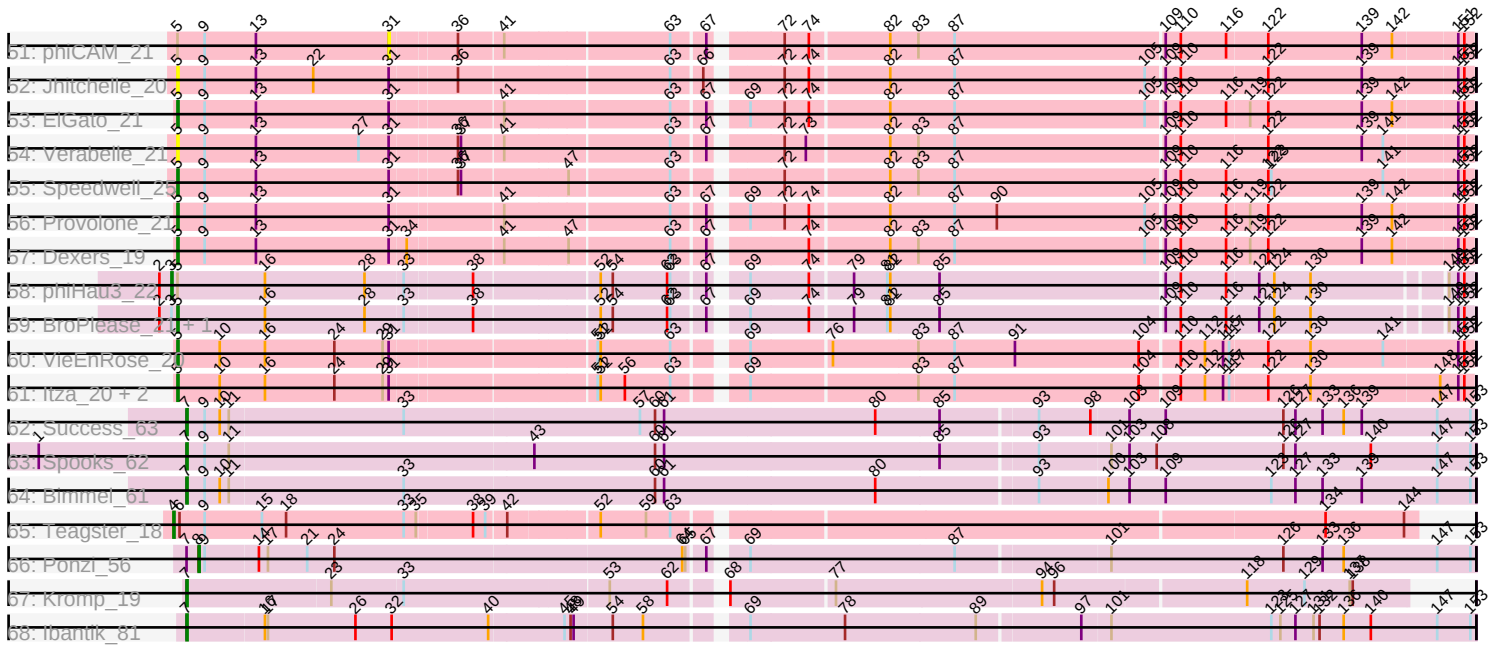


1: Aaronocolus_20 + 13																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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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 277877 Report

This analysis was run 02/07/26 on database version 634.

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 277877 has 123 members, 9 are drafts.

Phages represented in each track:

- Track 1 : 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 2 : Asten_20, Werner_20, Dwayne_20, Chucky_20, BarryBee_22, OzzyJ_21, Emaanora_22, TagePhighter_21, Whatever_20, Snorlax_20, Triste_20
- Track 3 : Lorelei_20, Nabi_20, Rana_20
- Track 4 : BryanRecycles_21, Oliynyk_21, Izzy_21, Jash_21, Eddasa_21, Rusticus_21
- Track 5 : Lika_20, Sujidade_21, Godpower_21
- Track 6 : TuanPN_20, Maneekul_20, Yasdnil_20, Ejemplo_20
- Track 7 : Danzina_21
- Track 8 : Dattran_21, Celeste_20, Goby_20, Toma_20
- Track 9 : Brataylor_21
- Track 10 : RedBear_22, South40_21, Katalie_21
- Track 11 : EnochSoames_22
- Track 12 : Hippo_20
- Track 13 : Nanodon_22
- Track 14 : SarahRose_20
- Track 15 : Lannister_21
- Track 16 : Zemlya_21
- Track 17 : TrvxScott_19
- Track 18 : Amethyst_20
- Track 19 : Paolo_22, Zainub_22, Jevington_22
- Track 20 : Thestral_21
- Track 21 : Bowden_21, TinaBelcher_20
- Track 22 : Diane_20
- Track 23 : Superstar_23
- Track 24 : Paedore_20, Loofah_21
- Track 25 : Haizum_20, Tefunt_20
- Track 26 : Animus_21, SqueakyClean_21
- Track 27 : Nishikigoi_20
- Track 28 : Hank144_21
- Track 29 : ELB20_19, R4_20

- Track 30 : Marav_23
- Track 31 : Puginator_22
- Track 32 : Omar_21
- Track 33 : Daudau_20
- Track 34 : Axiom_21
- Track 35 : BartholomewSD_22, Alvy_22
- Track 36 : Triumph_22
- Track 37 : GirlDinner_20
- Track 38 : Issmi_21
- Track 39 : Andris_20
- Track 40 : Pablito_20
- Track 41 : Caelum_21
- Track 42 : Janus_21
- Track 43 : ZamZam_23
- Track 44 : Vanseggelen_25
- Track 45 : Yosif_21
- Track 46 : Verse_20, Amela_20
- Track 47 : Sudan_21, Alsaber_21, Kaine_20
- Track 48 : Celery_23
- Track 49 : Pavo_21, Conan_21
- Track 50 : Saftant_20
- Track 51 : phiCAM_21
- Track 52 : Jhitchelle_20
- Track 53 : ElGato_21
- Track 54 : Verabelle_21
- Track 55 : Speedwell_25
- Track 56 : Provolone_21
- Track 57 : Dexers_19
- Track 58 : phiHau3_22
- Track 59 : BroPlease_21, GreenWeasel_22
- Track 60 : VieEnRose_20
- Track 61 : Itza_20, Celia_20, Urza_20
- Track 62 : Success_63
- Track 63 : Spooks_62
- Track 64 : Bimmel_61
- Track 65 : Teagster_18
- Track 66 : Ponzi_56
- Track 67 : Kromp_19
- Track 68 : Ibantik_81

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

The start number called the most often in the published annotations is 5, it was called in 106 of the 114 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_20, 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_21, Sujidade_21, SunsetPointe_20, Superstar_23, TagerPhighter_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, Yasdnail_20, Yosif_21, Zainub_22, ZamZam_23, 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:

- Bimmel_61, Ibantik_81, Kromp_19, Ponzi_56, Spooks_62, Success_63, Teagster_18,

Summary by start number:

Start 3:

- Found in 3 of 123 (2.4%) of genes in pham
- Manual Annotations of this start: 1 of 114
- Called 33.3% of time when present
- Phage (with cluster) where this start called: phiHau3_22 (BD4),

Start 4:

- Found in 1 of 123 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 114
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Teagster_18 (EB),

Start 5:

- Found in 116 of 123 (94.3%) of genes in pham
- Manual Annotations of this start: 106 of 114
- 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_20 (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_21 (BD3), Sujidade_21 (BD1), SunsetPointe_20 (BD1), Superstar_23 (BD2), TagerPhighter_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_23 (BD3), Zemlya_21 (BD1),

Start 7:

- Found in 6 of 123 (4.9%) of genes in pham
- Manual Annotations of this start: 5 of 114
- 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 8:

- Found in 1 of 123 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 114
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ponzi_56 (singleton),

Start 31:

- Found in 106 of 123 (86.2%) of genes in pham
- No Manual Annotations of this start.
- Called 0.9% of time when present
- Phage (with cluster) where this start called: phiCAM_21 (BD3),

Summary by clusters:

There are 8 clusters represented in this pham: singleton, EB, BT, BD4, BD6, BD1, BD3, BD2,

Info for manual annotations of cluster BD1:

- Start number 5 was manually annotated 55 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 5 was manually annotated 33 times for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 5 was manually annotated 12 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 3 was manually annotated 1 time for cluster BD4.
- Start number 5 was manually annotated 2 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 5 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster BT:

- Start number 7 was manually annotated 3 times for cluster BT.

Info for manual annotations of cluster EB:

- Start number 4 was manually annotated 1 time for cluster EB.

