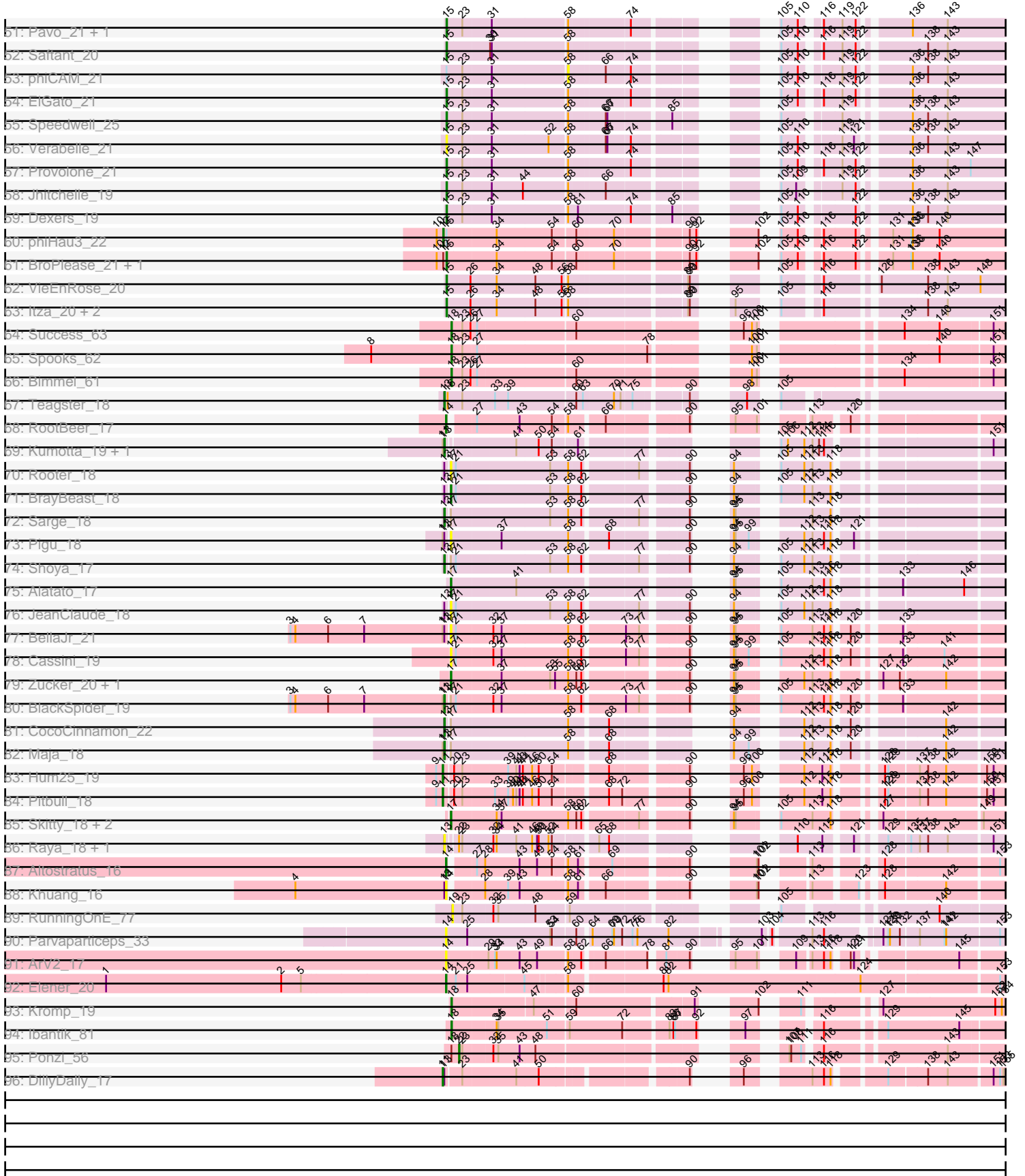


Zoomed Pham 311307



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 311307 Report

This analysis was run 06/27/26 on database version 652.

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 311307 has 157 members, 20 are drafts.

Phages represented in each track:

- Track 1 : AbbyDaisy_19
- Track 2 : Raqqa_19
- Track 3 : Aaronocolus_20, Caliburn_20, Legacy_20, BeardedLady_21, Nerdos_20, Leviticus_20, Unstoppable_20, SunsetPointe_20, Phettuccine_20, Hydra_22, Indigo_20, Esperer_20, Bovely_20, Ozzie_20
- Track 4 : Asten_20, Werner_20, Dwayne_20, Chucky_20, BarryBee_22, OzzyJ_21, Emaanora_22, TagePhighiter_21, Whatever_20, Snorlax_20, Triste_20
- Track 5 : Lorelei_20, Rana_20, Nabi_20
- Track 6 : BryanRecycles_21, Oliynk_21, Izzy_21, Jash_21, Eddasa_21, Rusticus_21
- Track 7 : Lika_20, Sujidade_21, Godpower_21
- Track 8 : TuanPN_20, Maneekul_20, Yasdnil_20, Ejemplo_20
- Track 9 : Danzina_21
- Track 10 : Dattran_21, Celeste_20, Goby_20, Toma_20
- Track 11 : Brataylor_21
- Track 12 : RedBear_22, South40_21, Katalie_21
- Track 13 : EnochSoames_22
- Track 14 : Hippo_20
- Track 15 : Nanodon_22
- Track 16 : SarahRose_20
- Track 17 : Lannister_21
- Track 18 : Zemlya_21
- Track 19 : TrvxScott_19
- Track 20 : Amethyst_20
- Track 21 : Loofah_21, Paedore_20
- Track 22 : Issmi_21
- Track 23 : Paolo_22, Zainub_22, Jevington_22
- Track 24 : Thestral_21
- Track 25 : Bowden_21, TinaBelcher_20
- Track 26 : Diane_20
- Track 27 : Superstar_23
- Track 28 : Haizum_20, Tefunt_20
- Track 29 : Animus_21, SqueakyClean_21

- Track 30 : Nishikigoi_20
- Track 31 : Hank144_21
- Track 32 : ELB20_19, R4_20
- Track 33 : Marav_23
- Track 34 : Puginator_22
- Track 35 : Omar_21
- Track 36 : Daudau_20
- Track 37 : Axiom_21
- Track 38 : BartholomewSD_22, Alvy_22
- Track 39 : Triumph_22
- Track 40 : GirlDinner_20
- Track 41 : Andris_20
- Track 42 : Caelum_21
- Track 43 : Pablito_20
- Track 44 : Janus_21
- Track 45 : ZamZam_20
- Track 46 : Vanseggelen_25
- Track 47 : Yosif_21
- Track 48 : Verse_20, Amela_20, SunkenRoot_22
- Track 49 : Sudan_20, Alsaber_21, Kaine_20
- Track 50 : Celery_23
- Track 51 : Pavo_21, Conan_21
- Track 52 : Saftant_20
- Track 53 : phiCAM_21
- Track 54 : ElGato_21
- Track 55 : Speedwell_25
- Track 56 : Verabelle_21
- Track 57 : Provolone_21
- Track 58 : Jhitchelle_19
- Track 59 : Dexers_19
- Track 60 : phiHau3_22
- Track 61 : BroPlease_21, GreenWeasel_22
- Track 62 : VieEnRose_20
- Track 63 : Itza_20, Celia_20, Urza_20
- Track 64 : Success_63
- Track 65 : Spooks_62
- Track 66 : Bimmel_61
- Track 67 : Teagster_18
- Track 68 : RootBeer_17
- Track 69 : Kumotta_19, MargaretKali_19
- Track 70 : Rooter_18
- Track 71 : BrayBeast_18
- Track 72 : Sarge_18
- Track 73 : Pigu_18
- Track 74 : Shoya_17
- Track 75 : Alatato_17
- Track 76 : JeanClaude_18
- Track 77 : BellaJr_21
- Track 78 : Cassini_19
- Track 79 : Zucker_20, Bauer_21
- Track 80 : BlackSpider_19
- Track 81 : CocoCinnamon_22
- Track 82 : Maja_18

- Track 83 : Hum25_19
- Track 84 : Pitbull_18
- Track 85 : Skitty_18, MrSmee_18, Merpity_20
- Track 86 : Raya_18, Skyerus_18
- Track 87 : Altostratus_16
- Track 88 : Khuang_16
- Track 89 : RunningOnE_77
- Track 90 : Parvarticeps_33
- Track 91 : ArV2_17
- Track 92 : Elener_20
- Track 93 : Kromp_19
- Track 94 : Ibantik_81
- Track 95 : Ponzi_56
- Track 96 : DillyDally_17

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

The start number called the most often in the published annotations is 15, it was called in 109 of the 137 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aaronocolus_20, Alsaber_21, Alvy_22, Amela_20, Amethyst_20, Andris_20, Animus_21, Asten_20, Axiom_21, BarryBee_22, BartholomewSD_22, BeardedLady_21, Bovely_20, Bowden_21, Brataylor_21, BroPlease_21, BryanRecycles_21, Caelum_21, Caliburn_20, Celery_23, Celeste_20, Celia_20, Chucky_20, Conan_21, Danzina_21, Dattran_21, Daudau_20, Dexers_19, Diane_20, Dwayne_20, ELB20_19, Eddasa_21, Ejemplo_20, ElGato_21, Emaanora_22, EnochSoames_22, Esperer_20, GirlDinner_20, Goby_20, Godpower_21, GreenWeasel_22, Haizum_20, Hank144_21, Hippo_20, Hydra_22, Indigo_20, Issmi_21, Itza_20, Izzy_21, Janus_21, Jash_21, Jevington_22, Jhitchelle_19, Kaine_20, Katalie_21, Lannister_21, Legacy_20, Leviticus_20, Lika_20, Loofah_21, Lorelei_20, Maneekul_20, Marav_23, Nabi_20, Nanodon_22, Nerdos_20, Nishikigoi_20, Oliynyk_21, Omar_21, Ozzie_20, OzzyJ_21, Pablito_20, Paedore_20, Paolo_22, Pavo_21, Phettuccine_20, Provolone_21, Puginator_22, R4_20, Rana_20, RedBear_22, Rusticus_21, Saftant_20, SarahRose_20, Snorlax_20, South40_21, Speedwell_25, SqueakyClean_21, Sudan_20, Sujidade_21, SunkenRoot_22, SunsetPointe_20, Superstar_23, TagePhighter_21, Tefunt_20, Thestral_21, TinaBelcher_20, Toma_20, Triste_20, Triumph_22, TrvxScott_19, TuanPN_20, Unstoppable_20, Urza_20, Vanseggelen_25, Verabelle_21, Verse_20, VieEnRose_20, Werner_20, Whatever_20, Yasdnil_20, Yosif_21, Zainub_22, ZamZam_20, Zemlya_21,

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

- phiCAM_21, phiHau3_22,

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

- AbbyDaisy_19, Alatato_17, Altostratus_16, ArV2_17, Bauer_21, BellaJr_21, Bimmel_61, BlackSpider_19, BrayBeast_18, Cassini_19, CocoCinnamon_22, DillyDally_17, Elener_20, Hum25_19, Ibantik_81, JeanClaude_18, Khuang_16, Kromp_19, Kumotta_19, Maja_18, MargaretKali_19, Merpity_20, MrSmee_18,

Parvarticeps_33, Pigu_18, Pitbull_18, Ponzi_56, Raqqa_19, Raya_18, RootBeer_17, Rooter_18, RunningOnE_77, Sarge_18, Shoya_17, Skitty_18, Skyerus_18, Spooks_62, Success_63, Teagster_18, Zucker_20,

Summary by start number:

Start 11:

- Found in 11 of 157 (7.0%) of genes in pham
- Manual Annotations of this start: 3 of 137
- Called 27.3% of time when present
- Phage (with cluster) where this start called: DillyDally_17 (singleton), Hum25_19 (FQ1), Pitbull_18 (FQ1),

Start 12:

- Found in 3 of 157 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 137
- Called 33.3% of time when present
- Phage (with cluster) where this start called: phiHau3_22 (BD4),

Start 13:

- Found in 17 of 157 (10.8%) of genes in pham
- Manual Annotations of this start: 8 of 137
- Called 58.8% of time when present
- Phage (with cluster) where this start called: BlackSpider_19 (FN), CocoCinnamon_22 (FO), Kumotta_19 (FB), Maja_18 (FO), MargaretKali_19 (FB), Raya_18 (FQ2), Sarge_18 (FB), Shoya_17 (FB), Skyerus_18 (FQ2), Teagster_18 (EB),

Start 14:

- Found in 8 of 157 (5.1%) of genes in pham
- Manual Annotations of this start: 4 of 137
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_19 (AY), Altostratus_16 (FS), ArV2_17 (singleton), Elener_20 (singleton), Khuang_16 (FS), Parvarticeps_33 (UNK), Raqqa_19 (AY), RootBeer_17 (FA),

Start 15:

- Found in 117 of 157 (74.5%) of genes in pham
- Manual Annotations of this start: 109 of 137
- Called 98.3% of time when present
- Phage (with cluster) where this start called: Aaronocolus_20 (BD1), Alsaber_21 (BD3), Alvy_22 (BD2), Amela_20 (BD3), Amethyst_20 (BD2), Andris_20 (BD2), Animus_21 (BD2), Asten_20 (BD1), Axiom_21 (BD2), BarryBee_22 (BD1), BartholomewSD_22 (BD2), BeardedLady_21 (BD1), Bovely_20 (BD1), Bowden_21 (BD2), Brataylor_21 (BD1), BroPlease_21 (BD4), BryanRecycles_21 (BD1), Caelum_21 (BD2), Caliburn_20 (BD1), Celery_23 (BD3), Celeste_20 (BD1), Celia_20 (BD6), Chucky_20 (BD1), Conan_21 (BD3), Danzina_21 (BD1), Dattran_21 (BD1), Daudau_20 (BD2), Dexers_19 (BD3), Diane_20 (BD2), Dwayne_20 (BD1), ELB20_19 (BD2), Eddasa_21 (BD1), Ejemplo_20 (BD1), ElGato_21 (BD3), Emaanora_22 (BD1), EnochSoames_22 (BD1), Esperer_20 (BD1), GirlDinner_20 (BD2), Goby_20 (BD1), Godpower_21 (BD1), GreenWeasel_22 (BD4), Haizum_20 (BD2), Hank144_21 (BD2), Hippo_20 (BD1), Hydra_22 (BD1), Indigo_20 (BD1), Issmi_21 (BD2), Itza_20 (BD6), Izzy_21 (BD1), Janus_21 (BD2), Jash_21 (BD1), Jevington_22 (BD2),

Jhitchelle_19 (BD3), Kaine_20 (BD3), Katalie_21 (BD1), Lannister_21 (BD1), Legacy_20 (BD1), Leviticus_20 (BD1), Lika_20 (BD1), Loofah_21 (BD2), Lorelei_20 (BD1), Maneekul_20 (BD1), Marav_23 (BD2), Nabi_20 (BD1), Nanodon_22 (BD1), Nerdos_20 (BD1), Nishikigoi_20 (BD2), Oliynyk_21 (BD1), Omar_21 (BD2), Ozzie_20 (BD1), OzzyJ_21 (BD1), Pablito_20 (BD2), Paedore_20 (BD2), Paolo_22 (BD2), Pavo_21 (BD3), Phettuccine_20 (BD1), Provolone_21 (BD3), Puginator_22 (BD2), R4_20 (BD2), Rana_20 (BD1), RedBear_22 (BD1), Rusticus_21 (BD1), Saftant_20 (BD3), SarahRose_20 (BD1), Snorlax_20 (BD1), South40_21 (BD1), Speedwell_25 (BD3), SqueakyClean_21 (BD2), Sudan_20 (BD3), Sujidade_21 (BD1), SunkenRoot_22 (BD3), SunsetPointe_20 (BD1), Superstar_23 (BD2), TagePighter_21 (BD1), Tefunt_20 (BD2), Thestral_21 (BD2), TinaBelcher_20 (BD2), Toma_20 (BD1), Triste_20 (BD1), Triumph_22 (BD2), TrvxScott_19 (BD2), TuanPN_20 (BD1), Unstoppable_20 (BD1), Urza_20 (BD6), Vanseggelen_25 (BD3), Verabelle_21 (BD3), Verse_20 (BD3), VieEnRose_20 (BD6), Werner_20 (BD1), Whatever_20 (BD1), Yasdnil_20 (BD1), Yosif_21 (BD3), Zainub_22 (BD2), ZamZam_20 (BD3), Zemlya_21 (BD1),

Start 17:

- Found in 17 of 157 (10.8%) of genes in pham
- Manual Annotations of this start: 6 of 137
- Called 70.6% of time when present
- Phage (with cluster) where this start called: Alatato_17 (FB), Bauer_21 (FN), BellaJr_21 (FN), BrayBeast_18 (FB), Cassini_19 (FN), JeanClaude_18 (FB), Merpity_20 (FQ1), MrSmee_18 (FQ1), Pigu_18 (FB), Rooter_18 (FB), Skitty_18 (FQ1), Zucker_20 (FN),

Start 18:

- Found in 6 of 157 (3.8%) of genes in pham
- Manual Annotations of this start: 5 of 137
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Bimmel_61 (BT), Ibantik_81 (singleton), Kromp_19 (singleton), Spooks_62 (BT), Success_63 (BT),

Start 19:

- Found in 1 of 157 (0.6%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RunningOnE_77 (UNK),

Start 22:

- Found in 3 of 157 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 137
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Ponzi_56 (singleton),

Start 58:

- Found in 130 of 157 (82.8%) of genes in pham
- No Manual Annotations of this start.
- Called 0.8% of time when present
- Phage (with cluster) where this start called: phiCAM_21 (BD3),

Summary by clusters:

There are 17 clusters represented in this pham: singleton, FS, FQ2, BD4, UNK, EB, BT, FA, FB, BD6, BD1, BD3, BD2, AY, FQ1, FN, FO,

Info for manual annotations of cluster AY:

- Start number 14 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster BD1:

- Start number 15 was manually annotated 55 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 15 was manually annotated 33 times for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 15 was manually annotated 15 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 12 was manually annotated 1 time for cluster BD4.
- Start number 15 was manually annotated 2 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 15 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster BT:

- Start number 18 was manually annotated 3 times for cluster BT.

Info for manual annotations of cluster EB:

- Start number 13 was manually annotated 1 time for cluster EB.

Info for manual annotations of cluster FA:

- Start number 14 was manually annotated 1 time for cluster FA.

Info for manual annotations of cluster FB:

- Start number 13 was manually annotated 4 times for cluster FB.
- Start number 17 was manually annotated 2 times for cluster FB.

Info for manual annotations of cluster FN:

- Start number 13 was manually annotated 1 time for cluster FN.
- Start number 17 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster FO:

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

Info for manual annotations of cluster FQ1:

- Start number 11 was manually annotated 2 times for cluster FQ1.
- Start number 17 was manually annotated 2 times for cluster FQ1.

Info for manual annotations of cluster FS:

- Start number 14 was manually annotated 1 time for cluster FS.

Gene Information:

Gene: Aaronocolus_20 Start: 15854, Stop: 17068, Start Num: 15

Candidate Starts for Aaronocolus_20:

(Start: 15 @15854 has 109 MA's), (23, 15881), (58, 16064), (67, 16127), (85, 16226), (90, 16253), (105, 16322), (110, 16352), (131, 16472), (143, 16571), (180, 16769), (181, 16775), (190, 16814), (197, 16838), (203, 16865), (205, 16874), (210, 16907), (221, 16967), (228, 16997), (242, 17045), (244, 17054), (246, 17060),

Gene: AbbyDaisy_19 Start: 15422, Stop: 16528, Start Num: 14

Candidate Starts for AbbyDaisy_19:

(Start: 11 @15416 has 3 MA's), (Start: 14 @15422 has 4 MA's), (24, 15452), (32, 15500), (36, 15512), (38, 15524), (58, 15629), (66, 15680), (90, 15806), (95, 15818), (110, 15887), (120, 15959), (187, 16334), (204, 16394), (222, 16493),

Gene: Alatato_17 Start: 13394, Stop: 14512, Start Num: 17

Candidate Starts for Alatato_17:

(Start: 17 @13394 has 6 MA's), (41, 13508), (94, 13793), (95, 13796), (105, 13838), (113, 13892), (116, 13913), (118, 13925), (133, 14012), (146, 14117), (166, 14234), (175, 14270), (189, 14327), (191, 14333), (213, 14420), (229, 14498), (234, 14504),

Gene: Alsaber_21 Start: 16538, Stop: 17755, Start Num: 15

Candidate Starts for Alsaber_21:

(Start: 15 @16538 has 109 MA's), (23, 16565), (31, 16616), (58, 16748), (61, 16763), (74, 16850), (85, 16910), (105, 17006), (110, 17036), (119, 17093), (122, 17117), (136, 17192), (138, 17219), (143, 17255), (176, 17444), (181, 17459), (184, 17474), (196, 17519), (201, 17540), (205, 17558), (221, 17651), (228, 17681), (244, 17741), (246, 17747),

Gene: Altostratus_16 Start: 13849, Stop: 14961, Start Num: 14

Candidate Starts for Altostratus_16:

(Start: 14 @13849 has 4 MA's), (27, 13888), (28, 13903), (43, 13963), (49, 13993), (54, 14020), (58, 14044), (61, 14059), (69, 14110), (90, 14227), (101, 14275), (102, 14278), (113, 14329), (128, 14416), (153, 14611), (172, 14701), (202, 14815), (204, 14824), (206, 14830), (218, 14905),

Gene: Alvy_22 Start: 15862, Stop: 17073, Start Num: 15

Candidate Starts for Alvy_22:

(Start: 15 @15862 has 109 MA's), (58, 16072), (60, 16084), (61, 16087), (70, 16147), (90, 16261), (93, 16276), (116, 16384), (122, 16441), (125, 16453), (135, 16513), (145, 16600), (147, 16621), (167, 16738), (181, 16783), (184, 16798), (201, 16864), (205, 16882), (212, 16924), (215, 16951), (221, 16975), (244, 17059), (246, 17065),

Gene: Amela_20 Start: 16831, Stop: 18048, Start Num: 15

Candidate Starts for Amela_20:

(Start: 15 @16831 has 109 MA's), (23, 16858), (31, 16909), (52, 17011), (58, 17041), (66, 17101), (74, 17143), (85, 17203), (105, 17299), (110, 17329), (119, 17386), (121, 17407), (136, 17485), (143, 17548), (181, 17752), (184, 17767), (201, 17833), (205, 17851), (221, 17944), (228, 17974), (244, 18034), (246, 18040),

Gene: Amethyst_20 Start: 16313, Stop: 17527, Start Num: 15

Candidate Starts for Amethyst_20:

(Start: 15 @16313 has 109 MA's), (23, 16340), (56, 16517), (60, 16535), (61, 16538), (70, 16598), (90, 16712), (116, 16835), (122, 16892), (167, 17189), (181, 17234), (197, 17297), (221, 17426), (242, 17504), (244, 17513), (246, 17519),

Gene: Andris_20 Start: 15567, Stop: 16778, Start Num: 15

Candidate Starts for Andris_20:

(Start: 15 @15567 has 109 MA's), (48, 15723), (58, 15777), (60, 15789), (61, 15792), (70, 15852), (90, 15966), (93, 15981), (116, 16089), (122, 16146), (131, 16185), (135, 16218), (138, 16248), (143, 16284), (145, 16305), (167, 16443), (181, 16488), (184, 16503), (196, 16548), (197, 16551), (203, 16578), (205, 16587), (221, 16680), (244, 16764), (246, 16770),

Gene: Animus_21 Start: 15903, Stop: 17114, Start Num: 15

Candidate Starts for Animus_21:

(Start: 15 @15903 has 109 MA's), (58, 16113), (60, 16125), (61, 16128), (70, 16188), (71, 16200), (90, 16302), (93, 16317), (102, 16368), (135, 16554), (143, 16620), (145, 16641), (167, 16779), (181, 16824), (184, 16839), (196, 16884), (197, 16887), (203, 16914), (205, 16923), (221, 17016), (244, 17100), (246, 17106),

Gene: ArV2_17 Start: 13763, Stop: 14869, Start Num: 14

Candidate Starts for ArV2_17:

(Start: 14 @13763 has 4 MA's), (29, 13835), (33, 13844), (34, 13847), (43, 13889), (49, 13919), (58, 13970), (62, 13991), (66, 14021), (78, 14093), (81, 14108), (90, 14147), (95, 14159), (101, 14192), (109, 14225), (113, 14246), (116, 14267), (118, 14279), (120, 14300), (121, 14306), (145, 14462), (160, 14564), (169, 14609), (175, 14624), (194, 14699), (216, 14807), (226, 14849), (232, 14858),

Gene: Asten_20 Start: 15820, Stop: 17031, Start Num: 15

Candidate Starts for Asten_20:

(Start: 15 @15820 has 109 MA's), (58, 16030), (60, 16042), (61, 16045), (67, 16093), (85, 16192), (90, 16219), (105, 16288), (116, 16342), (122, 16399), (136, 16474), (138, 16501), (141, 16531), (144, 16555), (150, 16609), (163, 16687), (181, 16741), (190, 16780), (195, 16798), (203, 16831), (205, 16840), (210, 16873), (212, 16882), (221, 16933), (244, 17017), (246, 17023),

Gene: Axiom_21 Start: 15716, Stop: 16927, Start Num: 15

Candidate Starts for Axiom_21:

(Start: 15 @15716 has 109 MA's), (48, 15872), (58, 15926), (60, 15938), (61, 15941), (70, 16001), (90, 16115), (93, 16130), (102, 16181), (122, 16295), (135, 16367), (138, 16397), (143, 16433), (145, 16454), (167, 16592), (179, 16628), (181, 16637), (184, 16652), (196, 16697), (197, 16700), (203, 16727), (205, 16736), (221, 16829), (238, 16877), (242, 16904), (244, 16913), (246, 16919),

Gene: BarryBee_22 Start: 15830, Stop: 17041, Start Num: 15

Candidate Starts for BarryBee_22:

(Start: 15 @15830 has 109 MA's), (58, 16040), (60, 16052), (61, 16055), (67, 16103), (85, 16202), (90, 16229), (105, 16298), (116, 16352), (122, 16409), (136, 16484), (138, 16511), (141, 16541), (144, 16565), (150, 16619), (163, 16697), (181, 16751), (190, 16790), (195, 16808), (203, 16841), (205, 16850), (210, 16883), (212, 16892), (221, 16943), (244, 17027), (246, 17033),

