), JF4_38 (A3), JenCasNa_42 (A3), JeppNRM_42 (A3), JetBlade_36 (A4), JoongJeon_36 (A4), KFPoly_36 (A4), Kalb97_42 (A3), Kalnoky_42 (A3), Kingmustik0402_36 (A4), Koreni_35 (A4), Kratark_36 (A4), Kyee_36 (A4), LBerry_42 (A3), LHTSCC_38 (A4), LappelDuVide_36 (A4), LarryKay_41 (A3), Lemur_36 (A4), Lilith_42 (A3), LittleB_36 (A4), LittleGuy_36 (A4), LochMonster_36 (A4), Lorenzo_36 (A4), LugYA_44 (A3), Lunsford_37 (A4), MA5_38 (A3), MK4_38 (A3), Marius_42 (A3), Maverick_36 (A4), Maxo_37 (A4), Mazhar510_36 (A4), MeeZee_36 (A4), Melvin_38 (A4), Millski_35 (A4), Miramae_36 (A4), Morrow_37 (A4), MuchMore_44 (A3), Nebs_37 (A4), Nemo27_36 (A4), NotAPhaseMom_36 (A4), Nyxis_36 (A4), OKCentral2016_36 (A10), Ohfah_37 (A4), P28Green_42 (A3), Palestino_35 (A4), Peaches_36 (A4), Penny1_42 (A3), PeterPeter_36 (A4), Phacado_36 (A4), Phantastic_38 (A3), Felipe_37 (A4), Phighter1804_36 (A4), Phoebe_42 (A3), Phontbonne_36 (A4), Phoxy_41 (A3), Phranny_42 (A3), Polymorphads_37 (A4), Poompha_35 (A10), PotatoSplit_43 (A3), Pumbaa_36 (A4), PurpleHaze_41 (A3), RhynO_37 (A10), Rockstar_38 (A3), Romney_36 (A4), Rowdy_40 (A10), Ruin_36 (A4), Sabertooth_36 (A4), Scamp_36 (A4), Shaka_36 (A4), Shapes_40 (A10), SheldonCooper_38 (A4), Shygu2_36 (A4), SoilDragon_41 (A3), Soshari_43 (A3), Sparxx_37 (A4), Spike509_41 (A3), Spino_36 (A4), Stink_37 (A4), Taquarus_36 (A4), Taurus_42 (A3), Thanksgivukkah_36 (A4), TinaFeyge_37 (A4), TiroTheta9_36 (A4), TroyPia_37 (A4), TygerBlood_36 (A4), Ulysses_35 (A4), Wander_36 (A4), Wilbur_36 (A4), Wizard007_36 (A4), YoSam321_36 (A4),

Start 5:

- Found in 12 of 161 (7.5%) of genes in pham
- Manual Annotations of this start: 12 of 157

- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger_36 (A4), Achebe_35 (A4), Cici_36 (A4), Datway_36 (A4), Katalie136_36 (A4), Kremtemulon_36 (A4), Morpher26_36 (A4), Noelle_36 (A4), Perplexer_36 (A4), PetiteSangsue_36 (A4), Stasia_37 (A4), Wile_36 (A4),

Summary by clusters:

There are 4 clusters represented in this pham: A3, A2, A4, A10,

Info for manual annotations of cluster A10:

- Start number 4 was manually annotated 7 times for cluster A10.

Info for manual annotations of cluster A2:

- Start number 4 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A3:

- Start number 4 was manually annotated 36 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 4 was manually annotated 101 times for cluster A4.
- Start number 5 was manually annotated 12 times for cluster A4.

Gene Information:

Gene: AbbysRanger_36 Start: 27967, Stop: 27848, Start Num: 5

Candidate Starts for AbbysRanger_36:

(Start: 5 @27967 has 12 MA's),

Gene: Abdiel_36 Start: 27954, Stop: 27796, Start Num: 4

Candidate Starts for Abdiel_36:

(Start: 4 @27954 has 145 MA's), (8, 27867), (14, 27828), (16, 27816),

Gene: Achebe_35 Start: 27950, Stop: 27831, Start Num: 5

Candidate Starts for Achebe_35:

(Start: 5 @27950 has 12 MA's),

Gene: Aglet_42 Start: 28699, Stop: 28574, Start Num: 4

Candidate Starts for Aglet_42:

(Start: 4 @28699 has 145 MA's), (11, 28588),

Gene: Albee_36 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for Albee_36:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Alberto7_37 Start: 28299, Stop: 28141, Start Num: 4

Candidate Starts for Alberto7_37:

(Start: 4 @28299 has 145 MA's), (8, 28212), (14, 28173), (16, 28161),

Gene: Annyong_36 Start: 27960, Stop: 27802, Start Num: 4

Candidate Starts for Annyong_36:

(Start: 4 @27960 has 145 MA's), (8, 27873), (14, 27834), (16, 27822),

Gene: Anubis_44 Start: 28584, Stop: 28459, Start Num: 4

Candidate Starts for Anubis_44:

(Start: 4 @28584 has 145 MA's), (11, 28473),

Gene: AugsMagnumOpus_44 Start: 28690, Stop: 28565, Start Num: 4

Candidate Starts for AugsMagnumOpus_44:

(Start: 4 @28690 has 145 MA's), (11, 28579),

Gene: Avle17_36 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for Avle17_36:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Baby16_36 Start: 27970, Stop: 27812, Start Num: 4

Candidate Starts for Baby16_36:

(Start: 4 @27970 has 145 MA's), (8, 27883), (14, 27844), (16, 27832),

Gene: BabyBack_38 Start: 28936, Stop: 28808, Start Num: 4

Candidate Starts for BabyBack_38:

(1, 29131), (Start: 4 @28936 has 145 MA's),

Gene: BangNhom_37 Start: 28255, Stop: 28097, Start Num: 4

Candidate Starts for BangNhom_37:

(Start: 4 @28255 has 145 MA's), (8, 28168), (10, 28156), (16, 28117),

Gene: Bartimeaus_36 Start: 27961, Stop: 27803, Start Num: 4

Candidate Starts for Bartimeaus_36:

(Start: 4 @27961 has 145 MA's), (8, 27874), (14, 27835), (16, 27823),

Gene: BellusTerra_37 Start: 27954, Stop: 27796, Start Num: 4

Candidate Starts for BellusTerra_37:

(Start: 4 @27954 has 145 MA's), (8, 27867), (14, 27828), (16, 27816),

Gene: Blackmoor_36 Start: 27961, Stop: 27803, Start Num: 4

Candidate Starts for Blackmoor_36:

(Start: 4 @27961 has 145 MA's), (8, 27874), (14, 27835), (16, 27823),

Gene: Bombshell_36 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for Bombshell_36:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Broseidon_36 Start: 27961, Stop: 27803, Start Num: 4

Candidate Starts for Broseidon_36:

(Start: 4 @27961 has 145 MA's), (8, 27874), (14, 27835), (16, 27823),

Gene: Bruiser_35 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for Bruiser_35:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: BubbleTrouble_36 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for BubbleTrouble_36:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Caelakin_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Caelakin_36:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Camperdownii_35 Start: 27653, Stop: 27495, Start Num: 4
Candidate Starts for Camperdownii_35:
(Start: 4 @27653 has 145 MA's), (8, 27566), (14, 27527), (16, 27515),

Gene: CentreCat_36 Start: 27962, Stop: 27804, Start Num: 4
Candidate Starts for CentreCat_36:
(Start: 4 @27962 has 145 MA's), (8, 27875), (14, 27836), (16, 27824),

Gene: ChampagnePapi_38 Start: 28255, Stop: 28097, Start Num: 4
Candidate Starts for ChampagnePapi_38:
(Start: 4 @28255 has 145 MA's), (8, 28168), (10, 28156), (16, 28117),

Gene: Chaph_36 Start: 27970, Stop: 27812, Start Num: 4
Candidate Starts for Chaph_36:
(Start: 4 @27970 has 145 MA's), (8, 27883), (14, 27844), (16, 27832),

Gene: Chupacabra_36 Start: 27916, Stop: 27782, Start Num: 4
Candidate Starts for Chupacabra_36:
(Start: 4 @27916 has 145 MA's), (9, 27826),

Gene: Cici_36 Start: 27968, Stop: 27849, Start Num: 5
Candidate Starts for Cici_36:
(Start: 5 @27968 has 12 MA's),

Gene: Cintron_36 Start: 28025, Stop: 27867, Start Num: 4
Candidate Starts for Cintron_36:
(Start: 4 @28025 has 145 MA's), (8, 27938), (14, 27899), (16, 27887),

