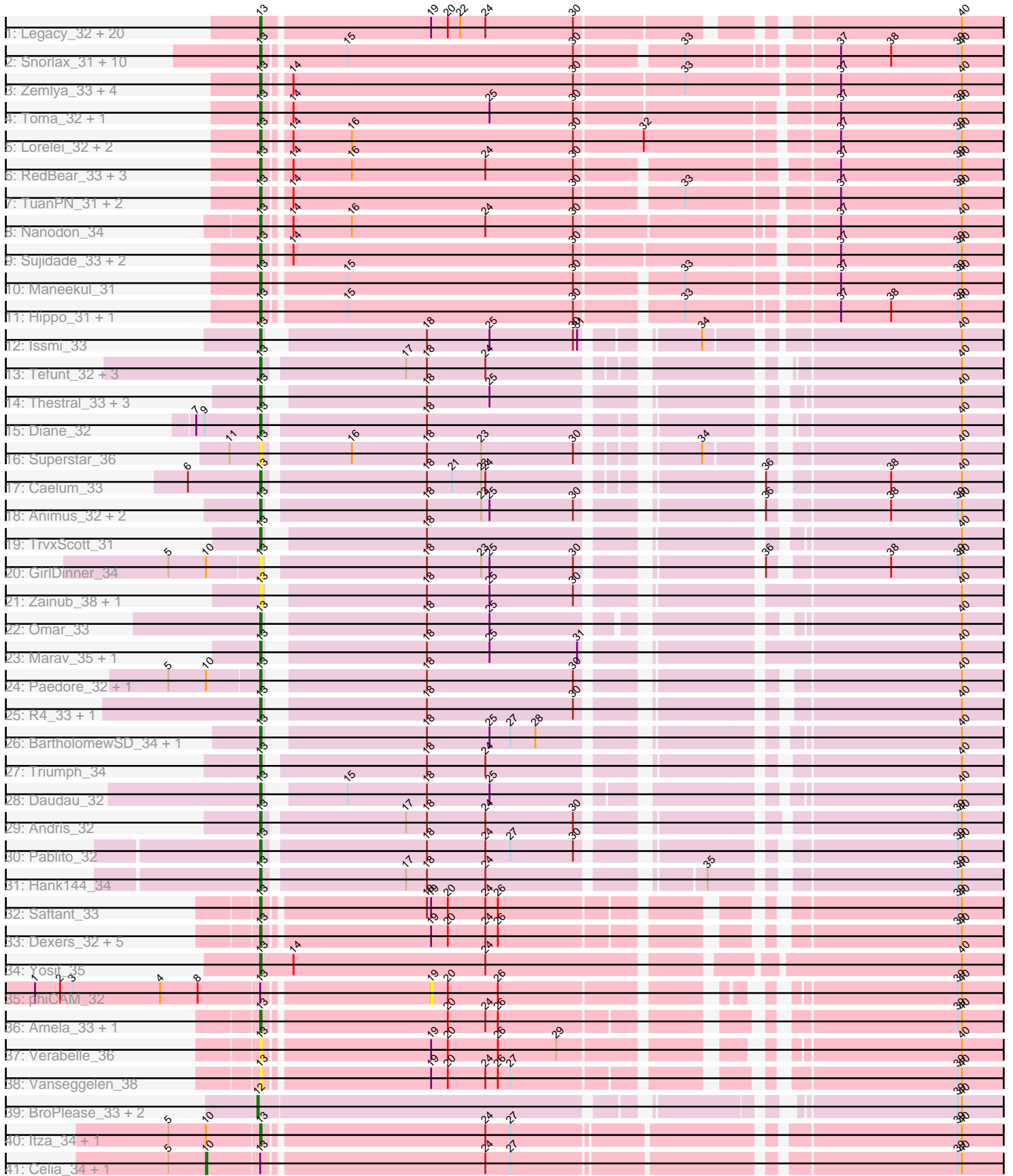


Pham 154591



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 154591 Report

This analysis was run 04/12/24 on database version 558.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 154591 has 109 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Legacy_32, BeardedLady_33, Nerdos_32, Caliburn_32, EnochSoames_35, Esperer_32, Izzy_33, Unstoppable_32, SunsetPointe_32, Leviticus_32, Indigo_31, Aaronocolus_32, Phettuccine_32, Rusticus_33, Hydra_34, Jash_33, Bovely_32, BryanRecycles_33, Oliynyk_33, Ozzie_32, Eddasa_33
- Track 2 : Snorlax_31, Werner_31, Chucky_31, BarryBee_34, TagePhighter_33, SarahRose_31, Triste_31, OzzyJ_32, Whatever_31, Emaanora_34, Asten_31
- Track 3 : Zemlya_33, Celeste_32, Brataylor_34, Danzina_33, Dattran_33
- Track 4 : Toma_32, Goby_32
- Track 5 : Lorelei_32, Nabi_32, Rana_32
- Track 6 : RedBear_33, South40_32, Katalie_32, Lannister_34
- Track 7 : TuanPN_31, Yasdnih_31, Ejemplo_31
- Track 8 : Nanodon_34
- Track 9 : Sujidade_33, Godpower_33, Lika_32
- Track 10 : Maneekul_31
- Track 11 : Hippo_31, Dwayne_31
- Track 12 : Issmi_33
- Track 13 : Tefunt_32, Nishikigoi_32, Haizum_32, Amethyst_32
- Track 14 : Thestral_33, Bowden_32, Puginator_36, TinaBelcher_32
- Track 15 : Diane_32
- Track 16 : Superstar_36
- Track 17 : Caelum_33
- Track 18 : Animus_32, SqueakyClean_32, Janus_33
- Track 19 : TrvxScott_31
- Track 20 : GirlDinner_34
- Track 21 : Zainub_38, Paolo_36
- Track 22 : Omar_33
- Track 23 : Marav_35, Jevington_35
- Track 24 : Paedore_32, Loofah_33
- Track 25 : R4_33, ELB20_31
- Track 26 : BartholomewSD_34, Alvy_34
- Track 27 : Triumph_34
- Track 28 : Daudau_32
- Track 29 : Andris_32

