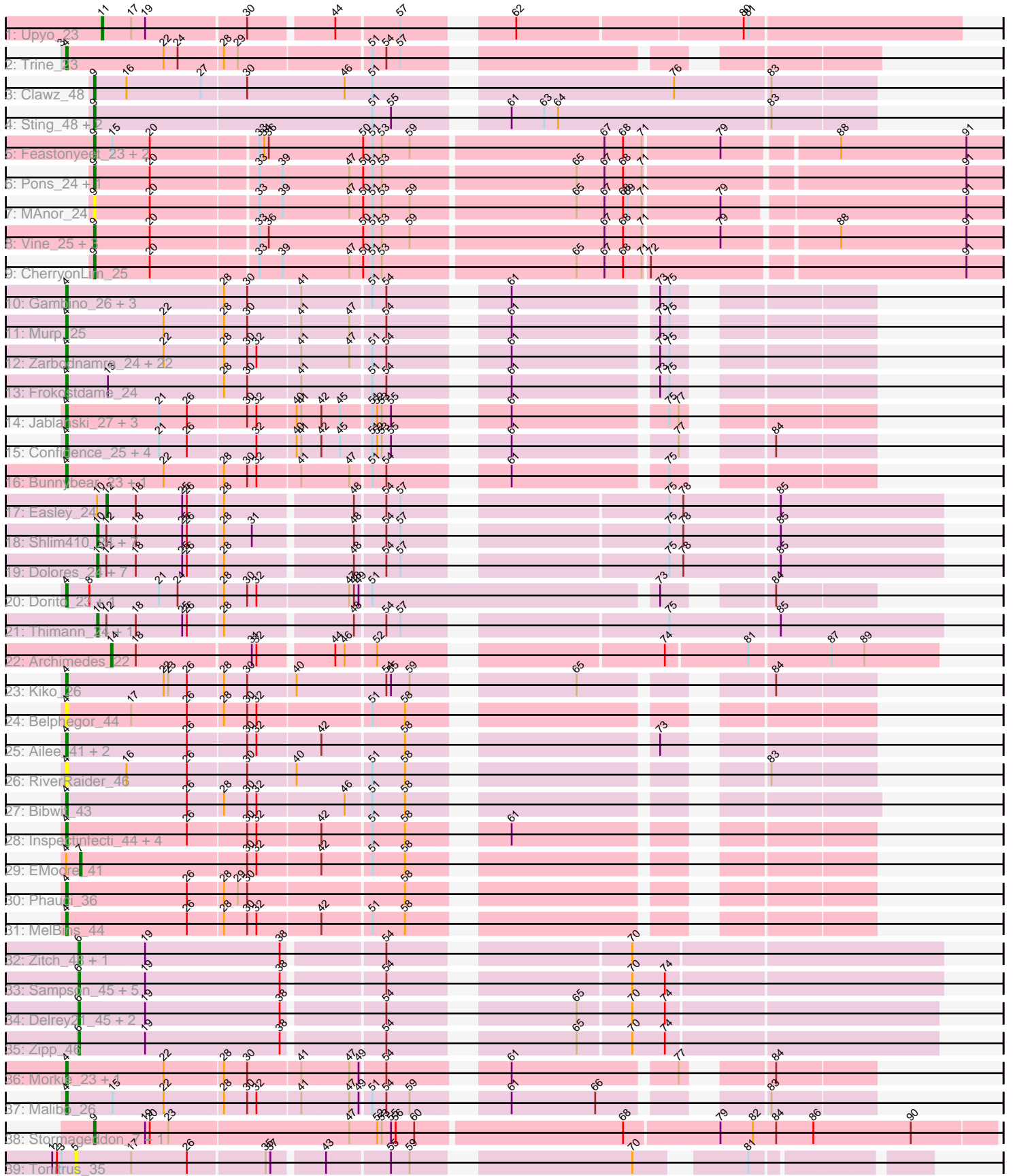


Pham 157727



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 157727 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157727 has 112 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Upyo_23
- Track 2 : Trine_23
- Track 3 : Clawz_48
- Track 4 : Sting_48, DonTron_48, Soos_44
- Track 5 : Feastonyeet_23, PotPie_25, BigChungus_23
- Track 6 : Pons_24, Mayweather_25
- Track 7 : MAnor_24
- Track 8 : Vine_25, Elinal_25, Lauer_23, KayGee_23
- Track 9 : CherryonLim_25
- Track 10 : Gambino_26, Azula_26, Blueberry_26, MissRona_26
- Track 11 : Murp_25
- Track 12 : Zarbodnamra_24, Malachai_25, Jalammah_26, Wisp_23, CaptainKirk2_24, Mellie_23, UmaThurman_24, JasperJr_24, Archis_25, Samba_24, PhrostedPhlake_26, Utz_24, Begonia_25, Guacamole_24, Lysidious_25, Delian_24, Ferry_23, Melba_24, Hitter_24, Barco_24, BlingBling_24, MintFen_24, Walrus_26
- Track 13 : Frokostdame_24
- Track 14 : Jablanski_27, Posh_27, Pytheas_27, Wrigley_27
- Track 15 : Confidence_25, Cashline_25, BeeGee_25, ODay_31, Denise_21
- Track 16 : Bunnybear_23, Pipp_24
- Track 17 : Easley_24
- Track 18 : Shlim410_24, Adora_24, Annalisa_24, Howe_24, Hortense_24, Twinkle_24, Sekhmet_24, Beenie_24
- Track 19 : Dolores_24, DobbysSock_23, WinkNick_24, MichaelScott_24, Samman98_24, Oregano_24, Mcklovin_24, Clark_24
- Track 20 : Dorito_23, PhriskyACE_23
- Track 21 : Thimann_24, Suerte_22
- Track 22 : Archimedes_22
- Track 23 : Kiko_26
- Track 24 : Belphegor_44
- Track 25 : Ailee_41, Keitabear_44, Sedona_44
- Track 26 : RiverRaider_46
- Track 27 : Bibwit_43
- Track 28 : Inspectinfecti_44, Phinally_43, Leonard_43, Hans_45, Ali17_41
- Track 29 : EMOore_41
- Track 30 : Phauci_36
- Track 31 : MelBins_44
- Track 32 : Zitch_48, APunk_46

- Track 33 : Sampson_45, Scioto_46, ViaConlectus_45, Abblin_45, Tardus_46, Natkenzie_45
- Track 34 : Delrey21_45, DoctorFroggo_45, Verity_45
- Track 35 : Zipp_46
- Track 36 : Morkie_23, PhorbPhlower_23
- Track 37 : Malibo_26
- Track 38 : Stormageddon_7, RedWattleHog_7
- Track 39 : Tonitrus_35

