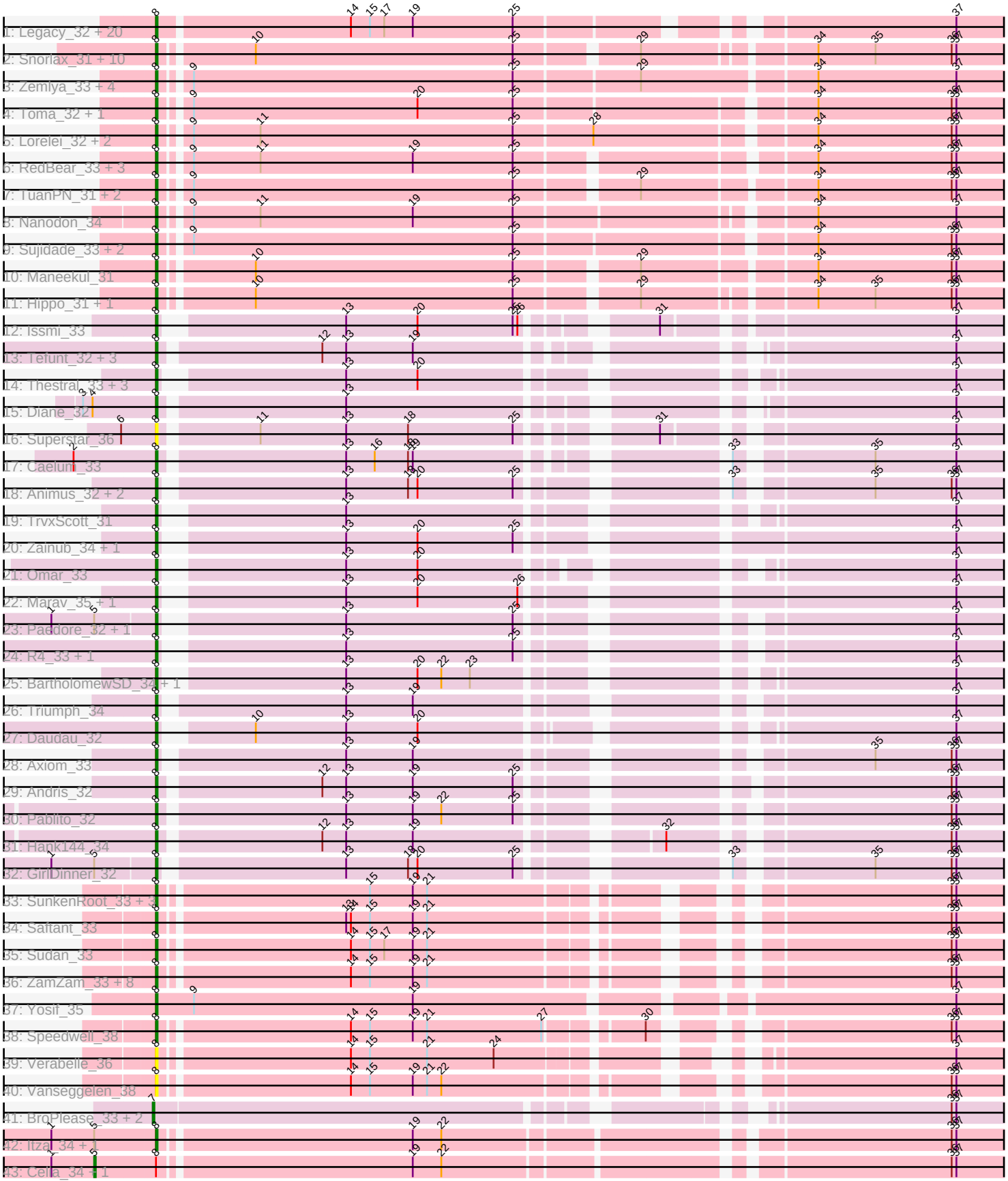
Pham 347413


1: Legacy_32 + 20
2: Snorlax_31 + 10
3: Zemlya_33 + 4
4: Toma_32 + 1
5: Lorelei_32 + 2
6: RedBear_33 + 3
7: TuanPN_31 + 2
8: Nanodon_34
9: Sujidade_33 + 2
10: Maneekul_31
11: Hippo_31 + 1
12: Issmi_33
13: Tefunt_32 + 3
14: Thestral_33 + 3
15: Diane_32
16: Superstar_36
17: Caelum_33
18: Animus_32 + 2
19: TrvxScott_31
20: Zainub_34 + 1
21: Omar_33
22: Marav_35 + 1
23: Paedore_32 + 1
24: R4_33 + 1
25: BartholomewSD_34 + 1
26: Triumph_34
27: Daudau_32
28: Axiom_33
29: Andris_32
30: Pablito_32
31: Hank144_34
32: GirlDinner_32
33: SunkenRoot_33 + 3
34: Saltant_33
35: Sudan_33
36: ZamZam_33 + 8
37: Yosif_35
38: Speedwell_38
39: Verabelle_36
40: Vanseggelen_38
41: BroPlease_33 + 2
42: Itza_34 + 1
43: Cella_34 + 1

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 347413 Report

This analysis was run 11/14/26 on database version 672.

