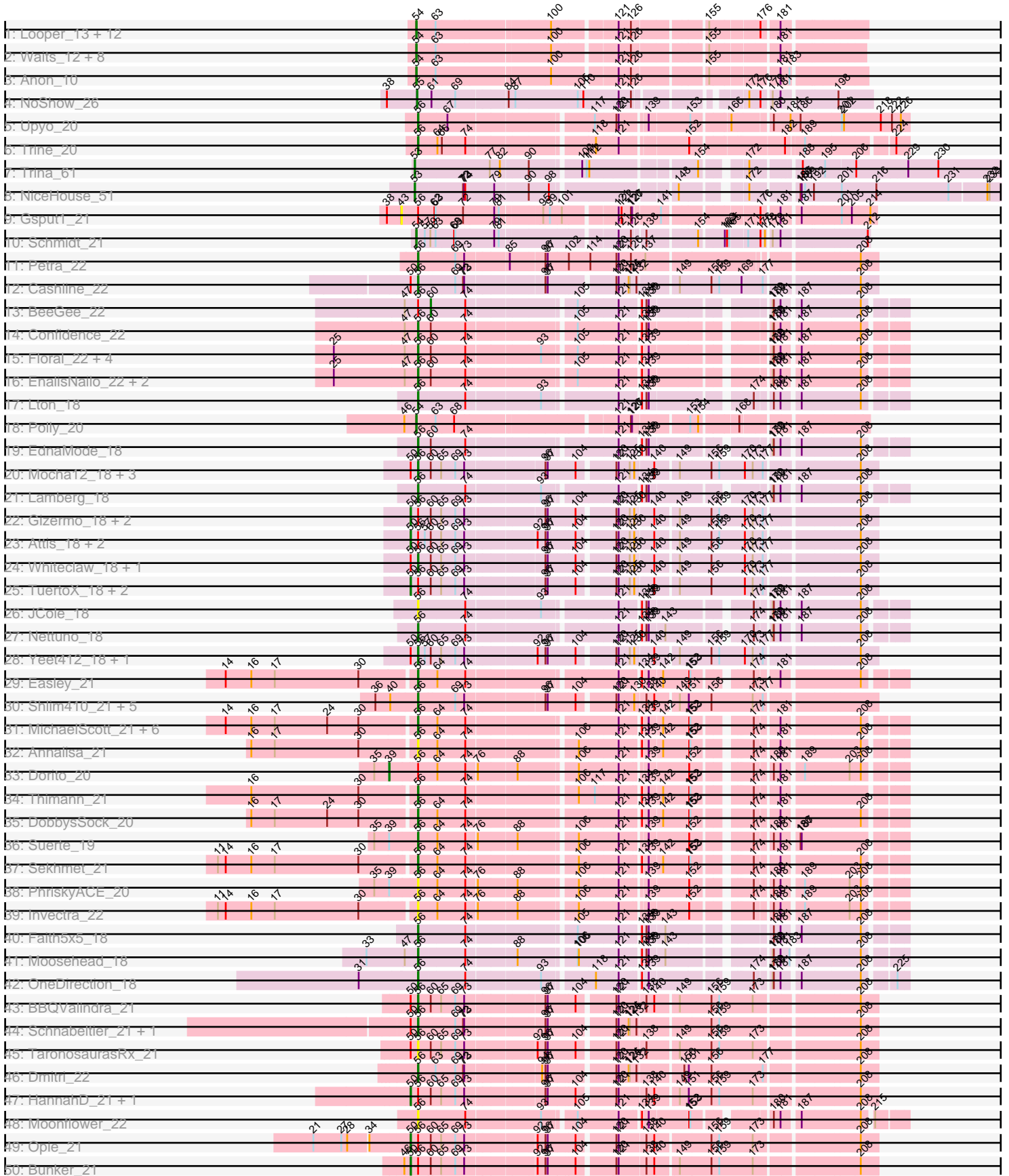
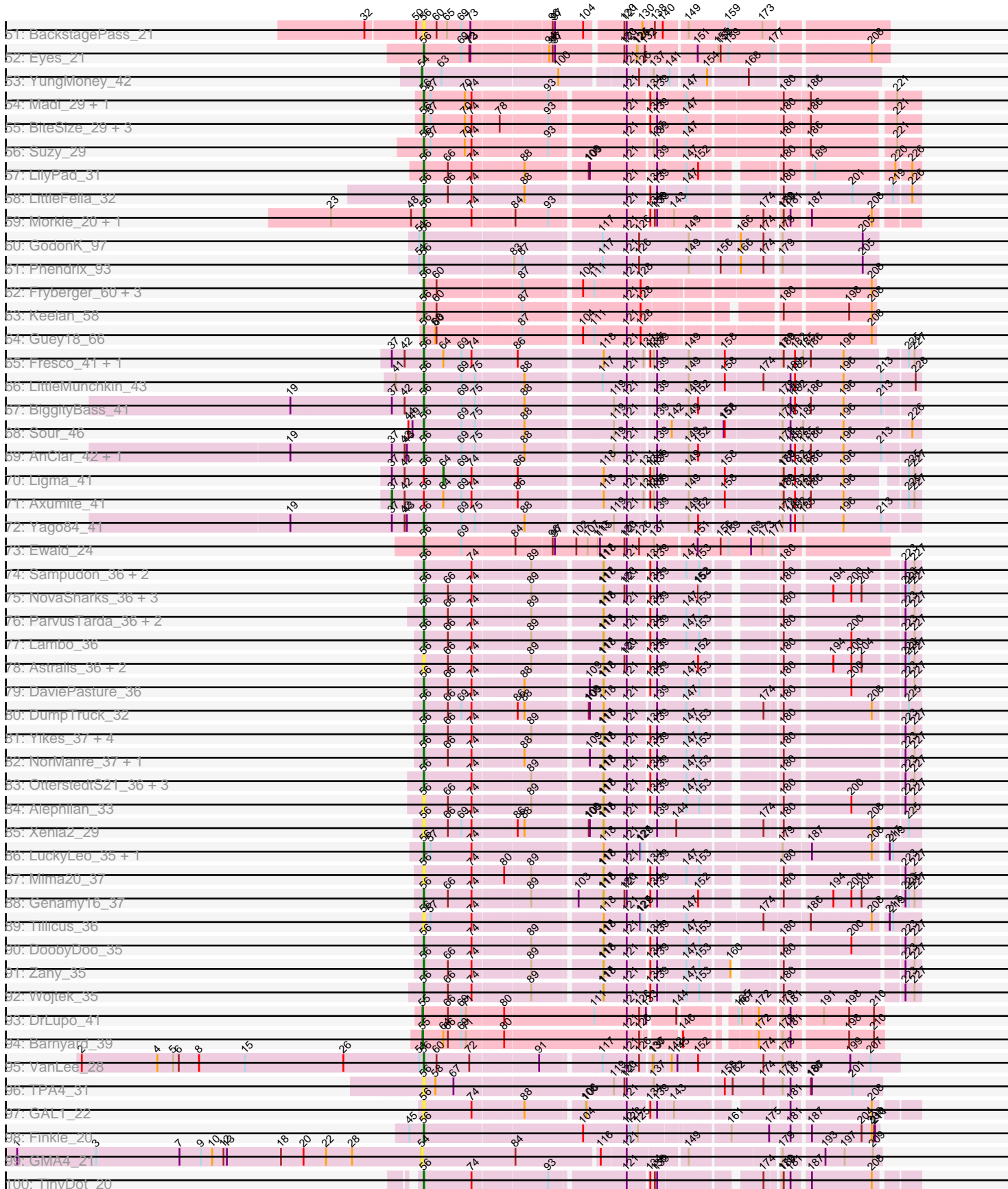


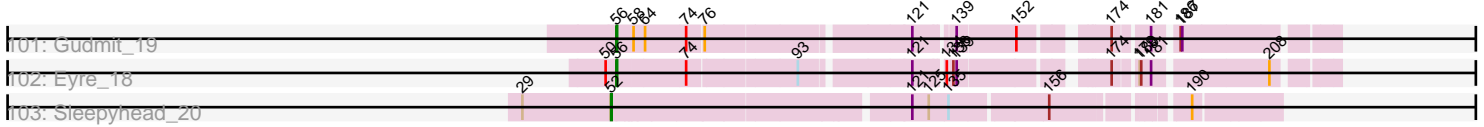
Pham 200027



Pham 200027



Pham 200027



A series of horizontal lines, likely representing a template or a set of data points, extending across the width of the page. The lines are evenly spaced and cover the majority of the page area below the tracks.

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 200027 Report

This analysis was run 01/18/25 on database version 583.

Pham number 200027 has 181 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Looper_13, Boohoo_12, JSwag_12, Epsocamisio_12, KatherineG_12, Nebulosus_12, MinecraftSteve_13, LastResort_12, ShayRa_13, ReMo_12, DekHockey33_12, Anaysia_12, Soups_12
- Track 2 : Waits_12, Battleship_13, Strosahl_12, Remus_12, Oofda_13, Switzerland_12, Rosalind_12, Warrior24_13, Nedarya_11
- Track 3 : Anon_10
- Track 4 : NoShow_26
- Track 5 : Upyo_20
- Track 6 : Trine_20
- Track 7 : Trina_61
- Track 8 : NiceHouse_51
- Track 9 : Gsput1_21
- Track 10 : Schmidt_21
- Track 11 : Petra_22
- Track 12 : Cashline_22
- Track 13 : BeeGee_22
- Track 14 : Confidence_22
- Track 15 : Floral_22, Pollux_22, Marteena_22, BritBrat_22, EMSquaredA_22
- Track 16 : EnalisNailo_22, Lilas_22, Bradissa_22
- Track 17 : Lton_18
- Track 18 : Polly_20
- Track 19 : EdnaMode_18
- Track 20 : Mocha12_18, Haley23_18, Clap_18, GemG_18
- Track 21 : Lamberg_18
- Track 22 : Gizermo_18, Ebert_18, Sahara_18
- Track 23 : Attis_18, SoilAssassin_18, Bjaner7_18
- Track 24 : Whiteclaw_18, Sproutie_18
- Track 25 : TuertoX_18, Savage_18, Cynthia_18
- Track 26 : JCole_18
- Track 27 : Nettuno_18
- Track 28 : Yeet412_18, LordFarquaad_18
- Track 29 : Easley_21
- Track 30 : Shlim410_21, Adora_21, Howe_21, Hortense_21, Twinkle_21, Mcklovin_21
- Track 31 : MichaelScott_21, Dolores_21, Beenie_21, Clark_21, WinkNick_21, Samman98_21, Oregano_21
- Track 32 : Annalisa_21

- Track 33 : Dorito_20
- Track 34 : Thimann_21
- Track 35 : DobbysSock_20
- Track 36 : Suerte_19
- Track 37 : Sekhmet_21
- Track 38 : PhriskyACE_20
- Track 39 : Invectra_22
- Track 40 : Faith5x5_18
- Track 41 : Moosehead_18
- Track 42 : OneDirection_18
- Track 43 : BBQValindra_21
- Track 44 : Schnabeltier_21, MagicMan_21
- Track 45 : TaronosaurusRx_21
- Track 46 : Dmitri_22
- Track 47 : HannahD_21, GEazy_21
- Track 48 : Moonflower_22
- Track 49 : Opie_21
- Track 50 : Bunker_21
- Track 51 : BackstagePass_21
- Track 52 : Eyes_21
- Track 53 : YungMoney_42
- Track 54 : Madi_29, Sienna_29
- Track 55 : BiteSize_29, Terapin_30, Beyoncage_29, Djokovic_29
- Track 56 : Suzy_29
- Track 57 : LilyPad_31
- Track 58 : LittleFella_32
- Track 59 : Morkie_20, PhorbesPhlower_20
- Track 60 : GodonK_97
- Track 61 : Phendrix_93
- Track 62 : Fryberger_60, Volt_63, Ronaldo_63, Ziko_63
- Track 63 : Keelan_58
- Track 64 : Guey18_66
- Track 65 : Fresco_41, Shatter_41
- Track 66 : LittleMunchkin_43
- Track 67 : BiggityBass_41
- Track 68 : Sour_46
- Track 69 : AnClar_42, Sisko_41
- Track 70 : Ligma_41
- Track 71 : Axumite_41
- Track 72 : Yago84_41
- Track 73 : Ewald_24
- Track 74 : Sampudon_36, MoiGyank_38, Jalebi_35
- Track 75 : NovaSharks_36, Rumi_36, Alyssamiracle_37, Jamemuya19_36
- Track 76 : ParvusTarda_36, Fulcrum_37, GOATification_37
- Track 77 : Lambo_36
- Track 78 : Astralis_36, Avian_35, RazorC_35
- Track 79 : DaviePasture_36
- Track 80 : DumpTruck_32
- Track 81 : Yikes_37, Gibbin_37, Lila22_35, BirthdayBoy_37, Erutan_36
- Track 82 : NorManre_37, Patos_37
- Track 83 : OtterstedtS21_36, Sadboi_37, Ranch_36, GretelLyn_36
- Track 84 : Alephilan_33
- Track 85 : Xenia2_29