Gene: BartholomewSD_22 Start: 15862, Stop: 17073, Start Num: 15

Candidate Starts for BartholomewSD_22:

(Start: 15 @15862 has 109 MA's), (58, 16072), (60, 16084), (61, 16087), (70, 16147), (90, 16261), (93, 16276), (116, 16384), (122, 16441), (125, 16453), (135, 16513), (145, 16600), (147, 16621), (167, 16738), (181, 16783), (184, 16798), (201, 16864), (205, 16882), (212, 16924), (215, 16951), (221, 16975), (244, 17059), (246, 17065),

Gene: Bauer_21 Start: 16040, Stop: 17158, Start Num: 17

Candidate Starts for Bauer_21:

(Start: 17 @16040 has 6 MA's), (37, 16127), (53, 16214), (55, 16223), (58, 16247), (60, 16259), (62, 16268), (90, 16430), (94, 16439), (95, 16442), (112, 16526), (113, 16538), (118, 16571), (127, 16622), (132, 16652), (142, 16730), (166, 16880), (175, 16916), (177, 16922), (195, 16994), (198, 17003), (234, 17150),

Gene: BeardedLady_21 Start: 16101, Stop: 17315, Start Num: 15

Candidate Starts for BeardedLady_21:

(Start: 15 @16101 has 109 MA's), (23, 16128), (58, 16311), (67, 16374), (85, 16473), (90, 16500), (105, 16569), (110, 16599), (131, 16719), (143, 16818), (180, 17016), (181, 17022), (190, 17061), (197, 17085), (203, 17112), (205, 17121), (210, 17154), (221, 17214), (228, 17244), (242, 17292), (244, 17301), (246, 17307),

Gene: BellaJr_21 Start: 16838, Stop: 17956, Start Num: 17

Candidate Starts for BellaJr_21:

(3, 16550), (4, 16559), (6, 16619), (7, 16685), (Start: 11 @16829 has 3 MA's), (Start: 13 @16832 has 8 MA's), (Start: 17 @16838 has 6 MA's), (21, 16847), (32, 16910), (37, 16925), (58, 17045), (62, 17066), (73, 17132), (77, 17156), (90, 17228), (94, 17237), (95, 17240), (105, 17282), (113, 17336), (116, 17357), (118, 17369), (120, 17390), (133, 17456), (166, 17678), (199, 17807), (210, 17855), (213, 17864), (218, 17903), (229, 17942),

Gene: Bimmel_61 Start: 38728, Stop: 39987, Start Num: 18

Candidate Starts for Bimmel_61:

(Start: 18 @38728 has 5 MA's), (23, 38746), (26, 38761), (27, 38770), (60, 38941), (100, 39187), (101, 39196), (134, 39403), (151, 39556), (164, 39622), (171, 39643), (187, 39679), (210, 39784), (214, 39808), (218, 39835), (228, 39874), (247, 39949), (248, 39982),

Gene: BlackSpider_19 Start: 15678, Stop: 16802, Start Num: 13

Candidate Starts for BlackSpider_19:

(3, 15396), (4, 15405), (6, 15465), (7, 15531), (Start: 11 @15675 has 3 MA's), (Start: 13 @15678 has 8 MA's), (Start: 17 @15684 has 6 MA's), (21, 15693), (32, 15756), (37, 15771), (58, 15891), (62, 15912), (73, 15978), (77, 16002), (90, 16074), (94, 16083), (95, 16086), (105, 16128), (113, 16182), (116, 16203), (118, 16215), (120, 16236), (133, 16302), (166, 16524), (199, 16653), (210, 16701), (213, 16710), (218, 16749), (229, 16788),

Gene: Bovely_20 Start: 15860, Stop: 17074, Start Num: 15

Candidate Starts for Bovely_20:

(Start: 15 @15860 has 109 MA's), (23, 15887), (58, 16070), (67, 16133), (85, 16232), (90, 16259), (105, 16328), (110, 16358), (131, 16478), (143, 16577), (180, 16775), (181, 16781), (190, 16820), (197, 16844), (203, 16871), (205, 16880), (210, 16913), (221, 16973), (228, 17003), (242, 17051), (244, 17060), (246, 17066),

Gene: Bowden_21 Start: 15794, Stop: 17005, Start Num: 15

Candidate Starts for Bowden_21:

(Start: 15 @15794 has 109 MA's), (58, 16004), (60, 16016), (61, 16019), (70, 16079), (90, 16193), (93, 16208), (102, 16259), (116, 16316), (122, 16373), (135, 16445), (143, 16511), (145, 16532), (147, 16553), (167, 16670), (181, 16715), (184, 16730), (201, 16796), (205, 16814), (212, 16856), (215, 16883), (221, 16907), (244, 16991), (246, 16997),

Gene: Brataylor_21 Start: 15847, Stop: 17058, Start Num: 15

Candidate Starts for Brataylor_21:

(Start: 15 @15847 has 109 MA's), (23, 15874), (52, 16027), (58, 16057), (67, 16120), (85, 16219), (90, 16246), (105, 16315), (116, 16369), (118, 16381), (122, 16426), (135, 16498), (136, 16501), (143, 16564), (145, 16585), (153, 16660), (180, 16762), (181, 16768), (189, 16804), (190, 16807), (195,

16825), (205, 16867), (243, 17041), (244, 17044), (246, 17050),

Gene: BrayBeast_18 Start: 14080, Stop: 15198, Start Num: 17

Candidate Starts for BrayBeast_18:

(Start: 13 @14074 has 8 MA's), (Start: 17 @14080 has 6 MA's), (21, 14089), (53, 14254), (58, 14287), (62, 14308), (90, 14470), (94, 14479), (105, 14524), (112, 14566), (113, 14578), (118, 14611), (189, 15013), (199, 15049), (218, 15145), (229, 15184), (234, 15190),

Gene: BroPlease_21 Start: 16546, Stop: 17751, Start Num: 15

Candidate Starts for BroPlease_21:

(10, 16528), (Start: 12 @16540 has 1 MA's), (Start: 15 @16546 has 109 MA's), (34, 16633), (54, 16732), (60, 16768), (70, 16831), (90, 16945), (92, 16957), (102, 17011), (105, 17014), (110, 17044), (116, 17068), (122, 17125), (131, 17164), (135, 17197), (136, 17200), (140, 17248), (181, 17467), (184, 17482), (196, 17527), (203, 17557), (207, 17572), (212, 17608), (242, 17728), (244, 17737), (246, 17743),

Gene: BryanRecycles_21 Start: 16017, Stop: 17219, Start Num: 15

Candidate Starts for BryanRecycles_21:

(Start: 15 @16017 has 109 MA's), (23, 16044), (58, 16227), (67, 16290), (85, 16389), (90, 16416), (105, 16485), (110, 16515), (180, 16932), (181, 16938), (190, 16977), (196, 16998), (203, 17028), (205, 17037), (210, 17070), (225, 17151), (241, 17193), (242, 17196), (244, 17205), (246, 17211),

Gene: Caelum_21 Start: 16340, Stop: 17551, Start Num: 15

Candidate Starts for Caelum_21:

(Start: 15 @16340 has 109 MA's), (23, 16367), (57, 16547), (60, 16562), (61, 16565), (70, 16625), (85, 16712), (90, 16739), (105, 16808), (116, 16862), (122, 16919), (143, 17057), (181, 17261), (193, 17315), (221, 17453), (242, 17528), (244, 17537), (246, 17543),

Gene: Caliburn_20 Start: 15834, Stop: 17048, Start Num: 15

Candidate Starts for Caliburn_20:

(Start: 15 @15834 has 109 MA's), (23, 15861), (58, 16044), (67, 16107), (85, 16206), (90, 16233), (105, 16302), (110, 16332), (131, 16452), (143, 16551), (180, 16749), (181, 16755), (190, 16794), (197, 16818), (203, 16845), (205, 16854), (210, 16887), (221, 16947), (228, 16977), (242, 17025), (244, 17034), (246, 17040),

Gene: Cassini_19 Start: 15921, Stop: 17039, Start Num: 17

Candidate Starts for Cassini_19:

(Start: 17 @15921 has 6 MA's), (21, 15930), (32, 15993), (37, 16008), (58, 16128), (62, 16149), (73, 16215), (77, 16239), (90, 16311), (94, 16320), (95, 16323), (99, 16347), (105, 16365), (113, 16419), (116, 16440), (118, 16452), (120, 16473), (133, 16539), (141, 16608), (166, 16761), (186, 16842), (199, 16890), (210, 16938), (213, 16947), (218, 16986), (229, 17025),

Gene: Celery_23 Start: 16489, Stop: 17706, Start Num: 15

Candidate Starts for Celery_23:

(Start: 15 @16489 has 109 MA's), (23, 16516), (31, 16567), (58, 16699), (66, 16759), (74, 16801), (105, 16957), (110, 16987), (119, 17044), (121, 17065), (122, 17068), (136, 17143), (138, 17170), (143, 17206), (181, 17410), (184, 17425), (192, 17458), (196, 17470), (205, 17509), (221, 17602), (228, 17632), (244, 17692), (246, 17698),

Gene: Celeste_20 Start: 15839, Stop: 17050, Start Num: 15

Candidate Starts for Celeste_20:

(Start: 15 @15839 has 109 MA's), (23, 15866), (47, 15992), (52, 16019), (58, 16049), (67, 16112), (85, 16211), (90, 16238), (105, 16307), (116, 16361), (118, 16373), (122, 16418), (135, 16490), (136,

16493), (143, 16556), (145, 16577), (153, 16652), (180, 16754), (181, 16760), (189, 16796), (190, 16799), (195, 16817), (205, 16859), (243, 17033), (244, 17036), (246, 17042),

Gene: Celia_20 Start: 16277, Stop: 17497, Start Num: 15

Candidate Starts for Celia_20:

(Start: 15 @16277 has 109 MA's), (26, 16319), (34, 16364), (48, 16433), (56, 16481), (58, 16487), (89, 16673), (90, 16676), (95, 16700), (105, 16745), (116, 16799), (138, 16958), (143, 16994), (173, 17177), (184, 17213), (190, 17237), (195, 17255), (197, 17261), (205, 17297), (212, 17339), (240, 17465), (244, 17483), (246, 17489),

Gene: Chucky_20 Start: 15831, Stop: 17042, Start Num: 15

Candidate Starts for Chucky_20:

(Start: 15 @15831 has 109 MA's), (58, 16041), (60, 16053), (61, 16056), (67, 16104), (85, 16203), (90, 16230), (105, 16299), (116, 16353), (122, 16410), (136, 16485), (138, 16512), (141, 16542), (144, 16566), (150, 16620), (163, 16698), (181, 16752), (190, 16791), (195, 16809), (203, 16842), (205, 16851), (210, 16884), (212, 16893), (221, 16944), (244, 17028), (246, 17034),

Gene: CocoCinnamon_22 Start: 15713, Stop: 16837, Start Num: 13

Candidate Starts for CocoCinnamon_22:

(Start: 13 @15713 has 8 MA's), (Start: 17 @15719 has 6 MA's), (58, 15926), (68, 15986), (94, 16118), (112, 16205), (113, 16217), (118, 16250), (120, 16271), (142, 16409), (166, 16559), (167, 16562), (175, 16595), (189, 16652), (191, 16658), (195, 16673), (234, 16829),

Gene: Conan_21 Start: 16260, Stop: 17477, Start Num: 15

Candidate Starts for Conan_21:

(Start: 15 @16260 has 109 MA's), (23, 16287), (31, 16338), (58, 16470), (74, 16572), (105, 16728), (110, 16758), (116, 16782), (119, 16815), (122, 16839), (136, 16914), (143, 16977), (181, 17181), (184, 17196), (196, 17241), (201, 17262), (205, 17280), (221, 17373), (228, 17403), (244, 17463), (246, 17469),

Gene: Danzina_21 Start: 16049, Stop: 17260, Start Num: 15

Candidate Starts for Danzina_21:

(Start: 15 @16049 has 109 MA's), (23, 16076), (47, 16202), (49, 16208), (52, 16229), (58, 16259), (67, 16322), (85, 16421), (90, 16448), (105, 16517), (116, 16571), (117, 16574), (118, 16583), (122, 16628), (135, 16700), (136, 16703), (143, 16766), (145, 16787), (153, 16862), (180, 16964), (181, 16970), (189, 17006), (190, 17009), (195, 17027), (205, 17069), (243, 17243), (244, 17246), (246, 17252),

Gene: Dattran_21 Start: 15838, Stop: 17049, Start Num: 15

Candidate Starts for Dattran_21:

(Start: 15 @15838 has 109 MA's), (23, 15865), (47, 15991), (52, 16018), (58, 16048), (67, 16111), (85, 16210), (90, 16237), (105, 16306), (116, 16360), (118, 16372), (122, 16417), (135, 16489), (136, 16492), (143, 16555), (145, 16576), (153, 16651), (180, 16753), (181, 16759), (189, 16795), (190, 16798), (195, 16816), (205, 16858), (243, 17032), (244, 17035), (246, 17041),

Gene: Daudau_20 Start: 15774, Stop: 16985, Start Num: 15

Candidate Starts for Daudau_20:

(Start: 15 @15774 has 109 MA's), (32, 15855), (39, 15882), (54, 15960), (58, 15984), (60, 15996), (70, 16059), (88, 16158), (90, 16173), (93, 16188), (116, 16296), (122, 16353), (135, 16425), (143, 16491), (167, 16650), (181, 16695), (184, 16710), (205, 16794), (207, 16800), (212, 16836), (215, 16863), (221, 16887), (244, 16971), (246, 16977),

Gene: Dexers_19 Start: 16241, Stop: 17458, Start Num: 15

Candidate Starts for Dexers_19:

(Start: 15 @16241 has 109 MA's), (23, 16268), (31, 16319), (58, 16451), (61, 16466), (74, 16553), (85, 16613), (105, 16709), (110, 16739), (122, 16820), (136, 16895), (138, 16922), (143, 16958), (176, 17147), (181, 17162), (184, 17177), (196, 17222), (201, 17243), (205, 17261), (221, 17354), (228, 17384), (244, 17444), (246, 17450),

Gene: Diane_20 Start: 16306, Stop: 17520, Start Num: 15

Candidate Starts for Diane_20:

(Start: 15 @16306 has 109 MA's), (23, 16333), (39, 16414), (42, 16432), (54, 16492), (56, 16510), (60, 16528), (61, 16531), (70, 16591), (90, 16705), (116, 16828), (122, 16885), (167, 17182), (180, 17221), (181, 17227), (197, 17290), (221, 17419), (242, 17497), (244, 17506), (246, 17512),

Gene: DillyDally_17 Start: 14366, Stop: 15832, Start Num: 11

Candidate Starts for DillyDally_17:

(Start: 11 @14366 has 3 MA's), (Start: 13 @14369 has 8 MA's), (23, 14396), (41, 14489), (50, 14528), (90, 14759), (96, 14786), (113, 14870), (116, 14891), (118, 14903), (129, 14981), (138, 15047), (143, 15083), (151, 15158), (153, 15170), (155, 15176), (208, 15419), (231, 15524), (242, 15575), (252, 15710), (253, 15731), (254, 15743), (255, 15752),

Gene: Dwayne_20 Start: 15827, Stop: 17038, Start Num: 15

Candidate Starts for Dwayne_20:

(Start: 15 @15827 has 109 MA's), (58, 16037), (60, 16049), (61, 16052), (67, 16100), (85, 16199), (90, 16226), (105, 16295), (116, 16349), (122, 16406), (136, 16481), (138, 16508), (141, 16538), (144, 16562), (150, 16616), (163, 16694), (181, 16748), (190, 16787), (195, 16805), (203, 16838), (205, 16847), (210, 16880), (212, 16889), (221, 16940), (244, 17024), (246, 17030),

Gene: ELB20_19 Start: 15893, Stop: 17104, Start Num: 15

Candidate Starts for ELB20_19:

(Start: 15 @15893 has 109 MA's), (39, 16001), (58, 16103), (60, 16115), (61, 16118), (70, 16178), (90, 16292), (93, 16307), (116, 16415), (119, 16448), (122, 16472), (135, 16544), (138, 16574), (144, 16628), (145, 16631), (147, 16652), (167, 16769), (181, 16814), (184, 16829), (205, 16913), (206, 16916), (207, 16919), (212, 16955), (217, 16994), (221, 17006), (235, 17045), (242, 17081), (244, 17090), (246, 17096),

Gene: Eddasa_21 Start: 16017, Stop: 17219, Start Num: 15

Candidate Starts for Eddasa_21:

(Start: 15 @16017 has 109 MA's), (23, 16044), (58, 16227), (67, 16290), (85, 16389), (90, 16416), (105, 16485), (110, 16515), (180, 16932), (181, 16938), (190, 16977), (196, 16998), (203, 17028), (205, 17037), (210, 17070), (225, 17151), (241, 17193), (242, 17196), (244, 17205), (246, 17211),

Gene: Ejemplo_20 Start: 15827, Stop: 17038, Start Num: 15

Candidate Starts for Ejemplo_20:

(Start: 15 @15827 has 109 MA's), (23, 15854), (58, 16037), (60, 16049), (61, 16052), (85, 16199), (90, 16226), (116, 16349), (122, 16406), (136, 16481), (138, 16508), (141, 16538), (145, 16565), (150, 16616), (181, 16748), (190, 16787), (195, 16805), (202, 16835), (203, 16838), (205, 16847), (210, 16880), (212, 16889), (221, 16940), (239, 17000), (244, 17024), (246, 17030),

Gene: ElGato_21 Start: 16263, Stop: 17480, Start Num: 15

Candidate Starts for ElGato_21:

(Start: 15 @16263 has 109 MA's), (23, 16290), (31, 16341), (58, 16473), (74, 16575), (105, 16731), (110, 16761), (116, 16785), (119, 16818), (122, 16842), (136, 16917), (143, 16980), (176, 17169), (181, 17184), (184, 17199), (196, 17244), (201, 17265), (205, 17283), (221, 17376), (228, 17406), (244, 17466), (246, 17472),

Gene: Elener_20 Start: 16464, Stop: 17870, Start Num: 14

Candidate Starts for Elener_20:

(1, 15846), (2, 16167), (5, 16203), (Start: 14 @16464 has 4 MA's), (21, 16482), (25, 16503), (45, 16602), (58, 16668), (80, 16821), (82, 16830), (124, 17175), (153, 17415), (156, 17442), (178, 17529), (182, 17544), (184, 17559), (210, 17673), (230, 17766), (244, 17826),

Gene: Emaanora_22 Start: 15830, Stop: 17041, Start Num: 15

Candidate Starts for Emaanora_22:

(Start: 15 @15830 has 109 MA's), (58, 16040), (60, 16052), (61, 16055), (67, 16103), (85, 16202), (90, 16229), (105, 16298), (116, 16352), (122, 16409), (136, 16484), (138, 16511), (141, 16541), (144, 16565), (150, 16619), (163, 16697), (181, 16751), (190, 16790), (195, 16808), (203, 16841), (205, 16850), (210, 16883), (212, 16892), (221, 16943), (244, 17027), (246, 17033),

Gene: EnochSoames_22 Start: 16013, Stop: 17215, Start Num: 15

Candidate Starts for EnochSoames_22:

(Start: 15 @16013 has 109 MA's), (23, 16040), (58, 16223), (67, 16286), (85, 16385), (90, 16412), (105, 16481), (110, 16511), (131, 16631), (180, 16928), (181, 16934), (190, 16973), (196, 16994), (203, 17024), (205, 17033), (210, 17066), (225, 17147), (241, 17189), (242, 17192), (244, 17201), (246, 17207),

Gene: Esperer_20 Start: 15854, Stop: 17068, Start Num: 15

Candidate Starts for Esperer_20:

(Start: 15 @15854 has 109 MA's), (23, 15881), (58, 16064), (67, 16127), (85, 16226), (90, 16253), (105, 16322), (110, 16352), (131, 16472), (143, 16571), (180, 16769), (181, 16775), (190, 16814), (197, 16838), (203, 16865), (205, 16874), (210, 16907), (221, 16967), (228, 16997), (242, 17045), (244, 17054), (246, 17060),

Gene: GirlDinner_20 Start: 15565, Stop: 16776, Start Num: 15

Candidate Starts for GirlDinner_20:

(Start: 15 @15565 has 109 MA's), (58, 15775), (60, 15787), (61, 15790), (70, 15850), (90, 15964), (93, 15979), (102, 16030), (135, 16216), (143, 16282), (144, 16300), (145, 16303), (167, 16441), (181, 16486), (184, 16501), (196, 16546), (197, 16549), (200, 16564), (203, 16576), (205, 16585), (221, 16678), (244, 16762), (246, 16768),

Gene: Goby_20 Start: 15844, Stop: 17055, Start Num: 15

Candidate Starts for Goby_20:

(Start: 15 @15844 has 109 MA's), (23, 15871), (47, 15997), (52, 16024), (58, 16054), (67, 16117), (85, 16216), (90, 16243), (105, 16312), (116, 16366), (118, 16378), (122, 16423), (135, 16495), (136, 16498), (143, 16561), (145, 16582), (153, 16657), (180, 16759), (181, 16765), (189, 16801), (190, 16804), (195, 16822), (205, 16864), (243, 17038), (244, 17041), (246, 17047),

Gene: Godpower_21 Start: 15855, Stop: 17066, Start Num: 15

Candidate Starts for Godpower_21:

(Start: 15 @15855 has 109 MA's), (23, 15882), (58, 16065), (60, 16077), (61, 16080), (67, 16128), (85, 16227), (90, 16254), (105, 16323), (116, 16377), (122, 16434), (136, 16509), (141, 16566), (145, 16593), (181, 16776), (190, 16815), (202, 16863), (203, 16866), (205, 16875), (210, 16908), (244, 17052), (246, 17058),

Gene: GreenWeasel_22 Start: 16555, Stop: 17760, Start Num: 15

Candidate Starts for GreenWeasel_22:

(10, 16537), (Start: 12 @16549 has 1 MA's), (Start: 15 @16555 has 109 MA's), (34, 16642), (54, 16741), (60, 16777), (70, 16840), (90, 16954), (92, 16966), (102, 17020), (105, 17023), (110, 17053),

(116, 17077), (122, 17134), (131, 17173), (135, 17206), (136, 17209), (140, 17257), (181, 17476), (184, 17491), (196, 17536), (203, 17566), (207, 17581), (212, 17617), (242, 17737), (244, 17746), (246, 17752),

Gene: Haizum_20 Start: 16338, Stop: 17552, Start Num: 15

Candidate Starts for Haizum_20:

(Start: 15 @16338 has 109 MA's), (23, 16365), (39, 16446), (54, 16524), (56, 16542), (60, 16560), (61, 16563), (70, 16623), (90, 16737), (116, 16860), (122, 16917), (167, 17214), (181, 17259), (197, 17322), (221, 17451), (242, 17529), (244, 17538), (246, 17544),

Gene: Hank144_21 Start: 15960, Stop: 17171, Start Num: 15

Candidate Starts for Hank144_21:

(Start: 15 @15960 has 109 MA's), (39, 16068), (41, 16083), (58, 16170), (60, 16182), (61, 16185), (70, 16245), (90, 16359), (93, 16374), (116, 16482), (135, 16611), (143, 16677), (145, 16698), (147, 16719), (167, 16836), (180, 16875), (181, 16881), (184, 16896), (203, 16971), (205, 16980), (221, 17073), (244, 17157), (246, 17163),

Gene: Hippo_20 Start: 15830, Stop: 17041, Start Num: 15

Candidate Starts for Hippo_20:

(Start: 15 @15830 has 109 MA's), (58, 16040), (60, 16052), (61, 16055), (67, 16103), (85, 16202), (90, 16229), (105, 16298), (116, 16352), (122, 16409), (136, 16484), (138, 16511), (141, 16541), (144, 16565), (150, 16619), (163, 16697), (181, 16751), (190, 16790), (195, 16808), (203, 16841), (205, 16850), (210, 16883), (212, 16892), (221, 16943), (228, 16973), (244, 17027), (246, 17033),

Gene: Hum25_19 Start: 13554, Stop: 15002, Start Num: 11

Candidate Starts for Hum25_19:

(9, 13542), (Start: 11 @13554 has 3 MA's), (20, 13569), (23, 13584), (39, 13662), (41, 13677), (43, 13683), (44, 13689), (46, 13704), (50, 13716), (54, 13740), (68, 13824), (90, 13947), (96, 13974), (100, 13989), (112, 14046), (115, 14076), (118, 14091), (128, 14145), (129, 14151), (137, 14202), (138, 14217), (142, 14250), (150, 14316), (151, 14328), (167, 14415), (170, 14436), (178, 14457), (201, 14556), (212, 14610), (217, 14649), (218, 14652), (231, 14694), (249, 14820), (251, 14853), (253, 14901),

Gene: Hydra_22 Start: 16382, Stop: 17596, Start Num: 15

Candidate Starts for Hydra_22:

(Start: 15 @16382 has 109 MA's), (23, 16409), (58, 16592), (67, 16655), (85, 16754), (90, 16781), (105, 16850), (110, 16880), (131, 17000), (143, 17099), (180, 17297), (181, 17303), (190, 17342), (197, 17366), (203, 17393), (205, 17402), (210, 17435), (221, 17495), (228, 17525), (242, 17573), (244, 17582), (246, 17588),

Gene: Ibantik_81 Start: 42960, Stop: 44192, Start Num: 18

Candidate Starts for Ibantik_81:

(Start: 18 @42960 has 5 MA's), (34, 43035), (35, 43038), (51, 43125), (59, 43161), (72, 43257), (83, 43329), (86, 43335), (87, 43338), (92, 43374), (97, 43404), (116, 43485), (129, 43578), (145, 43707), (157, 43803), (168, 43830), (210, 43989), (212, 43998), (214, 44013), (216, 44031), (217, 44037), (224, 44061), (235, 44088), (247, 44154), (248, 44187),

Gene: Indigo_20 Start: 15854, Stop: 17068, Start Num: 15

Candidate Starts for Indigo_20:

(Start: 15 @15854 has 109 MA's), (23, 15881), (58, 16064), (67, 16127), (85, 16226), (90, 16253), (105, 16322), (110, 16352), (131, 16472), (143, 16571), (180, 16769), (181, 16775), (190, 16814), (197, 16838), (203, 16865), (205, 16874), (210, 16907), (221, 16967), (228, 16997), (242, 17045), (244, 17054), (246, 17060),

