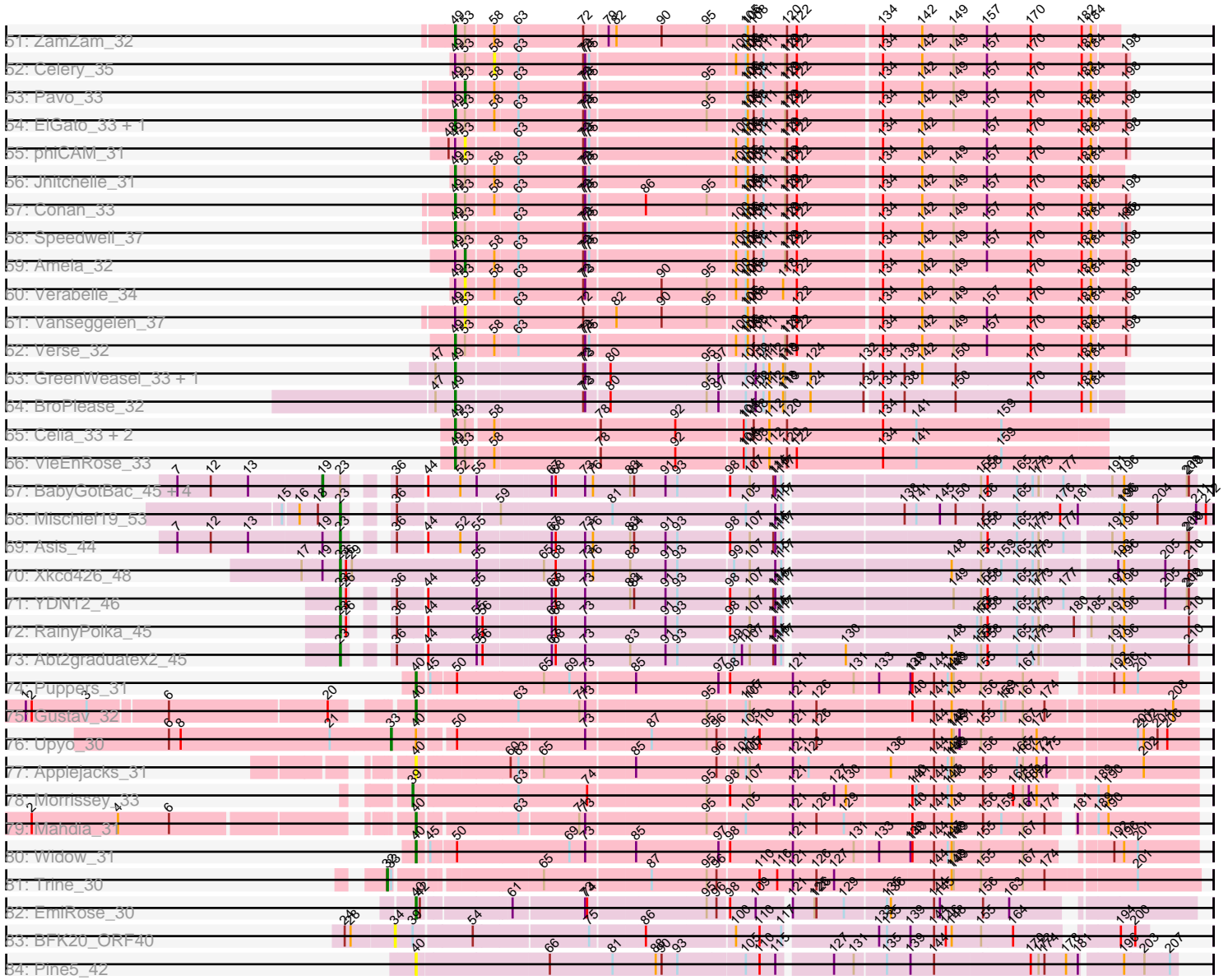


Pham 304793



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 304793 Report

This analysis was run 06/08/26 on database version 649.

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 304793 has 137 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Legacy_31
- Track 2 : BeardedLady_32
- Track 3 : Zemlya_32, Celeste_31, Danzina_32, Dattran_32
- Track 4 : Toma_31
- Track 5 : Nerdos_31, Esperer_31, SunsetPointe_31
- Track 6 : Caliburn_31, Ozzie_31, Unstoppable_31
- Track 7 : Lorelei_31, Nabi_31, Rana_31
- Track 8 : EnochSoames_34
- Track 9 : RedBear_32, South40_31, Katalie_31
- Track 10 : Snorlax_30, Chucky_30, TagePhighter_31
- Track 11 : TuanPN_30, Yasdnii_30, Ejemplo_30
- Track 12 : Brataylor_33
- Track 13 : Werner_30, Hippo_30, Dwayne_30, BarryBee_32, SarahRose_30, Triste_30, Whatever_30, Emaanora_32
- Track 14 : Izzy_32, Rusticus_32, Jash_32, BryanRecycles_32, Eddasa_32, Oliynyk_32
- Track 15 : Goby_31
- Track 16 : Sujidade_32, Godpower_32, Lika_31
- Track 17 : Leviticus_31, Phettuccine_31, Aaronocolus_31
- Track 18 : Maneekul_30
- Track 19 : OzzyJ_31, Asten_30
- Track 20 : Lannister_33
- Track 21 : Hydra_33
- Track 22 : Nanodon_33
- Track 23 : Bovely_31, Indigo_30
- Track 24 : Tefunt_31, Haizum_31, Nishikigoi_31, Amethyst_31
- Track 25 : Thestral_32
- Track 26 : Pablito_31
- Track 27 : Bowden_31, TinaBelcher_31, TrvxScott_30
- Track 28 : Diane_31
- Track 29 : Superstar_35
- Track 30 : Animus_31
- Track 31 : Hank144_32

- Track 32 : Zainub_33
- Track 33 : Puginator_33
- Track 34 : Omar_32
- Track 35 : Marav_34
- Track 36 : Paedore_31, Loofah_32
- Track 37 : R4_31, ELB20_30
- Track 38 : BartholomewSD_33
- Track 39 : SqueakyClean_31
- Track 40 : Triumph_33, Axiom_32
- Track 41 : Daudau_31
- Track 42 : Andris_31
- Track 43 : Alvy_33
- Track 44 : Janus_32, GirlDinner_31
- Track 45 : Paolo_33
- Track 46 : Jevington_33
- Track 47 : SunkenRoot_34
- Track 48 : Sudan_32, Dexers_31, Alsaber_33, Kaine_32
- Track 49 : Yosif_34
- Track 50 : Saftant_32
- Track 51 : ZamZam_32
- Track 52 : Celery_35
- Track 53 : Pavo_33
- Track 54 : ElGato_33, Provolone_33
- Track 55 : phiCAM_31
- Track 56 : Jhitchelle_31
- Track 57 : Conan_33
- Track 58 : Speedwell_37
- Track 59 : Amela_32
- Track 60 : Verabelle_34
- Track 61 : Vanseggelen_37
- Track 62 : Verse_32
- Track 63 : GreenWeasel_33, phiHau3_33
- Track 64 : BroPlease_32
- Track 65 : Celia_33, Urza_33, Itza_33
- Track 66 : VieEnRose_33
- Track 67 : BabyGotBac_45, Maih_43, BayC_44, TP1604_44, Salete_44
- Track 68 : Mischief19_53
- Track 69 : Asis_44
- Track 70 : Xkcd426_48
- Track 71 : YDN12_46
- Track 72 : RainyPolka_45
- Track 73 : Abt2graduatex2_45
- Track 74 : Puppies_31
- Track 75 : Gustav_32
- Track 76 : Upyo_30
- Track 77 : Applejacks_31
- Track 78 : Morrissey_33
- Track 79 : Mahdia_31
- Track 80 : Widow_31
- Track 81 : Trine_30
- Track 82 : EmiRose_30
- Track 83 : BFK20_ORF40
- Track 84 : Pine5_42

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

The start number called the most often in the published annotations is 49, it was called in 105 of the 127 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aaronocolus_31, Alsaber_33, Alvy_33, Amethyst_31, Andris_31, Animus_31, Asten_30, Axiom_32, BarryBee_32, BartholomewSD_33, BeardedLady_32, Bovely_31, Bowden_31, Brataylor_33, BroPlease_32, BryanRecycles_32, Caliburn_31, Celeste_31, Celia_33, Chucky_30, Conan_33, Danzina_32, Dattran_32, Daudau_31, Dexers_31, Diane_31, Dwayne_30, ELB20_30, Eddasa_32, Ejemplo_30, ElGato_33, Emaanora_32, EnochSoames_34, Esperer_31, GirlDinner_31, Goby_31, Godpower_32, GreenWeasel_33, Haizum_31, Hank144_32, Hippo_30, Hydra_33, Indigo_30, Itza_33, Izzy_32, Janus_32, Jash_32, Jevington_33, Jhitchelle_31, Kaine_32, Katalie_31, Lannister_33, Legacy_31, Leviticus_31, Lika_31, Loofah_32, Lorelei_31, Maneekul_30, Marav_34, Nabi_31, Nanodon_33, Nerdos_31, Nishikigoi_31, Oliynyk_32, Omar_32, Ozzie_31, OzzyJ_31, Paedore_31, Paolo_33, Phettuccine_31, Provolone_33, Puginator_33, R4_31, Rana_31, RedBear_32, Rusticus_32, Saftant_32, SarahRose_30, Snorlax_30, South40_31, Speedwell_37, SqueakyClean_31, Sudan_32, Sujidade_32, SunsetPointe_31, Superstar_35, TagePhighter_31, Tefunt_31, Thestral_32, TinaBelcher_31, Toma_31, Triste_30, Triumph_33, TrvxScott_30, TuanPN_30, Unstoppable_31, Urza_33, Verse_32, VieEnRose_33, Werner_30, Whatever_30, Yasdnil_30, Yosif_34, Zainub_33, ZamZam_32, Zemlya_32, phiHau3_33,

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

- Amela_32, Celery_35, Pablito_31, Pavo_33, SunkenRoot_34, Vanseggelen_37, Verabelle_34, phiCAM_31,

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

- Abt2graduatex2_45, Applejacks_31, Asis_44, BFK20_ORF40, BabyGotBac_45, BayC_44, EmiRose_30, Gustav_32, Mahdia_31, Maih_43, Mischief19_53, Morrissey_33, Pine5_42, Puppies_31, RainyPolka_45, Salete_44, TP1604_44, Trine_30, Upyo_30, Widow_31, Xkcd426_48, YDN12_46,

Summary by start number:

Start 19:

- Found in 7 of 137 (5.1%) of genes in pham
- Manual Annotations of this start: 5 of 127
- Called 71.4% of time when present
- Phage (with cluster) where this start called: BabyGotBac_45 (BG), BayC_44 (BG), Maih_43 (BG), Salete_44 (BG), TP1604_44 (BG),

Start 23:

- Found in 11 of 137 (8.0%) of genes in pham
- Manual Annotations of this start: 6 of 127
- Called 54.5% of time when present

- Phage (with cluster) where this start called: Abt2graduatex2_45 (BG), Asis_44 (BG), Mischief19_53 (BG), RainyPolka_45 (BG), Xkcd426_48 (BG), YDN12_46 (BG),

Start 32:

- Found in 1 of 137 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trine_30 (CD),

Start 33:

- Found in 2 of 137 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Upyo_30 (CD),

Start 34:

- Found in 1 of 137 (0.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BFK20_ORF40 (singleton),

Start 39:

- Found in 2 of 137 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Morrissey_33 (CD),

Start 40:

- Found in 8 of 137 (5.8%) of genes in pham
- Manual Annotations of this start: 5 of 127
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Applejacks_31 (CD), EmiRose_30 (singleton), Gustav_32 (CD), Mahdia_31 (CD), Pine5_42 (singleton), Poppers_31 (CD), Widow_31 (CD),

Start 49:

- Found in 115 of 137 (83.9%) of genes in pham
- Manual Annotations of this start: 105 of 127
- Called 93.0% of time when present
- Phage (with cluster) where this start called: Aaronocolus_31 (BD1), Alsaber_33 (BD3), Alvy_33 (BD2), Amethyst_31 (BD2), Andris_31 (BD2), Animus_31 (BD2), Asten_30 (BD1), Axiom_32 (BD2), BarryBee_32 (BD1), BartholomewSD_33 (BD2), BeardedLady_32 (BD1), Bovely_31 (BD1), Bowden_31 (BD2), Brataylor_33 (BD1), BroPlease_32 (BD4), BryanRecycles_32 (BD1), Caliburn_31 (BD1), Celeste_31 (BD1), Celia_33 (BD6), Chucky_30 (BD1), Conan_33 (BD3), Danzina_32 (BD1), Dattran_32 (BD1), Daudau_31 (BD2), Dexers_31 (BD3), Diane_31 (BD2), Dwayne_30 (BD1), ELB20_30 (BD2), Eddasa_32 (BD1), Ejemplo_30 (BD1), ElGato_33 (BD3), Emaanora_32 (BD1), EnochSoames_34 (BD1), Esperer_31 (BD1), GirlDinner_31 (BD2), Goby_31 (BD1), Godpower_32 (BD1), GreenWeasel_33 (BD4), Haizum_31 (BD2), Hank144_32 (BD2), Hippo_30 (BD1), Hydra_33 (BD1), Indigo_30 (BD1), Itza_33 (BD6), Izzy_32 (BD1), Janus_32 (BD2), Jash_32 (BD1), Jevington_33 (BD2), Jhitchelle_31 (BD3), Kaine_32 (BD3), Katalie_31 (BD1), Lannister_33 (BD1), Legacy_31 (BD1), Leviticus_31 (BD1), Lika_31 (BD1), Loofah_32 (BD2), Lorelei_31

(BD1), Maneekul_30 (BD1), Marav_34 (BD2), Nabi_31 (BD1), Nanodon_33 (BD1), Nerdos_31 (BD1), Nishikigoi_31 (BD2), Oliynyk_32 (BD1), Omar_32 (BD2), Ozzie_31 (BD1), OzzyJ_31 (BD1), Paedore_31 (BD2), Paolo_33 (BD2), Phettuccine_31 (BD1), Provolone_33 (BD3), Puginator_33 (BD2), R4_31 (BD2), Rana_31 (BD1), RedBear_32 (BD1), Rusticus_32 (BD1), Saftant_32 (BD3), SarahRose_30 (BD1), Snorlax_30 (BD1), South40_31 (BD1), Speedwell_37 (BD3), SqueakyClean_31 (BD2), Sudan_32 (BD3), Sujidade_32 (BD1), SunsetPointe_31 (BD1), Superstar_35 (BD2), TagePhighter_31 (BD1), Tefunt_31 (BD2), Thestral_32 (BD2), TinaBelcher_31 (BD2), Toma_31 (BD1), Triste_30 (BD1), Triumph_33 (BD2), TrvxScott_30 (BD2), TuanPN_30 (BD1), Unstoppable_31 (BD1), Urza_33 (BD6), Verse_32 (BD3), VieEnRose_33 (BD6), Werner_30 (BD1), Whatever_30 (BD1), Yasdnil_30 (BD1), Yosif_34 (BD3), Zainub_33 (BD2), ZamZam_32 (BD3), Zemlya_32 (BD1), phiHau3_33 (BD4),

Start 53:

- Found in 59 of 137 (43.1%) of genes in pham
- Manual Annotations of this start: 3 of 127
- Called 11.9% of time when present
- Phage (with cluster) where this start called: Amela_32 (BD3), Pablito_31 (BD2), Pavo_33 (BD3), SunkenRoot_34 (BD3), Vanseggelen_37 (BD3), Verabelle_34 (BD3), phiCAM_31 (BD3),

Start 58:

- Found in 27 of 137 (19.7%) of genes in pham
- No Manual Annotations of this start.
- Called 3.7% of time when present
- Phage (with cluster) where this start called: Celery_35 (BD3),

Summary by clusters:

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

Info for manual annotations of cluster BD1:

- Start number 49 was manually annotated 55 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 49 was manually annotated 30 times for cluster BD2.
- Start number 53 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 49 was manually annotated 13 times for cluster BD3.
- Start number 53 was manually annotated 2 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 49 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 49 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster BG:

- Start number 19 was manually annotated 5 times for cluster BG.
- Start number 23 was manually annotated 6 times for cluster BG.

Info for manual annotations of cluster CD:

- Start number 32 was manually annotated 1 time for cluster CD.
- Start number 33 was manually annotated 1 time for cluster CD.
- Start number 39 was manually annotated 1 time for cluster CD.
- Start number 40 was manually annotated 4 times for cluster CD.

Gene Information:

Gene: Aaronocolus_31 Start: 23527, Stop: 24504, Start Num: 49

Candidate Starts for Aaronocolus_31:

(8, 23125), (10, 23155), (30, 23386), (Start: 49 @23527 has 105 MA's), (Start: 53 @23542 has 3 MA's), (70, 23695), (72, 23713), (73, 23716), (74, 23719), (75, 23722), (105, 23944), (106, 23947), (108, 23956), (119, 24004), (122, 24022), (132, 24121), (134, 24142), (135, 24148), (154, 24289), (162, 24331), (166, 24349), (178, 24421), (182, 24445), (183, 24448), (188, 24466),

Gene: Abt2graduatex2_45 Start: 36400, Stop: 35234, Start Num: 23

Candidate Starts for Abt2graduatex2_45:

(Start: 23 @36400 has 6 MA's), (36, 36361), (44, 36322), (55, 36256), (56, 36247), (67, 36151), (68, 36145), (73, 36100), (83, 36031), (91, 35980), (93, 35962), (99, 35884), (103, 35872), (107, 35860), (114, 35824), (115, 35821), (117, 35812), (130, 35728), (148, 35575), (153, 35542), (155, 35536), (158, 35527), (165, 35482), (171, 35458), (173, 35449), (191, 35359), (196, 35341), (210, 35245),

Gene: Alsaber_33 Start: 25382, Stop: 26350, Start Num: 49

Candidate Starts for Alsaber_33:

(Start: 49 @25382 has 105 MA's), (Start: 53 @25397 has 3 MA's), (58, 25433), (63, 25466), (72, 25565), (79, 25598), (82, 25610), (90, 25676), (95, 25742), (105, 25796), (106, 25799), (108, 25808), (122, 25874), (134, 25994), (142, 26054), (149, 26096), (157, 26147), (170, 26213), (182, 26288), (184, 26300), (198, 26345),

Gene: Alvy_33 Start: 24823, Stop: 25797, Start Num: 49

Candidate Starts for Alvy_33:

(Start: 49 @24823 has 105 MA's), (76, 25030), (95, 25192), (105, 25246), (108, 25258), (109, 25261), (112, 25282), (119, 25306), (120, 25309), (134, 25444), (137, 25462), (142, 25504), (157, 25597), (162, 25627), (166, 25645), (168, 25654), (176, 25708), (182, 25738), (184, 25750), (197, 25792),

Gene: Amela_32 Start: 26230, Stop: 27183, Start Num: 53

Candidate Starts for Amela_32:

(Start: 49 @26215 has 105 MA's), (Start: 53 @26230 has 3 MA's), (58, 26266), (63, 26299), (72, 26398), (73, 26401), (75, 26407), (100, 26614), (105, 26629), (106, 26632), (108, 26641), (111, 26656), (119, 26689), (120, 26692), (122, 26707), (134, 26827), (142, 26887), (149, 26929), (157, 26980), (170, 27046), (182, 27121), (184, 27133), (198, 27178),

Gene: Amethyst_31 Start: 24241, Stop: 25203, Start Num: 49

Candidate Starts for Amethyst_31:

(43, 24199), (Start: 49 @24241 has 105 MA's), (Start: 53 @24256 has 3 MA's), (105, 24658), (108, 24670), (109, 24673), (112, 24694), (120, 24721), (122, 24736), (134, 24856), (137, 24874), (138, 24889), (142, 24916), (157, 25009), (184, 25162),

Gene: Andris_31 Start: 24271, Stop: 25218, Start Num: 49

Candidate Starts for Andris_31:

(38, 24229), (Start: 49 @24271 has 105 MA's), (Start: 53 @24286 has 3 MA's), (70, 24439), (72, 24457), (75, 24466), (82, 24502), (90, 24568), (95, 24634), (105, 24688), (108, 24700), (109, 24703), (132, 24865), (134, 24886), (135, 24892), (154, 25033), (157, 25045), (162, 25075), (166, 25093), (168, 25102), (178, 25165), (182, 25189), (183, 25192), (184, 25201),

Gene: Animus_31 Start: 24726, Stop: 25700, Start Num: 49

Candidate Starts for Animus_31:

(14, 24453), (22, 24555), (37, 24648), (Start: 49 @24726 has 105 MA's), (72, 24915), (75, 24924), (80, 24951), (87, 25011), (89, 25023), (105, 25146), (108, 25158), (109, 25161), (134, 25344), (137, 25362), (142, 25404), (157, 25497), (170, 25563), (182, 25638), (184, 25650), (198, 25695),

Gene: Applejacks_31 Start: 24445, Stop: 23327, Start Num: 40

Candidate Starts for Applejacks_31:

(Start: 40 @24445 has 5 MA's), (60, 24319), (63, 24307), (65, 24274), (85, 24142), (96, 24025), (101, 23998), (105, 23986), (107, 23980), (121, 23914), (123, 23890), (136, 23770), (144, 23710), (147, 23689), (148, 23683), (149, 23680), (156, 23635), (165, 23584), (167, 23575), (172, 23554), (175, 23539), (202, 23407),

Gene: Asis_44 Start: 36151, Stop: 34985, Start Num: 23

Candidate Starts for Asis_44:

(7, 36394), (12, 36343), (13, 36286), (Start: 19 @36175 has 5 MA's), (Start: 23 @36151 has 6 MA's), (36, 36112), (44, 36073), (52, 36028), (55, 36007), (67, 35902), (68, 35896), (73, 35851), (76, 35839), (83, 35782), (84, 35776), (91, 35731), (93, 35713), (98, 35641), (107, 35611), (114, 35575), (115, 35572), (117, 35563), (155, 35287), (158, 35278), (165, 35233), (171, 35209), (173, 35200), (177, 35167), (191, 35110), (196, 35092), (209, 34999), (210, 34996),

Gene: Asten_30 Start: 23760, Stop: 24728, Start Num: 49

Candidate Starts for Asten_30:

(31, 23664), (41, 23718), (Start: 49 @23760 has 105 MA's), (70, 23928), (72, 23946), (75, 23955), (95, 24123), (102, 24168), (105, 24177), (108, 24189), (109, 24192), (112, 24213), (132, 24354), (134, 24375), (135, 24381), (141, 24426), (154, 24522), (162, 24564), (166, 24582), (178, 24654), (182, 24678), (183, 24681), (184, 24690), (191, 24714),

Gene: Axiom_32 Start: 24442, Stop: 25422, Start Num: 49

Candidate Starts for Axiom_32:

(27, 24301), (Start: 49 @24442 has 105 MA's), (70, 24610), (72, 24628), (75, 24637), (82, 24673), (90, 24739), (95, 24805), (105, 24859), (108, 24871), (109, 24874), (132, 25036), (134, 25057), (135, 25063), (154, 25204), (162, 25246), (166, 25264), (168, 25273), (178, 25336), (182, 25360), (183, 25363), (184, 25372), (198, 25417),

Gene: BFK20_ORF40 Start: 30567, Stop: 29512, Start Num: 34

Candidate Starts for BFK20_ORF40:

(24, 30639), (28, 30630), (34, 30567), (Start: 39 @30540 has 1 MA's), (54, 30456), (75, 30288), (86, 30213), (100, 30084), (110, 30048), (117, 30015), (133, 29880), (135, 29868), (139, 29835), (144, 29802), (146, 29784), (148, 29775), (155, 29730), (164, 29682), (194, 29553), (200, 29532),

Gene: BabyGotBac_45 Start: 36175, Stop: 34985, Start Num: 19

Candidate Starts for BabyGotBac_45:

(7, 36394), (12, 36343), (13, 36286), (Start: 19 @36175 has 5 MA's), (Start: 23 @36151 has 6 MA's), (36, 36112), (44, 36073), (52, 36028), (55, 36007), (67, 35902), (68, 35896), (73, 35851), (76, 35839), (83, 35782), (84, 35776), (91, 35731), (93, 35713), (98, 35641), (107, 35611), (114, 35575), (115, 35572), (117, 35563), (155, 35287), (158, 35278), (165, 35233), (171, 35209), (173, 35200), (177, 35167), (191, 35110), (196, 35092), (209, 34999), (210, 34996),

Gene: BarryBee_32 Start: 23770, Stop: 24738, Start Num: 49

Candidate Starts for BarryBee_32:

(31, 23674), (41, 23728), (Start: 49 @23770 has 105 MA's), (62, 23854), (70, 23938), (72, 23956), (95, 24133), (102, 24178), (105, 24187), (108, 24199), (109, 24202), (112, 24223), (132, 24364), (134, 24385), (135, 24391), (141, 24436), (154, 24532), (162, 24574), (166, 24592), (178, 24664), (182, 24688), (183, 24691), (184, 24700), (191, 24724),

Gene: BartholomewSD_33 Start: 24823, Stop: 25797, Start Num: 49

Candidate Starts for BartholomewSD_33:

(Start: 49 @24823 has 105 MA's), (76, 25030), (95, 25192), (105, 25246), (108, 25258), (109, 25261), (111, 25273), (112, 25282), (119, 25306), (120, 25309), (134, 25444), (137, 25462), (142, 25504), (157, 25597), (162, 25627), (166, 25645), (168, 25654), (176, 25708), (182, 25738), (184, 25750), (197, 25792),

Gene: BayC_44 Start: 36172, Stop: 34982, Start Num: 19

Candidate Starts for BayC_44:

(7, 36391), (12, 36340), (13, 36283), (Start: 19 @36172 has 5 MA's), (Start: 23 @36148 has 6 MA's), (36, 36109), (44, 36070), (52, 36025), (55, 36004), (67, 35899), (68, 35893), (73, 35848), (76, 35836), (83, 35779), (84, 35773), (91, 35728), (93, 35710), (98, 35638), (107, 35608), (114, 35572), (115, 35569), (117, 35560), (155, 35284), (158, 35275), (165, 35230), (171, 35206), (173, 35197), (177, 35164), (191, 35107), (196, 35089), (209, 34996), (210, 34993),

Gene: BeardedLady_32 Start: 23780, Stop: 24757, Start Num: 49

Candidate Starts for BeardedLady_32:

(8, 23378), (10, 23408), (30, 23639), (Start: 49 @23780 has 105 MA's), (70, 23948), (72, 23966), (73, 23969), (74, 23972), (75, 23975), (82, 24011), (105, 24197), (106, 24200), (108, 24209), (118, 24254), (122, 24275), (132, 24374), (134, 24395), (135, 24401), (154, 24542), (162, 24584), (166, 24602), (178, 24674), (182, 24698), (183, 24701), (188, 24719),

Gene: Bovely_31 Start: 23533, Stop: 24510, Start Num: 49

Candidate Starts for Bovely_31:

(8, 23131), (10, 23161), (30, 23392), (Start: 49 @23533 has 105 MA's), (70, 23701), (72, 23719), (73, 23722), (74, 23725), (75, 23728), (105, 23950), (106, 23953), (108, 23962), (118, 24007), (119, 24010), (122, 24028), (132, 24127), (134, 24148), (135, 24154), (154, 24295), (162, 24337), (166, 24355), (178, 24427), (182, 24451), (183, 24454), (188, 24472),

Gene: Bowden_31 Start: 24738, Stop: 25712, Start Num: 49

Candidate Starts for Bowden_31:

(Start: 49 @24738 has 105 MA's), (76, 24945), (95, 25107), (105, 25161), (108, 25173), (109, 25176), (111, 25188), (112, 25197), (120, 25224), (134, 25359), (137, 25377), (142, 25419), (157, 25512), (162, 25542), (166, 25560), (168, 25569), (175, 25602), (176, 25623), (182, 25653), (184, 25665), (197, 25707),

Gene: Brataylor_33 Start: 24724, Stop: 25695, Start Num: 49

Candidate Starts for Brataylor_33:

(31, 24622), (Start: 49 @24724 has 105 MA's), (Start: 53 @24739 has 3 MA's), (72, 24910), (73, 24913), (95, 25087), (105, 25141), (106, 25144), (108, 25153), (109, 25156), (112, 25177), (119, 25201), (134, 25339), (135, 25345), (154, 25486), (162, 25528), (166, 25546), (178, 25618), (182, 25642), (186, 25657), (191, 25681),

Gene: BroPlease_32 Start: 24157, Stop: 25122, Start Num: 49

Candidate Starts for BroPlease_32:

(47, 24127), (Start: 49 @24157 has 105 MA's), (72, 24343), (73, 24346), (80, 24379), (95, 24520), (97, 24538), (105, 24574), (109, 24589), (111, 24601), (112, 24610), (118, 24631), (119, 24634), (124, 24673), (132, 24751), (134, 24772), (138, 24805), (150, 24877), (170, 24991), (182, 25069), (184, 25081),

Gene: BryanRecycles_32 Start: 23884, Stop: 24861, Start Num: 49

Candidate Starts for BryanRecycles_32:

(30, 23743), (Start: 49 @23884 has 105 MA's), (Start: 53 @23899 has 3 MA's), (70, 24052), (72, 24070), (73, 24073), (75, 24079), (82, 24115), (105, 24301), (106, 24304), (108, 24313), (119, 24361), (122, 24379), (132, 24478), (134, 24499), (135, 24505), (162, 24688), (166, 24706), (178, 24778), (182, 24802), (183, 24805), (188, 24823),

Gene: Caliburn_31 Start: 23510, Stop: 24487, Start Num: 49

Candidate Starts for Caliburn_31:

(5, 23087), (8, 23108), (10, 23138), (30, 23369), (Start: 49 @23510 has 105 MA's), (Start: 53 @23525 has 3 MA's), (70, 23678), (72, 23696), (73, 23699), (74, 23702), (75, 23705), (105, 23927), (106, 23930), (108, 23939), (119, 23987), (122, 24005), (132, 24104), (134, 24125), (135, 24131), (154, 24272), (162, 24314), (166, 24332), (178, 24404), (182, 24428), (183, 24431), (188, 24449),

Gene: Celery_35 Start: 25368, Stop: 26285, Start Num: 58

Candidate Starts for Celery_35:

(Start: 49 @25317 has 105 MA's), (Start: 53 @25332 has 3 MA's), (58, 25368), (63, 25401), (72, 25500), (73, 25503), (75, 25509), (100, 25716), (105, 25731), (106, 25734), (108, 25743), (111, 25758), (119, 25791), (120, 25794), (122, 25809), (134, 25929), (142, 25989), (149, 26031), (157, 26082), (170, 26148), (182, 26223), (184, 26235), (198, 26280),

Gene: Celeste_31 Start: 24193, Stop: 25164, Start Num: 49

Candidate Starts for Celeste_31:

(9, 23785), (11, 23821), (Start: 49 @24193 has 105 MA's), (70, 24361), (72, 24379), (73, 24382), (75, 24388), (95, 24556), (105, 24610), (106, 24613), (108, 24622), (109, 24625), (112, 24646), (134, 24808), (135, 24814), (154, 24955), (162, 24997), (166, 25015), (178, 25087), (182, 25111), (186, 25126), (191, 25150),

Gene: Celia_33 Start: 24606, Stop: 25559, Start Num: 49

Candidate Starts for Celia_33:

(Start: 49 @24606 has 105 MA's), (Start: 53 @24621 has 3 MA's), (58, 24657), (78, 24810), (92, 24921), (104, 25017), (105, 25020), (108, 25032), (112, 25056), (120, 25083), (134, 25227), (141, 25278), (159, 25407),

Gene: Chucky_30 Start: 23774, Stop: 24742, Start Num: 49

Candidate Starts for Chucky_30:

(31, 23678), (41, 23732), (Start: 49 @23774 has 105 MA's), (56, 23810), (70, 23942), (72, 23960), (75, 23969), (95, 24137), (102, 24182), (105, 24191), (108, 24203), (109, 24206), (112, 24227), (132, 24368), (134, 24389), (135, 24395), (141, 24440), (154, 24536), (162, 24578), (166, 24596), (178, 24668), (182, 24692), (183, 24695), (184, 24704), (191, 24728),

Gene: Conan_33 Start: 25278, Stop: 26246, Start Num: 49

Candidate Starts for Conan_33:

(Start: 49 @25278 has 105 MA's), (Start: 53 @25293 has 3 MA's), (58, 25329), (63, 25362), (72, 25461), (73, 25464), (75, 25470), (86, 25548), (95, 25638), (105, 25692), (106, 25695), (108, 25704), (111, 25719), (119, 25752), (120, 25755), (122, 25770), (134, 25890), (142, 25950), (149, 25992), (157, 26043), (170, 26109), (182, 26184), (184, 26196), (198, 26241),

Gene: Danzina_32 Start: 24494, Stop: 25465, Start Num: 49

Candidate Starts for Danzina_32:

(9, 24086), (11, 24122), (Start: 49 @24494 has 105 MA's), (70, 24662), (72, 24680), (73, 24683), (75, 24689), (95, 24857), (105, 24911), (106, 24914), (108, 24923), (109, 24926), (112, 24947), (134, 25109), (135, 25115), (154, 25256), (162, 25298), (166, 25316), (178, 25388), (182, 25412), (186, 25427), (191, 25451),

Gene: Dattran_32 Start: 24300, Stop: 25271, Start Num: 49

Candidate Starts for Dattran_32:

(9, 23892), (11, 23928), (Start: 49 @24300 has 105 MA's), (70, 24468), (72, 24486), (73, 24489), (75, 24495), (95, 24663), (105, 24717), (106, 24720), (108, 24729), (109, 24732), (112, 24753), (134, 24915), (135, 24921), (154, 25062), (162, 25104), (166, 25122), (178, 25194), (182, 25218), (186, 25233), (191, 25257),

Gene: Daudau_31 Start: 24490, Stop: 25434, Start Num: 49

Candidate Starts for Daudau_31:

(Start: 49 @24490 has 105 MA's), (70, 24664), (77, 24700), (105, 24913), (108, 24925), (109, 24928), (122, 24991), (134, 25111), (137, 25129), (142, 25171), (152, 25234), (157, 25264), (162, 25294), (166, 25312), (182, 25405), (184, 25417),

Gene: Dexers_31 Start: 25304, Stop: 26272, Start Num: 49

Candidate Starts for Dexers_31:

(Start: 49 @25304 has 105 MA's), (Start: 53 @25319 has 3 MA's), (58, 25355), (63, 25388), (72, 25487), (79, 25520), (82, 25532), (90, 25598), (95, 25664), (105, 25718), (106, 25721), (108, 25730), (122, 25796), (134, 25916), (142, 25976), (149, 26018), (157, 26069), (170, 26135), (182, 26210), (184, 26222), (198, 26267),

Gene: Diane_31 Start: 24584, Stop: 25552, Start Num: 49

Candidate Starts for Diane_31:

(43, 24542), (Start: 49 @24584 has 105 MA's), (Start: 53 @24599 has 3 MA's), (105, 25001), (108, 25013), (109, 25016), (112, 25037), (120, 25064), (122, 25079), (134, 25199), (137, 25217), (138, 25232), (142, 25259), (157, 25352), (184, 25505), (197, 25547),

Gene: Dwayne_30 Start: 23761, Stop: 24729, Start Num: 49

Candidate Starts for Dwayne_30:

(31, 23665), (41, 23719), (Start: 49 @23761 has 105 MA's), (62, 23845), (70, 23929), (72, 23947), (95, 24124), (102, 24169), (105, 24178), (108, 24190), (109, 24193), (112, 24214), (132, 24355), (134, 24376), (135, 24382), (141, 24427), (154, 24523), (162, 24565), (166, 24583), (178, 24655), (182, 24679), (183, 24682), (184, 24691), (191, 24715),

Gene: ELB20_30 Start: 24870, Stop: 25844, Start Num: 49

Candidate Starts for ELB20_30:

(Start: 49 @24870 has 105 MA's), (58, 24930), (72, 25062), (90, 25173), (95, 25239), (105, 25293), (109, 25308), (132, 25470), (134, 25491), (135, 25497), (154, 25638), (157, 25650), (162, 25680), (166, 25698), (168, 25707), (178, 25770), (179, 25779), (182, 25794), (183, 25797), (184, 25806),

Gene: Eddasa_32 Start: 23884, Stop: 24861, Start Num: 49

Candidate Starts for Eddasa_32:

(30, 23743), (Start: 49 @23884 has 105 MA's), (Start: 53 @23899 has 3 MA's), (70, 24052), (72, 24070), (73, 24073), (75, 24079), (82, 24115), (105, 24301), (106, 24304), (108, 24313), (119, 24361), (122, 24379), (132, 24478), (134, 24499), (135, 24505), (162, 24688), (166, 24706), (178, 24778), (182, 24802), (183, 24805), (188, 24823),

Gene: Ejemplo_30 Start: 23814, Stop: 24785, Start Num: 49

Candidate Starts for Ejemplo_30:

(31, 23718), (46, 23787), (Start: 49 @23814 has 105 MA's), (Start: 53 @23829 has 3 MA's), (70, 23982), (72, 24000), (73, 24003), (102, 24222), (103, 24225), (105, 24231), (108, 24243), (109, 24246), (112, 24267), (119, 24291), (128, 24369), (132, 24408), (134, 24429), (135, 24435), (141, 24480), (154, 24576), (162, 24618), (166, 24636), (178, 24708), (182, 24732), (186, 24747), (191, 24771),

Gene: ElGato_33 Start: 24942, Stop: 25910, Start Num: 49

Candidate Starts for ElGato_33:

(Start: 49 @24942 has 105 MA's), (Start: 53 @24957 has 3 MA's), (58, 24993), (63, 25026), (72, 25125), (73, 25128), (75, 25134), (95, 25302), (105, 25356), (106, 25359), (108, 25368), (111, 25383), (119, 25416), (120, 25419), (122, 25434), (134, 25554), (142, 25614), (149, 25656), (157, 25707), (170, 25773), (182, 25848), (184, 25860), (198, 25905),

Gene: Emaanora_32 Start: 23719, Stop: 24687, Start Num: 49

Candidate Starts for Emaanora_32:

(31, 23623), (41, 23677), (Start: 49 @23719 has 105 MA's), (62, 23803), (70, 23887), (72, 23905), (95, 24082), (102, 24127), (105, 24136), (108, 24148), (109, 24151), (112, 24172), (132, 24313), (134, 24334), (135, 24340), (141, 24385), (154, 24481), (162, 24523), (166, 24541), (178, 24613), (182, 24637), (183, 24640), (184, 24649), (191, 24673),

Gene: EmiRose_30 Start: 23905, Stop: 22832, Start Num: 40

Candidate Starts for EmiRose_30:

(Start: 40 @23905 has 5 MA's), (42, 23899), (61, 23782), (73, 23677), (74, 23674), (95, 23506), (96, 23491), (98, 23476), (109, 23437), (121, 23395), (125, 23362), (126, 23359), (129, 23317), (135, 23257), (136, 23251), (144, 23191), (145, 23182), (156, 23119), (163, 23080),

Gene: EnochSoames_34 Start: 23879, Stop: 24856, Start Num: 49

Candidate Starts for EnochSoames_34:

(30, 23738), (Start: 49 @23879 has 105 MA's), (70, 24047), (72, 24065), (73, 24068), (75, 24074), (82, 24110), (105, 24296), (106, 24299), (108, 24308), (118, 24353), (119, 24356), (122, 24374), (132, 24473), (134, 24494), (135, 24500), (162, 24683), (166, 24701), (178, 24773), (182, 24797), (183, 24800), (188, 24818),

Gene: Esperer_31 Start: 23346, Stop: 24323, Start Num: 49

Candidate Starts for Esperer_31:

(8, 22944), (10, 22974), (30, 23205), (Start: 49 @23346 has 105 MA's), (70, 23514), (72, 23532), (73, 23535), (74, 23538), (75, 23541), (105, 23763), (106, 23766), (108, 23775), (119, 23823), (122, 23841), (132, 23940), (134, 23961), (135, 23967), (154, 24108), (162, 24150), (166, 24168), (178, 24240), (182, 24264), (183, 24267), (188, 24285),

Gene: GirlDinner_31 Start: 24223, Stop: 25203, Start Num: 49

Candidate Starts for GirlDinner_31:

(Start: 49 @24223 has 105 MA's), (70, 24391), (72, 24409), (75, 24418), (82, 24454), (95, 24586), (105, 24640), (108, 24652), (109, 24655), (122, 24718), (132, 24817), (134, 24838), (135, 24844), (154, 24985), (162, 25027), (166, 25045), (168, 25054), (178, 25117), (182, 25141), (183, 25144), (184, 25153), (198, 25198),

Gene: Goby_31 Start: 24321, Stop: 25292, Start Num: 49

Candidate Starts for Goby_31:

(Start: 49 @24321 has 105 MA's), (51, 24327), (70, 24489), (72, 24507), (75, 24516), (95, 24684), (105, 24738), (106, 24741), (108, 24750), (109, 24753), (112, 24774), (119, 24798), (134, 24936),

(135, 24942), (141, 24987), (154, 25083), (162, 25125), (166, 25143), (178, 25215), (182, 25239), (186, 25254), (191, 25278),

Gene: Godpower_32 Start: 24315, Stop: 25286, Start Num: 49

Candidate Starts for Godpower_32:

(Start: 49 @24315 has 105 MA's), (70, 24483), (72, 24501), (75, 24510), (95, 24678), (105, 24732), (106, 24735), (108, 24744), (109, 24747), (112, 24768), (119, 24792), (134, 24930), (135, 24936), (141, 24981), (154, 25077), (162, 25119), (166, 25137), (178, 25209), (182, 25233), (186, 25248), (191, 25272),

Gene: GreenWeasel_33 Start: 24166, Stop: 25131, Start Num: 49

Candidate Starts for GreenWeasel_33:

(47, 24136), (Start: 49 @24166 has 105 MA's), (72, 24352), (73, 24355), (80, 24388), (95, 24529), (97, 24547), (105, 24583), (109, 24598), (111, 24610), (112, 24619), (118, 24640), (119, 24643), (124, 24682), (132, 24760), (134, 24781), (138, 24814), (142, 24841), (150, 24886), (170, 25000), (182, 25078), (184, 25090),

Gene: Gustav_32 Start: 25299, Stop: 24172, Start Num: 40

Candidate Starts for Gustav_32:

(1, 25836), (2, 25827), (3, 25743), (6, 25629), (20, 25392), (Start: 40 @25299 has 5 MA's), (63, 25158), (71, 25065), (73, 25056), (95, 24885), (105, 24831), (107, 24825), (121, 24759), (126, 24723), (140, 24585), (144, 24555), (148, 24528), (156, 24480), (159, 24453), (161, 24447), (167, 24420), (174, 24387), (208, 24207),

Gene: Haizum_31 Start: 24258, Stop: 25220, Start Num: 49

Candidate Starts for Haizum_31:

(43, 24216), (Start: 49 @24258 has 105 MA's), (Start: 53 @24273 has 3 MA's), (105, 24675), (108, 24687), (109, 24690), (112, 24711), (120, 24738), (122, 24753), (134, 24873), (137, 24891), (138, 24906), (142, 24933), (157, 25026), (184, 25179),

Gene: Hank144_32 Start: 24639, Stop: 25586, Start Num: 49

Candidate Starts for Hank144_32:

(31, 24549), (38, 24594), (Start: 49 @24639 has 105 MA's), (70, 24807), (72, 24825), (75, 24834), (95, 25002), (102, 25047), (105, 25056), (106, 25059), (108, 25068), (109, 25071), (122, 25134), (128, 25194), (132, 25233), (134, 25254), (135, 25260), (154, 25401), (162, 25443), (166, 25461), (168, 25470), (178, 25533), (182, 25557), (183, 25560), (184, 25569),

Gene: Hippo_30 Start: 23770, Stop: 24738, Start Num: 49

Candidate Starts for Hippo_30:

(31, 23674), (41, 23728), (Start: 49 @23770 has 105 MA's), (62, 23854), (70, 23938), (72, 23956), (95, 24133), (102, 24178), (105, 24187), (108, 24199), (109, 24202), (112, 24223), (132, 24364), (134, 24385), (135, 24391), (141, 24436), (154, 24532), (162, 24574), (166, 24592), (178, 24664), (182, 24688), (183, 24691), (184, 24700), (191, 24724),

Gene: Hydra_33 Start: 24058, Stop: 25035, Start Num: 49

Candidate Starts for Hydra_33:

(5, 23635), (8, 23656), (10, 23686), (30, 23917), (Start: 49 @24058 has 105 MA's), (Start: 53 @24073 has 3 MA's), (70, 24226), (72, 24244), (73, 24247), (75, 24253), (105, 24475), (106, 24478), (108, 24487), (119, 24535), (122, 24553), (132, 24652), (134, 24673), (135, 24679), (154, 24820), (162, 24862), (166, 24880), (178, 24952), (182, 24976), (183, 24979), (188, 24997),

Gene: Indigo_30 Start: 23526, Stop: 24503, Start Num: 49

Candidate Starts for Indigo_30:

(8, 23124), (10, 23154), (30, 23385), (Start: 49 @23526 has 105 MA's), (70, 23694), (72, 23712), (73, 23715), (74, 23718), (75, 23721), (105, 23943), (106, 23946), (108, 23955), (118, 24000), (119, 24003), (122, 24021), (132, 24120), (134, 24141), (135, 24147), (154, 24288), (162, 24330), (166, 24348), (178, 24420), (182, 24444), (183, 24447), (188, 24465),

Gene: Itza_33 Start: 24520, Stop: 25473, Start Num: 49

Candidate Starts for Itza_33:

(Start: 49 @24520 has 105 MA's), (Start: 53 @24535 has 3 MA's), (58, 24571), (78, 24724), (92, 24835), (104, 24931), (105, 24934), (108, 24946), (112, 24970), (120, 24997), (134, 25141), (141, 25192), (159, 25321),