Gene: Citius_36 Start: 27974, Stop: 27816, Start Num: 4
Candidate Starts for Citius_36:
(Start: 4 @27974 has 145 MA's), (8, 27887), (14, 27848), (16, 27836),

Gene: Clarenza_36 Start: 27956, Stop: 27798, Start Num: 4
Candidate Starts for Clarenza_36:
(Start: 4 @27956 has 145 MA's), (8, 27869), (14, 27830), (16, 27818),

Gene: Cocoaberry_36 Start: 27963, Stop: 27805, Start Num: 4
Candidate Starts for Cocoaberry_36:
(Start: 4 @27963 has 145 MA's), (8, 27876), (14, 27837), (16, 27825),

Gene: Connomayer_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Connomayer_36:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Daishi_40 Start: 27537, Stop: 27412, Start Num: 4
Candidate Starts for Daishi_40:
(Start: 4 @27537 has 145 MA's), (11, 27426),

Gene: Datway_36 Start: 27939, Stop: 27820, Start Num: 5
Candidate Starts for Datway_36:
(Start: 5 @27939 has 12 MA's),

Gene: Deano_36 Start: 27967, Stop: 27809, Start Num: 4
Candidate Starts for Deano_36:
(Start: 4 @27967 has 145 MA's), (8, 27880), (14, 27841), (16, 27829),

Gene: Dhanush_36 Start: 27962, Stop: 27804, Start Num: 4
Candidate Starts for Dhanush_36:
(Start: 4 @27962 has 145 MA's), (8, 27875), (14, 27836), (16, 27824),

Gene: Dieselweasel_42 Start: 28700, Stop: 28575, Start Num: 4
Candidate Starts for Dieselweasel_42:
(Start: 4 @28700 has 145 MA's), (11, 28589),

Gene: DirtyDunning_36 Start: 27998, Stop: 27840, Start Num: 4
Candidate Starts for DirtyDunning_36:
(Start: 4 @27998 has 145 MA's), (14, 27872), (16, 27860),

Gene: DontArgue_36 Start: 26938, Stop: 26798, Start Num: 3
Candidate Starts for DontArgue_36:
(3, 26938), (7, 26896), (9, 26836),

Gene: Druantia_36 Start: 27962, Stop: 27804, Start Num: 4
Candidate Starts for Druantia_36:
(Start: 4 @27962 has 145 MA's), (8, 27875), (14, 27836), (16, 27824),

Gene: DustyMartin_40 Start: 27712, Stop: 27578, Start Num: 4
Candidate Starts for DustyMartin_40:
(Start: 4 @27712 has 145 MA's), (9, 27622),

Gene: Eagle_36 Start: 27978, Stop: 27820, Start Num: 4
Candidate Starts for Eagle_36:
(Start: 4 @27978 has 145 MA's), (8, 27891), (14, 27852), (16, 27840),

Gene: Eaglepride_38 Start: 28022, Stop: 27888, Start Num: 4
Candidate Starts for Eaglepride_38:
(Start: 4 @28022 has 145 MA's), (9, 27932),

Gene: Eapen_36 Start: 27957, Stop: 27799, Start Num: 4
Candidate Starts for Eapen_36:
(Start: 4 @27957 has 145 MA's), (8, 27870), (14, 27831), (16, 27819),

Gene: Edison31_37 Start: 28124, Stop: 27975, Start Num: 4
Candidate Starts for Edison31_37:
(Start: 4 @28124 has 145 MA's), (10, 28034),

Gene: EpicPhail_42 Start: 28698, Stop: 28573, Start Num: 4
Candidate Starts for EpicPhail_42:
(Start: 4 @28698 has 145 MA's), (11, 28587),

Gene: Eris_35 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for Eris_35:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Eros_36 Start: 27961, Stop: 27803, Start Num: 4

Candidate Starts for Eros_36:

(Start: 4 @27961 has 145 MA's), (8, 27874), (14, 27835), (16, 27823),

Gene: Eurydice_37 Start: 27953, Stop: 27795, Start Num: 4

Candidate Starts for Eurydice_37:

(Start: 4 @27953 has 145 MA's), (8, 27866), (14, 27827), (16, 27815),

Gene: Florean_36 Start: 27958, Stop: 27800, Start Num: 4

Candidate Starts for Florean_36:

(Start: 4 @27958 has 145 MA's), (8, 27871), (14, 27832), (16, 27820),

Gene: Flux_36 Start: 27961, Stop: 27803, Start Num: 4

Candidate Starts for Flux_36:

(Start: 4 @27961 has 145 MA's), (14, 27835), (16, 27823),

Gene: Funston_36 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for Funston_36:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Gadost_36 Start: 27963, Stop: 27805, Start Num: 4

Candidate Starts for Gadost_36:

(Start: 4 @27963 has 145 MA's), (8, 27876), (14, 27837), (16, 27825),

Gene: Goose_37 Start: 27720, Stop: 27586, Start Num: 4

Candidate Starts for Goose_37:

(Start: 4 @27720 has 145 MA's), (9, 27630),

Gene: Groupthink_42 Start: 28523, Stop: 28398, Start Num: 4

Candidate Starts for Groupthink_42:

(Start: 4 @28523 has 145 MA's), (11, 28412),

Gene: HamSlice_35 Start: 27957, Stop: 27799, Start Num: 4

Candidate Starts for HamSlice_35:

(Start: 4 @27957 has 145 MA's), (8, 27870), (14, 27831), (16, 27819),

Gene: Happiness_36 Start: 27964, Stop: 27806, Start Num: 4

Candidate Starts for Happiness_36:

(Start: 4 @27964 has 145 MA's), (8, 27877), (14, 27838), (16, 27826),

Gene: HashRod_42 Start: 28696, Stop: 28571, Start Num: 4

Candidate Starts for HashRod_42:

(Start: 4 @28696 has 145 MA's), (11, 28585),

Gene: HaveUMetTed_42 Start: 28516, Stop: 28391, Start Num: 4

Candidate Starts for HaveUMetTed_42:

(Start: 4 @28516 has 145 MA's), (11, 28405),

Gene: Houdini22_36 Start: 27963, Stop: 27805, Start Num: 4

Candidate Starts for Houdini22_36:

(Start: 4 @27963 has 145 MA's), (8, 27876), (14, 27837), (16, 27825),

Gene: ICleared_36 Start: 27991, Stop: 27833, Start Num: 4

Candidate Starts for ICleared_36:

(Start: 4 @27991 has 145 MA's), (8, 27904), (14, 27865), (16, 27853),

Gene: Iceman_37 Start: 28248, Stop: 28090, Start Num: 4

Candidate Starts for Iceman_37:

(Start: 4 @28248 has 145 MA's), (14, 28122), (16, 28110),

Gene: Iracema64_37 Start: 28217, Stop: 28059, Start Num: 4

Candidate Starts for Iracema64_37:

(Start: 4 @28217 has 145 MA's), (8, 28130), (14, 28091), (16, 28079),

Gene: JF2_38 Start: 27579, Stop: 27436, Start Num: 4

Candidate Starts for JF2_38:

(Start: 4 @27579 has 145 MA's), (13, 27450), (15, 27441),

Gene: JF4_38 Start: 27579, Stop: 27436, Start Num: 4

Candidate Starts for JF4_38:

(Start: 4 @27579 has 145 MA's), (13, 27450), (15, 27441),

Gene: JenCasNa_42 Start: 28697, Stop: 28572, Start Num: 4

Candidate Starts for JenCasNa_42:

(Start: 4 @28697 has 145 MA's), (11, 28586),

Gene: JeppNRM_42 Start: 28521, Stop: 28396, Start Num: 4

Candidate Starts for JeppNRM_42:

(Start: 4 @28521 has 145 MA's), (11, 28410),

Gene: JetBlade_36 Start: 27956, Stop: 27798, Start Num: 4

Candidate Starts for JetBlade_36:

(Start: 4 @27956 has 145 MA's), (8, 27869), (14, 27830), (16, 27818),

Gene: JoongJeon_36 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for JoongJeon_36:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: KFPoly_36 Start: 27956, Stop: 27798, Start Num: 4

Candidate Starts for KFPoly_36:

(Start: 4 @27956 has 145 MA's), (8, 27869), (14, 27830), (16, 27818),

Gene: Kalb97_42 Start: 28522, Stop: 28397, Start Num: 4

Candidate Starts for Kalb97_42:

(Start: 4 @28522 has 145 MA's), (11, 28411),

Gene: Kalnoky_42 Start: 28523, Stop: 28398, Start Num: 4

Candidate Starts for Kalnoky_42:

(Start: 4 @28523 has 145 MA's), (11, 28412),

Gene: Katalie136_36 Start: 27953, Stop: 27834, Start Num: 5

Candidate Starts for Katalie136_36:

(Start: 5 @27953 has 12 MA's),

Gene: Kingmustik0402_36 Start: 27951, Stop: 27793, Start Num: 4
Candidate Starts for Kingmustik0402_36:
(Start: 4 @27951 has 145 MA's), (8, 27864), (14, 27825), (16, 27813),

Gene: Koreni_35 Start: 27640, Stop: 27482, Start Num: 4
Candidate Starts for Koreni_35:
(Start: 4 @27640 has 145 MA's), (8, 27553), (14, 27514), (16, 27502),

Gene: Kratark_36 Start: 27901, Stop: 27743, Start Num: 4
Candidate Starts for Kratark_36:
(Start: 4 @27901 has 145 MA's), (14, 27775), (16, 27763),

Gene: Kremtemulon_36 Start: 27912, Stop: 27793, Start Num: 5
Candidate Starts for Kremtemulon_36:
(Start: 5 @27912 has 12 MA's), (6, 27897), (12, 27810),

Gene: Kyee_36 Start: 27957, Stop: 27799, Start Num: 4
Candidate Starts for Kyee_36:
(Start: 4 @27957 has 145 MA's), (8, 27870), (14, 27831), (16, 27819),

Gene: LBerry_42 Start: 28698, Stop: 28573, Start Num: 4
Candidate Starts for LBerry_42:
(Start: 4 @28698 has 145 MA's), (11, 28587),

Gene: LHTSCC_38 Start: 28255, Stop: 28097, Start Num: 4
Candidate Starts for LHTSCC_38:
(Start: 4 @28255 has 145 MA's), (8, 28168), (10, 28156), (16, 28117),

Gene: LappelDuVide_36 Start: 27958, Stop: 27800, Start Num: 4
Candidate Starts for LappelDuVide_36:
(Start: 4 @27958 has 145 MA's), (8, 27871), (14, 27832), (16, 27820),

Gene: LarryKay_41 Start: 28698, Stop: 28573, Start Num: 4
Candidate Starts for LarryKay_41:
(Start: 4 @28698 has 145 MA's), (11, 28587),

Gene: Lemur_36 Start: 27956, Stop: 27798, Start Num: 4
Candidate Starts for Lemur_36:
(Start: 4 @27956 has 145 MA's), (8, 27869), (14, 27830), (16, 27818),

Gene: Lilith_42 Start: 28691, Stop: 28566, Start Num: 4
Candidate Starts for Lilith_42:
(Start: 4 @28691 has 145 MA's), (11, 28580),

Gene: LittleB_36 Start: 27960, Stop: 27802, Start Num: 4
Candidate Starts for LittleB_36:
(Start: 4 @27960 has 145 MA's), (8, 27873), (14, 27834), (16, 27822),

Gene: LittleGuy_36 Start: 27858, Stop: 27700, Start Num: 4
Candidate Starts for LittleGuy_36:
(Start: 4 @27858 has 145 MA's), (8, 27771), (14, 27732), (16, 27720),

Gene: LochMonster_36 Start: 27998, Stop: 27840, Start Num: 4
Candidate Starts for LochMonster_36:
(Start: 4 @27998 has 145 MA's), (8, 27911), (14, 27872), (16, 27860),

Gene: Lorenzo_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Lorenzo_36:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: LugYA_44 Start: 28698, Stop: 28573, Start Num: 4
Candidate Starts for LugYA_44:
(Start: 4 @28698 has 145 MA's), (11, 28587),

Gene: Lunsford_37 Start: 27956, Stop: 27798, Start Num: 4
Candidate Starts for Lunsford_37:
(Start: 4 @27956 has 145 MA's), (8, 27869), (14, 27830), (16, 27818),

Gene: MA5_38 Start: 27711, Stop: 27574, Start Num: 4
Candidate Starts for MA5_38:
(Start: 4 @27711 has 145 MA's), (13, 27582),

Gene: MK4_38 Start: 27813, Stop: 27670, Start Num: 4
Candidate Starts for MK4_38:
(Start: 4 @27813 has 145 MA's), (13, 27684), (15, 27675),

Gene: Marius_42 Start: 28523, Stop: 28398, Start Num: 4
Candidate Starts for Marius_42:
(Start: 4 @28523 has 145 MA's), (11, 28412),

