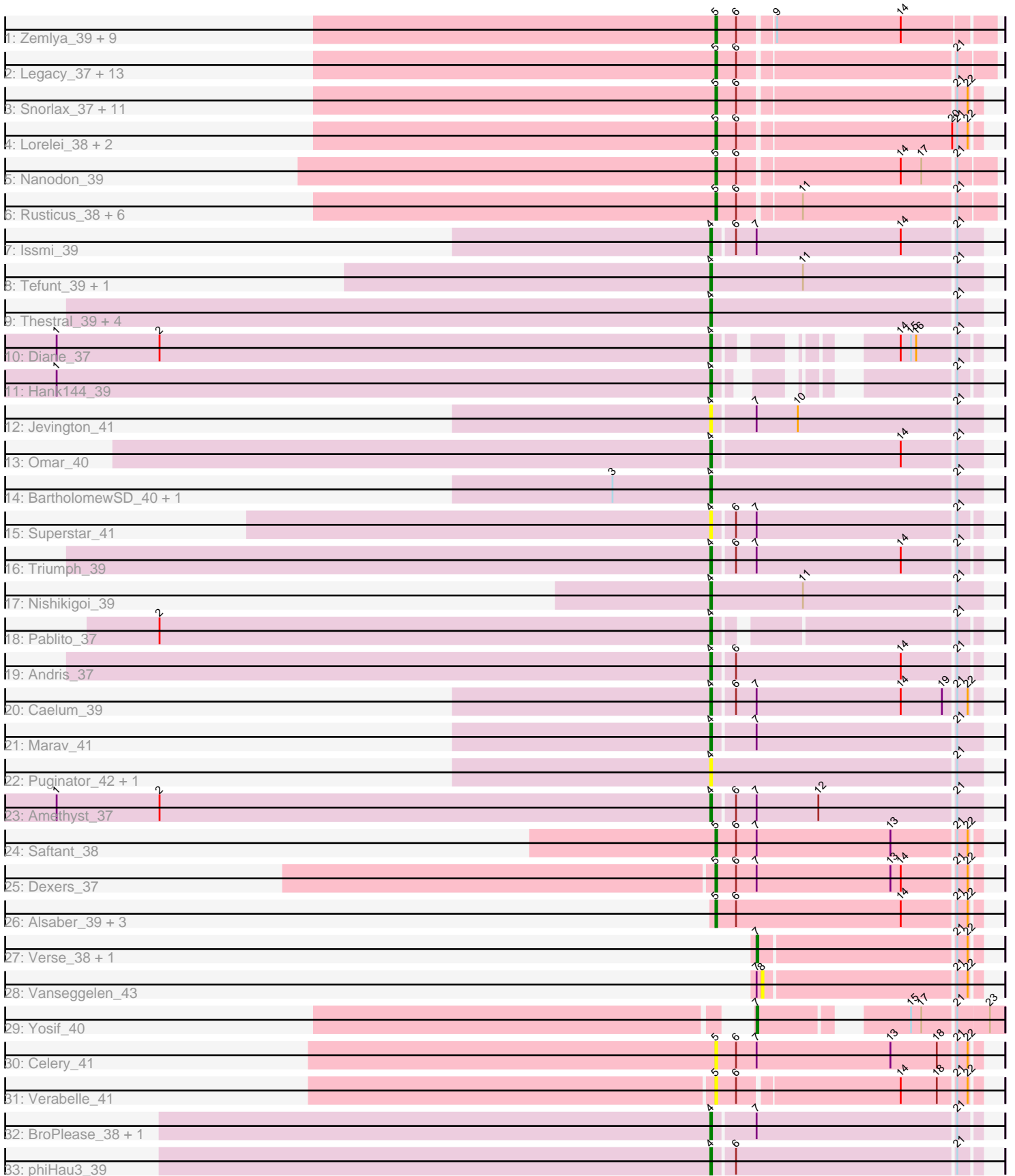


Pham 159134



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 159134 Report

This analysis was run 04/28/24 on database version 559.

