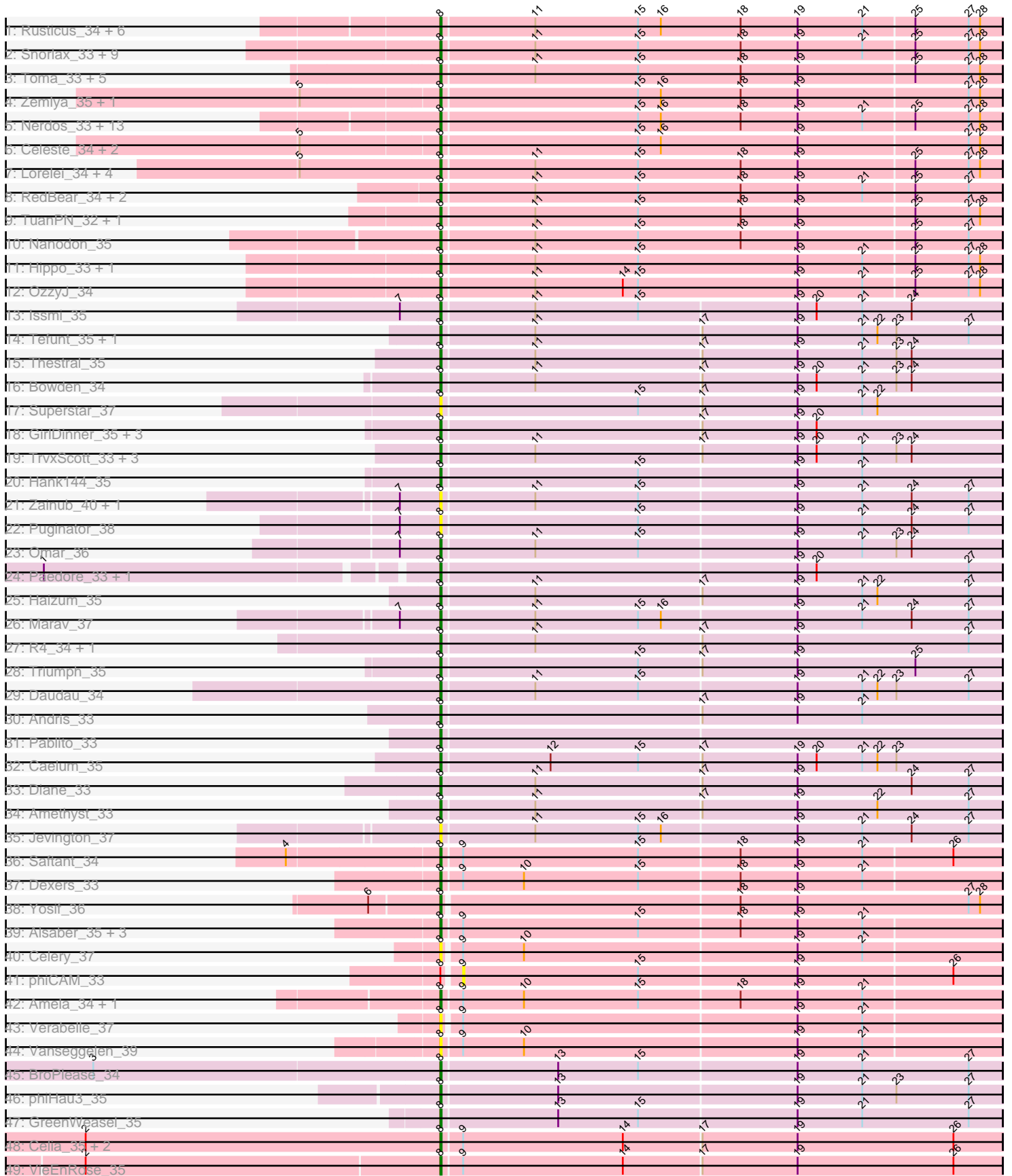


Pham 157730



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 157730 Report

This analysis was run 04/13/24 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 157730 has 109 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Rusticus_34, EnochSoames_36, Izzy_34, Jash_34, BryanRecycles_34, Eddasa_34, Oliynyk_34
- Track 2 : Snorlax_33, SarahRose_33, Chucky_33, Emaanora_36, Dwayne_33, BarryBee_36, Triste_33, Whatever_33, TagePhighter_35, Asten_33
- Track 3 : Toma_33, Goby_33, Sujidade_34, Godpower_34, Lannister_35, Lika_33
- Track 4 : Zemlya_35, Danzina_35
- Track 5 : Nerdos_33, Caliburn_33, Legacy_33, Esperer_33, SunsetPointe_33, Leviticus_33, Aaronocolus_33, Phettuccine_33, BeardedLady_34, Hydra_35, Bovely_33, Ozzie_33, Indigo_32, Unstoppable_33
- Track 6 : Celeste_34, Brataylor_36, Dattran_35
- Track 7 : Lorelei_34, Rana_34, Maneekul_33, Yasdnih_33, Nabi_34
- Track 8 : RedBear_34, South40_33, Katalie_33
- Track 9 : TuanPN_32, Ejemplo_32
- Track 10 : Nanodon_35
- Track 11 : Hippo_33, Werner_33
- Track 12 : OzzyJ_34
- Track 13 : Issmi_35
- Track 14 : Tefunt_35, Nishikigoi_35
- Track 15 : Thestral_35
- Track 16 : Bowden_34
- Track 17 : Superstar_37
- Track 18 : GirlDinner_35, Animus_33, SqueakyClean_33, Janus_34
- Track 19 : TrvxScott_33, BartholomewSD_36, TinaBelcher_34, Alvy_36
- Track 20 : Hank144_35
- Track 21 : Zainub_40, Paolo_38
- Track 22 : Puginator_38
- Track 23 : Omar_36
- Track 24 : Paedore_33, Loofah_34
- Track 25 : Haizum_35
- Track 26 : Marav_37
- Track 27 : R4_34, ELB20_32
- Track 28 : Triumph_35
- Track 29 : Daudau_34