- Track 86 : LuckyLeo_35, Apeppi_33
- Track 87 : Mima20_37
- Track 88 : Genamy16_37
- Track 89 : Tillicus_36
- Track 90 : DoobyDoo_35
- Track 91 : Zany_35
- Track 92 : Wojtek_35
- Track 93 : DrLupo_41
- Track 94 : Barnyard_39
- Track 95 : VanLee_28
- Track 96 : TPA4_31
- Track 97 : GAL1_22
- Track 98 : Finkle_20
- Track 99 : GMA4_21
- Track 100 : TinyDot_20
- Track 101 : Gudmit_19
- Track 102 : Eyre_18
- Track 103 : Sleepyhead_20

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

The start number called the most often in the published annotations is 56, it was called in 113 of the 160 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Adora_21, Alephilan_33, Alyssamiracle_37, AnClar_42, Annalisa_21, Apeppi_33, Astralis_36, Avian_35, BBQValindra_21, BackstagePass_21, Beenie_21, Beyoncage_29, BiggityBass_41, BirthdayBoy_37, BiteSize_29, Bradissa_22, BritBrat_22, Cashline_22, Clap_18, Clark_21, Confidence_22, DaviePasture_36, Djokovic_29, Dmitri_22, DobbysSock_20, Dolores_21, DoobyDoo_35, DumpTruck_32, EMSquaredA_22, Easley_21, EdnaMode_18, EnalisNailo_22, Erutan_36, Ewald_24, Eyes_21, Eyre_18, Faith5x5_18, Finkle_20, Floral_22, Fresco_41, Fryberger_60, Fulcrum_37, GAL1_22, GOATification_37, GemG_18, Genamy16_37, Gibbin_37, GodonK_97, GretelLyn_36, Gudmit_19, Guey18_66, Haley23_18, Hortense_21, Howe_21, Invectra_22, JCole_18, Jalebi_35, Jamemuya19_36, Keelan_58, Lamberg_18, Lambo_36, Lila22_35, Lilas_22, LilyPad_31, LittleFella_32, LittleMunchkin_43, LordFarquaad_18, Lton_18, LuckyLeo_35, Madi_29, MagicMan_21, Marteena_22, Mcklovin_21, MichaelScott_21, Mima20_37, Mocha12_18, MoiGyank_38, Moonflower_22, Moosehead_18, Morkie_20, Nettuno_18, NorManre_37, NovaSharks_36, OneDirection_18, Oregano_21, OtterstedtS21_36, ParvusTarda_36, Patos_37, Petra_22, Phendrix_93, PhorbesPhlower_20, PhriskyACE_20, Pollux_22, Ranch_36, RazorC_35, Ronaldo_63, Rumi_36, Sadboi_37, Samman98_21, Sampudon_36, Schnabeltier_21, Sekhmet_21, Shatter_41, Shlim410_21, Sienna_29, Sisko_41, Sour_46, Sproutie_18, Suerte_19, Suzy_29, TPA4_31, TaronosaurusRx_21, Terapin_30, Thimann_21, Tillicus_36, TinyDot_20, Trine_20, Twinkle_21, Upyo_20, VanLee_28, Volt_63, Whiteclaw_18, WinkNick_21, Wojtek_35, Xenia2_29, Yago84_41, Yeet412_18, Yikes_37, Zany_35, Ziko_63,

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

- Attis_18, Axumite_41, BeeGee_22, Bjanes7_18, Bunker_21, Cynthia_18, Dorito_20, Ebert_18, GEazy_21, Gizermo_18, Gsput1_21, HannahD_21, Ligma_41, Opie_21, Sahara_18, Savage_18, SoilAssassin_18, TuertoX_18,

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

- Anaysia_12, Anon_10, Barnyard_39, Battleship_13, Boohoo_12, DekHockey33_12, DrLupo_41, Epsocamisio_12, GMA4_21, JSwag_12, KatherineG_12, LastResort_12, Looper_13, MinecraftSteve_13, Nebulosus_12, Nedarya_11, NiceHouse_51, NoShow_26, Oofda_13, Polly_20, ReMo_12, Remus_12, Rosalind_12, Schmidt_21, ShayRa_13, Sleepyhead_20, Soups_12, Strosahl_12, Switzerland_12, Trina_61, Waits_12, Warrior24_13, YungMoney_42,

Summary by start number:

Start 37:

- Found in 8 of 181 (4.4%) of genes in pham
- Manual Annotations of this start: 1 of 160
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Axumite_41 (DR),

Start 39:

- Found in 3 of 181 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 160
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Dorito_20 (CZ4),

Start 43:

- Found in 4 of 181 (2.2%) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Gsput1_21 (CU2),

Start 50:

- Found in 28 of 181 (15.5%) of genes in pham
- Manual Annotations of this start: 13 of 160
- Called 46.4% of time when present
- Phage (with cluster) where this start called: Attis_18 (CZ2), Bjanes7_18 (CZ2), Bunker_21 (DB), Cynthia_18 (CZ2), Ebert_18 (CZ2), GEazy_21 (DB), Gizermo_18 (CZ2), HannahD_21 (DB), Opie_21 (DB), Sahara_18 (CZ2), Savage_18 (CZ2), SoilAssassin_18 (CZ2), TuertoX_18 (CZ2),

Start 52:

- Found in 1 of 181 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 160
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sleepyhead_20 (singleton),

Start 53:

- Found in 2 of 181 (1.1%) of genes in pham
- Manual Annotations of this start: 2 of 160
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NiceHouse_51 (CE), Trina_61 (CE),

Start 54:

- Found in 27 of 181 (14.9%) of genes in pham
- Manual Annotations of this start: 24 of 160
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anaysia_12 (A15), Anon_10 (A15), Battleship_13 (A15), Boohoo_12 (A15), DekHockey33_12 (A15), Epsocamisio_12 (A15), GMA4_21 (singleton), JSwag_12 (A15), KatherineG_12 (A15), LastResort_12 (A15), Looper_13 (A15), MinecraftSteve_13 (A15), Nebulosus_12 (A15), Nedarya_11 (A15), Oofda_13 (A15), Polly_20 (CZ1), ReMo_12 (A15), Remus_12 (A15), Rosalind_12 (A15), Schmidt_21 (CU4), ShayRa_13 (A15), Soups_12 (A15), Strosahl_12 (A15), Switzerland_12 (A15), Waits_12 (A15), Warrior24_13 (A15), YungMoney_42 (DC1),

Start 55:

- Found in 3 of 181 (1.7%) of genes in pham
- Manual Annotations of this start: 3 of 160
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard_39 (H2), DrLupo_41 (H2), NoShow_26 (AB),

Start 56:

- Found in 148 of 181 (81.8%) of genes in pham
- Manual Annotations of this start: 113 of 160
- Called 87.8% of time when present
- Phage (with cluster) where this start called: Adora_21 (CZ4), Alephlan_33 (DV), Alyssamiracle_37 (DV), AnClar_42 (DR), Annalisa_21 (CZ4), Apeppi_33 (DV), Astralis_36 (DV), Avian_35 (DV), BBQValindra_21 (DB), BackstagePass_21 (DB), Beenie_21 (CZ4), Beyoncage_29 (DG1), BiggityBass_41 (DR), BirthdayBoy_37 (DV), BiteSize_29 (DG1), Bradissa_22 (CY1), BritBrat_22 (CY2), Cashline_22 (CY), Clap_18 (CZ2), Clark_21 (CZ4), Confidence_22 (CY1), DaviePasture_36 (DV), Djokovic_29 (DG1), Dmitri_22 (DB), DobbysSock_20 (CZ4), Dolores_21 (CZ4), DoobyDoo_35 (DV), DumpTruck_32 (DV), EMSquaredA_22 (CY1), Easley_21 (CZ4), EdnaMode_18 (CZ2), EnalisNailo_22 (CY1), Erutan_36 (DV), Ewald_24 (DT), Eyes_21 (DB), Eyre_18 (singleton), Faith5x5_18 (CZ6), Finkle_20 (singleton), Floral_22 (CY1), Fresco_41 (DR), Fryberger_60 (DP), Fulcrum_37 (DV), GAL1_22 (singleton), GOATification_37 (DV), GemG_18 (CZ2), Genamy16_37 (DV), Gibbin_37 (DV), GodonK_97 (DK), GretelLyn_36 (DV), Gudmit_19 (singleton), Guey18_66 (DP), Haley23_18 (CZ2), Hortense_21 (CZ4), Howe_21 (CZ4), Invectra_22 (CZ4), JCole_18 (CZ2), Jalebi_35 (DV), Jamemuya19_36 (DV), Keelan_58 (DP), Lamberg_18 (CZ2), Lambo_36 (DV), Lila22_35 (DV), Lilas_22 (CY1), LilyPad_31 (DG1), LittleFella_32 (DG2), LittleMunchkin_43 (DR), LordFarquaad_18 (CZ2), Lton_18 (CZ), LuckyLeo_35 (DV), Madi_29 (DG1), MagicMan_21 (DB), Marteenaa_22 (CY1), Mcklovin_21 (CZ4), MichaelScott_21 (CZ4), Mima20_37 (DV), Mocha12_18 (CZ2), MoiGyank_38 (DV), Moonflower_22 (DB), Moosehead_18 (CZ6), Morkie_20 (DH), Nettuno_18 (CZ2), NorManre_37 (DV), NovaSharks_36 (DV), OneDirection_18 (CZ6), Oregano_21 (CZ4), OtterstedtS21_36 (DV), ParvusTarda_36 (DV), Patos_37 (DV), Petra_22 (CV), Phendrix_93 (DK), PhorbesPhlower_20 (DH), PhriskyACE_20 (CZ4), Pollux_22 (CY1), Ranch_36 (DV), RazorC_35 (DV), Ronaldo_63 (DP), Rumi_36 (DV), Sadboi_37 (DV), Samman98_21 (CZ4), Sampudon_36 (DV), Schnabeltier_21 (DB), Sekhmet_21 (CZ4), Shatter_41 (DR), Shlim410_21 (CZ4), Sienna_29 (DG1), Sisko_41 (DR), Sour_46 (DR), Sproutie_18 (CZ2), Suerte_19 (CZ4), Suzy_29 (DG1), TPA4_31 (singleton), TaronosaurusRx_21 (DB), Terapin_30 (DG1), Thimann_21 (CZ4), Tillicus_36 (DV), TinyDot_20 (singleton), Trine_20 (CD),

Twinkle_21 (CZ4), Upyo_20 (CD), VanLee_28 (singleton), Volt_63 (DP), Whiteclaw_18 (CZ2), WinkNick_21 (CZ4), Wojtek_35 (DV), Xenia2_29 (DV), Yago84_41 (DR), Yeet412_18 (CZ2), Yikes_37 (DV), Zany_35 (DV), Ziko_63 (DP),

Start 60:

- Found in 42 of 181 (23.2%) of genes in pham
- Manual Annotations of this start: 1 of 160
- Called 2.4% of time when present
- Phage (with cluster) where this start called: BeeGee_22 (CY),

Start 64:

- Found in 22 of 181 (12.2%) of genes in pham
- Manual Annotations of this start: 1 of 160
- Called 4.5% of time when present
- Phage (with cluster) where this start called: Ligma_41 (DR),

Summary by clusters:

There are 27 clusters represented in this pham: singleton, DK, DH, CZ2, CZ1, CZ6, CZ4, DV, DT, DR, DP, A15, CU4, CU2, CY2, CY1, AB, DB, CE, CD, DG2, CZ, CY, DG1, CV, DC1, H2,

Info for manual annotations of cluster A15:

- Start number 54 was manually annotated 21 times for cluster A15.

Info for manual annotations of cluster AB:

- Start number 55 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster CD:

- Start number 56 was manually annotated 2 times for cluster CD.

Info for manual annotations of cluster CE:

- Start number 53 was manually annotated 2 times for cluster CE.