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 347413 has 116 members, 5 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, Ozzie_32, Eddasa_33, Oliynyk_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, Yasdnil_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_34, 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 : Zainub_34, Paolo_34
- Track 21 : Omar_33
- Track 22 : Marav_35, Jevington_34
- Track 23 : Paedore_32, Loofah_33
- Track 24 : R4_33, ELB20_31
- Track 25 : BartholomewSD_34, Alvy_34
- Track 26 : Triumph_34
- Track 27 : Daudau_32
- Track 28 : Axiom_33
- Track 29 : Andris_32

• Track 30 : Pablito_32
• Track 31 : Hank144_34
• Track 32 : GirlDinner_32
• Track 33 : SunkenRoot_33, Jhitchelle_32, Amela_33, Verse_33
• Track 34 : Saftant_33
• Track 35 : Sudan_33
• Track 36 : ZamZam_33, Dexers_32, Alsaber_34, Celery_36, Pavo_34, Conan_34, ElGato_34, Kaine_33, Provolone_34
• Track 37 : Yosif_35
• Track 38 : Speedwell_38
• Track 39 : Verabelle_36
• Track 40 : Vanseggelen_38
• Track 41 : BroPlease_33, phiHau3_34, GreenWeasel_34
• Track 42 : Itza_34, Urza_34
• Track 43 : 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 8, it was called in 106 of the 111 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, Axiom_33, 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_34, Danzina_33, Dattran_33, Daudau_32, Dexers_32, Diane_32, Dwayne_31, ELB20_31, Eddasa_33, Ejemplo_31, ElGato_34, Emaanora_34, EnochSoames_35, Esperer_32, GirlDinner_32, 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_34, Jhitchelle_32, Kaine_33, 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_34, Pavo_34, Phettuccine_32, Provolone_34, Puginator_34, R4_33, Rana_32, RedBear_33, Rusticus_33, Saftant_33, SarahRose_31, Snorlax_31, South40_32, Speedwell_38, SqueakyClean_32, Sudan_33, Sujidade_33, SunkenRoot_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_34, ZamZam_33, Zemlya_33,

Genes that have the "Most Annotated" start but do not call it:
• Celia_34, VieEnRose_34,

Genes that do not have the "Most Annotated" start:
• BroPlease_33, GreenWeasel_34, phiHau3_34,

Summary by start number:

Start 5:
• Found in 7 of 116 (6.0%) of genes in pham
• Manual Annotations of this start: 2 of 111
• Called 28.6% of time when present
• Phage (with cluster) where this start called: Celia_34 (BD6), VieEnRose_34 (BD6),

Start 7:
• Found in 3 of 116 (2.6%) of genes in pham
• Manual Annotations of this start: 3 of 111
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BroPlease_33 (BD4), GreenWeasel_34 (BD4), phiHau3_34 (BD4),

Start 8:
• Found in 113 of 116 (97.4%) of genes in pham
• Manual Annotations of this start: 106 of 111
• Called 98.2% 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), Axiom_33 (BD2), 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_34 (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_34 (BD3), Emaanora_34 (BD1), EnochSoames_35 (BD1), Esperer_32 (BD1), GirlDinner_32 (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_34 (BD2), Jhitchelle_32 (BD3), Kaine_33 (BD3), 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_34 (BD2), Pavo_34 (BD3), Phettuccine_32 (BD1), Provolone_34 (BD3), Puginator_34 (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), Speedwell_38 (BD3), SqueakyClean_32 (BD2), Sudan_33 (BD3), Sujidade_33 (BD1), SunkenRoot_33 (BD3), 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_34 (BD2), ZamZam_33 (BD3), Zemlya_33 (BD1),

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 55 times for cluster BD1.

Info for manual annotations of cluster BD2:
•Start number 8 was manually annotated 33 times for cluster BD2.

Info for manual annotations of cluster BD3:
•Start number 8 was manually annotated 16 times for cluster BD3.

Info for manual annotations of cluster BD4:
•Start number 7 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:
•Start number 5 was manually annotated 2 times for cluster BD6.
•Start number 8 was manually annotated 2 times for cluster BD6.

Gene Information:

Gene: Aaronocolus_32 Start: 24632, Stop: 25132, Start Num: 8
Candidate Starts for Aaronocolus_32:
(Start: 8 @24632 has 106 MA's), (14, 24749), (15, 24761), (17, 24770), (19, 24788), (25, 24851), (37, 25088),

Gene: Alsaber_34 Start: 26483, Stop: 26968, Start Num: 8
Candidate Starts for Alsaber_34:
(Start: 8 @26483 has 106 MA's), (14, 26597), (15, 26609), (19, 26636), (21, 26645), (36, 26921), (37, 26924),

Gene: Alvy_34 Start: 25839, Stop: 26327, Start Num: 8
Candidate Starts for Alvy_34:
(Start: 8 @25839 has 106 MA's), (13, 25941), (20, 25986), (22, 26001), (23, 26019), (37, 26277),

Gene: Amela_33 Start: 27315, Stop: 27800, Start Num: 8
Candidate Starts for Amela_33:
(Start: 8 @27315 has 106 MA's), (15, 27441), (19, 27468), (21, 27477), (36, 27753), (37, 27756),