Gene: Izzy_32 Start: 23931, Stop: 24908, Start Num: 49

Candidate Starts for Izzy_32:

(30, 23790), (Start: 49 @23931 has 105 MA's), (Start: 53 @23946 has 3 MA's), (70, 24099), (72, 24117), (73, 24120), (75, 24126), (82, 24162), (105, 24348), (106, 24351), (108, 24360), (119, 24408), (122, 24426), (132, 24525), (134, 24546), (135, 24552), (162, 24735), (166, 24753), (178, 24825), (182, 24849), (183, 24852), (188, 24870),

Gene: Janus_32 Start: 24561, Stop: 25541, Start Num: 49

Candidate Starts for Janus_32:

(Start: 49 @24561 has 105 MA's), (70, 24729), (72, 24747), (75, 24756), (82, 24792), (95, 24924), (105, 24978), (108, 24990), (109, 24993), (122, 25056), (132, 25155), (134, 25176), (135, 25182), (154, 25323), (162, 25365), (166, 25383), (168, 25392), (178, 25455), (182, 25479), (183, 25482), (184, 25491), (198, 25536),

Gene: Jash_32 Start: 23884, Stop: 24861, Start Num: 49

Candidate Starts for Jash_32:

(30, 23743), (Start: 49 @23884 has 105 MA's), (Start: 53 @23899 has 3 MA's), (70, 24052), (72, 24070), (73, 24073), (75, 24079), (82, 24115), (105, 24301), (106, 24304), (108, 24313), (119, 24361), (122, 24379), (132, 24478), (134, 24499), (135, 24505), (162, 24688), (166, 24706), (178, 24778), (182, 24802), (183, 24805), (188, 24823),

Gene: Jevington_33 Start: 24924, Stop: 25898, Start Num: 49

Candidate Starts for Jevington_33:

(Start: 49 @24924 has 105 MA's), (Start: 53 @24939 has 3 MA's), (76, 25131), (105, 25347), (108, 25359), (109, 25362), (111, 25374), (120, 25410), (134, 25545), (137, 25563), (142, 25605), (162, 25728), (168, 25755), (176, 25809), (182, 25839), (184, 25851), (197, 25893),

Gene: Jhitchelle_31 Start: 24831, Stop: 25790, Start Num: 49

Candidate Starts for Jhitchelle_31:

(Start: 49 @24831 has 105 MA's), (Start: 53 @24846 has 3 MA's), (58, 24882), (63, 24915), (72, 25014), (73, 25017), (75, 25023), (100, 25230), (105, 25245), (106, 25248), (108, 25257), (111, 25272), (119, 25305), (120, 25308), (122, 25323), (134, 25443), (142, 25503), (149, 25545), (157, 25596), (170, 25662), (182, 25737), (184, 25749),

Gene: Kaine_32 Start: 25091, Stop: 26059, Start Num: 49

Candidate Starts for Kaine_32:

(Start: 49 @25091 has 105 MA's), (Start: 53 @25106 has 3 MA's), (58, 25142), (63, 25175), (72, 25274), (79, 25307), (82, 25319), (90, 25385), (95, 25451), (105, 25505), (106, 25508), (108, 25517), (122, 25583), (134, 25703), (142, 25763), (149, 25805), (157, 25856), (170, 25922), (182, 25997), (184, 26009), (198, 26054),

Gene: Katalie_31 Start: 24057, Stop: 25028, Start Num: 49

Candidate Starts for Katalie_31:

(35, 23976), (Start: 49 @24057 has 105 MA's), (64, 24153), (70, 24225), (72, 24243), (75, 24252), (102, 24465), (105, 24474), (106, 24477), (108, 24486), (112, 24510), (132, 24651), (134, 24672), (135, 24678), (141, 24723), (154, 24819), (162, 24861), (166, 24879), (178, 24951), (182, 24975), (183, 24978), (186, 24990), (191, 25014),

Gene: Lannister_33 Start: 24536, Stop: 25504, Start Num: 49

Candidate Starts for Lannister_33:

(Start: 49 @24536 has 105 MA's), (70, 24704), (72, 24722), (75, 24731), (82, 24767), (102, 24944), (106, 24956), (108, 24965), (109, 24968), (112, 24989), (122, 25031), (132, 25130), (134, 25151), (135, 25157), (154, 25298), (162, 25340), (166, 25358), (178, 25430), (182, 25454), (184, 25466),

Gene: Legacy_31 Start: 23501, Stop: 24478, Start Num: 49

Candidate Starts for Legacy_31:

(5, 23078), (8, 23099), (10, 23129), (30, 23360), (Start: 49 @23501 has 105 MA's), (Start: 53 @23516 has 3 MA's), (70, 23669), (72, 23687), (73, 23690), (74, 23693), (75, 23696), (105, 23918), (106, 23921), (108, 23930), (119, 23978), (122, 23996), (132, 24095), (134, 24116), (135, 24122), (154, 24263), (166, 24323), (178, 24395), (182, 24419), (183, 24422), (188, 24440),

Gene: Leviticus_31 Start: 23530, Stop: 24507, Start Num: 49

Candidate Starts for Leviticus_31:

(8, 23128), (10, 23158), (30, 23389), (Start: 49 @23530 has 105 MA's), (Start: 53 @23545 has 3 MA's), (70, 23698), (72, 23716), (73, 23719), (74, 23722), (75, 23725), (105, 23947), (106, 23950), (108, 23959), (119, 24007), (122, 24025), (132, 24124), (134, 24145), (135, 24151), (154, 24292), (162, 24334), (166, 24352), (178, 24424), (182, 24448), (183, 24451), (188, 24469),

Gene: Lika_31 Start: 24319, Stop: 25290, Start Num: 49

Candidate Starts for Lika_31:

(Start: 49 @24319 has 105 MA's), (70, 24487), (72, 24505), (75, 24514), (95, 24682), (105, 24736), (106, 24739), (108, 24748), (109, 24751), (112, 24772), (119, 24796), (134, 24934), (135, 24940), (141, 24985), (154, 25081), (162, 25123), (166, 25141), (178, 25213), (182, 25237), (186, 25252), (191, 25276),

Gene: Loofah_32 Start: 24761, Stop: 25747, Start Num: 49

Candidate Starts for Loofah_32:

(Start: 49 @24761 has 105 MA's), (58, 24821), (72, 24953), (87, 25049), (90, 25064), (105, 25184), (132, 25361), (134, 25382), (135, 25388), (154, 25529), (157, 25541), (162, 25571), (166, 25589), (168, 25598), (178, 25661), (182, 25685), (184, 25697), (198, 25742),

Gene: Lorelei_31 Start: 24259, Stop: 25230, Start Num: 49

Candidate Starts for Lorelei_31:

(Start: 49 @24259 has 105 MA's), (Start: 53 @24274 has 3 MA's), (58, 24313), (70, 24427), (72, 24445), (73, 24448), (75, 24454), (95, 24622), (105, 24676), (106, 24679), (108, 24688), (109, 24691), (112, 24712), (119, 24736), (134, 24874), (135, 24880), (154, 25021), (162, 25063), (166, 25081), (178, 25153), (182, 25177), (186, 25192), (191, 25216),

Gene: Mahdia_31 Start: 24495, Stop: 23398, Start Num: 40

Candidate Starts for Mahdia_31:

(2, 25017), (4, 24885), (6, 24807), (Start: 40 @24495 has 5 MA's), (63, 24360), (71, 24273), (73, 24264), (95, 24093), (105, 24039), (121, 23967), (126, 23931), (129, 23889), (140, 23793), (144, 23763), (148, 23736), (156, 23688), (159, 23661), (167, 23628), (174, 23595), (181, 23568), (189, 23547), (190, 23532),

Gene: Maih_43 Start: 36174, Stop: 34984, Start Num: 19

Candidate Starts for Maih_43:

(7, 36393), (12, 36342), (13, 36285), (Start: 19 @36174 has 5 MA's), (Start: 23 @36150 has 6 MA's), (36, 36111), (44, 36072), (52, 36027), (55, 36006), (67, 35901), (68, 35895), (73, 35850), (76, 35838), (83, 35781), (84, 35775), (91, 35730), (93, 35712), (98, 35640), (107, 35610), (114, 35574), (115, 35571), (117, 35562), (155, 35286), (158, 35277), (165, 35232), (171, 35208), (173, 35199), (177, 35166), (191, 35109), (196, 35091), (209, 34998), (210, 34995),

Gene: Maneekul_30 Start: 23785, Stop: 24756, Start Num: 49

Candidate Starts for Maneekul_30:

(31, 23689), (46, 23758), (Start: 49 @23785 has 105 MA's), (Start: 53 @23800 has 3 MA's), (70, 23953), (72, 23971), (73, 23974), (102, 24193), (103, 24196), (105, 24202), (108, 24214), (109, 24217), (112, 24238), (119, 24262), (128, 24340), (132, 24379), (134, 24400), (135, 24406), (141, 24451), (154, 24547), (157, 24559), (162, 24589), (166, 24607), (178, 24679), (182, 24703), (186, 24718), (191, 24742),

Gene: Marav_34 Start: 25254, Stop: 26228, Start Num: 49

Candidate Starts for Marav_34:

(25, 25095), (Start: 49 @25254 has 105 MA's), (Start: 53 @25269 has 3 MA's), (58, 25314), (76, 25461), (105, 25677), (108, 25689), (109, 25692), (111, 25704), (120, 25740), (134, 25875), (137, 25893), (142, 25935), (162, 26058), (168, 26085), (182, 26169), (184, 26181), (197, 26223),

Gene: Mischief19_53 Start: 46548, Stop: 45343, Start Num: 23

Candidate Starts for Mischief19_53:

(15, 46626), (16, 46605), (18, 46581), (Start: 23 @46548 has 6 MA's), (36, 46509), (59, 46380), (81, 46215), (105, 46017), (115, 45972), (117, 45963), (138, 45795), (141, 45780), (145, 45744), (150, 45720), (156, 45684), (165, 45633), (176, 45567), (181, 45540), (195, 45477), (196, 45474), (204, 45426), (211, 45369), (212, 45354),

Gene: Morrissey_33 Start: 26237, Stop: 25131, Start Num: 39

Candidate Starts for Morrissey_33:

(Start: 39 @26237 has 1 MA's), (63, 26090), (74, 25988), (95, 25820), (98, 25790), (107, 25760), (121, 25694), (127, 25631), (130, 25613), (140, 25520), (141, 25514), (144, 25490), (147, 25469), (148, 25463), (156, 25415), (164, 25370), (167, 25355), (169, 25346), (172, 25334), (189, 25280), (190, 25265),

Gene: Nabi_31 Start: 24259, Stop: 25230, Start Num: 49

Candidate Starts for Nabi_31:

(Start: 49 @24259 has 105 MA's), (Start: 53 @24274 has 3 MA's), (58, 24313), (70, 24427), (72, 24445), (73, 24448), (75, 24454), (95, 24622), (105, 24676), (106, 24679), (108, 24688), (109, 24691), (112, 24712), (119, 24736), (134, 24874), (135, 24880), (154, 25021), (162, 25063), (166, 25081), (178, 25153), (182, 25177), (186, 25192), (191, 25216),

Gene: Nanodon_33 Start: 24148, Stop: 25116, Start Num: 49

Candidate Starts for Nanodon_33:

(Start: 49 @24148 has 105 MA's), (70, 24316), (72, 24334), (75, 24343), (82, 24379), (95, 24511), (105, 24565), (106, 24568), (108, 24577), (109, 24580), (112, 24601), (128, 24703), (132, 24742), (134, 24763), (135, 24769), (154, 24910), (162, 24952), (166, 24970), (178, 25042), (182, 25066), (183, 25069), (184, 25078),