- Track 30 : Andris_33
- Track 31 : Pablito_33
- Track 32 : Caelum_35
- Track 33 : Diane_33
- Track 34 : Amethyst_33
- Track 35 : Jevington_37
- Track 36 : Saftant_34
- Track 37 : Dexers_33
- Track 38 : Yosif_36
- Track 39 : Alsaber_35, Provolone_35, Conan_37, ElGato_36
- Track 40 : Celery_37
- Track 41 : phiCAM_33
- Track 42 : Amela_34, Verse_34
- Track 43 : Verabelle_37
- Track 44 : Vanseggelen_39
- Track 45 : BroPlease_34
- Track 46 : phiHau3_35
- Track 47 : GreenWeasel_35
- Track 48 : Celia_35, Urza_35, Itza_35
- Track 49 : VieEnRose_35

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

The start number called the most often in the published annotations is 8, it was called in 94 of the 94 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Aaronocolus_33, Alsaber_35, Alvy_36, Amela_34, Amethyst_33, Andris_33, Animus_33, Asten_33, BarryBee_36, BartholomewSD_36, BeardedLady_34, Bovely_33, Bowden_34, Brataylor_36, BroPlease_34, BryanRecycles_34, Caelum_35, Caliburn_33, Celery_37, Celeste_34, Celia_35, Chucky_33, Conan_37, Danzina_35, Dattran_35, Daudau_34, Dexers_33, Diane_33, Dwayne_33, ELB20_32, Eddasa_34, Ejemplo_32, ElGato_36, Emaanora_36, EnochSoames_36, Esperer_33, GirlDinner_35, Goby_33, Godpower_34, GreenWeasel_35, Haizum_35, Hank144_35, Hippo_33, Hydra_35, Indigo_32, Issmi_35, Itza_35, Izzy_34, Janus_34, Jash_34, Jevington_37, Katalie_33, Lannister_35, Legacy_33, Leviticus_33, Lika_33, Loofah_34, Lorelei_34, Maneekul_33, Marav_37, Nabi_34, Nanodon_35, Nerdos_33, Nishikigoi_35, Oliynyk_34, Omar_36, Ozzie_33, OzzyJ_34, Pablito_33, Paedore_33, Paolo_38, Phettuccine_33, Provolone_35, Puginator_38, R4_34, Rana_34, RedBear_34, Rusticus_34, Saftant_34, SarahRose_33, Snorlax_33, South40_33, SqueakyClean_33, Sujidade_34, SunsetPointe_33, Superstar_37, TagePfighter_35, Tefunt_35, Thestral_35, TinaBelcher_34, Toma_33, Triste_33, Triumph_35, TrvxScott_33, TuanPN_32, Unstoppable_33, Urza_35, Vanseggelen_39, Verabelle_37, Verse_34, VieEnRose_35, Werner_33, Whatever_33, Yasdnil_33, Yosif_36, Zainub_40, Zemlya_35, phiHau3_35,

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

- phiCAM_33,

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

-

Summary by start number:

Start 8:

- Found in 109 of 109 (100.0%) of genes in pham
- Manual Annotations of this start: 94 of 94
- Called 99.1% of time when present
- Phage (with cluster) where this start called: Aaronocolus_33 (BD1), Alsaber_35 (BD3), Alvy_36 (BD2), Amela_34 (BD3), Amethyst_33 (BD2), Andris_33 (BD2), Animus_33 (BD2), Asten_33 (BD1), BarryBee_36 (BD1), BartholomewSD_36 (BD2), BeardedLady_34 (BD1), Bovely_33 (BD1), Bowden_34 (BD2), Brataylor_36 (BD1), BroPlease_34 (BD4), BryanRecycles_34 (BD1), Caelum_35 (BD2), Caliburn_33 (BD1), Celery_37 (BD3), Celeste_34 (BD1), Celia_35 (BD6), Chucky_33 (BD1), Conan_37 (BD3), Danzina_35 (BD1), Dattran_35 (BD1), Daudau_34 (BD2), Dexters_33 (BD3), Diane_33 (BD2), Dwayne_33 (BD1), ELB20_32 (BD2), Eddasa_34 (BD1), Ejemplo_32 (BD1), ElGato_36 (BD3), Emaanora_36 (BD1), EnochSoames_36 (BD1), Esperer_33 (BD1), GirlDinner_35 (BD2), Goby_33 (BD1), Godpower_34 (BD1), GreenWeasel_35 (BD4), Haizum_35 (BD2), Hank144_35 (BD2), Hippo_33 (BD1), Hydra_35 (BD1), Indigo_32 (BD1), Issmi_35 (BD2), Itza_35 (BD6), Izzy_34 (BD1), Janus_34 (BD2), Jash_34 (BD1), Jevington_37 (BD2), Katalie_33 (BD1), Lannister_35 (BD1), Legacy_33 (BD1), Leviticus_33 (BD1), Lika_33 (BD1), Loofah_34 (BD2), Lorelei_34 (BD1), Maneekul_33 (BD1), Marav_37 (BD2), Nabi_34 (BD1), Nanodon_35 (BD1), Nerdos_33 (BD1), Nishikigoi_35 (BD2), Oliynyk_34 (BD1), Omar_36 (BD2), Ozzie_33 (BD1), OzzyJ_34 (BD1), Pablito_33 (BD2), Paedore_33 (BD2), Paolo_38 (BD2), Phettuccine_33 (BD1), Provolone_35 (BD3), Puginator_38 (BD2), R4_34 (BD2), Rana_34 (BD1), RedBear_34 (BD1), Rusticus_34 (BD1), Saftant_34 (BD3), SarahRose_33 (BD1), Snorlax_33 (BD1), South40_33 (BD1), SqueakyClean_33 (BD2), Sujidade_34 (BD1), SunsetPointe_33 (BD1), Superstar_37 (BD2), TAgePhighter_35 (BD1), Tefunt_35 (BD2), Thestral_35 (BD2), TinaBelcher_34 (BD2), Toma_33 (BD1), Triste_33 (BD1), Triumph_35 (BD2), TrvxScott_33 (BD2), TuanPN_32 (BD1), Unstoppable_33 (BD1), Urza_35 (BD6), Vanseggelen_39 (BD3), Verabelle_37 (BD3), Verse_34 (BD3), VieEnRose_35 (BD6), Werner_33 (BD1), Whatever_33 (BD1), Yasdnil_33 (BD1), Yosif_36 (BD3), Zainub_40 (BD2), Zemlya_35 (BD1), phiHau3_35 (BD4),