Gene: Issmi_21 Start: 16769, Stop: 17983, Start Num: 15

Candidate Starts for Issmi_21:

(Start: 15 @16769 has 109 MA's), (23, 16796), (41, 16892), (56, 16973), (58, 16979), (60, 16991), (61, 16994), (70, 17054), (71, 17066), (90, 17168), (92, 17180), (105, 17237), (116, 17291), (122, 17348), (143, 17486), (181, 17690), (197, 17753), (203, 17780), (206, 17792), (221, 17882), (242, 17960), (244, 17969), (246, 17975),

Gene: Itza_20 Start: 16200, Stop: 17420, Start Num: 15

Candidate Starts for Itza_20:

(Start: 15 @16200 has 109 MA's), (26, 16242), (34, 16287), (48, 16356), (56, 16404), (58, 16410), (89, 16596), (90, 16599), (95, 16623), (105, 16668), (116, 16722), (138, 16881), (143, 16917), (173, 17100), (184, 17136), (190, 17160), (195, 17178), (197, 17184), (205, 17220), (212, 17262), (240, 17388), (244, 17406), (246, 17412),

Gene: Izzy_21 Start: 16064, Stop: 17266, Start Num: 15

Candidate Starts for Izzy_21:

(Start: 15 @16064 has 109 MA's), (23, 16091), (58, 16274), (67, 16337), (85, 16436), (90, 16463), (105, 16532), (110, 16562), (180, 16979), (181, 16985), (190, 17024), (196, 17045), (203, 17075), (205, 17084), (210, 17117), (225, 17198), (241, 17240), (242, 17243), (244, 17252), (246, 17258),

Gene: Janus_21 Start: 15903, Stop: 17114, Start Num: 15

Candidate Starts for Janus_21:

(Start: 15 @15903 has 109 MA's), (58, 16113), (60, 16125), (61, 16128), (70, 16188), (71, 16200), (90, 16302), (93, 16317), (102, 16368), (134, 16542), (135, 16554), (143, 16620), (144, 16638), (145, 16641), (167, 16779), (181, 16824), (184, 16839), (196, 16884), (197, 16887), (203, 16914), (205, 16923), (221, 17016), (244, 17100), (246, 17106),

Gene: Jash_21 Start: 16017, Stop: 17219, Start Num: 15

Candidate Starts for Jash_21:

(Start: 15 @16017 has 109 MA's), (23, 16044), (58, 16227), (67, 16290), (85, 16389), (90, 16416), (105, 16485), (110, 16515), (180, 16932), (181, 16938), (190, 16977), (196, 16998), (203, 17028), (205, 17037), (210, 17070), (225, 17151), (241, 17193), (242, 17196), (244, 17205), (246, 17211),

Gene: JeanClaude_18 Start: 13987, Stop: 15105, Start Num: 17

Candidate Starts for JeanClaude_18:

(Start: 13 @13981 has 8 MA's), (Start: 17 @13987 has 6 MA's), (21, 13996), (53, 14161), (58, 14194), (62, 14215), (77, 14305), (90, 14377), (94, 14386), (105, 14431), (112, 14473), (113, 14485), (118, 14518), (189, 14920), (218, 15052), (229, 15091), (234, 15097),

Gene: Jevington_22 Start: 16207, Stop: 17418, Start Num: 15

Candidate Starts for Jevington_22:

(Start: 15 @16207 has 109 MA's), (32, 16288), (58, 16417), (60, 16429), (70, 16492), (90, 16606), (93, 16621), (116, 16729), (119, 16762), (122, 16786), (135, 16858), (143, 16924), (144, 16942), (145, 16945), (147, 16966), (167, 17083), (181, 17128), (184, 17143), (205, 17227), (207, 17233), (217, 17308), (221, 17320), (242, 17395), (244, 17404), (246, 17410),

Gene: Jhitchelle_19 Start: 16170, Stop: 17387, Start Num: 15

Candidate Starts for Jhitchelle_19:

(Start: 15 @16170 has 109 MA's), (23, 16197), (31, 16248), (44, 16305), (58, 16380), (66, 16440), (105, 16638), (109, 16665), (119, 16725), (122, 16749), (136, 16824), (143, 16887), (176, 17076), (181, 17091), (184, 17106), (205, 17190), (221, 17283), (244, 17373), (246, 17379),

Gene: Kaine_20 Start: 16241, Stop: 17458, Start Num: 15

Candidate Starts for Kaine_20:

(Start: 15 @16241 has 109 MA's), (23, 16268), (31, 16319), (58, 16451), (61, 16466), (74, 16553), (85, 16613), (105, 16709), (110, 16739), (119, 16796), (122, 16820), (136, 16895), (138, 16922), (143, 16958), (176, 17147), (181, 17162), (184, 17177), (196, 17222), (201, 17243), (205, 17261), (221, 17354), (228, 17384), (244, 17444), (246, 17450),

Gene: Katalie_21 Start: 16096, Stop: 17307, Start Num: 15

Candidate Starts for Katalie_21:

(Start: 15 @16096 has 109 MA's), (23, 16123), (52, 16276), (58, 16306), (67, 16369), (85, 16468), (90, 16495), (105, 16564), (122, 16675), (135, 16747), (136, 16750), (138, 16777), (143, 16813), (145, 16834), (181, 17017), (189, 17053), (190, 17056), (195, 17074), (205, 17116), (221, 17209), (244, 17293), (246, 17299),

Gene: Khuang_16 Start: 13963, Stop: 15075, Start Num: 14

Candidate Starts for Khuang_16:

(4, 13687), (Start: 13 @13960 has 8 MA's), (Start: 14 @13963 has 4 MA's), (28, 14017), (39, 14056), (43, 14077), (58, 14158), (61, 14173), (66, 14212), (90, 14341), (101, 14389), (102, 14392), (113, 14443), (123, 14512), (128, 14530), (142, 14635), (172, 14815), (184, 14857), (202, 14929), (206, 14944), (229, 15058),

Gene: Kromp_19 Start: 17084, Stop: 18241, Start Num: 18

Candidate Starts for Kromp_19:

(Start: 18 @17084 has 5 MA's), (47, 17225), (60, 17294), (91, 17492), (102, 17549), (111, 17588), (127, 17687), (152, 17888), (154, 17900), (200, 18083), (211, 18140), (217, 18185), (218, 18188),

Gene: Kumotta_19 Start: 15048, Stop: 16172, Start Num: 13

Candidate Starts for Kumotta_19:

(Start: 11 @15045 has 3 MA's), (Start: 13 @15048 has 8 MA's), (41, 15162), (50, 15201), (54, 15225), (61, 15264), (105, 15489), (106, 15501), (112, 15531), (113, 15543), (114, 15555), (116, 15564), (151, 15813), (160, 15861), (162, 15864),

Gene: Lannister_21 Start: 15861, Stop: 17075, Start Num: 15

Candidate Starts for Lannister_21:

(Start: 15 @15861 has 109 MA's), (23, 15888), (58, 16071), (60, 16083), (67, 16134), (85, 16233), (90, 16260), (105, 16329), (116, 16383), (122, 16440), (136, 16515), (138, 16542), (141, 16572), (144, 16596), (181, 16782), (190, 16821), (195, 16839), (202, 16869), (203, 16872), (205, 16881), (210, 16914), (212, 16923), (243, 17058), (244, 17061), (246, 17067),

Gene: Legacy_20 Start: 15825, Stop: 17039, Start Num: 15

Candidate Starts for Legacy_20:

(Start: 15 @15825 has 109 MA's), (23, 15852), (58, 16035), (67, 16098), (85, 16197), (90, 16224), (105, 16293), (110, 16323), (131, 16443), (143, 16542), (180, 16740), (181, 16746), (190, 16785), (197, 16809), (203, 16836), (205, 16845), (210, 16878), (221, 16938), (228, 16968), (242, 17016), (244, 17025), (246, 17031),

Gene: Leviticus_20 Start: 15854, Stop: 17068, Start Num: 15

Candidate Starts for Leviticus_20:

(Start: 15 @15854 has 109 MA's), (23, 15881), (58, 16064), (67, 16127), (85, 16226), (90, 16253), (105, 16322), (110, 16352), (131, 16472), (143, 16571), (180, 16769), (181, 16775), (190, 16814), (197, 16838), (203, 16865), (205, 16874), (210, 16907), (221, 16967), (228, 16997), (242, 17045), (244, 17054), (246, 17060),

Gene: Lika_20 Start: 15859, Stop: 17070, Start Num: 15

Candidate Starts for Lika_20:

(Start: 15 @15859 has 109 MA's), (23, 15886), (58, 16069), (60, 16081), (61, 16084), (67, 16132), (85, 16231), (90, 16258), (105, 16327), (116, 16381), (122, 16438), (136, 16513), (141, 16570), (145, 16597), (181, 16780), (190, 16819), (202, 16867), (203, 16870), (205, 16879), (210, 16912), (244, 17056), (246, 17062),

Gene: Loofah_21 Start: 15822, Stop: 17033, Start Num: 15

Candidate Starts for Loofah_21:

(Start: 15 @15822 has 109 MA's), (39, 15930), (58, 16032), (60, 16044), (61, 16047), (70, 16107), (90, 16221), (93, 16236), (116, 16344), (119, 16377), (122, 16401), (135, 16473), (138, 16503), (144, 16557), (145, 16560), (147, 16581), (167, 16698), (181, 16743), (184, 16758), (205, 16842), (206, 16845), (207, 16848), (212, 16884), (217, 16923), (221, 16935), (235, 16974), (241, 17007), (242, 17010), (244, 17019), (246, 17025),

Gene: Lorelei_20 Start: 15829, Stop: 17040, Start Num: 15

Candidate Starts for Lorelei_20:

(Start: 15 @15829 has 109 MA's), (23, 15856), (52, 16009), (58, 16039), (67, 16102), (85, 16201), (90, 16228), (105, 16297), (116, 16351), (117, 16354), (118, 16363), (122, 16408), (135, 16480), (136, 16483), (143, 16546), (145, 16567), (153, 16642), (163, 16696), (180, 16744), (181, 16750), (189, 16786), (190, 16789), (195, 16807), (205, 16849), (243, 17023), (244, 17026), (246, 17032),

Gene: Maja_18 Start: 14689, Stop: 15813, Start Num: 13

Candidate Starts for Maja_18:

(Start: 11 @14686 has 3 MA's), (Start: 13 @14689 has 8 MA's), (Start: 17 @14695 has 6 MA's), (58, 14902), (68, 14962), (94, 15094), (99, 15121), (112, 15181), (113, 15193), (118, 15226), (120, 15247), (142, 15385), (166, 15535), (189, 15628), (191, 15634), (195, 15649), (234, 15805),

Gene: Maneekul_20 Start: 15826, Stop: 17037, Start Num: 15

Candidate Starts for Maneekul_20:

(Start: 15 @15826 has 109 MA's), (23, 15853), (58, 16036), (60, 16048), (61, 16051), (85, 16198), (90, 16225), (116, 16348), (122, 16405), (136, 16480), (138, 16507), (141, 16537), (145, 16564), (150, 16615), (181, 16747), (190, 16786), (195, 16804), (202, 16834), (203, 16837), (205, 16846), (210, 16879), (212, 16888), (221, 16939), (239, 16999), (244, 17023), (246, 17029),

Gene: Marav_23 Start: 16557, Stop: 17768, Start Num: 15

Candidate Starts for Marav_23:

(Start: 15 @16557 has 109 MA's), (32, 16638), (58, 16767), (60, 16779), (70, 16842), (90, 16956), (93, 16971), (116, 17079), (119, 17112), (135, 17208), (138, 17238), (143, 17274), (144, 17292), (145, 17295), (147, 17316), (167, 17433), (181, 17478), (184, 17493), (205, 17577), (207, 17583), (217, 17658), (221, 17670), (242, 17745), (244, 17754), (246, 17760),

Gene: MargaretKali_19 Start: 14683, Stop: 15807, Start Num: 13

Candidate Starts for MargaretKali_19:

(Start: 11 @14680 has 3 MA's), (Start: 13 @14683 has 8 MA's), (41, 14797), (50, 14836), (54, 14860), (61, 14899), (105, 15124), (106, 15136), (112, 15166), (113, 15178), (114, 15190), (116, 15199), (151, 15448), (160, 15496), (162, 15499),

Gene: Merpity_20 Start: 13774, Stop: 14892, Start Num: 17

Candidate Starts for Merpity_20:

(Start: 17 @13774 has 6 MA's), (34, 13852), (37, 13861), (58, 13981), (60, 13993), (62, 14002), (77, 14092), (90, 14164), (94, 14173), (95, 14176), (105, 14218), (113, 14272), (118, 14305), (127, 14356), (149, 14524), (166, 14614), (186, 14695), (199, 14743), (210, 14791), (213, 14800), (218, 14839),

(229, 14878),

Gene: MrSmee_18 Start: 13774, Stop: 14892, Start Num: 17

Candidate Starts for MrSmee_18:

(Start: 17 @13774 has 6 MA's), (34, 13852), (37, 13861), (58, 13981), (60, 13993), (62, 14002), (77, 14092), (90, 14164), (94, 14173), (95, 14176), (105, 14218), (113, 14272), (118, 14305), (127, 14356), (149, 14524), (166, 14614), (186, 14695), (199, 14743), (210, 14791), (213, 14800), (218, 14839), (229, 14878),