Gene: Amethyst_32 Start: 25324, Stop: 25806, Start Num: 8
Candidate Starts for Amethyst_32:
(Start: 8 @25324 has 106 MA's), (12, 25420), (13, 25435), (19, 25477), (37, 25765),

Gene: Andris_32 Start: 25368, Stop: 25856, Start Num: 8
Candidate Starts for Andris_32:
(Start: 8 @25368 has 106 MA's), (12, 25464), (13, 25479), (19, 25521), (25, 25584), (36, 25815), (37, 25818),

Gene: Animus_32 Start: 25819, Stop: 26301, Start Num: 8
Candidate Starts for Animus_32:
(Start: 8 @25819 has 106 MA's), (13, 25927), (18, 25966), (20, 25972), (25, 26032), (33, 26137), (35, 26212), (36, 26260), (37, 26263),

Gene: Asten_31 Start: 24854, Stop: 25366, Start Num: 8
Candidate Starts for Asten_31:
(Start: 8 @24854 has 106 MA's), (10, 24908), (25, 25070), (29, 25139), (34, 25235), (35, 25271), (36, 25319), (37, 25322),

Gene: Axiom_33 Start: 25541, Stop: 26023, Start Num: 8
Candidate Starts for Axiom_33:
(Start: 8 @25541 has 106 MA's), (13, 25649), (19, 25691), (35, 25934), (36, 25982), (37, 25985),

Gene: BarryBee_34 Start: 24864, Stop: 25376, Start Num: 8
Candidate Starts for BarryBee_34:
(Start: 8 @24864 has 106 MA's), (10, 24918), (25, 25080), (29, 25149), (34, 25245), (35, 25281), (36, 25329), (37, 25332),

Gene: BartholomewSD_34 Start: 25839, Stop: 26327, Start Num: 8
Candidate Starts for BartholomewSD_34:
(Start: 8 @25839 has 106 MA's), (13, 25941), (20, 25986), (22, 26001), (23, 26019), (37, 26277),

Gene: BeardedLady_33 Start: 24885, Stop: 25385, Start Num: 8
Candidate Starts for BeardedLady_33:
(Start: 8 @24885 has 106 MA's), (14, 25002), (15, 25014), (17, 25023), (19, 25041), (25, 25104), (37, 25341),

Gene: Bovely_32 Start: 24638, Stop: 25138, Start Num: 8
Candidate Starts for Bovely_32:
(Start: 8 @24638 has 106 MA's), (14, 24755), (15, 24767), (17, 24776), (19, 24794), (25, 24857), (37, 25094),

Gene: Bowden_32 Start: 25754, Stop: 26239, Start Num: 8
Candidate Starts for Bowden_32:
(Start: 8 @25754 has 106 MA's), (13, 25856), (20, 25901), (37, 26192),

Gene: Brataylor_34 Start: 25816, Stop: 26340, Start Num: 8
Candidate Starts for Brataylor_34:
(Start: 8 @25816 has 106 MA's), (9, 25831), (25, 26032), (29, 26107), (34, 26209), (37, 26296),

Gene: BroPlease_33 Start: 25170, Stop: 25658, Start Num: 7
Candidate Starts for BroPlease_33:
(Start: 7 @25170 has 3 MA's), (36, 25614), (37, 25617),

Gene: BryanRecycles_33 Start: 24989, Stop: 25489, Start Num: 8
Candidate Starts for BryanRecycles_33:
(Start: 8 @24989 has 106 MA's), (14, 25106), (15, 25118), (17, 25127), (19, 25145), (25, 25208), (37, 25445),

Gene: Caelum_33 Start: 25475, Stop: 25954, Start Num: 8
Candidate Starts for Caelum_33:
(2, 25424), (Start: 8 @25475 has 106 MA's), (13, 25586), (16, 25604), (18, 25625), (19, 25628), (33, 25790), (35, 25865), (37, 25916),

Gene: Caliburn_32 Start: 24615, Stop: 25115, Start Num: 8
Candidate Starts for Caliburn_32:
(Start: 8 @24615 has 106 MA's), (14, 24732), (15, 24744), (17, 24753), (19, 24771), (25, 24834), (37, 25071),

Gene: Celery_36 Start: 26418, Stop: 26903, Start Num: 8
Candidate Starts for Celery_36:

(Start: 8 @26418 has 106 MA's), (14, 26532), (15, 26544), (19, 26571), (21, 26580), (36, 26856), (37, 26859),

Gene: Celeste_32 Start: 25285, Stop: 25809, Start Num: 8
Candidate Starts for Celeste_32:
(Start: 8 @25285 has 106 MA's), (9, 25300), (25, 25501), (29, 25576), (34, 25678), (37, 25765),

Gene: Celia_34 Start: 25662, Stop: 26207, Start Num: 5
Candidate Starts for Celia_34:
(1, 25635), (Start: 5 @25662 has 2 MA's), (Start: 8 @25698 has 106 MA's), (19, 25851), (22, 25869), (36, 26157), (37, 26160),

Gene: Chucky_31 Start: 24868, Stop: 25380, Start Num: 8
Candidate Starts for Chucky_31:
(Start: 8 @24868 has 106 MA's), (10, 24922), (25, 25084), (29, 25153), (34, 25249), (35, 25285), (36, 25333), (37, 25336),