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

The start number called the most often in the published annotations is 4, it was called in 55 of the 97 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ailee_41, Ali17_41, Archis_25, Azula_26, Barco_24, BeeGee_25, Begonia_25, Belphegor_44, Bibwit_43, BlingBling_24, Blueberry_26, Bunnybear_23, CaptainKirk2_24, Cashline_25, Confidence_25, Delian_24, Denise_21, Dorito_23, Fenry_23, Frokostdame_24, Gambino_26, Guacamole_24, Hans_45, Hitter_24, Inspectinfecti_44, Jablanski_27, Jalammah_26, JasperJr_24, Keitabear_44, Kiko_26, Leonard_43, Lysidious_25, Malachai_25, Malibo_26, MelBins_44, Melba_24, Mellie_23, MintFen_24, MissRona_26, Morkie_23, Murp_25, ODay_31, Phauci_36, Phinally_43, PhorbPhlower_23, PhriskyACE_23, PhrostedPhlake_26, Pipp_24, Posh_27, Pytheas_27, RiverRaider_46, Samba_24, Sedona_44, Trine_23, UmaThurman_24, Utz_24, Walrus_26, Wisp_23, Wrigley_27, Zarbodnamra_24,

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

- EMoore_41,

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

- APunk_46, Abblin_45, Adora_24, Annalisa_24, Archimedes_22, Beenie_24, BigChungus_23, CherryonLim_25, Clark_24, Clawz_48, Delrey21_45, DobbysSock_23, DoctorFroggo_45, Dolores_24, DonTron_48, Easley_24, Elinal_25, Feastonyeet_23, Hortense_24, Howe_24, KayGee_23, Lauer_23, MAnor_24, Mayweather_25, Mcklovin_24, MichaelScott_24, Natkenzie_45, Oregano_24, Pons_24, PotPie_25, RedWattleHog_7, Samman98_24, Sampson_45, Scioto_46, Sekhmet_24, Shlim410_24, Soos_44, Sting_48, Stormageddon_7, Suerte_22, Tardus_46, Thimann_24, Tonitrus_35, Twinkle_24, Upyo_23, Verity_45, ViaConlectus_45, Vine_25, WinkNick_24, Zipp_46, Zitch_48,

Summary by start number:

Start 4:

- Found in 61 of 112 (54.5%) of genes in pham
- Manual Annotations of this start: 55 of 97
- Called 98.4% of time when present
- Phage (with cluster) where this start called: Ailee_41 (DE1), Ali17_41 (DE2), Archis_25 (CV), Azula_26 (CV), Barco_24 (CV), BeeGee_25 (CY), Begonia_25 (CV), Belphegor_44 (DE), Bibwit_43 (DE1), BlingBling_24 (CV), Blueberry_26 (CV), Bunnybear_23 (CZ), CaptainKirk2_24 (CV), Cashline_25 (CY), Confidence_25 (CY1),

Delian_24 (CV), Denise_21 (CZ5), Dorito_23 (CZ4), Fenry_23 (CV), Frokostdame_24 (CV), Gambino_26 (CV), Guacamole_24 (CV), Hans_45 (DE2), Hitter_24 (CV), Inspectinfecti_44 (DE2), Jablanski_27 (CY), Jalammah_26 (CV), JasperJr_24 (CV), Keitabear_44 (DE1), Kiko_26 (DB), Leonard_43 (DE2), Lysidious_25 (CV), Malachai_25 (CV), Malibo_26 (DW), MelBins_44 (DE2), Melba_24 (CV), Mellie_23 (CV), MintFen_24 (CV), MissRona_26 (CV), Morkie_23 (DH), Murp_25 (CV), ODay_31 (DN), Phauci_36 (DE2), Phinally_43 (DE2), PhorbesPhlower_23 (DH), PhriskyACE_23 (CZ4), PhrostedPhlake_26 (CV), Pipp_24 (CV), Posh_27 (CY), Pytheas_27 (CY), RiverRaider_46 (DE1), Samba_24 (CV), Sedona_44 (DE1), Trine_23 (CD), UmaThurman_24 (CV), Utz_24 (CV), Walrus_26 (CV), Wisp_23 (CV), Wrigley_27 (CY), Zarbodnamra_24 (CV),

Start 5:

- Found in 1 of 112 (0.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonitrus_35 (singleton),

Start 6:

- Found in 12 of 112 (10.7%) of genes in pham
- Manual Annotations of this start: 9 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: APunk_46 (DE4), Abblin_45 (DE4), Delrey21_45 (DE4), DoctorFroggo_45 (DE4), Natkenzie_45 (DE4), Sampson_45 (DE4), Scioto_46 (DE4), Tardus_46 (DE4), Verity_45 (DE4), ViaConlectus_45 (DE4), Zipp_46 (DE4), Zitch_48 (DE4),

Start 7:

- Found in 1 of 112 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EMoore_41 (DE2),

Start 9:

- Found in 17 of 112 (15.2%) of genes in pham
- Manual Annotations of this start: 12 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigChungus_23 (CT), CherryonLim_25 (CT), Clawz_48 (CP), DonTron_48 (CP), Elinal_25 (CT), Feastonyeet_23 (CT), KayGee_23 (CT), Lauer_23 (CT), MAnor_24 (CT), Mayweather_25 (CT), Pons_24 (CT), PotPie_25 (CT), RedWattleHog_7 (DX), Soos_44 (CP), Sting_48 (CP), Stormageddon_7 (DX), Vine_25 (CT),

Start 10:

- Found in 19 of 112 (17.0%) of genes in pham
- Manual Annotations of this start: 17 of 97
- Called 94.7% of time when present
- Phage (with cluster) where this start called: Adora_24 (CZ4), Annalisa_24 (CZ4), Beenie_24 (CZ4), Clark_24 (CZ4), DobbysSock_23 (CZ4), Dolores_24 (CZ4), Hortense_24 (CZ4), Howe_24 (CZ4), Mcklovin_24 (CZ4), MichaelScott_24 (CZ4), Oregano_24 (CZ4), Samman98_24 (CZ4), Sekhmet_24 (CZ4), Shlim410_24 (CZ4), Suerte_22 (CZ4), Thimann_24 (CZ4), Twinkle_24 (CZ4), WinkNick_24 (CZ4),

Start 11:

- Found in 1 of 112 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Upyo_23 (CD),

Start 12:

- Found in 19 of 112 (17.0%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Easley_24 (CZ4),

Start 14:

- Found in 1 of 112 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archimedes_22 (DA),

Summary by clusters:

There are 20 clusters represented in this pham: DN, CY1, DE4, DH, DE1, DE2, DE, DB, singleton, CZ4, DA, CZ, CY, CD, DX, DW, CP, CZ5, CV, CT,

Info for manual annotations of cluster CD:

- Start number 4 was manually annotated 1 time for cluster CD.
- Start number 11 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CP:

- Start number 9 was manually annotated 2 times for cluster CP.

Info for manual annotations of cluster CT:

- Start number 9 was manually annotated 8 times for cluster CT.