Pham number 159134 has 86 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Zemlya_39, Toma_37, Danzina_39, Celeste_38, Dattran_39, Goby_37, Sujidade_38, Brataylor_40, Godpower_38, Lika_37
- Track 2 : Legacy_37, BeardedLady_38, Nerdos_36, Caliburn_37, Unstoppable_37, SunsetPointe_37, Leviticus_37, Aaronocolus_37, Esperer_37, Hydra_39, Phettuccine_37, Bovely_37, Ozzie_37, Indigo_36
- Track 3 : Snorlax_37, Werner_37, Chucky_37, Emaanora_40, Dwayne_37, TagePhighter_39, Triste_37, SarahRose_37, BarryBee_40, Whatever_37, Asten_37, OzzyJ_38
- Track 4 : Lorelei_38, Rana_38, Nabi_38
- Track 5 : Nanodon_39
- Track 6 : Rusticus_38, EnochSoames_40, Izzy_38, Jash_38, BryanRecycles_38, Eddasa_38, Oliynyk_38
- Track 7 : Issmi_39
- Track 8 : Tefunt_39, Haizum_39
- Track 9 : Thestral_39, Bowden_38, Zainub_44, TrvxScott_37, TinaBelcher_38
- Track 10 : Diane_37
- Track 11 : Hank144_39
- Track 12 : Jevington_41
- Track 13 : Omar_40
- Track 14 : BartholomewSD_40, Alvy_40
- Track 15 : Superstar_41
- Track 16 : Triumph_39
- Track 17 : Nishikigoi_39
- Track 18 : Pablito_37
- Track 19 : Andris_37
- Track 20 : Caelum_39
- Track 21 : Marav_41
- Track 22 : Puginator_42, Paolo_42
- Track 23 : Amethyst_37
- Track 24 : Saftant_38
- Track 25 : Dexers_37
- Track 26 : Alsaber_39, ElGato_40, Conan_41, Provolone_39
- Track 27 : Verse_38, Amela_38
- Track 28 : Vanseggelen_43
- Track 29 : Yosif_40
- Track 30 : Celery_41
- Track 31 : Verabelle_41

- Track 32 : BroPlease_38, GreenWeasel_39
- Track 33 : phiHau3_39

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

The start number called the most often in the published annotations is 5, it was called in 49 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aaronocolus_37, Alsaber_39, Asten_37, BarryBee_40, BeardedLady_38, Bovely_37, Brataylor_40, BryanRecycles_38, Caliburn_37, Celery_41, Celeste_38, Chucky_37, Conan_41, Danzina_39, Dattran_39, Dexers_37, Dwayne_37, Eddasa_38, ElGato_40, Emaanora_40, EnochSoames_40, Esperer_37, Goby_37, Godpower_38, Hydra_39, Indigo_36, Izzy_38, Jash_38, Legacy_37, Leviticus_37, Lika_37, Lorelei_38, Nabi_38, Nanodon_39, Nerdos_36, Oliynyk_38, Ozzie_37, OzzyJ_38, Phettuccine_37, Provolone_39, Rana_38, Rusticus_38, Saftant_38, SarahRose_37, Snorlax_37, Sujidade_38, SunsetPointe_37, TagePhighter_39, Toma_37, Triste_37, Unstoppable_37, Verabelle_41, Werner_37, Whatever_37, Zemlya_39,

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

-

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

- Alvy_40, Amela_38, Amethyst_37, Andris_37, BartholomewSD_40, Bowden_38, BroPlease_38, Caelum_39, Diane_37, GreenWeasel_39, Haizum_39, Hank144_39, Issmi_39, Jevington_41, Marav_41, Nishikigoi_39, Omar_40, Pablito_37, Paolo_42, Puginator_42, Superstar_41, Tefunt_39, Thestral_39, TinaBelcher_38, Triumph_39, TrvxScott_37, Vanseggelen_43, Verse_38, Yosif_40, Zainub_44, phiHau3_39,

