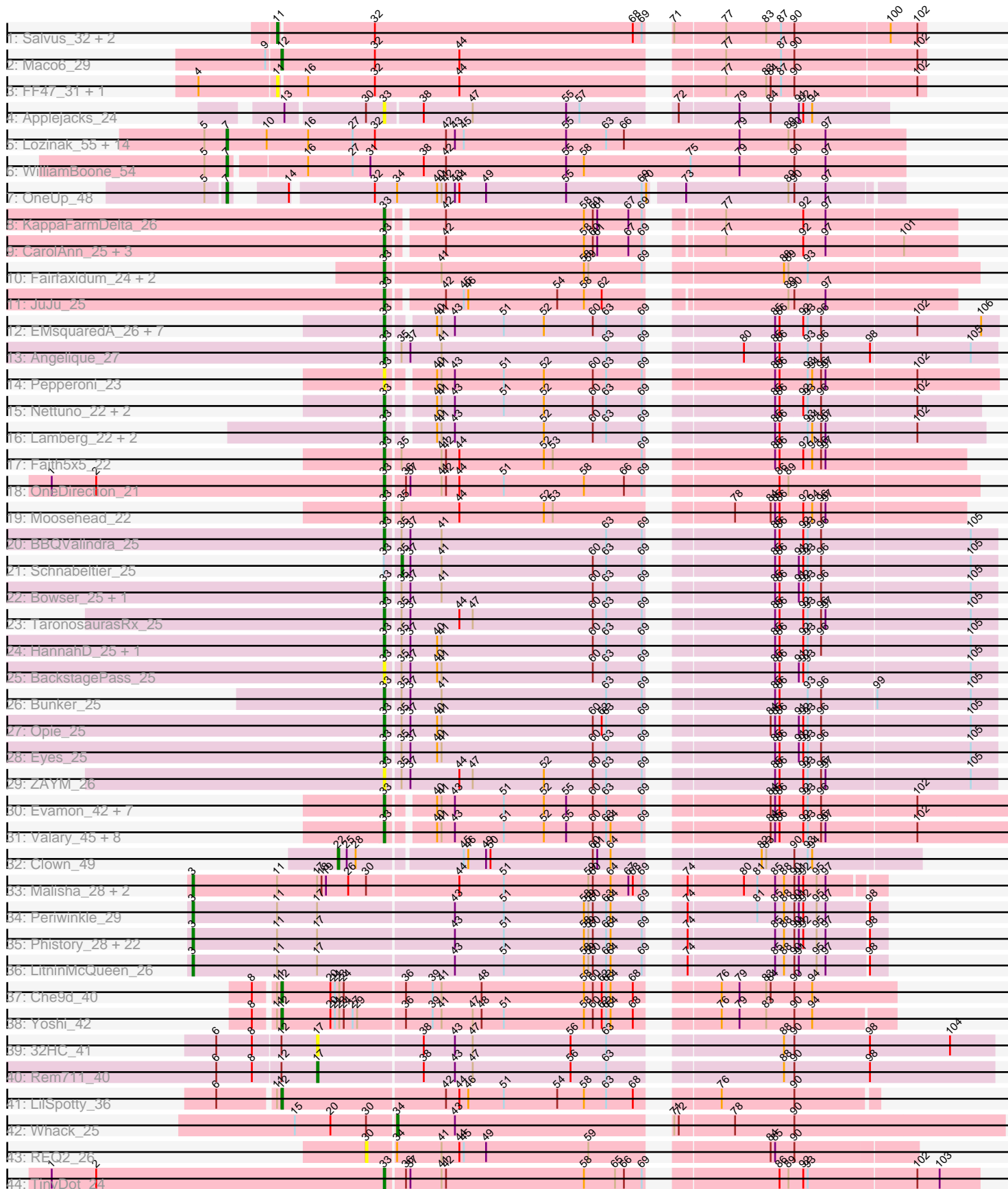


Pham 294556



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 294556 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294556 has 118 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Salvus_32, LongHai_32, Muddy_31
- Track 2 : Maco6_29
- Track 3 : FF47_31, 8UZL_31
- Track 4 : Applejacks_24
- Track 5 : Lozinak_55, ClubL_54, Geeche_53, Engineer_56, Miskis_52, Bachita_56, Norvs_55, Dusty_53, PhinkBoden_54, Abscondus_53, Cucurbita_56, Culver_54, Smoothie_56, Aphelion_54, Toniann_54
- Track 6 : WilliamBoone_54
- Track 7 : OneUp_48
- Track 8 : KappaFarmDelta_26
- Track 9 : CarolAnn_25, Obliviate_24, ZiggyZoo_24, Blino_25
- Track 10 : Fairfaxidum_24, PrincePatrick_24, William_25
- Track 11 : JuJu_25
- Track 12 : EMSquaredA_26, Pollux_26, Marteena_26, BritBrat_26, Lilas_26, Bradissa_26, EnalisNailo_26, Floral_26
- Track 13 : Angelique_27
- Track 14 : Pepperoni_23
- Track 15 : Nettuno_22, Pickett_22, Matteo_22
- Track 16 : Lamberg_22, Lton_22, EdnaMode_22
- Track 17 : Faith5x5_22
- Track 18 : OneDirection_21
- Track 19 : Moosehead_22
- Track 20 : BBQValindra_25
- Track 21 : Schnabeltier_25
- Track 22 : Bowser_25, MagicMan_25
- Track 23 : TaronosaurusRx_25
- Track 24 : HannahD_25, GEazy_25
- Track 25 : BackstagePass_25
- Track 26 : Bunker_25
- Track 27 : Opie_25
- Track 28 : Eyes_25
- Track 29 : ZAYM_26
- Track 30 : Evamon_42, Portcullis_44, Jambalaya_43, Halo3_43, Twister6_45, Salvador_42, Danyall_45, Savbucketdawg_43
- Track 31 : Valary_45, KimmyK_44, Wizard_42, Arri_46, VanDeWege_46, CherryCola_45, RogerDodger_46, CoveyB_46, Gezellig_42
- Track 32 : Clown_49

- Track 33 : Malisha_28, Squiddly_29, Spooky_27
- Track 34 : Periwinkle_29
- Track 35 : Phistory_28, Kamaru_27, Horus_27, Phabuloso_26, ShawBrad_27, Lutum_27, CheeseTouch_27, Frickyeah_26, Kenna_26, Birdsong_26, Crater_25, Holliday_27, Apricot_26, Budski_27, BENtherdunthat_27, Asapag_27, BearBQ_26, Leroy_27, MortyNRick_26, Kuwabara_26, BotCity_27, Getalong_28, Whitney_28
- Track 36 : LitninMcQueen_26
- Track 37 : Che9d_40
- Track 38 : Yoshi_42
- Track 39 : 32HC_41
- Track 40 : Rem711_40
- Track 41 : LilSpotty_36
- Track 42 : Whack_25
- Track 43 : REQ2_26
- Track 44 : TinyDot_24

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

The start number called the most often in the published annotations is 33, it was called in 54 of the 105 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angelique_27, Applejacks_24, Arri_46, BBQValindra_25, BackstagePass_25, Blino_25, Bowser_25, Bradissa_26, BritBrat_26, Bunker_25, CarolAnn_25, CherryCola_45, CoveyB_46, Danyall_45, EMSquaredA_26, EdnaMode_22, EnalisNailo_26, Evamon_42, Eyes_25, Fairfaxidum_24, Faith5x5_22, Floral_26, GEazy_25, Gezellig_42, Halo3_43, HannahD_25, Jambalaya_43, JuJu_25, KappaFarmDelta_26, KimmyK_44, Lamberg_22, Lilas_26, Lton_22, MagicMan_25, Marteena_26, Matteo_22, Moosehead_22, Nettuno_22, Obliviate_24, OneDirection_21, Opie_25, Pepperoni_23, Pickett_22, Pollux_26, Portcullis_44, PrincePatrick_24, RogerDodger_46, Salvador_42, Savbucketdawg_43, TaronosaurusRx_25, TinyDot_24, Twister6_45, Valary_45, VanDeWege_46, William_25, Wizard_42, ZAYM_26, ZiggyZoo_24,