Gene Information:

Gene: Aaronocolus_20 Start: 15854, Stop: 17068, Start Num: 5

Candidate Starts for Aaronocolus_20:

(Start: 5 @15854 has 106 MA's), (9, 15881), (31, 16064), (37, 16127), (47, 16226), (52, 16253), (63, 16322), (67, 16352), (79, 16472), (87, 16571), (107, 16769), (109, 16775), (112, 16814), (117, 16838), (121, 16865), (122, 16874), (128, 16907), (139, 16967), (142, 16997), (149, 17045), (151, 17054), (152, 17060),

Gene: Alsaber_21 Start: 16538, Stop: 17755, Start Num: 5

Candidate Starts for Alsaber_21:

(Start: 5 @16538 has 106 MA's), (9, 16565), (13, 16616), (31, 16748), (34, 16763), (41, 16850), (47, 16910), (63, 17006), (67, 17036), (72, 17093), (74, 17117), (82, 17192), (83, 17219), (87, 17255), (105, 17444), (109, 17459), (110, 17474), (116, 17519), (119, 17540), (122, 17558), (139, 17651), (142, 17681), (151, 17741), (152, 17747),

Gene: Alvy_22 Start: 15862, Stop: 17073, Start Num: 5

Candidate Starts for Alvy_22:

(Start: 5 @15862 has 106 MA's), (31, 16072), (33, 16084), (34, 16087), (38, 16147), (52, 16261), (55, 16276), (69, 16384), (74, 16441), (75, 16453), (81, 16513), (89, 16600), (90, 16621), (102, 16738), (109, 16783), (110, 16798), (119, 16864), (122, 16882), (130, 16924), (135, 16951), (139, 16975), (151, 17059), (152, 17065),

Gene: Amela_20 Start: 16831, Stop: 18048, Start Num: 5

Candidate Starts for Amela_20:

(Start: 5 @16831 has 106 MA's), (9, 16858), (13, 16909), (27, 17011), (31, 17041), (36, 17101), (41, 17143), (47, 17203), (63, 17299), (67, 17329), (72, 17386), (73, 17407), (82, 17485), (87, 17548), (109, 17752), (110, 17767), (119, 17833), (122, 17851), (139, 17944), (142, 17974), (151, 18034), (152, 18040),

Gene: Amethyst_20 Start: 16313, Stop: 17527, Start Num: 5

Candidate Starts for Amethyst_20:

(Start: 5 @16313 has 106 MA's), (9, 16340), (29, 16517), (33, 16535), (34, 16538), (38, 16598), (52, 16712), (69, 16835), (74, 16892), (102, 17189), (109, 17234), (117, 17297), (139, 17426), (149, 17504), (151, 17513), (152, 17519),

Gene: Andris_20 Start: 15567, Stop: 16778, Start Num: 5

Candidate Starts for Andris_20:

(Start: 5 @15567 has 106 MA's), (24, 15723), (31, 15777), (33, 15789), (34, 15792), (38, 15852), (52, 15966), (55, 15981), (69, 16089), (74, 16146), (79, 16185), (81, 16218), (83, 16248), (87, 16284), (89, 16305), (102, 16443), (109, 16488), (110, 16503), (116, 16548), (117, 16551), (121, 16578), (122,

16587), (139, 16680), (151, 16764), (152, 16770),

Gene: Animus_21 Start: 15903, Stop: 17114, Start Num: 5

Candidate Starts for Animus_21:

(Start: 5 @15903 has 106 MA's), (31, 16113), (33, 16125), (34, 16128), (38, 16188), (39, 16200), (52, 16302), (55, 16317), (62, 16368), (81, 16554), (87, 16620), (89, 16641), (102, 16779), (109, 16824), (110, 16839), (116, 16884), (117, 16887), (121, 16914), (122, 16923), (139, 17016), (151, 17100), (152, 17106),

Gene: Asten_20 Start: 15820, Stop: 17031, Start Num: 5

Candidate Starts for Asten_20:

(Start: 5 @15820 has 106 MA's), (31, 16030), (33, 16042), (34, 16045), (37, 16093), (47, 16192), (52, 16219), (63, 16288), (69, 16342), (74, 16399), (82, 16474), (83, 16501), (86, 16531), (88, 16555), (92, 16609), (99, 16687), (109, 16741), (112, 16780), (115, 16798), (121, 16831), (122, 16840), (128, 16873), (130, 16882), (139, 16933), (151, 17017), (152, 17023),

Gene: Axiom_21 Start: 15716, Stop: 16927, Start Num: 5

Candidate Starts for Axiom_21:

(Start: 5 @15716 has 106 MA's), (24, 15872), (31, 15926), (33, 15938), (34, 15941), (38, 16001), (52, 16115), (55, 16130), (62, 16181), (74, 16295), (81, 16367), (83, 16397), (87, 16433), (89, 16454), (102, 16592), (106, 16628), (109, 16637), (110, 16652), (116, 16697), (117, 16700), (121, 16727), (122, 16736), (139, 16829), (145, 16877), (149, 16904), (151, 16913), (152, 16919),

Gene: BarryBee_22 Start: 15830, Stop: 17041, Start Num: 5

Candidate Starts for BarryBee_22:

(Start: 5 @15830 has 106 MA's), (31, 16040), (33, 16052), (34, 16055), (37, 16103), (47, 16202), (52, 16229), (63, 16298), (69, 16352), (74, 16409), (82, 16484), (83, 16511), (86, 16541), (88, 16565), (92, 16619), (99, 16697), (109, 16751), (112, 16790), (115, 16808), (121, 16841), (122, 16850), (128, 16883), (130, 16892), (139, 16943), (151, 17027), (152, 17033),

Gene: BartholomewSD_22 Start: 15862, Stop: 17073, Start Num: 5

Candidate Starts for BartholomewSD_22:

(Start: 5 @15862 has 106 MA's), (31, 16072), (33, 16084), (34, 16087), (38, 16147), (52, 16261), (55, 16276), (69, 16384), (74, 16441), (75, 16453), (81, 16513), (89, 16600), (90, 16621), (102, 16738), (109, 16783), (110, 16798), (119, 16864), (122, 16882), (130, 16924), (135, 16951), (139, 16975), (151, 17059), (152, 17065),

Gene: BeardedLady_21 Start: 16101, Stop: 17315, Start Num: 5

Candidate Starts for BeardedLady_21:

(Start: 5 @16101 has 106 MA's), (9, 16128), (31, 16311), (37, 16374), (47, 16473), (52, 16500), (63, 16569), (67, 16599), (79, 16719), (87, 16818), (107, 17016), (109, 17022), (112, 17061), (117, 17085), (121, 17112), (122, 17121), (128, 17154), (139, 17214), (142, 17244), (149, 17292), (151, 17301), (152, 17307),

Gene: Bimmel_61 Start: 38728, Stop: 39987, Start Num: 7

Candidate Starts for Bimmel_61:

(Start: 7 @38728 has 5 MA's), (9, 38746), (10, 38761), (11, 38770), (33, 38941), (60, 39187), (61, 39196), (80, 39403), (93, 39556), (100, 39622), (103, 39643), (109, 39679), (123, 39784), (127, 39808), (133, 39835), (139, 39874), (147, 39949), (153, 39982),

Gene: Bovely_20 Start: 15860, Stop: 17074, Start Num: 5

Candidate Starts for Bovely_20:

(Start: 5 @15860 has 106 MA's), (9, 15887), (31, 16070), (37, 16133), (47, 16232), (52, 16259), (63, 16328), (67, 16358), (79, 16478), (87, 16577), (107, 16775), (109, 16781), (112, 16820), (117, 16844), (121, 16871), (122, 16880), (128, 16913), (139, 16973), (142, 17003), (149, 17051), (151, 17060), (152, 17066),

Gene: Bowden_21 Start: 15794, Stop: 17005, Start Num: 5

Candidate Starts for Bowden_21:

(Start: 5 @15794 has 106 MA's), (31, 16004), (33, 16016), (34, 16019), (38, 16079), (52, 16193), (55, 16208), (62, 16259), (69, 16316), (74, 16373), (81, 16445), (87, 16511), (89, 16532), (90, 16553), (102, 16670), (109, 16715), (110, 16730), (119, 16796), (122, 16814), (130, 16856), (135, 16883), (139, 16907), (151, 16991), (152, 16997),

Gene: Brataylor_21 Start: 15847, Stop: 17058, Start Num: 5

Candidate Starts for Brataylor_21:

(Start: 5 @15847 has 106 MA's), (9, 15874), (27, 16027), (31, 16057), (37, 16120), (47, 16219), (52, 16246), (63, 16315), (69, 16369), (71, 16381), (74, 16426), (81, 16498), (82, 16501), (87, 16564), (89, 16585), (95, 16660), (107, 16762), (109, 16768), (111, 16804), (112, 16807), (115, 16825), (122, 16867), (150, 17041), (151, 17044), (152, 17050),

Gene: BroPlease_21 Start: 16546, Stop: 17751, Start Num: 5

Candidate Starts for BroPlease_21:

(2, 16528), (Start: 3 @16540 has 1 MA's), (Start: 5 @16546 has 106 MA's), (16, 16633), (28, 16732), (33, 16768), (38, 16831), (52, 16945), (54, 16957), (62, 17011), (63, 17014), (67, 17044), (69, 17068), (74, 17125), (79, 17164), (81, 17197), (82, 17200), (85, 17248), (109, 17467), (110, 17482), (116, 17527), (121, 17557), (124, 17572), (130, 17608), (149, 17728), (151, 17737), (152, 17743),

Gene: BryanRecycles_21 Start: 16017, Stop: 17219, Start Num: 5

Candidate Starts for BryanRecycles_21:

(Start: 5 @16017 has 106 MA's), (9, 16044), (31, 16227), (37, 16290), (47, 16389), (52, 16416), (63, 16485), (67, 16515), (107, 16932), (109, 16938), (112, 16977), (116, 16998), (121, 17028), (122, 17037), (128, 17070), (141, 17151), (148, 17193), (149, 17196), (151, 17205), (152, 17211),

Gene: Caelum_21 Start: 16340, Stop: 17551, Start Num: 5

Candidate Starts for Caelum_21:

(Start: 5 @16340 has 106 MA's), (9, 16367), (30, 16547), (33, 16562), (34, 16565), (38, 16625), (47, 16712), (52, 16739), (63, 16808), (69, 16862), (74, 16919), (87, 17057), (109, 17261), (114, 17315), (139, 17453), (149, 17528), (151, 17537), (152, 17543),

Gene: Caliburn_20 Start: 15834, Stop: 17048, Start Num: 5

Candidate Starts for Caliburn_20:

(Start: 5 @15834 has 106 MA's), (9, 15861), (31, 16044), (37, 16107), (47, 16206), (52, 16233), (63, 16302), (67, 16332), (79, 16452), (87, 16551), (107, 16749), (109, 16755), (112, 16794), (117, 16818), (121, 16845), (122, 16854), (128, 16887), (139, 16947), (142, 16977), (149, 17025), (151, 17034), (152, 17040),

Gene: Celery_23 Start: 16489, Stop: 17706, Start Num: 5

Candidate Starts for Celery_23:

(Start: 5 @16489 has 106 MA's), (9, 16516), (13, 16567), (31, 16699), (36, 16759), (41, 16801), (63, 16957), (67, 16987), (72, 17044), (73, 17065), (74, 17068), (82, 17143), (83, 17170), (87, 17206), (109, 17410), (110, 17425), (113, 17458), (116, 17470), (122, 17509), (139, 17602), (142, 17632), (151, 17692), (152, 17698),

Gene: Celeste_20 Start: 15839, Stop: 17050, Start Num: 5

Candidate Starts for Celeste_20:

(Start: 5 @15839 has 106 MA's), (9, 15866), (23, 15992), (27, 16019), (31, 16049), (37, 16112), (47, 16211), (52, 16238), (63, 16307), (69, 16361), (71, 16373), (74, 16418), (81, 16490), (82, 16493), (87, 16556), (89, 16577), (95, 16652), (107, 16754), (109, 16760), (111, 16796), (112, 16799), (115, 16817), (122, 16859), (150, 17033), (151, 17036), (152, 17042),

Gene: Celia_20 Start: 16277, Stop: 17497, Start Num: 5

Candidate Starts for Celia_20:

(Start: 5 @16277 has 106 MA's), (10, 16319), (16, 16364), (24, 16433), (29, 16481), (31, 16487), (51, 16673), (52, 16676), (56, 16700), (63, 16745), (69, 16799), (83, 16958), (87, 16994), (104, 17177), (110, 17213), (112, 17237), (115, 17255), (117, 17261), (122, 17297), (130, 17339), (148, 17465), (151, 17483), (152, 17489),

Gene: Chucky_20 Start: 15831, Stop: 17042, Start Num: 5

Candidate Starts for Chucky_20:

(Start: 5 @15831 has 106 MA's), (31, 16041), (33, 16053), (34, 16056), (37, 16104), (47, 16203), (52, 16230), (63, 16299), (69, 16353), (74, 16410), (82, 16485), (83, 16512), (86, 16542), (88, 16566), (92, 16620), (99, 16698), (109, 16752), (112, 16791), (115, 16809), (121, 16842), (122, 16851), (128, 16884), (130, 16893), (139, 16944), (151, 17028), (152, 17034),

Gene: Conan_21 Start: 16260, Stop: 17477, Start Num: 5

Candidate Starts for Conan_21:

(Start: 5 @16260 has 106 MA's), (9, 16287), (13, 16338), (31, 16470), (41, 16572), (63, 16728), (67, 16758), (69, 16782), (72, 16815), (74, 16839), (82, 16914), (87, 16977), (109, 17181), (110, 17196), (116, 17241), (119, 17262), (122, 17280), (139, 17373), (142, 17403), (151, 17463), (152, 17469),

Gene: Danzina_21 Start: 16049, Stop: 17260, Start Num: 5

Candidate Starts for Danzina_21:

(Start: 5 @16049 has 106 MA's), (9, 16076), (23, 16202), (25, 16208), (27, 16229), (31, 16259), (37, 16322), (47, 16421), (52, 16448), (63, 16517), (69, 16571), (70, 16574), (71, 16583), (74, 16628), (81, 16700), (82, 16703), (87, 16766), (89, 16787), (95, 16862), (107, 16964), (109, 16970), (111, 17006), (112, 17009), (115, 17027), (122, 17069), (150, 17243), (151, 17246), (152, 17252),

Gene: Dattran_21 Start: 15838, Stop: 17049, Start Num: 5

Candidate Starts for Dattran_21:

(Start: 5 @15838 has 106 MA's), (9, 15865), (23, 15991), (27, 16018), (31, 16048), (37, 16111), (47, 16210), (52, 16237), (63, 16306), (69, 16360), (71, 16372), (74, 16417), (81, 16489), (82, 16492), (87, 16555), (89, 16576), (95, 16651), (107, 16753), (109, 16759), (111, 16795), (112, 16798), (115, 16816), (122, 16858), (150, 17032), (151, 17035), (152, 17041),

Gene: Daudau_20 Start: 15774, Stop: 16985, Start Num: 5

Candidate Starts for Daudau_20:

(Start: 5 @15774 has 106 MA's), (14, 15855), (18, 15882), (28, 15960), (31, 15984), (33, 15996), (38, 16059), (50, 16158), (52, 16173), (55, 16188), (69, 16296), (74, 16353), (81, 16425), (87, 16491), (102, 16650), (109, 16695), (110, 16710), (122, 16794), (124, 16800), (130, 16836), (135, 16863), (139, 16887), (151, 16971), (152, 16977),

Gene: Dexers_19 Start: 16241, Stop: 17458, Start Num: 5

Candidate Starts for Dexers_19:

(Start: 5 @16241 has 106 MA's), (9, 16268), (13, 16319), (31, 16451), (34, 16466), (41, 16553), (47, 16613), (63, 16709), (67, 16739), (74, 16820), (82, 16895), (83, 16922), (87, 16958), (105, 17147), (109, 17162), (110, 17177), (116, 17222), (119, 17243), (122, 17261), (139, 17354), (142, 17384), (151, 17444), (152, 17450),

Gene: Diane_20 Start: 16306, Stop: 17520, Start Num: 5

Candidate Starts for Diane_20:

(Start: 5 @16306 has 106 MA's), (9, 16333), (18, 16414), (20, 16432), (28, 16492), (29, 16510), (33, 16528), (34, 16531), (38, 16591), (52, 16705), (69, 16828), (74, 16885), (102, 17182), (107, 17221), (109, 17227), (117, 17290), (139, 17419), (149, 17497), (151, 17506), (152, 17512),

Gene: Dwayne_20 Start: 15827, Stop: 17038, Start Num: 5

Candidate Starts for Dwayne_20:

(Start: 5 @15827 has 106 MA's), (31, 16037), (33, 16049), (34, 16052), (37, 16100), (47, 16199), (52, 16226), (63, 16295), (69, 16349), (74, 16406), (82, 16481), (83, 16508), (86, 16538), (88, 16562), (92, 16616), (99, 16694), (109, 16748), (112, 16787), (115, 16805), (121, 16838), (122, 16847), (128, 16880), (130, 16889), (139, 16940), (151, 17024), (152, 17030),

Gene: ELB20_19 Start: 15893, Stop: 17104, Start Num: 5

Candidate Starts for ELB20_19:

(Start: 5 @15893 has 106 MA's), (18, 16001), (31, 16103), (33, 16115), (34, 16118), (38, 16178), (52, 16292), (55, 16307), (69, 16415), (72, 16448), (74, 16472), (81, 16544), (83, 16574), (88, 16628), (89, 16631), (90, 16652), (102, 16769), (109, 16814), (110, 16829), (122, 16913), (123, 16916), (124, 16919), (130, 16955), (137, 16994), (139, 17006), (143, 17045), (149, 17081), (151, 17090), (152, 17096),

Gene: Eddasa_21 Start: 16017, Stop: 17219, Start Num: 5

Candidate Starts for Eddasa_21:

(Start: 5 @16017 has 106 MA's), (9, 16044), (31, 16227), (37, 16290), (47, 16389), (52, 16416), (63, 16485), (67, 16515), (107, 16932), (109, 16938), (112, 16977), (116, 16998), (121, 17028), (122, 17037), (128, 17070), (141, 17151), (148, 17193), (149, 17196), (151, 17205), (152, 17211),

Gene: Ejemplo_20 Start: 15827, Stop: 17038, Start Num: 5

Candidate Starts for Ejemplo_20:

(Start: 5 @15827 has 106 MA's), (9, 15854), (31, 16037), (33, 16049), (34, 16052), (47, 16199), (52, 16226), (69, 16349), (74, 16406), (82, 16481), (83, 16508), (86, 16538), (89, 16565), (92, 16616), (109, 16748), (112, 16787), (115, 16805), (120, 16835), (121, 16838), (122, 16847), (128, 16880), (130, 16889), (139, 16940), (146, 17000), (151, 17024), (152, 17030),

Gene: ElGato_21 Start: 16263, Stop: 17480, Start Num: 5

Candidate Starts for ElGato_21:

(Start: 5 @16263 has 106 MA's), (9, 16290), (13, 16341), (31, 16473), (41, 16575), (63, 16731), (67, 16761), (69, 16785), (72, 16818), (74, 16842), (82, 16917), (87, 16980), (105, 17169), (109, 17184), (110, 17199), (116, 17244), (119, 17265), (122, 17283), (139, 17376), (142, 17406), (151, 17466), (152, 17472),

Gene: Emaanora_22 Start: 15830, Stop: 17041, Start Num: 5

Candidate Starts for Emaanora_22:

(Start: 5 @15830 has 106 MA's), (31, 16040), (33, 16052), (34, 16055), (37, 16103), (47, 16202), (52, 16229), (63, 16298), (69, 16352), (74, 16409), (82, 16484), (83, 16511), (86, 16541), (88, 16565), (92, 16619), (99, 16697), (109, 16751), (112, 16790), (115, 16808), (121, 16841), (122, 16850), (128, 16883), (130, 16892), (139, 16943), (151, 17027), (152, 17033),

Gene: EnochSoames_22 Start: 16013, Stop: 17215, Start Num: 5

Candidate Starts for EnochSoames_22:

(Start: 5 @16013 has 106 MA's), (9, 16040), (31, 16223), (37, 16286), (47, 16385), (52, 16412), (63, 16481), (67, 16511), (79, 16631), (107, 16928), (109, 16934), (112, 16973), (116, 16994), (121,

17024), (122, 17033), (128, 17066), (141, 17147), (148, 17189), (149, 17192), (151, 17201), (152, 17207),

Gene: Esperer_20 Start: 15854, Stop: 17068, Start Num: 5

Candidate Starts for Esperer_20:

(Start: 5 @15854 has 106 MA's), (9, 15881), (31, 16064), (37, 16127), (47, 16226), (52, 16253), (63, 16322), (67, 16352), (79, 16472), (87, 16571), (107, 16769), (109, 16775), (112, 16814), (117, 16838), (121, 16865), (122, 16874), (128, 16907), (139, 16967), (142, 16997), (149, 17045), (151, 17054), (152, 17060),

Gene: GirlDinner_20 Start: 15565, Stop: 16776, Start Num: 5

Candidate Starts for GirlDinner_20:

(Start: 5 @15565 has 106 MA's), (31, 15775), (33, 15787), (34, 15790), (38, 15850), (52, 15964), (55, 15979), (62, 16030), (81, 16216), (87, 16282), (88, 16300), (89, 16303), (102, 16441), (109, 16486), (110, 16501), (116, 16546), (117, 16549), (118, 16564), (121, 16576), (122, 16585), (139, 16678), (151, 16762), (152, 16768),

Gene: Goby_20 Start: 15844, Stop: 17055, Start Num: 5

Candidate Starts for Goby_20:

(Start: 5 @15844 has 106 MA's), (9, 15871), (23, 15997), (27, 16024), (31, 16054), (37, 16117), (47, 16216), (52, 16243), (63, 16312), (69, 16366), (71, 16378), (74, 16423), (81, 16495), (82, 16498), (87, 16561), (89, 16582), (95, 16657), (107, 16759), (109, 16765), (111, 16801), (112, 16804), (115, 16822), (122, 16864), (150, 17038), (151, 17041), (152, 17047),

Gene: Godpower_21 Start: 15855, Stop: 17066, Start Num: 5

Candidate Starts for Godpower_21:

(Start: 5 @15855 has 106 MA's), (9, 15882), (31, 16065), (33, 16077), (34, 16080), (37, 16128), (47, 16227), (52, 16254), (63, 16323), (69, 16377), (74, 16434), (82, 16509), (86, 16566), (89, 16593), (109, 16776), (112, 16815), (120, 16863), (121, 16866), (122, 16875), (128, 16908), (151, 17052), (152, 17058),

Gene: GreenWeasel_22 Start: 16555, Stop: 17760, Start Num: 5

Candidate Starts for GreenWeasel_22:

(2, 16537), (Start: 3 @16549 has 1 MA's), (Start: 5 @16555 has 106 MA's), (16, 16642), (28, 16741), (33, 16777), (38, 16840), (52, 16954), (54, 16966), (62, 17020), (63, 17023), (67, 17053), (69, 17077), (74, 17134), (79, 17173), (81, 17206), (82, 17209), (85, 17257), (109, 17476), (110, 17491), (116, 17536), (121, 17566), (124, 17581), (130, 17617), (149, 17737), (151, 17746), (152, 17752),

Gene: Haizum_20 Start: 16338, Stop: 17552, Start Num: 5

Candidate Starts for Haizum_20:

(Start: 5 @16338 has 106 MA's), (9, 16365), (18, 16446), (28, 16524), (29, 16542), (33, 16560), (34, 16563), (38, 16623), (52, 16737), (69, 16860), (74, 16917), (102, 17214), (109, 17259), (117, 17322), (139, 17451), (149, 17529), (151, 17538), (152, 17544),

Gene: Hank144_21 Start: 15960, Stop: 17171, Start Num: 5

Candidate Starts for Hank144_21:

(Start: 5 @15960 has 106 MA's), (18, 16068), (19, 16083), (31, 16170), (33, 16182), (34, 16185), (38, 16245), (52, 16359), (55, 16374), (69, 16482), (81, 16611), (87, 16677), (89, 16698), (90, 16719), (102, 16836), (107, 16875), (109, 16881), (110, 16896), (121, 16971), (122, 16980), (139, 17073), (151, 17157), (152, 17163),

Gene: Hippo_20 Start: 15830, Stop: 17041, Start Num: 5

Candidate Starts for Hippo_20:

(Start: 5 @15830 has 106 MA's), (31, 16040), (33, 16052), (34, 16055), (37, 16103), (47, 16202), (52, 16229), (63, 16298), (69, 16352), (74, 16409), (82, 16484), (83, 16511), (86, 16541), (88, 16565), (92, 16619), (99, 16697), (109, 16751), (112, 16790), (115, 16808), (121, 16841), (122, 16850), (128, 16883), (130, 16892), (139, 16943), (142, 16973), (151, 17027), (152, 17033),

Gene: Hydra_22 Start: 16382, Stop: 17596, Start Num: 5

Candidate Starts for Hydra_22:

(Start: 5 @16382 has 106 MA's), (9, 16409), (31, 16592), (37, 16655), (47, 16754), (52, 16781), (63, 16850), (67, 16880), (79, 17000), (87, 17099), (107, 17297), (109, 17303), (112, 17342), (117, 17366), (121, 17393), (122, 17402), (128, 17435), (139, 17495), (142, 17525), (149, 17573), (151, 17582), (152, 17588),

Gene: Ibantik_81 Start: 42960, Stop: 44192, Start Num: 7

Candidate Starts for Ibantik_81:

(Start: 7 @42960 has 5 MA's), (16, 43035), (17, 43038), (26, 43125), (32, 43161), (40, 43257), (45, 43329), (48, 43335), (49, 43338), (54, 43374), (58, 43404), (69, 43485), (78, 43578), (89, 43707), (97, 43803), (101, 43830), (123, 43989), (125, 43998), (127, 44013), (131, 44031), (132, 44037), (136, 44061), (140, 44088), (147, 44154), (153, 44187),

Gene: Indigo_20 Start: 15854, Stop: 17068, Start Num: 5

Candidate Starts for Indigo_20:

(Start: 5 @15854 has 106 MA's), (9, 15881), (31, 16064), (37, 16127), (47, 16226), (52, 16253), (63, 16322), (67, 16352), (79, 16472), (87, 16571), (107, 16769), (109, 16775), (112, 16814), (117, 16838), (121, 16865), (122, 16874), (128, 16907), (139, 16967), (142, 16997), (149, 17045), (151, 17054), (152, 17060),

Gene: Issmi_21 Start: 16769, Stop: 17983, Start Num: 5

Candidate Starts for Issmi_21:

(Start: 5 @16769 has 106 MA's), (9, 16796), (19, 16892), (29, 16973), (31, 16979), (33, 16991), (34, 16994), (38, 17054), (39, 17066), (52, 17168), (54, 17180), (63, 17237), (69, 17291), (74, 17348), (87, 17486), (109, 17690), (117, 17753), (121, 17780), (123, 17792), (139, 17882), (149, 17960), (151, 17969), (152, 17975),

Gene: Itza_20 Start: 16200, Stop: 17420, Start Num: 5

Candidate Starts for Itza_20:

(Start: 5 @16200 has 106 MA's), (10, 16242), (16, 16287), (24, 16356), (29, 16404), (31, 16410), (51, 16596), (52, 16599), (56, 16623), (63, 16668), (69, 16722), (83, 16881), (87, 16917), (104, 17100), (110, 17136), (112, 17160), (115, 17178), (117, 17184), (122, 17220), (130, 17262), (148, 17388), (151, 17406), (152, 17412),

Gene: Izzy_21 Start: 16064, Stop: 17266, Start Num: 5

Candidate Starts for Izzy_21:

(Start: 5 @16064 has 106 MA's), (9, 16091), (31, 16274), (37, 16337), (47, 16436), (52, 16463), (63, 16532), (67, 16562), (107, 16979), (109, 16985), (112, 17024), (116, 17045), (121, 17075), (122, 17084), (128, 17117), (141, 17198), (148, 17240), (149, 17243), (151, 17252), (152, 17258),

Gene: Janus_21 Start: 15903, Stop: 17114, Start Num: 5

Candidate Starts for Janus_21:

(Start: 5 @15903 has 106 MA's), (31, 16113), (33, 16125), (34, 16128), (38, 16188), (39, 16200), (52, 16302), (55, 16317), (62, 16368), (80, 16542), (81, 16554), (87, 16620), (88, 16638), (89, 16641), (102, 16779), (109, 16824), (110, 16839), (116, 16884), (117, 16887), (121, 16914), (122, 16923), (139, 17016), (151, 17100), (152, 17106),

Gene: Jash_21 Start: 16017, Stop: 17219, Start Num: 5

Candidate Starts for Jash_21:

(Start: 5 @16017 has 106 MA's), (9, 16044), (31, 16227), (37, 16290), (47, 16389), (52, 16416), (63, 16485), (67, 16515), (107, 16932), (109, 16938), (112, 16977), (116, 16998), (121, 17028), (122, 17037), (128, 17070), (141, 17151), (148, 17193), (149, 17196), (151, 17205), (152, 17211),

Gene: Jevington_22 Start: 16207, Stop: 17418, Start Num: 5

Candidate Starts for Jevington_22:

(Start: 5 @16207 has 106 MA's), (14, 16288), (31, 16417), (33, 16429), (38, 16492), (52, 16606), (55, 16621), (69, 16729), (72, 16762), (74, 16786), (81, 16858), (87, 16924), (88, 16942), (89, 16945), (90, 16966), (102, 17083), (109, 17128), (110, 17143), (122, 17227), (124, 17233), (137, 17308), (139, 17320), (149, 17395), (151, 17404), (152, 17410),