- Track 30 : Pablito_32
- Track 31 : Hank144_34
- Track 32 : Saftant_33
- Track 33 : Dexers_32, Alsaber_34, Celery_36, Conan_36, ElGato_35, Provolone_34
- Track 34 : Yosif_35
- Track 35 : phiCAM_32
- Track 36 : Amela_33, Verse_33
- Track 37 : Verabelle_36
- Track 38 : Vanseggelen_38
- Track 39 : BroPlease_33, phiHau3_34, GreenWeasel_34
- Track 40 : Itza_34, Urza_34
- Track 41 : Celia_34, VieEnRose_34

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

The start number called the most often in the published annotations is 13, it was called in 89 of the 94 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aaronocolus_32, Alsaber_34, Alvy_34, Amela_33, Amethyst_32, Andris_32, Animus_32, Asten_31, BarryBee_34, BartholomewSD_34, BeardedLady_33, Bovely_32, Bowden_32, Brataylor_34, BryanRecycles_33, Caelum_33, Caliburn_32, Celery_36, Celeste_32, Chucky_31, Conan_36, Danzina_33, Dattran_33, Daudau_32, Dexers_32, Diane_32, Dwayne_31, ELB20_31, Eddasa_33, Ejemplo_31, ElGato_35, Emaanora_34, EnochSoames_35, Esperer_32, GirlDinner_34, Goby_32, Godpower_33, Haizum_32, Hank144_34, Hippo_31, Hydra_34, Indigo_31, Issmi_33, Itza_34, Izzy_33, Janus_33, Jash_33, Jevington_35, Katalie_32, Lannister_34, Legacy_32, Leviticus_32, Lika_32, Loofah_33, Lorelei_32, Maneekul_31, Marav_35, Nabi_32, Nanodon_34, Nerdos_32, Nishikigoi_32, Oliynyk_33, Omar_33, Ozzie_32, OzzyJ_32, Pablito_32, Paedore_32, Paolo_36, Phettuccine_32, Provolone_34, Puginator_36, R4_33, Rana_32, RedBear_33, Rusticus_33, Saftant_33, SarahRose_31, Snorlax_31, South40_32, SqueakyClean_32, Sujidade_33, SunsetPointe_32, Superstar_36, TagePhighter_33, Tefunt_32, Thestral_33, TinaBelcher_32, Toma_32, Triste_31, Triumph_34, TrvxScott_31, TuanPN_31, Unstoppable_32, Urza_34, Vanseggelen_38, Verabelle_36, Verse_33, Werner_31, Whatever_31, Yasdnil_31, Yosif_35, Zainub_38, Zemlya_33,

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

- Celia_34, VieEnRose_34, phiCAM_32,

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

- BroPlease_33, GreenWeasel_34, phiHau3_34,

Summary by start number:

Start 10:

- Found in 7 of 109 (6.4%) of genes in pham
- Manual Annotations of this start: 2 of 94

- Called 28.6% of time when present
- Phage (with cluster) where this start called: Celia_34 (BD6), VieEnRose_34 (BD6),

Start 12:

- Found in 3 of 109 (2.8%) of genes in pham
- Manual Annotations of this start: 3 of 94
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BroPlease_33 (BD4), GreenWeasel_34 (BD4), phiHau3_34 (BD4),

Start 13:

- Found in 106 of 109 (97.2%) of genes in pham
- Manual Annotations of this start: 89 of 94
- Called 97.2% of time when present
- Phage (with cluster) where this start called: Aaronocolus_32 (BD1), Alsaber_34 (BD3), Alvy_34 (BD2), Amela_33 (BD3), Amethyst_32 (BD2), Andris_32 (BD2), Animus_32 (BD2), Asten_31 (BD1), BarryBee_34 (BD1), BartholomewSD_34 (BD2), BeardedLady_33 (BD1), Bovely_32 (BD1), Bowden_32 (BD2), Brataylor_34 (BD1), BryanRecycles_33 (BD1), Caelum_33 (BD2), Caliburn_32 (BD1), Celery_36 (BD3), Celeste_32 (BD1), Chucky_31 (BD1), Conan_36 (BD3), Danzina_33 (BD1), Dattran_33 (BD1), Daudau_32 (BD2), Dexers_32 (BD3), Diane_32 (BD2), Dwayne_31 (BD1), ELB20_31 (BD2), Eddasa_33 (BD1), Ejemplo_31 (BD1), ElGato_35 (BD3), Emaanora_34 (BD1), EnochSoames_35 (BD1), Esperer_32 (BD1), GirlDinner_34 (BD2), Goby_32 (BD1), Godpower_33 (BD1), Haizum_32 (BD2), Hank144_34 (BD2), Hippo_31 (BD1), Hydra_34 (BD1), Indigo_31 (BD1), Issmi_33 (BD2), Itza_34 (BD6), Izzy_33 (BD1), Janus_33 (BD2), Jash_33 (BD1), Jevington_35 (BD2), Katalie_32 (BD1), Lannister_34 (BD1), Legacy_32 (BD1), Leviticus_32 (BD1), Lika_32 (BD1), Loofah_33 (BD2), Lorelei_32 (BD1), Maneekul_31 (BD1), Marav_35 (BD2), Nabi_32 (BD1), Nanodon_34 (BD1), Nerdos_32 (BD1), Nishikigoi_32 (BD2), Oliynyk_33 (BD1), Omar_33 (BD2), Ozzie_32 (BD1), OzzyJ_32 (BD1), Pablito_32 (BD2), Paedore_32 (BD2), Paolo_36 (BD2), Phettuccine_32 (BD1), Provolone_34 (BD3), Puginator_36 (BD2), R4_33 (BD2), Rana_32 (BD1), RedBear_33 (BD1), Rusticus_33 (BD1), Saftant_33 (BD3), SarahRose_31 (BD1), Snorlax_31 (BD1), South40_32 (BD1), SqueakyClean_32 (BD2), Sujidade_33 (BD1), SunsetPointe_32 (BD1), Superstar_36 (BD2), TagePhighter_33 (BD1), Tefunt_32 (BD2), Thestral_33 (BD2), TinaBelcher_32 (BD2), Toma_32 (BD1), Triste_31 (BD1), Triumph_34 (BD2), TrvxScott_31 (BD2), TuanPN_31 (BD1), Unstoppable_32 (BD1), Urza_34 (BD6), Vanseggelen_38 (BD3), Verabelle_36 (BD3), Verse_33 (BD3), Werner_31 (BD1), Whatever_31 (BD1), Yasdnil_31 (BD1), Yosif_35 (BD3), Zainub_38 (BD2), Zemlya_33 (BD1),

Start 19:

- Found in 31 of 109 (28.4%) of genes in pham
- No Manual Annotations of this start.
- Called 3.2% of time when present
- Phage (with cluster) where this start called: phiCAM_32 (BD3),

Summary by clusters:

There are 5 clusters represented in this pham: BD4, BD6, BD1, BD3, BD2,

Info for manual annotations of cluster BD1:

- Start number 13 was manually annotated 54 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 13 was manually annotated 26 times for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 13 was manually annotated 7 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 12 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 10 was manually annotated 2 times for cluster BD6.

- Start number 13 was manually annotated 2 times for cluster BD6.

Gene Information:

Gene: Aaronocolus_32 Start: 24632, Stop: 25132, Start Num: 13

Candidate Starts for Aaronocolus_32:

(Start: 13 @24632 has 89 MA's), (19, 24749), (20, 24761), (22, 24770), (24, 24788), (30, 24851), (40, 25088),

Gene: Alsaber_34 Start: 26483, Stop: 26968, Start Num: 13

Candidate Starts for Alsaber_34:

(Start: 13 @26483 has 89 MA's), (19, 26597), (20, 26609), (24, 26636), (26, 26645), (39, 26921), (40, 26924),

Gene: Alvy_34 Start: 25839, Stop: 26327, Start Num: 13

Candidate Starts for Alvy_34:

(Start: 13 @25839 has 89 MA's), (18, 25941), (25, 25986), (27, 26001), (28, 26019), (40, 26277),

Gene: Amela_33 Start: 27315, Stop: 27800, Start Num: 13

Candidate Starts for Amela_33:

(Start: 13 @27315 has 89 MA's), (20, 27441), (24, 27468), (26, 27477), (39, 27753), (40, 27756),

Gene: Amethyst_32 Start: 25324, Stop: 25806, Start Num: 13

Candidate Starts for Amethyst_32:

(Start: 13 @25324 has 89 MA's), (17, 25420), (18, 25435), (24, 25477), (40, 25765),

Gene: Andris_32 Start: 25368, Stop: 25856, Start Num: 13

Candidate Starts for Andris_32:

(Start: 13 @25368 has 89 MA's), (17, 25464), (18, 25479), (24, 25521), (30, 25584), (39, 25815), (40, 25818),

Gene: Animus_32 Start: 25819, Stop: 26301, Start Num: 13

Candidate Starts for Animus_32:

(Start: 13 @25819 has 89 MA's), (18, 25927), (23, 25966), (25, 25972), (30, 26032), (36, 26137), (38, 26212), (39, 26260), (40, 26263),

Gene: Asten_31 Start: 24854, Stop: 25366, Start Num: 13

Candidate Starts for Asten_31:

(Start: 13 @24854 has 89 MA's), (15, 24908), (30, 25070), (33, 25139), (37, 25235), (38, 25271), (39, 25319), (40, 25322),

Gene: BarryBee_34 Start: 24864, Stop: 25376, Start Num: 13

Candidate Starts for BarryBee_34:

(Start: 13 @24864 has 89 MA's), (15, 24918), (30, 25080), (33, 25149), (37, 25245), (38, 25281), (39, 25329), (40, 25332),

Gene: BartholomewSD_34 Start: 25839, Stop: 26327, Start Num: 13

Candidate Starts for BartholomewSD_34:

(Start: 13 @25839 has 89 MA's), (18, 25941), (25, 25986), (27, 26001), (28, 26019), (40, 26277),

Gene: BeardedLady_33 Start: 24885, Stop: 25385, Start Num: 13

Candidate Starts for BeardedLady_33:

(Start: 13 @24885 has 89 MA's), (19, 25002), (20, 25014), (22, 25023), (24, 25041), (30, 25104), (40, 25341),

Gene: Bovely_32 Start: 24638, Stop: 25138, Start Num: 13

Candidate Starts for Bovely_32:

(Start: 13 @24638 has 89 MA's), (19, 24755), (20, 24767), (22, 24776), (24, 24794), (30, 24857), (40, 25094),

Gene: Bowden_32 Start: 25754, Stop: 26239, Start Num: 13

Candidate Starts for Bowden_32:

(Start: 13 @25754 has 89 MA's), (18, 25856), (25, 25901), (40, 26192),

Gene: Brataylor_34 Start: 25816, Stop: 26340, Start Num: 13

Candidate Starts for Brataylor_34:

(Start: 13 @25816 has 89 MA's), (14, 25831), (30, 26032), (33, 26107), (37, 26209), (40, 26296),

Gene: BroPlease_33 Start: 25170, Stop: 25658, Start Num: 12

Candidate Starts for BroPlease_33:

(Start: 12 @25170 has 3 MA's), (39, 25614), (40, 25617),

Gene: BryanRecycles_33 Start: 24989, Stop: 25489, Start Num: 13

Candidate Starts for BryanRecycles_33:

(Start: 13 @24989 has 89 MA's), (19, 25106), (20, 25118), (22, 25127), (24, 25145), (30, 25208), (40, 25445),

Gene: Caelum_33 Start: 25475, Stop: 25954, Start Num: 13

Candidate Starts for Caelum_33:

(6, 25424), (Start: 13 @25475 has 89 MA's), (18, 25586), (21, 25604), (23, 25625), (24, 25628), (36, 25790), (38, 25865), (40, 25916),

Gene: Caliburn_32 Start: 24615, Stop: 25115, Start Num: 13

Candidate Starts for Caliburn_32:

(Start: 13 @24615 has 89 MA's), (19, 24732), (20, 24744), (22, 24753), (24, 24771), (30, 24834), (40, 25071),

Gene: Celery_36 Start: 26418, Stop: 26903, Start Num: 13

Candidate Starts for Celery_36:

(Start: 13 @26418 has 89 MA's), (19, 26532), (20, 26544), (24, 26571), (26, 26580), (39, 26856), (40, 26859),

Gene: Celeste_32 Start: 25285, Stop: 25809, Start Num: 13

Candidate Starts for Celeste_32:

(Start: 13 @25285 has 89 MA's), (14, 25300), (30, 25501), (33, 25576), (37, 25678), (40, 25765),

Gene: Celia_34 Start: 25662, Stop: 26207, Start Num: 10

Candidate Starts for Celia_34:

(5, 25635), (Start: 10 @25662 has 2 MA's), (Start: 13 @25698 has 89 MA's), (24, 25851), (27, 25869), (39, 26157), (40, 26160),

Gene: Chucky_31 Start: 24868, Stop: 25380, Start Num: 13

Candidate Starts for Chucky_31:

(Start: 13 @24868 has 89 MA's), (15, 24922), (30, 25084), (33, 25153), (37, 25249), (38, 25285), (39, 25333), (40, 25336),

Gene: Conan_36 Start: 26379, Stop: 26864, Start Num: 13

Candidate Starts for Conan_36:

(Start: 13 @26379 has 89 MA's), (19, 26493), (20, 26505), (24, 26532), (26, 26541), (39, 26817), (40, 26820),

Gene: Danzina_33 Start: 25586, Stop: 26110, Start Num: 13

Candidate Starts for Danzina_33:

(Start: 13 @25586 has 89 MA's), (14, 25601), (30, 25802), (33, 25877), (37, 25979), (40, 26066),

Gene: Dattran_33 Start: 25392, Stop: 25916, Start Num: 13

Candidate Starts for Dattran_33:

(Start: 13 @25392 has 89 MA's), (14, 25407), (30, 25608), (33, 25683), (37, 25785), (40, 25872),

Gene: Daudau_32 Start: 25582, Stop: 26070, Start Num: 13

Candidate Starts for Daudau_32:

(Start: 13 @25582 has 89 MA's), (15, 25627), (18, 25684), (25, 25729), (40, 26020),

Gene: Dexers_32 Start: 26405, Stop: 26890, Start Num: 13

Candidate Starts for Dexers_32:

(Start: 13 @26405 has 89 MA's), (19, 26519), (20, 26531), (24, 26558), (26, 26567), (39, 26843), (40, 26846),

Gene: Diane_32 Start: 25594, Stop: 26076, Start Num: 13

Candidate Starts for Diane_32:

(7, 25549), (9, 25555), (Start: 13 @25594 has 89 MA's), (18, 25705), (40, 26035),

Gene: Dwayne_31 Start: 24855, Stop: 25367, Start Num: 13

Candidate Starts for Dwayne_31:

(Start: 13 @24855 has 89 MA's), (15, 24909), (30, 25071), (33, 25140), (37, 25236), (38, 25272), (39, 25320), (40, 25323),

Gene: ELB20_31 Start: 25968, Stop: 26450, Start Num: 13

Candidate Starts for ELB20_31:

(Start: 13 @25968 has 89 MA's), (18, 26070), (30, 26175), (40, 26406),

Gene: Eddasa_33 Start: 24989, Stop: 25489, Start Num: 13

Candidate Starts for Eddasa_33:

(Start: 13 @24989 has 89 MA's), (19, 25106), (20, 25118), (22, 25127), (24, 25145), (30, 25208), (40, 25445),