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

- Schnabeltier_25,

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

- 32HC_41, 8UZL_31, Abscondus_53, Aphelion_54, Apricot_26, Asapag_27, BENtherdunthat_27, Bachita_56, BearBQ_26, Birdsong_26, BotCity_27, Budski_27, Che9d_40, CheeseTouch_27, Clown_49, ClubL_54, Crater_25, Cucurbita_56, Culver_54, Dusty_53, Engineer_56, FF47_31, Frickyeah_26, Geeche_53, Getalong_28, Holliday_27, Horus_27, Kamaru_27, Kenna_26, Kuwabara_26, Leroy_27, LilSpotty_36, LitninMcQueen_26, LongHai_32, Lozinak_55, Lutum_27, Maco6_29, Malisha_28, Miskis_52, MortyNRick_26, Muddy_31, Norvs_55, OneUp_48, Periwinkle_29, Phabuloso_26, PhinkBoden_54, Phistory_28, REQ2_26, Rem711_40, Salvus_32, ShawBrad_27, Smoothie_56, Spooky_27, Squiddly_29, Toniann_54, Whack_25, Whitney_28, WilliamBoone_54, Yoshi_42,

Summary by start number:

Start 3:

- Found in 28 of 118 (23.7%) of genes in pham
- Manual Annotations of this start: 26 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apricot_26 (DN3), Asapag_27 (DN1), BENTherdunthat_27 (DN1), BearBQ_26 (DN), Birdsong_26 (DN), BotCity_27 (DN), Budski_27 (DN), CheeseTouch_27 (DN1), Crater_25 (DN3), Frickyeah_26 (DN1), Getalong_28 (DN1), Holliday_27 (DN1), Horus_27 (DN1), Kamaru_27 (DN1), Kenna_26 (DN1), Kuwabara_26 (DN4), Leroy_27 (DN1), LitninMcQueen_26 (DN1), Lutum_27 (DN1), Malisha_28 (DN), MortyNRick_26 (DN), Periwinkle_29 (DN1), Phabuloso_26 (DN1), Phistory_28 (DN1), ShawBrad_27 (DN1), Spooky_27 (DN2), Squiddly_29 (DN2), Whitney_28 (DN1),

Start 7:

- Found in 17 of 118 (14.4%) of genes in pham
- Manual Annotations of this start: 16 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus_53 (CQ1), Aphelion_54 (CQ1), Bachita_56 (CQ1), ClubL_54 (CQ1), Cucurbita_56 (CQ1), Culver_54 (CQ1), Dusty_53 (CQ1), Engineer_56 (CQ1), Geeche_53 (CQ1), Lozinak_55 (CQ1), Miskis_52 (CQ1), Norvs_55 (CQ1), OneUp_48 (CQ2), PhinkBoden_54 (CQ1), Smoothie_56 (CQ1), Toniann_54 (CQ1), WilliamBoone_54 (CQ1),

Start 11:

- Found in 36 of 118 (30.5%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 13.9% of time when present
- Phage (with cluster) where this start called: 8UZL_31 (AB), FF47_31 (AB), LongHai_32 (AB), Muddy_31 (AB), Salvus_32 (AB),

Start 12:

- Found in 6 of 118 (5.1%) of genes in pham
- Manual Annotations of this start: 4 of 105
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Che9d_40 (F2), LilSpotty_36 (singleton), Maco6_29 (AB), Yoshi_42 (F2),

Start 17:

- Found in 30 of 118 (25.4%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 6.7% of time when present
- Phage (with cluster) where this start called: 32HC_41 (Z), Rem711_40 (Z),

Start 22:

- Found in 1 of 118 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clown_49 (DC2),

Start 30:

- Found in 6 of 118 (5.1%) of genes in pham
- No Manual Annotations of this start.

- Called 16.7% of time when present
- Phage (with cluster) where this start called: REQ2_26 (singleton),

Start 33:

- Found in 59 of 118 (50.0%) of genes in pham
- Manual Annotations of this start: 54 of 105
- Called 98.3% of time when present
- Phage (with cluster) where this start called: Angelique_27 (CY1), Applejacks_24 (CD), Arri_46 (DC1), BBQValindra_25 (DB), BackstagePass_25 (DB), Blino_25 (CV), Bowser_25 (DB), Bradissa_26 (CY1), BritBrat_26 (CY2), Bunker_25 (DB), CarolAnn_25 (CV), CherryCola_45 (DC1), CoveyB_46 (DC1), Danyall_45 (DC1), EMSquaredA_26 (CY1), EdnaMode_22 (CZ2), EnalisNailo_26 (CY1), Evamon_42 (DC1), Eyes_25 (DB), Fairfaxidum_24 (CV), Faith5x5_22 (CZ6), Floral_26 (CY1), GEazy_25 (DB), Gezellig_42 (DC1), Halo3_43 (DC1), HannahD_25 (DB), Jambalaya_43 (DC1), JuJu_25 (CV), KappaFarmDelta_26 (CV), KimmyK_44 (DC1), Lamberg_22 (CZ2), Lilas_26 (CY1), Lton_22 (CZ), MagicMan_25 (DB), Marteena_26 (CY1), Matteo_22 (CZ2), Moosehead_22 (CZ6), Nettuno_22 (CZ2), Obliviate_24 (CV), OneDirection_21 (CZ6), Opie_25 (DB), Pepperoni_23 (CZ), Pickett_22 (CZ2), Pollux_26 (CY1), Portcullis_44 (DC1), PrincePatrick_24 (CV), RogerDodger_46 (DC1), Salvador_42 (DC1), Savbucketdawg_43 (DC1), TaronosaurusRx_25 (DB), TinyDot_24 (singleton), Twister6_45 (DC1), Valary_45 (DC1), VanDeWege_46 (DC1), William_25 (CV), Wizard_42 (DC1), ZAYM_26 (DB), ZiggyZoo_24 (CV),

Start 34:

- Found in 3 of 118 (2.5%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Whack_25 (singleton),

Start 35:

- Found in 15 of 118 (12.7%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Schnabeltier_25 (DB),

Summary by clusters:

There are 21 clusters represented in this pham: DN, CY2, CY1, AB, DN4, CZ2, CZ6, DB, singleton, CD, CZ, DN1, DN3, DN2, F2, CQ2, CQ1, Z, DC2, CV, DC1,

Info for manual annotations of cluster AB:

- Start number 11 was manually annotated 1 time for cluster AB.
- Start number 12 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster CQ1:

- Start number 7 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 7 was manually annotated 1 time for cluster CQ2.

Info for manual annotations of cluster CV:

- Start number 33 was manually annotated 9 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 33 was manually annotated 8 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 33 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ:

- Start number 33 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ2:

- Start number 33 was manually annotated 5 times for cluster CZ2.

Info for manual annotations of cluster CZ6:

- Start number 33 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster DB:

- Start number 33 was manually annotated 9 times for cluster DB.
- Start number 35 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 33 was manually annotated 17 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 22 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DN:

- Start number 3 was manually annotated 6 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 3 was manually annotated 15 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 3 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 3 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 3 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster F2:

- Start number 12 was manually annotated 2 times for cluster F2.

Info for manual annotations of cluster Z:

- Start number 17 was manually annotated 1 time for cluster Z.

Gene Information:

Gene: 32HC_41 Start: 30730, Stop: 31161, Start Num: 17

Candidate Starts for 32HC_41:

(6, 30664), (8, 30688), (Start: 12 @30706 has 4 MA's), (Start: 17 @30730 has 1 MA's), (38, 30799), (43, 30820), (47, 30832), (56, 30898), (63, 30922), (88, 31021), (90, 31027), (98, 31078), (104, 31132),

Gene: 8UZL_31 Start: 24782, Stop: 25192, Start Num: 11

Candidate Starts for 8UZL_31:

(4, 24731), (Start: 11 @24782 has 1 MA's), (16, 24800), (32, 24845), (44, 24902), (77, 25061), (83, 25088), (84, 25091), (87, 25097), (90, 25106), (102, 25187),

Gene: Abscondus_53 Start: 33557, Stop: 34012, Start Num: 7

Candidate Starts for Abscondus_53:

(5, 33542), (Start: 7 @33557 has 16 MA's), (10, 33584), (16, 33611), (27, 33641), (32, 33656), (42, 33704), (43, 33710), (45, 33716), (55, 33785), (63, 33812), (66, 33824), (79, 33902), (89, 33935), (90, 33938), (97, 33959),

Gene: Angelique_27 Start: 22414, Stop: 22800, Start Num: 33

Candidate Starts for Angelique_27:

(Start: 33 @22414 has 54 MA's), (Start: 35 @22423 has 1 MA's), (37, 22429), (41, 22450), (63, 22561), (69, 22585), (80, 22633), (85, 22654), (86, 22657), (93, 22675), (96, 22684), (98, 22717), (105, 22783),

Gene: Aphelion_54 Start: 33826, Stop: 34281, Start Num: 7

Candidate Starts for Aphelion_54:

(5, 33811), (Start: 7 @33826 has 16 MA's), (10, 33853), (16, 33880), (27, 33910), (32, 33925), (42, 33973), (43, 33979), (45, 33985), (55, 34054), (63, 34081), (66, 34093), (79, 34171), (89, 34204), (90, 34207), (97, 34228),