Info for manual annotations of cluster CV:

- Start number 4 was manually annotated 29 times for cluster CV.

Info for manual annotations of cluster CY:

- Start number 4 was manually annotated 6 times for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 4 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CZ:

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

Info for manual annotations of cluster CZ4:

- Start number 4 was manually annotated 1 time for cluster CZ4.
- Start number 10 was manually annotated 17 times for cluster CZ4.
- Start number 12 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 4 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster DA:

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

Info for manual annotations of cluster DB:

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

Info for manual annotations of cluster DE1:

- Start number 4 was manually annotated 4 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 4 was manually annotated 6 times for cluster DE2.
- Start number 7 was manually annotated 1 time for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 6 was manually annotated 9 times for cluster DE4.

Info for manual annotations of cluster DH:

- Start number 4 was manually annotated 2 times for cluster DH.

Info for manual annotations of cluster DN:

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

Info for manual annotations of cluster DW:

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

Info for manual annotations of cluster DX:

- Start number 9 was manually annotated 2 times for cluster DX.

Gene Information:

Gene: APunk_46 Start: 39623, Stop: 40141, Start Num: 6

Candidate Starts for APunk_46:

(Start: 6 @39623 has 9 MA's), (19, 39665), (38, 39752), (54, 39812), (70, 39947),

Gene: Abblin_45 Start: 40160, Stop: 40678, Start Num: 6

Candidate Starts for Abblin_45:

(Start: 6 @40160 has 9 MA's), (19, 40202), (38, 40289), (54, 40349), (70, 40484), (74, 40505),

Gene: Adora_24 Start: 21281, Stop: 21787, Start Num: 10

Candidate Starts for Adora_24:

(Start: 10 @21281 has 17 MA's), (Start: 12 @21287 has 1 MA's), (18, 21305), (25, 21335), (26, 21338), (28, 21359), (31, 21377), (48, 21437), (54, 21455), (57, 21464), (75, 21614), (78, 21623), (85, 21683),

Gene: Ailee_41 Start: 38585, Stop: 39043, Start Num: 4

Candidate Starts for Ailee_41:

(Start: 4 @38585 has 55 MA's), (26, 38663), (30, 38699), (32, 38705), (42, 38744), (58, 38795), (73, 38930),

Gene: Ali17_41 Start: 37879, Stop: 38337, Start Num: 4

Candidate Starts for Ali17_41:

(Start: 4 @37879 has 55 MA's), (26, 37957), (30, 37993), (32, 37999), (42, 38038), (51, 38068), (58, 38089), (61, 38137),

Gene: Annalisa_24 Start: 20743, Stop: 21249, Start Num: 10

Candidate Starts for Annalisa_24:

(Start: 10 @20743 has 17 MA's), (Start: 12 @20749 has 1 MA's), (18, 20767), (25, 20797), (26, 20800), (28, 20821), (31, 20839), (48, 20899), (54, 20917), (57, 20926), (75, 21076), (78, 21085), (85, 21145),

Gene: Archimedes_22 Start: 19353, Stop: 19844, Start Num: 14

Candidate Starts for Archimedes_22:

(Start: 14 @19353 has 1 MA's), (18, 19368), (31, 19440), (32, 19443), (44, 19488), (46, 19494), (52, 19512), (74, 19674), (81, 19725), (87, 19776), (89, 19797),

Gene: Archis_25 Start: 20911, Stop: 21369, Start Num: 4

Candidate Starts for Archis_25:

(Start: 4 @20911 has 55 MA's), (22, 20974), (28, 21010), (30, 21025), (32, 21031), (41, 21058), (47, 21088), (51, 21100), (54, 21109), (61, 21169), (73, 21256), (75, 21262),

Gene: Azula_26 Start: 21012, Stop: 21470, Start Num: 4

Candidate Starts for Azula_26:

(Start: 4 @21012 has 55 MA's), (28, 21111), (30, 21126), (41, 21159), (51, 21201), (54, 21210), (61, 21270), (73, 21357), (75, 21363),

Gene: Barco_24 Start: 20700, Stop: 21158, Start Num: 4

Candidate Starts for Barco_24:

(Start: 4 @20700 has 55 MA's), (22, 20763), (28, 20799), (30, 20814), (32, 20820), (41, 20847), (47, 20877), (51, 20889), (54, 20898), (61, 20958), (73, 21045), (75, 21051),

Gene: BeeGee_25 Start: 21331, Stop: 21789, Start Num: 4

Candidate Starts for BeeGee_25:

(Start: 4 @21331 has 55 MA's), (21, 21391), (26, 21409), (32, 21451), (40, 21475), (41, 21478), (42, 21490), (45, 21502), (51, 21520), (52, 21523), (53, 21526), (55, 21532), (61, 21589), (77, 21688), (84, 21727),

Gene: Beenie_24 Start: 21100, Stop: 21606, Start Num: 10

Candidate Starts for Beenie_24:

(Start: 10 @21100 has 17 MA's), (Start: 12 @21106 has 1 MA's), (18, 21124), (25, 21154), (26, 21157), (28, 21178), (31, 21196), (48, 21256), (54, 21274), (57, 21283), (75, 21433), (78, 21442), (85, 21502),

Gene: Begonia_25 Start: 21181, Stop: 21639, Start Num: 4

Candidate Starts for Begonia_25:

(Start: 4 @21181 has 55 MA's), (22, 21244), (28, 21280), (30, 21295), (32, 21301), (41, 21328), (47, 21358), (51, 21370), (54, 21379), (61, 21439), (73, 21526), (75, 21532),

Gene: Belphegor_44 Start: 39930, Stop: 40388, Start Num: 4

Candidate Starts for Belphegor_44:

(Start: 4 @39930 has 55 MA's), (17, 39972), (26, 40008), (28, 40029), (30, 40044), (32, 40050), (51, 40119), (58, 40140),

Gene: Bibwit_43 Start: 38519, Stop: 38980, Start Num: 4

Candidate Starts for Bibwit_43:

(Start: 4 @38519 has 55 MA's), (26, 38597), (28, 38618), (30, 38633), (32, 38639), (46, 38693), (51, 38708), (58, 38729),

Gene: BigChungus_23 Start: 19756, Stop: 20319, Start Num: 9

Candidate Starts for BigChungus_23:

(Start: 9 @19756 has 12 MA's), (15, 19768), (20, 19792), (33, 19858), (34, 19861), (36, 19864), (50, 19924), (51, 19930), (53, 19936), (59, 19954), (67, 20074), (68, 20086), (71, 20098), (79, 20146), (88, 20215), (91, 20296),

Gene: BlingBling_24 Start: 20700, Stop: 21158, Start Num: 4

Candidate Starts for BlingBling_24:

(Start: 4 @20700 has 55 MA's), (22, 20763), (28, 20799), (30, 20814), (32, 20820), (41, 20847), (47, 20877), (51, 20889), (54, 20898), (61, 20958), (73, 21045), (75, 21051),

