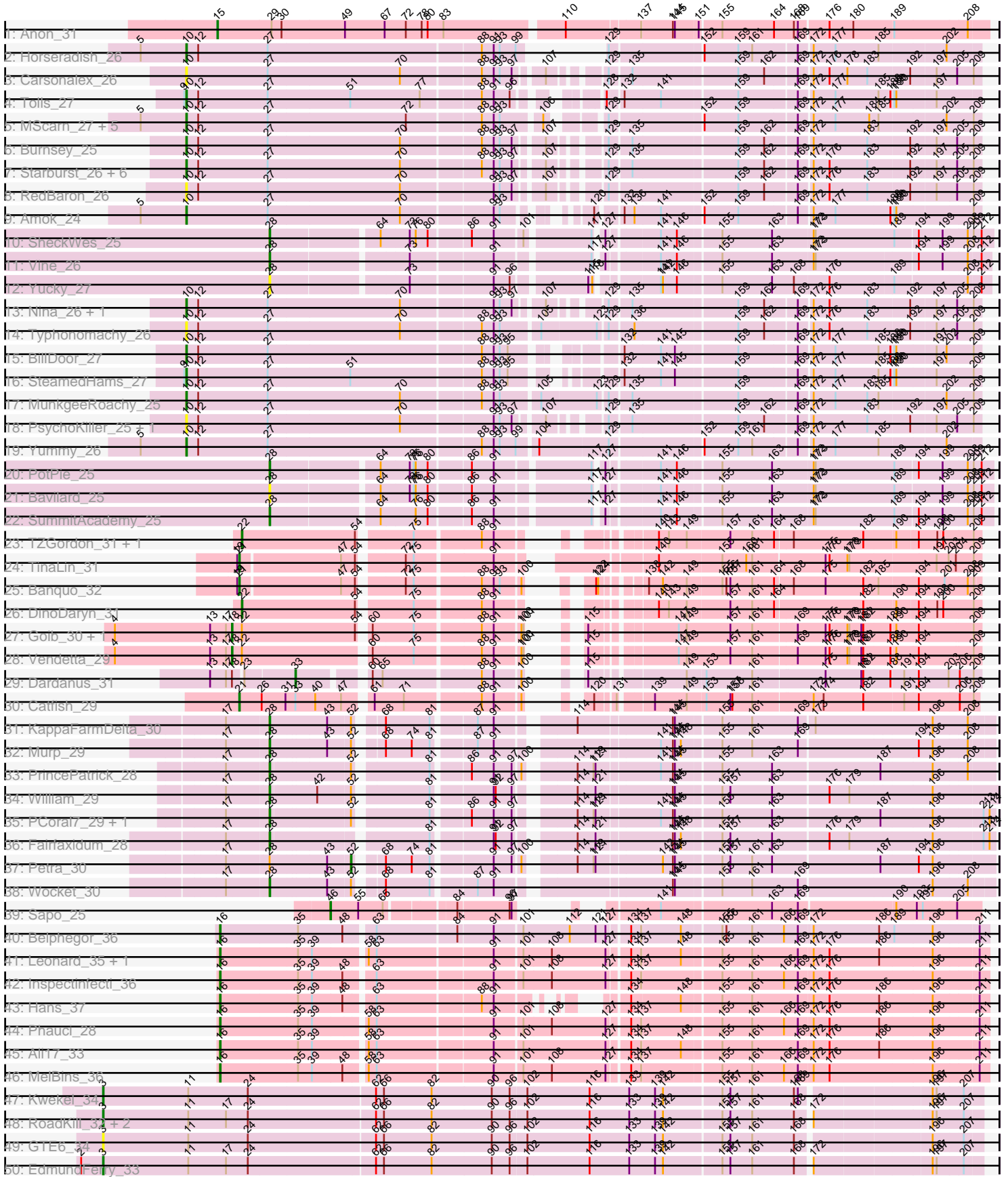
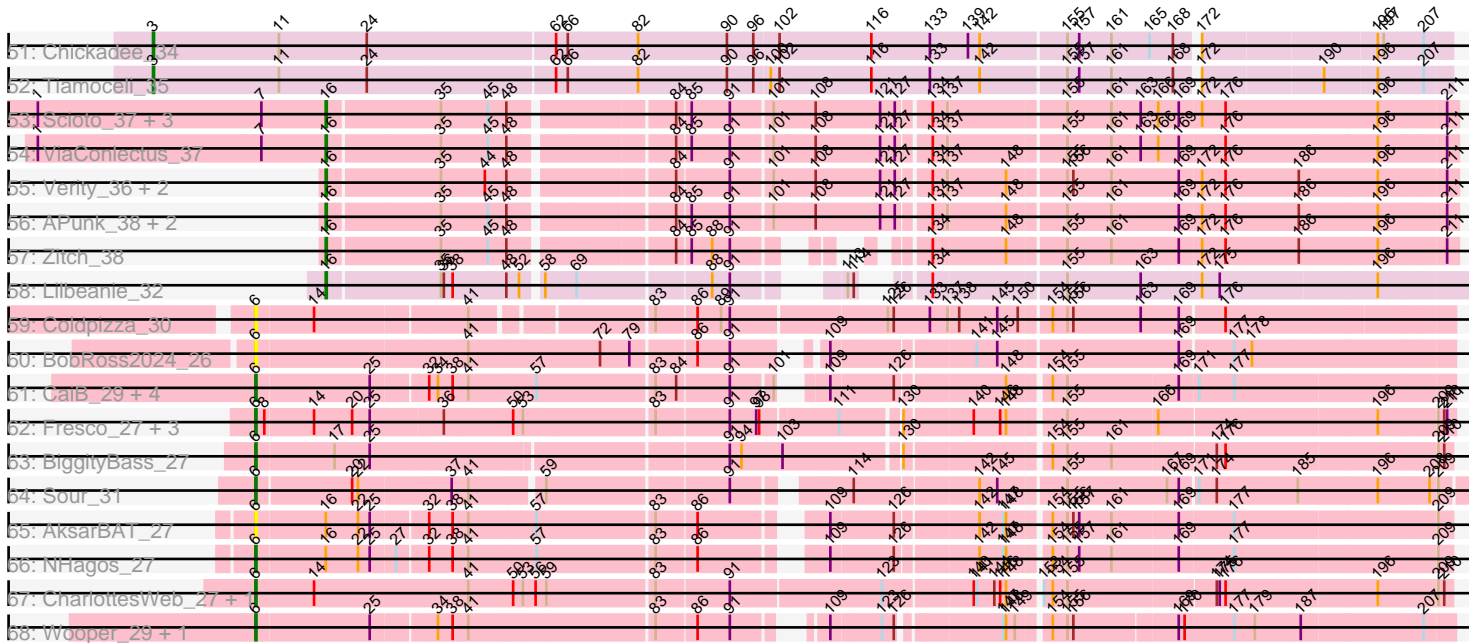