Gene: Applejacks_24 Start: 19251, Stop: 19565, Start Num: 33

Candidate Starts for Applejacks_24:

(13, 19188), (30, 19239), (Start: 33 @19251 has 54 MA's), (38, 19275), (47, 19308), (55, 19371), (57, 19380), (72, 19428), (79, 19467), (84, 19488), (91, 19506), (92, 19509), (94, 19515),

Gene: Apricot_26 Start: 20622, Stop: 21062, Start Num: 3

Candidate Starts for Apricot_26:

(Start: 3 @20622 has 26 MA's), (Start: 11 @20679 has 1 MA's), (Start: 17 @20706 has 1 MA's), (43, 20796), (51, 20829), (58, 20883), (59, 20886), (60, 20889), (63, 20898), (64, 20901), (69, 20922), (74, 20934), (85, 20991), (88, 20997), (90, 21003), (91, 21006), (92, 21009), (95, 21018), (97, 21024), (98, 21051),

Gene: Arri_46 Start: 35970, Stop: 36359, Start Num: 33

Candidate Starts for Arri_46:

(Start: 33 @35970 has 54 MA's), (40, 35997), (41, 36000), (43, 36009), (51, 36042), (52, 36069), (55, 36084), (60, 36102), (63, 36111), (64, 36114), (69, 36135), (84, 36201), (85, 36204), (86, 36207), (92, 36222), (93, 36225), (96, 36234), (97, 36237), (102, 36297),

Gene: Asapag_27 Start: 21064, Stop: 21504, Start Num: 3

Candidate Starts for Asapag_27:

(Start: 3 @21064 has 26 MA's), (Start: 11 @21121 has 1 MA's), (Start: 17 @21148 has 1 MA's), (43, 21238), (51, 21271), (58, 21325), (59, 21328), (60, 21331), (63, 21340), (64, 21343), (69, 21364), (74, 21376), (85, 21433), (88, 21439), (90, 21445), (91, 21448), (92, 21451), (95, 21460), (97, 21466), (98, 21493),

Gene: BBQValindra_25 Start: 21046, Stop: 21432, Start Num: 33

Candidate Starts for BBQValindra_25:

(Start: 33 @21046 has 54 MA's), (Start: 35 @21055 has 1 MA's), (37, 21061), (41, 21082), (63, 21193), (69, 21217), (85, 21286), (86, 21289), (92, 21304), (93, 21307), (96, 21316), (105, 21415),

Gene: BENtherdunthat_27 Start: 21061, Stop: 21501, Start Num: 3

Candidate Starts for BENtherdunthat_27:

(Start: 3 @21061 has 26 MA's), (Start: 11 @21118 has 1 MA's), (Start: 17 @21145 has 1 MA's), (43, 21235), (51, 21268), (58, 21322), (59, 21325), (60, 21328), (63, 21337), (64, 21340), (69, 21361), (74, 21373), (85, 21430), (88, 21436), (90, 21442), (91, 21445), (92, 21448), (95, 21457), (97, 21463), (98, 21490),

Gene: Bachita_56 Start: 34259, Stop: 34714, Start Num: 7

Candidate Starts for Bachita_56:

(5, 34244), (Start: 7 @34259 has 16 MA's), (10, 34286), (16, 34313), (27, 34343), (32, 34358), (42, 34406), (43, 34412), (45, 34418), (55, 34487), (63, 34514), (66, 34526), (79, 34604), (89, 34637), (90, 34640), (97, 34661),

Gene: BackstagePass_25 Start: 21178, Stop: 21564, Start Num: 33

Candidate Starts for BackstagePass_25:

(Start: 33 @21178 has 54 MA's), (Start: 35 @21187 has 1 MA's), (37, 21193), (40, 21211), (41, 21214), (60, 21316), (63, 21325), (69, 21349), (85, 21418), (86, 21421), (91, 21433), (92, 21436), (93, 21439), (105, 21547),

Gene: BearBQ_26 Start: 21901, Stop: 22341, Start Num: 3

Candidate Starts for BearBQ_26:

(Start: 3 @21901 has 26 MA's), (Start: 11 @21958 has 1 MA's), (Start: 17 @21985 has 1 MA's), (43, 22075), (51, 22108), (58, 22162), (59, 22165), (60, 22168), (63, 22177), (64, 22180), (69, 22201), (74, 22213), (85, 22270), (88, 22276), (90, 22282), (91, 22285), (92, 22288), (95, 22297), (97, 22303), (98, 22330),

Gene: Birdsong_26 Start: 20794, Stop: 21234, Start Num: 3

Candidate Starts for Birdsong_26:

(Start: 3 @20794 has 26 MA's), (Start: 11 @20851 has 1 MA's), (Start: 17 @20878 has 1 MA's), (43, 20968), (51, 21001), (58, 21055), (59, 21058), (60, 21061), (63, 21070), (64, 21073), (69, 21094), (74, 21106), (85, 21163), (88, 21169), (90, 21175), (91, 21178), (92, 21181), (95, 21190), (97, 21196), (98, 21223),

Gene: Blino_25 Start: 20905, Stop: 21255, Start Num: 33

Candidate Starts for Blino_25:

(Start: 33 @20905 has 54 MA's), (42, 20938), (58, 21031), (60, 21037), (61, 21040), (67, 21061), (69, 21070), (77, 21103), (92, 21154), (97, 21169), (101, 21220),

Gene: BotCity_27 Start: 21062, Stop: 21502, Start Num: 3

Candidate Starts for BotCity_27:

(Start: 3 @21062 has 26 MA's), (Start: 11 @21119 has 1 MA's), (Start: 17 @21146 has 1 MA's), (43, 21236), (51, 21269), (58, 21323), (59, 21326), (60, 21329), (63, 21338), (64, 21341), (69, 21362), (74, 21374), (85, 21431), (88, 21437), (90, 21443), (91, 21446), (92, 21449), (95, 21458), (97, 21464), (98, 21491),

Gene: Bowser_25 Start: 20957, Stop: 21343, Start Num: 33

Candidate Starts for Bowser_25:

(Start: 33 @20957 has 54 MA's), (Start: 35 @20966 has 1 MA's), (37, 20972), (41, 20993), (60, 21095), (63, 21104), (69, 21128), (85, 21197), (86, 21200), (91, 21212), (92, 21215), (93, 21218), (96, 21227), (105, 21326),

Gene: Bradissa_26 Start: 21680, Stop: 22060, Start Num: 33

Candidate Starts for Bradissa_26:

(Start: 33 @21680 has 54 MA's), (40, 21707), (41, 21710), (43, 21719), (51, 21752), (52, 21779), (60, 21812), (63, 21821), (69, 21845), (85, 21914), (86, 21917), (92, 21932), (93, 21935), (96, 21944), (102, 22007), (106, 22049),

Gene: BritBrat_26 Start: 21533, Stop: 21913, Start Num: 33

Candidate Starts for BritBrat_26:

(Start: 33 @21533 has 54 MA's), (40, 21560), (41, 21563), (43, 21572), (51, 21605), (52, 21632), (60, 21665), (63, 21674), (69, 21698), (85, 21767), (86, 21770), (92, 21785), (93, 21788), (96, 21797), (102, 21860), (106, 21902),

Gene: Budski_27 Start: 21169, Stop: 21609, Start Num: 3

Candidate Starts for Budski_27:

(Start: 3 @21169 has 26 MA's), (Start: 11 @21226 has 1 MA's), (Start: 17 @21253 has 1 MA's), (43, 21343), (51, 21376), (58, 21430), (59, 21433), (60, 21436), (63, 21445), (64, 21448), (69, 21469), (74, 21481), (85, 21538), (88, 21544), (90, 21550), (91, 21553), (92, 21556), (95, 21565), (97, 21571), (98, 21598),

Gene: Bunker_25 Start: 21159, Stop: 21545, Start Num: 33

Candidate Starts for Bunker_25:

(Start: 33 @21159 has 54 MA's), (Start: 35 @21168 has 1 MA's), (37, 21174), (41, 21195), (63, 21306), (69, 21330), (85, 21399), (86, 21402), (93, 21420), (96, 21429), (99, 21465), (105, 21528),

Gene: CarolAnn_25 Start: 20904, Stop: 21254, Start Num: 33

Candidate Starts for CarolAnn_25:

(Start: 33 @20904 has 54 MA's), (42, 20937), (58, 21030), (60, 21036), (61, 21039), (67, 21060), (69, 21069), (77, 21102), (92, 21153), (97, 21168), (101, 21219),

Gene: Che9d_40 Start: 28798, Stop: 29187, Start Num: 12

Candidate Starts for Che9d_40:

(8, 28783), (Start: 11 @28795 has 1 MA's), (Start: 12 @28798 has 4 MA's), (20, 28831), (21, 28834), (23, 28837), (24, 28840), (36, 28879), (39, 28897), (41, 28903), (48, 28930), (58, 28999), (60, 29005), (62, 29011), (63, 29014), (64, 29017), (68, 29032), (76, 29071), (79, 29083), (83, 29101), (84, 29104), (90, 29119), (94, 29131),

Gene: CheeseTouch_27 Start: 21055, Stop: 21495, Start Num: 3

Candidate Starts for CheeseTouch_27:

(Start: 3 @21055 has 26 MA's), (Start: 11 @21112 has 1 MA's), (Start: 17 @21139 has 1 MA's), (43, 21229), (51, 21262), (58, 21316), (59, 21319), (60, 21322), (63, 21331), (64, 21334), (69, 21355), (74, 21367), (85, 21424), (88, 21430), (90, 21436), (91, 21439), (92, 21442), (95, 21451), (97, 21457), (98, 21484),

Gene: CherryCola_45 Start: 36743, Stop: 37132, Start Num: 33

Candidate Starts for CherryCola_45:

(Start: 33 @36743 has 54 MA's), (40, 36770), (41, 36773), (43, 36782), (51, 36815), (52, 36842), (55, 36857), (60, 36875), (63, 36884), (64, 36887), (69, 36908), (84, 36974), (85, 36977), (86, 36980), (92, 36995), (93, 36998), (96, 37007), (97, 37010), (102, 37070),

Gene: Clown_49 Start: 38210, Stop: 38572, Start Num: 22

Candidate Starts for Clown_49:

(Start: 22 @38210 has 1 MA's), (25, 38216), (28, 38222), (45, 38288), (46, 38291), (49, 38303), (50, 38306), (60, 38375), (61, 38378), (64, 38387), (82, 38468), (83, 38471), (90, 38489), (93, 38498), (94, 38501),

Gene: ClubL_54 Start: 33748, Stop: 34203, Start Num: 7

Candidate Starts for ClubL_54:

(5, 33733), (Start: 7 @33748 has 16 MA's), (10, 33775), (16, 33802), (27, 33832), (32, 33847), (42, 33895), (43, 33901), (45, 33907), (55, 33976), (63, 34003), (66, 34015), (79, 34093), (89, 34126), (90, 34129), (97, 34150),

Gene: CoveyB_46 Start: 35788, Stop: 36177, Start Num: 33

Candidate Starts for CoveyB_46:

(Start: 33 @35788 has 54 MA's), (40, 35815), (41, 35818), (43, 35827), (51, 35860), (52, 35887), (55, 35902), (60, 35920), (63, 35929), (64, 35932), (69, 35953), (84, 36019), (85, 36022), (86, 36025), (92, 36040), (93, 36043), (96, 36052), (97, 36055), (102, 36115),

Gene: Crater_25 Start: 20622, Stop: 21062, Start Num: 3

Candidate Starts for Crater_25:

(Start: 3 @20622 has 26 MA's), (Start: 11 @20679 has 1 MA's), (Start: 17 @20706 has 1 MA's), (43, 20796), (51, 20829), (58, 20883), (59, 20886), (60, 20889), (63, 20898), (64, 20901), (69, 20922), (74, 20934), (85, 20991), (88, 20997), (90, 21003), (91, 21006), (92, 21009), (95, 21018), (97, 21024), (98, 21051),

Gene: Cucurbita_56 Start: 35118, Stop: 35573, Start Num: 7

Candidate Starts for Cucurbita_56:

(5, 35103), (Start: 7 @35118 has 16 MA's), (10, 35145), (16, 35172), (27, 35202), (32, 35217), (42, 35265), (43, 35271), (45, 35277), (55, 35346), (63, 35373), (66, 35385), (79, 35463), (89, 35496), (90, 35499), (97, 35520),

Gene: Culver_54 Start: 33557, Stop: 34012, Start Num: 7

Candidate Starts for Culver_54:

(5, 33542), (Start: 7 @33557 has 16 MA's), (10, 33584), (16, 33611), (27, 33641), (32, 33656), (42, 33704), (43, 33710), (45, 33716), (55, 33785), (63, 33812), (66, 33824), (79, 33902), (89, 33935), (90, 33938), (97, 33959),

Gene: Danyall_45 Start: 35790, Stop: 36179, Start Num: 33

Candidate Starts for Danyall_45:

(Start: 33 @35790 has 54 MA's), (40, 35817), (41, 35820), (43, 35829), (51, 35862), (52, 35889), (55, 35904), (60, 35922), (63, 35931), (69, 35955), (84, 36021), (85, 36024), (86, 36027), (92, 36042), (93, 36045), (96, 36054), (102, 36117),

Gene: Dusty_53 Start: 33557, Stop: 34012, Start Num: 7

Candidate Starts for Dusty_53:

(5, 33542), (Start: 7 @33557 has 16 MA's), (10, 33584), (16, 33611), (27, 33641), (32, 33656), (42, 33704), (43, 33710), (45, 33716), (55, 33785), (63, 33812), (66, 33824), (79, 33902), (89, 33935), (90, 33938), (97, 33959),

Gene: EMSquaredA_26 Start: 21533, Stop: 21913, Start Num: 33

Candidate Starts for EMSquaredA_26:

(Start: 33 @21533 has 54 MA's), (40, 21560), (41, 21563), (43, 21572), (51, 21605), (52, 21632), (60, 21665), (63, 21674), (69, 21698), (85, 21767), (86, 21770), (92, 21785), (93, 21788), (96, 21797), (102, 21860), (106, 21902),

Gene: EdnaMode_22 Start: 18339, Stop: 18710, Start Num: 33

Candidate Starts for EdnaMode_22:

(Start: 33 @18339 has 54 MA's), (40, 18366), (41, 18369), (43, 18378), (52, 18438), (60, 18471), (63, 18480), (69, 18504), (85, 18573), (86, 18576), (93, 18594), (94, 18597), (96, 18603), (97, 18606), (102, 18666),

Gene: EnalisNailo_26 Start: 21682, Stop: 22062, Start Num: 33

Candidate Starts for EnalisNailo_26:

(Start: 33 @21682 has 54 MA's), (40, 21709), (41, 21712), (43, 21721), (51, 21754), (52, 21781), (60, 21814), (63, 21823), (69, 21847), (85, 21916), (86, 21919), (92, 21934), (93, 21937), (96, 21946), (102, 22009), (106, 22051),

Gene: Engineer_56 Start: 34232, Stop: 34687, Start Num: 7

Candidate Starts for Engineer_56:

(5, 34217), (Start: 7 @34232 has 16 MA's), (10, 34259), (16, 34286), (27, 34316), (32, 34331), (42, 34379), (43, 34385), (45, 34391), (55, 34460), (63, 34487), (66, 34499), (79, 34577), (89, 34610), (90, 34613), (97, 34634),

Gene: Evamon_42 Start: 35809, Stop: 36198, Start Num: 33

Candidate Starts for Evamon_42:

(Start: 33 @35809 has 54 MA's), (40, 35836), (41, 35839), (43, 35848), (51, 35881), (52, 35908), (55, 35923), (60, 35941), (63, 35950), (69, 35974), (84, 36040), (85, 36043), (86, 36046), (92, 36061), (93, 36064), (96, 36073), (102, 36136),

Gene: Eyes_25 Start: 21050, Stop: 21436, Start Num: 33

Candidate Starts for Eyes_25:

(Start: 33 @21050 has 54 MA's), (Start: 35 @21059 has 1 MA's), (37, 21065), (40, 21083), (41, 21086), (60, 21188), (63, 21197), (69, 21221), (85, 21290), (86, 21293), (91, 21305), (92, 21308), (93, 21311), (96, 21320), (105, 21419),

Gene: FF47_31 Start: 24709, Stop: 25119, Start Num: 11

Candidate Starts for FF47_31:

(4, 24658), (Start: 11 @24709 has 1 MA's), (16, 24727), (32, 24772), (44, 24829), (77, 24988), (83, 25015), (84, 25018), (87, 25024), (90, 25033), (102, 25114),

Gene: Fairfaxidum_24 Start: 21186, Stop: 21560, Start Num: 33

Candidate Starts for Fairfaxidum_24:

(Start: 33 @21186 has 54 MA's), (41, 21222), (58, 21318), (59, 21321), (69, 21357), (88, 21432), (89, 21435), (93, 21447),

Gene: Faith5x5_22 Start: 18281, Stop: 18646, Start Num: 33

Candidate Starts for Faith5x5_22:

(Start: 33 @18281 has 54 MA's), (Start: 35 @18290 has 1 MA's), (41, 18317), (42, 18320), (44, 18329), (52, 18386), (53, 18392), (69, 18452), (85, 18521), (86, 18524), (92, 18539), (94, 18545), (96, 18551), (97, 18554),