Gene: Nabi_20 Start: 15829, Stop: 17040, Start Num: 15

Candidate Starts for Nabi_20:

(Start: 15 @15829 has 109 MA's), (23, 15856), (52, 16009), (58, 16039), (67, 16102), (85, 16201), (90, 16228), (105, 16297), (116, 16351), (117, 16354), (118, 16363), (122, 16408), (135, 16480), (136, 16483), (143, 16546), (145, 16567), (153, 16642), (163, 16696), (180, 16744), (181, 16750), (189, 16786), (190, 16789), (195, 16807), (205, 16849), (243, 17023), (244, 17026), (246, 17032),

Gene: Nanodon_22 Start: 16037, Stop: 17248, Start Num: 15

Candidate Starts for Nanodon_22:

(Start: 15 @16037 has 109 MA's), (23, 16064), (52, 16217), (58, 16247), (67, 16310), (85, 16409), (88, 16421), (90, 16436), (105, 16505), (116, 16559), (135, 16688), (136, 16691), (143, 16754), (144, 16772), (181, 16958), (189, 16994), (190, 16997), (195, 17015), (205, 17057), (221, 17150), (244, 17234), (246, 17240),

Gene: Nerdos_20 Start: 15854, Stop: 17068, Start Num: 15

Candidate Starts for Nerdos_20:

(Start: 15 @15854 has 109 MA's), (23, 15881), (58, 16064), (67, 16127), (85, 16226), (90, 16253), (105, 16322), (110, 16352), (131, 16472), (143, 16571), (180, 16769), (181, 16775), (190, 16814), (197, 16838), (203, 16865), (205, 16874), (210, 16907), (221, 16967), (228, 16997), (242, 17045), (244, 17054), (246, 17060),

Gene: Nishikigoi_20 Start: 16338, Stop: 17552, Start Num: 15

Candidate Starts for Nishikigoi_20:

(Start: 15 @16338 has 109 MA's), (23, 16365), (39, 16446), (54, 16524), (56, 16542), (60, 16560), (61, 16563), (70, 16623), (90, 16737), (105, 16806), (116, 16860), (122, 16917), (167, 17214), (181, 17259), (197, 17322), (221, 17451), (242, 17529), (244, 17538), (246, 17544),

Gene: Oliynyk_21 Start: 16017, Stop: 17219, Start Num: 15

Candidate Starts for Oliynyk_21:

(Start: 15 @16017 has 109 MA's), (23, 16044), (58, 16227), (67, 16290), (85, 16389), (90, 16416), (105, 16485), (110, 16515), (180, 16932), (181, 16938), (190, 16977), (196, 16998), (203, 17028), (205, 17037), (210, 17070), (225, 17151), (241, 17193), (242, 17196), (244, 17205), (246, 17211),

Gene: Omar_21 Start: 16673, Stop: 17887, Start Num: 15

Candidate Starts for Omar_21:

(Start: 15 @16673 has 109 MA's), (23, 16700), (54, 16859), (56, 16877), (58, 16883), (60, 16895), (61, 16898), (70, 16958), (90, 17072), (105, 17141), (116, 17195), (119, 17228), (122, 17252), (138, 17354), (139, 17360), (176, 17579), (179, 17585), (181, 17594), (206, 17696), (221, 17786), (242, 17864), (244, 17873), (246, 17879),

Gene: Ozzie_20 Start: 15834, Stop: 17048, Start Num: 15

Candidate Starts for Ozzie_20:

(Start: 15 @15834 has 109 MA's), (23, 15861), (58, 16044), (67, 16107), (85, 16206), (90, 16233), (105, 16302), (110, 16332), (131, 16452), (143, 16551), (180, 16749), (181, 16755), (190, 16794),

(197, 16818), (203, 16845), (205, 16854), (210, 16887), (221, 16947), (228, 16977), (242, 17025), (244, 17034), (246, 17040),

Gene: OzzyJ_21 Start: 15821, Stop: 17032, Start Num: 15

Candidate Starts for OzzyJ_21:

(Start: 15 @15821 has 109 MA's), (58, 16031), (60, 16043), (61, 16046), (67, 16094), (85, 16193), (90, 16220), (105, 16289), (116, 16343), (122, 16400), (136, 16475), (138, 16502), (141, 16532), (144, 16556), (150, 16610), (163, 16688), (181, 16742), (190, 16781), (195, 16799), (203, 16832), (205, 16841), (210, 16874), (212, 16883), (221, 16934), (244, 17018), (246, 17024),

Gene: Pablito_20 Start: 15663, Stop: 16874, Start Num: 15

Candidate Starts for Pablito_20:

(Start: 15 @15663 has 109 MA's), (39, 15771), (41, 15786), (58, 15873), (60, 15885), (61, 15888), (70, 15948), (90, 16062), (93, 16077), (116, 16185), (119, 16218), (135, 16314), (138, 16344), (143, 16380), (144, 16398), (145, 16401), (147, 16422), (167, 16539), (181, 16584), (184, 16599), (196, 16644), (203, 16674), (217, 16764), (221, 16776), (241, 16848), (242, 16851), (244, 16860), (246, 16866),

Gene: Paedore_20 Start: 15822, Stop: 17033, Start Num: 15

Candidate Starts for Paedore_20:

(Start: 15 @15822 has 109 MA's), (39, 15930), (58, 16032), (60, 16044), (61, 16047), (70, 16107), (90, 16221), (93, 16236), (116, 16344), (119, 16377), (122, 16401), (135, 16473), (138, 16503), (144, 16557), (145, 16560), (147, 16581), (167, 16698), (181, 16743), (184, 16758), (205, 16842), (206, 16845), (207, 16848), (212, 16884), (217, 16923), (221, 16935), (235, 16974), (241, 17007), (242, 17010), (244, 17019), (246, 17025),

Gene: Paolo_22 Start: 16220, Stop: 17431, Start Num: 15

Candidate Starts for Paolo_22:

(Start: 15 @16220 has 109 MA's), (32, 16301), (58, 16430), (60, 16442), (70, 16505), (90, 16619), (93, 16634), (116, 16742), (119, 16775), (122, 16799), (135, 16871), (143, 16937), (144, 16955), (145, 16958), (147, 16979), (167, 17096), (181, 17141), (184, 17156), (205, 17240), (207, 17246), (217, 17321), (221, 17333), (242, 17408), (244, 17417), (246, 17423),

Gene: Parvaparticeps_33 Start: 23477, Stop: 22143, Start Num: 14

Candidate Starts for Parvaparticeps_33:

(Start: 14 @23477 has 4 MA's), (25, 23438), (53, 23294), (54, 23291), (60, 23255), (64, 23237), (69, 23204), (70, 23201), (72, 23186), (75, 23171), (76, 23162), (82, 23105), (103, 22967), (104, 22955), (113, 22895), (116, 22874), (127, 22793), (129, 22784), (130, 22781), (132, 22763), (137, 22733), (141, 22688), (142, 22685), (153, 22592), (160, 22547), (164, 22535), (165, 22529), (178, 22478), (182, 22463), (195, 22406), (196, 22403), (208, 22352), (209, 22343), (210, 22334), (219, 22280), (227, 22250), (230, 22244), (233, 22241), (237, 22232), (243, 22190),

Gene: Pavo_21 Start: 16533, Stop: 17750, Start Num: 15

Candidate Starts for Pavo_21:

(Start: 15 @16533 has 109 MA's), (23, 16560), (31, 16611), (58, 16743), (74, 16845), (105, 17001), (110, 17031), (116, 17055), (119, 17088), (122, 17112), (136, 17187), (143, 17250), (181, 17454), (184, 17469), (196, 17514), (201, 17535), (205, 17553), (221, 17646), (228, 17676), (244, 17736), (246, 17742),

Gene: Phettuccine_20 Start: 15854, Stop: 17068, Start Num: 15

Candidate Starts for Phettuccine_20:

(Start: 15 @15854 has 109 MA's), (23, 15881), (58, 16064), (67, 16127), (85, 16226), (90, 16253), (105, 16322), (110, 16352), (131, 16472), (143, 16571), (180, 16769), (181, 16775), (190, 16814),

(197, 16838), (203, 16865), (205, 16874), (210, 16907), (221, 16967), (228, 16997), (242, 17045), (244, 17054), (246, 17060),

Gene: Pigu_18 Start: 13784, Stop: 14902, Start Num: 17

Candidate Starts for Pigu_18:

(Start: 11 @13775 has 3 MA's), (Start: 13 @13778 has 8 MA's), (Start: 17 @13784 has 6 MA's), (37, 13871), (58, 13991), (68, 14051), (90, 14174), (94, 14183), (95, 14186), (99, 14210), (112, 14270), (113, 14282), (116, 14303), (118, 14315), (121, 14342), (166, 14624), (189, 14717), (191, 14723), (195, 14738), (199, 14753), (210, 14801), (234, 14894),

Gene: Pitbull_18 Start: 13184, Stop: 14632, Start Num: 11

Candidate Starts for Pitbull_18:

(9, 13172), (Start: 11 @13184 has 3 MA's), (20, 13199), (23, 13214), (33, 13268), (39, 13292), (40, 13301), (41, 13307), (43, 13313), (44, 13319), (46, 13334), (50, 13346), (54, 13370), (68, 13454), (72, 13478), (90, 13577), (96, 13604), (100, 13619), (112, 13676), (115, 13706), (118, 13721), (128, 13775), (129, 13781), (137, 13832), (138, 13847), (142, 13880), (150, 13946), (151, 13958), (167, 14045), (170, 14066), (178, 14087), (201, 14186), (212, 14240), (217, 14279), (231, 14324), (249, 14450), (251, 14483), (253, 14531),

Gene: Ponzi_56 Start: 37563, Stop: 38783, Start Num: 22

Candidate Starts for Ponzi_56:

(Start: 18 @37551 has 5 MA's), (Start: 22 @37563 has 1 MA's), (23, 37569), (32, 37620), (35, 37629), (43, 37668), (48, 37695), (107, 38034), (108, 38037), (111, 38052), (116, 38076), (143, 38277), (168, 38421), (213, 38592), (218, 38631), (224, 38652), (247, 38745), (248, 38778),

Gene: Provolone_21 Start: 16263, Stop: 17480, Start Num: 15

Candidate Starts for Provolone_21:

(Start: 15 @16263 has 109 MA's), (23, 16290), (31, 16341), (58, 16473), (74, 16575), (105, 16731), (110, 16761), (116, 16785), (119, 16818), (122, 16842), (136, 16917), (143, 16980), (147, 17022), (176, 17169), (181, 17184), (184, 17199), (196, 17244), (201, 17265), (205, 17283), (221, 17376), (228, 17406), (244, 17466), (246, 17472),

Gene: Puginator_22 Start: 16265, Stop: 17476, Start Num: 15

Candidate Starts for Puginator_22:

(Start: 15 @16265 has 109 MA's), (58, 16475), (60, 16487), (70, 16550), (90, 16664), (93, 16679), (116, 16787), (119, 16820), (122, 16844), (135, 16916), (143, 16982), (144, 17000), (145, 17003), (147, 17024), (167, 17141), (181, 17186), (184, 17201), (217, 17366), (221, 17378), (242, 17453), (244, 17462), (246, 17468),

Gene: R4_20 Start: 15904, Stop: 17115, Start Num: 15

Candidate Starts for R4_20:

(Start: 15 @15904 has 109 MA's), (39, 16012), (58, 16114), (60, 16126), (61, 16129), (70, 16189), (90, 16303), (93, 16318), (116, 16426), (119, 16459), (122, 16483), (135, 16555), (138, 16585), (144, 16639), (145, 16642), (147, 16663), (167, 16780), (181, 16825), (184, 16840), (205, 16924), (206, 16927), (207, 16930), (212, 16966), (217, 17005), (221, 17017), (235, 17056), (242, 17092), (244, 17101), (246, 17107),

Gene: Rana_20 Start: 15829, Stop: 17040, Start Num: 15

Candidate Starts for Rana_20:

(Start: 15 @15829 has 109 MA's), (23, 15856), (52, 16009), (58, 16039), (67, 16102), (85, 16201), (90, 16228), (105, 16297), (116, 16351), (117, 16354), (118, 16363), (122, 16408), (135, 16480), (136, 16483), (143, 16546), (145, 16567), (153, 16642), (163, 16696), (180, 16744), (181, 16750), (189, 16786), (190, 16789), (195, 16807), (205, 16849), (243, 17023), (244, 17026), (246, 17032),

Gene: Raqqa_19 Start: 15720, Stop: 16826, Start Num: 14

Candidate Starts for Raqqa_19:

(Start: 11 @15714 has 3 MA's), (Start: 14 @15720 has 4 MA's), (24, 15750), (32, 15798), (36, 15810), (38, 15822), (58, 15927), (66, 15978), (73, 16011), (90, 16104), (95, 16116), (110, 16185), (120, 16257), (160, 16521), (187, 16632), (222, 16791),

Gene: Raya_18 Start: 13041, Stop: 14480, Start Num: 13

Candidate Starts for Raya_18:

(Start: 13 @13041 has 8 MA's), (Start: 22 @13056 has 1 MA's), (23, 13062), (32, 13113), (34, 13119), (41, 13155), (46, 13182), (49, 13191), (50, 13194), (52, 13212), (54, 13218), (65, 13284), (68, 13302), (110, 13512), (115, 13554), (121, 13596), (129, 13629), (135, 13665), (137, 13680), (138, 13695), (143, 13731), (151, 13806), (159, 13860), (160, 13863), (167, 13893), (181, 13947), (185, 13971), (188, 13983), (212, 14088), (217, 14127), (220, 14139), (223, 14151), (231, 14172), (245, 14235), (250, 14319), (252, 14358),

Gene: RedBear_22 Start: 16096, Stop: 17307, Start Num: 15

Candidate Starts for RedBear_22:

(Start: 15 @16096 has 109 MA's), (23, 16123), (52, 16276), (58, 16306), (67, 16369), (85, 16468), (90, 16495), (105, 16564), (122, 16675), (135, 16747), (136, 16750), (138, 16777), (143, 16813), (145, 16834), (181, 17017), (189, 17053), (190, 17056), (195, 17074), (205, 17116), (221, 17209), (244, 17293), (246, 17299),

Gene: RootBeer_17 Start: 14184, Stop: 15296, Start Num: 14

Candidate Starts for RootBeer_17:

(Start: 14 @14184 has 4 MA's), (27, 14223), (43, 14298), (54, 14355), (58, 14379), (66, 14433), (90, 14562), (95, 14574), (101, 14610), (113, 14664), (120, 14718), (206, 15165),

Gene: Rooter_18 Start: 13624, Stop: 14742, Start Num: 17

Candidate Starts for Rooter_18:

(Start: 13 @13618 has 8 MA's), (Start: 17 @13624 has 6 MA's), (21, 13633), (53, 13798), (58, 13831), (62, 13852), (77, 13942), (90, 14014), (94, 14023), (105, 14068), (112, 14110), (113, 14122), (118, 14155), (175, 14500), (189, 14557), (218, 14689), (229, 14728), (234, 14734),

Gene: RunningOnE_77 Start: 41644, Stop: 43035, Start Num: 19

Candidate Starts for RunningOnE_77:

(19, 41644), (23, 41662), (32, 41713), (35, 41722), (48, 41788), (59, 41845), (105, 42115), (140, 42358), (161, 42532), (174, 42625), (183, 42706), (216, 42874), (217, 42880), (242, 42976), (247, 42997), (248, 43030),

Gene: Rusticus_21 Start: 16017, Stop: 17219, Start Num: 15

Candidate Starts for Rusticus_21:

(Start: 15 @16017 has 109 MA's), (23, 16044), (58, 16227), (67, 16290), (85, 16389), (90, 16416), (105, 16485), (110, 16515), (180, 16932), (181, 16938), (190, 16977), (196, 16998), (203, 17028), (205, 17037), (210, 17070), (225, 17151), (241, 17193), (242, 17196), (244, 17205), (246, 17211),

Gene: Saftant_20 Start: 16811, Stop: 18028, Start Num: 15

Candidate Starts for Saftant_20:

(Start: 15 @16811 has 109 MA's), (30, 16886), (31, 16889), (58, 17021), (105, 17279), (110, 17309), (116, 17333), (119, 17366), (122, 17390), (138, 17492), (143, 17528), (181, 17732), (184, 17747), (196, 17792), (203, 17822), (205, 17831), (225, 17945), (228, 17954), (244, 18014), (246, 18020),

Gene: SarahRose_20 Start: 15827, Stop: 17038, Start Num: 15

Candidate Starts for SarahRose_20:

(Start: 15 @15827 has 109 MA's), (58, 16037), (60, 16049), (61, 16052), (67, 16100), (85, 16199), (90, 16226), (105, 16295), (116, 16349), (122, 16406), (136, 16481), (138, 16508), (141, 16538), (144, 16562), (150, 16616), (163, 16694), (181, 16748), (195, 16805), (203, 16838), (205, 16847), (210, 16880), (212, 16889), (221, 16940), (244, 17024), (246, 17030),

Gene: Sarge_18 Start: 13985, Stop: 15109, Start Num: 13

Candidate Starts for Sarge_18:

(Start: 13 @13985 has 8 MA's), (Start: 17 @13991 has 6 MA's), (53, 14165), (58, 14198), (62, 14219), (77, 14309), (90, 14381), (94, 14390), (95, 14393), (113, 14489), (118, 14522), (175, 14867), (189, 14924), (195, 14945), (218, 15056), (229, 15095), (234, 15101),

Gene: Shoya_17 Start: 13621, Stop: 14745, Start Num: 13

Candidate Starts for Shoya_17:

(Start: 13 @13621 has 8 MA's), (Start: 17 @13627 has 6 MA's), (21, 13636), (53, 13801), (58, 13834), (62, 13855), (77, 13945), (90, 14017), (94, 14026), (105, 14071), (112, 14113), (113, 14125), (118, 14158), (189, 14560), (199, 14596), (218, 14692), (229, 14731), (234, 14737),

Gene: Skitty_18 Start: 13774, Stop: 14892, Start Num: 17

Candidate Starts for Skitty_18:

(Start: 17 @13774 has 6 MA's), (34, 13852), (37, 13861), (58, 13981), (60, 13993), (62, 14002), (77, 14092), (90, 14164), (94, 14173), (95, 14176), (105, 14218), (113, 14272), (118, 14305), (127, 14356), (149, 14524), (166, 14614), (186, 14695), (199, 14743), (210, 14791), (213, 14800), (218, 14839), (229, 14878),

Gene: Skyerus_18 Start: 13041, Stop: 14480, Start Num: 13

Candidate Starts for Skyerus_18:

(Start: 13 @13041 has 8 MA's), (Start: 22 @13056 has 1 MA's), (23, 13062), (32, 13113), (34, 13119), (41, 13155), (46, 13182), (49, 13191), (50, 13194), (52, 13212), (54, 13218), (65, 13284), (68, 13302), (110, 13512), (115, 13554), (121, 13596), (129, 13629), (135, 13665), (137, 13680), (138, 13695), (143, 13731), (151, 13806), (159, 13860), (160, 13863), (167, 13893), (181, 13947), (185, 13971), (188, 13983), (212, 14088), (217, 14127), (220, 14139), (223, 14151), (231, 14172), (245, 14235), (250, 14319), (252, 14358),

Gene: Snorlax_20 Start: 15830, Stop: 17041, Start Num: 15

Candidate Starts for Snorlax_20:

(Start: 15 @15830 has 109 MA's), (58, 16040), (60, 16052), (61, 16055), (67, 16103), (85, 16202), (90, 16229), (105, 16298), (116, 16352), (122, 16409), (136, 16484), (138, 16511), (141, 16541), (144, 16565), (150, 16619), (163, 16697), (181, 16751), (190, 16790), (195, 16808), (203, 16841), (205, 16850), (210, 16883), (212, 16892), (221, 16943), (244, 17027), (246, 17033),

Gene: South40_21 Start: 16096, Stop: 17307, Start Num: 15

Candidate Starts for South40_21:

(Start: 15 @16096 has 109 MA's), (23, 16123), (52, 16276), (58, 16306), (67, 16369), (85, 16468), (90, 16495), (105, 16564), (122, 16675), (135, 16747), (136, 16750), (138, 16777), (143, 16813), (145, 16834), (181, 17017), (189, 17053), (190, 17056), (195, 17074), (205, 17116), (221, 17209), (244, 17293), (246, 17299),

Gene: Speedwell_25 Start: 18557, Stop: 19774, Start Num: 15

Candidate Starts for Speedwell_25:

(Start: 15 @18557 has 109 MA's), (23, 18584), (31, 18635), (58, 18767), (66, 18827), (67, 18830), (85, 18929), (105, 19025), (119, 19112), (136, 19211), (138, 19238), (143, 19274), (181, 19478), (184, 19493), (196, 19538), (205, 19577), (206, 19580), (225, 19691), (244, 19760), (246, 19766),

Gene: Spooks_62 Start: 40032, Stop: 41291, Start Num: 18

Candidate Starts for Spooks_62:

(8, 39885), (Start: 18 @40032 has 5 MA's), (23, 40050), (27, 40074), (78, 40371), (100, 40491), (101, 40500), (140, 40770), (151, 40860), (168, 40929), (171, 40947), (183, 40974), (213, 41100), (214, 41112), (235, 41187), (247, 41253), (248, 41286),

Gene: SqueakyClean_21 Start: 15829, Stop: 17040, Start Num: 15

Candidate Starts for SqueakyClean_21:

(Start: 15 @15829 has 109 MA's), (58, 16039), (60, 16051), (61, 16054), (70, 16114), (71, 16126), (90, 16228), (93, 16243), (102, 16294), (135, 16480), (143, 16546), (145, 16567), (167, 16705), (181, 16750), (184, 16765), (196, 16810), (197, 16813), (203, 16840), (205, 16849), (221, 16942), (244, 17026), (246, 17032),

Gene: Success_63 Start: 39166, Stop: 40425, Start Num: 18

Candidate Starts for Success_63:

(Start: 18 @39166 has 5 MA's), (23, 39184), (26, 39199), (27, 39208), (60, 39379), (96, 39610), (100, 39625), (101, 39634), (134, 39841), (140, 39904), (151, 39994), (158, 40045), (171, 40081), (187, 40117), (213, 40234), (214, 40246), (218, 40273), (224, 40294), (228, 40312), (247, 40387), (248, 40420),

Gene: Sudan_20 Start: 16528, Stop: 17745, Start Num: 15

Candidate Starts for Sudan_20:

(Start: 15 @16528 has 109 MA's), (23, 16555), (31, 16606), (58, 16738), (61, 16753), (74, 16840), (85, 16900), (105, 16996), (110, 17026), (119, 17083), (122, 17107), (136, 17182), (138, 17209), (143, 17245), (176, 17434), (181, 17449), (184, 17464), (196, 17509), (201, 17530), (205, 17548), (221, 17641), (228, 17671), (244, 17731), (246, 17737),

Gene: Sujidade_21 Start: 16135, Stop: 17346, Start Num: 15

Candidate Starts for Sujidade_21:

(Start: 15 @16135 has 109 MA's), (23, 16162), (58, 16345), (60, 16357), (61, 16360), (67, 16408), (85, 16507), (90, 16534), (105, 16603), (116, 16657), (122, 16714), (136, 16789), (141, 16846), (145, 16873), (181, 17056), (190, 17095), (202, 17143), (203, 17146), (205, 17155), (210, 17188), (244, 17332), (246, 17338),

Gene: SunkenRoot_22 Start: 16824, Stop: 18041, Start Num: 15

Candidate Starts for SunkenRoot_22:

(Start: 15 @16824 has 109 MA's), (23, 16851), (31, 16902), (52, 17004), (58, 17034), (66, 17094), (74, 17136), (85, 17196), (105, 17292), (110, 17322), (119, 17379), (121, 17400), (136, 17478), (143, 17541), (181, 17745), (184, 17760), (201, 17826), (205, 17844), (221, 17937), (228, 17967), (244, 18027), (246, 18033),

Gene: SunsetPointe_20 Start: 15844, Stop: 17058, Start Num: 15

Candidate Starts for SunsetPointe_20:

(Start: 15 @15844 has 109 MA's), (23, 15871), (58, 16054), (67, 16117), (85, 16216), (90, 16243), (105, 16312), (110, 16342), (131, 16462), (143, 16561), (180, 16759), (181, 16765), (190, 16804), (197, 16828), (203, 16855), (205, 16864), (210, 16897), (221, 16957), (228, 16987), (242, 17035), (244, 17044), (246, 17050),

Gene: Superstar_23 Start: 17541, Stop: 18755, Start Num: 15

Candidate Starts for Superstar_23:

(Start: 15 @17541 has 109 MA's), (23, 17568), (54, 17727), (60, 17763), (61, 17766), (70, 17826), (90, 17940), (105, 18009), (116, 18063), (122, 18120), (143, 18258), (181, 18462), (212, 18603), (221,

18654), (242, 18732), (244, 18741), (246, 18747),

Gene: TagePighter_21 Start: 15830, Stop: 17041, Start Num: 15

Candidate Starts for TagePighter_21:

(Start: 15 @15830 has 109 MA's), (58, 16040), (60, 16052), (61, 16055), (67, 16103), (85, 16202), (90, 16229), (105, 16298), (116, 16352), (122, 16409), (136, 16484), (138, 16511), (141, 16541), (144, 16565), (150, 16619), (163, 16697), (181, 16751), (190, 16790), (195, 16808), (203, 16841), (205, 16850), (210, 16883), (212, 16892), (221, 16943), (244, 17027), (246, 17033),

Gene: Teagster_18 Start: 15351, Stop: 16520, Start Num: 13

Candidate Starts for Teagster_18:

(Start: 13 @15351 has 8 MA's), (16, 15357), (23, 15381), (33, 15438), (39, 15462), (60, 15579), (63, 15591), (70, 15642), (71, 15654), (75, 15672), (90, 15753), (98, 15798), (105, 15822), (214, 16431), (236, 16509),

Gene: Tefunt_20 Start: 16338, Stop: 17552, Start Num: 15

Candidate Starts for Tefunt_20:

(Start: 15 @16338 has 109 MA's), (23, 16365), (39, 16446), (54, 16524), (56, 16542), (60, 16560), (61, 16563), (70, 16623), (90, 16737), (116, 16860), (122, 16917), (167, 17214), (181, 17259), (197, 17322), (221, 17451), (242, 17529), (244, 17538), (246, 17544),

Gene: Thestral_21 Start: 15797, Stop: 17008, Start Num: 15

Candidate Starts for Thestral_21:

(Start: 15 @15797 has 109 MA's), (58, 16007), (60, 16019), (61, 16022), (70, 16082), (90, 16196), (93, 16211), (102, 16262), (122, 16376), (135, 16448), (143, 16514), (145, 16535), (167, 16673), (181, 16718), (184, 16733), (201, 16799), (205, 16817), (212, 16859), (215, 16886), (221, 16910), (244, 16994), (246, 17000),

Gene: TinaBelcher_20 Start: 15745, Stop: 16956, Start Num: 15

Candidate Starts for TinaBelcher_20:

(Start: 15 @15745 has 109 MA's), (58, 15955), (60, 15967), (61, 15970), (70, 16030), (90, 16144), (93, 16159), (102, 16210), (116, 16267), (122, 16324), (135, 16396), (143, 16462), (145, 16483), (147, 16504), (167, 16621), (181, 16666), (184, 16681), (201, 16747), (205, 16765), (212, 16807), (215, 16834), (221, 16858), (244, 16942), (246, 16948),

Gene: Toma_20 Start: 15844, Stop: 17055, Start Num: 15

Candidate Starts for Toma_20:

(Start: 15 @15844 has 109 MA's), (23, 15871), (47, 15997), (52, 16024), (58, 16054), (67, 16117), (85, 16216), (90, 16243), (105, 16312), (116, 16366), (118, 16378), (122, 16423), (135, 16495), (136, 16498), (143, 16561), (145, 16582), (153, 16657), (180, 16759), (181, 16765), (189, 16801), (190, 16804), (195, 16822), (205, 16864), (243, 17038), (244, 17041), (246, 17047),

Gene: Triste_20 Start: 15821, Stop: 17032, Start Num: 15

Candidate Starts for Triste_20:

(Start: 15 @15821 has 109 MA's), (58, 16031), (60, 16043), (61, 16046), (67, 16094), (85, 16193), (90, 16220), (105, 16289), (116, 16343), (122, 16400), (136, 16475), (138, 16502), (141, 16532), (144, 16556), (150, 16610), (163, 16688), (181, 16742), (190, 16781), (195, 16799), (203, 16832), (205, 16841), (210, 16874), (212, 16883), (221, 16934), (244, 17018), (246, 17024),

Gene: Triumph_22 Start: 15746, Stop: 16957, Start Num: 15

Candidate Starts for Triumph_22:

(Start: 15 @15746 has 109 MA's), (48, 15902), (58, 15956), (60, 15968), (61, 15971), (70, 16031), (90, 16145), (93, 16160), (102, 16211), (122, 16325), (134, 16385), (135, 16397), (143, 16463), (145,

16484), (167, 16622), (179, 16658), (181, 16667), (184, 16682), (196, 16727), (197, 16730), (203, 16757), (205, 16766), (221, 16859), (238, 16907), (242, 16934), (244, 16943), (246, 16949),

Gene: TrvxScott_19 Start: 15747, Stop: 16958, Start Num: 15

Candidate Starts for TrvxScott_19:

(Start: 15 @15747 has 109 MA's), (58, 15957), (60, 15969), (61, 15972), (70, 16032), (90, 16146), (93, 16161), (102, 16212), (116, 16269), (122, 16326), (135, 16398), (143, 16464), (145, 16485), (167, 16623), (181, 16668), (184, 16683), (201, 16749), (205, 16767), (212, 16809), (215, 16836), (221, 16860), (244, 16944), (246, 16950),

Gene: TuanPN_20 Start: 15827, Stop: 17038, Start Num: 15

Candidate Starts for TuanPN_20:

(Start: 15 @15827 has 109 MA's), (23, 15854), (58, 16037), (60, 16049), (61, 16052), (85, 16199), (90, 16226), (116, 16349), (122, 16406), (136, 16481), (138, 16508), (141, 16538), (145, 16565), (150, 16616), (181, 16748), (190, 16787), (195, 16805), (202, 16835), (203, 16838), (205, 16847), (210, 16880), (212, 16889), (221, 16940), (239, 17000), (244, 17024), (246, 17030),

Gene: Unstoppable_20 Start: 15845, Stop: 17059, Start Num: 15

Candidate Starts for Unstoppable_20:

(Start: 15 @15845 has 109 MA's), (23, 15872), (58, 16055), (67, 16118), (85, 16217), (90, 16244), (105, 16313), (110, 16343), (131, 16463), (143, 16562), (180, 16760), (181, 16766), (190, 16805), (197, 16829), (203, 16856), (205, 16865), (210, 16898), (221, 16958), (228, 16988), (242, 17036), (244, 17045), (246, 17051),

Gene: Urza_20 Start: 16212, Stop: 17432, Start Num: 15

Candidate Starts for Urza_20:

(Start: 15 @16212 has 109 MA's), (26, 16254), (34, 16299), (48, 16368), (56, 16416), (58, 16422), (89, 16608), (90, 16611), (95, 16635), (105, 16680), (116, 16734), (138, 16893), (143, 16929), (173, 17112), (184, 17148), (190, 17172), (195, 17190), (197, 17196), (205, 17232), (212, 17274), (240, 17400), (244, 17418), (246, 17424),

Gene: Vanseggelen_25 Start: 16195, Stop: 17409, Start Num: 15

Candidate Starts for Vanseggelen_25:

(Start: 15 @16195 has 109 MA's), (23, 16222), (31, 16273), (58, 16405), (66, 16465), (67, 16468), (85, 16567), (105, 16663), (106, 16675), (119, 16750), (122, 16774), (136, 16849), (138, 16876), (143, 16912), (181, 17116), (184, 17131), (195, 17173), (196, 17176), (205, 17215), (225, 17329), (244, 17395), (246, 17401),

Gene: Verabelle_21 Start: 16526, Stop: 17743, Start Num: 15

Candidate Starts for Verabelle_21:

(Start: 15 @16526 has 109 MA's), (23, 16553), (31, 16604), (52, 16706), (58, 16736), (66, 16796), (67, 16799), (74, 16838), (105, 16994), (110, 17024), (119, 17081), (121, 17102), (136, 17180), (138, 17207), (143, 17243), (181, 17447), (184, 17462), (205, 17546), (221, 17639), (225, 17660), (244, 17729), (246, 17735),

Gene: Verse_20 Start: 16825, Stop: 18042, Start Num: 15

Candidate Starts for Verse_20:

(Start: 15 @16825 has 109 MA's), (23, 16852), (31, 16903), (52, 17005), (58, 17035), (66, 17095), (74, 17137), (85, 17197), (105, 17293), (110, 17323), (119, 17380), (121, 17401), (136, 17479), (143, 17542), (181, 17746), (184, 17761), (201, 17827), (205, 17845), (221, 17938), (228, 17968), (244, 18028), (246, 18034),

Gene: VieEnRose_20 Start: 16278, Stop: 17498, Start Num: 15

Candidate Starts for VieEnRose_20:

(Start: 15 @16278 has 109 MA's), (26, 16320), (34, 16365), (48, 16434), (56, 16482), (58, 16488), (89, 16674), (90, 16677), (105, 16746), (116, 16800), (126, 16875), (138, 16959), (143, 16995), (148, 17055), (173, 17178), (184, 17214), (190, 17238), (195, 17256), (197, 17262), (205, 17298), (212, 17340), (225, 17412), (244, 17484), (246, 17490),

Gene: Werner_20 Start: 15831, Stop: 17042, Start Num: 15

Candidate Starts for Werner_20:

(Start: 15 @15831 has 109 MA's), (58, 16041), (60, 16053), (61, 16056), (67, 16104), (85, 16203), (90, 16230), (105, 16299), (116, 16353), (122, 16410), (136, 16485), (138, 16512), (141, 16542), (144, 16566), (150, 16620), (163, 16698), (181, 16752), (190, 16791), (195, 16809), (203, 16842), (205, 16851), (210, 16884), (212, 16893), (221, 16944), (244, 17028), (246, 17034),

Gene: Whatever_20 Start: 15831, Stop: 17042, Start Num: 15

Candidate Starts for Whatever_20:

(Start: 15 @15831 has 109 MA's), (58, 16041), (60, 16053), (61, 16056), (67, 16104), (85, 16203), (90, 16230), (105, 16299), (116, 16353), (122, 16410), (136, 16485), (138, 16512), (141, 16542), (144, 16566), (150, 16620), (163, 16698), (181, 16752), (190, 16791), (195, 16809), (203, 16842), (205, 16851), (210, 16884), (212, 16893), (221, 16944), (244, 17028), (246, 17034),

Gene: Yasdniil_20 Start: 15823, Stop: 17034, Start Num: 15

Candidate Starts for Yasdniil_20:

(Start: 15 @15823 has 109 MA's), (23, 15850), (58, 16033), (60, 16045), (61, 16048), (85, 16195), (90, 16222), (116, 16345), (122, 16402), (136, 16477), (138, 16504), (141, 16534), (145, 16561), (150, 16612), (181, 16744), (190, 16783), (195, 16801), (202, 16831), (203, 16834), (205, 16843), (210, 16876), (212, 16885), (221, 16936), (239, 16996), (244, 17020), (246, 17026),

Gene: Yosif_21 Start: 16799, Stop: 17983, Start Num: 15

Candidate Starts for Yosif_21:

(Start: 15 @16799 has 109 MA's), (31, 16877), (32, 16880), (34, 16886), (56, 17003), (58, 17009), (66, 17069), (79, 17153), (84, 17168), (90, 17198), (116, 17321), (119, 17354), (138, 17480), (143, 17516), (163, 17642), (184, 17711), (190, 17735), (205, 17795), (244, 17969), (246, 17975),

Gene: Zainub_22 Start: 16178, Stop: 17389, Start Num: 15

Candidate Starts for Zainub_22:

(Start: 15 @16178 has 109 MA's), (32, 16259), (58, 16388), (60, 16400), (70, 16463), (90, 16577), (93, 16592), (116, 16700), (119, 16733), (122, 16757), (135, 16829), (143, 16895), (144, 16913), (145, 16916), (147, 16937), (167, 17054), (181, 17099), (184, 17114), (205, 17198), (207, 17204), (217, 17279), (221, 17291), (242, 17366), (244, 17375), (246, 17381),

Gene: ZamZam_20 Start: 16817, Stop: 18034, Start Num: 15

Candidate Starts for ZamZam_20:

(Start: 15 @16817 has 109 MA's), (30, 16892), (31, 16895), (58, 17027), (66, 17087), (70, 17102), (105, 17285), (110, 17315), (116, 17339), (119, 17372), (122, 17396), (138, 17498), (143, 17534), (167, 17693), (176, 17723), (181, 17738), (184, 17753), (196, 17798), (205, 17837), (242, 18011), (244, 18020), (246, 18026),

Gene: Zemlya_21 Start: 15855, Stop: 17066, Start Num: 15

Candidate Starts for Zemlya_21:

(Start: 15 @15855 has 109 MA's), (23, 15882), (47, 16008), (49, 16014), (52, 16035), (58, 16065), (67, 16128), (85, 16227), (90, 16254), (105, 16323), (116, 16377), (118, 16389), (122, 16434), (135, 16506), (136, 16509), (143, 16572), (145, 16593), (153, 16668), (180, 16770), (181, 16776), (189, 16812), (190, 16815), (195, 16833), (205, 16875), (243, 17049), (244, 17052), (246, 17058),

Gene: Zucker_20 Start: 15353, Stop: 16471, Start Num: 17

Candidate Starts for Zucker_20:

(Start: 17 @15353 has 6 MA's), (37, 15440), (53, 15527), (55, 15536), (58, 15560), (60, 15572), (62, 15581), (90, 15743), (94, 15752), (95, 15755), (112, 15839), (113, 15851), (118, 15884), (127, 15935), (132, 15965), (142, 16043), (166, 16193), (175, 16229), (177, 16235), (195, 16307), (198, 16316), (234, 16463),

Gene: phiCAM_21 Start: 18698, Stop: 19705, Start Num: 58

Candidate Starts for phiCAM_21:

(Start: 15 @18488 has 109 MA's), (23, 18515), (31, 18566), (58, 18698), (66, 18758), (74, 18800), (105, 18956), (110, 18986), (119, 19043), (122, 19067), (136, 19142), (138, 19169), (143, 19205), (181, 19409), (184, 19424), (196, 19469), (205, 19508), (221, 19601), (228, 19631), (244, 19691), (246, 19697),

Gene: phiHau3_22 Start: 16517, Stop: 17728, Start Num: 12

Candidate Starts for phiHau3_22:

(10, 16505), (Start: 12 @16517 has 1 MA's), (Start: 15 @16523 has 109 MA's), (34, 16610), (54, 16709), (60, 16745), (70, 16808), (90, 16922), (92, 16934), (102, 16988), (105, 16991), (110, 17021), (116, 17045), (122, 17102), (131, 17141), (135, 17174), (136, 17177), (140, 17225), (181, 17444), (184, 17459), (196, 17504), (203, 17534), (207, 17549), (212, 17585), (242, 17705), (244, 17714), (246, 17720),