Start 9:

- Found in 16 of 109 (14.7%) of genes in pham
- No Manual Annotations of this start.
- Called 6.2% of time when present
- Phage (with cluster) where this start called: phiCAM_33 (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 8 was manually annotated 54 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 8 was manually annotated 26 times for cluster BD2.

Info for manual annotations of cluster BD3:

•Start number 8 was manually annotated 7 times for cluster BD3.

Info for manual annotations of cluster BD4:

•Start number 8 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:

•Start number 8 was manually annotated 4 times for cluster BD6.

Gene Information:

Gene: Aaronocolus_33 Start: 25192, Stop: 25629, Start Num: 8

Candidate Starts for Aaronocolus_33:

(Start: 8 @25192 has 94 MA's), (15, 25345), (16, 25363), (18, 25426), (19, 25471), (21, 25522), (25, 25561), (27, 25603), (28, 25612),

Gene: Alsaber_35 Start: 27047, Stop: 27481, Start Num: 8

Candidate Starts for Alsaber_35:

(Start: 8 @27047 has 94 MA's), (9, 27062), (15, 27200), (18, 27278), (19, 27323), (21, 27374),

Gene: Alvy_36 Start: 26522, Stop: 26959, Start Num: 8

Candidate Starts for Alvy_36:

(Start: 8 @26522 has 94 MA's), (11, 26594), (17, 26723), (19, 26798), (20, 26813), (21, 26849), (23, 26876), (24, 26888),

Gene: Amela_34 Start: 27877, Stop: 28311, Start Num: 8

Candidate Starts for Amela_34:

(Start: 8 @27877 has 94 MA's), (9, 27892), (10, 27940), (15, 28030), (18, 28108), (19, 28153), (21, 28204),

Gene: Amethyst_33 Start: 25879, Stop: 26316, Start Num: 8

Candidate Starts for Amethyst_33:

(Start: 8 @25879 has 94 MA's), (11, 25951), (17, 26080), (19, 26155), (22, 26218), (27, 26290),

Gene: Andris_33 Start: 25934, Stop: 26371, Start Num: 8

Candidate Starts for Andris_33:

(Start: 8 @25934 has 94 MA's), (17, 26135), (19, 26210), (21, 26261),

Gene: Animus_33 Start: 26379, Stop: 26816, Start Num: 8

Candidate Starts for Animus_33:

(Start: 8 @26379 has 94 MA's), (17, 26580), (19, 26655), (20, 26670),

Gene: Asten_33 Start: 25553, Stop: 25990, Start Num: 8

Candidate Starts for Asten_33:

(Start: 8 @25553 has 94 MA's), (11, 25625), (15, 25706), (18, 25787), (19, 25832), (21, 25883), (25, 25922), (27, 25964), (28, 25973),

Gene: BarryBee_36 Start: 25563, Stop: 26000, Start Num: 8

Candidate Starts for BarryBee_36:

(Start: 8 @25563 has 94 MA's), (11, 25635), (15, 25716), (18, 25797), (19, 25842), (21, 25893), (25, 25932), (27, 25974), (28, 25983),

Gene: BartholomewSD_36 Start: 26522, Stop: 26959, Start Num: 8
Candidate Starts for BartholomewSD_36:
(Start: 8 @26522 has 94 MA's), (11, 26594), (17, 26723), (19, 26798), (20, 26813), (21, 26849), (23, 26876), (24, 26888),

Gene: BeardedLady_34 Start: 25445, Stop: 25882, Start Num: 8
Candidate Starts for BeardedLady_34:
(Start: 8 @25445 has 94 MA's), (15, 25598), (16, 25616), (18, 25679), (19, 25724), (21, 25775), (25, 25814), (27, 25856), (28, 25865),

Gene: Bovely_33 Start: 25198, Stop: 25635, Start Num: 8
Candidate Starts for Bovely_33:
(Start: 8 @25198 has 94 MA's), (15, 25351), (16, 25369), (18, 25432), (19, 25477), (21, 25528), (25, 25567), (27, 25609), (28, 25618),

Gene: Bowden_34 Start: 26434, Stop: 26871, Start Num: 8
Candidate Starts for Bowden_34:
(Start: 8 @26434 has 94 MA's), (11, 26506), (17, 26635), (19, 26710), (20, 26725), (21, 26761), (23, 26788), (24, 26800),