Gene: Floral_26 Start: 21533, Stop: 21913, Start Num: 33

Candidate Starts for Floral_26:

(Start: 33 @21533 has 54 MA's), (40, 21560), (41, 21563), (43, 21572), (51, 21605), (52, 21632), (60, 21665), (63, 21674), (69, 21698), (85, 21767), (86, 21770), (92, 21785), (93, 21788), (96, 21797), (102, 21860), (106, 21902),

Gene: Frickyeah_26 Start: 20827, Stop: 21267, Start Num: 3

Candidate Starts for Frickyeah_26:

(Start: 3 @20827 has 26 MA's), (Start: 11 @20884 has 1 MA's), (Start: 17 @20911 has 1 MA's), (43, 21001), (51, 21034), (58, 21088), (59, 21091), (60, 21094), (63, 21103), (64, 21106), (69, 21127), (74, 21139), (85, 21196), (88, 21202), (90, 21208), (91, 21211), (92, 21214), (95, 21223), (97, 21229), (98, 21256),

Gene: GEazy_25 Start: 21065, Stop: 21451, Start Num: 33

Candidate Starts for GEazy_25:

(Start: 33 @21065 has 54 MA's), (Start: 35 @21074 has 1 MA's), (37, 21080), (40, 21098), (41, 21101), (60, 21203), (63, 21212), (69, 21236), (85, 21305), (86, 21308), (92, 21323), (93, 21326), (96, 21335), (105, 21434),

Gene: Geeche_53 Start: 33648, Stop: 34103, Start Num: 7

Candidate Starts for Geeche_53:

(5, 33633), (Start: 7 @33648 has 16 MA's), (10, 33675), (16, 33702), (27, 33732), (32, 33747), (42, 33795), (43, 33801), (45, 33807), (55, 33876), (63, 33903), (66, 33915), (79, 33993), (89, 34026), (90, 34029), (97, 34050),

Gene: Getalong_28 Start: 21864, Stop: 22304, Start Num: 3

Candidate Starts for Getalong_28:

(Start: 3 @21864 has 26 MA's), (Start: 11 @21921 has 1 MA's), (Start: 17 @21948 has 1 MA's), (43, 22038), (51, 22071), (58, 22125), (59, 22128), (60, 22131), (63, 22140), (64, 22143), (69, 22164), (74, 22176), (85, 22233), (88, 22239), (90, 22245), (91, 22248), (92, 22251), (95, 22260), (97, 22266), (98, 22293),

Gene: Gezellig_42 Start: 35941, Stop: 36330, Start Num: 33

Candidate Starts for Gezellig_42:

(Start: 33 @35941 has 54 MA's), (40, 35968), (41, 35971), (43, 35980), (51, 36013), (52, 36040), (55, 36055), (60, 36073), (63, 36082), (64, 36085), (69, 36106), (84, 36172), (85, 36175), (86, 36178), (92, 36193), (93, 36196), (96, 36205), (97, 36208), (102, 36268),

Gene: Halo3_43 Start: 36234, Stop: 36623, Start Num: 33

Candidate Starts for Halo3_43:

(Start: 33 @36234 has 54 MA's), (40, 36261), (41, 36264), (43, 36273), (51, 36306), (52, 36333), (55, 36348), (60, 36366), (63, 36375), (69, 36399), (84, 36465), (85, 36468), (86, 36471), (92, 36486), (93, 36489), (96, 36498), (102, 36561),

Gene: HannahD_25 Start: 21065, Stop: 21451, Start Num: 33

Candidate Starts for HannahD_25:

(Start: 33 @21065 has 54 MA's), (Start: 35 @21074 has 1 MA's), (37, 21080), (40, 21098), (41, 21101), (60, 21203), (63, 21212), (69, 21236), (85, 21305), (86, 21308), (92, 21323), (93, 21326), (96, 21335), (105, 21434),

Gene: Holliday_27 Start: 21169, Stop: 21609, Start Num: 3

Candidate Starts for Holliday_27:

(Start: 3 @21169 has 26 MA's), (Start: 11 @21226 has 1 MA's), (Start: 17 @21253 has 1 MA's), (43, 21343), (51, 21376), (58, 21430), (59, 21433), (60, 21436), (63, 21445), (64, 21448), (69, 21469), (74, 21481), (85, 21538), (88, 21544), (90, 21550), (91, 21553), (92, 21556), (95, 21565), (97, 21571), (98, 21598),

Gene: Horus_27 Start: 21086, Stop: 21526, Start Num: 3

Candidate Starts for Horus_27:

(Start: 3 @21086 has 26 MA's), (Start: 11 @21143 has 1 MA's), (Start: 17 @21170 has 1 MA's), (43, 21260), (51, 21293), (58, 21347), (59, 21350), (60, 21353), (63, 21362), (64, 21365), (69, 21386), (74, 21398), (85, 21455), (88, 21461), (90, 21467), (91, 21470), (92, 21473), (95, 21482), (97, 21488), (98, 21515),

Gene: Jambalaya_43 Start: 35588, Stop: 35977, Start Num: 33

Candidate Starts for Jambalaya_43:

(Start: 33 @35588 has 54 MA's), (40, 35615), (41, 35618), (43, 35627), (51, 35660), (52, 35687), (55, 35702), (60, 35720), (63, 35729), (69, 35753), (84, 35819), (85, 35822), (86, 35825), (92, 35840), (93, 35843), (96, 35852), (102, 35915),

Gene: JuJu_25 Start: 20877, Stop: 21227, Start Num: 33

Candidate Starts for JuJu_25:

(Start: 33 @20877 has 54 MA's), (42, 20910), (45, 20922), (46, 20925), (54, 20985), (58, 21003), (62, 21015), (89, 21117), (90, 21120), (97, 21141),

Gene: Kamaru_27 Start: 21169, Stop: 21609, Start Num: 3

Candidate Starts for Kamaru_27:

(Start: 3 @21169 has 26 MA's), (Start: 11 @21226 has 1 MA's), (Start: 17 @21253 has 1 MA's), (43, 21343), (51, 21376), (58, 21430), (59, 21433), (60, 21436), (63, 21445), (64, 21448), (69, 21469), (74, 21481), (85, 21538), (88, 21544), (90, 21550), (91, 21553), (92, 21556), (95, 21565), (97, 21571), (98, 21598),

Gene: KappaFarmDelta_26 Start: 21305, Stop: 21655, Start Num: 33

Candidate Starts for KappaFarmDelta_26:

(Start: 33 @21305 has 54 MA's), (42, 21338), (58, 21431), (60, 21437), (61, 21440), (67, 21461), (69, 21470), (77, 21503), (92, 21554), (97, 21569),

Gene: Kenna_26 Start: 21062, Stop: 21502, Start Num: 3

Candidate Starts for Kenna_26:

(Start: 3 @21062 has 26 MA's), (Start: 11 @21119 has 1 MA's), (Start: 17 @21146 has 1 MA's), (43, 21236), (51, 21269), (58, 21323), (59, 21326), (60, 21329), (63, 21338), (64, 21341), (69, 21362), (74, 21374), (85, 21431), (88, 21437), (90, 21443), (91, 21446), (92, 21449), (95, 21458), (97, 21464), (98, 21491),

Gene: KimmyK_44 Start: 36523, Stop: 36912, Start Num: 33

Candidate Starts for KimmyK_44:

(Start: 33 @36523 has 54 MA's), (40, 36550), (41, 36553), (43, 36562), (51, 36595), (52, 36622), (55, 36637), (60, 36655), (63, 36664), (64, 36667), (69, 36688), (84, 36754), (85, 36757), (86, 36760), (92, 36775), (93, 36778), (96, 36787), (97, 36790), (102, 36850),

Gene: Kuwabara_26 Start: 20488, Stop: 20928, Start Num: 3

Candidate Starts for Kuwabara_26:

(Start: 3 @20488 has 26 MA's), (Start: 11 @20545 has 1 MA's), (Start: 17 @20572 has 1 MA's), (43, 20662), (51, 20695), (58, 20749), (59, 20752), (60, 20755), (63, 20764), (64, 20767), (69, 20788), (74, 20800), (85, 20857), (88, 20863), (90, 20869), (91, 20872), (92, 20875), (95, 20884), (97, 20890), (98, 20917),

Gene: Lamberg_22 Start: 18339, Stop: 18710, Start Num: 33

Candidate Starts for Lamberg_22:

(Start: 33 @18339 has 54 MA's), (40, 18366), (41, 18369), (43, 18378), (52, 18438), (60, 18471), (63, 18480), (69, 18504), (85, 18573), (86, 18576), (93, 18594), (94, 18597), (96, 18603), (97, 18606), (102, 18666),