Gene: Maverick_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Maverick_36:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Maxo_37 Start: 27955, Stop: 27797, Start Num: 4
Candidate Starts for Maxo_37:
(Start: 4 @27955 has 145 MA's), (8, 27868), (14, 27829), (16, 27817),

Gene: Mazhar510_36 Start: 27960, Stop: 27802, Start Num: 4
Candidate Starts for Mazhar510_36:
(Start: 4 @27960 has 145 MA's), (8, 27873), (14, 27834), (16, 27822),

Gene: MeeZee_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for MeeZee_36:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Melvin_38 Start: 27957, Stop: 27799, Start Num: 4
Candidate Starts for Melvin_38:
(Start: 4 @27957 has 145 MA's), (8, 27870), (14, 27831), (16, 27819),

Gene: Millski_35 Start: 27963, Stop: 27805, Start Num: 4
Candidate Starts for Millski_35:
(Start: 4 @27963 has 145 MA's), (8, 27876), (14, 27837), (16, 27825),

Gene: Miramae_36 Start: 28144, Stop: 28013, Start Num: 4

Candidate Starts for Miramae_36:
(Start: 4 @28144 has 145 MA's), (8, 28057),

Gene: Morpher26_36 Start: 27974, Stop: 27855, Start Num: 5
Candidate Starts for Morpher26_36:
(Start: 5 @27974 has 12 MA's),

Gene: Morrow_37 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Morrow_37:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: MuchMore_44 Start: 28690, Stop: 28565, Start Num: 4
Candidate Starts for MuchMore_44:
(Start: 4 @28690 has 145 MA's), (11, 28579),

Gene: Nebs_37 Start: 27953, Stop: 27795, Start Num: 4
Candidate Starts for Nebs_37:
(Start: 4 @27953 has 145 MA's), (8, 27866), (14, 27827), (16, 27815),

Gene: Nemo27_36 Start: 27958, Stop: 27800, Start Num: 4
Candidate Starts for Nemo27_36:
(Start: 4 @27958 has 145 MA's), (8, 27871), (14, 27832), (16, 27820),

Gene: Noelle_36 Start: 28018, Stop: 27899, Start Num: 5
Candidate Starts for Noelle_36:
(Start: 5 @28018 has 12 MA's),

Gene: NotAPhaseMom_36 Start: 27963, Stop: 27805, Start Num: 4
Candidate Starts for NotAPhaseMom_36:
(Start: 4 @27963 has 145 MA's), (8, 27876), (14, 27837), (16, 27825),

Gene: Nyxis_36 Start: 27852, Stop: 27694, Start Num: 4
Candidate Starts for Nyxis_36:
(Start: 4 @27852 has 145 MA's), (8, 27765), (14, 27726), (16, 27714),

Gene: OKCentral2016_36 Start: 27623, Stop: 27489, Start Num: 4
Candidate Starts for OKCentral2016_36:
(Start: 4 @27623 has 145 MA's), (9, 27533),

Gene: Ohfah_37 Start: 27953, Stop: 27795, Start Num: 4
Candidate Starts for Ohfah_37:
(Start: 4 @27953 has 145 MA's), (8, 27866), (14, 27827), (16, 27815),

Gene: P28Green_42 Start: 28700, Stop: 28575, Start Num: 4
Candidate Starts for P28Green_42:
(Start: 4 @28700 has 145 MA's), (11, 28589),

Gene: Palestino_35 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Palestino_35:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Peaches_36 Start: 27958, Stop: 27800, Start Num: 4
Candidate Starts for Peaches_36:

(Start: 4 @27958 has 145 MA's), (8, 27871), (14, 27832), (16, 27820),

Gene: Penny1_42 Start: 28698, Stop: 28573, Start Num: 4

Candidate Starts for Penny1_42:

(Start: 4 @28698 has 145 MA's), (11, 28587),

Gene: Perplexer_36 Start: 27950, Stop: 27831, Start Num: 5

Candidate Starts for Perplexer_36:

(Start: 5 @27950 has 12 MA's),

Gene: PeterPeter_36 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for PeterPeter_36:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: PetiteSangsue_36 Start: 27953, Stop: 27834, Start Num: 5

Candidate Starts for PetiteSangsue_36:

(Start: 5 @27953 has 12 MA's),

Gene: Phacado_36 Start: 27958, Stop: 27800, Start Num: 4

Candidate Starts for Phacado_36:

(Start: 4 @27958 has 145 MA's), (8, 27871), (14, 27832), (16, 27820),

Gene: Phantastic_38 Start: 27844, Stop: 27701, Start Num: 4

Candidate Starts for Phantastic_38:

(Start: 4 @27844 has 145 MA's), (13, 27715), (15, 27706),

Gene: Phelipe_37 Start: 27959, Stop: 27801, Start Num: 4

Candidate Starts for Phelipe_37:

(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Phighter1804_36 Start: 28001, Stop: 27843, Start Num: 4

Candidate Starts for Phighter1804_36:

(Start: 4 @28001 has 145 MA's), (8, 27914), (14, 27875), (16, 27863),

Gene: Phoebe_42 Start: 28690, Stop: 28565, Start Num: 4

Candidate Starts for Phoebe_42:

(Start: 4 @28690 has 145 MA's), (11, 28579),

Gene: Phontbonne_36 Start: 27853, Stop: 27695, Start Num: 4

Candidate Starts for Phontbonne_36:

(Start: 4 @27853 has 145 MA's), (8, 27766), (14, 27727),

Gene: Phoxy_41 Start: 28693, Stop: 28568, Start Num: 4

Candidate Starts for Phoxy_41:

(Start: 4 @28693 has 145 MA's), (11, 28582),

Gene: Phranny_42 Start: 28509, Stop: 28384, Start Num: 4

Candidate Starts for Phranny_42:

(Start: 4 @28509 has 145 MA's), (11, 28398),

Gene: Polymorphads_37 Start: 27952, Stop: 27794, Start Num: 4

Candidate Starts for Polymorphads_37:

(Start: 4 @27952 has 145 MA's), (8, 27865), (14, 27826), (16, 27814),

Gene: Poompha_35 Start: 26788, Stop: 26660, Start Num: 4
Candidate Starts for Poompha_35:
(2, 26836), (Start: 4 @26788 has 145 MA's), (9, 26701), (10, 26695),

Gene: PotatoSplit_43 Start: 28698, Stop: 28573, Start Num: 4
Candidate Starts for PotatoSplit_43:
(Start: 4 @28698 has 145 MA's), (11, 28587),

Gene: Pumbaa_36 Start: 27904, Stop: 27746, Start Num: 4
Candidate Starts for Pumbaa_36:
(Start: 4 @27904 has 145 MA's), (8, 27817), (14, 27778), (16, 27766),

Gene: PurpleHaze_41 Start: 28522, Stop: 28397, Start Num: 4
Candidate Starts for PurpleHaze_41:
(Start: 4 @28522 has 145 MA's), (11, 28411),

Gene: RhynO_37 Start: 27804, Stop: 27670, Start Num: 4
Candidate Starts for RhynO_37:
(Start: 4 @27804 has 145 MA's), (9, 27714),

Gene: Rockstar_38 Start: 27820, Stop: 27677, Start Num: 4
Candidate Starts for Rockstar_38:
(Start: 4 @27820 has 145 MA's), (13, 27691), (15, 27682),

Gene: Romney_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Romney_36:
(Start: 4 @27959 has 145 MA's), (14, 27833), (16, 27821),

Gene: Rowdy_40 Start: 27712, Stop: 27578, Start Num: 4
Candidate Starts for Rowdy_40:
(Start: 4 @27712 has 145 MA's), (9, 27622),

Gene: Ruin_36 Start: 27955, Stop: 27797, Start Num: 4
Candidate Starts for Ruin_36:
(Start: 4 @27955 has 145 MA's), (8, 27868), (14, 27829), (16, 27817),

Gene: Sabertooth_36 Start: 27958, Stop: 27800, Start Num: 4
Candidate Starts for Sabertooth_36:
(Start: 4 @27958 has 145 MA's), (8, 27871), (14, 27832), (16, 27820),

Gene: Scamp_36 Start: 27961, Stop: 27803, Start Num: 4
Candidate Starts for Scamp_36:
(Start: 4 @27961 has 145 MA's), (8, 27874), (14, 27835), (16, 27823),

Gene: Shaka_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Shaka_36:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Shapes_40 Start: 27712, Stop: 27578, Start Num: 4
Candidate Starts for Shapes_40:
(Start: 4 @27712 has 145 MA's), (9, 27622),