Gene: Blueberry_26 Start: 21012, Stop: 21470, Start Num: 4

Candidate Starts for Blueberry_26:

(Start: 4 @21012 has 55 MA's), (28, 21111), (30, 21126), (41, 21159), (51, 21201), (54, 21210), (61, 21270), (73, 21357), (75, 21363),

Gene: Bunnybear_23 Start: 21777, Stop: 22235, Start Num: 4

Candidate Starts for Bunnybear_23:

(Start: 4 @21777 has 55 MA's), (22, 21840), (28, 21876), (30, 21891), (32, 21897), (41, 21924), (47, 21954), (51, 21966), (54, 21975), (61, 22035), (75, 22128),

Gene: CaptainKirk2_24 Start: 20721, Stop: 21179, Start Num: 4

Candidate Starts for CaptainKirk2_24:

(Start: 4 @20721 has 55 MA's), (22, 20784), (28, 20820), (30, 20835), (32, 20841), (41, 20868), (47, 20898), (51, 20910), (54, 20919), (61, 20979), (73, 21066), (75, 21072),

Gene: Cashline_25 Start: 21198, Stop: 21656, Start Num: 4

Candidate Starts for Cashline_25:

(Start: 4 @21198 has 55 MA's), (21, 21258), (26, 21276), (32, 21318), (40, 21342), (41, 21345), (42, 21357), (45, 21369), (51, 21387), (52, 21390), (53, 21393), (55, 21399), (61, 21456), (77, 21555), (84, 21594),

Gene: CherryonLim_25 Start: 20466, Stop: 21029, Start Num: 9

Candidate Starts for CherryonLim_25:

(Start: 9 @20466 has 12 MA's), (20, 20502), (33, 20568), (39, 20583), (47, 20625), (50, 20634), (51, 20640), (53, 20646), (65, 20766), (67, 20784), (68, 20796), (71, 20808), (72, 20811), (91, 21006),

Gene: Clark_24 Start: 20743, Stop: 21249, Start Num: 10

Candidate Starts for Clark_24:

(Start: 10 @20743 has 17 MA's), (Start: 12 @20749 has 1 MA's), (18, 20767), (25, 20797), (26, 20800), (28, 20821), (48, 20899), (54, 20917), (57, 20926), (75, 21076), (78, 21085), (85, 21145),

Gene: Clawz_48 Start: 26409, Stop: 26885, Start Num: 9

Candidate Starts for Clawz_48:

(Start: 9 @26409 has 12 MA's), (16, 26430), (27, 26478), (30, 26505), (46, 26568), (51, 26586), (76, 26760), (83, 26820),

Gene: Confidence_25 Start: 21361, Stop: 21819, Start Num: 4

Candidate Starts for Confidence_25:

(Start: 4 @21361 has 55 MA's), (21, 21421), (26, 21439), (32, 21481), (40, 21505), (41, 21508), (42, 21520), (45, 21532), (51, 21550), (52, 21553), (53, 21556), (55, 21562), (61, 21619), (77, 21718), (84, 21757),

Gene: Delian_24 Start: 20721, Stop: 21179, Start Num: 4

Candidate Starts for Delian_24:

(Start: 4 @20721 has 55 MA's), (22, 20784), (28, 20820), (30, 20835), (32, 20841), (41, 20868), (47, 20898), (51, 20910), (54, 20919), (61, 20979), (73, 21066), (75, 21072),

Gene: Delrey21_45 Start: 40925, Stop: 41440, Start Num: 6

Candidate Starts for Delrey21_45:

(Start: 6 @40925 has 9 MA's), (19, 40967), (38, 41054), (54, 41114), (65, 41216), (70, 41249), (74, 41270),

Gene: Denise_21 Start: 18426, Stop: 18884, Start Num: 4

Candidate Starts for Denise_21:

(Start: 4 @18426 has 55 MA's), (21, 18486), (26, 18504), (32, 18546), (40, 18570), (41, 18573), (42, 18585), (45, 18597), (51, 18615), (52, 18618), (53, 18621), (55, 18627), (61, 18684), (77, 18783), (84, 18822),

Gene: DobbysSock_23 Start: 20217, Stop: 20723, Start Num: 10

Candidate Starts for DobbysSock_23:

(Start: 10 @20217 has 17 MA's), (Start: 12 @20223 has 1 MA's), (18, 20241), (25, 20271), (26, 20274), (28, 20295), (48, 20373), (54, 20391), (57, 20400), (75, 20550), (78, 20559), (85, 20619),

Gene: DoctorFroggo_45 Start: 40925, Stop: 41440, Start Num: 6

Candidate Starts for DoctorFroggo_45:

(Start: 6 @40925 has 9 MA's), (19, 40967), (38, 41054), (54, 41114), (65, 41216), (70, 41249), (74, 41270),

Gene: Dolores_24 Start: 20719, Stop: 21225, Start Num: 10

Candidate Starts for Dolores_24:

(Start: 10 @20719 has 17 MA's), (Start: 12 @20725 has 1 MA's), (18, 20743), (25, 20773), (26, 20776), (28, 20797), (48, 20875), (54, 20893), (57, 20902), (75, 21052), (78, 21061), (85, 21121),

Gene: DonTron_48 Start: 26543, Stop: 27019, Start Num: 9

Candidate Starts for DonTron_48:

(Start: 9 @26543 has 12 MA's), (51, 26720), (55, 26732), (61, 26789), (63, 26810), (64, 26819), (83, 26954),

Gene: Dorito_23 Start: 20203, Stop: 20682, Start Num: 4

Candidate Starts for Dorito_23:

(Start: 4 @20203 has 55 MA's), (8, 20218), (21, 20263), (24, 20275), (28, 20302), (30, 20317), (32, 20323), (47, 20380), (48, 20383), (49, 20386), (51, 20392), (73, 20569), (84, 20620),

Gene: EMoore_41 Start: 39068, Stop: 39517, Start Num: 7

Candidate Starts for EMoore_41:

(Start: 4 @39059 has 55 MA's), (Start: 7 @39068 has 1 MA's), (30, 39173), (32, 39179), (42, 39218), (51, 39248), (58, 39269),

Gene: Easley_24 Start: 20735, Stop: 21235, Start Num: 12

Candidate Starts for Easley_24:

(Start: 10 @20729 has 17 MA's), (Start: 12 @20735 has 1 MA's), (18, 20753), (25, 20783), (26, 20786), (28, 20807), (48, 20885), (54, 20903), (57, 20912), (75, 21062), (78, 21071), (85, 21131),

Gene: Elinal_25 Start: 19709, Stop: 20272, Start Num: 9

Candidate Starts for Elinal_25:

(Start: 9 @19709 has 12 MA's), (20, 19745), (33, 19811), (36, 19817), (50, 19877), (51, 19883), (53, 19889), (59, 19907), (67, 20027), (68, 20039), (71, 20051), (79, 20099), (88, 20168), (91, 20249),