Info for manual annotations of cluster CU4:

- Start number 54 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CV:

- Start number 56 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CY:

- Start number 56 was manually annotated 1 time for cluster CY.
- Start number 60 was manually annotated 1 time for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 56 was manually annotated 8 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 56 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ:

- Start number 56 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 54 was manually annotated 1 time for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 50 was manually annotated 9 times for cluster CZ2.
- Start number 56 was manually annotated 11 times for cluster CZ2.

Info for manual annotations of cluster CZ4:

- Start number 39 was manually annotated 1 time for cluster CZ4.
- Start number 56 was manually annotated 18 times for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 56 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster DB:

- Start number 50 was manually annotated 4 times for cluster DB.
- Start number 56 was manually annotated 5 times for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 54 was manually annotated 1 time for cluster DC1.

Info for manual annotations of cluster DG1:

- Start number 56 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 56 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DH:

- Start number 56 was manually annotated 2 times for cluster DH.

Info for manual annotations of cluster DK:

- Start number 56 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DP:

- Start number 56 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster DR:

- Start number 37 was manually annotated 1 time for cluster DR.
- Start number 56 was manually annotated 8 times for cluster DR.
- Start number 64 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster DT:

- Start number 56 was manually annotated 1 time for cluster DT.

Info for manual annotations of cluster DV:

- Start number 56 was manually annotated 29 times for cluster DV.

Info for manual annotations of cluster H2:

- Start number 55 was manually annotated 2 times for cluster H2.

Gene Information:

Gene: Adora_21 Start: 19477, Stop: 20586, Start Num: 56

Candidate Starts for Adora_21:

(36, 19366), (40, 19405), (Start: 56 @19477 has 113 MA's), (69, 19573), (73, 19597), (96, 19789), (97, 19795), (104, 19864), (120, 19954), (121, 19960), (130, 20002), (138, 20026), (140, 20047), (149, 20098), (151, 20122), (156, 20182), (173, 20293), (177, 20320),

Gene: Alephilan_33 Start: 30423, Stop: 31529, Start Num: 56

Candidate Starts for Alephilan_33:

(Start: 56 @30423 has 113 MA's), (66, 30480), (74, 30537), (89, 30672), (117, 30834), (118, 30837), (121, 30894), (134, 30945), (139, 30957), (147, 31029), (153, 31062), (180, 31221), (200, 31374), (223, 31491), (227, 31512),

Gene: Alyssamiracle_37 Start: 29523, Stop: 30629, Start Num: 56

Candidate Starts for Alyssamiracle_37:

(Start: 56 @29523 has 113 MA's), (66, 29580), (74, 29637), (89, 29772), (117, 29934), (118, 29937), (120, 29988), (121, 29994), (134, 30045), (139, 30057), (152, 30159), (153, 30162), (180, 30321), (194, 30429), (200, 30474), (204, 30501), (223, 30591), (225, 30597), (227, 30612),

Gene: AnClar_42 Start: 36918, Stop: 38072, Start Num: 56

Candidate Starts for AnClar_42:

(19, 36564), (Start: 37 @36834 has 1 MA's), (42, 36867), (43, 36873), (Start: 56 @36918 has 113 MA's), (69, 37011), (75, 37047), (88, 37161), (119, 37368), (121, 37401), (139, 37452), (149, 37530), (152, 37554), (179, 37746), (181, 37767), (182, 37776), (185, 37794), (186, 37809), (196, 37890), (213, 37986),

Gene: Anaysia_12 Start: 5392, Stop: 6432, Start Num: 54

Candidate Starts for Anaysia_12:

(Start: 54 @5392 has 24 MA's), (63, 5434), (100, 5722), (121, 5872), (126, 5902), (155, 6073), (176, 6193), (181, 6235),

Gene: Annalisa_21 Start: 18955, Stop: 20055, Start Num: 56

Candidate Starts for Annalisa_21:

(16, 18526), (17, 18589), (30, 18814), (Start: 56 @18955 has 113 MA's), (Start: 64 @19000 has 1 MA's), (74, 19072), (106, 19330), (121, 19432), (134, 19480), (139, 19492), (142, 19525), (152, 19594), (153, 19597), (174, 19720), (181, 19774), (208, 19960),

Gene: Anon_10 Start: 5737, Stop: 6777, Start Num: 54

Candidate Starts for Anon_10:

(Start: 54 @5737 has 24 MA's), (63, 5779), (100, 6067), (121, 6217), (126, 6247), (155, 6418), (181, 6580), (183, 6601),

Gene: Apeppi_33 Start: 30567, Stop: 31721, Start Num: 56

Candidate Starts for Apeppi_33:

(Start: 56 @30567 has 113 MA's), (57, 30585), (74, 30684), (118, 30987), (121, 31044), (127, 31080), (129, 31083), (179, 31398), (187, 31461), (208, 31611), (217, 31641), (219, 31650),

Gene: Astralis_36 Start: 29113, Stop: 30219, Start Num: 56

Candidate Starts for Astralis_36:

(Start: 56 @29113 has 113 MA's), (66, 29170), (74, 29227), (89, 29362), (117, 29524), (118, 29527), (120, 29578), (121, 29584), (134, 29635), (139, 29647), (152, 29749), (180, 29911), (194, 30019), (200, 30064), (204, 30091), (223, 30181), (225, 30187), (227, 30202),

Gene: Attis_18 Start: 16527, Stop: 17654, Start Num: 50

Candidate Starts for Attis_18:

(Start: 50 @16527 has 13 MA's), (Start: 56 @16545 has 113 MA's), (57, 16563), (Start: 60 @16578 has 1 MA's), (65, 16605), (69, 16641), (73, 16665), (92, 16836), (96, 16857), (97, 16863), (104, 16932), (120, 17022), (121, 17028), (125, 17058), (130, 17070), (140, 17115), (149, 17166), (156, 17250), (159, 17271), (170, 17340), (173, 17361), (177, 17388), (208, 17607),

Gene: Avian_35 Start: 29505, Stop: 30611, Start Num: 56

Candidate Starts for Avian_35:

(Start: 56 @29505 has 113 MA's), (66, 29562), (74, 29619), (89, 29754), (117, 29916), (118, 29919), (120, 29970), (121, 29976), (134, 30027), (139, 30039), (152, 30141), (180, 30303), (194, 30411), (200, 30456), (204, 30483), (223, 30573), (225, 30579), (227, 30594),

Gene: Axumite_41 Start: 34059, Stop: 35276, Start Num: 37

Candidate Starts for Axumite_41:

(Start: 37 @34059 has 1 MA's), (42, 34092), (Start: 56 @34143 has 113 MA's), (Start: 64 @34188 has 1 MA's), (69, 34236), (74, 34263), (86, 34368), (118, 34566), (121, 34623), (131, 34662), (134, 34668), (137, 34671), (139, 34677), (149, 34755), (158, 34836), (179, 34971), (180, 34974), (182, 35001), (185, 35019), (186, 35034), (196, 35115), (225, 35244), (227, 35259),

Gene: BBQValindra_21 Start: 18913, Stop: 20022, Start Num: 56

Candidate Starts for BBQValindra_21:

(Start: 50 @18895 has 13 MA's), (Start: 56 @18913 has 113 MA's), (Start: 60 @18946 has 1 MA's), (65, 18973), (69, 19009), (73, 19033), (96, 19225), (97, 19231), (104, 19300), (120, 19390), (121, 19396), (138, 19462), (140, 19483), (149, 19534), (156, 19618), (159, 19639), (173, 19729), (208, 19975),

Gene: BackstagePass_21 Start: 19045, Stop: 20154, Start Num: 56

Candidate Starts for BackstagePass_21:

(32, 18907), (Start: 50 @19027 has 13 MA's), (Start: 56 @19045 has 113 MA's), (Start: 60 @19078 has 1 MA's), (65, 19105), (69, 19141), (73, 19165), (96, 19357), (97, 19363), (104, 19432), (120, 19522), (121, 19528), (130, 19570), (138, 19594), (140, 19615), (149, 19666), (159, 19771), (173, 19861),

Gene: Barnyard_39 Start: 31341, Stop: 32396, Start Num: 55

Candidate Starts for Barnyard_39:

(Start: 55 @31341 has 3 MA's), (Start: 64 @31395 has 1 MA's), (66, 31407), (69, 31443), (71, 31452), (80, 31542), (121, 31854), (126, 31887), (146, 31965), (172, 32112), (179, 32160), (181, 32181), (198, 32310), (210, 32370),

Gene: Battleship_13 Start: 5514, Stop: 6554, Start Num: 54

Candidate Starts for Battleship_13:

(Start: 54 @5514 has 24 MA's), (63, 5556), (100, 5844), (121, 5994), (126, 6024), (155, 6195), (181, 6357),

Gene: BeeGee_22 Start: 19669, Stop: 20739, Start Num: 60

Candidate Starts for BeeGee_22:

(47, 19606), (Start: 56 @19639 has 113 MA's), (Start: 60 @19669 has 1 MA's), (74, 19756), (105, 20011), (121, 20116), (134, 20164), (138, 20170), (139, 20176), (179, 20437), (180, 20440), (181, 20458), (187, 20494), (208, 20644),

Gene: Beenie_21 Start: 19312, Stop: 20412, Start Num: 56

Candidate Starts for Beenie_21:

(14, 18814), (16, 18883), (17, 18946), (24, 19087), (30, 19171), (Start: 56 @19312 has 113 MA's), (Start: 64 @19357 has 1 MA's), (74, 19429), (121, 19789), (134, 19837), (139, 19849), (142, 19882), (152, 19951), (153, 19954), (174, 20077), (181, 20131), (208, 20317),

Gene: Beyoncage_29 Start: 25970, Stop: 27115, Start Num: 56

Candidate Starts for Beyoncage_29:

(Start: 56 @25970 has 113 MA's), (57, 25988), (70, 26072), (74, 26087), (78, 26150), (93, 26267), (121, 26447), (134, 26498), (139, 26507), (147, 26579), (180, 26804), (186, 26861), (221, 27056),

Gene: BiggityBass_41 Start: 36386, Stop: 37540, Start Num: 56

Candidate Starts for BiggityBass_41:

(19, 36035), (Start: 37 @36302 has 1 MA's), (42, 36335), (Start: 56 @36386 has 113 MA's), (69, 36479), (75, 36515), (88, 36629), (119, 36836), (121, 36869), (139, 36920), (149, 36998), (152, 37022), (179, 37214), (181, 37235), (182, 37244), (186, 37277), (196, 37358), (213, 37454),

Gene: BirthdayBoy_37 Start: 31246, Stop: 32352, Start Num: 56

Candidate Starts for BirthdayBoy_37:

(Start: 56 @31246 has 113 MA's), (66, 31303), (74, 31360), (89, 31495), (117, 31657), (118, 31660), (121, 31717), (134, 31768), (139, 31780), (147, 31852), (153, 31885), (180, 32044), (223, 32314), (227, 32335),

Gene: BiteSize_29 Start: 25970, Stop: 27115, Start Num: 56

Candidate Starts for BiteSize_29:

(Start: 56 @25970 has 113 MA's), (57, 25988), (70, 26072), (74, 26087), (78, 26150), (93, 26267), (121, 26447), (134, 26498), (139, 26507), (147, 26579), (180, 26804), (186, 26861), (221, 27056),

Gene: Bjanes7_18 Start: 16527, Stop: 17654, Start Num: 50

Candidate Starts for Bjanes7_18:

(Start: 50 @16527 has 13 MA's), (Start: 56 @16545 has 113 MA's), (57, 16563), (Start: 60 @16578 has 1 MA's), (65, 16605), (69, 16641), (73, 16665), (92, 16836), (96, 16857), (97, 16863), (104, 16932), (120, 17022), (121, 17028), (125, 17058), (130, 17070), (140, 17115), (149, 17166), (156, 17250), (159, 17271), (170, 17340), (173, 17361), (177, 17388), (208, 17607),

Gene: Boohoo_12 Start: 5392, Stop: 6432, Start Num: 54

Candidate Starts for Boohoo_12:

(Start: 54 @5392 has 24 MA's), (63, 5434), (100, 5722), (121, 5872), (126, 5902), (155, 6073), (176, 6193), (181, 6235),

Gene: Bradissa_22 Start: 19825, Stop: 20925, Start Num: 56

Candidate Starts for Bradissa_22:

(25, 19603), (47, 19792), (Start: 56 @19825 has 113 MA's), (Start: 60 @19855 has 1 MA's), (74, 19942), (105, 20197), (121, 20302), (134, 20350), (139, 20362), (179, 20623), (180, 20626), (181, 20644), (187, 20680), (208, 20830),