Summary by start number:

Start 4:

- Found in 27 of 86 (31.4%) of genes in pham
- Manual Annotations of this start: 22 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alvy_40 (BD2), Amethyst_37 (BD2), Andris_37 (BD2), BartholomewSD_40 (BD2), Bowden_38 (BD2), BroPlease_38 (BD4), Caelum_39 (BD2), Diane_37 (BD2), GreenWeasel_39 (BD4), Haizum_39 (BD2), Hank144_39 (BD2), Issmi_39 (BD2), Jevington_41 (BD2), Marav_41 (BD2), Nishikigoi_39 (BD2), Omar_40 (BD2), Pablito_37 (BD2), Paolo_42 (BD2), Puginator_42 (BD2), Superstar_41 (BD2), Tefunt_39 (BD2), Thestral_39 (BD2), TinaBelcher_38 (BD2), Triumph_39 (BD2), TrvxScott_37 (BD2), Zainub_44 (BD2), phiHau3_39 (BD4),

Start 5:

- Found in 55 of 86 (64.0%) of genes in pham
- Manual Annotations of this start: 49 of 74
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Aaronocolus_37 (BD1), Alsaber_39 (BD3), Asten_37 (BD1), BarryBee_40 (BD1), BeardedLady_38 (BD1), Bovely_37 (BD1), Brataylor_40 (BD1), BryanRecycles_38 (BD1), Caliburn_37 (BD1), Celery_41 (BD3), Celeste_38 (BD1), Chucky_37 (BD1), Conan_41 (BD3), Danzina_39 (BD1), Dattran_39 (BD1), Dexers_37 (BD3), Dwayne_37 (BD1), Eddasa_38 (BD1), ElGato_40 (BD3), Emaanora_40 (BD1), EnochSoames_40 (BD1), Esperer_37 (BD1), Goby_37 (BD1), Godpower_38 (BD1), Hydra_39 (BD1), Indigo_36 (BD1), Izzy_38 (BD1), Jash_38 (BD1), Legacy_37 (BD1), Leviticus_37 (BD1), Lika_37 (BD1), Lorelei_38 (BD1), Nabi_38 (BD1), Nanodon_39 (BD1), Nerdos_36 (BD1), Oliynyk_38 (BD1), Ozzie_37 (BD1), OzzyJ_38 (BD1), Phettuccine_37 (BD1), Provolone_39 (BD3), Rana_38 (BD1), Rusticus_38 (BD1), Saftant_38 (BD3), SarahRose_37 (BD1), Snorlax_37 (BD1), Sujidade_38 (BD1), SunsetPointe_37 (BD1), TagePhighter_39 (BD1), Toma_37 (BD1), Triste_37 (BD1), Unstoppable_37 (BD1), Verabelle_41 (BD3), Werner_37 (BD1), Whatever_37 (BD1), Zemlya_39 (BD1),

Start 7:

- Found in 16 of 86 (18.6%) of genes in pham
- Manual Annotations of this start: 3 of 74
- Called 18.8% of time when present
- Phage (with cluster) where this start called: Amela_38 (BD3), Verse_38 (BD3), Yosif_40 (BD3),

Start 8:

- Found in 1 of 86 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Vanseggelen_43 (BD3),

Summary by clusters:

There are 4 clusters represented in this pham: BD4, BD1, BD3, BD2,

Info for manual annotations of cluster BD1:

- Start number 5 was manually annotated 45 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 4 was manually annotated 19 times for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 5 was manually annotated 4 times for cluster BD3.
- Start number 7 was manually annotated 3 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 4 was manually annotated 3 times for cluster BD4.