Gene: Jhitchelle_20 Start: 16170, Stop: 17387, Start Num: 5

Candidate Starts for Jhitchelle_20:

(Start: 5 @16170 has 106 MA's), (9, 16197), (13, 16248), (22, 16305), (31, 16380), (36, 16440), (63, 16638), (66, 16665), (72, 16725), (74, 16749), (82, 16824), (87, 16887), (105, 17076), (109, 17091), (110, 17106), (122, 17190), (139, 17283), (151, 17373), (152, 17379),

Gene: Kaine_20 Start: 16241, Stop: 17458, Start Num: 5

Candidate Starts for Kaine_20:

(Start: 5 @16241 has 106 MA's), (9, 16268), (13, 16319), (31, 16451), (34, 16466), (41, 16553), (47, 16613), (63, 16709), (67, 16739), (72, 16796), (74, 16820), (82, 16895), (83, 16922), (87, 16958), (105, 17147), (109, 17162), (110, 17177), (116, 17222), (119, 17243), (122, 17261), (139, 17354), (142, 17384), (151, 17444), (152, 17450),

Gene: Katalie_21 Start: 16096, Stop: 17307, Start Num: 5

Candidate Starts for Katalie_21:

(Start: 5 @16096 has 106 MA's), (9, 16123), (27, 16276), (31, 16306), (37, 16369), (47, 16468), (52, 16495), (63, 16564), (74, 16675), (81, 16747), (82, 16750), (83, 16777), (87, 16813), (89, 16834), (109, 17017), (111, 17053), (112, 17056), (115, 17074), (122, 17116), (139, 17209), (151, 17293), (152, 17299),

Gene: Kromp_19 Start: 17084, Stop: 18241, Start Num: 7

Candidate Starts for Kromp_19:

(Start: 7 @17084 has 5 MA's), (23, 17225), (33, 17294), (53, 17492), (62, 17549), (68, 17588), (77, 17687), (94, 17888), (96, 17900), (118, 18083), (129, 18140), (137, 18185), (138, 18188),

Gene: Lannister_21 Start: 15861, Stop: 17075, Start Num: 5

Candidate Starts for Lannister_21:

(Start: 5 @15861 has 106 MA's), (9, 15888), (31, 16071), (33, 16083), (37, 16134), (47, 16233), (52, 16260), (63, 16329), (69, 16383), (74, 16440), (82, 16515), (83, 16542), (86, 16572), (88, 16596), (109, 16782), (112, 16821), (115, 16839), (120, 16869), (121, 16872), (122, 16881), (128, 16914), (130, 16923), (150, 17058), (151, 17061), (152, 17067),

Gene: Legacy_20 Start: 15825, Stop: 17039, Start Num: 5

Candidate Starts for Legacy_20:

(Start: 5 @15825 has 106 MA's), (9, 15852), (31, 16035), (37, 16098), (47, 16197), (52, 16224), (63, 16293), (67, 16323), (79, 16443), (87, 16542), (107, 16740), (109, 16746), (112, 16785), (117, 16809), (121, 16836), (122, 16845), (128, 16878), (139, 16938), (142, 16968), (149, 17016), (151, 17025), (152, 17031),

Gene: Leviticus_20 Start: 15854, Stop: 17068, Start Num: 5

Candidate Starts for Leviticus_20:

(Start: 5 @15854 has 106 MA's), (9, 15881), (31, 16064), (37, 16127), (47, 16226), (52, 16253), (63, 16322), (67, 16352), (79, 16472), (87, 16571), (107, 16769), (109, 16775), (112, 16814), (117, 16838), (121, 16865), (122, 16874), (128, 16907), (139, 16967), (142, 16997), (149, 17045), (151, 17054), (152, 17060),

Gene: Lika_20 Start: 15859, Stop: 17070, Start Num: 5

Candidate Starts for Lika_20:

(Start: 5 @15859 has 106 MA's), (9, 15886), (31, 16069), (33, 16081), (34, 16084), (37, 16132), (47, 16231), (52, 16258), (63, 16327), (69, 16381), (74, 16438), (82, 16513), (86, 16570), (89, 16597), (109, 16780), (112, 16819), (120, 16867), (121, 16870), (122, 16879), (128, 16912), (151, 17056), (152, 17062),

Gene: Loofah_21 Start: 15822, Stop: 17033, Start Num: 5

Candidate Starts for Loofah_21:

(Start: 5 @15822 has 106 MA's), (18, 15930), (31, 16032), (33, 16044), (34, 16047), (38, 16107), (52, 16221), (55, 16236), (69, 16344), (72, 16377), (74, 16401), (81, 16473), (83, 16503), (88, 16557), (89, 16560), (90, 16581), (102, 16698), (109, 16743), (110, 16758), (122, 16842), (123, 16845), (124, 16848), (130, 16884), (137, 16923), (139, 16935), (143, 16974), (148, 17007), (149, 17010), (151, 17019), (152, 17025),

Gene: Lorelei_20 Start: 15829, Stop: 17040, Start Num: 5

Candidate Starts for Lorelei_20:

(Start: 5 @15829 has 106 MA's), (9, 15856), (27, 16009), (31, 16039), (37, 16102), (47, 16201), (52, 16228), (63, 16297), (69, 16351), (70, 16354), (71, 16363), (74, 16408), (81, 16480), (82, 16483), (87, 16546), (89, 16567), (95, 16642), (99, 16696), (107, 16744), (109, 16750), (111, 16786), (112, 16789), (115, 16807), (122, 16849), (150, 17023), (151, 17026), (152, 17032),

Gene: Maneekul_20 Start: 15826, Stop: 17037, Start Num: 5

Candidate Starts for Maneekul_20:

(Start: 5 @15826 has 106 MA's), (9, 15853), (31, 16036), (33, 16048), (34, 16051), (47, 16198), (52, 16225), (69, 16348), (74, 16405), (82, 16480), (83, 16507), (86, 16537), (89, 16564), (92, 16615), (109, 16747), (112, 16786), (115, 16804), (120, 16834), (121, 16837), (122, 16846), (128, 16879), (130, 16888), (139, 16939), (146, 16999), (151, 17023), (152, 17029),

Gene: Marav_23 Start: 16557, Stop: 17768, Start Num: 5

Candidate Starts for Marav_23:

(Start: 5 @16557 has 106 MA's), (14, 16638), (31, 16767), (33, 16779), (38, 16842), (52, 16956), (55, 16971), (69, 17079), (72, 17112), (81, 17208), (83, 17238), (87, 17274), (88, 17292), (89, 17295), (90, 17316), (102, 17433), (109, 17478), (110, 17493), (122, 17577), (124, 17583), (137, 17658), (139, 17670), (149, 17745), (151, 17754), (152, 17760),

Gene: Nabi_20 Start: 15829, Stop: 17040, Start Num: 5

Candidate Starts for Nabi_20:

(Start: 5 @15829 has 106 MA's), (9, 15856), (27, 16009), (31, 16039), (37, 16102), (47, 16201), (52, 16228), (63, 16297), (69, 16351), (70, 16354), (71, 16363), (74, 16408), (81, 16480), (82, 16483), (87, 16546), (89, 16567), (95, 16642), (99, 16696), (107, 16744), (109, 16750), (111, 16786), (112, 16789), (115, 16807), (122, 16849), (150, 17023), (151, 17026), (152, 17032),

Gene: Nanodon_22 Start: 16037, Stop: 17248, Start Num: 5

Candidate Starts for Nanodon_22:

(Start: 5 @16037 has 106 MA's), (9, 16064), (27, 16217), (31, 16247), (37, 16310), (47, 16409), (50, 16421), (52, 16436), (63, 16505), (69, 16559), (81, 16688), (82, 16691), (87, 16754), (88, 16772), (109,

16958), (111, 16994), (112, 16997), (115, 17015), (122, 17057), (139, 17150), (151, 17234), (152, 17240),

Gene: Nerdos_20 Start: 15854, Stop: 17068, Start Num: 5

Candidate Starts for Nerdos_20:

(Start: 5 @15854 has 106 MA's), (9, 15881), (31, 16064), (37, 16127), (47, 16226), (52, 16253), (63, 16322), (67, 16352), (79, 16472), (87, 16571), (107, 16769), (109, 16775), (112, 16814), (117, 16838), (121, 16865), (122, 16874), (128, 16907), (139, 16967), (142, 16997), (149, 17045), (151, 17054), (152, 17060),

Gene: Nishikigoi_20 Start: 16338, Stop: 17552, Start Num: 5

Candidate Starts for Nishikigoi_20:

(Start: 5 @16338 has 106 MA's), (9, 16365), (18, 16446), (28, 16524), (29, 16542), (33, 16560), (34, 16563), (38, 16623), (52, 16737), (63, 16806), (69, 16860), (74, 16917), (102, 17214), (109, 17259), (117, 17322), (139, 17451), (149, 17529), (151, 17538), (152, 17544),

Gene: Oliynyk_21 Start: 16017, Stop: 17219, Start Num: 5

Candidate Starts for Oliynyk_21:

(Start: 5 @16017 has 106 MA's), (9, 16044), (31, 16227), (37, 16290), (47, 16389), (52, 16416), (63, 16485), (67, 16515), (107, 16932), (109, 16938), (112, 16977), (116, 16998), (121, 17028), (122, 17037), (128, 17070), (141, 17151), (148, 17193), (149, 17196), (151, 17205), (152, 17211),

Gene: Omar_21 Start: 16673, Stop: 17887, Start Num: 5

Candidate Starts for Omar_21:

(Start: 5 @16673 has 106 MA's), (9, 16700), (28, 16859), (29, 16877), (31, 16883), (33, 16895), (34, 16898), (38, 16958), (52, 17072), (63, 17141), (69, 17195), (72, 17228), (74, 17252), (83, 17354), (84, 17360), (105, 17579), (106, 17585), (109, 17594), (123, 17696), (139, 17786), (149, 17864), (151, 17873), (152, 17879),

Gene: Ozzie_20 Start: 15834, Stop: 17048, Start Num: 5

Candidate Starts for Ozzie_20:

(Start: 5 @15834 has 106 MA's), (9, 15861), (31, 16044), (37, 16107), (47, 16206), (52, 16233), (63, 16302), (67, 16332), (79, 16452), (87, 16551), (107, 16749), (109, 16755), (112, 16794), (117, 16818), (121, 16845), (122, 16854), (128, 16887), (139, 16947), (142, 16977), (149, 17025), (151, 17034), (152, 17040),

Gene: OzzyJ_21 Start: 15821, Stop: 17032, Start Num: 5

Candidate Starts for OzzyJ_21:

(Start: 5 @15821 has 106 MA's), (31, 16031), (33, 16043), (34, 16046), (37, 16094), (47, 16193), (52, 16220), (63, 16289), (69, 16343), (74, 16400), (82, 16475), (83, 16502), (86, 16532), (88, 16556), (92, 16610), (99, 16688), (109, 16742), (112, 16781), (115, 16799), (121, 16832), (122, 16841), (128, 16874), (130, 16883), (139, 16934), (151, 17018), (152, 17024),

Gene: Pablito_20 Start: 15663, Stop: 16874, Start Num: 5

Candidate Starts for Pablito_20:

(Start: 5 @15663 has 106 MA's), (18, 15771), (19, 15786), (31, 15873), (33, 15885), (34, 15888), (38, 15948), (52, 16062), (55, 16077), (69, 16185), (72, 16218), (81, 16314), (83, 16344), (87, 16380), (88, 16398), (89, 16401), (90, 16422), (102, 16539), (109, 16584), (110, 16599), (116, 16644), (121, 16674), (137, 16764), (139, 16776), (148, 16848), (149, 16851), (151, 16860), (152, 16866),

Gene: Paedore_20 Start: 15822, Stop: 17033, Start Num: 5

Candidate Starts for Paedore_20:

(Start: 5 @15822 has 106 MA's), (18, 15930), (31, 16032), (33, 16044), (34, 16047), (38, 16107), (52, 16221), (55, 16236), (69, 16344), (72, 16377), (74, 16401), (81, 16473), (83, 16503), (88, 16557), (89, 16560), (90, 16581), (102, 16698), (109, 16743), (110, 16758), (122, 16842), (123, 16845), (124, 16848), (130, 16884), (137, 16923), (139, 16935), (143, 16974), (148, 17007), (149, 17010), (151, 17019), (152, 17025),

Gene: Paolo_22 Start: 16220, Stop: 17431, Start Num: 5

Candidate Starts for Paolo_22:

(Start: 5 @16220 has 106 MA's), (14, 16301), (31, 16430), (33, 16442), (38, 16505), (52, 16619), (55, 16634), (69, 16742), (72, 16775), (74, 16799), (81, 16871), (87, 16937), (88, 16955), (89, 16958), (90, 16979), (102, 17096), (109, 17141), (110, 17156), (122, 17240), (124, 17246), (137, 17321), (139, 17333), (149, 17408), (151, 17417), (152, 17423),

Gene: Pavo_21 Start: 16533, Stop: 17750, Start Num: 5

Candidate Starts for Pavo_21:

(Start: 5 @16533 has 106 MA's), (9, 16560), (13, 16611), (31, 16743), (41, 16845), (63, 17001), (67, 17031), (69, 17055), (72, 17088), (74, 17112), (82, 17187), (87, 17250), (109, 17454), (110, 17469), (116, 17514), (119, 17535), (122, 17553), (139, 17646), (142, 17676), (151, 17736), (152, 17742),

Gene: Phettuccine_20 Start: 15854, Stop: 17068, Start Num: 5

Candidate Starts for Phettuccine_20:

(Start: 5 @15854 has 106 MA's), (9, 15881), (31, 16064), (37, 16127), (47, 16226), (52, 16253), (63, 16322), (67, 16352), (79, 16472), (87, 16571), (107, 16769), (109, 16775), (112, 16814), (117, 16838), (121, 16865), (122, 16874), (128, 16907), (139, 16967), (142, 16997), (149, 17045), (151, 17054), (152, 17060),

Gene: Ponzi_56 Start: 37563, Stop: 38783, Start Num: 8

Candidate Starts for Ponzi_56:

(Start: 7 @37551 has 5 MA's), (Start: 8 @37563 has 1 MA's), (9, 37569), (14, 37620), (17, 37629), (21, 37668), (24, 37695), (64, 38034), (65, 38037), (67, 38052), (69, 38076), (87, 38277), (101, 38421), (126, 38592), (133, 38631), (136, 38652), (147, 38745), (153, 38778),

Gene: Provolone_21 Start: 16263, Stop: 17480, Start Num: 5

Candidate Starts for Provolone_21:

(Start: 5 @16263 has 106 MA's), (9, 16290), (13, 16341), (31, 16473), (41, 16575), (63, 16731), (67, 16761), (69, 16785), (72, 16818), (74, 16842), (82, 16917), (87, 16980), (90, 17022), (105, 17169), (109, 17184), (110, 17199), (116, 17244), (119, 17265), (122, 17283), (139, 17376), (142, 17406), (151, 17466), (152, 17472),

Gene: Puginator_22 Start: 16265, Stop: 17476, Start Num: 5

Candidate Starts for Puginator_22:

(Start: 5 @16265 has 106 MA's), (31, 16475), (33, 16487), (38, 16550), (52, 16664), (55, 16679), (69, 16787), (72, 16820), (74, 16844), (81, 16916), (87, 16982), (88, 17000), (89, 17003), (90, 17024), (102, 17141), (109, 17186), (110, 17201), (137, 17366), (139, 17378), (149, 17453), (151, 17462), (152, 17468),

Gene: R4_20 Start: 15904, Stop: 17115, Start Num: 5

Candidate Starts for R4_20:

(Start: 5 @15904 has 106 MA's), (18, 16012), (31, 16114), (33, 16126), (34, 16129), (38, 16189), (52, 16303), (55, 16318), (69, 16426), (72, 16459), (74, 16483), (81, 16555), (83, 16585), (88, 16639), (89, 16642), (90, 16663), (102, 16780), (109, 16825), (110, 16840), (122, 16924), (123, 16927), (124, 16930), (130, 16966), (137, 17005), (139, 17017), (143, 17056), (149, 17092), (151, 17101), (152, 17107),

Gene: Rana_20 Start: 15829, Stop: 17040, Start Num: 5

Candidate Starts for Rana_20:

(Start: 5 @15829 has 106 MA's), (9, 15856), (27, 16009), (31, 16039), (37, 16102), (47, 16201), (52, 16228), (63, 16297), (69, 16351), (70, 16354), (71, 16363), (74, 16408), (81, 16480), (82, 16483), (87, 16546), (89, 16567), (95, 16642), (99, 16696), (107, 16744), (109, 16750), (111, 16786), (112, 16789), (115, 16807), (122, 16849), (150, 17023), (151, 17026), (152, 17032),

Gene: RedBear_22 Start: 16096, Stop: 17307, Start Num: 5

Candidate Starts for RedBear_22:

(Start: 5 @16096 has 106 MA's), (9, 16123), (27, 16276), (31, 16306), (37, 16369), (47, 16468), (52, 16495), (63, 16564), (74, 16675), (81, 16747), (82, 16750), (83, 16777), (87, 16813), (89, 16834), (109, 17017), (111, 17053), (112, 17056), (115, 17074), (122, 17116), (139, 17209), (151, 17293), (152, 17299),

Gene: Rusticus_21 Start: 16017, Stop: 17219, Start Num: 5

Candidate Starts for Rusticus_21:

(Start: 5 @16017 has 106 MA's), (9, 16044), (31, 16227), (37, 16290), (47, 16389), (52, 16416), (63, 16485), (67, 16515), (107, 16932), (109, 16938), (112, 16977), (116, 16998), (121, 17028), (122, 17037), (128, 17070), (141, 17151), (148, 17193), (149, 17196), (151, 17205), (152, 17211),

Gene: Saftant_20 Start: 16811, Stop: 18028, Start Num: 5

Candidate Starts for Saftant_20:

(Start: 5 @16811 has 106 MA's), (12, 16886), (13, 16889), (31, 17021), (63, 17279), (67, 17309), (69, 17333), (72, 17366), (74, 17390), (83, 17492), (87, 17528), (109, 17732), (110, 17747), (116, 17792), (121, 17822), (122, 17831), (141, 17945), (142, 17954), (151, 18014), (152, 18020),

Gene: SarahRose_20 Start: 15827, Stop: 17038, Start Num: 5

Candidate Starts for SarahRose_20:

(Start: 5 @15827 has 106 MA's), (31, 16037), (33, 16049), (34, 16052), (37, 16100), (47, 16199), (52, 16226), (63, 16295), (69, 16349), (74, 16406), (82, 16481), (83, 16508), (86, 16538), (88, 16562), (92, 16616), (99, 16694), (109, 16748), (115, 16805), (121, 16838), (122, 16847), (128, 16880), (130, 16889), (139, 16940), (151, 17024), (152, 17030),

Gene: Snorlax_20 Start: 15830, Stop: 17041, Start Num: 5

Candidate Starts for Snorlax_20:

(Start: 5 @15830 has 106 MA's), (31, 16040), (33, 16052), (34, 16055), (37, 16103), (47, 16202), (52, 16229), (63, 16298), (69, 16352), (74, 16409), (82, 16484), (83, 16511), (86, 16541), (88, 16565), (92, 16619), (99, 16697), (109, 16751), (112, 16790), (115, 16808), (121, 16841), (122, 16850), (128, 16883), (130, 16892), (139, 16943), (151, 17027), (152, 17033),

Gene: South40_21 Start: 16096, Stop: 17307, Start Num: 5

Candidate Starts for South40_21:

(Start: 5 @16096 has 106 MA's), (9, 16123), (27, 16276), (31, 16306), (37, 16369), (47, 16468), (52, 16495), (63, 16564), (74, 16675), (81, 16747), (82, 16750), (83, 16777), (87, 16813), (89, 16834), (109, 17017), (111, 17053), (112, 17056), (115, 17074), (122, 17116), (139, 17209), (151, 17293), (152, 17299),

Gene: Speedwell_25 Start: 18557, Stop: 19774, Start Num: 5

Candidate Starts for Speedwell_25:

(Start: 5 @18557 has 106 MA's), (9, 18584), (13, 18635), (31, 18767), (36, 18827), (37, 18830), (47, 18929), (63, 19025), (72, 19112), (82, 19211), (83, 19238), (87, 19274), (109, 19478), (110, 19493), (116, 19538), (122, 19577), (123, 19580), (141, 19691), (151, 19760), (152, 19766),

Gene: Spooks_62 Start: 40032, Stop: 41291, Start Num: 7

Candidate Starts for Spooks_62:

(1, 39885), (Start: 7 @40032 has 5 MA's), (9, 40050), (11, 40074), (43, 40371), (60, 40491), (61, 40500), (85, 40770), (93, 40860), (101, 40929), (103, 40947), (108, 40974), (126, 41100), (127, 41112), (140, 41187), (147, 41253), (153, 41286),

Gene: SqueakyClean_21 Start: 15829, Stop: 17040, Start Num: 5

Candidate Starts for SqueakyClean_21:

(Start: 5 @15829 has 106 MA's), (31, 16039), (33, 16051), (34, 16054), (38, 16114), (39, 16126), (52, 16228), (55, 16243), (62, 16294), (81, 16480), (87, 16546), (89, 16567), (102, 16705), (109, 16750), (110, 16765), (116, 16810), (117, 16813), (121, 16840), (122, 16849), (139, 16942), (151, 17026), (152, 17032),

Gene: Success_63 Start: 39166, Stop: 40425, Start Num: 7

Candidate Starts for Success_63:

(Start: 7 @39166 has 5 MA's), (9, 39184), (10, 39199), (11, 39208), (33, 39379), (57, 39610), (60, 39625), (61, 39634), (80, 39841), (85, 39904), (93, 39994), (98, 40045), (103, 40081), (109, 40117), (126, 40234), (127, 40246), (133, 40273), (136, 40294), (139, 40312), (147, 40387), (153, 40420),

Gene: Sudan_21 Start: 16528, Stop: 17745, Start Num: 5

Candidate Starts for Sudan_21:

(Start: 5 @16528 has 106 MA's), (9, 16555), (13, 16606), (31, 16738), (34, 16753), (41, 16840), (47, 16900), (63, 16996), (67, 17026), (72, 17083), (74, 17107), (82, 17182), (83, 17209), (87, 17245), (105, 17434), (109, 17449), (110, 17464), (116, 17509), (119, 17530), (122, 17548), (139, 17641), (142, 17671), (151, 17731), (152, 17737),

Gene: Sujidade_21 Start: 16135, Stop: 17346, Start Num: 5

Candidate Starts for Sujidade_21:

(Start: 5 @16135 has 106 MA's), (9, 16162), (31, 16345), (33, 16357), (34, 16360), (37, 16408), (47, 16507), (52, 16534), (63, 16603), (69, 16657), (74, 16714), (82, 16789), (86, 16846), (89, 16873), (109, 17056), (112, 17095), (120, 17143), (121, 17146), (122, 17155), (128, 17188), (151, 17332), (152, 17338),

Gene: SunsetPointe_20 Start: 15844, Stop: 17058, Start Num: 5

Candidate Starts for SunsetPointe_20:

(Start: 5 @15844 has 106 MA's), (9, 15871), (31, 16054), (37, 16117), (47, 16216), (52, 16243), (63, 16312), (67, 16342), (79, 16462), (87, 16561), (107, 16759), (109, 16765), (112, 16804), (117, 16828), (121, 16855), (122, 16864), (128, 16897), (139, 16957), (142, 16987), (149, 17035), (151, 17044), (152, 17050),

Gene: Superstar_23 Start: 17541, Stop: 18755, Start Num: 5

Candidate Starts for Superstar_23:

(Start: 5 @17541 has 106 MA's), (9, 17568), (28, 17727), (33, 17763), (34, 17766), (38, 17826), (52, 17940), (63, 18009), (69, 18063), (74, 18120), (87, 18258), (109, 18462), (130, 18603), (139, 18654), (149, 18732), (151, 18741), (152, 18747),

Gene: TagePhighter_21 Start: 15830, Stop: 17041, Start Num: 5

Candidate Starts for TagePhighter_21:

(Start: 5 @15830 has 106 MA's), (31, 16040), (33, 16052), (34, 16055), (37, 16103), (47, 16202), (52, 16229), (63, 16298), (69, 16352), (74, 16409), (82, 16484), (83, 16511), (86, 16541), (88, 16565), (92, 16619), (99, 16697), (109, 16751), (112, 16790), (115, 16808), (121, 16841), (122, 16850), (128, 16883), (130, 16892), (139, 16943), (151, 17027), (152, 17033),

Gene: Teagster_18 Start: 15351, Stop: 16520, Start Num: 4

Candidate Starts for Teagster_18:

(Start: 4 @15351 has 1 MA's), (6, 15357), (9, 15381), (15, 15438), (18, 15462), (33, 15579), (35, 15591), (38, 15642), (39, 15654), (42, 15672), (52, 15753), (59, 15798), (63, 15822), (134, 16431), (144, 16509),

Gene: Tefunt_20 Start: 16338, Stop: 17552, Start Num: 5

Candidate Starts for Tefunt_20:

(Start: 5 @16338 has 106 MA's), (9, 16365), (18, 16446), (28, 16524), (29, 16542), (33, 16560), (34, 16563), (38, 16623), (52, 16737), (69, 16860), (74, 16917), (102, 17214), (109, 17259), (117, 17322), (139, 17451), (149, 17529), (151, 17538), (152, 17544),

Gene: Thestral_21 Start: 15797, Stop: 17008, Start Num: 5

Candidate Starts for Thestral_21:

(Start: 5 @15797 has 106 MA's), (31, 16007), (33, 16019), (34, 16022), (38, 16082), (52, 16196), (55, 16211), (62, 16262), (74, 16376), (81, 16448), (87, 16514), (89, 16535), (102, 16673), (109, 16718), (110, 16733), (119, 16799), (122, 16817), (130, 16859), (135, 16886), (139, 16910), (151, 16994), (152, 17000),

Gene: TinaBelcher_20 Start: 15745, Stop: 16956, Start Num: 5

Candidate Starts for TinaBelcher_20:

(Start: 5 @15745 has 106 MA's), (31, 15955), (33, 15967), (34, 15970), (38, 16030), (52, 16144), (55, 16159), (62, 16210), (69, 16267), (74, 16324), (81, 16396), (87, 16462), (89, 16483), (90, 16504), (102, 16621), (109, 16666), (110, 16681), (119, 16747), (122, 16765), (130, 16807), (135, 16834), (139, 16858), (151, 16942), (152, 16948),

Gene: Toma_20 Start: 15844, Stop: 17055, Start Num: 5

Candidate Starts for Toma_20:

(Start: 5 @15844 has 106 MA's), (9, 15871), (23, 15997), (27, 16024), (31, 16054), (37, 16117), (47, 16216), (52, 16243), (63, 16312), (69, 16366), (71, 16378), (74, 16423), (81, 16495), (82, 16498), (87, 16561), (89, 16582), (95, 16657), (107, 16759), (109, 16765), (111, 16801), (112, 16804), (115, 16822), (122, 16864), (150, 17038), (151, 17041), (152, 17047),

Gene: Triste_20 Start: 15821, Stop: 17032, Start Num: 5

Candidate Starts for Triste_20:

(Start: 5 @15821 has 106 MA's), (31, 16031), (33, 16043), (34, 16046), (37, 16094), (47, 16193), (52, 16220), (63, 16289), (69, 16343), (74, 16400), (82, 16475), (83, 16502), (86, 16532), (88, 16556), (92, 16610), (99, 16688), (109, 16742), (112, 16781), (115, 16799), (121, 16832), (122, 16841), (128, 16874), (130, 16883), (139, 16934), (151, 17018), (152, 17024),

Gene: Triumph_22 Start: 15746, Stop: 16957, Start Num: 5

Candidate Starts for Triumph_22:

(Start: 5 @15746 has 106 MA's), (24, 15902), (31, 15956), (33, 15968), (34, 15971), (38, 16031), (52, 16145), (55, 16160), (62, 16211), (74, 16325), (80, 16385), (81, 16397), (87, 16463), (89, 16484), (102, 16622), (106, 16658), (109, 16667), (110, 16682), (116, 16727), (117, 16730), (121, 16757), (122, 16766), (139, 16859), (145, 16907), (149, 16934), (151, 16943), (152, 16949),