Gene: Conan_34 Start: 26379, Stop: 26864, Start Num: 8
Candidate Starts for Conan_34:
(Start: 8 @26379 has 106 MA's), (14, 26493), (15, 26505), (19, 26532), (21, 26541), (36, 26817), (37, 26820),

Gene: Danzina_33 Start: 25586, Stop: 26110, Start Num: 8
Candidate Starts for Danzina_33:
(Start: 8 @25586 has 106 MA's), (9, 25601), (25, 25802), (29, 25877), (34, 25979), (37, 26066),

Gene: Dattran_33 Start: 25392, Stop: 25916, Start Num: 8
Candidate Starts for Dattran_33:
(Start: 8 @25392 has 106 MA's), (9, 25407), (25, 25608), (29, 25683), (34, 25785), (37, 25872),

Gene: Daudau_32 Start: 25582, Stop: 26070, Start Num: 8
Candidate Starts for Daudau_32:
(Start: 8 @25582 has 106 MA's), (10, 25627), (13, 25684), (20, 25729), (37, 26020),

Gene: Dexers_32 Start: 26405, Stop: 26890, Start Num: 8
Candidate Starts for Dexers_32:
(Start: 8 @26405 has 106 MA's), (14, 26519), (15, 26531), (19, 26558), (21, 26567), (36, 26843), (37, 26846),

Gene: Diane_32 Start: 25594, Stop: 26076, Start Num: 8
Candidate Starts for Diane_32:
(3, 25549), (4, 25555), (Start: 8 @25594 has 106 MA's), (13, 25705), (37, 26035),

Gene: Dwayne_31 Start: 24855, Stop: 25367, Start Num: 8
Candidate Starts for Dwayne_31:
(Start: 8 @24855 has 106 MA's), (10, 24909), (25, 25071), (29, 25140), (34, 25236), (35, 25272), (36, 25320), (37, 25323),

Gene: ELB20_31 Start: 25968, Stop: 26450, Start Num: 8
Candidate Starts for ELB20_31:
(Start: 8 @25968 has 106 MA's), (13, 26070), (25, 26175), (37, 26406),

Gene: Eddasa_33 Start: 24989, Stop: 25489, Start Num: 8

Candidate Starts for Eddasa_33:
(Start: 8 @24989 has 106 MA's), (14, 25106), (15, 25118), (17, 25127), (19, 25145), (25, 25208), (37, 25445),

Gene: Ejemplo_31 Start: 24912, Stop: 25427, Start Num: 8
Candidate Starts for Ejemplo_31:
(Start: 8 @24912 has 106 MA's), (9, 24927), (25, 25128), (29, 25197), (34, 25296), (36, 25380), (37, 25383),

Gene: ElGato_34 Start: 26043, Stop: 26528, Start Num: 8
Candidate Starts for ElGato_34:
(Start: 8 @26043 has 106 MA's), (14, 26157), (15, 26169), (19, 26196), (21, 26205), (36, 26481), (37, 26484),

Gene: Emaanora_34 Start: 24813, Stop: 25325, Start Num: 8
Candidate Starts for Emaanora_34:
(Start: 8 @24813 has 106 MA's), (10, 24867), (25, 25029), (29, 25098), (34, 25194), (35, 25230), (36, 25278), (37, 25281),

Gene: EnochSoames_35 Start: 24984, Stop: 25484, Start Num: 8
Candidate Starts for EnochSoames_35:
(Start: 8 @24984 has 106 MA's), (14, 25101), (15, 25113), (17, 25122), (19, 25140), (25, 25203), (37, 25440),

Gene: Esperer_32 Start: 24451, Stop: 24951, Start Num: 8
Candidate Starts for Esperer_32:
(Start: 8 @24451 has 106 MA's), (14, 24568), (15, 24580), (17, 24589), (19, 24607), (25, 24670), (37, 24907),

Gene: GirlDinner_32 Start: 25320, Stop: 25802, Start Num: 8
Candidate Starts for GirlDinner_32:
(1, 25257), (Start: 5 @25284 has 2 MA's), (Start: 8 @25320 has 106 MA's), (13, 25428), (18, 25467), (20, 25473), (25, 25533), (33, 25638), (35, 25713), (36, 25761), (37, 25764),

Gene: Goby_32 Start: 25415, Stop: 25933, Start Num: 8
Candidate Starts for Goby_32:
(Start: 8 @25415 has 106 MA's), (9, 25430), (20, 25571), (25, 25631), (34, 25802), (36, 25886), (37, 25889),

Gene: Godpower_33 Start: 25410, Stop: 25928, Start Num: 8
Candidate Starts for Godpower_33:
(Start: 8 @25410 has 106 MA's), (9, 25425), (25, 25626), (34, 25797), (36, 25881), (37, 25884),

Gene: GreenWeasel_34 Start: 25179, Stop: 25667, Start Num: 7
Candidate Starts for GreenWeasel_34:
(Start: 7 @25179 has 3 MA's), (36, 25623), (37, 25626),