Gene Information:

Gene: Aaronocolus_37 Start: 27413, Stop: 27565, Start Num: 5

Candidate Starts for Aaronocolus_37:

(Start: 5 @27413 has 49 MA's), (6, 27425), (21, 27545),

Gene: Alsaber_39 Start: 29286, Stop: 29435, Start Num: 5
Candidate Starts for Alsaber_39:
(Start: 5 @29286 has 49 MA's), (6, 29298), (14, 29394), (21, 29424), (22, 29430),

Gene: Alvy_40 Start: 28764, Stop: 28919, Start Num: 4
Candidate Starts for Alvy_40:
(3, 28707), (Start: 4 @28764 has 22 MA's), (21, 28905),

Gene: Amela_38 Start: 30120, Stop: 30242, Start Num: 7
Candidate Starts for Amela_38:
(Start: 7 @30120 has 3 MA's), (21, 30231), (22, 30237),

Gene: Amethyst_37 Start: 28135, Stop: 28287, Start Num: 4
Candidate Starts for Amethyst_37:
(1, 27754), (2, 27814), (Start: 4 @28135 has 22 MA's), (6, 28147), (Start: 7 @28159 has 3 MA's), (12, 28195), (21, 28273),

Gene: Andris_37 Start: 28193, Stop: 28342, Start Num: 4
Candidate Starts for Andris_37:
(Start: 4 @28193 has 22 MA's), (6, 28205), (14, 28301), (21, 28331),

Gene: Asten_37 Start: 27771, Stop: 27914, Start Num: 5
Candidate Starts for Asten_37:
(Start: 5 @27771 has 49 MA's), (6, 27783), (21, 27903), (22, 27909),

Gene: BarryBee_40 Start: 27781, Stop: 27924, Start Num: 5
Candidate Starts for BarryBee_40:
(Start: 5 @27781 has 49 MA's), (6, 27793), (21, 27913), (22, 27919),

Gene: BartholomewSD_40 Start: 28763, Stop: 28918, Start Num: 4
Candidate Starts for BartholomewSD_40:
(3, 28706), (Start: 4 @28763 has 22 MA's), (21, 28904),

Gene: BeardedLady_38 Start: 27666, Stop: 27818, Start Num: 5
Candidate Starts for BeardedLady_38:
(Start: 5 @27666 has 49 MA's), (6, 27678), (21, 27798),

Gene: Bovely_37 Start: 27419, Stop: 27571, Start Num: 5
Candidate Starts for Bovely_37:
(Start: 5 @27419 has 49 MA's), (6, 27431), (21, 27551),

Gene: Bowden_38 Start: 28679, Stop: 28834, Start Num: 4
Candidate Starts for Bowden_38:
(Start: 4 @28679 has 22 MA's), (21, 28820),

Gene: Brataylor_40 Start: 28755, Stop: 28907, Start Num: 5
Candidate Starts for Brataylor_40:
(Start: 5 @28755 has 49 MA's), (6, 28767), (9, 28785), (14, 28857),

Gene: BroPlease_38 Start: 27905, Stop: 28054, Start Num: 4
Candidate Starts for BroPlease_38:
(Start: 4 @27905 has 22 MA's), (Start: 7 @27929 has 3 MA's), (21, 28043),

Gene: BryanRecycles_38 Start: 27770, Stop: 27922, Start Num: 5
Candidate Starts for BryanRecycles_38:
(Start: 5 @27770 has 49 MA's), (6, 27782), (11, 27815), (21, 27902),

Gene: Caelum_39 Start: 28385, Stop: 28534, Start Num: 4
Candidate Starts for Caelum_39:
(Start: 4 @28385 has 22 MA's), (6, 28397), (Start: 7 @28409 has 3 MA's), (14, 28493), (19, 28517),
(21, 28523), (22, 28529),

Gene: Caliburn_37 Start: 27396, Stop: 27548, Start Num: 5
Candidate Starts for Caliburn_37:
(Start: 5 @27396 has 49 MA's), (6, 27408), (21, 27528),

Gene: Celery_41 Start: 29219, Stop: 29368, Start Num: 5
Candidate Starts for Celery_41:
(Start: 5 @29219 has 49 MA's), (6, 29231), (Start: 7 @29243 has 3 MA's), (13, 29321), (18, 29348),
(21, 29357), (22, 29363),

