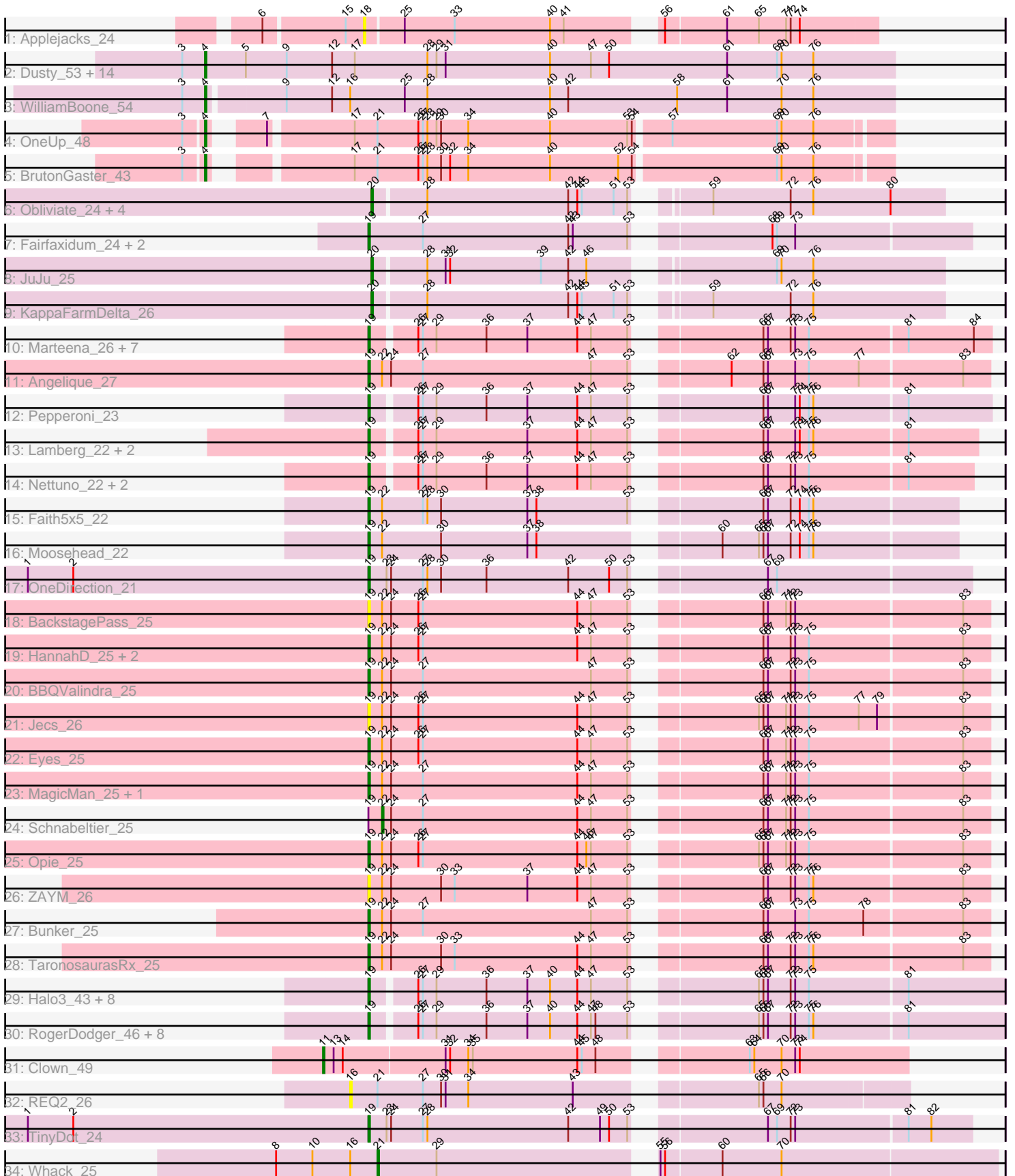


Pham 303286



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 303286 Report

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

Pham number 303286 has 84 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Applejacks_24
- Track 2 : Dusty_53, Culver_54, Aphelion_54, Geeche_53, ClubL_54, Engineer_56, PhinkBoden_54, Lozinak_55, Miskis_52, Smoothie_56, Abscondus_53, Norvs_55, Bachita_56, Cucurbita_56, Toniann_54
- Track 3 : WilliamBoone_54
- Track 4 : OneUp_48
- Track 5 : BrutonGaster_43
- Track 6 : Obliviate_24, CarolAnn_25, ZiggyZoo_24, Soilmate_26, Blino_25
- Track 7 : Fairfaxidum_24, PrincePatrick_24, William_25
- Track 8 : JuJu_25
- Track 9 : KappaFarmDelta_26
- Track 10 : Marteena_26, EMsquaredA_26, Pollux_26, Lilas_26, BritBrat_26, EnalisNailo_26, Bradissa_26, Floral_26
- Track 11 : Angelique_27
- Track 12 : Pepperoni_23
- Track 13 : Lamberg_22, Lton_22, EdnaMode_22
- Track 14 : Nettuno_22, Matteo_22, Pickett_22
- Track 15 : Faith5x5_22
- Track 16 : Moosehead_22
- Track 17 : OneDirection_21
- Track 18 : BackstagePass_25
- Track 19 : HannahD_25, GEazy_25, NaLuna_25
- Track 20 : BBQValindra_25
- Track 21 : Jecs_26
- Track 22 : Eyes_25
- Track 23 : MagicMan_25, Bowser_25
- Track 24 : Schnabeltier_25
- Track 25 : Opie_25
- Track 26 : ZAYM_26
- Track 27 : Bunker_25
- Track 28 : TaronosaurusRx_25
- Track 29 : Halo3_43, Evamon_42, Danyall_45, Twister6_45, JohnPork_44, Savbucketdawg_43, Portcullis_44, Jambalaya_43, Salvador_42
- Track 30 : RogerDodger_46, Arri_46, Wizard_42, CoveyB_46, VanDeWege_46, Gezellig_42, Valary_45, CherryCola_45, KimmyK_44
- Track 31 : Clown_49
- Track 32 : REQ2_26