Gene: Leroy_27 Start: 21087, Stop: 21527, Start Num: 3

Candidate Starts for Leroy_27:

(Start: 3 @21087 has 26 MA's), (Start: 11 @21144 has 1 MA's), (Start: 17 @21171 has 1 MA's), (43, 21261), (51, 21294), (58, 21348), (59, 21351), (60, 21354), (63, 21363), (64, 21366), (69, 21387), (74, 21399), (85, 21456), (88, 21462), (90, 21468), (91, 21471), (92, 21474), (95, 21483), (97, 21489), (98, 21516),

Gene: LilSpotty_36 Start: 26778, Stop: 27152, Start Num: 12

Candidate Starts for LilSpotty_36:

(6, 26739), (Start: 11 @26775 has 1 MA's), (Start: 12 @26778 has 4 MA's), (42, 26886), (44, 26895), (46, 26901), (51, 26925), (54, 26961), (58, 26979), (63, 26994), (68, 27012), (76, 27051), (90, 27099),

Gene: Lilas_26 Start: 21682, Stop: 22062, Start Num: 33

Candidate Starts for Lilas_26:

(Start: 33 @21682 has 54 MA's), (40, 21709), (41, 21712), (43, 21721), (51, 21754), (52, 21781), (60, 21814), (63, 21823), (69, 21847), (85, 21916), (86, 21919), (92, 21934), (93, 21937), (96, 21946), (102, 22009), (106, 22051),

Gene: LitninMcQueen_26 Start: 20818, Stop: 21258, Start Num: 3

Candidate Starts for LitninMcQueen_26:

(Start: 3 @20818 has 26 MA's), (Start: 11 @20875 has 1 MA's), (Start: 17 @20902 has 1 MA's), (43, 20992), (51, 21025), (58, 21079), (59, 21082), (60, 21085), (63, 21094), (64, 21097), (69, 21118), (74, 21130), (85, 21187), (88, 21193), (90, 21199), (91, 21202), (95, 21214), (97, 21220), (98, 21247),

Gene: LongHai_32 Start: 25084, Stop: 25494, Start Num: 11

Candidate Starts for LongHai_32:

(Start: 11 @25084 has 1 MA's), (32, 25147), (68, 25321), (69, 25327), (71, 25330), (77, 25363), (83, 25390), (87, 25399), (90, 25408), (100, 25471), (102, 25489),

Gene: Lozinak_55 Start: 34287, Stop: 34742, Start Num: 7

Candidate Starts for Lozinak_55:

(5, 34272), (Start: 7 @34287 has 16 MA's), (10, 34314), (16, 34341), (27, 34371), (32, 34386), (42, 34434), (43, 34440), (45, 34446), (55, 34515), (63, 34542), (66, 34554), (79, 34632), (89, 34665), (90, 34668), (97, 34689),

Gene: Lton_22 Start: 18368, Stop: 18739, Start Num: 33

Candidate Starts for Lton_22:

(Start: 33 @18368 has 54 MA's), (40, 18395), (41, 18398), (43, 18407), (52, 18467), (60, 18500), (63, 18509), (69, 18533), (85, 18602), (86, 18605), (93, 18623), (94, 18626), (96, 18632), (97, 18635), (102, 18695),

Gene: Lutum_27 Start: 21062, Stop: 21502, Start Num: 3

Candidate Starts for Lutum_27:

(Start: 3 @21062 has 26 MA's), (Start: 11 @21119 has 1 MA's), (Start: 17 @21146 has 1 MA's), (43, 21236), (51, 21269), (58, 21323), (59, 21326), (60, 21329), (63, 21338), (64, 21341), (69, 21362), (74, 21374), (85, 21431), (88, 21437), (90, 21443), (91, 21446), (92, 21449), (95, 21458), (97, 21464), (98, 21491),

Gene: Maco6_29 Start: 24049, Stop: 24459, Start Num: 12

Candidate Starts for Maco6_29:

(9, 24040), (Start: 12 @24049 has 4 MA's), (32, 24112), (44, 24169), (77, 24328), (87, 24364), (90, 24373), (102, 24454),

Gene: MagicMan_25 Start: 21371, Stop: 21757, Start Num: 33

Candidate Starts for MagicMan_25:

(Start: 33 @21371 has 54 MA's), (Start: 35 @21380 has 1 MA's), (37, 21386), (41, 21407), (60, 21509), (63, 21518), (69, 21542), (85, 21611), (86, 21614), (91, 21626), (92, 21629), (93, 21632), (96, 21641), (105, 21740),

Gene: Malisha_28 Start: 22947, Stop: 23384, Start Num: 3

Candidate Starts for Malisha_28:

(Start: 3 @22947 has 26 MA's), (Start: 11 @23004 has 1 MA's), (Start: 17 @23031 has 1 MA's), (18, 23034), (19, 23037), (26, 23052), (30, 23064), (44, 23124), (51, 23154), (59, 23211), (60, 23214), (64, 23226), (67, 23238), (68, 23241), (69, 23247), (74, 23259), (80, 23295), (81, 23304), (85, 23316), (88, 23322), (90, 23328), (91, 23331), (92, 23334), (95, 23343), (97, 23349),

Gene: Marteena_26 Start: 21533, Stop: 21913, Start Num: 33

Candidate Starts for Marteena_26:

(Start: 33 @21533 has 54 MA's), (40, 21560), (41, 21563), (43, 21572), (51, 21605), (52, 21632), (60, 21665), (63, 21674), (69, 21698), (85, 21767), (86, 21770), (92, 21785), (93, 21788), (96, 21797), (102, 21860), (106, 21902),

Gene: Matteo_22 Start: 18276, Stop: 18656, Start Num: 33

Candidate Starts for Matteo_22:

(Start: 33 @18276 has 54 MA's), (40, 18303), (41, 18306), (43, 18315), (51, 18348), (52, 18375), (60, 18408), (63, 18417), (69, 18441), (85, 18510), (86, 18513), (92, 18528), (93, 18531), (96, 18540), (102, 18603),

Gene: Miskis_52 Start: 33592, Stop: 34047, Start Num: 7

Candidate Starts for Miskis_52:

(5, 33577), (Start: 7 @33592 has 16 MA's), (10, 33619), (16, 33646), (27, 33676), (32, 33691), (42, 33739), (43, 33745), (45, 33751), (55, 33820), (63, 33847), (66, 33859), (79, 33937), (89, 33970), (90, 33973), (97, 33994),

Gene: Moosehead_22 Start: 18289, Stop: 18654, Start Num: 33

Candidate Starts for Moosehead_22:

(Start: 33 @18289 has 54 MA's), (Start: 35 @18298 has 1 MA's), (44, 18337), (52, 18394), (53, 18400), (78, 18502), (84, 18526), (85, 18529), (86, 18532), (92, 18547), (94, 18553), (96, 18559), (97, 18562),

Gene: MortyNRick_26 Start: 20794, Stop: 21234, Start Num: 3

Candidate Starts for MortyNRick_26:

(Start: 3 @20794 has 26 MA's), (Start: 11 @20851 has 1 MA's), (Start: 17 @20878 has 1 MA's), (43, 20968), (51, 21001), (58, 21055), (59, 21058), (60, 21061), (63, 21070), (64, 21073), (69, 21094), (74, 21106), (85, 21163), (88, 21169), (90, 21175), (91, 21178), (92, 21181), (95, 21190), (97, 21196), (98, 21223),

Gene: Muddy_31 Start: 24990, Stop: 25400, Start Num: 11

Candidate Starts for Muddy_31:

(Start: 11 @24990 has 1 MA's), (32, 25053), (68, 25227), (69, 25233), (71, 25236), (77, 25269), (83, 25296), (87, 25305), (90, 25314), (100, 25377), (102, 25395),

Gene: Nettuno_22 Start: 18342, Stop: 18710, Start Num: 33

Candidate Starts for Nettuno_22:

(Start: 33 @18342 has 54 MA's), (40, 18369), (41, 18372), (43, 18381), (51, 18414), (52, 18441), (60, 18474), (63, 18483), (69, 18507), (85, 18576), (86, 18579), (92, 18594), (93, 18597), (96, 18606), (102,

18669),

Gene: Norvs_55 Start: 33831, Stop: 34286, Start Num: 7

Candidate Starts for Norvs_55:

(5, 33816), (Start: 7 @33831 has 16 MA's), (10, 33858), (16, 33885), (27, 33915), (32, 33930), (42, 33978), (43, 33984), (45, 33990), (55, 34059), (63, 34086), (66, 34098), (79, 34176), (89, 34209), (90, 34212), (97, 34233),