Gene: Ejemplo_31 Start: 24912, Stop: 25427, Start Num: 13

Candidate Starts for Ejemplo_31:

(Start: 13 @24912 has 89 MA's), (14, 24927), (30, 25128), (33, 25197), (37, 25296), (39, 25380), (40, 25383),

Gene: ElGato_35 Start: 26043, Stop: 26528, Start Num: 13

Candidate Starts for ElGato_35:

(Start: 13 @26043 has 89 MA's), (19, 26157), (20, 26169), (24, 26196), (26, 26205), (39, 26481), (40, 26484),

Gene: Emaanora_34 Start: 24813, Stop: 25325, Start Num: 13

Candidate Starts for Emaanora_34:

(Start: 13 @24813 has 89 MA's), (15, 24867), (30, 25029), (33, 25098), (37, 25194), (38, 25230), (39, 25278), (40, 25281),

Gene: EnochSoames_35 Start: 24984, Stop: 25484, Start Num: 13

Candidate Starts for EnochSoames_35:

(Start: 13 @24984 has 89 MA's), (19, 25101), (20, 25113), (22, 25122), (24, 25140), (30, 25203), (40, 25440),

Gene: Esperer_32 Start: 24451, Stop: 24951, Start Num: 13

Candidate Starts for Esperer_32:

(Start: 13 @24451 has 89 MA's), (19, 24568), (20, 24580), (22, 24589), (24, 24607), (30, 24670), (40, 24907),

Gene: GirlDinner_34 Start: 25320, Stop: 25802, Start Num: 13

Candidate Starts for GirlDinner_34:

(5, 25257), (Start: 10 @25284 has 2 MA's), (Start: 13 @25320 has 89 MA's), (18, 25428), (23, 25467), (25, 25473), (30, 25533), (36, 25638), (38, 25713), (39, 25761), (40, 25764),

Gene: Goby_32 Start: 25415, Stop: 25933, Start Num: 13

Candidate Starts for Goby_32:

(Start: 13 @25415 has 89 MA's), (14, 25430), (25, 25571), (30, 25631), (37, 25802), (39, 25886), (40, 25889),

Gene: Godpower_33 Start: 25410, Stop: 25928, Start Num: 13

Candidate Starts for Godpower_33:

(Start: 13 @25410 has 89 MA's), (14, 25425), (30, 25626), (37, 25797), (39, 25881), (40, 25884),

Gene: GreenWeasel_34 Start: 25179, Stop: 25667, Start Num: 12

Candidate Starts for GreenWeasel_34:

(Start: 12 @25179 has 3 MA's), (39, 25623), (40, 25626),

Gene: Haizum_32 Start: 25341, Stop: 25832, Start Num: 13

Candidate Starts for Haizum_32:

(Start: 13 @25341 has 89 MA's), (17, 25437), (18, 25452), (24, 25494), (40, 25782),

Gene: Hank144_34 Start: 25734, Stop: 26216, Start Num: 13

Candidate Starts for Hank144_34:

(Start: 13 @25734 has 89 MA's), (17, 25830), (18, 25845), (24, 25887), (35, 26019), (39, 26175), (40, 26178),

Gene: Hippo_31 Start: 24864, Stop: 25376, Start Num: 13

Candidate Starts for Hippo_31:

(Start: 13 @24864 has 89 MA's), (15, 24918), (30, 25080), (33, 25149), (37, 25245), (38, 25281), (39, 25329), (40, 25332),

Gene: Hydra_34 Start: 25163, Stop: 25663, Start Num: 13

Candidate Starts for Hydra_34:

(Start: 13 @25163 has 89 MA's), (19, 25280), (20, 25292), (22, 25301), (24, 25319), (30, 25382), (40, 25619),

Gene: Indigo_31 Start: 24631, Stop: 25131, Start Num: 13

Candidate Starts for Indigo_31:

(Start: 13 @24631 has 89 MA's), (19, 24748), (20, 24760), (22, 24769), (24, 24787), (30, 24850), (40, 25087),

Gene: Issmi_33 Start: 26172, Stop: 26657, Start Num: 13

Candidate Starts for Issmi_33:

(Start: 13 @26172 has 89 MA's), (18, 26274), (25, 26319), (30, 26379), (31, 26382), (34, 26445), (40, 26610),

Gene: Itza_34 Start: 25612, Stop: 26121, Start Num: 13

Candidate Starts for Itza_34:

(5, 25549), (Start: 10 @25576 has 2 MA's), (Start: 13 @25612 has 89 MA's), (24, 25765), (27, 25783), (39, 26071), (40, 26074),

Gene: Izzy_33 Start: 25036, Stop: 25536, Start Num: 13

Candidate Starts for Izzy_33:

(Start: 13 @25036 has 89 MA's), (19, 25153), (20, 25165), (22, 25174), (24, 25192), (30, 25255), (40, 25492),

Gene: Janus_33 Start: 25660, Stop: 26142, Start Num: 13

Candidate Starts for Janus_33:

(Start: 13 @25660 has 89 MA's), (18, 25768), (23, 25807), (25, 25813), (30, 25873), (36, 25978), (38, 26053), (39, 26101), (40, 26104),

Gene: Jash_33 Start: 24989, Stop: 25489, Start Num: 13

Candidate Starts for Jash_33:

(Start: 13 @24989 has 89 MA's), (19, 25106), (20, 25118), (22, 25127), (24, 25145), (30, 25208), (40, 25445),