Gene: Haizum_32 Start: 25341, Stop: 25832, Start Num: 8
Candidate Starts for Haizum_32:
(Start: 8 @25341 has 106 MA's), (12, 25437), (13, 25452), (19, 25494), (37, 25782),

Gene: Hank144_34 Start: 25734, Stop: 26216, Start Num: 8
Candidate Starts for Hank144_34:

(Start: 8 @25734 has 106 MA's), (12, 25830), (13, 25845), (19, 25887), (32, 26019), (36, 26175), (37, 26178),

Gene: Hippo_31 Start: 24864, Stop: 25376, Start Num: 8
Candidate Starts for Hippo_31:
(Start: 8 @24864 has 106 MA's), (10, 24918), (25, 25080), (29, 25149), (34, 25245), (35, 25281), (36, 25329), (37, 25332),

Gene: Hydra_34 Start: 25163, Stop: 25663, Start Num: 8
Candidate Starts for Hydra_34:
(Start: 8 @25163 has 106 MA's), (14, 25280), (15, 25292), (17, 25301), (19, 25319), (25, 25382), (37, 25619),

Gene: Indigo_31 Start: 24631, Stop: 25131, Start Num: 8
Candidate Starts for Indigo_31:
(Start: 8 @24631 has 106 MA's), (14, 24748), (15, 24760), (17, 24769), (19, 24787), (25, 24850), (37, 25087),

Gene: Issmi_33 Start: 26172, Stop: 26657, Start Num: 8
Candidate Starts for Issmi_33:
(Start: 8 @26172 has 106 MA's), (13, 26274), (20, 26319), (25, 26379), (26, 26382), (31, 26445), (37, 26610),

Gene: Itza_34 Start: 25612, Stop: 26121, Start Num: 8
Candidate Starts for Itza_34:
(1, 25549), (Start: 5 @25576 has 2 MA's), (Start: 8 @25612 has 106 MA's), (19, 25765), (22, 25783), (36, 26071), (37, 26074),

Gene: Izzy_33 Start: 25036, Stop: 25536, Start Num: 8
Candidate Starts for Izzy_33:
(Start: 8 @25036 has 106 MA's), (14, 25153), (15, 25165), (17, 25174), (19, 25192), (25, 25255), (37, 25492),

Gene: Janus_33 Start: 25660, Stop: 26142, Start Num: 8
Candidate Starts for Janus_33:
(Start: 8 @25660 has 106 MA's), (13, 25768), (18, 25807), (20, 25813), (25, 25873), (33, 25978), (35, 26053), (36, 26101), (37, 26104),

Gene: Jash_33 Start: 24989, Stop: 25489, Start Num: 8
Candidate Starts for Jash_33:
(Start: 8 @24989 has 106 MA's), (14, 25106), (15, 25118), (17, 25127), (19, 25145), (25, 25208), (37, 25445),

Gene: Jevington_34 Start: 25940, Stop: 26440, Start Num: 8
Candidate Starts for Jevington_34:
(Start: 8 @25940 has 106 MA's), (13, 26042), (20, 26087), (26, 26150), (37, 26387),

Gene: Jhitchelle_32 Start: 25934, Stop: 26413, Start Num: 8
Candidate Starts for Jhitchelle_32:
(Start: 8 @25934 has 106 MA's), (15, 26060), (19, 26087), (21, 26096), (36, 26366), (37, 26369),

Gene: Kaine_33 Start: 26192, Stop: 26677, Start Num: 8
Candidate Starts for Kaine_33:

(Start: 8 @26192 has 106 MA's), (14, 26306), (15, 26318), (19, 26345), (21, 26354), (36, 26630), (37, 26633),

Gene: Katalie_32 Start: 25155, Stop: 25667, Start Num: 8
Candidate Starts for Katalie_32:
(Start: 8 @25155 has 106 MA's), (9, 25170), (11, 25212), (19, 25308), (25, 25371), (34, 25536), (36, 25620), (37, 25623),

Gene: Lannister_34 Start: 25631, Stop: 26146, Start Num: 8
Candidate Starts for Lannister_34:
(Start: 8 @25631 has 106 MA's), (9, 25646), (11, 25688), (19, 25784), (25, 25847), (34, 26015), (36, 26099), (37, 26102),

Gene: Legacy_32 Start: 24606, Stop: 25106, Start Num: 8
Candidate Starts for Legacy_32:
(Start: 8 @24606 has 106 MA's), (14, 24723), (15, 24735), (17, 24744), (19, 24762), (25, 24825), (37, 25062),

Gene: Leviticus_32 Start: 24635, Stop: 25135, Start Num: 8
Candidate Starts for Leviticus_32:
(Start: 8 @24635 has 106 MA's), (14, 24752), (15, 24764), (17, 24773), (19, 24791), (25, 24854), (37, 25091),

Gene: Lika_32 Start: 25413, Stop: 25931, Start Num: 8
Candidate Starts for Lika_32:
(Start: 8 @25413 has 106 MA's), (9, 25428), (25, 25629), (34, 25800), (36, 25884), (37, 25887),

Gene: Loofah_33 Start: 25858, Stop: 26340, Start Num: 8
Candidate Starts for Loofah_33:
(1, 25795), (Start: 5 @25822 has 2 MA's), (Start: 8 @25858 has 106 MA's), (13, 25960), (25, 26065), (37, 26296),