Gene: Obliviate_24 Start: 20727, Stop: 21077, Start Num: 33

Candidate Starts for Obliviate_24:

(Start: 33 @20727 has 54 MA's), (42, 20760), (58, 20853), (60, 20859), (61, 20862), (67, 20883), (69, 20892), (77, 20925), (92, 20976), (97, 20991), (101, 21042),

Gene: OneDirection_21 Start: 18308, Stop: 18682, Start Num: 33

Candidate Starts for OneDirection_21:

(1, 18086), (2, 18116), (Start: 33 @18308 has 54 MA's), (36, 18320), (37, 18323), (41, 18344), (42, 18347), (44, 18356), (51, 18386), (58, 18440), (66, 18467), (69, 18479), (86, 18551), (89, 18557),

Gene: OneUp_48 Start: 31264, Stop: 31683, Start Num: 7

Candidate Starts for OneUp_48:

(5, 31252), (Start: 7 @31264 has 16 MA's), (14, 31288), (32, 31339), (Start: 34 @31354 has 1 MA's), (40, 31381), (41, 31384), (42, 31387), (43, 31393), (44, 31396), (49, 31414), (55, 31468), (69, 31519), (70, 31522), (73, 31543), (89, 31612), (90, 31615), (97, 31636),

Gene: Opie_25 Start: 21395, Stop: 21781, Start Num: 33

Candidate Starts for Opie_25:

(Start: 33 @21395 has 54 MA's), (Start: 35 @21404 has 1 MA's), (37, 21410), (40, 21428), (41, 21431), (60, 21533), (62, 21539), (63, 21542), (69, 21566), (84, 21632), (85, 21635), (86, 21638), (91, 21650), (92, 21653), (93, 21656), (96, 21665), (105, 21764),

Gene: Pepperoni_23 Start: 19151, Stop: 19531, Start Num: 33

Candidate Starts for Pepperoni_23:

(Start: 33 @19151 has 54 MA's), (40, 19178), (41, 19181), (43, 19190), (51, 19223), (52, 19250), (60, 19283), (63, 19292), (69, 19316), (85, 19385), (86, 19388), (93, 19406), (94, 19409), (96, 19415), (97, 19418), (102, 19478),

Gene: Periwinkle_29 Start: 21531, Stop: 21971, Start Num: 3

Candidate Starts for Periwinkle_29:

(Start: 3 @21531 has 26 MA's), (Start: 11 @21588 has 1 MA's), (Start: 17 @21615 has 1 MA's), (43, 21705), (51, 21738), (58, 21792), (59, 21795), (60, 21798), (63, 21807), (64, 21810), (69, 21831), (74, 21843), (81, 21888), (85, 21900), (88, 21906), (90, 21912), (91, 21915), (92, 21918), (95, 21927), (97, 21933), (98, 21960),

Gene: Phabuloso_26 Start: 20818, Stop: 21258, Start Num: 3

Candidate Starts for Phabuloso_26:

(Start: 3 @20818 has 26 MA's), (Start: 11 @20875 has 1 MA's), (Start: 17 @20902 has 1 MA's), (43, 20992), (51, 21025), (58, 21079), (59, 21082), (60, 21085), (63, 21094), (64, 21097), (69, 21118), (74, 21130), (85, 21187), (88, 21193), (90, 21199), (91, 21202), (92, 21205), (95, 21214), (97, 21220), (98, 21247),

Gene: PhinkBoden_54 Start: 34212, Stop: 34667, Start Num: 7

Candidate Starts for PhinkBoden_54:

(5, 34197), (Start: 7 @34212 has 16 MA's), (10, 34239), (16, 34266), (27, 34296), (32, 34311), (42, 34359), (43, 34365), (45, 34371), (55, 34440), (63, 34467), (66, 34479), (79, 34557), (89, 34590), (90, 34593), (97, 34614),

Gene: Phistory_28 Start: 21852, Stop: 22292, Start Num: 3

Candidate Starts for Phistory_28:

(Start: 3 @21852 has 26 MA's), (Start: 11 @21909 has 1 MA's), (Start: 17 @21936 has 1 MA's), (43, 22026), (51, 22059), (58, 22113), (59, 22116), (60, 22119), (63, 22128), (64, 22131), (69, 22152), (74, 22164), (85, 22221), (88, 22227), (90, 22233), (91, 22236), (92, 22239), (95, 22248), (97, 22254), (98, 22281),

Gene: Pickett_22 Start: 18266, Stop: 18634, Start Num: 33

Candidate Starts for Pickett_22:

(Start: 33 @18266 has 54 MA's), (40, 18293), (41, 18296), (43, 18305), (51, 18338), (52, 18365), (60, 18398), (63, 18407), (69, 18431), (85, 18500), (86, 18503), (92, 18518), (93, 18521), (96, 18530), (102, 18593),

Gene: Pollux_26 Start: 21533, Stop: 21913, Start Num: 33

Candidate Starts for Pollux_26:

(Start: 33 @21533 has 54 MA's), (40, 21560), (41, 21563), (43, 21572), (51, 21605), (52, 21632), (60, 21665), (63, 21674), (69, 21698), (85, 21767), (86, 21770), (92, 21785), (93, 21788), (96, 21797), (102, 21860), (106, 21902),

Gene: Portcullis_44 Start: 35309, Stop: 35698, Start Num: 33

Candidate Starts for Portcullis_44:

(Start: 33 @35309 has 54 MA's), (40, 35336), (41, 35339), (43, 35348), (51, 35381), (52, 35408), (55, 35423), (60, 35441), (63, 35450), (69, 35474), (84, 35540), (85, 35543), (86, 35546), (92, 35561), (93, 35564), (96, 35573), (102, 35636),

Gene: PrincePatrick_24 Start: 21182, Stop: 21556, Start Num: 33

Candidate Starts for PrincePatrick_24:

(Start: 33 @21182 has 54 MA's), (41, 21218), (58, 21314), (59, 21317), (69, 21353), (88, 21428), (89, 21431), (93, 21443),

Gene: REQ2_26 Start: 22510, Stop: 22854, Start Num: 30

Candidate Starts for REQ2_26:

(30, 22510), (Start: 34 @22528 has 1 MA's), (41, 22558), (44, 22570), (45, 22573), (49, 22588), (59, 22657), (84, 22759), (85, 22762), (90, 22774),

Gene: Rem711_40 Start: 30711, Stop: 31142, Start Num: 17

Candidate Starts for Rem711_40:

(6, 30645), (8, 30669), (Start: 12 @30687 has 4 MA's), (Start: 17 @30711 has 1 MA's), (38, 30780), (43, 30801), (47, 30813), (56, 30879), (63, 30903), (88, 31002), (90, 31008), (98, 31059),

Gene: RogerDodger_46 Start: 36138, Stop: 36527, Start Num: 33

Candidate Starts for RogerDodger_46:

(Start: 33 @36138 has 54 MA's), (40, 36165), (41, 36168), (43, 36177), (51, 36210), (52, 36237), (55, 36252), (60, 36270), (63, 36279), (64, 36282), (69, 36303), (84, 36369), (85, 36372), (86, 36375), (92, 36390), (93, 36393), (96, 36402), (97, 36405), (102, 36465),

Gene: Salvador_42 Start: 35807, Stop: 36196, Start Num: 33

Candidate Starts for Salvador_42:

(Start: 33 @35807 has 54 MA's), (40, 35834), (41, 35837), (43, 35846), (51, 35879), (52, 35906), (55, 35921), (60, 35939), (63, 35948), (69, 35972), (84, 36038), (85, 36041), (86, 36044), (92, 36059), (93, 36062), (96, 36071), (102, 36134),

Gene: Salvus_32 Start: 25084, Stop: 25494, Start Num: 11

Candidate Starts for Salvus_32:

(Start: 11 @25084 has 1 MA's), (32, 25147), (68, 25321), (69, 25327), (71, 25330), (77, 25363), (83, 25390), (87, 25399), (90, 25408), (100, 25471), (102, 25489),

Gene: Savbucketdawg_43 Start: 35588, Stop: 35977, Start Num: 33

Candidate Starts for Savbucketdawg_43:

(Start: 33 @35588 has 54 MA's), (40, 35615), (41, 35618), (43, 35627), (51, 35660), (52, 35687), (55, 35702), (60, 35720), (63, 35729), (69, 35753), (84, 35819), (85, 35822), (86, 35825), (92, 35840), (93, 35843), (96, 35852), (102, 35915),

Gene: Schnabeltier_25 Start: 21381, Stop: 21758, Start Num: 35

Candidate Starts for Schnabeltier_25:

(Start: 33 @21372 has 54 MA's), (Start: 35 @21381 has 1 MA's), (37, 21387), (41, 21408), (60, 21510), (63, 21519), (69, 21543), (85, 21612), (86, 21615), (91, 21627), (92, 21630), (93, 21633), (96, 21642), (105, 21741),