Gene: Brataylor_36 Start: 26528, Stop: 26965, Start Num: 8
Candidate Starts for Brataylor_36:
(5, 26423), (Start: 8 @26528 has 94 MA's), (15, 26681), (16, 26699), (19, 26807), (27, 26939), (28, 26948),

Gene: BroPlease_34 Start: 25712, Stop: 26149, Start Num: 8
Candidate Starts for BroPlease_34:
(3, 25442), (Start: 8 @25712 has 94 MA's), (13, 25802), (15, 25865), (19, 25988), (21, 26039), (27, 26123),

Gene: BryanRecycles_34 Start: 25549, Stop: 25986, Start Num: 8
Candidate Starts for BryanRecycles_34:
(Start: 8 @25549 has 94 MA's), (11, 25621), (15, 25702), (16, 25720), (18, 25783), (19, 25828), (21, 25879), (25, 25918), (27, 25960), (28, 25969),

Gene: Caelum_35 Start: 26140, Stop: 26577, Start Num: 8
Candidate Starts for Caelum_35:
(Start: 8 @26140 has 94 MA's), (12, 26224), (15, 26293), (17, 26341), (19, 26416), (20, 26431), (21, 26467), (22, 26479), (23, 26494),

Gene: Caliburn_33 Start: 25175, Stop: 25612, Start Num: 8
Candidate Starts for Caliburn_33:
(Start: 8 @25175 has 94 MA's), (15, 25328), (16, 25346), (18, 25409), (19, 25454), (21, 25505), (25, 25544), (27, 25586), (28, 25595),

Gene: Celery_37 Start: 26972, Stop: 27403, Start Num: 8
Candidate Starts for Celery_37:
(Start: 8 @26972 has 94 MA's), (9, 26984), (10, 27032), (19, 27245), (21, 27296),

Gene: Celeste_34 Start: 25997, Stop: 26434, Start Num: 8
Candidate Starts for Celeste_34:
(5, 25892), (Start: 8 @25997 has 94 MA's), (15, 26150), (16, 26168), (19, 26276), (27, 26408), (28, 26417),

Gene: Celia_35 Start: 26276, Stop: 26713, Start Num: 8

Candidate Starts for Celia_35:

(2, 25997), (Start: 8 @26276 has 94 MA's), (9, 26291), (14, 26417), (17, 26477), (19, 26552), (26, 26675),

Gene: Chucky_33 Start: 25567, Stop: 26004, Start Num: 8

Candidate Starts for Chucky_33:

(Start: 8 @25567 has 94 MA's), (11, 25639), (15, 25720), (18, 25801), (19, 25846), (21, 25897), (25, 25936), (27, 25978), (28, 25987),

Gene: Conan_37 Start: 26943, Stop: 27377, Start Num: 8

Candidate Starts for Conan_37:

(Start: 8 @26943 has 94 MA's), (9, 26958), (15, 27096), (18, 27174), (19, 27219), (21, 27270),

Gene: Danzina_35 Start: 26298, Stop: 26735, Start Num: 8

Candidate Starts for Danzina_35:

(5, 26193), (Start: 8 @26298 has 94 MA's), (15, 26451), (16, 26469), (18, 26532), (19, 26577), (27, 26709), (28, 26718),

Gene: Dattran_35 Start: 26104, Stop: 26541, Start Num: 8

Candidate Starts for Dattran_35:

(5, 25999), (Start: 8 @26104 has 94 MA's), (15, 26257), (16, 26275), (19, 26383), (27, 26515), (28, 26524),

Gene: Daudau_34 Start: 26267, Stop: 26704, Start Num: 8

Candidate Starts for Daudau_34:

(Start: 8 @26267 has 94 MA's), (11, 26339), (15, 26420), (19, 26543), (21, 26594), (22, 26606), (23, 26621), (27, 26678),

Gene: Dexers_33 Start: 26969, Stop: 27403, Start Num: 8

Candidate Starts for Dexers_33:

(Start: 8 @26969 has 94 MA's), (9, 26984), (10, 27032), (15, 27122), (18, 27200), (19, 27245), (21, 27296),

Gene: Diane_33 Start: 26149, Stop: 26589, Start Num: 8

Candidate Starts for Diane_33:

(Start: 8 @26149 has 94 MA's), (11, 26224), (17, 26353), (19, 26428), (24, 26518), (27, 26563),

Gene: Dwayne_33 Start: 25554, Stop: 25991, Start Num: 8

Candidate Starts for Dwayne_33:

(Start: 8 @25554 has 94 MA's), (11, 25626), (15, 25707), (18, 25788), (19, 25833), (21, 25884), (25, 25923), (27, 25965), (28, 25974),

Gene: ELB20_32 Start: 26533, Stop: 26970, Start Num: 8

Candidate Starts for ELB20_32:

(Start: 8 @26533 has 94 MA's), (11, 26605), (17, 26734), (19, 26809), (27, 26944),

Gene: Eddasa_34 Start: 25549, Stop: 25986, Start Num: 8

Candidate Starts for Eddasa_34:

(Start: 8 @25549 has 94 MA's), (11, 25621), (15, 25702), (16, 25720), (18, 25783), (19, 25828), (21, 25879), (25, 25918), (27, 25960), (28, 25969),

Gene: Ejemplo_32 Start: 25494, Stop: 25931, Start Num: 8
Candidate Starts for Ejemplo_32:
(Start: 8 @25494 has 94 MA's), (11, 25566), (15, 25647), (18, 25728), (19, 25773), (25, 25863), (27, 25905), (28, 25914),