- Track 33 : TinyDot_24
- Track 34 : Whack_25

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

The start number called the most often in the published annotations is 19, it was called in 49 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angelique_27, Arri_46, BBQValindra_25, BackstagePass_25, Bowser_25, Bradissa_26, BritBrat_26, Bunker_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, Jecs_26, JohnPork_44, KimmyK_44, Lamberg_22, Lilas_26, Lton_22, MagicMan_25, Marteena_26, Matteo_22, Moosehead_22, NaLuna_25, Nettuno_22, 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,

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

- Schnabeltier_25,

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

- Abscondus_53, Aphelion_54, Applejacks_24, Bachita_56, Blino_25, BrutonGaster_43, CarolAnn_25, Clown_49, ClubL_54, Cucurbita_56, Culver_54, Dusty_53, Engineer_56, Geeche_53, JuJu_25, KappaFarmDelta_26, Lozinak_55, Miskis_52, Norvs_55, Obliviate_24, OneUp_48, PhinkBoden_54, REQ2_26, Smoothie_56, Soilmate_26, Toniann_54, Whack_25, WilliamBoone_54, ZiggyZoo_24,

Summary by start number:

Start 4:

- Found in 18 of 84 (21.4%) of genes in pham
- Manual Annotations of this start: 17 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus_53 (CQ1), Aphelion_54 (CQ1), Bachita_56 (CQ1), BrutonGaster_43 (CQ2), 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 1 of 84 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clown_49 (DC2),

Start 16:

- Found in 3 of 84 (3.6%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: REQ2_26 (singleton),

Start 18:

- Found in 1 of 84 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Applejacks_24 (CD),

Start 19:

- Found in 55 of 84 (65.5%) of genes in pham
- Manual Annotations of this start: 49 of 75
- Called 98.2% of time when present
- Phage (with cluster) where this start called: Angelique_27 (CY1), Arri_46 (DC1), BBQValindra_25 (DB), BackstagePass_25 (DB), Bowser_25 (DB), Bradissa_26 (CY1), BritBrat_26 (CY2), Bunker_25 (DB), 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), Jecs_26 (DB), JohnPork_44 (DC1), KimmyK_44 (DC1), Lamberg_22 (CZ2), Lilas_26 (CY1), Lton_22 (CZ), MagicMan_25 (DB), Marteena_26 (CY1), Matteo_22 (CZ2), Moosehead_22 (CZ6), NaLuna_25 (DB), Nettuno_22 (CZ2), 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),

Start 20:

- Found in 7 of 84 (8.3%) of genes in pham
- Manual Annotations of this start: 6 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blino_25 (CV), CarolAnn_25 (CV), JuJu_25 (CV), KappaFarmDelta_26 (CV), Oblivate_24 (CV), Soilmate_26 (CV), ZiggyZoo_24 (CV),

Start 21:

- Found in 4 of 84 (4.8%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Whack_25 (singleton),

Start 22:

- Found in 17 of 84 (20.2%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Schnabeltier_25 (DB),

Summary by clusters:

There are 13 clusters represented in this pham: CY2, CY1, CZ2, CZ6, DB, singleton, CD, CZ, CQ2, CQ1, DC2, CV, DC1,

Info for manual annotations of cluster CQ1:

- Start number 4 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 4 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster CV:

- Start number 19 was manually annotated 3 times for cluster CV.
- Start number 20 was manually annotated 6 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 19 was manually annotated 8 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 19 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ:

- Start number 19 was manually annotated 2 times for cluster CZ.

Info for manual annotations of cluster CZ2:

- Start number 19 was manually annotated 5 times for cluster CZ2.

Info for manual annotations of cluster CZ6:

- Start number 19 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster DB:

- Start number 19 was manually annotated 9 times for cluster DB.
- Start number 22 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 19 was manually annotated 17 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 11 was manually annotated 1 time for cluster DC2.

Gene Information:

Gene: Abscondus_53 Start: 33557, Stop: 34012, Start Num: 4

Candidate Starts for Abscondus_53:

(3, 33542), (Start: 4 @33557 has 17 MA's), (5, 33584), (9, 33611), (12, 33641), (17, 33656), (28, 33704), (29, 33710), (31, 33716), (40, 33785), (47, 33812), (50, 33824), (61, 33902), (69, 33935), (70, 33938), (76, 33959),

Gene: Angelique_27 Start: 22414, Stop: 22800, Start Num: 19

Candidate Starts for Angelique_27:

(Start: 19 @22414 has 49 MA's), (Start: 22 @22423 has 1 MA's), (24, 22429), (27, 22450), (47, 22561), (53, 22585), (62, 22633), (66, 22654), (67, 22657), (73, 22675), (75, 22684), (77, 22717), (83, 22783),

Gene: Aphelion_54 Start: 33826, Stop: 34281, Start Num: 4

Candidate Starts for Aphelion_54:

(3, 33811), (Start: 4 @33826 has 17 MA's), (5, 33853), (9, 33880), (12, 33910), (17, 33925), (28, 33973), (29, 33979), (31, 33985), (40, 34054), (47, 34081), (50, 34093), (61, 34171), (69, 34204), (70, 34207), (76, 34228),

Gene: Applejacks_24 Start: 19251, Stop: 19565, Start Num: 18

Candidate Starts for Applejacks_24:

(6, 19188), (15, 19239), (18, 19251), (25, 19275), (33, 19308), (40, 19371), (41, 19380), (56, 19428), (61, 19467), (65, 19488), (71, 19506), (72, 19509), (74, 19515),