Gene: Lorelei_32 Start: 25351, Stop: 25872, Start Num: 8
Candidate Starts for Lorelei_32:
(Start: 8 @25351 has 106 MA's), (9, 25366), (11, 25408), (25, 25567), (28, 25615), (34, 25741), (36, 25825), (37, 25828),

Gene: Maneekul_31 Start: 24882, Stop: 25397, Start Num: 8
Candidate Starts for Maneekul_31:
(Start: 8 @24882 has 106 MA's), (10, 24936), (25, 25098), (29, 25167), (34, 25266), (36, 25350), (37, 25353),

Gene: Marav_35 Start: 26270, Stop: 26764, Start Num: 8
Candidate Starts for Marav_35:
(Start: 8 @26270 has 106 MA's), (13, 26372), (20, 26417), (26, 26480), (37, 26720),

Gene: Nabi_32 Start: 25351, Stop: 25872, Start Num: 8
Candidate Starts for Nabi_32:
(Start: 8 @25351 has 106 MA's), (9, 25366), (11, 25408), (25, 25567), (28, 25615), (34, 25741), (36, 25825), (37, 25828),

Gene: Nanodon_34 Start: 25241, Stop: 25756, Start Num: 8
Candidate Starts for Nanodon_34:

(Start: 8 @25241 has 106 MA's), (9, 25256), (11, 25298), (19, 25394), (25, 25457), (34, 25625), (37, 25712),

Gene: Nerdos_32 Start: 24629, Stop: 25129, Start Num: 8
Candidate Starts for Nerdos_32:
(Start: 8 @24629 has 106 MA's), (14, 24746), (15, 24758), (17, 24767), (19, 24785), (25, 24848), (37, 25085),

Gene: Nishikigoi_32 Start: 25341, Stop: 25832, Start Num: 8
Candidate Starts for Nishikigoi_32:
(Start: 8 @25341 has 106 MA's), (12, 25437), (13, 25452), (19, 25494), (37, 25782),

Gene: Oliynyk_33 Start: 24989, Stop: 25489, Start Num: 8
Candidate Starts for Oliynyk_33:
(Start: 8 @24989 has 106 MA's), (14, 25106), (15, 25118), (17, 25127), (19, 25145), (25, 25208), (37, 25445),

Gene: Omar_33 Start: 25588, Stop: 26070, Start Num: 8
Candidate Starts for Omar_33:
(Start: 8 @25588 has 106 MA's), (13, 25690), (20, 25735), (37, 26020),

Gene: Ozzie_32 Start: 24615, Stop: 25115, Start Num: 8
Candidate Starts for Ozzie_32:
(Start: 8 @24615 has 106 MA's), (14, 24732), (15, 24744), (17, 24753), (19, 24771), (25, 24834), (37, 25071),

Gene: OzzyJ_32 Start: 24855, Stop: 25367, Start Num: 8
Candidate Starts for OzzyJ_32:
(Start: 8 @24855 has 106 MA's), (10, 24909), (25, 25071), (29, 25140), (34, 25236), (35, 25272), (36, 25320), (37, 25323),

Gene: Pablito_32 Start: 25234, Stop: 25719, Start Num: 8
Candidate Starts for Pablito_32:
(Start: 8 @25234 has 106 MA's), (13, 25345), (19, 25387), (22, 25405), (25, 25450), (36, 25678), (37, 25681),

Gene: Paedore_32 Start: 25843, Stop: 26325, Start Num: 8
Candidate Starts for Paedore_32:
(1, 25780), (Start: 5 @25807 has 2 MA's), (Start: 8 @25843 has 106 MA's), (13, 25945), (25, 26050), (37, 26281),

Gene: Paolo_34 Start: 26106, Stop: 26606, Start Num: 8
Candidate Starts for Paolo_34:
(Start: 8 @26106 has 106 MA's), (13, 26208), (20, 26253), (25, 26313), (37, 26556),

Gene: Pavo_34 Start: 26652, Stop: 27137, Start Num: 8
Candidate Starts for Pavo_34:
(Start: 8 @26652 has 106 MA's), (14, 26766), (15, 26778), (19, 26805), (21, 26814), (36, 27090), (37, 27093),

Gene: Phettuccine_32 Start: 24631, Stop: 25131, Start Num: 8
Candidate Starts for Phettuccine_32:

(Start: 8 @24631 has 106 MA's), (14, 24748), (15, 24760), (17, 24769), (19, 24787), (25, 24850), (37, 25087),

Gene: Provolone_34 Start: 26034, Stop: 26519, Start Num: 8
Candidate Starts for Provolone_34:
(Start: 8 @26034 has 106 MA's), (14, 26148), (15, 26160), (19, 26187), (21, 26196), (36, 26472), (37, 26475),

Gene: Puginator_34 Start: 26124, Stop: 26624, Start Num: 8
Candidate Starts for Puginator_34:
(Start: 8 @26124 has 106 MA's), (13, 26226), (20, 26271), (37, 26574),

Gene: R4_33 Start: 25978, Stop: 26460, Start Num: 8
Candidate Starts for R4_33:
(Start: 8 @25978 has 106 MA's), (13, 26080), (25, 26185), (37, 26416),