Pham 224456



Pham 224456



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 224456 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224456 has 103 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Anon_31
- Track 2 : Horseradish_26
- Track 3 : Carsonalex_26
- Track 4 : Tolls_27
- Track 5 : MScarn_27, Blondies_25, Biskit_26, Buttrmlkdreams_25, Troje_25, SketchMex_24
- Track 6 : Burnsey_25
- Track 7 : Starburst_26, Axym_25, Agatha_25, GoldHunter_26, Cozz_25, Socotra_26, Quasar_25
- Track 8 : RedBaron_26
- Track 9 : Amok_24
- Track 10 : SheckWes_25
- Track 11 : Vine_26
- Track 12 : Yucky_27
- Track 13 : Nina_26, Sopespian_25
- Track 14 : Typhonomachy_26
- Track 15 : BillDoor_27
- Track 16 : SteamedHams_27
- Track 17 : MunkgeeRoachy_25
- Track 18 : PsychoKiller_25, Elliott_25
- Track 19 : Yummy_26
- Track 20 : PotPie_25
- Track 21 : Bavidard_25
- Track 22 : SummitAcademy_25
- Track 23 : TZGordon_31, Huff_31
- Track 24 : TinaLin_31
- Track 25 : Banquo_32
- Track 26 : DinoDaryn_31
- Track 27 : Goib_30, Splinter_29
- Track 28 : Vendetta_29
- Track 29 : Dardanus_31
- Track 30 : Catfish_29
- Track 31 : KappaFarmDelta_30
- Track 32 : Murp_29
- Track 33 : PrincePatrick_28
- Track 34 : William_29
- Track 35 : PCoral7_29, Toast_29

