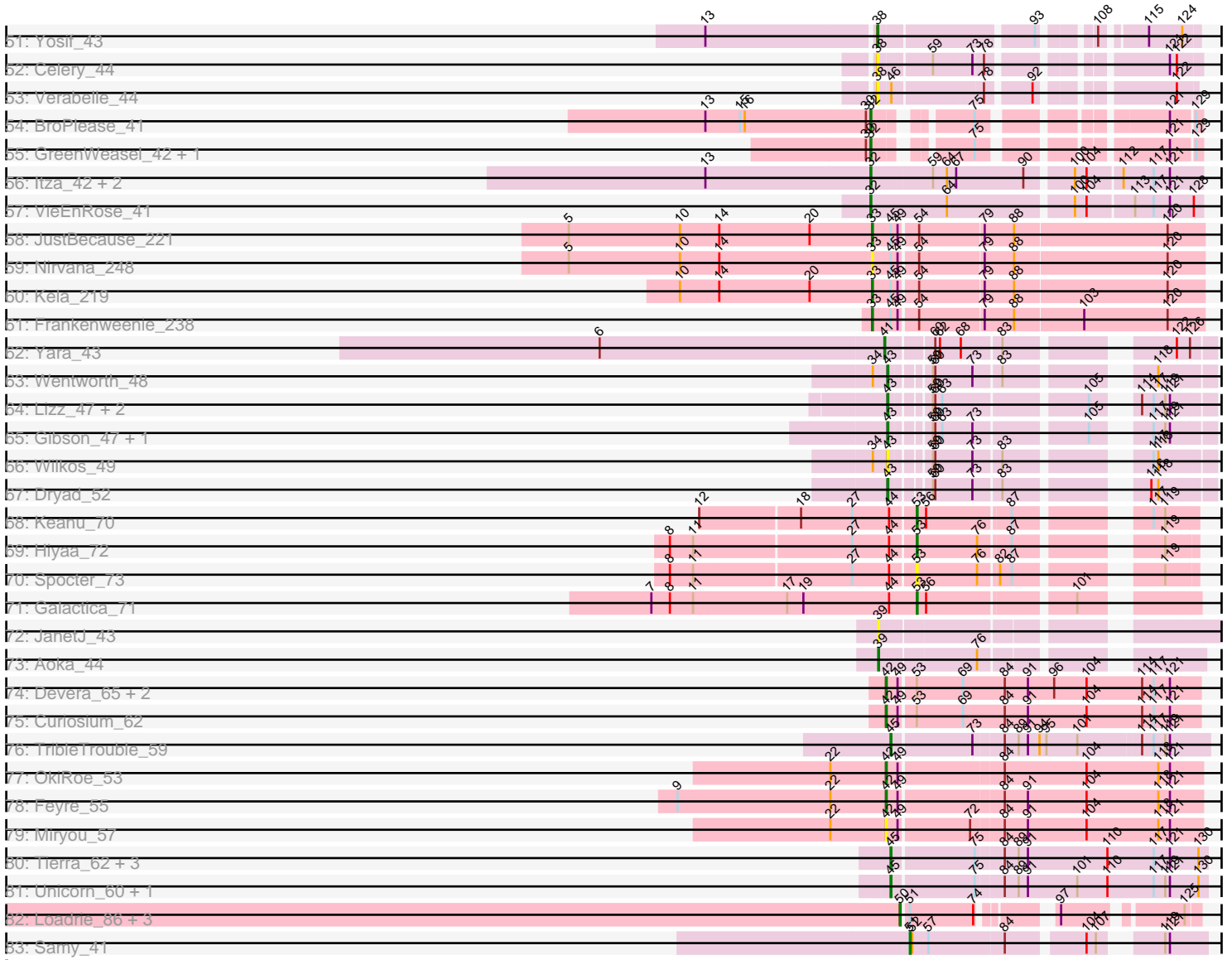


Pham 163392



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 163392 Report

This analysis was run 04/28/24 on database version 559.

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 163392 has 161 members, 23 are drafts.

Phages represented in each track:

- Track 1 : Fushigi_46, Traft412_50, Dexes_48, Pelly_47, Michley_47, MrGordo_47
- Track 2 : Big3_47
- Track 3 : Stephig9_49
- Track 4 : MalagasyRose_59
- Track 5 : JayCookie_98, MoyaNatalis_97, Conboy_96
- Track 6 : ArV1_085
- Track 7 : Kellezio_88
- Track 8 : Katalie_40, RedBear_41, South40_40
- Track 9 : Ozzie_40, Nerdos_39, Eddasa_41, Jash_41, Izzy_41, Legacy_40, BeardedLady_41, Esperer_40, BryanRecycles_41, EnochSoames_43, Aaronocolus_40, Phettuccine_40, Rusticus_41, SunsetPointe_40, Hydra_42, Oliynyk_41, Bovely_40, Indigo_39, Unstoppable_40, Leviticus_40, Caliburn_40
- Track 10 : Sujidade_41
- Track 11 : Maneekul_40
- Track 12 : TuanPN_39, Yasdnil_40, Ejemplo_39
- Track 13 : Asten_40, Dwayne_40, Whatever_40, OzzyJ_41, Emaanora_43, Hippo_40, Triste_40, Werner_40, BarryBee_43, Chucky_40, SarahRose_40, TagePhighter_42, Snorlax_40
- Track 14 : Lika_40, Godpower_41
- Track 15 : Lannister_42
- Track 16 : Brataylor_43, Celeste_41, Danzina_42, Zemlya_42
- Track 17 : Toma_40, Dattran_42, Goby_40
- Track 18 : Nanodon_42
- Track 19 : Nabi_41, Rana_41, Lorelei_41
- Track 20 : Haizum_42, Tefunt_42, Amethyst_40
- Track 21 : Jevington_44, Marav_44
- Track 22 : Paedore_40, Loofah_41
- Track 23 : Animus_40, SqueakyClean_40, Janus_41
- Track 24 : Zainub_47
- Track 25 : Nishikigoi_42
- Track 26 : Issmi_42
- Track 27 : BartholomewSD_43, Alvy_43
- Track 28 : TinaBelcher_41, TrvxScott_40

- Track 29 : Thestral_42
- Track 30 : Pablito_40
- Track 31 : GirlDinner_42
- Track 32 : Bowden_41
- Track 33 : Superstar_44
- Track 34 : Andris_40
- Track 35 : Diane_40
- Track 36 : Caelum_42
- Track 37 : ELB20_39, R4_41
- Track 38 : Triumph_42
- Track 39 : Puginator_47
- Track 40 : Omar_43
- Track 41 : Hank144_42
- Track 42 : Daudau_41
- Track 43 : Paolo_45
- Track 44 : Provolone_42
- Track 45 : Alsaber_42, Dexers_40, Conan_44
- Track 46 : Amela_41, Verse_41
- Track 47 : Saftant_41
- Track 48 : phiCAM_39
- Track 49 : ElGato_42
- Track 50 : Vanseggelen_46
- Track 51 : Yosif_43
- Track 52 : Celery_44
- Track 53 : Verabelle_44
- Track 54 : BroPlease_41
- Track 55 : GreenWeasel_42, phiHau3_42
- Track 56 : Itza_42, Celia_42, Urza_42
- Track 57 : VieEnRose_41
- Track 58 : JustBecause_221
- Track 59 : Nirvana_248
- Track 60 : Kela_219
- Track 61 : Frankenweenie_238
- Track 62 : Yara_43
- Track 63 : Wentworth_48
- Track 64 : Lizz_47, ShakeNBake_47, PHTowN_47
- Track 65 : Gibson_47, Rooney_47
- Track 66 : Wilkos_49
- Track 67 : Dryad_52
- Track 68 : Keanu_70
- Track 69 : Hiyaa_72
- Track 70 : Spocter_73
- Track 71 : Galactica_71
- Track 72 : JanetJ_43
- Track 73 : Aoka_44
- Track 74 : Devera_65, Dole_63, Illumine_63
- Track 75 : Curiosium_62
- Track 76 : TribbleTrouble_59
- Track 77 : OkiRoe_53
- Track 78 : Feyre_55
- Track 79 : Miryou_57
- Track 80 : Tierra_62, Cain_62, Phrank_62, Bryler_62
- Track 81 : Unicorn_60, PhelpsODU_60