Gene: SheldonCooper_38 Start: 28256, Stop: 28098, Start Num: 4
Candidate Starts for SheldonCooper_38:
(Start: 4 @28256 has 145 MA's), (8, 28169), (10, 28157), (16, 28118),

Gene: Shygu2_36 Start: 27953, Stop: 27795, Start Num: 4
Candidate Starts for Shygu2_36:
(Start: 4 @27953 has 145 MA's), (14, 27827), (16, 27815),

Gene: SoilDragon_41 Start: 28143, Stop: 28018, Start Num: 4
Candidate Starts for SoilDragon_41:
(Start: 4 @28143 has 145 MA's), (11, 28032),

Gene: Soshari_43 Start: 28692, Stop: 28567, Start Num: 4
Candidate Starts for Soshari_43:
(Start: 4 @28692 has 145 MA's), (11, 28581),

Gene: Sparxx_37 Start: 27954, Stop: 27796, Start Num: 4
Candidate Starts for Sparxx_37:
(Start: 4 @27954 has 145 MA's), (8, 27867), (14, 27828), (16, 27816),

Gene: Spike509_41 Start: 28693, Stop: 28568, Start Num: 4
Candidate Starts for Spike509_41:
(Start: 4 @28693 has 145 MA's), (11, 28582),

Gene: Spino_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Spino_36:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Stasia_37 Start: 28244, Stop: 28125, Start Num: 5
Candidate Starts for Stasia_37:
(Start: 5 @28244 has 12 MA's),

Gene: Stink_37 Start: 28424, Stop: 28293, Start Num: 4
Candidate Starts for Stink_37:
(Start: 4 @28424 has 145 MA's), (8, 28337),

Gene: Taquarus_36 Start: 27962, Stop: 27804, Start Num: 4
Candidate Starts for Taquarus_36:
(Start: 4 @27962 has 145 MA's), (8, 27875), (14, 27836), (16, 27824),

Gene: Taurus_42 Start: 28697, Stop: 28572, Start Num: 4
Candidate Starts for Taurus_42:
(Start: 4 @28697 has 145 MA's), (11, 28586),

Gene: Thanksgivukkah_36 Start: 27960, Stop: 27802, Start Num: 4
Candidate Starts for Thanksgivukkah_36:
(Start: 4 @27960 has 145 MA's), (8, 27873), (14, 27834), (16, 27822),

Gene: TinaFeyge_37 Start: 27954, Stop: 27796, Start Num: 4
Candidate Starts for TinaFeyge_37:
(Start: 4 @27954 has 145 MA's), (8, 27867), (14, 27828), (16, 27816),

Gene: TiroTheta9_36 Start: 27956, Stop: 27798, Start Num: 4

Candidate Starts for TiroTheta9_36:
(Start: 4 @27956 has 145 MA's), (8, 27869), (14, 27830), (16, 27818),

Gene: TroyPia_37 Start: 27957, Stop: 27799, Start Num: 4
Candidate Starts for TroyPia_37:
(Start: 4 @27957 has 145 MA's), (8, 27870), (14, 27831), (16, 27819),

Gene: TygerBlood_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for TygerBlood_36:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Ulysses_35 Start: 27639, Stop: 27481, Start Num: 4
Candidate Starts for Ulysses_35:
(Start: 4 @27639 has 145 MA's), (8, 27552), (14, 27513), (16, 27501),

Gene: Wander_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Wander_36:
(Start: 4 @27959 has 145 MA's), (8, 27872), (14, 27833), (16, 27821),

Gene: Wilbur_36 Start: 27959, Stop: 27801, Start Num: 4
Candidate Starts for Wilbur_36:
(Start: 4 @27959 has 145 MA's), (14, 27833), (16, 27821),

Gene: Wile_36 Start: 27984, Stop: 27865, Start Num: 5
Candidate Starts for Wile_36:
(Start: 5 @27984 has 12 MA's),

Gene: Wizard007_36 Start: 27964, Stop: 27806, Start Num: 4
Candidate Starts for Wizard007_36:
(Start: 4 @27964 has 145 MA's), (8, 27877), (14, 27838), (16, 27826),

Gene: YoSam321_36 Start: 27956, Stop: 27798, Start Num: 4
Candidate Starts for YoSam321_36:
(Start: 4 @27956 has 145 MA's), (8, 27869), (14, 27830), (16, 27818),