Gene: Rana_32 Start: 25351, Stop: 25872, Start Num: 8
Candidate Starts for Rana_32:
(Start: 8 @25351 has 106 MA's), (9, 25366), (11, 25408), (25, 25567), (28, 25615), (34, 25741), (36, 25825), (37, 25828),

Gene: RedBear_33 Start: 25155, Stop: 25667, Start Num: 8
Candidate Starts for RedBear_33:
(Start: 8 @25155 has 106 MA's), (9, 25170), (11, 25212), (19, 25308), (25, 25371), (34, 25536), (36, 25620), (37, 25623),

Gene: Rusticus_33 Start: 24989, Stop: 25489, Start Num: 8
Candidate Starts for Rusticus_33:
(Start: 8 @24989 has 106 MA's), (14, 25106), (15, 25118), (17, 25127), (19, 25145), (25, 25208), (37, 25445),

Gene: Saftant_33 Start: 26598, Stop: 27083, Start Num: 8
Candidate Starts for Saftant_33:
(Start: 8 @26598 has 106 MA's), (13, 26709), (14, 26712), (15, 26724), (19, 26751), (21, 26760), (36, 27036), (37, 27039),

Gene: SarahRose_31 Start: 24864, Stop: 25376, Start Num: 8
Candidate Starts for SarahRose_31:
(Start: 8 @24864 has 106 MA's), (10, 24918), (25, 25080), (29, 25149), (34, 25245), (35, 25281), (36, 25329), (37, 25332),

Gene: Snorlax_31 Start: 24867, Stop: 25379, Start Num: 8
Candidate Starts for Snorlax_31:
(Start: 8 @24867 has 106 MA's), (10, 24921), (25, 25083), (29, 25152), (34, 25248), (35, 25284), (36, 25332), (37, 25335),

Gene: South40_32 Start: 25155, Stop: 25667, Start Num: 8
Candidate Starts for South40_32:
(Start: 8 @25155 has 106 MA's), (9, 25170), (11, 25212), (19, 25308), (25, 25371), (34, 25536), (36, 25620), (37, 25623),

Gene: Speedwell_38 Start: 27920, Stop: 28405, Start Num: 8
Candidate Starts for Speedwell_38:

(Start: 8 @27920 has 106 MA's), (14, 28034), (15, 28046), (19, 28073), (21, 28082), (27, 28154), (30, 28205), (36, 28358), (37, 28361),

Gene: SqueakyClean_32 Start: 25751, Stop: 26233, Start Num: 8
Candidate Starts for SqueakyClean_32:
(Start: 8 @25751 has 106 MA's), (13, 25859), (18, 25898), (20, 25904), (25, 25964), (33, 26069), (35, 26144), (36, 26192), (37, 26195),

Gene: Sudan_33 Start: 26479, Stop: 26964, Start Num: 8
Candidate Starts for Sudan_33:
(Start: 8 @26479 has 106 MA's), (14, 26593), (15, 26605), (17, 26614), (19, 26632), (21, 26641), (36, 26917), (37, 26920),

Gene: Sujidade_33 Start: 25698, Stop: 26216, Start Num: 8
Candidate Starts for Sujidade_33:
(Start: 8 @25698 has 106 MA's), (9, 25713), (25, 25914), (34, 26085), (36, 26169), (37, 26172),

Gene: SunkenRoot_33 Start: 27115, Stop: 27600, Start Num: 8
Candidate Starts for SunkenRoot_33:
(Start: 8 @27115 has 106 MA's), (15, 27241), (19, 27268), (21, 27277), (36, 27553), (37, 27556),

Gene: SunsetPointe_32 Start: 24622, Stop: 25122, Start Num: 8
Candidate Starts for SunsetPointe_32:
(Start: 8 @24622 has 106 MA's), (14, 24739), (15, 24751), (17, 24760), (19, 24778), (25, 24841), (37, 25078),

Gene: Superstar_36 Start: 26780, Stop: 27262, Start Num: 8
Candidate Starts for Superstar_36:
(6, 26759), (Start: 8 @26780 has 106 MA's), (11, 26837), (13, 26891), (18, 26930), (25, 26996), (31, 27059), (37, 27218),

Gene: TagePhighter_33 Start: 24867, Stop: 25379, Start Num: 8
Candidate Starts for TagePhighter_33:
(Start: 8 @24867 has 106 MA's), (10, 24921), (25, 25083), (29, 25152), (34, 25248), (35, 25284), (36, 25332), (37, 25335),

Gene: Tefunt_32 Start: 25344, Stop: 25835, Start Num: 8
Candidate Starts for Tefunt_32:
(Start: 8 @25344 has 106 MA's), (12, 25440), (13, 25455), (19, 25497), (37, 25785),

Gene: Thestral_33 Start: 25740, Stop: 26228, Start Num: 8
Candidate Starts for Thestral_33:
(Start: 8 @25740 has 106 MA's), (13, 25842), (20, 25887), (37, 26178),

Gene: TinaBelcher_32 Start: 25687, Stop: 26175, Start Num: 8
Candidate Starts for TinaBelcher_32:
(Start: 8 @25687 has 106 MA's), (13, 25789), (20, 25834), (37, 26125),