Gene: ShawBrad_27 Start: 21074, Stop: 21514, Start Num: 3

Candidate Starts for ShawBrad_27:

(Start: 3 @21074 has 26 MA's), (Start: 11 @21131 has 1 MA's), (Start: 17 @21158 has 1 MA's), (43, 21248), (51, 21281), (58, 21335), (59, 21338), (60, 21341), (63, 21350), (64, 21353), (69, 21374), (74, 21386), (85, 21443), (88, 21449), (90, 21455), (91, 21458), (92, 21461), (95, 21470), (97, 21476), (98, 21503),

Gene: Smoothie_56 Start: 34287, Stop: 34742, Start Num: 7

Candidate Starts for Smoothie_56:

(5, 34272), (Start: 7 @34287 has 16 MA's), (10, 34314), (16, 34341), (27, 34371), (32, 34386), (42, 34434), (43, 34440), (45, 34446), (55, 34515), (63, 34542), (66, 34554), (79, 34632), (89, 34665), (90, 34668), (97, 34689),

Gene: Spooky_27 Start: 21156, Stop: 21593, Start Num: 3

Candidate Starts for Spooky_27:

(Start: 3 @21156 has 26 MA's), (Start: 11 @21213 has 1 MA's), (Start: 17 @21240 has 1 MA's), (18, 21243), (19, 21246), (26, 21261), (30, 21273), (44, 21333), (51, 21363), (59, 21420), (60, 21423), (64, 21435), (67, 21447), (68, 21450), (69, 21456), (74, 21468), (80, 21504), (81, 21513), (85, 21525), (88, 21531), (90, 21537), (91, 21540), (92, 21543), (95, 21552), (97, 21558),

Gene: Squiddly_29 Start: 22568, Stop: 23005, Start Num: 3

Candidate Starts for Squiddly_29:

(Start: 3 @22568 has 26 MA's), (Start: 11 @22625 has 1 MA's), (Start: 17 @22652 has 1 MA's), (18, 22655), (19, 22658), (26, 22673), (30, 22685), (44, 22745), (51, 22775), (59, 22832), (60, 22835), (64, 22847), (67, 22859), (68, 22862), (69, 22868), (74, 22880), (80, 22916), (81, 22925), (85, 22937), (88, 22943), (90, 22949), (91, 22952), (92, 22955), (95, 22964), (97, 22970),

Gene: TaronosaurusRx_25 Start: 21403, Stop: 21789, Start Num: 33

Candidate Starts for TaronosaurusRx_25:

(Start: 33 @21403 has 54 MA's), (Start: 35 @21412 has 1 MA's), (37, 21418), (44, 21451), (47, 21460), (60, 21541), (63, 21550), (69, 21574), (85, 21643), (86, 21646), (92, 21661), (93, 21664), (96, 21673), (97, 21676), (105, 21772),

Gene: TinyDot_24 Start: 18787, Stop: 19161, Start Num: 33

Candidate Starts for TinyDot_24:

(1, 18565), (2, 18595), (Start: 33 @18787 has 54 MA's), (36, 18799), (37, 18802), (41, 18823), (42, 18826), (58, 18919), (65, 18940), (66, 18946), (69, 18958), (86, 19030), (89, 19036), (92, 19045), (93, 19048), (102, 19120), (103, 19135),

Gene: Toniann_54 Start: 33774, Stop: 34229, Start Num: 7

Candidate Starts for Toniann_54:

(5, 33759), (Start: 7 @33774 has 16 MA's), (10, 33801), (16, 33828), (27, 33858), (32, 33873), (42, 33921), (43, 33927), (45, 33933), (55, 34002), (63, 34029), (66, 34041), (79, 34119), (89, 34152), (90, 34155), (97, 34176),

Gene: Twister6_45 Start: 35701, Stop: 36090, Start Num: 33

Candidate Starts for Twister6_45:

(Start: 33 @35701 has 54 MA's), (40, 35728), (41, 35731), (43, 35740), (51, 35773), (52, 35800), (55, 35815), (60, 35833), (63, 35842), (69, 35866), (84, 35932), (85, 35935), (86, 35938), (92, 35953), (93, 35956), (96, 35965), (102, 36028),

Gene: Valary_45 Start: 36743, Stop: 37132, Start Num: 33

Candidate Starts for Valary_45:

(Start: 33 @36743 has 54 MA's), (40, 36770), (41, 36773), (43, 36782), (51, 36815), (52, 36842), (55, 36857), (60, 36875), (63, 36884), (64, 36887), (69, 36908), (84, 36974), (85, 36977), (86, 36980), (92, 36995), (93, 36998), (96, 37007), (97, 37010), (102, 37070),

Gene: VanDeWege_46 Start: 36035, Stop: 36424, Start Num: 33

Candidate Starts for VanDeWege_46:

(Start: 33 @36035 has 54 MA's), (40, 36062), (41, 36065), (43, 36074), (51, 36107), (52, 36134), (55, 36149), (60, 36167), (63, 36176), (64, 36179), (69, 36200), (84, 36266), (85, 36269), (86, 36272), (92, 36287), (93, 36290), (96, 36299), (97, 36302), (102, 36362),

Gene: Whack_25 Start: 21433, Stop: 21819, Start Num: 34

Candidate Starts for Whack_25:

(15, 21367), (20, 21391), (30, 21415), (Start: 34 @21433 has 1 MA's), (43, 21472), (71, 21601), (72, 21604), (78, 21640), (90, 21679),

Gene: Whitney_28 Start: 21973, Stop: 22413, Start Num: 3

Candidate Starts for Whitney_28:

(Start: 3 @21973 has 26 MA's), (Start: 11 @22030 has 1 MA's), (Start: 17 @22057 has 1 MA's), (43, 22147), (51, 22180), (58, 22234), (59, 22237), (60, 22240), (63, 22249), (64, 22252), (69, 22273), (74, 22285), (85, 22342), (88, 22348), (90, 22354), (91, 22357), (92, 22360), (95, 22369), (97, 22375), (98, 22402),

Gene: William_25 Start: 20929, Stop: 21303, Start Num: 33

Candidate Starts for William_25:

(Start: 33 @20929 has 54 MA's), (41, 20965), (58, 21061), (59, 21064), (69, 21100), (88, 21175), (89, 21178), (93, 21190),

Gene: WilliamBoone_54 Start: 33126, Stop: 33575, Start Num: 7

Candidate Starts for WilliamBoone_54:

(5, 33111), (Start: 7 @33126 has 16 MA's), (16, 33174), (27, 33204), (31, 33216), (38, 33252), (42, 33267), (55, 33348), (58, 33360), (75, 33432), (79, 33465), (90, 33501), (97, 33522),

Gene: Wizard_42 Start: 35941, Stop: 36330, Start Num: 33

Candidate Starts for Wizard_42:

(Start: 33 @35941 has 54 MA's), (40, 35968), (41, 35971), (43, 35980), (51, 36013), (52, 36040), (55, 36055), (60, 36073), (63, 36082), (64, 36085), (69, 36106), (84, 36172), (85, 36175), (86, 36178), (92, 36193), (93, 36196), (96, 36205), (97, 36208), (102, 36268),

Gene: Yoshi_42 Start: 29099, Stop: 29485, Start Num: 12

Candidate Starts for Yoshi_42:

(8, 29084), (Start: 11 @29096 has 1 MA's), (Start: 12 @29099 has 4 MA's), (20, 29132), (21, 29135), (23, 29138), (24, 29141), (27, 29147), (29, 29150), (36, 29180), (39, 29198), (41, 29204), (47, 29225), (48, 29231), (51, 29246), (58, 29300), (60, 29306), (62, 29312), (63, 29315), (64, 29318), (68, 29333), (76, 29372), (79, 29384), (83, 29402), (90, 29420), (94, 29432),

Gene: ZAYM_26 Start: 21872, Stop: 22258, Start Num: 33

Candidate Starts for ZAYM_26:

(Start: 33 @21872 has 54 MA's), (Start: 35 @21881 has 1 MA's), (37, 21887), (44, 21920), (47, 21929), (52, 21977), (60, 22010), (63, 22019), (69, 22043), (85, 22112), (86, 22115), (92, 22130), (93, 22133), (96, 22142), (97, 22145), (105, 22241),

Gene: ZiggyZoo_24 Start: 20727, Stop: 21077, Start Num: 33

Candidate Starts for ZiggyZoo_24:

(Start: 33 @20727 has 54 MA's), (42, 20760), (58, 20853), (60, 20859), (61, 20862), (67, 20883), (69, 20892), (77, 20925), (92, 20976), (97, 20991), (101, 21042),