Gene: Arri_46 Start: 35970, Stop: 36359, Start Num: 19

Candidate Starts for Arri_46:

(Start: 19 @35970 has 49 MA's), (26, 35997), (27, 36000), (29, 36009), (36, 36042), (37, 36069), (40, 36084), (44, 36102), (47, 36111), (48, 36114), (53, 36135), (65, 36201), (66, 36204), (67, 36207), (72, 36222), (73, 36225), (75, 36234), (76, 36237), (81, 36297),

Gene: BBQValindra_25 Start: 21046, Stop: 21432, Start Num: 19

Candidate Starts for BBQValindra_25:

(Start: 19 @21046 has 49 MA's), (Start: 22 @21055 has 1 MA's), (24, 21061), (27, 21082), (47, 21193), (53, 21217), (66, 21286), (67, 21289), (72, 21304), (73, 21307), (75, 21316), (83, 21415),

Gene: Bachita_56 Start: 34259, Stop: 34714, Start Num: 4

Candidate Starts for Bachita_56:

(3, 34244), (Start: 4 @34259 has 17 MA's), (5, 34286), (9, 34313), (12, 34343), (17, 34358), (28, 34406), (29, 34412), (31, 34418), (40, 34487), (47, 34514), (50, 34526), (61, 34604), (69, 34637), (70, 34640), (76, 34661),

Gene: BackstagePass_25 Start: 21178, Stop: 21564, Start Num: 19

Candidate Starts for BackstagePass_25:

(Start: 19 @21178 has 49 MA's), (Start: 22 @21187 has 1 MA's), (24, 21193), (26, 21211), (27, 21214), (44, 21316), (47, 21325), (53, 21349), (66, 21418), (67, 21421), (71, 21433), (72, 21436), (73, 21439), (83, 21547),

Gene: Blino_25 Start: 20905, Stop: 21255, Start Num: 20

Candidate Starts for Blino_25:

(Start: 20 @20905 has 6 MA's), (28, 20938), (42, 21031), (44, 21037), (45, 21040), (51, 21061), (53, 21070), (59, 21103), (72, 21154), (76, 21169), (80, 21220),

Gene: Bowser_25 Start: 20957, Stop: 21343, Start Num: 19

Candidate Starts for Bowser_25:

(Start: 19 @20957 has 49 MA's), (Start: 22 @20966 has 1 MA's), (24, 20972), (27, 20993), (44, 21095), (47, 21104), (53, 21128), (66, 21197), (67, 21200), (71, 21212), (72, 21215), (73, 21218), (75, 21227), (83, 21326),

Gene: Bradissa_26 Start: 21680, Stop: 22060, Start Num: 19

Candidate Starts for Bradissa_26:

(Start: 19 @21680 has 49 MA's), (26, 21707), (27, 21710), (29, 21719), (36, 21752), (37, 21779), (44, 21812), (47, 21821), (53, 21845), (66, 21914), (67, 21917), (72, 21932), (73, 21935), (75, 21944), (81, 22007), (84, 22049),

Gene: BritBrat_26 Start: 21533, Stop: 21913, Start Num: 19

Candidate Starts for BritBrat_26:

(Start: 19 @21533 has 49 MA's), (26, 21560), (27, 21563), (29, 21572), (36, 21605), (37, 21632), (44, 21665), (47, 21674), (53, 21698), (66, 21767), (67, 21770), (72, 21785), (73, 21788), (75, 21797), (81, 21860), (84, 21902),

Gene: BrutonGaster_43 Start: 30940, Stop: 31359, Start Num: 4

Candidate Starts for BrutonGaster_43:

(3, 30928), (Start: 4 @30940 has 17 MA's), (17, 31015), (Start: 21 @31030 has 1 MA's), (26, 31057), (27, 31060), (28, 31063), (30, 31072), (32, 31078), (34, 31090), (40, 31144), (52, 31189), (54, 31198), (69, 31288), (70, 31291), (76, 31312),

Gene: Bunker_25 Start: 21159, Stop: 21545, Start Num: 19

Candidate Starts for Bunker_25:

(Start: 19 @21159 has 49 MA's), (Start: 22 @21168 has 1 MA's), (24, 21174), (27, 21195), (47, 21306), (53, 21330), (66, 21399), (67, 21402), (73, 21420), (75, 21429), (78, 21465), (83, 21528),

Gene: CarolAnn_25 Start: 20904, Stop: 21254, Start Num: 20

Candidate Starts for CarolAnn_25:

(Start: 20 @20904 has 6 MA's), (28, 20937), (42, 21030), (44, 21036), (45, 21039), (51, 21060), (53, 21069), (59, 21102), (72, 21153), (76, 21168), (80, 21219),

Gene: CherryCola_45 Start: 36743, Stop: 37132, Start Num: 19

Candidate Starts for CherryCola_45:

(Start: 19 @36743 has 49 MA's), (26, 36770), (27, 36773), (29, 36782), (36, 36815), (37, 36842), (40, 36857), (44, 36875), (47, 36884), (48, 36887), (53, 36908), (65, 36974), (66, 36977), (67, 36980), (72, 36995), (73, 36998), (75, 37007), (76, 37010), (81, 37070),

Gene: Clown_49 Start: 38210, Stop: 38572, Start Num: 11

Candidate Starts for Clown_49:

(Start: 11 @38210 has 1 MA's), (13, 38216), (14, 38222), (31, 38288), (32, 38291), (34, 38303), (35, 38306), (44, 38375), (45, 38378), (48, 38387), (63, 38468), (64, 38471), (70, 38489), (73, 38498), (74, 38501),

Gene: ClubL_54 Start: 33748, Stop: 34203, Start Num: 4

Candidate Starts for ClubL_54:

(3, 33733), (Start: 4 @33748 has 17 MA's), (5, 33775), (9, 33802), (12, 33832), (17, 33847), (28, 33895), (29, 33901), (31, 33907), (40, 33976), (47, 34003), (50, 34015), (61, 34093), (69, 34126), (70, 34129), (76, 34150),

Gene: CoveyB_46 Start: 35788, Stop: 36177, Start Num: 19

Candidate Starts for CoveyB_46:

(Start: 19 @35788 has 49 MA's), (26, 35815), (27, 35818), (29, 35827), (36, 35860), (37, 35887), (40, 35902), (44, 35920), (47, 35929), (48, 35932), (53, 35953), (65, 36019), (66, 36022), (67, 36025), (72, 36040), (73, 36043), (75, 36052), (76, 36055), (81, 36115),

Gene: Cucurbita_56 Start: 35118, Stop: 35573, Start Num: 4

Candidate Starts for Cucurbita_56:

(3, 35103), (Start: 4 @35118 has 17 MA's), (5, 35145), (9, 35172), (12, 35202), (17, 35217), (28, 35265), (29, 35271), (31, 35277), (40, 35346), (47, 35373), (50, 35385), (61, 35463), (69, 35496), (70, 35499), (76, 35520),

Gene: Culver_54 Start: 33557, Stop: 34012, Start Num: 4

Candidate Starts for Culver_54:

(3, 33542), (Start: 4 @33557 has 17 MA's), (5, 33584), (9, 33611), (12, 33641), (17, 33656), (28, 33704), (29, 33710), (31, 33716), (40, 33785), (47, 33812), (50, 33824), (61, 33902), (69, 33935), (70, 33938), (76, 33959),

Gene: Danyall_45 Start: 35790, Stop: 36179, Start Num: 19

Candidate Starts for Danyall_45:

(Start: 19 @35790 has 49 MA's), (26, 35817), (27, 35820), (29, 35829), (36, 35862), (37, 35889), (40, 35904), (44, 35922), (47, 35931), (53, 35955), (65, 36021), (66, 36024), (67, 36027), (72, 36042), (73, 36045), (75, 36054), (81, 36117),

Gene: Dusty_53 Start: 33557, Stop: 34012, Start Num: 4

Candidate Starts for Dusty_53:

(3, 33542), (Start: 4 @33557 has 17 MA's), (5, 33584), (9, 33611), (12, 33641), (17, 33656), (28, 33704), (29, 33710), (31, 33716), (40, 33785), (47, 33812), (50, 33824), (61, 33902), (69, 33935), (70, 33938), (76, 33959),

Gene: EMSquaredA_26 Start: 21533, Stop: 21913, Start Num: 19

Candidate Starts for EMSquaredA_26:

(Start: 19 @21533 has 49 MA's), (26, 21560), (27, 21563), (29, 21572), (36, 21605), (37, 21632), (44, 21665), (47, 21674), (53, 21698), (66, 21767), (67, 21770), (72, 21785), (73, 21788), (75, 21797), (81, 21860), (84, 21902),

Gene: EdnaMode_22 Start: 18339, Stop: 18710, Start Num: 19

Candidate Starts for EdnaMode_22:

(Start: 19 @18339 has 49 MA's), (26, 18366), (27, 18369), (29, 18378), (37, 18438), (44, 18471), (47, 18480), (53, 18504), (66, 18573), (67, 18576), (73, 18594), (74, 18597), (75, 18603), (76, 18606), (81, 18666),

Gene: EnalisNailo_26 Start: 21682, Stop: 22062, Start Num: 19

Candidate Starts for EnalisNailo_26:

(Start: 19 @21682 has 49 MA's), (26, 21709), (27, 21712), (29, 21721), (36, 21754), (37, 21781), (44, 21814), (47, 21823), (53, 21847), (66, 21916), (67, 21919), (72, 21934), (73, 21937), (75, 21946), (81, 22009), (84, 22051),

Gene: Engineer_56 Start: 34232, Stop: 34687, Start Num: 4

Candidate Starts for Engineer_56:

(3, 34217), (Start: 4 @34232 has 17 MA's), (5, 34259), (9, 34286), (12, 34316), (17, 34331), (28, 34379), (29, 34385), (31, 34391), (40, 34460), (47, 34487), (50, 34499), (61, 34577), (69, 34610), (70, 34613), (76, 34634),

Gene: Evamon_42 Start: 35809, Stop: 36198, Start Num: 19

Candidate Starts for Evamon_42:

(Start: 19 @35809 has 49 MA's), (26, 35836), (27, 35839), (29, 35848), (36, 35881), (37, 35908), (40, 35923), (44, 35941), (47, 35950), (53, 35974), (65, 36040), (66, 36043), (67, 36046), (72, 36061), (73, 36064), (75, 36073), (81, 36136),

Gene: Eyes_25 Start: 21050, Stop: 21436, Start Num: 19

Candidate Starts for Eyes_25:

(Start: 19 @21050 has 49 MA's), (Start: 22 @21059 has 1 MA's), (24, 21065), (26, 21083), (27, 21086), (44, 21188), (47, 21197), (53, 21221), (66, 21290), (67, 21293), (71, 21305), (72, 21308), (73, 21311), (75, 21320), (83, 21419),

Gene: Fairfaxidum_24 Start: 21186, Stop: 21560, Start Num: 19

Candidate Starts for Fairfaxidum_24:

(Start: 19 @21186 has 49 MA's), (27, 21222), (42, 21318), (43, 21321), (53, 21357), (68, 21432), (69, 21435), (73, 21447),

Gene: Faith5x5_22 Start: 18281, Stop: 18646, Start Num: 19

Candidate Starts for Faith5x5_22:

(Start: 19 @18281 has 49 MA's), (Start: 22 @18290 has 1 MA's), (27, 18317), (28, 18320), (30, 18329), (37, 18386), (38, 18392), (53, 18452), (66, 18521), (67, 18524), (72, 18539), (74, 18545), (75, 18551), (76, 18554),

Gene: Floral_26 Start: 21533, Stop: 21913, Start Num: 19

Candidate Starts for Floral_26:

(Start: 19 @21533 has 49 MA's), (26, 21560), (27, 21563), (29, 21572), (36, 21605), (37, 21632), (44, 21665), (47, 21674), (53, 21698), (66, 21767), (67, 21770), (72, 21785), (73, 21788), (75, 21797), (81, 21860), (84, 21902),

Gene: GEazy_25 Start: 21065, Stop: 21451, Start Num: 19

Candidate Starts for GEazy_25:

(Start: 19 @21065 has 49 MA's), (Start: 22 @21074 has 1 MA's), (24, 21080), (26, 21098), (27, 21101), (44, 21203), (47, 21212), (53, 21236), (66, 21305), (67, 21308), (72, 21323), (73, 21326), (75, 21335), (83, 21434),

Gene: Geeche_53 Start: 33648, Stop: 34103, Start Num: 4

Candidate Starts for Geeche_53:

(3, 33633), (Start: 4 @33648 has 17 MA's), (5, 33675), (9, 33702), (12, 33732), (17, 33747), (28, 33795), (29, 33801), (31, 33807), (40, 33876), (47, 33903), (50, 33915), (61, 33993), (69, 34026), (70, 34029), (76, 34050),

Gene: Gezellig_42 Start: 35941, Stop: 36330, Start Num: 19

Candidate Starts for Gezellig_42:

(Start: 19 @35941 has 49 MA's), (26, 35968), (27, 35971), (29, 35980), (36, 36013), (37, 36040), (40, 36055), (44, 36073), (47, 36082), (48, 36085), (53, 36106), (65, 36172), (66, 36175), (67, 36178), (72, 36193), (73, 36196), (75, 36205), (76, 36208), (81, 36268),

Gene: Halo3_43 Start: 36234, Stop: 36623, Start Num: 19

Candidate Starts for Halo3_43:

(Start: 19 @36234 has 49 MA's), (26, 36261), (27, 36264), (29, 36273), (36, 36306), (37, 36333), (40, 36348), (44, 36366), (47, 36375), (53, 36399), (65, 36465), (66, 36468), (67, 36471), (72, 36486), (73, 36489), (75, 36498), (81, 36561),

Gene: HannahD_25 Start: 21065, Stop: 21451, Start Num: 19

Candidate Starts for HannahD_25:

(Start: 19 @21065 has 49 MA's), (Start: 22 @21074 has 1 MA's), (24, 21080), (26, 21098), (27, 21101), (44, 21203), (47, 21212), (53, 21236), (66, 21305), (67, 21308), (72, 21323), (73, 21326), (75, 21335), (83, 21434),

Gene: Jambalaya_43 Start: 35588, Stop: 35977, Start Num: 19

Candidate Starts for Jambalaya_43:

(Start: 19 @35588 has 49 MA's), (26, 35615), (27, 35618), (29, 35627), (36, 35660), (37, 35687), (40, 35702), (44, 35720), (47, 35729), (53, 35753), (65, 35819), (66, 35822), (67, 35825), (72, 35840), (73, 35843), (75, 35852), (81, 35915),

Gene: Jecs_26 Start: 21363, Stop: 21749, Start Num: 19

Candidate Starts for Jecs_26:

(Start: 19 @21363 has 49 MA's), (Start: 22 @21372 has 1 MA's), (24, 21378), (26, 21396), (27, 21399), (44, 21501), (47, 21510), (53, 21534), (65, 21600), (66, 21603), (67, 21606), (71, 21618), (72, 21621), (73, 21624), (75, 21633), (77, 21666), (79, 21678), (83, 21732),

Gene: JohnPork_44 Start: 35309, Stop: 35698, Start Num: 19

Candidate Starts for JohnPork_44:

(Start: 19 @35309 has 49 MA's), (26, 35336), (27, 35339), (29, 35348), (36, 35381), (37, 35408), (40, 35423), (44, 35441), (47, 35450), (53, 35474), (65, 35540), (66, 35543), (67, 35546), (72, 35561), (73, 35564), (75, 35573), (81, 35636),

Gene: JuJu_25 Start: 20877, Stop: 21227, Start Num: 20

Candidate Starts for JuJu_25:

(Start: 20 @20877 has 6 MA's), (28, 20910), (31, 20922), (32, 20925), (39, 20985), (42, 21003), (46, 21015), (69, 21117), (70, 21120), (76, 21141),

Gene: KappaFarmDelta_26 Start: 21305, Stop: 21655, Start Num: 20

Candidate Starts for KappaFarmDelta_26:

(Start: 20 @21305 has 6 MA's), (28, 21338), (42, 21431), (44, 21437), (45, 21440), (51, 21461), (53, 21470), (59, 21503), (72, 21554), (76, 21569),

Gene: KimmyK_44 Start: 36523, Stop: 36912, Start Num: 19

Candidate Starts for KimmyK_44:

(Start: 19 @36523 has 49 MA's), (26, 36550), (27, 36553), (29, 36562), (36, 36595), (37, 36622), (40, 36637), (44, 36655), (47, 36664), (48, 36667), (53, 36688), (65, 36754), (66, 36757), (67, 36760), (72, 36775), (73, 36778), (75, 36787), (76, 36790), (81, 36850),

Gene: Lamberg_22 Start: 18339, Stop: 18710, Start Num: 19

Candidate Starts for Lamberg_22:

(Start: 19 @18339 has 49 MA's), (26, 18366), (27, 18369), (29, 18378), (37, 18438), (44, 18471), (47, 18480), (53, 18504), (66, 18573), (67, 18576), (73, 18594), (74, 18597), (75, 18603), (76, 18606), (81, 18666),

Gene: Lilas_26 Start: 21682, Stop: 22062, Start Num: 19

Candidate Starts for Lilas_26:

(Start: 19 @21682 has 49 MA's), (26, 21709), (27, 21712), (29, 21721), (36, 21754), (37, 21781), (44, 21814), (47, 21823), (53, 21847), (66, 21916), (67, 21919), (72, 21934), (73, 21937), (75, 21946), (81, 22009), (84, 22051),

Gene: Lozinak_55 Start: 34287, Stop: 34742, Start Num: 4

Candidate Starts for Lozinak_55:

(3, 34272), (Start: 4 @34287 has 17 MA's), (5, 34314), (9, 34341), (12, 34371), (17, 34386), (28, 34434), (29, 34440), (31, 34446), (40, 34515), (47, 34542), (50, 34554), (61, 34632), (69, 34665), (70, 34668), (76, 34689),

Gene: Lton_22 Start: 18368, Stop: 18739, Start Num: 19

Candidate Starts for Lton_22:

(Start: 19 @18368 has 49 MA's), (26, 18395), (27, 18398), (29, 18407), (37, 18467), (44, 18500), (47, 18509), (53, 18533), (66, 18602), (67, 18605), (73, 18623), (74, 18626), (75, 18632), (76, 18635), (81, 18695),

Gene: MagicMan_25 Start: 21371, Stop: 21757, Start Num: 19

Candidate Starts for MagicMan_25:

(Start: 19 @21371 has 49 MA's), (Start: 22 @21380 has 1 MA's), (24, 21386), (27, 21407), (44, 21509), (47, 21518), (53, 21542), (66, 21611), (67, 21614), (71, 21626), (72, 21629), (73, 21632), (75, 21641), (83, 21740),

Gene: Marteena_26 Start: 21533, Stop: 21913, Start Num: 19

Candidate Starts for Marteena_26:

(Start: 19 @21533 has 49 MA's), (26, 21560), (27, 21563), (29, 21572), (36, 21605), (37, 21632), (44, 21665), (47, 21674), (53, 21698), (66, 21767), (67, 21770), (72, 21785), (73, 21788), (75, 21797), (81, 21860), (84, 21902),

Gene: Matteo_22 Start: 18276, Stop: 18656, Start Num: 19

Candidate Starts for Matteo_22:

(Start: 19 @18276 has 49 MA's), (26, 18303), (27, 18306), (29, 18315), (36, 18348), (37, 18375), (44, 18408), (47, 18417), (53, 18441), (66, 18510), (67, 18513), (72, 18528), (73, 18531), (75, 18540), (81, 18603),

Gene: Miskis_52 Start: 33592, Stop: 34047, Start Num: 4

Candidate Starts for Miskis_52:

(3, 33577), (Start: 4 @33592 has 17 MA's), (5, 33619), (9, 33646), (12, 33676), (17, 33691), (28, 33739), (29, 33745), (31, 33751), (40, 33820), (47, 33847), (50, 33859), (61, 33937), (69, 33970), (70, 33973), (76, 33994),

Gene: Moosehead_22 Start: 18289, Stop: 18654, Start Num: 19

Candidate Starts for Moosehead_22:

(Start: 19 @18289 has 49 MA's), (Start: 22 @18298 has 1 MA's), (30, 18337), (37, 18394), (38, 18400), (60, 18502), (65, 18526), (66, 18529), (67, 18532), (72, 18547), (74, 18553), (75, 18559), (76, 18562),

Gene: NaLuna_25 Start: 21065, Stop: 21451, Start Num: 19

Candidate Starts for NaLuna_25:

(Start: 19 @21065 has 49 MA's), (Start: 22 @21074 has 1 MA's), (24, 21080), (26, 21098), (27, 21101), (44, 21203), (47, 21212), (53, 21236), (66, 21305), (67, 21308), (72, 21323), (73, 21326), (75, 21335), (83, 21434),

Gene: Nettuno_22 Start: 18342, Stop: 18710, Start Num: 19

Candidate Starts for Nettuno_22:

(Start: 19 @18342 has 49 MA's), (26, 18369), (27, 18372), (29, 18381), (36, 18414), (37, 18441), (44, 18474), (47, 18483), (53, 18507), (66, 18576), (67, 18579), (72, 18594), (73, 18597), (75, 18606), (81, 18669),

Gene: Norvs_55 Start: 33831, Stop: 34286, Start Num: 4

Candidate Starts for Norvs_55:

(3, 33816), (Start: 4 @33831 has 17 MA's), (5, 33858), (9, 33885), (12, 33915), (17, 33930), (28, 33978), (29, 33984), (31, 33990), (40, 34059), (47, 34086), (50, 34098), (61, 34176), (69, 34209), (70, 34212), (76, 34233),

Gene: Obliviate_24 Start: 20727, Stop: 21077, Start Num: 20

Candidate Starts for Obliviate_24:

(Start: 20 @20727 has 6 MA's), (28, 20760), (42, 20853), (44, 20859), (45, 20862), (51, 20883), (53, 20892), (59, 20925), (72, 20976), (76, 20991), (80, 21042),

Gene: OneDirection_21 Start: 18308, Stop: 18682, Start Num: 19

Candidate Starts for OneDirection_21:

(1, 18086), (2, 18116), (Start: 19 @18308 has 49 MA's), (23, 18320), (24, 18323), (27, 18344), (28, 18347), (30, 18356), (36, 18386), (42, 18440), (50, 18467), (53, 18479), (67, 18551), (69, 18557),

Gene: OneUp_48 Start: 31264, Stop: 31683, Start Num: 4

Candidate Starts for OneUp_48:

(3, 31252), (Start: 4 @31264 has 17 MA's), (7, 31288), (17, 31339), (Start: 21 @31354 has 1 MA's), (26, 31381), (27, 31384), (28, 31387), (29, 31393), (30, 31396), (34, 31414), (40, 31468), (53, 31519), (54, 31522), (57, 31543), (69, 31612), (70, 31615), (76, 31636),

Gene: Opie_25 Start: 21395, Stop: 21781, Start Num: 19

Candidate Starts for Opie_25:

(Start: 19 @21395 has 49 MA's), (Start: 22 @21404 has 1 MA's), (24, 21410), (26, 21428), (27, 21431), (44, 21533), (46, 21539), (47, 21542), (53, 21566), (65, 21632), (66, 21635), (67, 21638), (71, 21650), (72, 21653), (73, 21656), (75, 21665), (83, 21764),

Gene: Pepperoni_23 Start: 19151, Stop: 19531, Start Num: 19

Candidate Starts for Pepperoni_23:

(Start: 19 @19151 has 49 MA's), (26, 19178), (27, 19181), (29, 19190), (36, 19223), (37, 19250), (44, 19283), (47, 19292), (53, 19316), (66, 19385), (67, 19388), (73, 19406), (74, 19409), (75, 19415), (76, 19418), (81, 19478),

Gene: PhinkBoden_54 Start: 34212, Stop: 34667, Start Num: 4

Candidate Starts for PhinkBoden_54:

(3, 34197), (Start: 4 @34212 has 17 MA's), (5, 34239), (9, 34266), (12, 34296), (17, 34311), (28, 34359), (29, 34365), (31, 34371), (40, 34440), (47, 34467), (50, 34479), (61, 34557), (69, 34590), (70, 34593), (76, 34614),

Gene: Pickett_22 Start: 18266, Stop: 18634, Start Num: 19

Candidate Starts for Pickett_22:

(Start: 19 @18266 has 49 MA's), (26, 18293), (27, 18296), (29, 18305), (36, 18338), (37, 18365), (44, 18398), (47, 18407), (53, 18431), (66, 18500), (67, 18503), (72, 18518), (73, 18521), (75, 18530), (81, 18593),

Gene: Pollux_26 Start: 21533, Stop: 21913, Start Num: 19

Candidate Starts for Pollux_26:

(Start: 19 @21533 has 49 MA's), (26, 21560), (27, 21563), (29, 21572), (36, 21605), (37, 21632), (44, 21665), (47, 21674), (53, 21698), (66, 21767), (67, 21770), (72, 21785), (73, 21788), (75, 21797), (81, 21860), (84, 21902),

Gene: Portcullis_44 Start: 35309, Stop: 35698, Start Num: 19

Candidate Starts for Portcullis_44:

(Start: 19 @35309 has 49 MA's), (26, 35336), (27, 35339), (29, 35348), (36, 35381), (37, 35408), (40, 35423), (44, 35441), (47, 35450), (53, 35474), (65, 35540), (66, 35543), (67, 35546), (72, 35561), (73, 35564), (75, 35573), (81, 35636),

Gene: PrincePatrick_24 Start: 21182, Stop: 21556, Start Num: 19

Candidate Starts for PrincePatrick_24:

(Start: 19 @21182 has 49 MA's), (27, 21218), (42, 21314), (43, 21317), (53, 21353), (68, 21428), (69, 21431), (73, 21443),

Gene: REQ2_26 Start: 22510, Stop: 22854, Start Num: 16

Candidate Starts for REQ2_26:

(16, 22510), (Start: 21 @22528 has 1 MA's), (27, 22558), (30, 22570), (31, 22573), (34, 22588), (43, 22657), (65, 22759), (66, 22762), (70, 22774),

Gene: RogerDodger_46 Start: 36138, Stop: 36527, Start Num: 19

Candidate Starts for RogerDodger_46:

(Start: 19 @36138 has 49 MA's), (26, 36165), (27, 36168), (29, 36177), (36, 36210), (37, 36237), (40, 36252), (44, 36270), (47, 36279), (48, 36282), (53, 36303), (65, 36369), (66, 36372), (67, 36375), (72, 36390), (73, 36393), (75, 36402), (76, 36405), (81, 36465),

Gene: Salvador_42 Start: 35807, Stop: 36196, Start Num: 19

Candidate Starts for Salvador_42:

(Start: 19 @35807 has 49 MA's), (26, 35834), (27, 35837), (29, 35846), (36, 35879), (37, 35906), (40, 35921), (44, 35939), (47, 35948), (53, 35972), (65, 36038), (66, 36041), (67, 36044), (72, 36059), (73, 36062), (75, 36071), (81, 36134),

Gene: Savbucketdawg_43 Start: 35588, Stop: 35977, Start Num: 19

Candidate Starts for Savbucketdawg_43:

(Start: 19 @35588 has 49 MA's), (26, 35615), (27, 35618), (29, 35627), (36, 35660), (37, 35687), (40, 35702), (44, 35720), (47, 35729), (53, 35753), (65, 35819), (66, 35822), (67, 35825), (72, 35840), (73, 35843), (75, 35852), (81, 35915),

Gene: Schnabeltier_25 Start: 21381, Stop: 21758, Start Num: 22

Candidate Starts for Schnabeltier_25:

(Start: 19 @21372 has 49 MA's), (Start: 22 @21381 has 1 MA's), (24, 21387), (27, 21408), (44, 21510), (47, 21519), (53, 21543), (66, 21612), (67, 21615), (71, 21627), (72, 21630), (73, 21633), (75, 21642), (83, 21741),

Gene: Smoothie_56 Start: 34287, Stop: 34742, Start Num: 4

Candidate Starts for Smoothie_56:

(3, 34272), (Start: 4 @34287 has 17 MA's), (5, 34314), (9, 34341), (12, 34371), (17, 34386), (28, 34434), (29, 34440), (31, 34446), (40, 34515), (47, 34542), (50, 34554), (61, 34632), (69, 34665), (70, 34668), (76, 34689),

Gene: Soilmate_26 Start: 20904, Stop: 21254, Start Num: 20

Candidate Starts for Soilmate_26:

(Start: 20 @20904 has 6 MA's), (28, 20937), (42, 21030), (44, 21036), (45, 21039), (51, 21060), (53, 21069), (59, 21102), (72, 21153), (76, 21168), (80, 21219),

Gene: TaronosaurusRx_25 Start: 21403, Stop: 21789, Start Num: 19

Candidate Starts for TaronosaurusRx_25:

(Start: 19 @21403 has 49 MA's), (Start: 22 @21412 has 1 MA's), (24, 21418), (30, 21451), (33, 21460), (44, 21541), (47, 21550), (53, 21574), (66, 21643), (67, 21646), (72, 21661), (73, 21664), (75, 21673), (76, 21676), (83, 21772),

Gene: TinyDot_24 Start: 18787, Stop: 19161, Start Num: 19

Candidate Starts for TinyDot_24:

(1, 18565), (2, 18595), (Start: 19 @18787 has 49 MA's), (23, 18799), (24, 18802), (27, 18823), (28, 18826), (42, 18919), (49, 18940), (50, 18946), (53, 18958), (67, 19030), (69, 19036), (72, 19045), (73, 19048), (81, 19120), (82, 19135),

Gene: Toniann_54 Start: 33774, Stop: 34229, Start Num: 4

Candidate Starts for Toniann_54:

(3, 33759), (Start: 4 @33774 has 17 MA's), (5, 33801), (9, 33828), (12, 33858), (17, 33873), (28, 33921), (29, 33927), (31, 33933), (40, 34002), (47, 34029), (50, 34041), (61, 34119), (69, 34152), (70, 34155), (76, 34176),

Gene: Twister6_45 Start: 35701, Stop: 36090, Start Num: 19

Candidate Starts for Twister6_45:

(Start: 19 @35701 has 49 MA's), (26, 35728), (27, 35731), (29, 35740), (36, 35773), (37, 35800), (40, 35815), (44, 35833), (47, 35842), (53, 35866), (65, 35932), (66, 35935), (67, 35938), (72, 35953), (73, 35956), (75, 35965), (81, 36028),

Gene: Valary_45 Start: 36743, Stop: 37132, Start Num: 19

Candidate Starts for Valary_45:

(Start: 19 @36743 has 49 MA's), (26, 36770), (27, 36773), (29, 36782), (36, 36815), (37, 36842), (40, 36857), (44, 36875), (47, 36884), (48, 36887), (53, 36908), (65, 36974), (66, 36977), (67, 36980), (72, 36995), (73, 36998), (75, 37007), (76, 37010), (81, 37070),

Gene: VanDeWege_46 Start: 36035, Stop: 36424, Start Num: 19

Candidate Starts for VanDeWege_46:

(Start: 19 @36035 has 49 MA's), (26, 36062), (27, 36065), (29, 36074), (36, 36107), (37, 36134), (40, 36149), (44, 36167), (47, 36176), (48, 36179), (53, 36200), (65, 36266), (66, 36269), (67, 36272), (72, 36287), (73, 36290), (75, 36299), (76, 36302), (81, 36362),

Gene: Whack_25 Start: 21433, Stop: 21819, Start Num: 21

Candidate Starts for Whack_25:

(8, 21367), (10, 21391), (16, 21415), (Start: 21 @21433 has 1 MA's), (29, 21472), (55, 21601), (56, 21604), (60, 21640), (70, 21679),

Gene: William_25 Start: 20929, Stop: 21303, Start Num: 19

Candidate Starts for William_25:

(Start: 19 @20929 has 49 MA's), (27, 20965), (42, 21061), (43, 21064), (53, 21100), (68, 21175), (69, 21178), (73, 21190),

Gene: WilliamBoone_54 Start: 33126, Stop: 33575, Start Num: 4

Candidate Starts for WilliamBoone_54:

(3, 33111), (Start: 4 @33126 has 17 MA's), (9, 33174), (12, 33204), (16, 33216), (25, 33252), (28, 33267), (40, 33348), (42, 33360), (58, 33432), (61, 33465), (70, 33501), (76, 33522),

Gene: Wizard_42 Start: 35941, Stop: 36330, Start Num: 19

Candidate Starts for Wizard_42:

(Start: 19 @35941 has 49 MA's), (26, 35968), (27, 35971), (29, 35980), (36, 36013), (37, 36040), (40, 36055), (44, 36073), (47, 36082), (48, 36085), (53, 36106), (65, 36172), (66, 36175), (67, 36178), (72, 36193), (73, 36196), (75, 36205), (76, 36208), (81, 36268),

Gene: ZAYM_26 Start: 21872, Stop: 22258, Start Num: 19

Candidate Starts for ZAYM_26:

(Start: 19 @21872 has 49 MA's), (Start: 22 @21881 has 1 MA's), (24, 21887), (30, 21920), (33, 21929), (37, 21977), (44, 22010), (47, 22019), (53, 22043), (66, 22112), (67, 22115), (72, 22130), (73, 22133), (75, 22142), (76, 22145), (83, 22241),

Gene: ZiggyZoo_24 Start: 20727, Stop: 21077, Start Num: 20

Candidate Starts for ZiggyZoo_24:

(Start: 20 @20727 has 6 MA's), (28, 20760), (42, 20853), (44, 20859), (45, 20862), (51, 20883), (53, 20892), (59, 20925), (72, 20976), (76, 20991), (80, 21042),