Gene: ElGato_36 Start: 26607, Stop: 27041, Start Num: 8
Candidate Starts for ElGato_36:
(Start: 8 @26607 has 94 MA's), (9, 26622), (15, 26760), (18, 26838), (19, 26883), (21, 26934),

Gene: Emaanora_36 Start: 25512, Stop: 25949, Start Num: 8
Candidate Starts for Emaanora_36:
(Start: 8 @25512 has 94 MA's), (11, 25584), (15, 25665), (18, 25746), (19, 25791), (21, 25842), (25, 25881), (27, 25923), (28, 25932),

Gene: EnochSoames_36 Start: 25544, Stop: 25981, Start Num: 8
Candidate Starts for EnochSoames_36:
(Start: 8 @25544 has 94 MA's), (11, 25616), (15, 25697), (16, 25715), (18, 25778), (19, 25823), (21, 25874), (25, 25913), (27, 25955), (28, 25964),

Gene: Esperer_33 Start: 25011, Stop: 25448, Start Num: 8
Candidate Starts for Esperer_33:
(Start: 8 @25011 has 94 MA's), (15, 25164), (16, 25182), (18, 25245), (19, 25290), (21, 25341), (25, 25380), (27, 25422), (28, 25431),

Gene: GirlDinner_35 Start: 25880, Stop: 26317, Start Num: 8
Candidate Starts for GirlDinner_35:
(Start: 8 @25880 has 94 MA's), (17, 26081), (19, 26156), (20, 26171),

Gene: Goby_33 Start: 26001, Stop: 26438, Start Num: 8
Candidate Starts for Goby_33:
(Start: 8 @26001 has 94 MA's), (11, 26073), (15, 26154), (18, 26235), (19, 26280), (25, 26370), (27, 26412), (28, 26421),

Gene: Godpower_34 Start: 25996, Stop: 26433, Start Num: 8
Candidate Starts for Godpower_34:
(Start: 8 @25996 has 94 MA's), (11, 26068), (15, 26149), (18, 26230), (19, 26275), (25, 26365), (27, 26407), (28, 26416),

Gene: GreenWeasel_35 Start: 25718, Stop: 26155, Start Num: 8
Candidate Starts for GreenWeasel_35:
(Start: 8 @25718 has 94 MA's), (13, 25808), (15, 25871), (19, 25994), (21, 26045), (27, 26129),

Gene: Haizum_35 Start: 26221, Stop: 26658, Start Num: 8
Candidate Starts for Haizum_35:
(Start: 8 @26221 has 94 MA's), (11, 26293), (17, 26422), (19, 26497), (21, 26548), (22, 26560), (27, 26632),

Gene: Hank144_35 Start: 26294, Stop: 26731, Start Num: 8
Candidate Starts for Hank144_35:
(Start: 8 @26294 has 94 MA's), (15, 26447), (19, 26570), (21, 26621),

Gene: Hippo_33 Start: 25563, Stop: 26000, Start Num: 8
Candidate Starts for Hippo_33:

(Start: 8 @25563 has 94 MA's), (11, 25635), (15, 25716), (19, 25842), (21, 25893), (25, 25932), (27, 25974), (28, 25983),

Gene: Hydra_35 Start: 25723, Stop: 26160, Start Num: 8

Candidate Starts for Hydra_35:

(Start: 8 @25723 has 94 MA's), (15, 25876), (16, 25894), (18, 25957), (19, 26002), (21, 26053), (25, 26092), (27, 26134), (28, 26143),

Gene: Indigo_32 Start: 25191, Stop: 25628, Start Num: 8

Candidate Starts for Indigo_32:

(Start: 8 @25191 has 94 MA's), (15, 25344), (16, 25362), (18, 25425), (19, 25470), (21, 25521), (25, 25560), (27, 25602), (28, 25611),

Gene: Issmi_35 Start: 26847, Stop: 27284, Start Num: 8

Candidate Starts for Issmi_35:

(7, 26817), (Start: 8 @26847 has 94 MA's), (11, 26919), (15, 27000), (19, 27123), (20, 27138), (21, 27174), (24, 27213),

Gene: Itza_35 Start: 26190, Stop: 26627, Start Num: 8

Candidate Starts for Itza_35:

(2, 25911), (Start: 8 @26190 has 94 MA's), (9, 26205), (14, 26331), (17, 26391), (19, 26466), (26, 26589),

Gene: Izzy_34 Start: 25596, Stop: 26033, Start Num: 8

Candidate Starts for Izzy_34:

(Start: 8 @25596 has 94 MA's), (11, 25668), (15, 25749), (16, 25767), (18, 25830), (19, 25875), (21, 25926), (25, 25965), (27, 26007), (28, 26016),

Gene: Janus_34 Start: 26220, Stop: 26657, Start Num: 8

Candidate Starts for Janus_34:

(Start: 8 @26220 has 94 MA's), (17, 26421), (19, 26496), (20, 26511),

Gene: Jash_34 Start: 25549, Stop: 25986, Start Num: 8

Candidate Starts for Jash_34:

(Start: 8 @25549 has 94 MA's), (11, 25621), (15, 25702), (16, 25720), (18, 25783), (19, 25828), (21, 25879), (25, 25918), (27, 25960), (28, 25969),

Gene: Jevington_37 Start: 26636, Stop: 27073, Start Num: 8

Candidate Starts for Jevington_37:

(Start: 8 @26636 has 94 MA's), (11, 26708), (15, 26789), (16, 26807), (19, 26912), (21, 26963), (24, 27002), (27, 27047),

Gene: Katalie_33 Start: 25728, Stop: 26165, Start Num: 8

Candidate Starts for Katalie_33:

(Start: 8 @25728 has 94 MA's), (11, 25800), (15, 25881), (18, 25962), (19, 26007), (21, 26058), (25, 26097), (27, 26139),

Gene: Lannister_35 Start: 26214, Stop: 26651, Start Num: 8

Candidate Starts for Lannister_35:

(Start: 8 @26214 has 94 MA's), (11, 26286), (15, 26367), (18, 26448), (19, 26493), (25, 26583), (27, 26625), (28, 26634),

Gene: Legacy_33 Start: 25166, Stop: 25603, Start Num: 8

Candidate Starts for Legacy_33:

(Start: 8 @25166 has 94 MA's), (15, 25319), (16, 25337), (18, 25400), (19, 25445), (21, 25496), (25, 25535), (27, 25577), (28, 25586),

Gene: Leviticus_33 Start: 25195, Stop: 25632, Start Num: 8

Candidate Starts for Leviticus_33:

(Start: 8 @25195 has 94 MA's), (15, 25348), (16, 25366), (18, 25429), (19, 25474), (21, 25525), (25, 25564), (27, 25606), (28, 25615),

Gene: Lika_33 Start: 25999, Stop: 26436, Start Num: 8

Candidate Starts for Lika_33:

(Start: 8 @25999 has 94 MA's), (11, 26071), (15, 26152), (18, 26233), (19, 26278), (25, 26368), (27, 26410), (28, 26419),

Gene: Loofah_34 Start: 26403, Stop: 26840, Start Num: 8

Candidate Starts for Loofah_34:

(1, 26115), (Start: 8 @26403 has 94 MA's), (19, 26679), (20, 26694), (27, 26814),

Gene: Lorelei_34 Start: 26060, Stop: 26497, Start Num: 8

Candidate Starts for Lorelei_34:

(5, 25955), (Start: 8 @26060 has 94 MA's), (11, 26132), (15, 26213), (18, 26294), (19, 26339), (25, 26429), (27, 26471), (28, 26480),

Gene: Maneekul_33 Start: 25585, Stop: 26022, Start Num: 8

Candidate Starts for Maneekul_33:

(5, 25480), (Start: 8 @25585 has 94 MA's), (11, 25657), (15, 25738), (18, 25819), (19, 25864), (25, 25954), (27, 25996), (28, 26005),

Gene: Marav_37 Start: 26960, Stop: 27397, Start Num: 8

Candidate Starts for Marav_37:

(7, 26930), (Start: 8 @26960 has 94 MA's), (11, 27032), (15, 27113), (16, 27131), (19, 27236), (21, 27287), (24, 27326), (27, 27371),

Gene: Nabi_34 Start: 26060, Stop: 26497, Start Num: 8

Candidate Starts for Nabi_34:

(5, 25955), (Start: 8 @26060 has 94 MA's), (11, 26132), (15, 26213), (18, 26294), (19, 26339), (25, 26429), (27, 26471), (28, 26480),

Gene: Nanodon_35 Start: 25821, Stop: 26258, Start Num: 8

Candidate Starts for Nanodon_35:

(Start: 8 @25821 has 94 MA's), (11, 25893), (15, 25974), (18, 26055), (19, 26100), (25, 26190), (27, 26232),

Gene: Nerdos_33 Start: 25189, Stop: 25626, Start Num: 8

Candidate Starts for Nerdos_33:

(Start: 8 @25189 has 94 MA's), (15, 25342), (16, 25360), (18, 25423), (19, 25468), (21, 25519), (25, 25558), (27, 25600), (28, 25609),

Gene: Nishikigoi_35 Start: 26221, Stop: 26658, Start Num: 8

Candidate Starts for Nishikigoi_35:

(Start: 8 @26221 has 94 MA's), (11, 26293), (17, 26422), (19, 26497), (21, 26548), (22, 26560), (23, 26575), (27, 26632),

Gene: Oliynyk_34 Start: 25549, Stop: 25986, Start Num: 8
Candidate Starts for Oliynyk_34:
(Start: 8 @25549 has 94 MA's), (11, 25621), (15, 25702), (16, 25720), (18, 25783), (19, 25828), (21, 25879), (25, 25918), (27, 25960), (28, 25969),

Gene: Omar_36 Start: 26466, Stop: 26903, Start Num: 8
Candidate Starts for Omar_36:
(7, 26436), (Start: 8 @26466 has 94 MA's), (11, 26538), (15, 26619), (19, 26742), (21, 26793), (23, 26820), (24, 26832),

Gene: Ozzie_33 Start: 25175, Stop: 25612, Start Num: 8
Candidate Starts for Ozzie_33:
(Start: 8 @25175 has 94 MA's), (15, 25328), (16, 25346), (18, 25409), (19, 25454), (21, 25505), (25, 25544), (27, 25586), (28, 25595),

Gene: OzzyJ_34 Start: 25554, Stop: 25991, Start Num: 8
Candidate Starts for OzzyJ_34:
(Start: 8 @25554 has 94 MA's), (11, 25626), (14, 25695), (15, 25707), (19, 25833), (21, 25884), (25, 25923), (27, 25965), (28, 25974),

Gene: Pablito_33 Start: 25796, Stop: 26233, Start Num: 8
Candidate Starts for Pablito_33:
(Start: 8 @25796 has 94 MA's),

Gene: Paedore_33 Start: 26388, Stop: 26825, Start Num: 8
Candidate Starts for Paedore_33:
(1, 26100), (Start: 8 @26388 has 94 MA's), (19, 26664), (20, 26679), (27, 26799),