- Track 36 : Fairfaxidum_28
- Track 37 : Petra_30
- Track 38 : Wocket_30
- Track 39 : Sapo_25
- Track 40 : Belphegor_36
- Track 41 : Leonard_35, Phinally_35
- Track 42 : Inspectinfecti_36
- Track 43 : Hans_37
- Track 44 : Phauci_28
- Track 45 : Ali17_33
- Track 46 : MelBins_36
- Track 47 : Kwekel_34
- Track 48 : RoadKill_32, Dexdert_35, Twonlo_32
- Track 49 : GTE6_34
- Track 50 : EdmundFerry_33
- Track 51 : Chickadee_34
- Track 52 : Tiamoceli_35
- Track 53 : Scioto_37, Natkenzie_37, Abblin_37, Sampson_37
- Track 54 : ViaConlectus_37
- Track 55 : Verity_36, Delrey21_36, DoctorFroggo_36
- Track 56 : APunk_38, Tardus_38, Zipp_36
- Track 57 : Zitch_38
- Track 58 : Lilbeanie_32
- Track 59 : Coldpizza_30
- Track 60 : BobRoss2024_26
- Track 61 : CaiB_29, CloverMinnie_29, MossRose_29, MakoManhole_29, AnarQue_29
- Track 62 : Fresco_27, Shatter_27, Axumite_27, Ligma_27
- Track 63 : BiggityBass_27
- Track 64 : Sour_31
- Track 65 : AksarBAT_27
- Track 66 : NHagos_27
- Track 67 : CharlottesWeb_27, Mariokart_27
- Track 68 : Wooper_29, Yeshua_29

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

The start number called the most often in the published annotations is 16, it was called in 18 of the 82 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- APunk_38, Abblin_37, Ali17_33, Belphegor_36, Delrey21_36, DoctorFroggo_36, Hans_37, Inspectinfecti_36, Leonard_35, Lilbeanie_32, MelBins_36, Natkenzie_37, Phauci_28, Phinally_35, Sampson_37, Scioto_37, Tardus_38, Verity_36, ViaConlectus_37, Zipp_36, Zitch_38,

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

- AksarBAT_27, NHagos_27,

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

- Agatha_25, Amok_24, AnarQue_29, Anon_31, Axumite_27, Axym_25, Banquo_32, Bavidard_25, BiggityBass_27, BillDoor_27, Biskit_26, Blondies_25, BobRoss2024_26, Burnsey_25, Buttrmlkdreams_25, CaiB_29, Carsonalex_26, Catfish_29, CharlottesWeb_27, Chickadee_34, CloverMinnie_29, Coldpizza_30, Cozz_25, Dardanus_31, Dexdert_35, DinoDaryn_31, EdmundFerry_33, Elliott_25, Fairfaxidum_28, Fresco_27, GTE6_34, Goib_30, GoldHunter_26, Horseradish_26, Huffy_31, KappaFarmDelta_30, Kwekel_34, Ligma_27, MScarn_27, MakoManhole_29, Mariokart_27, MossRose_29, MunkgeeRoachy_25, Murp_29, Nina_26, PCoral7_29, Petra_30, PotPie_25, PrincePatrick_28, PsychoKiller_25, Quasar_25, RedBaron_26, RoadKill_32, Sapo_25, Shatter_27, SheckWes_25, SketchMex_24, Socotra_26, Sopespian_25, Sour_31, Splinter_29, Starburst_26, SteamedHams_27, SummitAcademy_25, TZGordon_31, Tiamoceli_35, TinaLin_31, Toast_29, Tolls_27, Troje_25, Twonlo_32, Typhonomachy_26, Vendetta_29, Vine_26, William_29, Wocket_30, Wooper_29, Yeshua_29, Yucky_27, Yummy_26,

Summary by start number:

Start 3:

- Found in 8 of 103 (7.8%) of genes in pham
- Manual Annotations of this start: 7 of 82
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chickadee_34 (DE3), Dexdert_35 (DE3), EdmundFerry_33 (DE3), GTE6_34 (DE3), Kwekel_34 (DE3), RoadKill_32 (DE3), Tiamoceli_35 (DE3), Twonlo_32 (DE3),

Start 6:

- Found in 19 of 103 (18.4%) of genes in pham
- Manual Annotations of this start: 14 of 82
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AksarBAT_27 (DR), AnarQue_29 (DR), Axumite_27 (DR), BiggityBass_27 (DR), BobRoss2024_26 (DR), CaiB_29 (DR), CharlottesWeb_27 (DR), CloverMinnie_29 (DR), Coldpizza_30 (DR), Fresco_27 (DR), Ligma_27 (DR), MakoManhole_29 (DR), Mariokart_27 (DR), MossRose_29 (DR), NHagos_27 (DR), Shatter_27 (DR), Sour_31 (DR), Wooper_29 (DR), Yeshua_29 (DR),

Start 10:

- Found in 28 of 103 (27.2%) of genes in pham
- Manual Annotations of this start: 18 of 82
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agatha_25 (CT), Amok_24 (CT), Axym_25 (CT), BillDoor_27 (CT), Biskit_26 (CT), Blondies_25 (CT), Burnsey_25 (CT), Buttrmlkdreams_25 (CT), Carsonalex_26 (CT), Cozz_25 (CT), Elliott_25 (CT), GoldHunter_26 (CT), Horseradish_26 (CT), MScarn_27 (CT), MunkgeeRoachy_25 (CT), Nina_26 (CT), PsychoKiller_25 (CT), Quasar_25 (CT), RedBaron_26 (CT), SketchMex_24 (CT), Socotra_26 (CT), Sopespian_25 (CT), Starburst_26 (CT), SteamedHams_27 (CT), Tolls_27 (CT), Troje_25 (CT), Typhonomachy_26 (CT), Yummy_26 (CT),

Start 15:

- Found in 1 of 103 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 82
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Anon_31 (A15),

Start 16:

- Found in 23 of 103 (22.3%) of genes in pham
- Manual Annotations of this start: 18 of 82
- Called 91.3% of time when present
- Phage (with cluster) where this start called: APunk_38 (DE4), Abblin_37 (DE4), Ali17_33 (DE2), Belphegor_36 (DE), Delrey21_36 (DE4), DoctorFroggo_36 (DE4), Hans_37 (DE2), Inspectinfecti_36 (DE2), Leonard_35 (DE2), Lilbeanie_32 (DE5), MelBins_36 (DE2), Natkenzie_37 (DE4), Phauci_28 (DE2), Phinally_35 (DE2), Sampson_37 (DE4), Scioto_37 (DE4), Tardus_38 (DE4), Verity_36 (DE4), ViaConlectus_37 (DE4), Zipp_36 (DE4), Zitch_38 (DE4),

Start 18:

- Found in 4 of 103 (3.9%) of genes in pham
- Manual Annotations of this start: 3 of 82
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Goib_30 (CU1), Splinter_29 (CU1), Vendetta_29 (CU1),

Start 21:

- Found in 3 of 103 (2.9%) of genes in pham
- Manual Annotations of this start: 3 of 82
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo_32 (CU1), Catfish_29 (CU5), TinaLin_31 (CU1),

Start 22:

- Found in 9 of 103 (8.7%) of genes in pham
- Manual Annotations of this start: 3 of 82
- Called 33.3% of time when present
- Phage (with cluster) where this start called: DinoDaryn_31 (CU1), Huffy_31 (CU1), TZGordon_31 (CU1),

Start 28:

- Found in 15 of 103 (14.6%) of genes in pham
- Manual Annotations of this start: 12 of 82
- Called 93.3% of time when present
- Phage (with cluster) where this start called: Bavidard_25 (CT), Fairfaxidum_28 (CV), KappaFarmDelta_30 (CV), Murp_29 (CV), PCoral7_29 (CV), PotPie_25 (CT), PrincePatrick_28 (CV), SheckWes_25 (CT), SummitAcademy_25 (CT), Toast_29 (CV), Vine_26 (CT), William_29 (CV), Wocket_30 (CV), Yucky_27 (CT),