Gene: Jevington_35 Start: 25940, Stop: 26440, Start Num: 13

Candidate Starts for Jevington_35:

(Start: 13 @25940 has 89 MA's), (18, 26042), (25, 26087), (31, 26150), (40, 26387),

Gene: Katalie_32 Start: 25155, Stop: 25667, Start Num: 13

Candidate Starts for Katalie_32:

(Start: 13 @25155 has 89 MA's), (14, 25170), (16, 25212), (24, 25308), (30, 25371), (37, 25536), (39, 25620), (40, 25623),

Gene: Lannister_34 Start: 25631, Stop: 26146, Start Num: 13

Candidate Starts for Lannister_34:

(Start: 13 @25631 has 89 MA's), (14, 25646), (16, 25688), (24, 25784), (30, 25847), (37, 26015), (39, 26099), (40, 26102),

Gene: Legacy_32 Start: 24606, Stop: 25106, Start Num: 13

Candidate Starts for Legacy_32:

(Start: 13 @24606 has 89 MA's), (19, 24723), (20, 24735), (22, 24744), (24, 24762), (30, 24825), (40, 25062),

Gene: Leviticus_32 Start: 24635, Stop: 25135, Start Num: 13

Candidate Starts for Leviticus_32:

(Start: 13 @24635 has 89 MA's), (19, 24752), (20, 24764), (22, 24773), (24, 24791), (30, 24854), (40, 25091),

Gene: Lika_32 Start: 25413, Stop: 25931, Start Num: 13

Candidate Starts for Lika_32:

(Start: 13 @25413 has 89 MA's), (14, 25428), (30, 25629), (37, 25800), (39, 25884), (40, 25887),

Gene: Loofah_33 Start: 25858, Stop: 26340, Start Num: 13

Candidate Starts for Loofah_33:

(5, 25795), (Start: 10 @25822 has 2 MA's), (Start: 13 @25858 has 89 MA's), (18, 25960), (30, 26065), (40, 26296),

Gene: Lorelei_32 Start: 25351, Stop: 25872, Start Num: 13

Candidate Starts for Lorelei_32:

(Start: 13 @25351 has 89 MA's), (14, 25366), (16, 25408), (30, 25567), (32, 25615), (37, 25741), (39, 25825), (40, 25828),

Gene: Maneekul_31 Start: 24882, Stop: 25397, Start Num: 13

Candidate Starts for Maneekul_31:

(Start: 13 @24882 has 89 MA's), (15, 24936), (30, 25098), (33, 25167), (37, 25266), (39, 25350), (40, 25353),

Gene: Marav_35 Start: 26270, Stop: 26764, Start Num: 13

Candidate Starts for Marav_35:

(Start: 13 @26270 has 89 MA's), (18, 26372), (25, 26417), (31, 26480), (40, 26720),

Gene: Nabi_32 Start: 25351, Stop: 25872, Start Num: 13

Candidate Starts for Nabi_32:

(Start: 13 @25351 has 89 MA's), (14, 25366), (16, 25408), (30, 25567), (32, 25615), (37, 25741), (39, 25825), (40, 25828),

Gene: Nanodon_34 Start: 25241, Stop: 25756, Start Num: 13

Candidate Starts for Nanodon_34:

(Start: 13 @25241 has 89 MA's), (14, 25256), (16, 25298), (24, 25394), (30, 25457), (37, 25625), (40, 25712),

Gene: Nerdos_32 Start: 24629, Stop: 25129, Start Num: 13

Candidate Starts for Nerdos_32:

(Start: 13 @24629 has 89 MA's), (19, 24746), (20, 24758), (22, 24767), (24, 24785), (30, 24848), (40, 25085),

Gene: Nishikigoi_32 Start: 25341, Stop: 25832, Start Num: 13

Candidate Starts for Nishikigoi_32:

(Start: 13 @25341 has 89 MA's), (17, 25437), (18, 25452), (24, 25494), (40, 25782),

Gene: Oliynyk_33 Start: 24989, Stop: 25489, Start Num: 13

Candidate Starts for Oliynyk_33:

(Start: 13 @24989 has 89 MA's), (19, 25106), (20, 25118), (22, 25127), (24, 25145), (30, 25208), (40, 25445),

Gene: Omar_33 Start: 25588, Stop: 26070, Start Num: 13

Candidate Starts for Omar_33:

(Start: 13 @25588 has 89 MA's), (18, 25690), (25, 25735), (40, 26020),

Gene: Ozzie_32 Start: 24615, Stop: 25115, Start Num: 13

Candidate Starts for Ozzie_32:

(Start: 13 @24615 has 89 MA's), (19, 24732), (20, 24744), (22, 24753), (24, 24771), (30, 24834), (40, 25071),

Gene: OzzyJ_32 Start: 24855, Stop: 25367, Start Num: 13

Candidate Starts for OzzyJ_32:

(Start: 13 @24855 has 89 MA's), (15, 24909), (30, 25071), (33, 25140), (37, 25236), (38, 25272), (39, 25320), (40, 25323),

Gene: Pablito_32 Start: 25234, Stop: 25719, Start Num: 13

Candidate Starts for Pablito_32:

(Start: 13 @25234 has 89 MA's), (18, 25345), (24, 25387), (27, 25405), (30, 25450), (39, 25678), (40, 25681),

Gene: Paedore_32 Start: 25843, Stop: 26325, Start Num: 13

Candidate Starts for Paedore_32:

(5, 25780), (Start: 10 @25807 has 2 MA's), (Start: 13 @25843 has 89 MA's), (18, 25945), (30, 26050), (40, 26281),

Gene: Paolo_36 Start: 26106, Stop: 26606, Start Num: 13

Candidate Starts for Paolo_36:

(Start: 13 @26106 has 89 MA's), (18, 26208), (25, 26253), (30, 26313), (40, 26556),

Gene: Phettuccine_32 Start: 24631, Stop: 25131, Start Num: 13

Candidate Starts for Phettuccine_32:

(Start: 13 @24631 has 89 MA's), (19, 24748), (20, 24760), (22, 24769), (24, 24787), (30, 24850), (40, 25087),

Gene: Provolone_34 Start: 26034, Stop: 26519, Start Num: 13

Candidate Starts for Provolone_34:

(Start: 13 @26034 has 89 MA's), (19, 26148), (20, 26160), (24, 26187), (26, 26196), (39, 26472), (40, 26475),

Gene: Puginator_36 Start: 26124, Stop: 26624, Start Num: 13

Candidate Starts for Puginator_36:

(Start: 13 @26124 has 89 MA's), (18, 26226), (25, 26271), (40, 26574),

Gene: R4_33 Start: 25978, Stop: 26460, Start Num: 13

Candidate Starts for R4_33:

(Start: 13 @25978 has 89 MA's), (18, 26080), (30, 26185), (40, 26416),

Gene: Rana_32 Start: 25351, Stop: 25872, Start Num: 13

Candidate Starts for Rana_32:

(Start: 13 @25351 has 89 MA's), (14, 25366), (16, 25408), (30, 25567), (32, 25615), (37, 25741), (39, 25825), (40, 25828),

Gene: RedBear_33 Start: 25155, Stop: 25667, Start Num: 13

Candidate Starts for RedBear_33:

(Start: 13 @25155 has 89 MA's), (14, 25170), (16, 25212), (24, 25308), (30, 25371), (37, 25536), (39, 25620), (40, 25623),

Gene: Rusticus_33 Start: 24989, Stop: 25489, Start Num: 13

Candidate Starts for Rusticus_33:

(Start: 13 @24989 has 89 MA's), (19, 25106), (20, 25118), (22, 25127), (24, 25145), (30, 25208), (40, 25445),

Gene: Saftant_33 Start: 26598, Stop: 27083, Start Num: 13

Candidate Starts for Saftant_33:

(Start: 13 @26598 has 89 MA's), (18, 26709), (19, 26712), (20, 26724), (24, 26751), (26, 26760), (39, 27036), (40, 27039),

Gene: SarahRose_31 Start: 24864, Stop: 25376, Start Num: 13

Candidate Starts for SarahRose_31:

(Start: 13 @24864 has 89 MA's), (15, 24918), (30, 25080), (33, 25149), (37, 25245), (38, 25281), (39, 25329), (40, 25332),

Gene: Snorlax_31 Start: 24867, Stop: 25379, Start Num: 13

Candidate Starts for Snorlax_31:

(Start: 13 @24867 has 89 MA's), (15, 24921), (30, 25083), (33, 25152), (37, 25248), (38, 25284), (39, 25332), (40, 25335),

Gene: South40_32 Start: 25155, Stop: 25667, Start Num: 13

Candidate Starts for South40_32:

(Start: 13 @25155 has 89 MA's), (14, 25170), (16, 25212), (24, 25308), (30, 25371), (37, 25536), (39, 25620), (40, 25623),

Gene: SqueakyClean_32 Start: 25751, Stop: 26233, Start Num: 13

Candidate Starts for SqueakyClean_32:

(Start: 13 @25751 has 89 MA's), (18, 25859), (23, 25898), (25, 25904), (30, 25964), (36, 26069), (38, 26144), (39, 26192), (40, 26195),

Gene: Sujidade_33 Start: 25698, Stop: 26216, Start Num: 13

Candidate Starts for Sujidade_33:

(Start: 13 @25698 has 89 MA's), (14, 25713), (30, 25914), (37, 26085), (39, 26169), (40, 26172),

Gene: SunsetPointe_32 Start: 24622, Stop: 25122, Start Num: 13

Candidate Starts for SunsetPointe_32:

(Start: 13 @24622 has 89 MA's), (19, 24739), (20, 24751), (22, 24760), (24, 24778), (30, 24841), (40, 25078),

Gene: Superstar_36 Start: 26780, Stop: 27262, Start Num: 13

Candidate Starts for Superstar_36:

(11, 26759), (Start: 13 @26780 has 89 MA's), (16, 26837), (18, 26891), (23, 26930), (30, 26996), (34, 27059), (40, 27218),

Gene: TagePighter_33 Start: 24867, Stop: 25379, Start Num: 13

Candidate Starts for TagePighter_33:

(Start: 13 @24867 has 89 MA's), (15, 24921), (30, 25083), (33, 25152), (37, 25248), (38, 25284), (39, 25332), (40, 25335),

Gene: Tefunt_32 Start: 25344, Stop: 25835, Start Num: 13

Candidate Starts for Tefunt_32:

(Start: 13 @25344 has 89 MA's), (17, 25440), (18, 25455), (24, 25497), (40, 25785),

Gene: Thestral_33 Start: 25740, Stop: 26228, Start Num: 13

Candidate Starts for Thestral_33:

(Start: 13 @25740 has 89 MA's), (18, 25842), (25, 25887), (40, 26178),

Gene: TinaBelcher_32 Start: 25687, Stop: 26175, Start Num: 13

Candidate Starts for TinaBelcher_32:

(Start: 13 @25687 has 89 MA's), (18, 25789), (25, 25834), (40, 26125),

Gene: Toma_32 Start: 25415, Stop: 25933, Start Num: 13

Candidate Starts for Toma_32:

(Start: 13 @25415 has 89 MA's), (14, 25430), (25, 25571), (30, 25631), (37, 25802), (39, 25886), (40, 25889),

Gene: Triste_31 Start: 24855, Stop: 25367, Start Num: 13

Candidate Starts for Triste_31:

(Start: 13 @24855 has 89 MA's), (15, 24909), (30, 25071), (33, 25140), (37, 25236), (38, 25272), (39, 25320), (40, 25323),

Gene: Triumph_34 Start: 25558, Stop: 26040, Start Num: 13

Candidate Starts for Triumph_34:

(Start: 13 @25558 has 89 MA's), (18, 25666), (24, 25708), (40, 26002),

Gene: TrvxScott_31 Start: 25733, Stop: 26221, Start Num: 13

Candidate Starts for TrvxScott_31:

(Start: 13 @25733 has 89 MA's), (18, 25835), (40, 26171),

Gene: TuanPN_31 Start: 24912, Stop: 25427, Start Num: 13

Candidate Starts for TuanPN_31:

(Start: 13 @24912 has 89 MA's), (14, 24927), (30, 25128), (33, 25197), (37, 25296), (39, 25380), (40, 25383),

Gene: Unstoppable_32 Start: 24626, Stop: 25126, Start Num: 13

Candidate Starts for Unstoppable_32:

(Start: 13 @24626 has 89 MA's), (19, 24743), (20, 24755), (22, 24764), (24, 24782), (30, 24845), (40, 25082),

Gene: Urza_34 Start: 25633, Stop: 26142, Start Num: 13

Candidate Starts for Urza_34:

(5, 25570), (Start: 10 @25597 has 2 MA's), (Start: 13 @25633 has 89 MA's), (24, 25786), (27, 25804), (39, 26092), (40, 26095),

Gene: Vanseggelen_38 Start: 26166, Stop: 26651, Start Num: 13
Candidate Starts for Vanseggelen_38:
(Start: 13 @26166 has 89 MA's), (19, 26280), (20, 26292), (24, 26319), (26, 26328), (27, 26337), (39, 26604), (40, 26607),

Gene: Verabelle_36 Start: 26569, Stop: 27051, Start Num: 13
Candidate Starts for Verabelle_36:
(Start: 13 @26569 has 89 MA's), (19, 26683), (20, 26695), (26, 26731), (29, 26773), (40, 27007),

Gene: Verse_33 Start: 27309, Stop: 27794, Start Num: 13
Candidate Starts for Verse_33:
(Start: 13 @27309 has 89 MA's), (20, 27435), (24, 27462), (26, 27471), (39, 27747), (40, 27750),

Gene: VieEnRose_34 Start: 25674, Stop: 26216, Start Num: 10
Candidate Starts for VieEnRose_34:
(5, 25647), (Start: 10 @25674 has 2 MA's), (Start: 13 @25710 has 89 MA's), (24, 25863), (27, 25881), (39, 26166), (40, 26169),

Gene: Werner_31 Start: 24865, Stop: 25377, Start Num: 13
Candidate Starts for Werner_31:
(Start: 13 @24865 has 89 MA's), (15, 24919), (30, 25081), (33, 25150), (37, 25246), (38, 25282), (39, 25330), (40, 25333),

Gene: Whatever_31 Start: 24865, Stop: 25377, Start Num: 13
Candidate Starts for Whatever_31:
(Start: 13 @24865 has 89 MA's), (15, 24919), (30, 25081), (33, 25150), (37, 25246), (38, 25282), (39, 25330), (40, 25333),

Gene: Yasdni1_31 Start: 24910, Stop: 25425, Start Num: 13
Candidate Starts for Yasdni1_31:
(Start: 13 @24910 has 89 MA's), (14, 24925), (30, 25126), (33, 25195), (37, 25294), (39, 25378), (40, 25381),

Gene: Yosif_35 Start: 27058, Stop: 27579, Start Num: 13
Candidate Starts for Yosif_35:
(Start: 13 @27058 has 89 MA's), (14, 27082), (24, 27220), (40, 27532),

Gene: Zainub_38 Start: 26067, Stop: 26567, Start Num: 13
Candidate Starts for Zainub_38:
(Start: 13 @26067 has 89 MA's), (18, 26169), (25, 26214), (30, 26274), (40, 26517),

Gene: Zemlya_33 Start: 25392, Stop: 25916, Start Num: 13
Candidate Starts for Zemlya_33:
(Start: 13 @25392 has 89 MA's), (14, 25407), (30, 25608), (33, 25683), (37, 25785), (40, 25872),

Gene: phiCAM_32 Start: 28560, Stop: 28925, Start Num: 19
Candidate Starts for phiCAM_32:
(1, 28287), (2, 28305), (3, 28314), (4, 28377), (8, 28404), (Start: 13 @28446 has 89 MA's), (19, 28560), (20, 28572), (26, 28608), (39, 28878), (40, 28881),

Gene: phiHau3_34 Start: 25145, Stop: 25633, Start Num: 12
Candidate Starts for phiHau3_34:
(Start: 12 @25145 has 3 MA's), (39, 25589), (40, 25592),