- Track 82 : Loadrie_86, Zakai_88, Wigglewiggle_87, MkaliMitinis3_89
- Track 83 : Samy_41

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

The start number called the most often in the published annotations is 32, it was called in 41 of the 138 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Asten_40, BarryBee_43, Brataylor_43, BroPlease_41, Celeste_41, Celia_42, Chucky_40, Danzina_42, Dattran_42, Dwayne_40, Ejemplo_39, Emaanora_43, Goby_40, Godpower_41, GreenWeasel_42, Hippo_40, Itza_42, Katalie_40, Lannister_42, Lika_40, Lorelei_41, Maneekul_40, Nabi_41, Nanodon_42, OzzyJ_41, Rana_41, RedBear_41, SarahRose_40, Snorlax_40, South40_40, Sujidade_41, TagePhighter_42, Toma_40, Triste_40, TuanPN_39, Urza_42, VieEnRose_41, Werner_40, Whatever_40, Yasdnil_40, Zemlya_42, phiHau3_42,

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

-

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

- Aaronocolus_40, Alsaber_42, Alvy_43, Amela_41, Amethyst_40, Andris_40, Animus_40, Aoka_44, ArV1_085, BartholomewSD_43, BeardedLady_41, Big3_47, Bovely_40, Bowden_41, BryanRecycles_41, Bryler_62, Caelum_42, Cain_62, Caliburn_40, Celery_44, Conan_44, Conboy_96, Curiosium_62, Daudau_41, Devera_65, Dexers_40, Dexes_48, Diane_40, Dole_63, Dryad_52, ELB20_39, Eddasa_41, ElGato_42, EnochSoames_43, Esperer_40, Feyre_55, Frankenweenie_238, Fushigi_46, Galactica_71, Gibson_47, GirlDinner_42, Haizum_42, Hank144_42, Hiya_72, Hydra_42, Illumine_63, Indigo_39, Issmi_42, Izzy_41, JanetJ_43, Janus_41, Jash_41, JayCookie_98, Jevington_44, JustBecause_221, Keanu_70, Kela_219, KellEzio_88, Legacy_40, Leviticus_40, Lizz_47, Loadrie_86, Loofah_41, MalagasyRose_59, Marav_44, Michley_47, Miryou_57, MkaliMitinis3_89, MoyaNatalis_97, MrGordo_47, Nerdos_39, Nirvana_248, Nishikigoi_42, OkiRoe_53, Oliynyk_41, Omar_43, Ozzie_40, PHTowN_47, Pablito_40, Paedore_40, Paolo_45, Pelly_47, PhelpsODU_60, Phettuccine_40, Phrank_62, Provolone_42, Puginator_47, R4_41, Rooney_47, Rusticus_41, Saftant_41, Samy_41, ShakeNBake_47, Spocter_73, SqueakyClean_40, Stephig9_49, SunsetPointe_40, Superstar_44, Tefunt_42, Thestral_42, Tierra_62, TinaBelcher_41, Traft412_50, TripleTrouble_59, Triumph_42, TrvxScott_40, Unicorn_60, Unstoppable_40, Vanseggelen_46, Verabelle_44, Verse_41, Wentworth_48, Wigglewiggle_87, Wilkos_49, Yara_43, Yosif_43, Zainub_47, Zakai_88, phiCAM_39,

Summary by start number:

Start 26:

- Found in 4 of 161 (2.5%) of genes in pham
- Manual Annotations of this start: 2 of 138
- Called 100.0% of time when present

- Phage (with cluster) where this start called: ArV1_085 (AR), Conboy_96 (AR), JayCookie_98 (AR), MoyaNatalis_97 (AR),

Start 28:

- Found in 21 of 161 (13.0%) of genes in pham
- Manual Annotations of this start: 20 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aaronocolus_40 (BD1), BeardedLady_41 (BD1), Bovely_40 (BD1), BryanRecycles_41 (BD1), Caliburn_40 (BD1), Eddasa_41 (BD1), EnochSoames_43 (BD1), Esperer_40 (BD1), Hydra_42 (BD1), Indigo_39 (BD1), Izzy_41 (BD1), Jash_41 (BD1), Legacy_40 (BD1), Leviticus_40 (BD1), Nerdos_39 (BD1), Oliynyk_41 (BD1), Ozzie_40 (BD1), Phettuccine_40 (BD1), Rusticus_41 (BD1), SunsetPointe_40 (BD1), Unstoppable_40 (BD1),

Start 29:

- Found in 6 of 161 (3.7%) of genes in pham
- Manual Annotations of this start: 5 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ELB20_39 (BD2), Loofah_41 (BD2), Pablito_40 (BD2), Paedore_40 (BD2), R4_41 (BD2), Triumph_42 (BD2),

Start 31:

- Found in 1 of 161 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Stephig9_49 (A8),

Start 32:

- Found in 42 of 161 (26.1%) of genes in pham
- Manual Annotations of this start: 41 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Asten_40 (BD1), BarryBee_43 (BD1), Brataylor_43 (BD1), BroPlease_41 (BD4), Celeste_41 (BD1), Celia_42 (BD6), Chucky_40 (BD1), Danzina_42 (BD1), Dattran_42 (BD1), Dwayne_40 (BD1), Ejemplo_39 (BD1), Emaanora_43 (BD1), Goby_40 (BD1), Godpower_41 (BD1), GreenWeasel_42 (BD4), Hippo_40 (BD1), Itza_42 (BD6), Katalie_40 (BD1), Lannister_42 (BD1), Lika_40 (BD1), Lorelei_41 (BD1), Maneekul_40 (BD1), Nabi_41 (BD1), Nanodon_42 (BD1), OzzyJ_41 (BD1), Rana_41 (BD1), RedBear_41 (BD1), SarahRose_40 (BD1), Snorlax_40 (BD1), South40_40 (BD1), Sujidade_41 (BD1), TagePhighter_42 (BD1), Toma_40 (BD1), Triste_40 (BD1), TuanPN_39 (BD1), Urza_42 (BD6), VieEnRose_41 (BD6), Werner_40 (BD1), Whatever_40 (BD1), Yasdnil_40 (BD1), Zemlya_42 (BD1), phiHau3_42 (BD4),

Start 33:

- Found in 4 of 161 (2.5%) of genes in pham
- Manual Annotations of this start: 3 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Frankenweenie_238 (BM), JustBecause_221 (BM), Kela_219 (BM), Nirvana_248 (BM),

Start 34:

- Found in 14 of 161 (8.7%) of genes in pham

- Manual Annotations of this start: 10 of 138
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Amethyst_40 (BD2), Animus_40 (BD2), Caelum_42 (BD2), Diane_40 (BD2), GirlDinner_42 (BD2), Haizum_42 (BD2), Hank144_42 (BD2), Janus_41 (BD2), Nishikigoi_42 (BD2), SqueakyClean_40 (BD2), Superstar_44 (BD2), Tefunt_42 (BD2),

Start 36:

- Found in 13 of 161 (8.1%) of genes in pham
- Manual Annotations of this start: 9 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alvy_43 (BD2), BartholomewSD_43 (BD2), Bowden_41 (BD2), Daudau_41 (BD2), Issmi_42 (BD2), Jevington_44 (BD2), Marav_44 (BD2), Paolo_45 (BD2), Puginator_47 (BD2), Thestral_42 (BD2), TinaBelcher_41 (BD2), TrvxScott_40 (BD2), Zainub_47 (BD2),

Start 38:

- Found in 14 of 161 (8.7%) of genes in pham
- Manual Annotations of this start: 8 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alsaber_42 (BD3), Amela_41 (BD3), Celery_44 (BD3), Conan_44 (BD3), Dexers_40 (BD3), ElGato_42 (BD3), Omar_43 (BD2), Provolone_42 (BD3), Saftant_41 (BD3), Vanseggelen_46 (BD3), Verabelle_44 (BD3), Verse_41 (BD3), Yosif_43 (BD3), phiCAM_39 (BD3),

Start 39:

- Found in 3 of 161 (1.9%) of genes in pham
- Manual Annotations of this start: 2 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aoka_44 (FO), JanetJ_43 (FO), KellEzio_88 (AT),

Start 41:

- Found in 2 of 161 (1.2%) of genes in pham
- Manual Annotations of this start: 2 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Andris_40 (BD2), Yara_43 (BN),

Start 42:

- Found in 8 of 161 (5.0%) of genes in pham
- Manual Annotations of this start: 7 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Curiosium_62 (K1), Devera_65 (K1), Dole_63 (K1), Feyre_55 (K5), Illumine_63 (K1), MalagasyRose_59 (AG), Miryou_57 (K5), OkiRoe_53 (K5),

Start 43:

- Found in 15 of 161 (9.3%) of genes in pham
- Manual Annotations of this start: 13 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Big3_47 (A1), Dexes_48 (A1), Dryad_52 (BN), Fushigi_46 (A1), Gibson_47 (BN), Lizz_47 (BN), Michley_47 (A1), MrGordo_47 (A1), PHTown_47 (BN), Pelly_47 (A1), Rooney_47 (BN), ShakeNBake_47 (BN),

Traft412_50 (A1), Wentworth_48 (BN), Wilkos_49 (BN),

Start 45:

- Found in 12 of 161 (7.5%) of genes in pham
- Manual Annotations of this start: 7 of 138
- Called 58.3% of time when present
- Phage (with cluster) where this start called: Bryler_62 (K6), Cain_62 (K6), PhelpsODU_60 (K6), Phrank_62 (K6), Tierra_62 (K6), TripleTrouble_59 (K3), Unicorn_60 (K6),

Start 50:

- Found in 4 of 161 (2.5%) of genes in pham
- Manual Annotations of this start: 4 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Loadrie_86 (L2), MkaliMitinis3_89 (L2), Wigglewiggles_87 (L2), Zakai_88 (L2),

Start 51:

- Found in 5 of 161 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 138
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Samy_41 (singleton),

Start 53:

- Found in 8 of 161 (5.0%) of genes in pham
- Manual Annotations of this start: 3 of 138
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Galactica_71 (BQ), Hiyaa_72 (BQ), Keanu_70 (BQ), Spocter_73 (BQ),

Summary by clusters:

There are 20 clusters represented in this pham: K3, singleton, A8, K5, AG, BM, BN, BQ, A1, BD4, K1, AR, BD1, BD6, BD3, BD2, L2, AT, FO, K6,

Info for manual annotations of cluster A1:

- Start number 43 was manually annotated 6 times for cluster A1.

Info for manual annotations of cluster A8:

- Start number 31 was manually annotated 1 time for cluster A8.

Info for manual annotations of cluster AG:

- Start number 42 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster AR:

- Start number 26 was manually annotated 2 times for cluster AR.

Info for manual annotations of cluster AT:

- Start number 39 was manually annotated 1 time for cluster AT.

Info for manual annotations of cluster BD1:

- Start number 28 was manually annotated 20 times for cluster BD1.
- Start number 32 was manually annotated 34 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 29 was manually annotated 5 times for cluster BD2.
- Start number 34 was manually annotated 10 times for cluster BD2.
- Start number 36 was manually annotated 9 times for cluster BD2.
- Start number 38 was manually annotated 1 time for cluster BD2.
- Start number 41 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 38 was manually annotated 7 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 32 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 32 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster BM:

- Start number 33 was manually annotated 3 times for cluster BM.

Info for manual annotations of cluster BN:

- Start number 41 was manually annotated 1 time for cluster BN.
- Start number 43 was manually annotated 7 times for cluster BN.

Info for manual annotations of cluster BQ:

- Start number 53 was manually annotated 3 times for cluster BQ.

Info for manual annotations of cluster FO:

- Start number 39 was manually annotated 1 time for cluster FO.

Info for manual annotations of cluster K1:

- Start number 42 was manually annotated 4 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 45 was manually annotated 1 time for cluster K3.

Info for manual annotations of cluster K5:

- Start number 42 was manually annotated 2 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 45 was manually annotated 6 times for cluster K6.

Info for manual annotations of cluster L2:

- Start number 50 was manually annotated 4 times for cluster L2.

Gene Information:

Gene: Aaronocolus_40 Start: 28479, Stop: 28826, Start Num: 28

Candidate Starts for Aaronocolus_40:

(Start: 28 @28479 has 20 MA's), (66, 28581), (83, 28632), (119, 28794),

Gene: Alsaber_42 Start: 30369, Stop: 30716, Start Num: 38

Candidate Starts for Alsaber_42:

(Start: 38 @30369 has 8 MA's), (59, 30432), (122, 30687),

Gene: Alvy_43 Start: 30032, Stop: 30367, Start Num: 36

Candidate Starts for Alvy_43:

(Start: 36 @30032 has 9 MA's), (64, 30095), (83, 30152),

Gene: Amela_41 Start: 31176, Stop: 31517, Start Num: 38

Candidate Starts for Amela_41:

(Start: 38 @31176 has 8 MA's), (65, 31251), (109, 31407), (121, 31479), (122, 31488),

Gene: Amethyst_40 Start: 29395, Stop: 29733, Start Num: 34

Candidate Starts for Amethyst_40:

(13, 29182), (15, 29227), (Start: 34 @29395 has 10 MA's), (70, 29482), (83, 29518), (86, 29527), (100, 29599), (116, 29674),

Gene: Andris_40 Start: 29457, Stop: 29789, Start Num: 41

Candidate Starts for Andris_40:

(1, 28344), (2, 28464), (3, 28521), (13, 29241), (15, 29286), (Start: 41 @29457 has 2 MA's), (64, 29514), (86, 29580), (106, 29664), (112, 29691), (121, 29751),

Gene: Animus_40 Start: 29869, Stop: 30219, Start Num: 34

Candidate Starts for Animus_40:

(24, 29824), (Start: 34 @29869 has 10 MA's), (64, 29944), (107, 30097),

Gene: Aoka_44 Start: 31288, Stop: 31638, Start Num: 39

Candidate Starts for Aoka_44:

(Start: 39 @31288 has 2 MA's), (76, 31408),

Gene: ArV1_085 Start: 61509, Stop: 61898, Start Num: 26

Candidate Starts for ArV1_085:

(Start: 26 @61509 has 2 MA's), (35, 61539), (55, 61599), (83, 61695), (104, 61785), (107, 61797),

Gene: Asten_40 Start: 28841, Stop: 29185, Start Num: 32

Candidate Starts for Asten_40:

(Start: 32 @28841 has 41 MA's), (71, 28949), (77, 28967), (92, 29021), (108, 29072), (109, 29081), (119, 29147), (122, 29162),

Gene: BarryBee_43 Start: 28851, Stop: 29195, Start Num: 32

Candidate Starts for BarryBee_43:

(Start: 32 @28851 has 41 MA's), (71, 28959), (77, 28977), (92, 29031), (108, 29082), (109, 29091), (119, 29157), (122, 29172),

Gene: BartholomewSD_43 Start: 30031, Stop: 30366, Start Num: 36

Candidate Starts for BartholomewSD_43:

(Start: 36 @30031 has 9 MA's), (64, 30094), (83, 30151),

Gene: BeardedLady_41 Start: 28732, Stop: 29079, Start Num: 28

Candidate Starts for BeardedLady_41:

(Start: 28 @28732 has 20 MA's), (66, 28834), (83, 28885), (119, 29047),

Gene: Big3_47 Start: 35903, Stop: 35556, Start Num: 43

Candidate Starts for Big3_47:

(Start: 43 @35903 has 13 MA's), (60, 35861), (107, 35675), (114, 35651),

Gene: Bovely_40 Start: 28485, Stop: 28832, Start Num: 28

Candidate Starts for Bovely_40:

(Start: 28 @28485 has 20 MA's), (66, 28587), (83, 28638), (119, 28800),

Gene: Bowden_41 Start: 29946, Stop: 30287, Start Num: 36

Candidate Starts for Bowden_41:

(25, 29907), (Start: 36 @29946 has 9 MA's), (64, 30015), (83, 30072), (102, 30156),

Gene: Brataylor_43 Start: 29824, Stop: 30168, Start Num: 32

Candidate Starts for Brataylor_43:

(Start: 32 @29824 has 41 MA's), (77, 29950), (108, 30055), (114, 30100), (119, 30130), (122, 30145),

Gene: BroPlease_41 Start: 28966, Stop: 29289, Start Num: 32

Candidate Starts for BroPlease_41:

(13, 28753), (15, 28798), (16, 28804), (30, 28960), (Start: 32 @28966 has 41 MA's), (75, 29059), (121, 29254), (129, 29281),

Gene: BryanRecycles_41 Start: 28839, Stop: 29195, Start Num: 28

Candidate Starts for BryanRecycles_41:

(Start: 28 @28839 has 20 MA's), (66, 28941), (83, 28992), (119, 29154),

Gene: Bryler_62 Start: 40362, Stop: 40757, Start Num: 45

Candidate Starts for Bryler_62:

(Start: 45 @40362 has 7 MA's), (75, 40464), (84, 40497), (89, 40515), (91, 40527), (110, 40629), (117, 40689), (121, 40710), (130, 40746),

Gene: Caelum_42 Start: 29642, Stop: 29968, Start Num: 34

Candidate Starts for Caelum_42:

(13, 29429), (15, 29474), (Start: 34 @29642 has 10 MA's), (64, 29696), (70, 29717), (83, 29753), (119, 29927),

Gene: Cain_62 Start: 40350, Stop: 40745, Start Num: 45

Candidate Starts for Cain_62:

(Start: 45 @40350 has 7 MA's), (75, 40452), (84, 40485), (89, 40503), (91, 40515), (110, 40617), (117, 40677), (121, 40698), (130, 40734),

Gene: Caliburn_40 Start: 28462, Stop: 28809, Start Num: 28

Candidate Starts for Caliburn_40:

(Start: 28 @28462 has 20 MA's), (66, 28564), (83, 28615), (119, 28777),

Gene: Celery_44 Start: 30302, Stop: 30649, Start Num: 38

Candidate Starts for Celery_44:

(Start: 38 @30302 has 8 MA's), (59, 30365), (73, 30413), (78, 30425), (121, 30611), (122, 30620),

Gene: Celeste_41 Start: 29293, Stop: 29634, Start Num: 32

Candidate Starts for Celeste_41:

(Start: 32 @29293 has 41 MA's), (77, 29416), (108, 29521), (114, 29566), (119, 29596), (122, 29611),

Gene: Celia_42 Start: 29394, Stop: 29801, Start Num: 32

Candidate Starts for Celia_42:

(13, 29181), (Start: 32 @29394 has 41 MA's), (59, 29472), (64, 29490), (67, 29502), (90, 29589), (100, 29643), (104, 29658), (112, 29700), (117, 29739), (121, 29760),

Gene: Chucky_40 Start: 28855, Stop: 29199, Start Num: 32

Candidate Starts for Chucky_40:

(Start: 32 @28855 has 41 MA's), (71, 28963), (77, 28981), (92, 29035), (108, 29086), (109, 29095), (119, 29161), (122, 29176),

Gene: Conan_44 Start: 30263, Stop: 30610, Start Num: 38

Candidate Starts for Conan_44:

(Start: 38 @30263 has 8 MA's), (59, 30326), (122, 30581),

Gene: Conboy_96 Start: 62664, Stop: 63050, Start Num: 26

Candidate Starts for Conboy_96:

(Start: 26 @62664 has 2 MA's), (35, 62694), (55, 62754), (91, 62877), (104, 62937), (107, 62949),

Gene: Curiosium_62 Start: 40040, Stop: 40438, Start Num: 42

Candidate Starts for Curiosium_62:

(Start: 42 @40040 has 7 MA's), (49, 40055), (Start: 53 @40073 has 3 MA's), (69, 40133), (84, 40187), (91, 40217), (104, 40292), (114, 40364), (117, 40379), (121, 40400),

Gene: Danzina_42 Start: 29594, Stop: 29935, Start Num: 32

Candidate Starts for Danzina_42:

(Start: 32 @29594 has 41 MA's), (77, 29717), (108, 29822), (114, 29867), (119, 29897), (122, 29912),

Gene: Dattran_42 Start: 29400, Stop: 29762, Start Num: 32

Candidate Starts for Dattran_42:

(Start: 32 @29400 has 41 MA's), (77, 29526), (108, 29643), (122, 29733),

Gene: Daudau_41 Start: 29789, Stop: 30124, Start Num: 36

Candidate Starts for Daudau_41:

(Start: 36 @29789 has 9 MA's), (64, 29852), (70, 29873), (81, 29903), (83, 29909),

Gene: Devera_65 Start: 41933, Stop: 42331, Start Num: 42

Candidate Starts for Devera_65:

(Start: 42 @41933 has 7 MA's), (49, 41948), (Start: 53 @41966 has 3 MA's), (69, 42026), (84, 42080), (91, 42110), (96, 42143), (104, 42185), (114, 42257), (117, 42272), (121, 42293),

Gene: Dexers_40 Start: 30287, Stop: 30634, Start Num: 38

Candidate Starts for Dexers_40:

(Start: 38 @30287 has 8 MA's), (59, 30350), (122, 30605),

Gene: Dexes_48 Start: 36500, Stop: 36153, Start Num: 43

Candidate Starts for Dexes_48:

(Start: 43 @36500 has 13 MA's), (60, 36458), (114, 36248),

Gene: Diane_40 Start: 29624, Stop: 29962, Start Num: 34

Candidate Starts for Diane_40:

(Start: 34 @29624 has 10 MA's), (70, 29711), (83, 29747), (86, 29756), (100, 29828),

Gene: Dole_63 Start: 41936, Stop: 42334, Start Num: 42

Candidate Starts for Dole_63:

(Start: 42 @41936 has 7 MA's), (49, 41951), (Start: 53 @41969 has 3 MA's), (69, 42029), (84, 42083), (91, 42113), (96, 42146), (104, 42188), (114, 42260), (117, 42275), (121, 42296),

Gene: Dryad_52 Start: 35720, Stop: 35379, Start Num: 43

Candidate Starts for Dryad_52:

(Start: 43 @35720 has 13 MA's), (59, 35681), (60, 35678), (73, 35630), (83, 35597), (116, 35456), (118, 35447),

Gene: Dwayne_40 Start: 28842, Stop: 29186, Start Num: 32

Candidate Starts for Dwayne_40:

(Start: 32 @28842 has 41 MA's), (71, 28950), (77, 28968), (92, 29022), (108, 29073), (109, 29082), (119, 29148), (122, 29163),

Gene: ELB20_39 Start: 30032, Stop: 30394, Start Num: 29

Candidate Starts for ELB20_39:

(Start: 29 @30032 has 5 MA's), (64, 30128), (70, 30149), (75, 30161), (81, 30179),

Gene: Eddasa_41 Start: 28839, Stop: 29195, Start Num: 28

Candidate Starts for Eddasa_41:

(Start: 28 @28839 has 20 MA's), (66, 28941), (83, 28992), (119, 29154),

Gene: Ejemplo_39 Start: 28786, Stop: 29130, Start Num: 32

Candidate Starts for Ejemplo_39:

(Start: 32 @28786 has 41 MA's), (71, 28894), (92, 28966), (108, 29017), (109, 29026), (119, 29092), (122, 29107),

Gene: ElGato_42 Start: 29927, Stop: 30274, Start Num: 38

Candidate Starts for ElGato_42:

(Start: 38 @29927 has 8 MA's), (59, 29990), (73, 30038), (78, 30050), (80, 30053), (98, 30125), (122, 30245),

Gene: Emaanora_43 Start: 28800, Stop: 29144, Start Num: 32

Candidate Starts for Emaanora_43:

(Start: 32 @28800 has 41 MA's), (71, 28908), (77, 28926), (92, 28980), (108, 29031), (109, 29040), (119, 29106), (122, 29121),

Gene: EnochSoames_43 Start: 28834, Stop: 29190, Start Num: 28

Candidate Starts for EnochSoames_43:

(Start: 28 @28834 has 20 MA's), (66, 28936), (83, 28987), (119, 29149),

Gene: Esperer_40 Start: 28298, Stop: 28645, Start Num: 28

Candidate Starts for Esperer_40:

(Start: 28 @28298 has 20 MA's), (66, 28400), (83, 28451), (119, 28613),

Gene: Feyre_55 Start: 41389, Stop: 41784, Start Num: 42

Candidate Starts for Feyre_55:

(9, 41119), (22, 41317), (Start: 42 @41389 has 7 MA's), (49, 41404), (84, 41530), (91, 41560), (104, 41635), (118, 41728), (121, 41743),

Gene: Frankenweenie_238 Start: 141929, Stop: 142342, Start Num: 33

Candidate Starts for Frankenweenie_238:

(Start: 33 @141929 has 3 MA's), (Start: 45 @141953 has 7 MA's), (49, 141962), (54, 141983), (79, 142064), (88, 142100), (103, 142187), (120, 142295),

Gene: Fushigi_46 Start: 33901, Stop: 33554, Start Num: 43

Candidate Starts for Fushigi_46:

(Start: 43 @33901 has 13 MA's), (60, 33859), (114, 33649),

Gene: Galactica_71 Start: 52489, Stop: 52794, Start Num: 53

Candidate Starts for Galactica_71:

(7, 52147), (8, 52171), (11, 52201), (17, 52321), (19, 52342), (44, 52453), (Start: 53 @52489 has 3 MA's), (56, 52501), (101, 52672),

Gene: Gibson_47 Start: 34722, Stop: 34381, Start Num: 43

Candidate Starts for Gibson_47:

(Start: 43 @34722 has 13 MA's), (59, 34683), (60, 34680), (63, 34671), (73, 34632), (105, 34503), (117, 34455), (119, 34440), (121, 34434),

Gene: GirlDinner_42 Start: 29370, Stop: 29720, Start Num: 34

Candidate Starts for GirlDinner_42:

(24, 29325), (Start: 34 @29370 has 10 MA's), (64, 29445),

Gene: Goby_40 Start: 29299, Stop: 29661, Start Num: 32

Candidate Starts for Goby_40:

(Start: 32 @29299 has 41 MA's), (77, 29425), (108, 29542), (122, 29632),

Gene: Godpower_41 Start: 29294, Stop: 29644, Start Num: 32

Candidate Starts for Godpower_41:

(Start: 32 @29294 has 41 MA's), (108, 29525), (119, 29600), (122, 29615),

Gene: GreenWeasel_42 Start: 28973, Stop: 29296, Start Num: 32

Candidate Starts for GreenWeasel_42:

(30, 28967), (Start: 32 @28973 has 41 MA's), (75, 29066), (121, 29261), (129, 29288),

Gene: Haizum_42 Start: 29739, Stop: 30077, Start Num: 34

Candidate Starts for Haizum_42:

(13, 29526), (15, 29571), (Start: 34 @29739 has 10 MA's), (70, 29826), (83, 29862), (86, 29871), (100, 29943), (116, 30018),

Gene: Hank144_42 Start: 29734, Stop: 30075, Start Num: 34

Candidate Starts for Hank144_42:

(23, 29686), (24, 29689), (Start: 34 @29734 has 10 MA's), (64, 29806),

Gene: Hippo_40 Start: 28854, Stop: 29198, Start Num: 32

Candidate Starts for Hippo_40:

(Start: 32 @28854 has 41 MA's), (71, 28962), (77, 28980), (92, 29034), (108, 29085), (109, 29094), (119, 29160), (122, 29175),

Gene: Hiyaa_72 Start: 53798, Stop: 54097, Start Num: 53

Candidate Starts for Hiyaa_72:

(8, 53492), (11, 53522), (27, 53720), (44, 53768), (Start: 53 @53798 has 3 MA's), (76, 53876), (87, 53912), (119, 54059),

Gene: Hydra_42 Start: 29010, Stop: 29357, Start Num: 28

Candidate Starts for Hydra_42:

(Start: 28 @29010 has 20 MA's), (66, 29112), (83, 29163), (119, 29325),

Gene: Illumine_63 Start: 41935, Stop: 42333, Start Num: 42

Candidate Starts for Illumine_63:

(Start: 42 @41935 has 7 MA's), (49, 41950), (Start: 53 @41968 has 3 MA's), (69, 42028), (84, 42082), (91, 42112), (96, 42145), (104, 42187), (114, 42259), (117, 42274), (121, 42295),

Gene: Indigo_39 Start: 28478, Stop: 28825, Start Num: 28

Candidate Starts for Indigo_39:

(Start: 28 @28478 has 20 MA's), (66, 28580), (83, 28631), (119, 28793),

Gene: Issmi_42 Start: 30341, Stop: 30664, Start Num: 36

Candidate Starts for Issmi_42:

(Start: 36 @30341 has 9 MA's), (70, 30425),

Gene: Itza_42 Start: 29308, Stop: 29715, Start Num: 32

Candidate Starts for Itza_42:

(13, 29095), (Start: 32 @29308 has 41 MA's), (59, 29386), (64, 29404), (67, 29416), (90, 29503), (100, 29557), (104, 29572), (112, 29614), (117, 29653), (121, 29674),

Gene: Izzy_41 Start: 28886, Stop: 29242, Start Num: 28

Candidate Starts for Izzy_41:

(Start: 28 @28886 has 20 MA's), (66, 28988), (83, 29039), (119, 29201),

Gene: JanetJ_43 Start: 31595, Stop: 31966, Start Num: 39

Candidate Starts for JanetJ_43:

(Start: 39 @31595 has 2 MA's),

Gene: Janus_41 Start: 29710, Stop: 30060, Start Num: 34

Candidate Starts for Janus_41:

(24, 29665), (Start: 34 @29710 has 10 MA's), (64, 29785), (107, 29938),

Gene: Jash_41 Start: 28839, Stop: 29195, Start Num: 28

Candidate Starts for Jash_41:

(Start: 28 @28839 has 20 MA's), (66, 28941), (83, 28992), (119, 29154),

Gene: JayCookie_98 Start: 63408, Stop: 63794, Start Num: 26

Candidate Starts for JayCookie_98:

(Start: 26 @63408 has 2 MA's), (35, 63438), (55, 63498), (91, 63621), (104, 63681), (107, 63693),

Gene: Jevington_44 Start: 30131, Stop: 30454, Start Num: 36

Candidate Starts for Jevington_44:

(Start: 36 @30131 has 9 MA's), (70, 30206), (119, 30413),

Gene: JustBecause_221 Start: 129596, Stop: 130009, Start Num: 33

Candidate Starts for JustBecause_221:

(5, 129203), (10, 129347), (14, 129398), (20, 129515), (Start: 33 @129596 has 3 MA's), (Start: 45 @129620 has 7 MA's), (49, 129629), (54, 129650), (79, 129731), (88, 129767), (120, 129962),

Gene: Katalie_40 Start: 29025, Stop: 29372, Start Num: 32

Candidate Starts for Katalie_40:

(Start: 32 @29025 has 41 MA's), (77, 29148), (108, 29253), (109, 29262), (119, 29328), (122, 29343),

Gene: Keanu_70 Start: 53661, Stop: 53963, Start Num: 53

Candidate Starts for Keanu_70:

(12, 53391), (18, 53517), (27, 53583), (44, 53631), (Start: 53 @53661 has 3 MA's), (56, 53673), (87, 53775), (117, 53907), (119, 53922),

Gene: Kela_219 Start: 129441, Stop: 129854, Start Num: 33

Candidate Starts for Kela_219:

(10, 129192), (14, 129243), (20, 129360), (Start: 33 @129441 has 3 MA's), (Start: 45 @129465 has 7 MA's), (49, 129474), (54, 129495), (79, 129576), (88, 129612), (120, 129807),

Gene: KellEzio_88 Start: 52796, Stop: 53146, Start Num: 39

Candidate Starts for KellEzio_88:

(Start: 39 @52796 has 2 MA's), (47, 52814), (73, 52913), (104, 53030), (107, 53042), (118, 53087), (119, 53096),

Gene: Lannister_42 Start: 29502, Stop: 29852, Start Num: 32

Candidate Starts for Lannister_42:

(Start: 32 @29502 has 41 MA's), (48, 29532), (77, 29628), (108, 29733), (109, 29742), (119, 29808), (127, 29841), (129, 29844),

Gene: Legacy_40 Start: 28453, Stop: 28800, Start Num: 28

Candidate Starts for Legacy_40:

(Start: 28 @28453 has 20 MA's), (66, 28555), (83, 28606), (119, 28768),

Gene: Leviticus_40 Start: 28482, Stop: 28829, Start Num: 28

Candidate Starts for Leviticus_40:

(Start: 28 @28482 has 20 MA's), (66, 28584), (83, 28635), (119, 28797),

Gene: Lika_40 Start: 29297, Stop: 29647, Start Num: 32

Candidate Starts for Lika_40:

(Start: 32 @29297 has 41 MA's), (108, 29528), (119, 29603), (122, 29618),

Gene: Lizz_47 Start: 34536, Stop: 34195, Start Num: 43

Candidate Starts for Lizz_47:

(Start: 43 @34536 has 13 MA's), (59, 34497), (60, 34494), (63, 34485), (105, 34317), (114, 34284), (117, 34269), (119, 34254), (121, 34248),

Gene: Loadrie_86 Start: 56068, Stop: 56370, Start Num: 50

Candidate Starts for Loadrie_86:

(Start: 50 @56068 has 4 MA's), (Start: 51 @56074 has 1 MA's), (74, 56155), (97, 56221), (125, 56353),

Gene: Loofah_41 Start: 29902, Stop: 30264, Start Num: 29

Candidate Starts for Loofah_41:

(21, 29851), (Start: 29 @29902 has 5 MA's), (64, 29998), (70, 30019), (73, 30028), (75, 30031), (81, 30049),

Gene: Lorelei_41 Start: 29357, Stop: 29713, Start Num: 32

Candidate Starts for Lorelei_41:

(Start: 32 @29357 has 41 MA's), (77, 29483), (99, 29573), (108, 29600), (109, 29609), (122, 29690),

Gene: MalagasyRose_59 Start: 39738, Stop: 40061, Start Num: 42

Candidate Starts for MalagasyRose_59:

(40, 39735), (Start: 42 @39738 has 7 MA's), (Start: 45 @39744 has 7 MA's), (91, 39891), (97, 39909), (98, 39912), (117, 40002), (118, 40008), (119, 40017), (121, 40023),

Gene: Maneekul_40 Start: 28876, Stop: 29220, Start Num: 32

Candidate Starts for Maneekul_40:

(Start: 32 @28876 has 41 MA's), (71, 28984), (92, 29056), (108, 29107), (109, 29116), (119, 29182), (122, 29197),

Gene: Marav_44 Start: 30456, Stop: 30779, Start Num: 36

Candidate Starts for Marav_44:

(Start: 36 @30456 has 9 MA's), (70, 30531), (119, 30738),

Gene: Michley_47 Start: 35355, Stop: 35008, Start Num: 43

Candidate Starts for Michley_47:

(Start: 43 @35355 has 13 MA's), (60, 35313), (114, 35103),

Gene: Miryou_57 Start: 42105, Stop: 42500, Start Num: 42

Candidate Starts for Miryou_57:

(22, 42033), (Start: 42 @42105 has 7 MA's), (49, 42120), (72, 42207), (84, 42246), (91, 42276), (104, 42351), (118, 42444), (121, 42459),

Gene: MkaliMitinis3_89 Start: 56052, Stop: 56354, Start Num: 50

Candidate Starts for MkaliMitinis3_89:

(Start: 50 @56052 has 4 MA's), (Start: 51 @56058 has 1 MA's), (74, 56139), (97, 56205), (125, 56337),

Gene: MoyaNatalis_97 Start: 62854, Stop: 63240, Start Num: 26

Candidate Starts for MoyaNatalis_97:

(Start: 26 @62854 has 2 MA's), (35, 62884), (55, 62944), (91, 63067), (104, 63127), (107, 63139),

Gene: MrGordo_47 Start: 35149, Stop: 34802, Start Num: 43

Candidate Starts for MrGordo_47:

(Start: 43 @35149 has 13 MA's), (60, 35107), (114, 34897),

Gene: Nabi_41 Start: 29357, Stop: 29713, Start Num: 32

Candidate Starts for Nabi_41:

(Start: 32 @29357 has 41 MA's), (77, 29483), (99, 29573), (108, 29600), (109, 29609), (122, 29690),

Gene: Nanodon_42 Start: 29128, Stop: 29478, Start Num: 32

Candidate Starts for Nanodon_42:

(Start: 32 @29128 has 41 MA's), (77, 29254), (108, 29359), (109, 29368), (119, 29434),

Gene: Nerdos_39 Start: 28477, Stop: 28824, Start Num: 28

Candidate Starts for Nerdos_39:

(Start: 28 @28477 has 20 MA's), (66, 28579), (83, 28630), (119, 28792),

Gene: Nirvana_248 Start: 140165, Stop: 140578, Start Num: 33

Candidate Starts for Nirvana_248:

(5, 139772), (10, 139916), (14, 139967), (Start: 33 @140165 has 3 MA's), (Start: 45 @140189 has 7 MA's), (49, 140198), (54, 140219), (79, 140300), (88, 140336), (120, 140531),

Gene: Nishikigoi_42 Start: 29739, Stop: 30077, Start Num: 34

Candidate Starts for Nishikigoi_42:

(4, 29331), (13, 29526), (15, 29571), (Start: 34 @29739 has 10 MA's), (70, 29826), (83, 29862), (86, 29871), (100, 29943), (116, 30018),

Gene: OkiRoe_53 Start: 39776, Stop: 40171, Start Num: 42

Candidate Starts for OkiRoe_53:

(22, 39704), (Start: 42 @39776 has 7 MA's), (49, 39791), (84, 39917), (104, 40022), (118, 40115), (121, 40130),

Gene: Oliynyk_41 Start: 28839, Stop: 29195, Start Num: 28

Candidate Starts for Oliynyk_41:

(Start: 28 @28839 has 20 MA's), (66, 28941), (83, 28992), (119, 29154),

Gene: Omar_43 Start: 29969, Stop: 30301, Start Num: 38

Candidate Starts for Omar_43:

(Start: 38 @29969 has 8 MA's), (70, 30050), (73, 30059), (86, 30095), (116, 30242),

Gene: Ozzie_40 Start: 28462, Stop: 28809, Start Num: 28

Candidate Starts for Ozzie_40:

(Start: 28 @28462 has 20 MA's), (66, 28564), (83, 28615), (119, 28777),

Gene: OzzyJ_41 Start: 28842, Stop: 29186, Start Num: 32

Candidate Starts for OzzyJ_41:

(Start: 32 @28842 has 41 MA's), (71, 28950), (77, 28968), (92, 29022), (108, 29073), (109, 29082), (119, 29148), (122, 29163),

Gene: PHTowN_47 Start: 34534, Stop: 34193, Start Num: 43

Candidate Starts for PHTowN_47:

(Start: 43 @34534 has 13 MA's), (59, 34495), (60, 34492), (63, 34483), (105, 34315), (114, 34282), (117, 34267), (119, 34252), (121, 34246),

Gene: Pablito_40 Start: 29276, Stop: 29650, Start Num: 29

Candidate Starts for Pablito_40:

(Start: 29 @29276 has 5 MA's), (64, 29381), (70, 29402), (75, 29414), (117, 29594),

Gene: Paedore_40 Start: 29887, Stop: 30249, Start Num: 29

Candidate Starts for Paedore_40:

(21, 29836), (Start: 29 @29887 has 5 MA's), (64, 29983), (70, 30004), (73, 30013), (75, 30016), (81, 30034),

Gene: Paolo_45 Start: 30313, Stop: 30642, Start Num: 36

Candidate Starts for Paolo_45:

(25, 30274), (Start: 36 @30313 has 9 MA's), (70, 30394),

Gene: Pelly_47 Start: 35989, Stop: 35642, Start Num: 43

Candidate Starts for Pelly_47:

(Start: 43 @35989 has 13 MA's), (60, 35947), (114, 35737),

Gene: PhelpsODU_60 Start: 40279, Stop: 40674, Start Num: 45

Candidate Starts for PhelpsODU_60:

(Start: 45 @40279 has 7 MA's), (75, 40381), (84, 40414), (89, 40432), (91, 40444), (101, 40507), (110, 40546), (117, 40606), (119, 40621), (121, 40627), (130, 40663),

Gene: Phettuccine_40 Start: 28478, Stop: 28825, Start Num: 28

Candidate Starts for Phettuccine_40:

(Start: 28 @28478 has 20 MA's), (66, 28580), (83, 28631), (119, 28793),

Gene: Phrank_62 Start: 40340, Stop: 40735, Start Num: 45

Candidate Starts for Phrank_62:

(Start: 45 @40340 has 7 MA's), (75, 40442), (84, 40475), (89, 40493), (91, 40505), (110, 40607), (117, 40667), (121, 40688), (130, 40724),

Gene: Provolone_42 Start: 29918, Stop: 30256, Start Num: 38

Candidate Starts for Provolone_42:

(Start: 38 @29918 has 8 MA's), (46, 29933), (59, 29972), (85, 30050), (98, 30107), (100, 30122), (108, 30137), (109, 30146), (121, 30218),

Gene: Puginator_47 Start: 30334, Stop: 30660, Start Num: 36

Candidate Starts for Puginator_47:

(25, 30295), (Start: 36 @30334 has 9 MA's), (70, 30415), (77, 30436),

Gene: R4_41 Start: 30042, Stop: 30404, Start Num: 29

Candidate Starts for R4_41:

(Start: 29 @30042 has 5 MA's), (64, 30138), (70, 30159), (75, 30171), (81, 30189),

Gene: Rana_41 Start: 29357, Stop: 29713, Start Num: 32

Candidate Starts for Rana_41:

(Start: 32 @29357 has 41 MA's), (77, 29483), (99, 29573), (108, 29600), (109, 29609), (122, 29690),

Gene: RedBear_41 Start: 29025, Stop: 29372, Start Num: 32

Candidate Starts for RedBear_41:

(Start: 32 @29025 has 41 MA's), (77, 29148), (108, 29253), (109, 29262), (119, 29328), (122, 29343),

Gene: Rooney_47 Start: 34719, Stop: 34378, Start Num: 43

Candidate Starts for Rooney_47:

(Start: 43 @34719 has 13 MA's), (59, 34680), (60, 34677), (63, 34668), (73, 34629), (105, 34500), (117, 34452), (119, 34437), (121, 34431),

Gene: Rusticus_41 Start: 28839, Stop: 29195, Start Num: 28

Candidate Starts for Rusticus_41:

(Start: 28 @28839 has 20 MA's), (66, 28941), (83, 28992), (119, 29154),

Gene: Saftant_41 Start: 30490, Stop: 30834, Start Num: 38

Candidate Starts for Saftant_41:

(Start: 38 @30490 has 8 MA's), (59, 30550), (73, 30598), (93, 30664), (121, 30796),

Gene: Samy_41 Start: 29540, Stop: 29869, Start Num: 51

Candidate Starts for Samy_41:

(Start: 51 @29540 has 1 MA's), (52, 29543), (57, 29564), (84, 29660), (104, 29750), (107, 29762), (119, 29816), (121, 29822),

Gene: SarahRose_40 Start: 28850, Stop: 29194, Start Num: 32

Candidate Starts for SarahRose_40:

(Start: 32 @28850 has 41 MA's), (71, 28958), (77, 28976), (92, 29030), (108, 29081), (109, 29090), (119, 29156), (122, 29171),

Gene: ShakeNBake_47 Start: 34552, Stop: 34211, Start Num: 43

Candidate Starts for ShakeNBake_47:

(Start: 43 @34552 has 13 MA's), (59, 34513), (60, 34510), (63, 34501), (105, 34333), (114, 34300), (117, 34285), (119, 34270), (121, 34264),

Gene: Snorlax_40 Start: 28854, Stop: 29198, Start Num: 32

Candidate Starts for Snorlax_40:

(Start: 32 @28854 has 41 MA's), (71, 28962), (77, 28980), (92, 29034), (108, 29085), (109, 29094), (119, 29160), (122, 29175),

Gene: South40_40 Start: 29025, Stop: 29372, Start Num: 32

Candidate Starts for South40_40:

(Start: 32 @29025 has 41 MA's), (77, 29148), (108, 29253), (109, 29262), (119, 29328), (122, 29343),

Gene: Spocter_73 Start: 53893, Stop: 54192, Start Num: 53

Candidate Starts for Spocter_73:

(8, 53587), (11, 53617), (27, 53815), (44, 53863), (Start: 53 @53893 has 3 MA's), (76, 53971), (82, 53992), (87, 54007), (119, 54154),

Gene: SqueakyClean_40 Start: 29801, Stop: 30151, Start Num: 34

Candidate Starts for SqueakyClean_40:

(24, 29756), (Start: 34 @29801 has 10 MA's), (64, 29876), (107, 30029),

Gene: Stephig9_49 Start: 34347, Stop: 33979, Start Num: 31

Candidate Starts for Stephig9_49:

(Start: 31 @34347 has 1 MA's), (37, 34338), (58, 34275), (111, 34080),

Gene: Sujidade_41 Start: 29582, Stop: 29929, Start Num: 32

Candidate Starts for Sujidade_41:

(Start: 32 @29582 has 41 MA's), (77, 29705), (108, 29810), (114, 29855), (119, 29885),

Gene: SunsetPointe_40 Start: 28469, Stop: 28816, Start Num: 28

Candidate Starts for SunsetPointe_40:

(Start: 28 @28469 has 20 MA's), (66, 28571), (83, 28622), (119, 28784),

Gene: Superstar_44 Start: 30847, Stop: 31182, Start Num: 34

Candidate Starts for Superstar_44:

(Start: 34 @30847 has 10 MA's), (64, 30913), (65, 30916), (70, 30934), (83, 30970),

Gene: TagePhighter_42 Start: 28854, Stop: 29198, Start Num: 32

Candidate Starts for TagePhighter_42:

(Start: 32 @28854 has 41 MA's), (71, 28962), (77, 28980), (92, 29034), (108, 29085), (109, 29094), (119, 29160), (122, 29175),

Gene: Tefunt_42 Start: 29741, Stop: 30079, Start Num: 34

Candidate Starts for Tefunt_42:

(13, 29528), (15, 29573), (Start: 34 @29741 has 10 MA's), (70, 29828), (83, 29864), (86, 29873), (100, 29945), (116, 30020),

Gene: Thestral_42 Start: 29938, Stop: 30279, Start Num: 36

Candidate Starts for Thestral_42:

(25, 29899), (Start: 36 @29938 has 9 MA's), (64, 30007), (70, 30028), (83, 30064),

Gene: Tierra_62 Start: 41151, Stop: 41546, Start Num: 45

Candidate Starts for Tierra_62:

(Start: 45 @41151 has 7 MA's), (75, 41253), (84, 41286), (89, 41304), (91, 41316), (110, 41418), (117, 41478), (121, 41499), (130, 41535),

Gene: TinaBelcher_41 Start: 29885, Stop: 30226, Start Num: 36

Candidate Starts for TinaBelcher_41:

(25, 29846), (Start: 36 @29885 has 9 MA's), (64, 29954), (83, 30011),

Gene: Toma_40 Start: 29299, Stop: 29661, Start Num: 32

Candidate Starts for Toma_40:

(Start: 32 @29299 has 41 MA's), (77, 29425), (108, 29542), (122, 29632),

Gene: Traft412_50 Start: 36788, Stop: 36441, Start Num: 43

Candidate Starts for Traft412_50:

(Start: 43 @36788 has 13 MA's), (60, 36746), (114, 36536),

Gene: TribelTrouble_59 Start: 41359, Stop: 41751, Start Num: 45

Candidate Starts for TribelTrouble_59:

(Start: 45 @41359 has 7 MA's), (73, 41458), (84, 41494), (89, 41512), (91, 41524), (94, 41539), (95, 41548), (101, 41587), (114, 41665), (117, 41680), (119, 41695), (121, 41701),

Gene: Triste_40 Start: 28842, Stop: 29186, Start Num: 32

Candidate Starts for Triste_40:

(Start: 32 @28842 has 41 MA's), (71, 28950), (77, 28968), (92, 29022), (108, 29073), (109, 29082), (119, 29148), (122, 29163),

Gene: Triumph_42 Start: 29635, Stop: 30006, Start Num: 29

Candidate Starts for Triumph_42:

(Start: 29 @29635 has 5 MA's), (61, 29725), (65, 29740), (75, 29767), (119, 29962),

Gene: TrvxScott_40 Start: 29931, Stop: 30272, Start Num: 36

Candidate Starts for TrvxScott_40:

(25, 29892), (Start: 36 @29931 has 9 MA's), (64, 30000), (83, 30057),

Gene: TuanPN_39 Start: 28786, Stop: 29130, Start Num: 32

Candidate Starts for TuanPN_39:

(Start: 32 @28786 has 41 MA's), (71, 28894), (92, 28966), (108, 29017), (109, 29026), (119, 29092), (122, 29107),

Gene: Unicorn_60 Start: 40279, Stop: 40674, Start Num: 45

Candidate Starts for Unicorn_60:

(Start: 45 @40279 has 7 MA's), (75, 40381), (84, 40414), (89, 40432), (91, 40444), (101, 40507), (110, 40546), (117, 40606), (119, 40621), (121, 40627), (130, 40663),

Gene: Unstoppable_40 Start: 28473, Stop: 28820, Start Num: 28

Candidate Starts for Unstoppable_40:

(Start: 28 @28473 has 20 MA's), (66, 28575), (83, 28626), (119, 28788),

Gene: Urza_42 Start: 29329, Stop: 29736, Start Num: 32

Candidate Starts for Urza_42:

(13, 29116), (Start: 32 @29329 has 41 MA's), (59, 29407), (64, 29425), (67, 29437), (90, 29524), (100, 29578), (104, 29593), (112, 29635), (117, 29674), (121, 29695),

Gene: Vanseggelen_46 Start: 30019, Stop: 30357, Start Num: 38
Candidate Starts for Vanseggelen_46:
(Start: 38 @30019 has 8 MA's), (73, 30127), (93, 30193), (109, 30253), (122, 30334),

Gene: Verabelle_44 Start: 30428, Stop: 30769, Start Num: 38
Candidate Starts for Verabelle_44:
(Start: 38 @30428 has 8 MA's), (46, 30443), (78, 30551), (92, 30602), (122, 30746),

Gene: Verse_41 Start: 31170, Stop: 31511, Start Num: 38
Candidate Starts for Verse_41:
(Start: 38 @31170 has 8 MA's), (65, 31245), (109, 31401), (121, 31473), (122, 31482),

Gene: VieEnRose_41 Start: 29253, Stop: 29663, Start Num: 32
Candidate Starts for VieEnRose_41:
(Start: 32 @29253 has 41 MA's), (64, 29352), (100, 29505), (104, 29520), (113, 29577), (117, 29601),
(121, 29622), (128, 29652),

Gene: Wentworth_48 Start: 35004, Stop: 34663, Start Num: 43
Candidate Starts for Wentworth_48:
(Start: 34 @35022 has 10 MA's), (Start: 43 @35004 has 13 MA's), (59, 34965), (60, 34962), (73,
34914), (83, 34881), (118, 34731),

Gene: Werner_40 Start: 28852, Stop: 29196, Start Num: 32
Candidate Starts for Werner_40:
(Start: 32 @28852 has 41 MA's), (71, 28960), (77, 28978), (92, 29032), (108, 29083), (109, 29092),
(119, 29158), (122, 29173),

Gene: Whatever_40 Start: 28852, Stop: 29196, Start Num: 32
Candidate Starts for Whatever_40:
(Start: 32 @28852 has 41 MA's), (71, 28960), (77, 28978), (92, 29032), (108, 29083), (109, 29092),
(119, 29158), (122, 29173),

Gene: Wigglewigggle_87 Start: 55845, Stop: 56147, Start Num: 50
Candidate Starts for Wigglewigggle_87:
(Start: 50 @55845 has 4 MA's), (Start: 51 @55851 has 1 MA's), (74, 55932), (97, 55998), (125,
56130),

Gene: Wilkos_49 Start: 34825, Stop: 34484, Start Num: 43
Candidate Starts for Wilkos_49:
(Start: 34 @34843 has 10 MA's), (Start: 43 @34825 has 13 MA's), (59, 34786), (60, 34783), (73,
34735), (83, 34702), (117, 34558), (118, 34552),

Gene: Yara_43 Start: 33601, Stop: 33248, Start Num: 41
Candidate Starts for Yara_43:
(6, 33967), (Start: 41 @33601 has 2 MA's), (60, 33547), (62, 33541), (68, 33514), (83, 33466), (122,
33292), (126, 33277),

Gene: Yasdnii_40 Start: 28904, Stop: 29248, Start Num: 32
Candidate Starts for Yasdnii_40:
(Start: 32 @28904 has 41 MA's), (71, 29012), (92, 29084), (108, 29135), (109, 29144), (119, 29210),
(122, 29225),

Gene: Yosif_43 Start: 30966, Stop: 31310, Start Num: 38

Candidate Starts for Yosif_43:

(13, 30753), (Start: 38 @30966 has 8 MA's), (93, 31149), (108, 31200), (115, 31248), (124, 31290),

Gene: Zainub_47 Start: 30274, Stop: 30603, Start Num: 36

Candidate Starts for Zainub_47:

(25, 30235), (Start: 36 @30274 has 9 MA's), (70, 30355), (119, 30562),

Gene: Zakai_88 Start: 56309, Stop: 56611, Start Num: 50

Candidate Starts for Zakai_88:

(Start: 50 @56309 has 4 MA's), (Start: 51 @56315 has 1 MA's), (74, 56396), (97, 56462), (125, 56594),

Gene: Zemlya_42 Start: 29400, Stop: 29735, Start Num: 32

Candidate Starts for Zemlya_42:

(Start: 32 @29400 has 41 MA's), (77, 29517), (108, 29622), (114, 29667), (119, 29697), (122, 29712),

Gene: phiCAM_39 Start: 32321, Stop: 32662, Start Num: 38

Candidate Starts for phiCAM_39:

(Start: 38 @32321 has 8 MA's), (59, 32375), (65, 32396), (109, 32552), (121, 32624), (123, 32636),

Gene: phiHau3_42 Start: 28938, Stop: 29264, Start Num: 32

Candidate Starts for phiHau3_42:

(30, 28932), (Start: 32 @28938 has 41 MA's), (75, 29034), (121, 29229), (129, 29256),