Gene: Paolo_38 Start: 26802, Stop: 27239, Start Num: 8
Candidate Starts for Paolo_38:
(7, 26772), (Start: 8 @26802 has 94 MA's), (11, 26874), (15, 26955), (19, 27078), (21, 27129), (24, 27168), (27, 27213),

Gene: Phettuccine_33 Start: 25191, Stop: 25628, Start Num: 8
Candidate Starts for Phettuccine_33:
(Start: 8 @25191 has 94 MA's), (15, 25344), (16, 25362), (18, 25425), (19, 25470), (21, 25521), (25, 25560), (27, 25602), (28, 25611),

Gene: Provolone_35 Start: 26598, Stop: 27032, Start Num: 8
Candidate Starts for Provolone_35:
(Start: 8 @26598 has 94 MA's), (9, 26613), (15, 26751), (18, 26829), (19, 26874), (21, 26925),

Gene: Puginator_38 Start: 26823, Stop: 27260, Start Num: 8
Candidate Starts for Puginator_38:
(7, 26793), (Start: 8 @26823 has 94 MA's), (15, 26976), (19, 27099), (21, 27150), (24, 27189), (27, 27234),

Gene: R4_34 Start: 26543, Stop: 26980, Start Num: 8
Candidate Starts for R4_34:
(Start: 8 @26543 has 94 MA's), (11, 26615), (17, 26744), (19, 26819), (27, 26954),

Gene: Rana_34 Start: 26060, Stop: 26497, Start Num: 8
Candidate Starts for Rana_34:

(5, 25955), (Start: 8 @26060 has 94 MA's), (11, 26132), (15, 26213), (18, 26294), (19, 26339), (25, 26429), (27, 26471), (28, 26480),

Gene: RedBear_34 Start: 25728, Stop: 26165, Start Num: 8

Candidate Starts for RedBear_34:

(Start: 8 @25728 has 94 MA's), (11, 25800), (15, 25881), (18, 25962), (19, 26007), (21, 26058), (25, 26097), (27, 26139),

Gene: Rusticus_34 Start: 25549, Stop: 25986, Start Num: 8

Candidate Starts for Rusticus_34:

(Start: 8 @25549 has 94 MA's), (11, 25621), (15, 25702), (16, 25720), (18, 25783), (19, 25828), (21, 25879), (25, 25918), (27, 25960), (28, 25969),

Gene: Saftant_34 Start: 27161, Stop: 27595, Start Num: 8

Candidate Starts for Saftant_34:

(4, 27047), (Start: 8 @27161 has 94 MA's), (9, 27176), (15, 27314), (18, 27392), (19, 27437), (21, 27488), (26, 27557),

Gene: SarahRose_33 Start: 25563, Stop: 26000, Start Num: 8

Candidate Starts for SarahRose_33:

(Start: 8 @25563 has 94 MA's), (11, 25635), (15, 25716), (18, 25797), (19, 25842), (21, 25893), (25, 25932), (27, 25974), (28, 25983),

Gene: Snorlax_33 Start: 25566, Stop: 26003, Start Num: 8

Candidate Starts for Snorlax_33:

(Start: 8 @25566 has 94 MA's), (11, 25638), (15, 25719), (18, 25800), (19, 25845), (21, 25896), (25, 25935), (27, 25977), (28, 25986),

Gene: South40_33 Start: 25728, Stop: 26165, Start Num: 8

Candidate Starts for South40_33:

(Start: 8 @25728 has 94 MA's), (11, 25800), (15, 25881), (18, 25962), (19, 26007), (21, 26058), (25, 26097), (27, 26139),

Gene: SqueakyClean_33 Start: 26311, Stop: 26748, Start Num: 8

Candidate Starts for SqueakyClean_33:

(Start: 8 @26311 has 94 MA's), (17, 26512), (19, 26587), (20, 26602),

Gene: Sujidade_34 Start: 26284, Stop: 26721, Start Num: 8

Candidate Starts for Sujidade_34:

(Start: 8 @26284 has 94 MA's), (11, 26356), (15, 26437), (18, 26518), (19, 26563), (25, 26653), (27, 26695), (28, 26704),

Gene: SunsetPointe_33 Start: 25182, Stop: 25619, Start Num: 8

Candidate Starts for SunsetPointe_33:

(Start: 8 @25182 has 94 MA's), (15, 25335), (16, 25353), (18, 25416), (19, 25461), (21, 25512), (25, 25551), (27, 25593), (28, 25602),

Gene: Superstar_37 Start: 27336, Stop: 27773, Start Num: 8

Candidate Starts for Superstar_37:

(Start: 8 @27336 has 94 MA's), (15, 27489), (17, 27537), (19, 27612), (21, 27663), (22, 27675),

Gene: TagePighther_35 Start: 25566, Stop: 26003, Start Num: 8

Candidate Starts for TagePighther_35:

(Start: 8 @25566 has 94 MA's), (11, 25638), (15, 25719), (18, 25800), (19, 25845), (21, 25896), (25, 25935), (27, 25977), (28, 25986),

Gene: Tefunt_35 Start: 26224, Stop: 26661, Start Num: 8

Candidate Starts for Tefunt_35:

(Start: 8 @26224 has 94 MA's), (11, 26296), (17, 26425), (19, 26500), (21, 26551), (22, 26563), (23, 26578), (27, 26635),

Gene: Thestral_35 Start: 26426, Stop: 26863, Start Num: 8

Candidate Starts for Thestral_35:

(Start: 8 @26426 has 94 MA's), (11, 26498), (17, 26627), (19, 26702), (21, 26753), (23, 26780), (24, 26792),

Gene: TinaBelcher_34 Start: 26373, Stop: 26810, Start Num: 8

Candidate Starts for TinaBelcher_34:

(Start: 8 @26373 has 94 MA's), (11, 26445), (17, 26574), (19, 26649), (20, 26664), (21, 26700), (23, 26727), (24, 26739),

Gene: Toma_33 Start: 26001, Stop: 26438, Start Num: 8

Candidate Starts for Toma_33:

(Start: 8 @26001 has 94 MA's), (11, 26073), (15, 26154), (18, 26235), (19, 26280), (25, 26370), (27, 26412), (28, 26421),

Gene: Triste_33 Start: 25554, Stop: 25991, Start Num: 8

Candidate Starts for Triste_33:

(Start: 8 @25554 has 94 MA's), (11, 25626), (15, 25707), (18, 25788), (19, 25833), (21, 25884), (25, 25923), (27, 25965), (28, 25974),

Gene: Triumph_35 Start: 26118, Stop: 26555, Start Num: 8

Candidate Starts for Triumph_35:

(Start: 8 @26118 has 94 MA's), (15, 26271), (17, 26319), (19, 26394), (25, 26487),

Gene: TrvxScott_33 Start: 26419, Stop: 26856, Start Num: 8

Candidate Starts for TrvxScott_33:

(Start: 8 @26419 has 94 MA's), (11, 26491), (17, 26620), (19, 26695), (20, 26710), (21, 26746), (23, 26773), (24, 26785),

Gene: TuanPN_32 Start: 25494, Stop: 25931, Start Num: 8

Candidate Starts for TuanPN_32:

(Start: 8 @25494 has 94 MA's), (11, 25566), (15, 25647), (18, 25728), (19, 25773), (25, 25863), (27, 25905), (28, 25914),

Gene: Unstoppable_33 Start: 25186, Stop: 25623, Start Num: 8

Candidate Starts for Unstoppable_33:

(Start: 8 @25186 has 94 MA's), (15, 25339), (16, 25357), (18, 25420), (19, 25465), (21, 25516), (25, 25555), (27, 25597), (28, 25606),

Gene: Urza_35 Start: 26211, Stop: 26648, Start Num: 8

Candidate Starts for Urza_35:

(2, 25932), (Start: 8 @26211 has 94 MA's), (9, 26226), (14, 26352), (17, 26412), (19, 26487), (26, 26610),

Gene: Vanseggelen_39 Start: 26727, Stop: 27161, Start Num: 8

Candidate Starts for Vanseggelen_39:

(Start: 8 @26727 has 94 MA's), (9, 26742), (10, 26790), (19, 27003), (21, 27054),

Gene: Verabelle_37 Start: 27114, Stop: 27545, Start Num: 8

Candidate Starts for Verabelle_37:

(Start: 8 @27114 has 94 MA's), (9, 27126), (19, 27387), (21, 27438),

Gene: Verse_34 Start: 27871, Stop: 28305, Start Num: 8

Candidate Starts for Verse_34:

(Start: 8 @27871 has 94 MA's), (9, 27886), (10, 27934), (15, 28024), (18, 28102), (19, 28147), (21, 28198),

Gene: VieEnRose_35 Start: 26282, Stop: 26719, Start Num: 8

Candidate Starts for VieEnRose_35:

(2, 26006), (Start: 8 @26282 has 94 MA's), (9, 26297), (14, 26423), (17, 26483), (19, 26558), (26, 26681),

Gene: Werner_33 Start: 25564, Stop: 26001, Start Num: 8

Candidate Starts for Werner_33:

(Start: 8 @25564 has 94 MA's), (11, 25636), (15, 25717), (19, 25843), (21, 25894), (25, 25933), (27, 25975), (28, 25984),

Gene: Whatever_33 Start: 25564, Stop: 26001, Start Num: 8

Candidate Starts for Whatever_33:

(Start: 8 @25564 has 94 MA's), (11, 25636), (15, 25717), (18, 25798), (19, 25843), (21, 25894), (25, 25933), (27, 25975), (28, 25984),

Gene: Yasdniil_33 Start: 25613, Stop: 26050, Start Num: 8

Candidate Starts for Yasdniil_33:

(5, 25508), (Start: 8 @25613 has 94 MA's), (11, 25685), (15, 25766), (18, 25847), (19, 25892), (25, 25982), (27, 26024), (28, 26033),

Gene: Yosif_36 Start: 27669, Stop: 28103, Start Num: 8

Candidate Starts for Yosif_36:

(6, 27615), (Start: 8 @27669 has 94 MA's), (18, 27897), (19, 27942), (27, 28077), (28, 28086),

Gene: Zainub_40 Start: 26763, Stop: 27200, Start Num: 8

Candidate Starts for Zainub_40:

(7, 26733), (Start: 8 @26763 has 94 MA's), (11, 26835), (15, 26916), (19, 27039), (21, 27090), (24, 27129), (27, 27174),

Gene: Zemlya_35 Start: 26104, Stop: 26541, Start Num: 8

Candidate Starts for Zemlya_35:

(5, 25999), (Start: 8 @26104 has 94 MA's), (15, 26257), (16, 26275), (18, 26338), (19, 26383), (27, 26515), (28, 26524),

Gene: phiCAM_33 Start: 29004, Stop: 29423, Start Num: 9

Candidate Starts for phiCAM_33:

(Start: 8 @28992 has 94 MA's), (9, 29004), (15, 29142), (19, 29265), (26, 29385),

Gene: phiHau3_35 Start: 25683, Stop: 26120, Start Num: 8

Candidate Starts for phiHau3_35:

(Start: 8 @25683 has 94 MA's), (13, 25773), (19, 25959), (21, 26010), (23, 26037), (27, 26094),