Gene: BritBrat_22 Start: 19678, Stop: 20778, Start Num: 56

Candidate Starts for BritBrat_22:

(25, 19456), (47, 19645), (Start: 56 @19678 has 113 MA's), (Start: 60 @19708 has 1 MA's), (74, 19795), (93, 19975), (105, 20050), (121, 20155), (134, 20203), (139, 20215), (179, 20476), (180, 20479), (181, 20497), (187, 20533), (208, 20683),

Gene: Bunker_21 Start: 19006, Stop: 20133, Start Num: 50

Candidate Starts for Bunker_21:

(46, 18991), (Start: 50 @19006 has 13 MA's), (Start: 56 @19024 has 113 MA's), (Start: 60 @19057 has 1 MA's), (65, 19084), (69, 19120), (73, 19144), (92, 19315), (96, 19336), (97, 19342), (104, 19411), (120, 19501), (121, 19507), (138, 19573), (140, 19594), (149, 19645), (156, 19729), (159, 19750), (173, 19840), (208, 20086),

Gene: Cashline_22 Start: 19502, Stop: 20608, Start Num: 56

Candidate Starts for Cashline_22:

(Start: 50 @19484 has 13 MA's), (Start: 56 @19502 has 113 MA's), (69, 19598), (72, 19619), (73, 19622), (96, 19814), (97, 19820), (120, 19979), (121, 19985), (124, 20012), (125, 20015), (132, 20033), (149, 20123), (156, 20207), (159, 20228), (169, 20288), (177, 20342), (208, 20561),

Gene: Clap_18 Start: 16552, Stop: 17661, Start Num: 56

Candidate Starts for Clap_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (159, 17278), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: Clark_21 Start: 18955, Stop: 20055, Start Num: 56

Candidate Starts for Clark_21:

(14, 18457), (16, 18526), (17, 18589), (24, 18730), (30, 18814), (Start: 56 @18955 has 113 MA's), (Start: 64 @19000 has 1 MA's), (74, 19072), (121, 19432), (134, 19480), (139, 19492), (142, 19525), (152, 19594), (153, 19597), (174, 19720), (181, 19774), (208, 19960),

Gene: Confidence_22 Start: 19669, Stop: 20769, Start Num: 56

Candidate Starts for Confidence_22:

(47, 19636), (Start: 56 @19669 has 113 MA's), (Start: 60 @19699 has 1 MA's), (74, 19786), (105, 20041), (121, 20146), (134, 20194), (138, 20200), (139, 20206), (179, 20467), (180, 20470), (181, 20488), (187, 20524), (208, 20674),

Gene: Cynthia_18 Start: 16534, Stop: 17661, Start Num: 50

Candidate Starts for Cynthia_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: DaviePasture_36 Start: 31047, Stop: 32156, Start Num: 56

Candidate Starts for DaviePasture_36:

(Start: 56 @31047 has 113 MA's), (66, 31107), (74, 31164), (88, 31281), (109, 31428), (117, 31461), (118, 31464), (121, 31521), (134, 31572), (139, 31584), (147, 31656), (153, 31689), (180, 31848), (200, 32001), (223, 32118), (227, 32139),

Gene: DekHockey33_12 Start: 5514, Stop: 6554, Start Num: 54

Candidate Starts for DekHockey33_12:

(Start: 54 @5514 has 24 MA's), (63, 5556), (100, 5844), (121, 5994), (126, 6024), (155, 6195), (176, 6315), (181, 6357),

Gene: Djokovic_29 Start: 25969, Stop: 27114, Start Num: 56

Candidate Starts for Djokovic_29:

(Start: 56 @25969 has 113 MA's), (57, 25987), (70, 26071), (74, 26086), (78, 26149), (93, 26266), (121, 26446), (134, 26497), (139, 26506), (147, 26578), (180, 26803), (186, 26860), (221, 27055),

Gene: Dmitri_22 Start: 20023, Stop: 21132, Start Num: 56

Candidate Starts for Dmitri_22:

(Start: 56 @20023 has 113 MA's), (63, 20068), (69, 20119), (72, 20140), (73, 20143), (94, 20326), (96, 20335), (97, 20341), (120, 20500), (121, 20506), (124, 20533), (125, 20536), (132, 20554), (150, 20656), (151, 20668), (156, 20728), (177, 20866), (208, 21085),

Gene: DobbysSock_20 Start: 18429, Stop: 19529, Start Num: 56

Candidate Starts for DobbysSock_20:

(16, 18000), (17, 18063), (24, 18204), (30, 18288), (Start: 56 @18429 has 113 MA's), (Start: 64 @18474 has 1 MA's), (74, 18546), (121, 18906), (134, 18954), (139, 18966), (142, 18999), (152, 19068), (153, 19071), (174, 19194), (181, 19248), (208, 19434),

Gene: Dolores_21 Start: 18931, Stop: 20031, Start Num: 56

Candidate Starts for Dolores_21:

(14, 18433), (16, 18502), (17, 18565), (24, 18706), (30, 18790), (Start: 56 @18931 has 113 MA's), (Start: 64 @18976 has 1 MA's), (74, 19048), (121, 19408), (134, 19456), (139, 19468), (142, 19501), (152, 19570), (153, 19573), (174, 19696), (181, 19750), (208, 19936),

Gene: DoobyDoo_35 Start: 30197, Stop: 31303, Start Num: 56

Candidate Starts for DoobyDoo_35:

(Start: 56 @30197 has 113 MA's), (74, 30311), (89, 30446), (117, 30608), (118, 30611), (121, 30668), (134, 30719), (139, 30731), (147, 30803), (153, 30836), (180, 30995), (200, 31148), (223, 31265), (227, 31286),

Gene: Dorito_20 Start: 18372, Stop: 19547, Start Num: 39

Candidate Starts for Dorito_20:

(35, 18333), (Start: 39 @18372 has 1 MA's), (Start: 56 @18447 has 113 MA's), (Start: 64 @18492 has 1 MA's), (74, 18564), (76, 18591), (88, 18684), (106, 18822), (121, 18924), (139, 18984), (152, 19086), (174, 19212), (180, 19248), (181, 19266), (189, 19311), (203, 19425), (208, 19452),

Gene: DrLupo_41 Start: 31730, Stop: 32785, Start Num: 55

Candidate Starts for DrLupo_41:

(Start: 55 @31730 has 3 MA's), (66, 31796), (69, 31832), (71, 31841), (80, 31931), (111, 32159), (121, 32243), (126, 32276), (133, 32288), (144, 32348), (165, 32459), (167, 32462), (172, 32501), (179, 32549), (181, 32570), (191, 32636), (198, 32699), (210, 32759),

Gene: DumpTruck_32 Start: 28578, Stop: 29678, Start Num: 56

Candidate Starts for DumpTruck_32:

(Start: 56 @28578 has 113 MA's), (66, 28635), (69, 28671), (74, 28692), (86, 28794), (88, 28809), (108, 28953), (109, 28956), (118, 28992), (121, 29049), (139, 29112), (147, 29184), (174, 29340), (180, 29376), (208, 29580), (225, 29649),

Gene: EMSquaredA_22 Start: 19678, Stop: 20778, Start Num: 56

Candidate Starts for EMSquaredA_22:

(25, 19456), (47, 19645), (Start: 56 @19678 has 113 MA's), (Start: 60 @19708 has 1 MA's), (74, 19795), (93, 19975), (105, 20050), (121, 20155), (134, 20203), (139, 20215), (179, 20476), (180, 20479), (181, 20497), (187, 20533), (208, 20683),

Gene: Easley_21 Start: 18941, Stop: 20041, Start Num: 56

Candidate Starts for Easley_21:

(14, 18443), (16, 18512), (17, 18575), (30, 18800), (Start: 56 @18941 has 113 MA's), (Start: 64 @18986 has 1 MA's), (74, 19058), (121, 19418), (134, 19466), (139, 19478), (142, 19511), (152, 19580), (153, 19583), (174, 19706), (181, 19760), (208, 19946),

Gene: Ebert_18 Start: 16534, Stop: 17661, Start Num: 50

Candidate Starts for Ebert_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (159, 17278), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: EdnaMode_18 Start: 16489, Stop: 17589, Start Num: 56

Candidate Starts for EdnaMode_18:

(Start: 56 @16489 has 113 MA's), (Start: 60 @16519 has 1 MA's), (74, 16606), (121, 16966), (134, 17014), (138, 17020), (139, 17026), (179, 17287), (180, 17290), (181, 17308), (187, 17344), (208, 17494),

Gene: EnalisNailo_22 Start: 19827, Stop: 20927, Start Num: 56

Candidate Starts for EnalisNailo_22:

(25, 19605), (47, 19794), (Start: 56 @19827 has 113 MA's), (Start: 60 @19857 has 1 MA's), (74, 19944), (105, 20199), (121, 20304), (134, 20352), (139, 20364), (179, 20625), (180, 20628), (181, 20646), (187, 20682), (208, 20832),

Gene: Epsocamisio_12 Start: 5392, Stop: 6432, Start Num: 54

Candidate Starts for Epsocamisio_12:

(Start: 54 @5392 has 24 MA's), (63, 5434), (100, 5722), (121, 5872), (126, 5902), (155, 6073), (176, 6193), (181, 6235),

Gene: Erutan_36 Start: 30705, Stop: 31811, Start Num: 56

Candidate Starts for Erutan_36:

(Start: 56 @30705 has 113 MA's), (66, 30762), (74, 30819), (89, 30954), (117, 31116), (118, 31119), (121, 31176), (134, 31227), (139, 31239), (147, 31311), (153, 31344), (180, 31503), (223, 31773), (227, 31794),

Gene: Ewald_24 Start: 20489, Stop: 21616, Start Num: 56

Candidate Starts for Ewald_24:

(Start: 56 @20489 has 113 MA's), (69, 20585), (84, 20714), (96, 20801), (97, 20807), (102, 20858), (107, 20888), (113, 20912), (115, 20918), (120, 20981), (121, 20987), (126, 21020), (137, 21053), (151, 21152), (156, 21212), (159, 21233), (169, 21293), (173, 21323), (177, 21350),

Gene: Eyes_21 Start: 18917, Stop: 20026, Start Num: 56

Candidate Starts for Eyes_21:

(Start: 56 @18917 has 113 MA's), (69, 19013), (72, 19034), (73, 19037), (94, 19220), (96, 19229), (97, 19235), (120, 19394), (121, 19400), (124, 19427), (125, 19430), (132, 19448), (151, 19562), (155, 19616), (156, 19622), (159, 19643), (177, 19760), (208, 19979),

Gene: Eyre_18 Start: 17160, Stop: 18260, Start Num: 56

Candidate Starts for Eyre_18:

(Start: 50 @17142 has 13 MA's), (Start: 56 @17160 has 113 MA's), (74, 17277), (93, 17457), (121, 17637), (134, 17685), (138, 17691), (139, 17697), (174, 17925), (179, 17958), (180, 17961), (181, 17979), (208, 18165),

Gene: Faith5x5_18 Start: 16431, Stop: 17531, Start Num: 56

Candidate Starts for Faith5x5_18:

(Start: 56 @16431 has 113 MA's), (74, 16548), (105, 16803), (121, 16908), (134, 16956), (138, 16962), (139, 16968), (143, 17007), (180, 17232), (181, 17250), (187, 17286), (208, 17436),

Gene: Finkle_20 Start: 17870, Stop: 18973, Start Num: 56

Candidate Starts for Finkle_20:

(45, 17837), (Start: 56 @17870 has 113 MA's), (104, 18260), (121, 18371), (123, 18380), (125, 18401), (161, 18614), (175, 18707), (181, 18764), (187, 18803), (204, 18929), (208, 18953), (210, 18959), (211, 18962),

Gene: Floral_22 Start: 19678, Stop: 20778, Start Num: 56

Candidate Starts for Floral_22:

(25, 19456), (47, 19645), (Start: 56 @19678 has 113 MA's), (Start: 60 @19708 has 1 MA's), (74, 19795), (93, 19975), (105, 20050), (121, 20155), (134, 20203), (139, 20215), (179, 20476), (180, 20479), (181, 20497), (187, 20533), (208, 20683),

Gene: Fresco_41 Start: 34143, Stop: 35276, Start Num: 56

Candidate Starts for Fresco_41:

(Start: 37 @34059 has 1 MA's), (42, 34092), (Start: 56 @34143 has 113 MA's), (Start: 64 @34188 has 1 MA's), (69, 34236), (74, 34263), (86, 34368), (118, 34566), (121, 34623), (131, 34662), (134, 34668), (137, 34671), (139, 34677), (149, 34755), (158, 34836), (179, 34971), (180, 34974), (182, 35001), (185, 35019), (186, 35034), (196, 35115), (225, 35244), (227, 35259),

Gene: Fryberger_60 Start: 33704, Stop: 34738, Start Num: 56

Candidate Starts for Fryberger_60:

(Start: 56 @33704 has 113 MA's), (Start: 60 @33734 has 1 MA's), (87, 33935), (104, 34070), (111, 34100), (121, 34181), (128, 34214), (208, 34727),

Gene: Fulcrum_37 Start: 31226, Stop: 32332, Start Num: 56

Candidate Starts for Fulcrum_37:

(Start: 56 @31226 has 113 MA's), (66, 31283), (74, 31340), (89, 31475), (117, 31637), (118, 31640), (121, 31697), (134, 31748), (139, 31760), (147, 31832), (153, 31865), (180, 32024), (223, 32294), (227, 32315),

Gene: GAL1_22 Start: 19182, Stop: 20282, Start Num: 56

Candidate Starts for GAL1_22:

(Start: 56 @19182 has 113 MA's), (74, 19299), (88, 19419), (105, 19554), (106, 19557), (121, 19659), (134, 19707), (139, 19719), (143, 19758), (181, 20001), (208, 20187),

Gene: GEazy_21 Start: 18913, Stop: 20040, Start Num: 50

Candidate Starts for GEazy_21:

(Start: 50 @18913 has 13 MA's), (Start: 56 @18931 has 113 MA's), (Start: 60 @18964 has 1 MA's), (65, 18991), (69, 19027), (73, 19051), (96, 19243), (97, 19249), (104, 19318), (120, 19408), (121, 19414), (138, 19480), (140, 19501), (149, 19552), (151, 19576), (156, 19636), (159, 19657), (173, 19747), (208, 19993),

Gene: GMA4_21 Start: 20328, Stop: 21401, Start Num: 54

Candidate Starts for GMA4_21:

(1, 19251), (3, 19461), (7, 19683), (9, 19740), (10, 19770), (12, 19800), (13, 19809), (18, 19953), (20, 20013), (22, 20073), (28, 20142), (Start: 54 @20328 has 24 MA's), (84, 20568), (116, 20763), (121, 20823), (149, 20961), (179, 21159), (193, 21255), (197, 21306), (209, 21378),

Gene: GOATification_37 Start: 31226, Stop: 32332, Start Num: 56

Candidate Starts for GOATification_37:

(Start: 56 @31226 has 113 MA's), (66, 31283), (74, 31340), (89, 31475), (117, 31637), (118, 31640), (121, 31697), (134, 31748), (139, 31760), (147, 31832), (153, 31865), (180, 32024), (223, 32294),

(227, 32315),

Gene: GemG_18 Start: 16552, Stop: 17661, Start Num: 56

Candidate Starts for GemG_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (159, 17278), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: Genamy16_37 Start: 29523, Stop: 30629, Start Num: 56

Candidate Starts for Genamy16_37:

(Start: 56 @29523 has 113 MA's), (66, 29580), (74, 29637), (89, 29772), (103, 29871), (117, 29934), (118, 29937), (120, 29988), (121, 29994), (134, 30045), (139, 30057), (152, 30159), (180, 30321), (194, 30429), (200, 30474), (204, 30501), (223, 30591), (225, 30597), (227, 30612),

Gene: Gibbin_37 Start: 31324, Stop: 32430, Start Num: 56

Candidate Starts for Gibbin_37:

(Start: 56 @31324 has 113 MA's), (66, 31381), (74, 31438), (89, 31573), (117, 31735), (118, 31738), (121, 31795), (134, 31846), (139, 31858), (147, 31930), (153, 31963), (180, 32122), (223, 32392), (227, 32413),

Gene: Gizermo_18 Start: 16534, Stop: 17661, Start Num: 50

Candidate Starts for Gizermo_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (159, 17278), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: GodonK_97 Start: 58933, Stop: 59997, Start Num: 56

Candidate Starts for GodonK_97:

(51, 58921), (Start: 56 @58933 has 113 MA's), (117, 59350), (121, 59410), (126, 59443), (149, 59563), (166, 59680), (174, 59737), (179, 59770), (205, 59959),

Gene: Gretellyn_36 Start: 31590, Stop: 32696, Start Num: 56

Candidate Starts for Gretellyn_36:

(Start: 56 @31590 has 113 MA's), (74, 31704), (89, 31839), (117, 32001), (118, 32004), (121, 32061), (134, 32112), (139, 32124), (147, 32196), (153, 32229), (180, 32388), (223, 32658), (227, 32679),

Gene: Gspu1_21 Start: 17048, Stop: 18142, Start Num: 43

Candidate Starts for Gspu1_21:

(38, 17009), (43, 17048), (Start: 56 @17093 has 113 MA's), (62, 17132), (63, 17135), (72, 17207), (79, 17288), (81, 17300), (95, 17399), (99, 17414), (101, 17444), (121, 17567), (122, 17573), (126, 17597), (127, 17600), (141, 17660), (176, 17882), (181, 17924), (187, 17960), (201, 18056), (205, 18080), (214, 18125),

Gene: Gudmit_19 Start: 17314, Stop: 18414, Start Num: 56

Candidate Starts for Gudmit_19:

(Start: 56 @17314 has 113 MA's), (58, 17341), (Start: 64 @17359 has 1 MA's), (74, 17431), (76, 17458), (121, 17791), (139, 17851), (152, 17953), (174, 18079), (181, 18133), (186, 18166), (187, 18169),

Gene: Guey18_66 Start: 35224, Stop: 36258, Start Num: 56

Candidate Starts for Guey18_66:

(Start: 56 @35224 has 113 MA's), (58, 35251), (Start: 60 @35254 has 1 MA's), (87, 35455), (104, 35590), (111, 35620), (121, 35701), (128, 35734), (208, 36247),

Gene: Haley23_18 Start: 16552, Stop: 17661, Start Num: 56

Candidate Starts for Haley23_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (159, 17278), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: HannahD_21 Start: 18913, Stop: 20040, Start Num: 50

Candidate Starts for HannahD_21:

(Start: 50 @18913 has 13 MA's), (Start: 56 @18931 has 113 MA's), (Start: 60 @18964 has 1 MA's), (65, 18991), (69, 19027), (73, 19051), (96, 19243), (97, 19249), (104, 19318), (120, 19408), (121, 19414), (138, 19480), (140, 19501), (149, 19552), (151, 19576), (156, 19636), (159, 19657), (173, 19747), (208, 19993),

Gene: Hortense_21 Start: 19524, Stop: 20633, Start Num: 56

Candidate Starts for Hortense_21:

(36, 19413), (40, 19452), (Start: 56 @19524 has 113 MA's), (69, 19620), (73, 19644), (96, 19836), (97, 19842), (104, 19911), (120, 20001), (121, 20007), (130, 20049), (138, 20073), (140, 20094), (149, 20145), (151, 20169), (156, 20229), (173, 20340), (177, 20367),

Gene: Howe_21 Start: 19524, Stop: 20633, Start Num: 56

Candidate Starts for Howe_21:

(36, 19413), (40, 19452), (Start: 56 @19524 has 113 MA's), (69, 19620), (73, 19644), (96, 19836), (97, 19842), (104, 19911), (120, 20001), (121, 20007), (130, 20049), (138, 20073), (140, 20094), (149, 20145), (151, 20169), (156, 20229), (173, 20340), (177, 20367),

Gene: Invectra_22 Start: 19312, Stop: 20412, Start Num: 56

Candidate Starts for Invectra_22:

(11, 18793), (14, 18814), (16, 18883), (17, 18946), (30, 19171), (Start: 56 @19312 has 113 MA's), (Start: 64 @19357 has 1 MA's), (74, 19429), (76, 19456), (88, 19549), (106, 19687), (121, 19789), (139, 19849), (152, 19951), (174, 20077), (180, 20113), (181, 20131), (189, 20176), (203, 20290), (208, 20317),

Gene: JCole_18 Start: 16546, Stop: 17646, Start Num: 56

Candidate Starts for JCole_18:

(Start: 56 @16546 has 113 MA's), (74, 16663), (93, 16843), (121, 17023), (134, 17071), (138, 17077), (139, 17083), (174, 17311), (179, 17344), (180, 17347), (181, 17365), (187, 17401), (208, 17551),

Gene: JSwag_12 Start: 5392, Stop: 6426, Start Num: 54

Candidate Starts for JSwag_12:

(Start: 54 @5392 has 24 MA's), (63, 5434), (100, 5722), (121, 5872), (126, 5902), (155, 6073), (176, 6193), (181, 6235),

Gene: Jalebi_35 Start: 31759, Stop: 32865, Start Num: 56

Candidate Starts for Jalebi_35:

(Start: 56 @31759 has 113 MA's), (74, 31873), (89, 32008), (117, 32170), (118, 32173), (121, 32230), (134, 32281), (139, 32293), (147, 32365), (153, 32398), (180, 32557), (223, 32827), (227, 32848),

Gene: Jamemuya19_36 Start: 29113, Stop: 30219, Start Num: 56

Candidate Starts for Jamemuya19_36:

(Start: 56 @29113 has 113 MA's), (66, 29170), (74, 29227), (89, 29362), (117, 29524), (118, 29527), (120, 29578), (121, 29584), (134, 29635), (139, 29647), (152, 29749), (153, 29752), (180, 29911), (194, 30019), (200, 30064), (204, 30091), (223, 30181), (225, 30187), (227, 30202),

Gene: KatherineG_12 Start: 5514, Stop: 6554, Start Num: 54

Candidate Starts for KatherineG_12:

(Start: 54 @5514 has 24 MA's), (63, 5556), (100, 5844), (121, 5994), (126, 6024), (155, 6195), (176, 6315), (181, 6357),

Gene: Keelan_58 Start: 33969, Stop: 34979, Start Num: 56

Candidate Starts for Keelan_58:

(Start: 56 @33969 has 113 MA's), (Start: 60 @33999 has 1 MA's), (87, 34200), (121, 34446), (128, 34479), (180, 34761), (198, 34911), (208, 34968),

Gene: Lamberg_18 Start: 16489, Stop: 17589, Start Num: 56

Candidate Starts for Lamberg_18:

(Start: 56 @16489 has 113 MA's), (74, 16606), (93, 16786), (121, 16966), (134, 17014), (138, 17020), (139, 17026), (179, 17287), (180, 17290), (181, 17308), (187, 17344), (208, 17494),

Gene: Lambo_36 Start: 31244, Stop: 32350, Start Num: 56

Candidate Starts for Lambo_36:

(Start: 56 @31244 has 113 MA's), (66, 31301), (74, 31358), (89, 31493), (117, 31655), (118, 31658), (121, 31715), (134, 31766), (139, 31778), (147, 31850), (153, 31883), (180, 32042), (200, 32195), (223, 32312), (227, 32333),

Gene: LastResort_12 Start: 5392, Stop: 6432, Start Num: 54

Candidate Starts for LastResort_12:

(Start: 54 @5392 has 24 MA's), (63, 5434), (100, 5722), (121, 5872), (126, 5902), (155, 6073), (176, 6193), (181, 6235),

Gene: Ligma_41 Start: 34188, Stop: 35276, Start Num: 64

Candidate Starts for Ligma_41:

(Start: 37 @34059 has 1 MA's), (42, 34092), (Start: 56 @34143 has 113 MA's), (Start: 64 @34188 has 1 MA's), (69, 34236), (74, 34263), (86, 34368), (118, 34566), (121, 34623), (131, 34662), (134, 34668), (137, 34671), (139, 34677), (149, 34755), (158, 34836), (179, 34971), (180, 34974), (182, 35001), (185, 35019), (186, 35034), (196, 35115), (225, 35244), (227, 35259),

Gene: Lila22_35 Start: 31199, Stop: 32305, Start Num: 56

Candidate Starts for Lila22_35:

(Start: 56 @31199 has 113 MA's), (66, 31256), (74, 31313), (89, 31448), (117, 31610), (118, 31613), (121, 31670), (134, 31721), (139, 31733), (147, 31805), (153, 31838), (180, 31997), (223, 32267), (227, 32288),

Gene: Lilas_22 Start: 19827, Stop: 20927, Start Num: 56

Candidate Starts for Lilas_22:

(25, 19605), (47, 19794), (Start: 56 @19827 has 113 MA's), (Start: 60 @19857 has 1 MA's), (74, 19944), (105, 20199), (121, 20304), (134, 20352), (139, 20364), (179, 20625), (180, 20628), (181, 20646), (187, 20682), (208, 20832),

Gene: LilyPad_31 Start: 26814, Stop: 27920, Start Num: 56

Candidate Starts for LilyPad_31:

(Start: 56 @26814 has 113 MA's), (66, 26874), (74, 26931), (88, 27048), (108, 27192), (109, 27195), (121, 27288), (139, 27351), (147, 27423), (152, 27453), (180, 27615), (189, 27678), (220, 27864),

(226, 27897),

Gene: LittleFella_32 Start: 28760, Stop: 29866, Start Num: 56

Candidate Starts for LittleFella_32:

(Start: 56 @28760 has 113 MA's), (66, 28817), (74, 28874), (88, 28994), (121, 29234), (134, 29285), (139, 29297), (147, 29369), (180, 29561), (201, 29717), (219, 29804), (226, 29843),

Gene: LittleMunchkin_43 Start: 37407, Stop: 38561, Start Num: 56

Candidate Starts for LittleMunchkin_43:

(41, 37335), (Start: 56 @37407 has 113 MA's), (69, 37500), (75, 37536), (88, 37650), (117, 37830), (121, 37890), (139, 37941), (149, 38019), (158, 38100), (174, 38190), (181, 38256), (182, 38265), (196, 38379), (213, 38475), (228, 38550),

Gene: Looper_13 Start: 5392, Stop: 6432, Start Num: 54

Candidate Starts for Looper_13:

(Start: 54 @5392 has 24 MA's), (63, 5434), (100, 5722), (121, 5872), (126, 5902), (155, 6073), (176, 6193), (181, 6235),

Gene: LordFarquaad_18 Start: 16545, Stop: 17654, Start Num: 56

Candidate Starts for LordFarquaad_18:

(Start: 50 @16527 has 13 MA's), (Start: 56 @16545 has 113 MA's), (57, 16563), (Start: 60 @16578 has 1 MA's), (65, 16605), (69, 16641), (73, 16665), (92, 16836), (96, 16857), (97, 16863), (104, 16932), (120, 17022), (121, 17028), (125, 17058), (130, 17070), (140, 17115), (149, 17166), (156, 17250), (159, 17271), (170, 17340), (173, 17361), (177, 17388), (208, 17607),

Gene: Lton_18 Start: 16518, Stop: 17618, Start Num: 56

Candidate Starts for Lton_18:

(Start: 56 @16518 has 113 MA's), (74, 16635), (93, 16815), (121, 16995), (134, 17043), (138, 17049), (139, 17055), (174, 17283), (180, 17319), (181, 17337), (187, 17373), (208, 17523),

Gene: LuckyLeo_35 Start: 30567, Stop: 31721, Start Num: 56

Candidate Starts for LuckyLeo_35:

(Start: 56 @30567 has 113 MA's), (57, 30585), (74, 30684), (118, 30987), (121, 31044), (127, 31080), (129, 31083), (179, 31398), (187, 31461), (208, 31611), (217, 31641), (219, 31650),

Gene: Madi_29 Start: 25970, Stop: 27115, Start Num: 56

Candidate Starts for Madi_29:

(Start: 56 @25970 has 113 MA's), (57, 25988), (70, 26072), (74, 26087), (93, 26267), (121, 26447), (134, 26498), (139, 26507), (147, 26579), (180, 26804), (186, 26861), (221, 27056),

Gene: MagicMan_21 Start: 19237, Stop: 20346, Start Num: 56

Candidate Starts for MagicMan_21:

(Start: 50 @19219 has 13 MA's), (Start: 56 @19237 has 113 MA's), (69, 19333), (72, 19354), (73, 19357), (96, 19549), (97, 19555), (120, 19714), (121, 19720), (124, 19747), (125, 19750), (132, 19768), (156, 19942), (159, 19963), (208, 20299),

Gene: Marteena_22 Start: 19678, Stop: 20778, Start Num: 56

Candidate Starts for Marteena_22:

(25, 19456), (47, 19645), (Start: 56 @19678 has 113 MA's), (Start: 60 @19708 has 1 MA's), (74, 19795), (93, 19975), (105, 20050), (121, 20155), (134, 20203), (139, 20215), (179, 20476), (180, 20479), (181, 20497), (187, 20533), (208, 20683),

Gene: Mcklovin_21 Start: 21693, Stop: 22802, Start Num: 56

Candidate Starts for Mcklovin_21:

(36, 21582), (40, 21621), (Start: 56 @21693 has 113 MA's), (69, 21789), (73, 21813), (96, 22005), (97, 22011), (104, 22080), (120, 22170), (121, 22176), (130, 22218), (138, 22242), (140, 22263), (149, 22314), (151, 22338), (156, 22398), (173, 22509), (177, 22536),

Gene: MichaelScott_21 Start: 19312, Stop: 20412, Start Num: 56

Candidate Starts for MichaelScott_21:

(14, 18814), (16, 18883), (17, 18946), (24, 19087), (30, 19171), (Start: 56 @19312 has 113 MA's), (Start: 64 @19357 has 1 MA's), (74, 19429), (121, 19789), (134, 19837), (139, 19849), (142, 19882), (152, 19951), (153, 19954), (174, 20077), (181, 20131), (208, 20317),

Gene: Mima20_37 Start: 30948, Stop: 32054, Start Num: 56

Candidate Starts for Mima20_37:

(Start: 56 @30948 has 113 MA's), (74, 31062), (80, 31137), (89, 31197), (117, 31359), (118, 31362), (121, 31419), (134, 31470), (139, 31482), (147, 31554), (153, 31587), (180, 31746), (223, 32016), (227, 32037),

Gene: MinecraftSteve_13 Start: 5514, Stop: 6554, Start Num: 54

Candidate Starts for MinecraftSteve_13:

(Start: 54 @5514 has 24 MA's), (63, 5556), (100, 5844), (121, 5994), (126, 6024), (155, 6195), (176, 6315), (181, 6357),

Gene: Mocha12_18 Start: 16552, Stop: 17661, Start Num: 56

Candidate Starts for Mocha12_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (159, 17278), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: MoiGyank_38 Start: 31629, Stop: 32735, Start Num: 56

Candidate Starts for MoiGyank_38:

(Start: 56 @31629 has 113 MA's), (74, 31743), (89, 31878), (117, 32040), (118, 32043), (121, 32100), (134, 32151), (139, 32163), (147, 32235), (153, 32268), (180, 32427), (223, 32697), (227, 32718),

Gene: Moonflower_22 Start: 19770, Stop: 20870, Start Num: 56

Candidate Starts for Moonflower_22:

(Start: 56 @19770 has 113 MA's), (74, 19887), (93, 20067), (105, 20142), (121, 20247), (134, 20295), (139, 20307), (152, 20409), (153, 20412), (180, 20571), (181, 20589), (187, 20625), (208, 20775), (215, 20796),

Gene: Moosehead_18 Start: 16438, Stop: 17538, Start Num: 56

Candidate Starts for Moosehead_18:

(33, 16303), (47, 16405), (Start: 56 @16438 has 113 MA's), (74, 16555), (88, 16675), (105, 16810), (106, 16813), (121, 16915), (134, 16963), (138, 16969), (139, 16975), (143, 17014), (179, 17236), (180, 17239), (181, 17257), (183, 17278), (208, 17443),

Gene: Morkie_20 Start: 17311, Stop: 18411, Start Num: 56

Candidate Starts for Morkie_20:

(23, 17068), (48, 17281), (Start: 56 @17311 has 113 MA's), (74, 17428), (84, 17527), (93, 17608), (121, 17788), (134, 17836), (138, 17842), (139, 17848), (143, 17887), (174, 18076), (179, 18109), (180, 18112), (181, 18130), (187, 18166), (208, 18316),

Gene: Nebulosus_12 Start: 5392, Stop: 6432, Start Num: 54

Candidate Starts for Nebulosus_12:

(Start: 54 @5392 has 24 MA's), (63, 5434), (100, 5722), (121, 5872), (126, 5902), (155, 6073), (176, 6193), (181, 6235),

Gene: Nedarya_11 Start: 5992, Stop: 7026, Start Num: 54

Candidate Starts for Nedarya_11:

(Start: 54 @5992 has 24 MA's), (63, 6034), (100, 6322), (121, 6472), (126, 6502), (155, 6673), (181, 6835),

Gene: Nettuno_18 Start: 16492, Stop: 17592, Start Num: 56

Candidate Starts for Nettuno_18:

(Start: 56 @16492 has 113 MA's), (74, 16609), (121, 16969), (134, 17017), (138, 17023), (139, 17029), (143, 17068), (174, 17257), (179, 17290), (180, 17293), (181, 17311), (187, 17347), (208, 17497),

Gene: NiceHouse_51 Start: 23181, Stop: 24578, Start Num: 53

Candidate Starts for NiceHouse_51:

(Start: 53 @23181 has 2 MA's), (72, 23301), (73, 23304), (74, 23307), (79, 23385), (90, 23469), (98, 23523), (148, 23808), (172, 23946), (186, 24048), (187, 24051), (189, 24060), (192, 24084), (201, 24156), (216, 24249), (231, 24438), (232, 24534), (233, 24540),

Gene: NoShow_26 Start: 23358, Stop: 24416, Start Num: 55

Candidate Starts for NoShow_26:

(38, 23277), (Start: 55 @23358 has 3 MA's), (61, 23397), (69, 23460), (84, 23583), (87, 23598), (105, 23763), (110, 23778), (121, 23871), (126, 23904), (172, 24135), (176, 24162), (179, 24180), (181, 24201), (198, 24330),

Gene: NorManre_37 Start: 30832, Stop: 31941, Start Num: 56

Candidate Starts for NorManre_37:

(Start: 56 @30832 has 113 MA's), (66, 30892), (74, 30949), (88, 31066), (109, 31213), (117, 31246), (118, 31249), (121, 31306), (134, 31357), (139, 31369), (147, 31441), (153, 31474), (180, 31633), (223, 31903), (227, 31924),

Gene: NovaSharks_36 Start: 29113, Stop: 30219, Start Num: 56

Candidate Starts for NovaSharks_36:

(Start: 56 @29113 has 113 MA's), (66, 29170), (74, 29227), (89, 29362), (117, 29524), (118, 29527), (120, 29578), (121, 29584), (134, 29635), (139, 29647), (152, 29749), (153, 29752), (180, 29911), (194, 30019), (200, 30064), (204, 30091), (223, 30181), (225, 30187), (227, 30202),

Gene: OneDirection_18 Start: 16457, Stop: 17557, Start Num: 56

Candidate Starts for OneDirection_18:

(31, 16304), (Start: 56 @16457 has 113 MA's), (74, 16574), (93, 16754), (118, 16877), (121, 16934), (134, 16982), (139, 16994), (174, 17222), (179, 17255), (180, 17258), (181, 17276), (187, 17312), (208, 17462), (225, 17528),

Gene: Oofda_13 Start: 5370, Stop: 6404, Start Num: 54

Candidate Starts for Oofda_13:

(Start: 54 @5370 has 24 MA's), (63, 5412), (100, 5700), (121, 5850), (126, 5880), (155, 6051), (181, 6213),

Gene: Opie_21 Start: 19244, Stop: 20371, Start Num: 50

Candidate Starts for Opie_21:

(21, 19001), (27, 19076), (28, 19091), (34, 19142), (Start: 50 @19244 has 13 MA's), (Start: 56 @19262 has 113 MA's), (Start: 60 @19295 has 1 MA's), (65, 19322), (69, 19358), (73, 19382), (92, 19553), (96,

19574), (97, 19580), (104, 19649), (120, 19739), (121, 19745), (138, 19811), (140, 19832), (156, 19967), (159, 19988), (173, 20078), (208, 20324),

Gene: Oregano_21 Start: 18977, Stop: 20077, Start Num: 56

Candidate Starts for Oregano_21:

(14, 18479), (16, 18548), (17, 18611), (24, 18752), (30, 18836), (Start: 56 @18977 has 113 MA's), (Start: 64 @19022 has 1 MA's), (74, 19094), (121, 19454), (134, 19502), (139, 19514), (142, 19547), (152, 19616), (153, 19619), (174, 19742), (181, 19796), (208, 19982),

Gene: OtterstedtS21_36 Start: 30906, Stop: 32012, Start Num: 56

Candidate Starts for OtterstedtS21_36:

(Start: 56 @30906 has 113 MA's), (74, 31020), (89, 31155), (117, 31317), (118, 31320), (121, 31377), (134, 31428), (139, 31440), (147, 31512), (153, 31545), (180, 31704), (223, 31974), (227, 31995),

Gene: ParvusTarda_36 Start: 30374, Stop: 31480, Start Num: 56

Candidate Starts for ParvusTarda_36:

(Start: 56 @30374 has 113 MA's), (66, 30431), (74, 30488), (89, 30623), (117, 30785), (118, 30788), (121, 30845), (134, 30896), (139, 30908), (147, 30980), (153, 31013), (180, 31172), (223, 31442), (227, 31463),

Gene: Patos_37 Start: 30832, Stop: 31941, Start Num: 56

Candidate Starts for Patos_37:

(Start: 56 @30832 has 113 MA's), (66, 30892), (74, 30949), (88, 31066), (109, 31213), (117, 31246), (118, 31249), (121, 31306), (134, 31357), (139, 31369), (147, 31441), (153, 31474), (180, 31633), (223, 31903), (227, 31924),

Gene: Petra_22 Start: 18743, Stop: 19855, Start Num: 56

Candidate Starts for Petra_22:

(Start: 56 @18743 has 113 MA's), (69, 18839), (73, 18863), (85, 18971), (96, 19055), (97, 19061), (102, 19112), (114, 19166), (120, 19235), (121, 19241), (126, 19274), (137, 19307), (208, 19808),

Gene: Phendrix_93 Start: 59176, Stop: 60240, Start Num: 56

Candidate Starts for Phendrix_93:

(51, 59164), (Start: 56 @59176 has 113 MA's), (83, 59389), (87, 59407), (117, 59593), (121, 59653), (126, 59686), (149, 59806), (156, 59878), (166, 59923), (174, 59980), (179, 60013), (205, 60202),

Gene: PhorbesPhlower_20 Start: 17311, Stop: 18411, Start Num: 56

Candidate Starts for PhorbesPhlower_20:

(23, 17068), (48, 17281), (Start: 56 @17311 has 113 MA's), (74, 17428), (84, 17527), (93, 17608), (121, 17788), (134, 17836), (138, 17842), (139, 17848), (143, 17887), (174, 18076), (179, 18109), (180, 18112), (181, 18130), (187, 18166), (208, 18316),

Gene: PhriskyACE_20 Start: 18447, Stop: 19547, Start Num: 56

Candidate Starts for PhriskyACE_20:

(35, 18333), (Start: 39 @18372 has 1 MA's), (Start: 56 @18447 has 113 MA's), (Start: 64 @18492 has 1 MA's), (74, 18564), (76, 18591), (88, 18684), (106, 18822), (121, 18924), (139, 18984), (152, 19086), (174, 19212), (180, 19248), (181, 19266), (189, 19311), (203, 19425), (208, 19452),

Gene: Pollux_22 Start: 19678, Stop: 20778, Start Num: 56

Candidate Starts for Pollux_22:

(25, 19456), (47, 19645), (Start: 56 @19678 has 113 MA's), (Start: 60 @19708 has 1 MA's), (74, 19795), (93, 19975), (105, 20050), (121, 20155), (134, 20203), (139, 20215), (179, 20476), (180, 20479), (181, 20497), (187, 20533), (208, 20683),

Gene: Polly_20 Start: 19454, Stop: 20509, Start Num: 54

Candidate Starts for Polly_20:

(46, 19424), (Start: 54 @19454 has 24 MA's), (63, 19496), (68, 19544), (121, 19934), (126, 19964), (127, 19967), (153, 20099), (154, 20120), (168, 20210),

Gene: Ranch_36 Start: 29732, Stop: 30838, Start Num: 56

Candidate Starts for Ranch_36:

(Start: 56 @29732 has 113 MA's), (74, 29846), (89, 29981), (117, 30143), (118, 30146), (121, 30203), (134, 30254), (139, 30266), (147, 30338), (153, 30371), (180, 30530), (223, 30800), (227, 30821),

Gene: RazorC_35 Start: 29505, Stop: 30611, Start Num: 56

Candidate Starts for RazorC_35:

(Start: 56 @29505 has 113 MA's), (66, 29562), (74, 29619), (89, 29754), (117, 29916), (118, 29919), (120, 29970), (121, 29976), (134, 30027), (139, 30039), (152, 30141), (180, 30303), (194, 30411), (200, 30456), (204, 30483), (223, 30573), (225, 30579), (227, 30594),

Gene: ReMo_12 Start: 5392, Stop: 6432, Start Num: 54

Candidate Starts for ReMo_12:

(Start: 54 @5392 has 24 MA's), (63, 5434), (100, 5722), (121, 5872), (126, 5902), (155, 6073), (176, 6193), (181, 6235),

Gene: Remus_12 Start: 5360, Stop: 6394, Start Num: 54

Candidate Starts for Remus_12:

(Start: 54 @5360 has 24 MA's), (63, 5402), (100, 5690), (121, 5840), (126, 5870), (155, 6041), (181, 6203),

Gene: Ronaldo_63 Start: 34603, Stop: 35637, Start Num: 56

Candidate Starts for Ronaldo_63:

(Start: 56 @34603 has 113 MA's), (Start: 60 @34633 has 1 MA's), (87, 34834), (104, 34969), (111, 34999), (121, 35080), (128, 35113), (208, 35626),

Gene: Rosalind_12 Start: 5514, Stop: 6554, Start Num: 54

Candidate Starts for Rosalind_12:

(Start: 54 @5514 has 24 MA's), (63, 5556), (100, 5844), (121, 5994), (126, 6024), (155, 6195), (181, 6357),

Gene: Rumi_36 Start: 29116, Stop: 30222, Start Num: 56

Candidate Starts for Rumi_36:

(Start: 56 @29116 has 113 MA's), (66, 29173), (74, 29230), (89, 29365), (117, 29527), (118, 29530), (120, 29581), (121, 29587), (134, 29638), (139, 29650), (152, 29752), (153, 29755), (180, 29914), (194, 30022), (200, 30067), (204, 30094), (223, 30184), (225, 30190), (227, 30205),

Gene: Sadboi_37 Start: 31591, Stop: 32697, Start Num: 56

Candidate Starts for Sadboi_37:

(Start: 56 @31591 has 113 MA's), (74, 31705), (89, 31840), (117, 32002), (118, 32005), (121, 32062), (134, 32113), (139, 32125), (147, 32197), (153, 32230), (180, 32389), (223, 32659), (227, 32680),

Gene: Sahara_18 Start: 16560, Stop: 17687, Start Num: 50

Candidate Starts for Sahara_18:

(Start: 50 @16560 has 13 MA's), (Start: 56 @16578 has 113 MA's), (Start: 60 @16611 has 1 MA's), (65, 16638), (69, 16674), (73, 16698), (96, 16890), (97, 16896), (104, 16965), (120, 17055), (121, 17061), (125, 17091), (130, 17103), (140, 17148), (149, 17199), (156, 17283), (159, 17304), (170,

17373), (173, 17394), (177, 17421), (208, 17640),

Gene: Samman98_21 Start: 18946, Stop: 20046, Start Num: 56

Candidate Starts for Samman98_21:

(14, 18448), (16, 18517), (17, 18580), (24, 18721), (30, 18805), (Start: 56 @18946 has 113 MA's), (Start: 64 @18991 has 1 MA's), (74, 19063), (121, 19423), (134, 19471), (139, 19483), (142, 19516), (152, 19585), (153, 19588), (174, 19711), (181, 19765), (208, 19951),

Gene: Sampudon_36 Start: 31759, Stop: 32865, Start Num: 56

Candidate Starts for Sampudon_36:

(Start: 56 @31759 has 113 MA's), (74, 31873), (89, 32008), (117, 32170), (118, 32173), (121, 32230), (134, 32281), (139, 32293), (147, 32365), (153, 32398), (180, 32557), (223, 32827), (227, 32848),

Gene: Savage_18 Start: 16534, Stop: 17661, Start Num: 50

Candidate Starts for Savage_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: Schmidt_21 Start: 16046, Stop: 17080, Start Num: 54

Candidate Starts for Schmidt_21:

(Start: 54 @16046 has 24 MA's), (57, 16064), (59, 16076), (63, 16088), (68, 16136), (69, 16139), (79, 16241), (81, 16253), (121, 16526), (126, 16556), (138, 16580), (154, 16700), (163, 16757), (164, 16763), (165, 16769), (171, 16808), (176, 16838), (178, 16850), (179, 16859), (181, 16880), (212, 17075),

Gene: Schnabeltier_21 Start: 19238, Stop: 20347, Start Num: 56

Candidate Starts for Schnabeltier_21:

(Start: 50 @19220 has 13 MA's), (Start: 56 @19238 has 113 MA's), (69, 19334), (72, 19355), (73, 19358), (96, 19550), (97, 19556), (120, 19715), (121, 19721), (124, 19748), (125, 19751), (132, 19769), (156, 19943), (159, 19964), (208, 20300),

Gene: Sekhmet_21 Start: 19306, Stop: 20406, Start Num: 56

Candidate Starts for Sekhmet_21:

(11, 18787), (14, 18808), (16, 18877), (17, 18940), (30, 19165), (Start: 56 @19306 has 113 MA's), (Start: 64 @19351 has 1 MA's), (74, 19423), (106, 19681), (121, 19783), (134, 19831), (139, 19843), (142, 19876), (152, 19945), (153, 19948), (174, 20071), (181, 20125), (208, 20311),

Gene: Shatter_41 Start: 34143, Stop: 35276, Start Num: 56

Candidate Starts for Shatter_41:

(Start: 37 @34059 has 1 MA's), (42, 34092), (Start: 56 @34143 has 113 MA's), (Start: 64 @34188 has 1 MA's), (69, 34236), (74, 34263), (86, 34368), (118, 34566), (121, 34623), (131, 34662), (134, 34668), (137, 34671), (139, 34677), (149, 34755), (158, 34836), (179, 34971), (180, 34974), (182, 35001), (185, 35019), (186, 35034), (196, 35115), (225, 35244), (227, 35259),

Gene: ShayRa_13 Start: 5514, Stop: 6554, Start Num: 54

Candidate Starts for ShayRa_13:

(Start: 54 @5514 has 24 MA's), (63, 5556), (100, 5844), (121, 5994), (126, 6024), (155, 6195), (176, 6315), (181, 6357),

Gene: Shlim410_21 Start: 19524, Stop: 20633, Start Num: 56

Candidate Starts for Shlim410_21:

(36, 19413), (40, 19452), (Start: 56 @19524 has 113 MA's), (69, 19620), (73, 19644), (96, 19836), (97, 19842), (104, 19911), (120, 20001), (121, 20007), (130, 20049), (138, 20073), (140, 20094), (149, 20145), (151, 20169), (156, 20229), (173, 20340), (177, 20367),

Gene: Sienna_29 Start: 25970, Stop: 27115, Start Num: 56

Candidate Starts for Sienna_29:

(Start: 56 @25970 has 113 MA's), (57, 25988), (70, 26072), (74, 26087), (93, 26267), (121, 26447), (134, 26498), (139, 26507), (147, 26579), (180, 26804), (186, 26861), (221, 27056),

Gene: Sisko_41 Start: 34922, Stop: 36076, Start Num: 56

Candidate Starts for Sisko_41:

(19, 34568), (Start: 37 @34838 has 1 MA's), (42, 34871), (43, 34877), (Start: 56 @34922 has 113 MA's), (69, 35015), (75, 35051), (88, 35165), (119, 35372), (121, 35405), (139, 35456), (149, 35534), (152, 35558), (179, 35750), (181, 35771), (182, 35780), (185, 35798), (186, 35813), (196, 35894), (213, 35990),

Gene: Sleepyhead_20 Start: 17954, Stop: 19021, Start Num: 52

Candidate Starts for Sleepyhead_20:

(29, 17792), (Start: 52 @17954 has 1 MA's), (121, 18449), (125, 18479), (135, 18512), (156, 18674), (190, 18875),

Gene: SoilAssassin_18 Start: 16527, Stop: 17654, Start Num: 50

Candidate Starts for SoilAssassin_18:

(Start: 50 @16527 has 13 MA's), (Start: 56 @16545 has 113 MA's), (57, 16563), (Start: 60 @16578 has 1 MA's), (65, 16605), (69, 16641), (73, 16665), (92, 16836), (96, 16857), (97, 16863), (104, 16932), (120, 17022), (121, 17028), (125, 17058), (130, 17070), (140, 17115), (149, 17166), (156, 17250), (159, 17271), (170, 17340), (173, 17361), (177, 17388), (208, 17607),