Gene: Nerdos_31 Start: 23524, Stop: 24501, Start Num: 49

Candidate Starts for Nerdos_31:

(8, 23122), (10, 23152), (30, 23383), (Start: 49 @23524 has 105 MA's), (70, 23692), (72, 23710), (73, 23713), (74, 23716), (75, 23719), (105, 23941), (106, 23944), (108, 23953), (119, 24001), (122, 24019), (132, 24118), (134, 24139), (135, 24145), (154, 24286), (162, 24328), (166, 24346), (178, 24418), (182, 24442), (183, 24445), (188, 24463),

Gene: Nishikigoi_31 Start: 24258, Stop: 25220, Start Num: 49

Candidate Starts for Nishikigoi_31:

(43, 24216), (Start: 49 @24258 has 105 MA's), (Start: 53 @24273 has 3 MA's), (105, 24675), (108, 24687), (109, 24690), (112, 24711), (120, 24738), (122, 24753), (134, 24873), (137, 24891), (138, 24906), (142, 24933), (157, 25026), (184, 25179),

Gene: Oliynyk_32 Start: 23884, Stop: 24861, Start Num: 49

Candidate Starts for Oliynyk_32:

(30, 23743), (Start: 49 @23884 has 105 MA's), (Start: 53 @23899 has 3 MA's), (70, 24052), (72, 24070), (73, 24073), (75, 24079), (82, 24115), (105, 24301), (106, 24304), (108, 24313), (119, 24361), (122, 24379), (132, 24478), (134, 24499), (135, 24505), (162, 24688), (166, 24706), (178, 24778), (182, 24802), (183, 24805), (188, 24823),

Gene: Omar_32 Start: 24520, Stop: 25497, Start Num: 49

Candidate Starts for Omar_32:

(43, 24478), (Start: 49 @24520 has 105 MA's), (Start: 53 @24535 has 3 MA's), (70, 24694), (95, 24889), (105, 24943), (108, 24955), (109, 24958), (111, 24970), (112, 24979), (120, 25006), (122, 25021), (134, 25141), (137, 25159), (138, 25174), (162, 25324), (166, 25342), (184, 25447), (199, 25492),

Gene: Ozzie_31 Start: 23510, Stop: 24487, Start Num: 49

Candidate Starts for Ozzie_31:

(5, 23087), (8, 23108), (10, 23138), (30, 23369), (Start: 49 @23510 has 105 MA's), (Start: 53 @23525 has 3 MA's), (70, 23678), (72, 23696), (73, 23699), (74, 23702), (75, 23705), (105, 23927), (106, 23930), (108, 23939), (119, 23987), (122, 24005), (132, 24104), (134, 24125), (135, 24131), (154, 24272), (162, 24314), (166, 24332), (178, 24404), (182, 24428), (183, 24431), (188, 24449),

Gene: OzzyJ_31 Start: 23761, Stop: 24729, Start Num: 49

Candidate Starts for OzzyJ_31:

(31, 23665), (41, 23719), (Start: 49 @23761 has 105 MA's), (70, 23929), (72, 23947), (75, 23956), (95, 24124), (102, 24169), (105, 24178), (108, 24190), (109, 24193), (112, 24214), (132, 24355), (134, 24376), (135, 24382), (141, 24427), (154, 24523), (162, 24565), (166, 24583), (178, 24655), (182, 24679), (183, 24682), (184, 24691), (191, 24715),

Gene: Pablito_31 Start: 24154, Stop: 25086, Start Num: 53

Candidate Starts for Pablito_31:

(Start: 49 @24139 has 105 MA's), (Start: 53 @24154 has 3 MA's), (70, 24307), (72, 24325), (75, 24334), (90, 24436), (95, 24502), (105, 24556), (108, 24568), (109, 24571), (134, 24754), (135, 24760), (143, 24829), (154, 24901), (162, 24943), (166, 24961), (168, 24970), (178, 25033), (182, 25057), (184, 25069), (187, 25072),

Gene: Paedore_31 Start: 24746, Stop: 25732, Start Num: 49

Candidate Starts for Paedore_31:

(Start: 49 @24746 has 105 MA's), (58, 24806), (72, 24938), (87, 25034), (90, 25049), (105, 25169), (132, 25346), (134, 25367), (135, 25373), (154, 25514), (157, 25526), (162, 25556), (166, 25574), (168, 25583), (178, 25646), (182, 25670), (184, 25682), (198, 25727),

Gene: Paolo_33 Start: 25087, Stop: 26064, Start Num: 49

Candidate Starts for Paolo_33:

(Start: 49 @25087 has 105 MA's), (Start: 53 @25102 has 3 MA's), (76, 25294), (95, 25456), (105, 25510), (108, 25522), (109, 25525), (111, 25537), (112, 25546), (113, 25549), (120, 25573), (122, 25588), (134, 25708), (135, 25714), (137, 25726), (155, 25855), (162, 25894), (166, 25912), (168, 25921), (182, 26005), (184, 26017), (197, 26059),

Gene: Pavo_33 Start: 25566, Stop: 26519, Start Num: 53

Candidate Starts for Pavo_33:

(Start: 49 @25551 has 105 MA's), (Start: 53 @25566 has 3 MA's), (58, 25602), (63, 25635), (72, 25734), (73, 25737), (75, 25743), (95, 25911), (105, 25965), (106, 25968), (108, 25977), (111, 25992), (119, 26025), (120, 26028), (122, 26043), (134, 26163), (142, 26223), (149, 26265), (157, 26316), (170, 26382), (182, 26457), (184, 26469), (198, 26514),

Gene: Phettuccine_31 Start: 23526, Stop: 24503, Start Num: 49

Candidate Starts for Phettuccine_31:

(8, 23124), (10, 23154), (30, 23385), (Start: 49 @23526 has 105 MA's), (Start: 53 @23541 has 3 MA's), (70, 23694), (72, 23712), (73, 23715), (74, 23718), (75, 23721), (105, 23943), (106, 23946), (108, 23955), (119, 24003), (122, 24021), (132, 24120), (134, 24141), (135, 24147), (154, 24288), (162, 24330), (166, 24348), (178, 24420), (182, 24444), (183, 24447), (188, 24465),

Gene: Pine5_42 Start: 35716, Stop: 34616, Start Num: 40

Candidate Starts for Pine5_42:

(Start: 40 @35716 has 5 MA's), (66, 35521), (81, 35425), (88, 35359), (90, 35350), (93, 35326), (105, 35227), (110, 35206), (115, 35182), (127, 35107), (131, 35077), (135, 35032), (139, 34999), (144, 34966), (170, 34822), (173, 34810), (174, 34801), (178, 34768), (181, 34750), (196, 34693), (203, 34663), (207, 34627),

Gene: Provolone_33 Start: 24933, Stop: 25901, Start Num: 49

Candidate Starts for Provolone_33:

(Start: 49 @24933 has 105 MA's), (Start: 53 @24948 has 3 MA's), (58, 24984), (63, 25017), (72, 25116), (73, 25119), (75, 25125), (95, 25293), (105, 25347), (106, 25350), (108, 25359), (111, 25374), (119, 25407), (120, 25410), (122, 25425), (134, 25545), (142, 25605), (149, 25647), (157, 25698), (170, 25764), (182, 25839), (184, 25851), (198, 25896),

Gene: Puginator_33 Start: 25108, Stop: 26082, Start Num: 49

Candidate Starts for Puginator_33:

(Start: 49 @25108 has 105 MA's), (Start: 53 @25123 has 3 MA's), (76, 25315), (95, 25477), (97, 25495), (105, 25531), (108, 25543), (109, 25546), (111, 25558), (113, 25570), (120, 25594), (122, 25609), (134, 25729), (135, 25735), (137, 25747), (142, 25789), (155, 25873), (162, 25912), (166, 25930), (168, 25939), (182, 26023), (184, 26035), (197, 26077),

Gene: Puppies_31 Start: 24982, Stop: 23882, Start Num: 40

Candidate Starts for Puppies_31:

(Start: 40 @24982 has 5 MA's), (45, 24967), (50, 24934), (65, 24805), (69, 24766), (73, 24742), (85, 24670), (97, 24550), (98, 24538), (121, 24442), (131, 24349), (133, 24316), (139, 24271), (140, 24268), (144, 24238), (147, 24217), (148, 24211), (149, 24208), (155, 24166), (167, 24103), (192, 24007), (196, 23992), (201, 23971),

Gene: R4_31 Start: 24880, Stop: 25854, Start Num: 49

Candidate Starts for R4_31:

(Start: 49 @24880 has 105 MA's), (58, 24940), (72, 25072), (90, 25183), (95, 25249), (105, 25303), (109, 25318), (132, 25480), (134, 25501), (135, 25507), (154, 25648), (157, 25660), (162, 25690), (166, 25708), (168, 25717), (178, 25780), (179, 25789), (182, 25804), (183, 25807), (184, 25816),

Gene: RainyPolka_45 Start: 36140, Stop: 34974, Start Num: 23

Candidate Starts for RainyPolka_45:

(Start: 23 @36140 has 6 MA's), (26, 36131), (36, 36101), (44, 36062), (55, 35996), (56, 35987), (67, 35891), (68, 35885), (73, 35840), (91, 35720), (93, 35702), (98, 35630), (107, 35600), (114, 35564), (115, 35561), (117, 35552), (153, 35282), (155, 35276), (158, 35267), (165, 35222), (171, 35198), (173, 35189), (180, 35141), (185, 35126), (191, 35099), (196, 35081), (210, 34985),

Gene: Rana_31 Start: 24259, Stop: 25230, Start Num: 49

Candidate Starts for Rana_31:

(Start: 49 @24259 has 105 MA's), (Start: 53 @24274 has 3 MA's), (58, 24313), (70, 24427), (72, 24445), (73, 24448), (75, 24454), (95, 24622), (105, 24676), (106, 24679), (108, 24688), (109, 24691), (112, 24712), (119, 24736), (134, 24874), (135, 24880), (154, 25021), (162, 25063), (166, 25081), (178, 25153), (182, 25177), (186, 25192), (191, 25216),

Gene: RedBear_32 Start: 24057, Stop: 25028, Start Num: 49

Candidate Starts for RedBear_32:

(35, 23976), (Start: 49 @24057 has 105 MA's), (64, 24153), (70, 24225), (72, 24243), (75, 24252), (102, 24465), (105, 24474), (106, 24477), (108, 24486), (112, 24510), (132, 24651), (134, 24672), (135, 24678), (141, 24723), (154, 24819), (162, 24861), (166, 24879), (178, 24951), (182, 24975), (183, 24978), (186, 24990), (191, 25014),

Gene: Rusticus_32 Start: 23884, Stop: 24861, Start Num: 49

Candidate Starts for Rusticus_32:

(30, 23743), (Start: 49 @23884 has 105 MA's), (Start: 53 @23899 has 3 MA's), (70, 24052), (72, 24070), (73, 24073), (75, 24079), (82, 24115), (105, 24301), (106, 24304), (108, 24313), (119, 24361), (122, 24379), (132, 24478), (134, 24499), (135, 24505), (162, 24688), (166, 24706), (178, 24778), (182, 24802), (183, 24805), (188, 24823),

Gene: Saftant_32 Start: 25497, Stop: 26465, Start Num: 49

Candidate Starts for Saftant_32:

(Start: 49 @25497 has 105 MA's), (Start: 53 @25512 has 3 MA's), (58, 25548), (63, 25581), (72, 25680), (73, 25683), (75, 25689), (100, 25896), (105, 25911), (106, 25914), (108, 25923), (111, 25938), (119, 25971), (120, 25974), (134, 26109), (142, 26169), (149, 26211), (157, 26262), (170, 26328), (182, 26403), (184, 26415), (198, 26460),

Gene: Salete_44 Start: 36172, Stop: 34982, Start Num: 19

Candidate Starts for Salete_44:

(7, 36391), (12, 36340), (13, 36283), (Start: 19 @36172 has 5 MA's), (Start: 23 @36148 has 6 MA's), (36, 36109), (44, 36070), (52, 36025), (55, 36004), (67, 35899), (68, 35893), (73, 35848), (76, 35836), (83, 35779), (84, 35773), (91, 35728), (93, 35710), (98, 35638), (107, 35608), (114, 35572), (115, 35569), (117, 35560), (155, 35284), (158, 35275), (165, 35230), (171, 35206), (173, 35197), (177, 35164), (191, 35107), (196, 35089), (209, 34996), (210, 34993),

Gene: SarahRose_30 Start: 23770, Stop: 24738, Start Num: 49

Candidate Starts for SarahRose_30:

(31, 23674), (41, 23728), (Start: 49 @23770 has 105 MA's), (62, 23854), (70, 23938), (72, 23956), (95, 24133), (102, 24178), (105, 24187), (108, 24199), (109, 24202), (112, 24223), (132, 24364), (134, 24385), (135, 24391), (141, 24436), (154, 24532), (162, 24574), (166, 24592), (178, 24664), (182, 24688), (183, 24691), (184, 24700), (191, 24724),

Gene: Snorlax_30 Start: 23773, Stop: 24741, Start Num: 49

Candidate Starts for Snorlax_30:

(31, 23677), (41, 23731), (Start: 49 @23773 has 105 MA's), (56, 23809), (70, 23941), (72, 23959), (75, 23968), (95, 24136), (102, 24181), (105, 24190), (108, 24202), (109, 24205), (112, 24226), (132, 24367), (134, 24388), (135, 24394), (141, 24439), (154, 24535), (162, 24577), (166, 24595), (178, 24667), (182, 24691), (183, 24694), (184, 24703), (191, 24727),

Gene: South40_31 Start: 24057, Stop: 25028, Start Num: 49

Candidate Starts for South40_31:

(35, 23976), (Start: 49 @24057 has 105 MA's), (64, 24153), (70, 24225), (72, 24243), (75, 24252), (102, 24465), (105, 24474), (106, 24477), (108, 24486), (112, 24510), (132, 24651), (134, 24672), (135, 24678), (141, 24723), (154, 24819), (162, 24861), (166, 24879), (178, 24951), (182, 24975), (183, 24978), (186, 24990), (191, 25014),

Gene: Speedwell_37 Start: 26819, Stop: 27787, Start Num: 49

Candidate Starts for Speedwell_37:

(Start: 49 @26819 has 105 MA's), (Start: 53 @26834 has 3 MA's), (63, 26903), (72, 27002), (73, 27005), (75, 27011), (100, 27218), (105, 27233), (106, 27236), (108, 27245), (111, 27260), (119, 27293), (120, 27296), (122, 27311), (134, 27431), (142, 27491), (149, 27533), (157, 27584), (170, 27650), (182, 27725), (184, 27737), (195, 27776), (198, 27782),

Gene: SqueakyClean_31 Start: 24658, Stop: 25632, Start Num: 49

Candidate Starts for SqueakyClean_31:

(14, 24385), (22, 24487), (37, 24580), (Start: 49 @24658 has 105 MA's), (72, 24847), (75, 24856), (80, 24883), (86, 24934), (87, 24943), (89, 24955), (105, 25078), (108, 25090), (109, 25093), (134, 25276), (137, 25294), (142, 25336), (157, 25429), (170, 25495), (182, 25570), (184, 25582), (198, 25627),

Gene: Sudan_32 Start: 25378, Stop: 26346, Start Num: 49

Candidate Starts for Sudan_32:

(Start: 49 @25378 has 105 MA's), (Start: 53 @25393 has 3 MA's), (58, 25429), (63, 25462), (72, 25561), (79, 25594), (82, 25606), (90, 25672), (95, 25738), (105, 25792), (106, 25795), (108, 25804), (122, 25870), (134, 25990), (142, 26050), (149, 26092), (157, 26143), (170, 26209), (182, 26284), (184, 26296), (198, 26341),

Gene: Sujidade_32 Start: 24604, Stop: 25575, Start Num: 49

Candidate Starts for Sujidade_32:

(Start: 49 @24604 has 105 MA's), (70, 24772), (72, 24790), (75, 24799), (95, 24967), (105, 25021), (106, 25024), (108, 25033), (109, 25036), (112, 25057), (119, 25081), (134, 25219), (135, 25225), (141, 25270), (154, 25366), (162, 25408), (166, 25426), (178, 25498), (182, 25522), (186, 25537), (191, 25561),

Gene: SunkenRoot_34 Start: 26030, Stop: 26983, Start Num: 53

Candidate Starts for SunkenRoot_34:

(Start: 49 @26015 has 105 MA's), (Start: 53 @26030 has 3 MA's), (63, 26099), (72, 26198), (73, 26201), (100, 26414), (105, 26429), (106, 26432), (108, 26441), (111, 26456), (119, 26489), (120, 26492), (122, 26507), (134, 26627), (142, 26687), (149, 26729), (157, 26780), (170, 26846), (182, 26921), (184, 26933), (198, 26978),

Gene: SunsetPointe_31 Start: 23517, Stop: 24494, Start Num: 49

Candidate Starts for SunsetPointe_31:

(8, 23115), (10, 23145), (30, 23376), (Start: 49 @23517 has 105 MA's), (70, 23685), (72, 23703), (73, 23706), (74, 23709), (75, 23712), (105, 23934), (106, 23937), (108, 23946), (119, 23994), (122, 24012), (132, 24111), (134, 24132), (135, 24138), (154, 24279), (162, 24321), (166, 24339), (178, 24411), (182, 24435), (183, 24438), (188, 24456),

Gene: Superstar_35 Start: 25700, Stop: 26641, Start Num: 49

Candidate Starts for Superstar_35:

(Start: 49 @25700 has 105 MA's), (57, 25751), (69, 25868), (72, 25889), (73, 25892), (74, 25895), (79, 25922), (87, 25985), (94, 26045), (105, 26120), (108, 26132), (109, 26135), (111, 26147), (120, 26183), (122, 26198), (134, 26318), (137, 26336), (142, 26378), (157, 26471), (160, 26495), (162, 26501), (166, 26519), (168, 26528), (182, 26612), (184, 26624),

Gene: TP1604_44 Start: 36178, Stop: 34988, Start Num: 19

Candidate Starts for TP1604_44:

(7, 36397), (12, 36346), (13, 36289), (Start: 19 @36178 has 5 MA's), (Start: 23 @36154 has 6 MA's), (36, 36115), (44, 36076), (52, 36031), (55, 36010), (67, 35905), (68, 35899), (73, 35854), (76, 35842), (83, 35785), (84, 35779), (91, 35734), (93, 35716), (98, 35644), (107, 35614), (114, 35578), (115, 35575), (117, 35566), (155, 35290), (158, 35281), (165, 35236), (171, 35212), (173, 35203), (177, 35170), (191, 35113), (196, 35095), (209, 35002), (210, 34999),

Gene: TagePighter_31 Start: 23773, Stop: 24741, Start Num: 49

Candidate Starts for TagePighter_31:

(31, 23677), (41, 23731), (Start: 49 @23773 has 105 MA's), (56, 23809), (70, 23941), (72, 23959), (75, 23968), (95, 24136), (102, 24181), (105, 24190), (108, 24202), (109, 24205), (112, 24226), (132, 24367), (134, 24388), (135, 24394), (141, 24439), (154, 24535), (162, 24577), (166, 24595), (178, 24667), (182, 24691), (183, 24694), (184, 24703), (191, 24727),

Gene: Tefunt_31 Start: 24261, Stop: 25223, Start Num: 49

Candidate Starts for Tefunt_31:

(43, 24219), (Start: 49 @24261 has 105 MA's), (Start: 53 @24276 has 3 MA's), (105, 24678), (108, 24690), (109, 24693), (112, 24714), (120, 24741), (122, 24756), (134, 24876), (137, 24894), (138, 24909), (142, 24936), (157, 25029), (184, 25182),

Gene: Thestral_32 Start: 24724, Stop: 25698, Start Num: 49

Candidate Starts for Thestral_32:

(Start: 49 @24724 has 105 MA's), (76, 24931), (94, 25072), (95, 25093), (105, 25147), (108, 25159), (109, 25162), (111, 25174), (112, 25183), (120, 25210), (134, 25345), (137, 25363), (142, 25405), (162, 25528), (166, 25546), (168, 25555), (175, 25588), (176, 25609), (182, 25639), (184, 25651), (197, 25693),

Gene: TinaBelcher_31 Start: 24671, Stop: 25645, Start Num: 49

Candidate Starts for TinaBelcher_31:

(Start: 49 @24671 has 105 MA's), (76, 24878), (95, 25040), (105, 25094), (108, 25106), (109, 25109), (111, 25121), (112, 25130), (120, 25157), (134, 25292), (137, 25310), (142, 25352), (157, 25445), (162, 25475), (166, 25493), (168, 25502), (175, 25535), (176, 25556), (182, 25586), (184, 25598), (197, 25640),

Gene: Toma_31 Start: 24321, Stop: 25292, Start Num: 49

Candidate Starts for Toma_31:

(Start: 49 @24321 has 105 MA's), (70, 24489), (72, 24507), (73, 24510), (75, 24516), (82, 24552), (95, 24684), (105, 24738), (106, 24741), (108, 24750), (109, 24753), (112, 24774), (119, 24798), (134, 24936), (135, 24942), (141, 24987), (154, 25083), (162, 25125), (166, 25143), (178, 25215), (182, 25239), (186, 25254), (191, 25278),

Gene: Trine_30 Start: 24580, Stop: 23426, Start Num: 32

Candidate Starts for Trine_30:

(Start: 32 @24580 has 1 MA's), (Start: 33 @24574 has 1 MA's), (65, 24382), (87, 24229), (95, 24148), (96, 24133), (110, 24073), (116, 24046), (121, 24022), (126, 23986), (127, 23959), (144, 23818), (148,

23791), (149, 23788), (155, 23746), (167, 23683), (174, 23650), (201, 23521),

Gene: Triste_30 Start: 23761, Stop: 24729, Start Num: 49

Candidate Starts for Triste_30:

(31, 23665), (41, 23719), (Start: 49 @23761 has 105 MA's), (62, 23845), (70, 23929), (72, 23947), (95, 24124), (102, 24169), (105, 24178), (108, 24190), (109, 24193), (112, 24214), (132, 24355), (134, 24376), (135, 24382), (141, 24427), (154, 24523), (162, 24565), (166, 24583), (178, 24655), (182, 24679), (183, 24682), (184, 24691), (191, 24715),

Gene: Triumph_33 Start: 24459, Stop: 25439, Start Num: 49

Candidate Starts for Triumph_33:

(27, 24318), (Start: 49 @24459 has 105 MA's), (70, 24627), (72, 24645), (75, 24654), (82, 24690), (90, 24756), (95, 24822), (105, 24876), (108, 24888), (109, 24891), (132, 25053), (134, 25074), (135, 25080), (154, 25221), (162, 25263), (166, 25281), (168, 25290), (178, 25353), (182, 25377), (183, 25380), (184, 25389), (198, 25434),

Gene: TrvxScott_30 Start: 24717, Stop: 25691, Start Num: 49

Candidate Starts for TrvxScott_30:

(Start: 49 @24717 has 105 MA's), (76, 24924), (95, 25086), (105, 25140), (108, 25152), (109, 25155), (111, 25167), (112, 25176), (120, 25203), (134, 25338), (137, 25356), (142, 25398), (157, 25491), (162, 25521), (166, 25539), (168, 25548), (175, 25581), (176, 25602), (182, 25632), (184, 25644), (197, 25686),

Gene: TuanPN_30 Start: 23814, Stop: 24785, Start Num: 49

Candidate Starts for TuanPN_30:

(31, 23718), (46, 23787), (Start: 49 @23814 has 105 MA's), (Start: 53 @23829 has 3 MA's), (70, 23982), (72, 24000), (73, 24003), (102, 24222), (103, 24225), (105, 24231), (108, 24243), (109, 24246), (112, 24267), (119, 24291), (128, 24369), (132, 24408), (134, 24429), (135, 24435), (141, 24480), (154, 24576), (162, 24618), (166, 24636), (178, 24708), (182, 24732), (186, 24747), (191, 24771),

Gene: Unstoppable_31 Start: 23521, Stop: 24498, Start Num: 49

Candidate Starts for Unstoppable_31:

(5, 23098), (8, 23119), (10, 23149), (30, 23380), (Start: 49 @23521 has 105 MA's), (Start: 53 @23536 has 3 MA's), (70, 23689), (72, 23707), (73, 23710), (74, 23713), (75, 23716), (105, 23938), (106, 23941), (108, 23950), (119, 23998), (122, 24016), (132, 24115), (134, 24136), (135, 24142), (154, 24283), (162, 24325), (166, 24343), (178, 24415), (182, 24439), (183, 24442), (188, 24460),

Gene: Upyo_30 Start: 25191, Stop: 24034, Start Num: 33

Candidate Starts for Upyo_30:

(6, 25530), (8, 25512), (21, 25284), (Start: 33 @25191 has 1 MA's), (Start: 40 @25155 has 5 MA's), (50, 25110), (73, 24924), (87, 24834), (95, 24753), (96, 24738), (105, 24699), (110, 24678), (121, 24627), (126, 24591), (144, 24423), (148, 24396), (149, 24393), (151, 24384), (155, 24351), (167, 24288), (172, 24267), (201, 24123), (202, 24114), (204, 24093), (206, 24078),

Gene: Urza_33 Start: 24541, Stop: 25494, Start Num: 49

Candidate Starts for Urza_33:

(Start: 49 @24541 has 105 MA's), (Start: 53 @24556 has 3 MA's), (58, 24592), (78, 24745), (92, 24856), (104, 24952), (105, 24955), (108, 24967), (112, 24991), (120, 25018), (134, 25162), (141, 25213), (159, 25342),

Gene: Vanseggelen_37 Start: 25079, Stop: 26032, Start Num: 53

Candidate Starts for Vanseggelen_37:

(Start: 49 @25064 has 105 MA's), (Start: 53 @25079 has 3 MA's), (63, 25148), (72, 25247), (82, 25292), (90, 25358), (95, 25424), (105, 25478), (106, 25481), (108, 25490), (122, 25556), (134, 25676), (142, 25736), (149, 25778), (157, 25829), (170, 25895), (182, 25970), (184, 25982), (198, 26027),

Gene: Verabelle_34 Start: 25483, Stop: 26436, Start Num: 53

Candidate Starts for Verabelle_34:

(Start: 49 @25468 has 105 MA's), (Start: 53 @25483 has 3 MA's), (58, 25519), (63, 25552), (72, 25651), (73, 25654), (90, 25762), (95, 25828), (100, 25867), (105, 25882), (106, 25885), (108, 25894), (118, 25939), (122, 25960), (134, 26080), (142, 26140), (149, 26182), (170, 26299), (182, 26374), (184, 26386), (198, 26431),

Gene: Verse_32 Start: 26209, Stop: 27177, Start Num: 49

Candidate Starts for Verse_32:

(Start: 49 @26209 has 105 MA's), (Start: 53 @26224 has 3 MA's), (58, 26260), (63, 26293), (72, 26392), (73, 26395), (75, 26401), (100, 26608), (105, 26623), (106, 26626), (108, 26635), (111, 26650), (119, 26683), (120, 26686), (122, 26701), (134, 26821), (142, 26881), (149, 26923), (157, 26974), (170, 27040), (182, 27115), (184, 27127), (198, 27172),

Gene: VieEnRose_33 Start: 24618, Stop: 25571, Start Num: 49

Candidate Starts for VieEnRose_33:

(Start: 49 @24618 has 105 MA's), (Start: 53 @24633 has 3 MA's), (58, 24669), (78, 24822), (92, 24933), (104, 25029), (105, 25032), (108, 25044), (112, 25068), (120, 25095), (122, 25110), (134, 25239), (141, 25290), (159, 25419),

Gene: Werner_30 Start: 23771, Stop: 24739, Start Num: 49

Candidate Starts for Werner_30:

(31, 23675), (41, 23729), (Start: 49 @23771 has 105 MA's), (62, 23855), (70, 23939), (72, 23957), (95, 24134), (102, 24179), (105, 24188), (108, 24200), (109, 24203), (112, 24224), (132, 24365), (134, 24386), (135, 24392), (141, 24437), (154, 24533), (162, 24575), (166, 24593), (178, 24665), (182, 24689), (183, 24692), (184, 24701), (191, 24725),

Gene: Whatever_30 Start: 23771, Stop: 24739, Start Num: 49

Candidate Starts for Whatever_30:

(31, 23675), (41, 23729), (Start: 49 @23771 has 105 MA's), (62, 23855), (70, 23939), (72, 23957), (95, 24134), (102, 24179), (105, 24188), (108, 24200), (109, 24203), (112, 24224), (132, 24365), (134, 24386), (135, 24392), (141, 24437), (154, 24533), (162, 24575), (166, 24593), (178, 24665), (182, 24689), (183, 24692), (184, 24701), (191, 24725),

Gene: Widow_31 Start: 24786, Stop: 23686, Start Num: 40

Candidate Starts for Widow_31:

(Start: 40 @24786 has 5 MA's), (45, 24771), (50, 24738), (69, 24570), (73, 24546), (85, 24474), (97, 24354), (98, 24342), (121, 24246), (131, 24153), (133, 24120), (139, 24075), (140, 24072), (144, 24042), (147, 24021), (148, 24015), (149, 24012), (155, 23970), (167, 23907), (192, 23811), (196, 23796), (201, 23775),

Gene: Xkcd426_48 Start: 42277, Stop: 41054, Start Num: 23

Candidate Starts for Xkcd426_48:

(17, 42331), (Start: 19 @42301 has 5 MA's), (Start: 23 @42277 has 6 MA's), (26, 42268), (29, 42259), (55, 42076), (65, 41983), (68, 41965), (73, 41920), (76, 41908), (83, 41851), (91, 41800), (93, 41782), (99, 41704), (107, 41680), (115, 41641), (117, 41632), (148, 41395), (155, 41356), (159, 41326), (165, 41302), (171, 41278), (173, 41269), (193, 41170), (196, 41161), (205, 41101), (210, 41065),

Gene: YDN12_46 Start: 35847, Stop: 34681, Start Num: 23

Candidate Starts for YDN12_46:

(Start: 23 @35847 has 6 MA's), (26, 35838), (36, 35808), (44, 35769), (55, 35703), (67, 35598), (68, 35592), (73, 35547), (83, 35478), (84, 35472), (91, 35427), (93, 35409), (98, 35337), (107, 35307), (114, 35271), (115, 35268), (117, 35259), (149, 35019), (155, 34983), (158, 34974), (165, 34929), (171, 34905), (173, 34896), (177, 34863), (191, 34806), (196, 34788), (205, 34728), (209, 34695), (210, 34692),

Gene: Yasdniil_30 Start: 23813, Stop: 24784, Start Num: 49

Candidate Starts for Yasdniil_30:

(31, 23717), (46, 23786), (Start: 49 @23813 has 105 MA's), (Start: 53 @23828 has 3 MA's), (70, 23981), (72, 23999), (73, 24002), (102, 24221), (103, 24224), (105, 24230), (108, 24242), (109, 24245), (112, 24266), (119, 24290), (128, 24368), (132, 24407), (134, 24428), (135, 24434), (141, 24479), (154, 24575), (162, 24617), (166, 24635), (178, 24707), (182, 24731), (186, 24746), (191, 24770),

Gene: Yosif_34 Start: 25959, Stop: 26927, Start Num: 49

Candidate Starts for Yosif_34:

(Start: 49 @25959 has 105 MA's), (Start: 53 @25974 has 3 MA's), (63, 26043), (72, 26142), (73, 26145), (75, 26151), (100, 26358), (105, 26373), (106, 26376), (108, 26385), (111, 26400), (134, 26571), (142, 26631), (157, 26724), (170, 26790), (175, 26814), (182, 26865), (184, 26877), (198, 26922),

Gene: Zainub_33 Start: 25048, Stop: 26025, Start Num: 49

Candidate Starts for Zainub_33:

(Start: 49 @25048 has 105 MA's), (Start: 53 @25063 has 3 MA's), (76, 25255), (95, 25417), (105, 25471), (108, 25483), (109, 25486), (111, 25498), (113, 25510), (120, 25534), (122, 25549), (134, 25669), (135, 25675), (137, 25687), (155, 25816), (162, 25855), (166, 25873), (168, 25882), (182, 25966), (184, 25978), (197, 26020),

Gene: ZamZam_32 Start: 25490, Stop: 26443, Start Num: 49

Candidate Starts for ZamZam_32:

(Start: 49 @25490 has 105 MA's), (Start: 53 @25505 has 3 MA's), (58, 25541), (63, 25574), (72, 25673), (79, 25706), (82, 25718), (90, 25784), (95, 25850), (105, 25904), (106, 25907), (108, 25916), (120, 25967), (122, 25982), (134, 26102), (142, 26162), (149, 26204), (157, 26255), (170, 26321), (182, 26396), (184, 26408),

Gene: Zemlya_32 Start: 24300, Stop: 25271, Start Num: 49

Candidate Starts for Zemlya_32:

(9, 23892), (11, 23928), (Start: 49 @24300 has 105 MA's), (70, 24468), (72, 24486), (73, 24489), (75, 24495), (95, 24663), (105, 24717), (106, 24720), (108, 24729), (109, 24732), (112, 24753), (134, 24915), (135, 24921), (154, 25062), (162, 25104), (166, 25122), (178, 25194), (182, 25218), (186, 25233), (191, 25257),

Gene: phiCAM_31 Start: 27359, Stop: 28312, Start Num: 53

Candidate Starts for phiCAM_31:

(48, 27335), (Start: 49 @27344 has 105 MA's), (Start: 53 @27359 has 3 MA's), (63, 27428), (72, 27527), (73, 27530), (75, 27536), (100, 27743), (105, 27758), (106, 27761), (108, 27770), (111, 27785), (119, 27818), (120, 27821), (122, 27836), (134, 27956), (142, 28016), (157, 28109), (170, 28175), (182, 28250), (184, 28262), (198, 28307),

Gene: phiHau3_33 Start: 24132, Stop: 25097, Start Num: 49

Candidate Starts for phiHau3_33:

(47, 24102), (Start: 49 @24132 has 105 MA's), (72, 24318), (73, 24321), (80, 24354), (95, 24495), (97, 24513), (105, 24549), (109, 24564), (111, 24576), (112, 24585), (118, 24606), (119, 24609), (124, 24648), (132, 24726), (134, 24747), (138, 24780), (142, 24807), (150, 24852), (170, 24966), (182, 25044), (184, 25056),