Gene: TrvxScott_19 Start: 15747, Stop: 16958, Start Num: 5

Candidate Starts for TrvxScott_19:

(Start: 5 @15747 has 106 MA's), (31, 15957), (33, 15969), (34, 15972), (38, 16032), (52, 16146), (55, 16161), (62, 16212), (69, 16269), (74, 16326), (81, 16398), (87, 16464), (89, 16485), (102, 16623), (109, 16668), (110, 16683), (119, 16749), (122, 16767), (130, 16809), (135, 16836), (139, 16860),

(151, 16944), (152, 16950),

Gene: TuanPN_20 Start: 15827, Stop: 17038, Start Num: 5

Candidate Starts for TuanPN_20:

(Start: 5 @15827 has 106 MA's), (9, 15854), (31, 16037), (33, 16049), (34, 16052), (47, 16199), (52, 16226), (69, 16349), (74, 16406), (82, 16481), (83, 16508), (86, 16538), (89, 16565), (92, 16616), (109, 16748), (112, 16787), (115, 16805), (120, 16835), (121, 16838), (122, 16847), (128, 16880), (130, 16889), (139, 16940), (146, 17000), (151, 17024), (152, 17030),

Gene: Unstoppable_20 Start: 15845, Stop: 17059, Start Num: 5

Candidate Starts for Unstoppable_20:

(Start: 5 @15845 has 106 MA's), (9, 15872), (31, 16055), (37, 16118), (47, 16217), (52, 16244), (63, 16313), (67, 16343), (79, 16463), (87, 16562), (107, 16760), (109, 16766), (112, 16805), (117, 16829), (121, 16856), (122, 16865), (128, 16898), (139, 16958), (142, 16988), (149, 17036), (151, 17045), (152, 17051),

Gene: Urza_20 Start: 16212, Stop: 17432, Start Num: 5

Candidate Starts for Urza_20:

(Start: 5 @16212 has 106 MA's), (10, 16254), (16, 16299), (24, 16368), (29, 16416), (31, 16422), (51, 16608), (52, 16611), (56, 16635), (63, 16680), (69, 16734), (83, 16893), (87, 16929), (104, 17112), (110, 17148), (112, 17172), (115, 17190), (117, 17196), (122, 17232), (130, 17274), (148, 17400), (151, 17418), (152, 17424),

Gene: Vanseggelen_25 Start: 16195, Stop: 17409, Start Num: 5

Candidate Starts for Vanseggelen_25:

(Start: 5 @16195 has 106 MA's), (9, 16222), (13, 16273), (31, 16405), (36, 16465), (37, 16468), (47, 16567), (63, 16663), (64, 16675), (72, 16750), (74, 16774), (82, 16849), (83, 16876), (87, 16912), (109, 17116), (110, 17131), (115, 17173), (116, 17176), (122, 17215), (141, 17329), (151, 17395), (152, 17401),

Gene: Verabelle_21 Start: 16526, Stop: 17743, Start Num: 5

Candidate Starts for Verabelle_21:

(Start: 5 @16526 has 106 MA's), (9, 16553), (13, 16604), (27, 16706), (31, 16736), (36, 16796), (37, 16799), (41, 16838), (63, 16994), (67, 17024), (72, 17081), (73, 17102), (82, 17180), (83, 17207), (87, 17243), (109, 17447), (110, 17462), (122, 17546), (139, 17639), (141, 17660), (151, 17729), (152, 17735),

Gene: Verse_20 Start: 16825, Stop: 18042, Start Num: 5

Candidate Starts for Verse_20:

(Start: 5 @16825 has 106 MA's), (9, 16852), (13, 16903), (27, 17005), (31, 17035), (36, 17095), (41, 17137), (47, 17197), (63, 17293), (67, 17323), (72, 17380), (73, 17401), (82, 17479), (87, 17542), (109, 17746), (110, 17761), (119, 17827), (122, 17845), (139, 17938), (142, 17968), (151, 18028), (152, 18034),

Gene: VieEnRose_20 Start: 16278, Stop: 17498, Start Num: 5

Candidate Starts for VieEnRose_20:

(Start: 5 @16278 has 106 MA's), (10, 16320), (16, 16365), (24, 16434), (29, 16482), (31, 16488), (51, 16674), (52, 16677), (63, 16746), (69, 16800), (76, 16875), (83, 16959), (87, 16995), (91, 17055), (104, 17178), (110, 17214), (112, 17238), (115, 17256), (117, 17262), (122, 17298), (130, 17340), (141, 17412), (151, 17484), (152, 17490),

Gene: Werner_20 Start: 15831, Stop: 17042, Start Num: 5

Candidate Starts for Werner_20:

(Start: 5 @15831 has 106 MA's), (31, 16041), (33, 16053), (34, 16056), (37, 16104), (47, 16203), (52, 16230), (63, 16299), (69, 16353), (74, 16410), (82, 16485), (83, 16512), (86, 16542), (88, 16566), (92, 16620), (99, 16698), (109, 16752), (112, 16791), (115, 16809), (121, 16842), (122, 16851), (128, 16884), (130, 16893), (139, 16944), (151, 17028), (152, 17034),

Gene: Whatever_20 Start: 15831, Stop: 17042, Start Num: 5

Candidate Starts for Whatever_20:

(Start: 5 @15831 has 106 MA's), (31, 16041), (33, 16053), (34, 16056), (37, 16104), (47, 16203), (52, 16230), (63, 16299), (69, 16353), (74, 16410), (82, 16485), (83, 16512), (86, 16542), (88, 16566), (92, 16620), (99, 16698), (109, 16752), (112, 16791), (115, 16809), (121, 16842), (122, 16851), (128, 16884), (130, 16893), (139, 16944), (151, 17028), (152, 17034),

Gene: Yasdnil_20 Start: 15823, Stop: 17034, Start Num: 5

Candidate Starts for Yasdnil_20:

(Start: 5 @15823 has 106 MA's), (9, 15850), (31, 16033), (33, 16045), (34, 16048), (47, 16195), (52, 16222), (69, 16345), (74, 16402), (82, 16477), (83, 16504), (86, 16534), (89, 16561), (92, 16612), (109, 16744), (112, 16783), (115, 16801), (120, 16831), (121, 16834), (122, 16843), (128, 16876), (130, 16885), (139, 16936), (146, 16996), (151, 17020), (152, 17026),

Gene: Yosif_21 Start: 16799, Stop: 17983, Start Num: 5

Candidate Starts for Yosif_21:

(Start: 5 @16799 has 106 MA's), (13, 16877), (14, 16880), (16, 16886), (29, 17003), (31, 17009), (36, 17069), (44, 17153), (46, 17168), (52, 17198), (69, 17321), (72, 17354), (83, 17480), (87, 17516), (99, 17642), (110, 17711), (112, 17735), (122, 17795), (151, 17969), (152, 17975),

Gene: Zainub_22 Start: 16178, Stop: 17389, Start Num: 5

Candidate Starts for Zainub_22:

(Start: 5 @16178 has 106 MA's), (14, 16259), (31, 16388), (33, 16400), (38, 16463), (52, 16577), (55, 16592), (69, 16700), (72, 16733), (74, 16757), (81, 16829), (87, 16895), (88, 16913), (89, 16916), (90, 16937), (102, 17054), (109, 17099), (110, 17114), (122, 17198), (124, 17204), (137, 17279), (139, 17291), (149, 17366), (151, 17375), (152, 17381),

Gene: ZamZam_23 Start: 16817, Stop: 18034, Start Num: 5

Candidate Starts for ZamZam_23:

(Start: 5 @16817 has 106 MA's), (12, 16892), (13, 16895), (31, 17027), (36, 17087), (38, 17102), (63, 17285), (67, 17315), (69, 17339), (72, 17372), (74, 17396), (83, 17498), (87, 17534), (102, 17693), (105, 17723), (109, 17738), (110, 17753), (116, 17798), (122, 17837), (149, 18011), (151, 18020), (152, 18026),

Gene: Zemlya_21 Start: 15855, Stop: 17066, Start Num: 5

Candidate Starts for Zemlya_21:

(Start: 5 @15855 has 106 MA's), (9, 15882), (23, 16008), (25, 16014), (27, 16035), (31, 16065), (37, 16128), (47, 16227), (52, 16254), (63, 16323), (69, 16377), (71, 16389), (74, 16434), (81, 16506), (82, 16509), (87, 16572), (89, 16593), (95, 16668), (107, 16770), (109, 16776), (111, 16812), (112, 16815), (115, 16833), (122, 16875), (150, 17049), (151, 17052), (152, 17058),

Gene: phiCAM_21 Start: 18698, Stop: 19705, Start Num: 31

Candidate Starts for phiCAM_21:

(Start: 5 @18488 has 106 MA's), (9, 18515), (13, 18566), (31, 18698), (36, 18758), (41, 18800), (63, 18956), (67, 18986), (72, 19043), (74, 19067), (82, 19142), (83, 19169), (87, 19205), (109, 19409), (110, 19424), (116, 19469), (122, 19508), (139, 19601), (142, 19631), (151, 19691), (152, 19697),

Gene: phiHau3_22 Start: 16517, Stop: 17728, Start Num: 3

Candidate Starts for phiHau3_22:

(2, 16505), (Start: 3 @16517 has 1 MA's), (Start: 5 @16523 has 106 MA's), (16, 16610), (28, 16709),
(33, 16745), (38, 16808), (52, 16922), (54, 16934), (62, 16988), (63, 16991), (67, 17021), (69, 17045),
(74, 17102), (79, 17141), (81, 17174), (82, 17177), (85, 17225), (109, 17444), (110, 17459), (116,
17504), (121, 17534), (124, 17549), (130, 17585), (149, 17705), (151, 17714), (152, 17720),