Gene: Celeste_38 Start: 28224, Stop: 28376, Start Num: 5
Candidate Starts for Celeste_38:
(Start: 5 @28224 has 49 MA's), (6, 28236), (9, 28254), (14, 28326),

Gene: Chucky_37 Start: 27785, Stop: 27928, Start Num: 5
Candidate Starts for Chucky_37:
(Start: 5 @27785 has 49 MA's), (6, 27797), (21, 27917), (22, 27923),

Gene: Conan_41 Start: 29180, Stop: 29329, Start Num: 5
Candidate Starts for Conan_41:
(Start: 5 @29180 has 49 MA's), (6, 29192), (14, 29288), (21, 29318), (22, 29324),

Gene: Danzina_39 Start: 28525, Stop: 28677, Start Num: 5
Candidate Starts for Danzina_39:
(Start: 5 @28525 has 49 MA's), (6, 28537), (9, 28555), (14, 28627),

Gene: Dattran_39 Start: 28331, Stop: 28483, Start Num: 5
Candidate Starts for Dattran_39:
(Start: 5 @28331 has 49 MA's), (6, 28343), (9, 28361), (14, 28433),

Gene: Dexers_37 Start: 29205, Stop: 29354, Start Num: 5
Candidate Starts for Dexers_37:
(Start: 5 @29205 has 49 MA's), (6, 29217), (Start: 7 @29229 has 3 MA's), (13, 29307), (14, 29313),
(21, 29343), (22, 29349),

Gene: Diane_37 Start: 28409, Stop: 28516, Start Num: 4
Candidate Starts for Diane_37:
(1, 28028), (2, 28088), (Start: 4 @28409 has 22 MA's), (14, 28475), (15, 28481), (16, 28484), (21,
28505),

Gene: Dwayne_37 Start: 27772, Stop: 27915, Start Num: 5
Candidate Starts for Dwayne_37:
(Start: 5 @27772 has 49 MA's), (6, 27784), (21, 27904), (22, 27910),

Gene: Eddasa_38 Start: 27770, Stop: 27922, Start Num: 5

Candidate Starts for Eddasa_38:

(Start: 5 @27770 has 49 MA's), (6, 27782), (11, 27815), (21, 27902),

Gene: ElGato_40 Start: 28844, Stop: 28993, Start Num: 5

Candidate Starts for ElGato_40:

(Start: 5 @28844 has 49 MA's), (6, 28856), (14, 28952), (21, 28982), (22, 28988),

Gene: Emaanora_40 Start: 27730, Stop: 27873, Start Num: 5

Candidate Starts for Emaanora_40:

(Start: 5 @27730 has 49 MA's), (6, 27742), (21, 27862), (22, 27868),

Gene: EnochSoames_40 Start: 27765, Stop: 27917, Start Num: 5

Candidate Starts for EnochSoames_40:

(Start: 5 @27765 has 49 MA's), (6, 27777), (11, 27810), (21, 27897),

Gene: Esperer_37 Start: 27232, Stop: 27384, Start Num: 5

Candidate Starts for Esperer_37:

(Start: 5 @27232 has 49 MA's), (6, 27244), (21, 27364),

Gene: Goby_37 Start: 28230, Stop: 28382, Start Num: 5

Candidate Starts for Goby_37:

(Start: 5 @28230 has 49 MA's), (6, 28242), (9, 28260), (14, 28332),

Gene: Godpower_38 Start: 28225, Stop: 28377, Start Num: 5

Candidate Starts for Godpower_38:

(Start: 5 @28225 has 49 MA's), (6, 28237), (9, 28255), (14, 28327),

Gene: GreenWeasel_39 Start: 27912, Stop: 28061, Start Num: 4

Candidate Starts for GreenWeasel_39:

(Start: 4 @27912 has 22 MA's), (Start: 7 @27936 has 3 MA's), (21, 28050),

Gene: Haizum_39 Start: 28476, Stop: 28631, Start Num: 4

Candidate Starts for Haizum_39:

(Start: 4 @28476 has 22 MA's), (11, 28530), (21, 28617),

Gene: Hank144_39 Start: 28520, Stop: 28624, Start Num: 4

Candidate Starts for Hank144_39:

(1, 28139), (Start: 4 @28520 has 22 MA's), (21, 28613),

Gene: Hydra_39 Start: 27944, Stop: 28096, Start Num: 5

Candidate Starts for Hydra_39:

(Start: 5 @27944 has 49 MA's), (6, 27956), (21, 28076),

Gene: Indigo_36 Start: 27412, Stop: 27564, Start Num: 5

Candidate Starts for Indigo_36:

(Start: 5 @27412 has 49 MA's), (6, 27424), (21, 27544),

Gene: Issmi_39 Start: 29076, Stop: 29228, Start Num: 4

Candidate Starts for Issmi_39:

(Start: 4 @29076 has 22 MA's), (6, 29088), (Start: 7 @29100 has 3 MA's), (14, 29184), (21, 29214),

Gene: Izzy_38 Start: 27817, Stop: 27969, Start Num: 5

Candidate Starts for Izzy_38:

(Start: 5 @27817 has 49 MA's), (6, 27829), (11, 27862), (21, 27949),

Gene: Jash_38 Start: 27770, Stop: 27922, Start Num: 5

Candidate Starts for Jash_38:

(Start: 5 @27770 has 49 MA's), (6, 27782), (11, 27815), (21, 27902),

Gene: Jevington_41 Start: 28867, Stop: 29019, Start Num: 4

Candidate Starts for Jevington_41:

(Start: 4 @28867 has 22 MA's), (Start: 7 @28891 has 3 MA's), (10, 28915), (21, 29005),

Gene: Legacy_37 Start: 27387, Stop: 27539, Start Num: 5

Candidate Starts for Legacy_37:

(Start: 5 @27387 has 49 MA's), (6, 27399), (21, 27519),

Gene: Leviticus_37 Start: 27416, Stop: 27568, Start Num: 5

Candidate Starts for Leviticus_37:

(Start: 5 @27416 has 49 MA's), (6, 27428), (21, 27548),

Gene: Lika_37 Start: 28228, Stop: 28380, Start Num: 5

Candidate Starts for Lika_37:

(Start: 5 @28228 has 49 MA's), (6, 28240), (9, 28258), (14, 28330),

Gene: Lorelei_38 Start: 28287, Stop: 28433, Start Num: 5

Candidate Starts for Lorelei_38:

(Start: 5 @28287 has 49 MA's), (6, 28299), (20, 28419), (21, 28422), (22, 28428),

Gene: Marav_41 Start: 29192, Stop: 29344, Start Num: 4

Candidate Starts for Marav_41:

(Start: 4 @29192 has 22 MA's), (Start: 7 @29216 has 3 MA's), (21, 29330),

Gene: Nabi_38 Start: 28287, Stop: 28433, Start Num: 5

Candidate Starts for Nabi_38:

(Start: 5 @28287 has 49 MA's), (6, 28299), (20, 28419), (21, 28422), (22, 28428),

Gene: Nanodon_39 Start: 28056, Stop: 28208, Start Num: 5

Candidate Starts for Nanodon_39:

(Start: 5 @28056 has 49 MA's), (6, 28068), (14, 28158), (17, 28170), (21, 28188),

Gene: Nerdos_36 Start: 27411, Stop: 27563, Start Num: 5

Candidate Starts for Nerdos_36:

(Start: 5 @27411 has 49 MA's), (6, 27423), (21, 27543),

Gene: Nishikigoi_39 Start: 28476, Stop: 28631, Start Num: 4

Candidate Starts for Nishikigoi_39:

(Start: 4 @28476 has 22 MA's), (11, 28530), (21, 28617),

Gene: Oliynyk_38 Start: 27770, Stop: 27922, Start Num: 5

Candidate Starts for Oliynyk_38:

(Start: 5 @27770 has 49 MA's), (6, 27782), (11, 27815), (21, 27902),

Gene: Omar_40 Start: 28704, Stop: 28856, Start Num: 4

Candidate Starts for Omar_40:

(Start: 4 @28704 has 22 MA's), (14, 28812), (21, 28842),

Gene: Ozzie_37 Start: 27396, Stop: 27548, Start Num: 5
Candidate Starts for Ozzie_37:
(Start: 5 @27396 has 49 MA's), (6, 27408), (21, 27528),

Gene: OzzyJ_38 Start: 27772, Stop: 27915, Start Num: 5
Candidate Starts for OzzyJ_38:
(Start: 5 @27772 has 49 MA's), (6, 27784), (21, 27904), (22, 27910),

Gene: Pablito_37 Start: 28027, Stop: 28164, Start Num: 4
Candidate Starts for Pablito_37:
(2, 27706), (Start: 4 @28027 has 22 MA's), (21, 28153),

Gene: Paolo_42 Start: 29046, Stop: 29201, Start Num: 4
Candidate Starts for Paolo_42:
(Start: 4 @29046 has 22 MA's), (21, 29187),

Gene: Phettuccine_37 Start: 27412, Stop: 27564, Start Num: 5
Candidate Starts for Phettuccine_37:
(Start: 5 @27412 has 49 MA's), (6, 27424), (21, 27544),

Gene: Provolone_39 Start: 28835, Stop: 28984, Start Num: 5
Candidate Starts for Provolone_39:
(Start: 5 @28835 has 49 MA's), (6, 28847), (14, 28943), (21, 28973), (22, 28979),

Gene: Puginator_42 Start: 29067, Stop: 29222, Start Num: 4
Candidate Starts for Puginator_42:
(Start: 4 @29067 has 22 MA's), (21, 29208),

Gene: Rana_38 Start: 28287, Stop: 28433, Start Num: 5
Candidate Starts for Rana_38:
(Start: 5 @28287 has 49 MA's), (6, 28299), (20, 28419), (21, 28422), (22, 28428),

Gene: Rusticus_38 Start: 27770, Stop: 27922, Start Num: 5
Candidate Starts for Rusticus_38:
(Start: 5 @27770 has 49 MA's), (6, 27782), (11, 27815), (21, 27902),

Gene: Saftant_38 Start: 29408, Stop: 29557, Start Num: 5
Candidate Starts for Saftant_38:
(Start: 5 @29408 has 49 MA's), (6, 29420), (Start: 7 @29432 has 3 MA's), (13, 29510), (21, 29546),
(22, 29552),

Gene: SarahRose_37 Start: 27780, Stop: 27923, Start Num: 5
Candidate Starts for SarahRose_37:
(Start: 5 @27780 has 49 MA's), (6, 27792), (21, 27912), (22, 27918),

Gene: Snorlax_37 Start: 27784, Stop: 27927, Start Num: 5
Candidate Starts for Snorlax_37:
(Start: 5 @27784 has 49 MA's), (6, 27796), (21, 27916), (22, 27922),

Gene: Sujidade_38 Start: 28513, Stop: 28665, Start Num: 5
Candidate Starts for Sujidade_38:
(Start: 5 @28513 has 49 MA's), (6, 28525), (9, 28543), (14, 28615),

Gene: SunsetPointe_37 Start: 27403, Stop: 27555, Start Num: 5

Candidate Starts for SunsetPointe_37:

(Start: 5 @27403 has 49 MA's), (6, 27415), (21, 27535),

Gene: Superstar_41 Start: 29591, Stop: 29740, Start Num: 4

Candidate Starts for Superstar_41:

(Start: 4 @29591 has 22 MA's), (6, 29603), (Start: 7 @29615 has 3 MA's), (21, 29729),

Gene: TagePhighter_39 Start: 27784, Stop: 27927, Start Num: 5

Candidate Starts for TagePhighter_39:

(Start: 5 @27784 has 49 MA's), (6, 27796), (21, 27916), (22, 27922),

Gene: Tefunt_39 Start: 28478, Stop: 28633, Start Num: 4

Candidate Starts for Tefunt_39:

(Start: 4 @28478 has 22 MA's), (11, 28532), (21, 28619),

Gene: Thestral_39 Start: 28671, Stop: 28826, Start Num: 4

Candidate Starts for Thestral_39:

(Start: 4 @28671 has 22 MA's), (21, 28812),

Gene: TinaBelcher_38 Start: 28618, Stop: 28773, Start Num: 4

Candidate Starts for TinaBelcher_38:

(Start: 4 @28618 has 22 MA's), (21, 28759),

Gene: Toma_37 Start: 28230, Stop: 28382, Start Num: 5

Candidate Starts for Toma_37:

(Start: 5 @28230 has 49 MA's), (6, 28242), (9, 28260), (14, 28332),

Gene: Triste_37 Start: 27772, Stop: 27915, Start Num: 5

Candidate Starts for Triste_37:

(Start: 5 @27772 has 49 MA's), (6, 27784), (21, 27904), (22, 27910),

Gene: Triumph_39 Start: 28373, Stop: 28522, Start Num: 4

Candidate Starts for Triumph_39:

(Start: 4 @28373 has 22 MA's), (6, 28385), (Start: 7 @28397 has 3 MA's), (14, 28481), (21, 28511),

Gene: TrvxScott_37 Start: 28664, Stop: 28819, Start Num: 4

Candidate Starts for TrvxScott_37:

(Start: 4 @28664 has 22 MA's), (21, 28805),

Gene: Unstoppable_37 Start: 27407, Stop: 27559, Start Num: 5

Candidate Starts for Unstoppable_37:

(Start: 5 @27407 has 49 MA's), (6, 27419), (21, 27539),

Gene: Vanseggelen_43 Start: 28966, Stop: 29085, Start Num: 8

Candidate Starts for Vanseggelen_43:

(Start: 7 @28963 has 3 MA's), (8, 28966), (21, 29074), (22, 29080),

Gene: Verabelle_41 Start: 29352, Stop: 29495, Start Num: 5

Candidate Starts for Verabelle_41:

(Start: 5 @29352 has 49 MA's), (6, 29364), (14, 29454), (18, 29475), (21, 29484), (22, 29490),

Gene: Verse_38 Start: 30114, Stop: 30236, Start Num: 7

Candidate Starts for Verse_38:

(Start: 7 @30114 has 3 MA's), (21, 30225), (22, 30231),

Gene: Werner_37 Start: 27782, Stop: 27925, Start Num: 5

Candidate Starts for Werner_37:

(Start: 5 @27782 has 49 MA's), (6, 27794), (21, 27914), (22, 27920),

Gene: Whatever_37 Start: 27782, Stop: 27925, Start Num: 5

Candidate Starts for Whatever_37:

(Start: 5 @27782 has 49 MA's), (6, 27794), (21, 27914), (22, 27920),

Gene: Yosif_40 Start: 29930, Stop: 30049, Start Num: 7

Candidate Starts for Yosif_40:

(Start: 7 @29930 has 3 MA's), (15, 29999), (17, 30005), (21, 30023), (23, 30041),

Gene: Zainub_44 Start: 29007, Stop: 29162, Start Num: 4

Candidate Starts for Zainub_44:

(Start: 4 @29007 has 22 MA's), (21, 29148),

Gene: Zemlya_39 Start: 28331, Stop: 28483, Start Num: 5

Candidate Starts for Zemlya_39:

(Start: 5 @28331 has 49 MA's), (6, 28343), (9, 28361), (14, 28433),

Gene: phiHau3_39 Start: 27877, Stop: 28026, Start Num: 4

Candidate Starts for phiHau3_39:

(Start: 4 @27877 has 22 MA's), (6, 27889), (21, 28015),