Gene: Toma_32 Start: 25415, Stop: 25933, Start Num: 8
Candidate Starts for Toma_32:
(Start: 8 @25415 has 106 MA's), (9, 25430), (20, 25571), (25, 25631), (34, 25802), (36, 25886), (37, 25889),

Gene: Triste_31 Start: 24855, Stop: 25367, Start Num: 8
Candidate Starts for Triste_31:
(Start: 8 @24855 has 106 MA's), (10, 24909), (25, 25071), (29, 25140), (34, 25236), (35, 25272), (36, 25320), (37, 25323),

Gene: Triumph_34 Start: 25558, Stop: 26040, Start Num: 8
Candidate Starts for Triumph_34:
(Start: 8 @25558 has 106 MA's), (13, 25666), (19, 25708), (37, 26002),

Gene: TrvxScott_31 Start: 25733, Stop: 26221, Start Num: 8
Candidate Starts for TrvxScott_31:
(Start: 8 @25733 has 106 MA's), (13, 25835), (37, 26171),

Gene: TuanPN_31 Start: 24912, Stop: 25427, Start Num: 8
Candidate Starts for TuanPN_31:
(Start: 8 @24912 has 106 MA's), (9, 24927), (25, 25128), (29, 25197), (34, 25296), (36, 25380), (37, 25383),

Gene: Unstoppable_32 Start: 24626, Stop: 25126, Start Num: 8
Candidate Starts for Unstoppable_32:
(Start: 8 @24626 has 106 MA's), (14, 24743), (15, 24755), (17, 24764), (19, 24782), (25, 24845), (37, 25082),

Gene: Urza_34 Start: 25633, Stop: 26142, Start Num: 8
Candidate Starts for Urza_34:
(1, 25570), (Start: 5 @25597 has 2 MA's), (Start: 8 @25633 has 106 MA's), (19, 25786), (22, 25804), (36, 26092), (37, 26095),

Gene: Vanseggelen_38 Start: 26166, Stop: 26651, Start Num: 8
Candidate Starts for Vanseggelen_38:
(Start: 8 @26166 has 106 MA's), (14, 26280), (15, 26292), (19, 26319), (21, 26328), (22, 26337), (36, 26604), (37, 26607),

Gene: Verabelle_36 Start: 26569, Stop: 27051, Start Num: 8
Candidate Starts for Verabelle_36:
(Start: 8 @26569 has 106 MA's), (14, 26683), (15, 26695), (21, 26731), (24, 26773), (37, 27007),

Gene: Verse_33 Start: 27309, Stop: 27794, Start Num: 8
Candidate Starts for Verse_33:
(Start: 8 @27309 has 106 MA's), (15, 27435), (19, 27462), (21, 27471), (36, 27747), (37, 27750),

Gene: VieEnRose_34 Start: 25674, Stop: 26216, Start Num: 5
Candidate Starts for VieEnRose_34:
(1, 25647), (Start: 5 @25674 has 2 MA's), (Start: 8 @25710 has 106 MA's), (19, 25863), (22, 25881), (36, 26166), (37, 26169),

Gene: Werner_31 Start: 24865, Stop: 25377, Start Num: 8
Candidate Starts for Werner_31:
(Start: 8 @24865 has 106 MA's), (10, 24919), (25, 25081), (29, 25150), (34, 25246), (35, 25282), (36, 25330), (37, 25333),

Gene: Whatever_31 Start: 24865, Stop: 25377, Start Num: 8
Candidate Starts for Whatever_31:

(Start: 8 @24865 has 106 MA's), (10, 24919), (25, 25081), (29, 25150), (34, 25246), (35, 25282), (36, 25330), (37, 25333),

Gene: Yasdnil_31 Start: 24910, Stop: 25425, Start Num: 8
Candidate Starts for Yasdnil_31:
(Start: 8 @24910 has 106 MA's), (9, 24925), (25, 25126), (29, 25195), (34, 25294), (36, 25378), (37, 25381),

Gene: Yosif_35 Start: 27058, Stop: 27579, Start Num: 8
Candidate Starts for Yosif_35:
(Start: 8 @27058 has 106 MA's), (9, 27082), (19, 27220), (37, 27532),

Gene: Zainub_34 Start: 26067, Stop: 26567, Start Num: 8
Candidate Starts for Zainub_34:
(Start: 8 @26067 has 106 MA's), (13, 26169), (20, 26214), (25, 26274), (37, 26517),

Gene: ZamZam_33 Start: 26594, Stop: 27079, Start Num: 8
Candidate Starts for ZamZam_33:
(Start: 8 @26594 has 106 MA's), (14, 26708), (15, 26720), (19, 26747), (21, 26756), (36, 27032), (37, 27035),

Gene: Zemlya_33 Start: 25392, Stop: 25916, Start Num: 8
Candidate Starts for Zemlya_33:
(Start: 8 @25392 has 106 MA's), (9, 25407), (25, 25608), (29, 25683), (34, 25785), (37, 25872),

Gene: phiHau3_34 Start: 25145, Stop: 25633, Start Num: 7
Candidate Starts for phiHau3_34:
(Start: 7 @25145 has 3 MA's), (36, 25589), (37, 25592),