Gene: Soups_12 Start: 5514, Stop: 6554, Start Num: 54

Candidate Starts for Soups_12:

(Start: 54 @5514 has 24 MA's), (63, 5556), (100, 5844), (121, 5994), (126, 6024), (155, 6195), (176, 6315), (181, 6357),

Gene: Sour_46 Start: 38789, Stop: 39943, Start Num: 56

Candidate Starts for Sour_46:

(44, 38750), (49, 38759), (Start: 56 @38789 has 113 MA's), (69, 38882), (75, 38918), (88, 39032), (119, 39239), (121, 39272), (139, 39323), (142, 39356), (149, 39401), (157, 39479), (158, 39482), (179, 39617), (181, 39638), (185, 39665), (196, 39764), (226, 39926),

Gene: Sproutie_18 Start: 16552, Stop: 17661, Start Num: 56

Candidate Starts for Sproutie_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: Strosahl_12 Start: 5360, Stop: 6394, Start Num: 54

Candidate Starts for Strosahl_12:

(Start: 54 @5360 has 24 MA's), (63, 5402), (100, 5690), (121, 5840), (126, 5870), (155, 6041), (181, 6203),

Gene: Suerte_19 Start: 18436, Stop: 19536, Start Num: 56

Candidate Starts for Suerte_19:

(35, 18322), (Start: 39 @18361 has 1 MA's), (Start: 56 @18436 has 113 MA's), (Start: 64 @18481 has 1 MA's), (74, 18553), (76, 18580), (88, 18673), (106, 18811), (121, 18913), (139, 18973), (152, 19075), (174, 19201), (180, 19237), (181, 19255), (186, 19288), (187, 19291),

Gene: Suzy_29 Start: 27111, Stop: 28256, Start Num: 56

Candidate Starts for Suzy_29:

(Start: 56 @27111 has 113 MA's), (57, 27129), (70, 27213), (74, 27228), (93, 27408), (121, 27588), (137, 27642), (139, 27648), (147, 27720), (180, 27945), (186, 28002), (221, 28197),

Gene: Switzerland_12 Start: 5514, Stop: 6554, Start Num: 54

Candidate Starts for Switzerland_12:

(Start: 54 @5514 has 24 MA's), (63, 5556), (100, 5844), (121, 5994), (126, 6024), (155, 6195), (181, 6357),

Gene: TPA4_31 Start: 28502, Stop: 29614, Start Num: 56

Candidate Starts for TPA4_31:

(Start: 56 @28502 has 113 MA's), (58, 28529), (67, 28574), (119, 28970), (120, 28997), (121, 29003), (137, 29072), (158, 29234), (162, 29255), (174, 29330), (179, 29378), (181, 29399), (186, 29435), (187, 29438), (201, 29540),

Gene: TaronosaurusRx_21 Start: 19258, Stop: 20367, Start Num: 56

Candidate Starts for TaronosaurusRx_21:

(Start: 50 @19240 has 13 MA's), (Start: 56 @19258 has 113 MA's), (Start: 60 @19291 has 1 MA's), (65, 19318), (69, 19354), (73, 19378), (92, 19549), (96, 19570), (97, 19576), (104, 19645), (120, 19735), (121, 19741), (138, 19807), (149, 19879), (156, 19963), (159, 19984), (173, 20074), (208, 20320),

Gene: Terapin_30 Start: 25971, Stop: 27116, Start Num: 56

Candidate Starts for Terapin_30:

(Start: 56 @25971 has 113 MA's), (57, 25989), (70, 26073), (74, 26088), (78, 26151), (93, 26268), (121, 26448), (134, 26499), (139, 26508), (147, 26580), (180, 26805), (186, 26862), (221, 27057),

Gene: Thimann_21 Start: 18904, Stop: 20004, Start Num: 56

Candidate Starts for Thimann_21:

(16, 18475), (30, 18763), (Start: 56 @18904 has 113 MA's), (74, 19021), (106, 19279), (117, 19321), (121, 19381), (134, 19429), (139, 19441), (142, 19474), (152, 19543), (153, 19546), (174, 19669), (181, 19723),

Gene: Tillicus_36 Start: 30161, Stop: 31315, Start Num: 56

Candidate Starts for Tillicus_36:

(Start: 56 @30161 has 113 MA's), (57, 30179), (74, 30278), (118, 30581), (121, 30638), (127, 30674), (129, 30677), (147, 30770), (174, 30947), (186, 31052), (208, 31205), (217, 31235), (219, 31244),

Gene: TinyDot_20 Start: 16935, Stop: 18035, Start Num: 56

Candidate Starts for TinyDot_20:

(Start: 56 @16935 has 113 MA's), (74, 17052), (93, 17232), (121, 17412), (134, 17460), (138, 17466), (139, 17472), (174, 17700), (179, 17733), (180, 17736), (181, 17754), (187, 17790), (208, 17940),

Gene: Trina_61 Start: 26883, Stop: 28274, Start Num: 53

Candidate Starts for Trina_61:

(Start: 53 @26883 has 2 MA's), (77, 27075), (82, 27102), (90, 27171), (109, 27291), (111, 27303), (112, 27309), (154, 27561), (172, 27651), (188, 27756), (195, 27813), (206, 27888), (229, 28023), (230, 28104),

Gene: Trine_20 Start: 16859, Stop: 18004, Start Num: 56

Candidate Starts for Trine_20:

(Start: 56 @16859 has 113 MA's), (Start: 64 @16904 has 1 MA's), (66, 16916), (74, 16979), (118, 17282), (121, 17339), (152, 17498), (182, 17720), (189, 17762), (224, 17972),

Gene: TuertoX_18 Start: 16534, Stop: 17661, Start Num: 50

Candidate Starts for TuertoX_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: Twinkle_21 Start: 20583, Stop: 21692, Start Num: 56

Candidate Starts for Twinkle_21:

(36, 20472), (40, 20511), (Start: 56 @20583 has 113 MA's), (69, 20679), (73, 20703), (96, 20895), (97, 20901), (104, 20970), (120, 21060), (121, 21066), (130, 21108), (138, 21132), (140, 21153), (149, 21204), (151, 21228), (156, 21288), (173, 21399), (177, 21426),

Gene: Upyo_20 Start: 17042, Stop: 18220, Start Num: 56

Candidate Starts for Upyo_20:

(Start: 56 @17042 has 113 MA's), (67, 17114), (117, 17465), (120, 17519), (121, 17525), (139, 17585), (153, 17690), (166, 17780), (180, 17870), (184, 17912), (186, 17939), (201, 18044), (202, 18050), (218, 18146), (222, 18176), (226, 18200),

Gene: VanLee_28 Start: 24067, Stop: 25176, Start Num: 56

Candidate Starts for VanLee_28:

(2, 23158), (4, 23359), (5, 23401), (6, 23416), (8, 23470), (15, 23593), (26, 23854), (51, 24055), (Start: 56 @24067 has 113 MA's), (Start: 60 @24097 has 1 MA's), (72, 24178), (91, 24340), (117, 24484), (121, 24544), (126, 24577), (136, 24598), (137, 24601), (142, 24643), (145, 24658), (152, 24700), (174, 24853), (179, 24898), (199, 25051), (207, 25099),

Gene: Volt_63 Start: 34767, Stop: 35801, Start Num: 56

Candidate Starts for Volt_63:

(Start: 56 @34767 has 113 MA's), (Start: 60 @34797 has 1 MA's), (87, 34998), (104, 35133), (111, 35163), (121, 35244), (128, 35277), (208, 35790),

Gene: Waits_12 Start: 5366, Stop: 6400, Start Num: 54

Candidate Starts for Waits_12:

(Start: 54 @5366 has 24 MA's), (63, 5408), (100, 5696), (121, 5846), (126, 5876), (155, 6047), (181, 6209),

Gene: Warrior24_13 Start: 5370, Stop: 6404, Start Num: 54

Candidate Starts for Warrior24_13:

(Start: 54 @5370 has 24 MA's), (63, 5412), (100, 5700), (121, 5850), (126, 5880), (155, 6051), (181, 6213),

Gene: Whiteclaw_18 Start: 16552, Stop: 17661, Start Num: 56

Candidate Starts for Whiteclaw_18:

(Start: 50 @16534 has 13 MA's), (Start: 56 @16552 has 113 MA's), (Start: 60 @16585 has 1 MA's), (65, 16612), (69, 16648), (73, 16672), (96, 16864), (97, 16870), (104, 16939), (120, 17029), (121, 17035), (125, 17065), (130, 17077), (140, 17122), (149, 17173), (156, 17257), (170, 17347), (173, 17368), (177, 17395), (208, 17614),

Gene: WinkNick_21 Start: 18931, Stop: 20031, Start Num: 56

Candidate Starts for WinkNick_21:

(14, 18433), (16, 18502), (17, 18565), (24, 18706), (30, 18790), (Start: 56 @18931 has 113 MA's), (Start: 64 @18976 has 1 MA's), (74, 19048), (121, 19408), (134, 19456), (139, 19468), (142, 19501), (152, 19570), (153, 19573), (174, 19696), (181, 19750), (208, 19936),

Gene: Wojtek_35 Start: 30458, Stop: 31564, Start Num: 56

Candidate Starts for Wojtek_35:

(Start: 56 @30458 has 113 MA's), (66, 30515), (74, 30572), (89, 30707), (117, 30869), (118, 30872), (121, 30929), (134, 30980), (139, 30992), (147, 31064), (153, 31097), (180, 31256), (223, 31526), (227, 31547),

Gene: Xenia2_29 Start: 28623, Stop: 29723, Start Num: 56

Candidate Starts for Xenia2_29:

(Start: 56 @28623 has 113 MA's), (66, 28680), (69, 28716), (74, 28737), (86, 28839), (88, 28854), (108, 28998), (109, 29001), (117, 29034), (118, 29037), (121, 29094), (139, 29157), (144, 29202), (174, 29385), (180, 29421), (208, 29625), (225, 29694),

Gene: Yago84_41 Start: 34996, Stop: 36150, Start Num: 56

Candidate Starts for Yago84_41:

(19, 34642), (Start: 37 @34912 has 1 MA's), (42, 34945), (43, 34951), (Start: 56 @34996 has 113 MA's), (69, 35089), (75, 35125), (88, 35239), (119, 35446), (121, 35479), (139, 35530), (149, 35608), (152, 35632), (179, 35824), (181, 35845), (182, 35854), (185, 35872), (196, 35968), (213, 36064),

Gene: Yeet412_18 Start: 16545, Stop: 17654, Start Num: 56

Candidate Starts for Yeet412_18:

(Start: 50 @16527 has 13 MA's), (Start: 56 @16545 has 113 MA's), (57, 16563), (Start: 60 @16578 has 1 MA's), (65, 16605), (69, 16641), (73, 16665), (92, 16836), (96, 16857), (97, 16863), (104, 16932), (120, 17022), (121, 17028), (125, 17058), (130, 17070), (140, 17115), (149, 17166), (156, 17250), (159, 17271), (170, 17340), (173, 17361), (177, 17388), (208, 17607),

Gene: Yikes_37 Start: 31838, Stop: 32944, Start Num: 56

Candidate Starts for Yikes_37:

(Start: 56 @31838 has 113 MA's), (66, 31895), (74, 31952), (89, 32087), (117, 32249), (118, 32252), (121, 32309), (134, 32360), (139, 32372), (147, 32444), (153, 32477), (180, 32636), (223, 32906), (227, 32927),

Gene: YungMoney_42 Start: 36228, Stop: 37283, Start Num: 54

Candidate Starts for YungMoney_42:

(Start: 54 @36228 has 24 MA's), (63, 36270), (100, 36558), (121, 36708), (126, 36738), (137, 36768), (141, 36807), (154, 36894), (168, 36984),

Gene: Zany_35 Start: 31363, Stop: 32469, Start Num: 56

Candidate Starts for Zany_35:

(Start: 56 @31363 has 113 MA's), (66, 31420), (74, 31477), (89, 31612), (117, 31774), (118, 31777), (121, 31834), (134, 31885), (139, 31897), (147, 31969), (153, 32002), (160, 32071), (180, 32161), (223, 32431), (227, 32452),

Gene: Ziko_63 Start: 34589, Stop: 35623, Start Num: 56

Candidate Starts for Ziko_63:

(Start: 56 @34589 has 113 MA's), (Start: 60 @34619 has 1 MA's), (87, 34820), (104, 34955), (111, 34985), (121, 35066), (128, 35099), (208, 35612),