Gene: Feastonyeet_23 Start: 19756, Stop: 20319, Start Num: 9

Candidate Starts for Feastonyeet_23:

(Start: 9 @19756 has 12 MA's), (15, 19768), (20, 19792), (33, 19858), (34, 19861), (36, 19864), (50, 19924), (51, 19930), (53, 19936), (59, 19954), (67, 20074), (68, 20086), (71, 20098), (79, 20146), (88, 20215), (91, 20296),

Gene: Fenry_23 Start: 20419, Stop: 20877, Start Num: 4

Candidate Starts for Fenry_23:

(Start: 4 @20419 has 55 MA's), (22, 20482), (28, 20518), (30, 20533), (32, 20539), (41, 20566), (47, 20596), (51, 20608), (54, 20617), (61, 20677), (73, 20764), (75, 20770),

Gene: Frokostdame_24 Start: 20666, Stop: 21124, Start Num: 4

Candidate Starts for Frokostdame_24:

(Start: 4 @20666 has 55 MA's), (13, 20693), (28, 20765), (30, 20780), (41, 20813), (51, 20855), (54, 20864), (61, 20924), (73, 21011), (75, 21017),

Gene: Gambino_26 Start: 21012, Stop: 21470, Start Num: 4

Candidate Starts for Gambino_26:

(Start: 4 @21012 has 55 MA's), (28, 21111), (30, 21126), (41, 21159), (51, 21201), (54, 21210), (61, 21270), (73, 21357), (75, 21363),

Gene: Guacamole_24 Start: 20704, Stop: 21162, Start Num: 4

Candidate Starts for Guacamole_24:

(Start: 4 @20704 has 55 MA's), (22, 20767), (28, 20803), (30, 20818), (32, 20824), (41, 20851), (47, 20881), (51, 20893), (54, 20902), (61, 20962), (73, 21049), (75, 21055),

Gene: Hans_45 Start: 38519, Stop: 38977, Start Num: 4

Candidate Starts for Hans_45:

(Start: 4 @38519 has 55 MA's), (26, 38597), (30, 38633), (32, 38639), (42, 38678), (51, 38708), (58, 38729), (61, 38777),

Gene: Hitter_24 Start: 20700, Stop: 21158, Start Num: 4

Candidate Starts for Hitter_24:

(Start: 4 @20700 has 55 MA's), (22, 20763), (28, 20799), (30, 20814), (32, 20820), (41, 20847), (47, 20877), (51, 20889), (54, 20898), (61, 20958), (73, 21045), (75, 21051),

Gene: Hortense_24 Start: 21328, Stop: 21834, Start Num: 10

Candidate Starts for Hortense_24:

(Start: 10 @21328 has 17 MA's), (Start: 12 @21334 has 1 MA's), (18, 21352), (25, 21382), (26, 21385), (28, 21406), (31, 21424), (48, 21484), (54, 21502), (57, 21511), (75, 21661), (78, 21670), (85, 21730),

Gene: Howe_24 Start: 21328, Stop: 21834, Start Num: 10

Candidate Starts for Howe_24:

(Start: 10 @21328 has 17 MA's), (Start: 12 @21334 has 1 MA's), (18, 21352), (25, 21382), (26, 21385), (28, 21406), (31, 21424), (48, 21484), (54, 21502), (57, 21511), (75, 21661), (78, 21670), (85, 21730),

Gene: Inspectinfecti_44 Start: 38965, Stop: 39423, Start Num: 4

Candidate Starts for Inspectinfecti_44:

(Start: 4 @38965 has 55 MA's), (26, 39043), (30, 39079), (32, 39085), (42, 39124), (51, 39154), (58, 39175), (61, 39223),

Gene: Jablanski_27 Start: 22440, Stop: 22898, Start Num: 4

Candidate Starts for Jablanski_27:

(Start: 4 @22440 has 55 MA's), (21, 22500), (26, 22518), (30, 22554), (32, 22560), (40, 22584), (41, 22587), (42, 22599), (45, 22611), (51, 22629), (52, 22632), (53, 22635), (55, 22641), (61, 22698), (75, 22791), (77, 22797),

Gene: Jalammah_26 Start: 21494, Stop: 21952, Start Num: 4

Candidate Starts for Jalammah_26:

(Start: 4 @21494 has 55 MA's), (22, 21557), (28, 21593), (30, 21608), (32, 21614), (41, 21641), (47, 21671), (51, 21683), (54, 21692), (61, 21752), (73, 21839), (75, 21845),

Gene: JasperJr_24 Start: 20704, Stop: 21162, Start Num: 4

Candidate Starts for JasperJr_24:

(Start: 4 @20704 has 55 MA's), (22, 20767), (28, 20803), (30, 20818), (32, 20824), (41, 20851), (47, 20881), (51, 20893), (54, 20902), (61, 20962), (73, 21049), (75, 21055),

Gene: KayGee_23 Start: 19709, Stop: 20272, Start Num: 9

Candidate Starts for KayGee_23:

(Start: 9 @19709 has 12 MA's), (20, 19745), (33, 19811), (36, 19817), (50, 19877), (51, 19883), (53, 19889), (59, 19907), (67, 20027), (68, 20039), (71, 20051), (79, 20099), (88, 20168), (91, 20249),

Gene: Keitabear_44 Start: 40216, Stop: 40674, Start Num: 4

Candidate Starts for Keitabear_44:

(Start: 4 @40216 has 55 MA's), (26, 40294), (30, 40330), (32, 40336), (42, 40375), (58, 40426), (73, 40561),

Gene: Kiko_26 Start: 20953, Stop: 21411, Start Num: 4

Candidate Starts for Kiko_26:

(Start: 4 @20953 has 55 MA's), (22, 21016), (23, 21019), (26, 21031), (28, 21052), (30, 21067), (40, 21097), (54, 21151), (55, 21154), (59, 21166), (65, 21253), (84, 21349),

Gene: Lauer_23 Start: 19759, Stop: 20322, Start Num: 9

Candidate Starts for Lauer_23:

(Start: 9 @19759 has 12 MA's), (20, 19795), (33, 19861), (36, 19867), (50, 19927), (51, 19933), (53, 19939), (59, 19957), (67, 20077), (68, 20089), (71, 20101), (79, 20149), (88, 20218), (91, 20299),

Gene: Leonard_43 Start: 38604, Stop: 39062, Start Num: 4

Candidate Starts for Leonard_43:

(Start: 4 @38604 has 55 MA's), (26, 38682), (30, 38718), (32, 38724), (42, 38763), (51, 38793), (58, 38814), (61, 38862),

Gene: Lysidious_25 Start: 21224, Stop: 21682, Start Num: 4

Candidate Starts for Lysidious_25:

(Start: 4 @21224 has 55 MA's), (22, 21287), (28, 21323), (30, 21338), (32, 21344), (41, 21371), (47, 21401), (51, 21413), (54, 21422), (61, 21482), (73, 21569), (75, 21575),

Gene: MAnor_24 Start: 19726, Stop: 20289, Start Num: 9

Candidate Starts for MAnor_24:

(Start: 9 @19726 has 12 MA's), (20, 19762), (33, 19828), (39, 19843), (47, 19885), (50, 19894), (51, 19900), (53, 19906), (59, 19924), (65, 20026), (67, 20044), (68, 20056), (69, 20059), (71, 20068), (79, 20116), (91, 20266),

Gene: Malachai_25 Start: 21181, Stop: 21639, Start Num: 4

Candidate Starts for Malachai_25:

(Start: 4 @21181 has 55 MA's), (22, 21244), (28, 21280), (30, 21295), (32, 21301), (41, 21328), (47, 21358), (51, 21370), (54, 21379), (61, 21439), (73, 21526), (75, 21532),

Gene: Malibo_26 Start: 20919, Stop: 21377, Start Num: 4

Candidate Starts for Malibo_26:

(Start: 4 @20919 has 55 MA's), (15, 20949), (22, 20982), (28, 21018), (30, 21033), (32, 21039), (41, 21066), (47, 21096), (49, 21102), (51, 21108), (54, 21117), (59, 21132), (61, 21177), (66, 21231), (83, 21312),

Gene: Mayweather_25 Start: 20342, Stop: 20905, Start Num: 9

Candidate Starts for Mayweather_25:

(Start: 9 @20342 has 12 MA's), (20, 20378), (33, 20444), (39, 20459), (47, 20501), (50, 20510), (51, 20516), (53, 20522), (65, 20642), (67, 20660), (68, 20672), (71, 20684), (91, 20882),

Gene: Mcklovin_24 Start: 23497, Stop: 24003, Start Num: 10

Candidate Starts for Mcklovin_24:

(Start: 10 @23497 has 17 MA's), (Start: 12 @23503 has 1 MA's), (18, 23521), (25, 23551), (26, 23554), (28, 23575), (48, 23653), (54, 23671), (57, 23680), (75, 23830), (78, 23839), (85, 23899),

Gene: MelBins_44 Start: 38751, Stop: 39209, Start Num: 4

Candidate Starts for MelBins_44:

(Start: 4 @38751 has 55 MA's), (26, 38829), (28, 38850), (30, 38865), (32, 38871), (42, 38910), (51, 38940), (58, 38961),

Gene: Melba_24 Start: 20700, Stop: 21158, Start Num: 4

Candidate Starts for Melba_24:

(Start: 4 @20700 has 55 MA's), (22, 20763), (28, 20799), (30, 20814), (32, 20820), (41, 20847), (47, 20877), (51, 20889), (54, 20898), (61, 20958), (73, 21045), (75, 21051),

Gene: Mellie_23 Start: 20461, Stop: 20919, Start Num: 4

Candidate Starts for Mellie_23:

(Start: 4 @20461 has 55 MA's), (22, 20524), (28, 20560), (30, 20575), (32, 20581), (41, 20608), (47, 20638), (51, 20650), (54, 20659), (61, 20719), (73, 20806), (75, 20812),

Gene: MichaelScott_24 Start: 21100, Stop: 21606, Start Num: 10

Candidate Starts for MichaelScott_24:

(Start: 10 @21100 has 17 MA's), (Start: 12 @21106 has 1 MA's), (18, 21124), (25, 21154), (26, 21157), (28, 21178), (48, 21256), (54, 21274), (57, 21283), (75, 21433), (78, 21442), (85, 21502),

Gene: MintFen_24 Start: 20700, Stop: 21158, Start Num: 4

Candidate Starts for MintFen_24:

(Start: 4 @20700 has 55 MA's), (22, 20763), (28, 20799), (30, 20814), (32, 20820), (41, 20847), (47, 20877), (51, 20889), (54, 20898), (61, 20958), (73, 21045), (75, 21051),

Gene: MissRona_26 Start: 21012, Stop: 21470, Start Num: 4

Candidate Starts for MissRona_26:

(Start: 4 @21012 has 55 MA's), (28, 21111), (30, 21126), (41, 21159), (51, 21201), (54, 21210), (61, 21270), (73, 21357), (75, 21363),

Gene: Morkie_23 Start: 18982, Stop: 19440, Start Num: 4

Candidate Starts for Morkie_23:

(Start: 4 @18982 has 55 MA's), (22, 19045), (28, 19081), (30, 19096), (41, 19129), (47, 19159), (49, 19165), (54, 19180), (61, 19240), (77, 19339), (84, 19378),

Gene: Murp_25 Start: 20968, Stop: 21426, Start Num: 4

Candidate Starts for Murp_25:

(Start: 4 @20968 has 55 MA's), (22, 21031), (28, 21067), (30, 21082), (41, 21115), (47, 21145), (54, 21166), (61, 21226), (73, 21313), (75, 21319),

Gene: Natkenzie_45 Start: 40160, Stop: 40678, Start Num: 6

Candidate Starts for Natkenzie_45:

(Start: 6 @40160 has 9 MA's), (19, 40202), (38, 40289), (54, 40349), (70, 40484), (74, 40505),

Gene: ODay_31 Start: 22917, Stop: 23375, Start Num: 4

Candidate Starts for ODay_31:

(Start: 4 @22917 has 55 MA's), (21, 22977), (26, 22995), (32, 23037), (40, 23061), (41, 23064), (42, 23076), (45, 23088), (51, 23106), (52, 23109), (53, 23112), (55, 23118), (61, 23175), (77, 23274), (84, 23313),

Gene: Oregano_24 Start: 20765, Stop: 21271, Start Num: 10

Candidate Starts for Oregano_24:

(Start: 10 @20765 has 17 MA's), (Start: 12 @20771 has 1 MA's), (18, 20789), (25, 20819), (26, 20822), (28, 20843), (48, 20921), (54, 20939), (57, 20948), (75, 21098), (78, 21107), (85, 21167),

Gene: Phauci_36 Start: 35454, Stop: 35912, Start Num: 4

Candidate Starts for Phauci_36:

(Start: 4 @35454 has 55 MA's), (26, 35532), (28, 35553), (29, 35562), (30, 35568), (58, 35664),

Gene: Phinally_43 Start: 38601, Stop: 39059, Start Num: 4

Candidate Starts for Phinally_43:

(Start: 4 @38601 has 55 MA's), (26, 38679), (30, 38715), (32, 38721), (42, 38760), (51, 38790), (58, 38811), (61, 38859),

Gene: PhorbesPhlower_23 Start: 18982, Stop: 19440, Start Num: 4

Candidate Starts for PhorbesPhlower_23:

(Start: 4 @18982 has 55 MA's), (22, 19045), (28, 19081), (30, 19096), (41, 19129), (47, 19159), (49, 19165), (54, 19180), (61, 19240), (77, 19339), (84, 19378),

Gene: PhriskyACE_23 Start: 20203, Stop: 20682, Start Num: 4

Candidate Starts for PhriskyACE_23:

(Start: 4 @20203 has 55 MA's), (8, 20218), (21, 20263), (24, 20275), (28, 20302), (30, 20317), (32, 20323), (47, 20380), (48, 20383), (49, 20386), (51, 20392), (73, 20569), (84, 20620),

Gene: PhrostedPhlake_26 Start: 21393, Stop: 21851, Start Num: 4

Candidate Starts for PhrostedPhlake_26:

(Start: 4 @21393 has 55 MA's), (22, 21456), (28, 21492), (30, 21507), (32, 21513), (41, 21540), (47, 21570), (51, 21582), (54, 21591), (61, 21651), (73, 21738), (75, 21744),

Gene: Pipp_24 Start: 20694, Stop: 21152, Start Num: 4

Candidate Starts for Pipp_24:

(Start: 4 @20694 has 55 MA's), (22, 20757), (28, 20793), (30, 20808), (32, 20814), (41, 20841), (47, 20871), (51, 20883), (54, 20892), (61, 20952), (75, 21045),

Gene: Pons_24 Start: 19714, Stop: 20277, Start Num: 9

Candidate Starts for Pons_24:

(Start: 9 @19714 has 12 MA's), (20, 19750), (33, 19816), (39, 19831), (47, 19873), (50, 19882), (51, 19888), (53, 19894), (65, 20014), (67, 20032), (68, 20044), (71, 20056), (91, 20254),

Gene: Posh_27 Start: 22293, Stop: 22751, Start Num: 4

Candidate Starts for Posh_27:

(Start: 4 @22293 has 55 MA's), (21, 22353), (26, 22371), (30, 22407), (32, 22413), (40, 22437), (41, 22440), (42, 22452), (45, 22464), (51, 22482), (52, 22485), (53, 22488), (55, 22494), (61, 22551), (75, 22644), (77, 22650),

Gene: PotPie_25 Start: 20575, Stop: 21138, Start Num: 9

Candidate Starts for PotPie_25:

(Start: 9 @20575 has 12 MA's), (15, 20587), (20, 20611), (33, 20677), (34, 20680), (36, 20683), (50, 20743), (51, 20749), (53, 20755), (59, 20773), (67, 20893), (68, 20905), (71, 20917), (79, 20965), (88, 21034), (91, 21115),

Gene: Pytheas_27 Start: 22439, Stop: 22897, Start Num: 4

Candidate Starts for Pytheas_27:

(Start: 4 @22439 has 55 MA's), (21, 22499), (26, 22517), (30, 22553), (32, 22559), (40, 22583), (41, 22586), (42, 22598), (45, 22610), (51, 22628), (52, 22631), (53, 22634), (55, 22640), (61, 22697), (75, 22790), (77, 22796),

Gene: RedWattleHog_7 Start: 4039, Stop: 4608, Start Num: 9

Candidate Starts for RedWattleHog_7:

(Start: 9 @4039 has 12 MA's), (19, 4072), (20, 4075), (23, 4087), (47, 4201), (52, 4219), (53, 4222), (55, 4228), (56, 4231), (60, 4243), (68, 4372), (79, 4432), (82, 4453), (84, 4468), (86, 4492), (90, 4555),

Gene: RiverRaider_46 Start: 38134, Stop: 38592, Start Num: 4

Candidate Starts for RiverRaider_46:

(Start: 4 @38134 has 55 MA's), (16, 38173), (26, 38212), (30, 38248), (40, 38278), (51, 38323), (58, 38344), (83, 38527),

Gene: Samba_24 Start: 20778, Stop: 21236, Start Num: 4

Candidate Starts for Samba_24:

(Start: 4 @20778 has 55 MA's), (22, 20841), (28, 20877), (30, 20892), (32, 20898), (41, 20925), (47, 20955), (51, 20967), (54, 20976), (61, 21036), (73, 21123), (75, 21129),

Gene: Samman98_24 Start: 20734, Stop: 21240, Start Num: 10

Candidate Starts for Samman98_24:

(Start: 10 @20734 has 17 MA's), (Start: 12 @20740 has 1 MA's), (18, 20758), (25, 20788), (26, 20791), (28, 20812), (48, 20890), (54, 20908), (57, 20917), (75, 21067), (78, 21076), (85, 21136),

Gene: Sampson_45 Start: 40105, Stop: 40623, Start Num: 6

Candidate Starts for Sampson_45:

(Start: 6 @40105 has 9 MA's), (19, 40147), (38, 40234), (54, 40294), (70, 40429), (74, 40450),

Gene: Scioto_46 Start: 40161, Stop: 40679, Start Num: 6

Candidate Starts for Scioto_46:

(Start: 6 @40161 has 9 MA's), (19, 40203), (38, 40290), (54, 40350), (70, 40485), (74, 40506),

Gene: Sedona_44 Start: 39952, Stop: 40410, Start Num: 4

Candidate Starts for Sedona_44:

(Start: 4 @39952 has 55 MA's), (26, 40030), (30, 40066), (32, 40072), (42, 40111), (58, 40162), (73, 40297),

Gene: Sekhmet_24 Start: 21094, Stop: 21600, Start Num: 10

Candidate Starts for Sekhmet_24:

(Start: 10 @21094 has 17 MA's), (Start: 12 @21100 has 1 MA's), (18, 21118), (25, 21148), (26, 21151), (28, 21172), (31, 21190), (48, 21250), (54, 21268), (57, 21277), (75, 21427), (78, 21436), (85, 21496),

Gene: Shlim410_24 Start: 21328, Stop: 21834, Start Num: 10

Candidate Starts for Shlim410_24:

(Start: 10 @21328 has 17 MA's), (Start: 12 @21334 has 1 MA's), (18, 21352), (25, 21382), (26, 21385), (28, 21406), (31, 21424), (48, 21484), (54, 21502), (57, 21511), (75, 21661), (78, 21670), (85, 21730),

Gene: Soos_44 Start: 25710, Stop: 26186, Start Num: 9

Candidate Starts for Soos_44:

(Start: 9 @25710 has 12 MA's), (51, 25887), (55, 25899), (61, 25956), (63, 25977), (64, 25986), (83, 26121),

Gene: Sting_48 Start: 26149, Stop: 26625, Start Num: 9

Candidate Starts for Sting_48:

(Start: 9 @26149 has 12 MA's), (51, 26326), (55, 26338), (61, 26395), (63, 26416), (64, 26425), (83, 26560),

Gene: Stormageddon_7 Start: 4039, Stop: 4608, Start Num: 9

Candidate Starts for Stormageddon_7:

(Start: 9 @4039 has 12 MA's), (19, 4072), (20, 4075), (23, 4087), (47, 4201), (52, 4219), (53, 4222), (55, 4228), (56, 4231), (60, 4243), (68, 4372), (79, 4432), (82, 4453), (84, 4468), (86, 4492), (90, 4555),

Gene: Suerte_22 Start: 20218, Stop: 20724, Start Num: 10

Candidate Starts for Suerte_22:

(Start: 10 @20218 has 17 MA's), (Start: 12 @20224 has 1 MA's), (18, 20242), (25, 20272), (26, 20275), (28, 20296), (48, 20374), (54, 20392), (57, 20401), (75, 20551), (85, 20620),

Gene: Tardus_46 Start: 39515, Stop: 40033, Start Num: 6

Candidate Starts for Tardus_46:

(Start: 6 @39515 has 9 MA's), (19, 39557), (38, 39644), (54, 39704), (70, 39839), (74, 39860),

Gene: Thimann_24 Start: 20686, Stop: 21192, Start Num: 10

Candidate Starts for Thimann_24:

(Start: 10 @20686 has 17 MA's), (Start: 12 @20692 has 1 MA's), (18, 20710), (25, 20740), (26, 20743), (28, 20764), (48, 20842), (54, 20860), (57, 20869), (75, 21019), (85, 21088),

Gene: Tonitrus_35 Start: 22668, Stop: 23153, Start Num: 5

Candidate Starts for Tonitrus_35:

(1, 22653), (2, 22656), (3, 22659), (5, 22668), (17, 22704), (26, 22740), (35, 22788), (37, 22791), (43, 22821), (55, 22860), (59, 22872), (70, 22995), (81, 23052),

Gene: Trine_23 Start: 18593, Stop: 19054, Start Num: 4

Candidate Starts for Trine_23:

(3, 18590), (Start: 4 @18593 has 55 MA's), (22, 18656), (24, 18665), (28, 18692), (29, 18701), (51, 18782), (54, 18791), (57, 18800),

Gene: Twinkle_24 Start: 22387, Stop: 22893, Start Num: 10

Candidate Starts for Twinkle_24:

(Start: 10 @22387 has 17 MA's), (Start: 12 @22393 has 1 MA's), (18, 22411), (25, 22441), (26, 22444), (28, 22465), (31, 22483), (48, 22543), (54, 22561), (57, 22570), (75, 22720), (78, 22729), (85, 22789),

Gene: UmaThurman_24 Start: 20825, Stop: 21283, Start Num: 4

Candidate Starts for UmaThurman_24:

(Start: 4 @20825 has 55 MA's), (22, 20888), (28, 20924), (30, 20939), (32, 20945), (41, 20972), (47, 21002), (51, 21014), (54, 21023), (61, 21083), (73, 21170), (75, 21176),

Gene: Upyo_23 Start: 18792, Stop: 19304, Start Num: 11

Candidate Starts for Upyo_23:

(Start: 11 @18792 has 1 MA's), (17, 18810), (19, 18819), (30, 18882), (44, 18933), (57, 18972), (62, 19026), (80, 19167), (81, 19170),

Gene: Utz_24 Start: 20695, Stop: 21153, Start Num: 4

Candidate Starts for Utz_24:

(Start: 4 @20695 has 55 MA's), (22, 20758), (28, 20794), (30, 20809), (32, 20815), (41, 20842), (47, 20872), (51, 20884), (54, 20893), (61, 20953), (73, 21040), (75, 21046),

Gene: Verity_45 Start: 40925, Stop: 41440, Start Num: 6

Candidate Starts for Verity_45:

(Start: 6 @40925 has 9 MA's), (19, 40967), (38, 41054), (54, 41114), (65, 41216), (70, 41249), (74, 41270),

Gene: ViaConlectus_45 Start: 38795, Stop: 39313, Start Num: 6

Candidate Starts for ViaConlectus_45:

(Start: 6 @38795 has 9 MA's), (19, 38837), (38, 38924), (54, 38984), (70, 39119), (74, 39140),

Gene: Vine_25 Start: 20722, Stop: 21285, Start Num: 9

Candidate Starts for Vine_25:

(Start: 9 @20722 has 12 MA's), (20, 20758), (33, 20824), (36, 20830), (50, 20890), (51, 20896), (53, 20902), (59, 20920), (67, 21040), (68, 21052), (71, 21064), (79, 21112), (88, 21181), (91, 21262),

Gene: Walrus_26 Start: 21240, Stop: 21698, Start Num: 4

Candidate Starts for Walrus_26:

(Start: 4 @21240 has 55 MA's), (22, 21303), (28, 21339), (30, 21354), (32, 21360), (41, 21387), (47, 21417), (51, 21429), (54, 21438), (61, 21498), (73, 21585), (75, 21591),

Gene: WinkNick_24 Start: 20719, Stop: 21225, Start Num: 10

Candidate Starts for WinkNick_24:

(Start: 10 @20719 has 17 MA's), (Start: 12 @20725 has 1 MA's), (18, 20743), (25, 20773), (26, 20776), (28, 20797), (48, 20875), (54, 20893), (57, 20902), (75, 21052), (78, 21061), (85, 21121),

Gene: Wisp_23 Start: 20410, Stop: 20868, Start Num: 4

Candidate Starts for Wisp_23:

(Start: 4 @20410 has 55 MA's), (22, 20473), (28, 20509), (30, 20524), (32, 20530), (41, 20557), (47, 20587), (51, 20599), (54, 20608), (61, 20668), (73, 20755), (75, 20761),

Gene: Wrigley_27 Start: 22190, Stop: 22648, Start Num: 4

Candidate Starts for Wrigley_27:

(Start: 4 @22190 has 55 MA's), (21, 22250), (26, 22268), (30, 22304), (32, 22310), (40, 22334), (41, 22337), (42, 22349), (45, 22361), (51, 22379), (52, 22382), (53, 22385), (55, 22391), (61, 22448), (75, 22541), (77, 22547),

Gene: Zarbodnamra_24 Start: 20699, Stop: 21157, Start Num: 4

Candidate Starts for Zarbodnamra_24:

(Start: 4 @20699 has 55 MA's), (22, 20762), (28, 20798), (30, 20813), (32, 20819), (41, 20846), (47, 20876), (51, 20888), (54, 20897), (61, 20957), (73, 21044), (75, 21050),

Gene: Zipp_46 Start: 40840, Stop: 41355, Start Num: 6

Candidate Starts for Zipp_46:

(Start: 6 @40840 has 9 MA's), (19, 40882), (38, 40969), (54, 41029), (65, 41131), (70, 41164), (74, 41185),

Gene: Zitch_48 Start: 38950, Stop: 39468, Start Num: 6

Candidate Starts for Zitch_48:

(Start: 6 @38950 has 9 MA's), (19, 38992), (38, 39079), (54, 39139), (70, 39274),