Start 33:

- Found in 2 of 103 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 82
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Dardanus_31 (CU3),

Start 46:

- Found in 1 of 103 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 82
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Sapo_25 (DA),

Start 52:

- Found in 9 of 103 (8.7%) of genes in pham
- Manual Annotations of this start: 1 of 82
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Petra_30 (CV),

Summary by clusters:

There are 13 clusters represented in this pham: A15, CU5, DE, CU3, CU1, DE2, DE3, DE4, DE5, DA, DR, CV, CT,

Info for manual annotations of cluster A15:

- Start number 15 was manually annotated 1 time for cluster A15.

Info for manual annotations of cluster CT:

- Start number 10 was manually annotated 18 times for cluster CT.
- Start number 28 was manually annotated 4 times for cluster CT.

Info for manual annotations of cluster CU1:

- Start number 18 was manually annotated 3 times for cluster CU1.
- Start number 21 was manually annotated 2 times for cluster CU1.
- Start number 22 was manually annotated 3 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 33 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU5:

- Start number 21 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CV:

- Start number 28 was manually annotated 8 times for cluster CV.
- Start number 52 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster DA:

- Start number 46 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DE:

- Start number 16 was manually annotated 1 time for cluster DE.

Info for manual annotations of cluster DE2:

- Start number 16 was manually annotated 7 times for cluster DE2.

Info for manual annotations of cluster DE3:

- Start number 3 was manually annotated 7 times for cluster DE3.

Info for manual annotations of cluster DE4:

- Start number 16 was manually annotated 9 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 16 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DR:

•Start number 6 was manually annotated 14 times for cluster DR.

Gene Information:

Gene: APunk_38 Start: 32541, Stop: 33617, Start Num: 16

Candidate Starts for APunk_38:

(Start: 16 @32541 has 18 MA's), (35, 32649), (45, 32697), (48, 32715), (84, 32862), (85, 32874), (91, 32913), (101, 32952), (108, 32994), (121, 33060), (127, 33075), (134, 33102), (137, 33117), (148, 33174), (155, 33228), (161, 33273), (169, 33342), (172, 33363), (176, 33387), (186, 33462), (196, 33540), (211, 33606),

Gene: Abblin_37 Start: 33084, Stop: 34160, Start Num: 16

Candidate Starts for Abblin_37:

(1, 32790), (7, 33018), (Start: 16 @33084 has 18 MA's), (35, 33192), (45, 33240), (48, 33258), (84, 33405), (85, 33417), (91, 33456), (101, 33495), (108, 33537), (121, 33603), (127, 33618), (134, 33645), (137, 33660), (155, 33771), (161, 33816), (163, 33846), (166, 33864), (169, 33885), (172, 33906), (176, 33930), (196, 34083), (211, 34149),

Gene: Agatha_25 Start: 20517, Stop: 21614, Start Num: 10

Candidate Starts for Agatha_25:

(Start: 10 @20517 has 18 MA's), (12, 20535), (27, 20640), (70, 20838), (88, 20952), (91, 20970), (93, 20979), (97, 20997), (107, 21033), (129, 21093), (135, 21123), (159, 21273), (162, 21312), (169, 21357), (172, 21375), (176, 21399), (183, 21456), (192, 21516), (197, 21552), (205, 21582), (209, 21603),

Gene: AksarBAT_27 Start: 26586, Stop: 27698, Start Num: 6

Candidate Starts for AksarBAT_27:

(Start: 6 @26586 has 14 MA's), (Start: 16 @26655 has 18 MA's), (Start: 22 @26688 has 3 MA's), (25, 26700), (32, 26751), (38, 26775), (41, 26790), (57, 26856), (83, 26970), (86, 27009), (109, 27108), (126, 27168), (142, 27243), (147, 27267), (148, 27270), (154, 27306), (155, 27321), (156, 27327), (157, 27333), (161, 27366), (169, 27432), (177, 27486), (209, 27684),

Gene: Ali17_33 Start: 30788, Stop: 31876, Start Num: 16

Candidate Starts for Ali17_33:

(Start: 16 @30788 has 18 MA's), (35, 30902), (39, 30923), (58, 30992), (63, 31004), (91, 31169), (101, 31208), (127, 31331), (134, 31358), (137, 31373), (148, 31430), (155, 31484), (161, 31529), (169, 31598), (172, 31619), (176, 31643), (186, 31718), (196, 31796), (211, 31862),

Gene: Amok_24 Start: 19775, Stop: 20848, Start Num: 10

Candidate Starts for Amok_24:

(5, 19706), (Start: 10 @19775 has 18 MA's), (27, 19898), (70, 20096), (91, 20228), (93, 20237), (120, 20315), (132, 20345), (136, 20360), (141, 20399), (152, 20456), (159, 20507), (169, 20591), (172, 20609), (177, 20642), (188, 20723), (189, 20726), (190, 20729), (209, 20837),

Gene: AnarQue_29 Start: 28071, Stop: 29183, Start Num: 6

Candidate Starts for AnarQue_29:

(Start: 6 @28071 has 14 MA's), (25, 28185), (32, 28236), (34, 28245), (38, 28260), (41, 28275), (57, 28341), (83, 28455), (84, 28476), (91, 28527), (101, 28566), (109, 28590), (126, 28650), (148, 28752), (154, 28788), (155, 28803), (169, 28914), (171, 28932), (177, 28968),

Gene: Anon_31 Start: 22310, Stop: 23416, Start Num: 15

Candidate Starts for Anon_31:

(Start: 15 @22310 has 1 MA's), (29, 22391), (30, 22406), (49, 22499), (67, 22559), (72, 22589), (78, 22613), (80, 22622), (83, 22646), (110, 22814), (137, 22919), (144, 22964), (145, 22967), (151, 23000), (155, 23030), (164, 23108), (168, 23138), (169, 23144), (176, 23186), (180, 23222), (189, 23279), (208, 23387),

Gene: Axumite_27 Start: 26078, Stop: 27217, Start Num: 6

Candidate Starts for Axumite_27:

(Start: 6 @26078 has 14 MA's), (8, 26087), (14, 26135), (20, 26174), (25, 26192), (36, 26261), (50, 26330), (53, 26339), (83, 26465), (91, 26537), (97, 26564), (98, 26567), (111, 26639), (130, 26693), (140, 26756), (146, 26783), (148, 26789), (155, 26840), (166, 26930), (196, 27143), (209, 27200), (210, 27206), (211, 27209),

Gene: Axym_25 Start: 20517, Stop: 21614, Start Num: 10

Candidate Starts for Axym_25:

(Start: 10 @20517 has 18 MA's), (12, 20535), (27, 20640), (70, 20838), (88, 20952), (91, 20970), (93, 20979), (97, 20997), (107, 21033), (129, 21093), (135, 21123), (159, 21273), (162, 21312), (169, 21357), (172, 21375), (176, 21399), (183, 21456), (192, 21516), (197, 21552), (205, 21582), (209, 21603),

Gene: Banquo_32 Start: 23108, Stop: 24055, Start Num: 21

Candidate Starts for Banquo_32:

(19, 23105), (Start: 21 @23108 has 3 MA's), (47, 23255), (54, 23276), (72, 23333), (75, 23345), (88, 23438), (91, 23456), (93, 23465), (100, 23492), (122, 23525), (124, 23528), (138, 23576), (142, 23597), (149, 23633), (155, 23684), (156, 23690), (157, 23696), (161, 23729), (164, 23762), (168, 23786), (175, 23834), (182, 23891), (185, 23912), (194, 23969), (201, 24008), (208, 24041), (209, 24047),

Gene: Bavilard_25 Start: 21062, Stop: 22054, Start Num: 28

Candidate Starts for Bavilard_25:

(Start: 28 @21062 has 12 MA's), (64, 21209), (73, 21251), (75, 21257), (76, 21260), (80, 21278), (86, 21335), (91, 21368), (117, 21497), (127, 21506), (141, 21575), (146, 21599), (155, 21659), (163, 21734), (172, 21794), (173, 21797), (189, 21914), (199, 21983), (208, 22019), (209, 22025), (212, 22037),

Gene: Belphegor_36 Start: 32996, Stop: 34081, Start Num: 16

Candidate Starts for Belphegor_36:

(Start: 16 @32996 has 18 MA's), (35, 33110), (48, 33176), (63, 33212), (84, 33326), (91, 33377), (101, 33416), (112, 33485), (121, 33524), (127, 33539), (134, 33566), (137, 33581), (148, 33638), (155, 33692), (156, 33698), (161, 33737), (166, 33785), (169, 33806), (172, 33824), (186, 33923), (189, 33944), (196, 34001), (211, 34067),

Gene: BiggityBass_27 Start: 28347, Stop: 29480, Start Num: 6

Candidate Starts for BiggityBass_27:

(Start: 6 @28347 has 14 MA's), (17, 28425), (25, 28461), (91, 28797), (94, 28809), (103, 28851), (130, 28959), (154, 29091), (155, 29106), (161, 29151), (174, 29250), (176, 29259), (209, 29466), (210, 29472),

Gene: BillDoor_27 Start: 20148, Stop: 21239, Start Num: 10

Candidate Starts for BillDoor_27:

(Start: 10 @20148 has 18 MA's), (12, 20166), (27, 20271), (88, 20583), (91, 20601), (93, 20610), (95, 20622), (132, 20736), (141, 20790), (145, 20811), (159, 20898), (169, 20982), (172, 21000), (177,

21033), (185, 21096), (188, 21114), (189, 21117), (190, 21120), (197, 21177), (202, 21192), (209, 21228),

Gene: Biskit_26 Start: 20168, Stop: 21265, Start Num: 10

Candidate Starts for Biskit_26:

(5, 20099), (Start: 10 @20168 has 18 MA's), (12, 20186), (27, 20291), (72, 20498), (88, 20603), (91, 20621), (93, 20630), (106, 20684), (129, 20744), (152, 20873), (159, 20924), (169, 21008), (172, 21026), (177, 21059), (184, 21110), (185, 21122), (202, 21218), (209, 21254),

Gene: Blondies_25 Start: 20151, Stop: 21248, Start Num: 10

Candidate Starts for Blondies_25:

(5, 20082), (Start: 10 @20151 has 18 MA's), (12, 20169), (27, 20274), (72, 20481), (88, 20586), (91, 20604), (93, 20613), (106, 20667), (129, 20727), (152, 20856), (159, 20907), (169, 20991), (172, 21009), (177, 21042), (184, 21093), (185, 21105), (202, 21201), (209, 21237),

Gene: BobRoss2024_26 Start: 26114, Stop: 27235, Start Num: 6

Candidate Starts for BobRoss2024_26:

(Start: 6 @26114 has 14 MA's), (41, 26321), (72, 26450), (79, 26480), (86, 26540), (91, 26573), (109, 26636), (141, 26768), (145, 26789), (169, 26966), (177, 27017), (178, 27035),

Gene: Burnsey_25 Start: 20518, Stop: 21615, Start Num: 10

Candidate Starts for Burnsey_25:

(Start: 10 @20518 has 18 MA's), (12, 20536), (27, 20641), (70, 20839), (88, 20953), (91, 20971), (93, 20980), (97, 20998), (107, 21034), (129, 21094), (135, 21124), (159, 21274), (162, 21313), (169, 21358), (172, 21376), (183, 21457), (192, 21517), (197, 21553), (205, 21583), (209, 21604),

Gene: Buttrmlkdreams_25 Start: 20150, Stop: 21247, Start Num: 10

Candidate Starts for Buttrmlkdreams_25:

(5, 20081), (Start: 10 @20150 has 18 MA's), (12, 20168), (27, 20273), (72, 20480), (88, 20585), (91, 20603), (93, 20612), (106, 20666), (129, 20726), (152, 20855), (159, 20906), (169, 20990), (172, 21008), (177, 21041), (184, 21092), (185, 21104), (202, 21200), (209, 21236),

Gene: CaiB_29 Start: 28057, Stop: 29169, Start Num: 6

Candidate Starts for CaiB_29:

(Start: 6 @28057 has 14 MA's), (25, 28171), (32, 28222), (34, 28231), (38, 28246), (41, 28261), (57, 28327), (83, 28441), (84, 28462), (91, 28513), (101, 28552), (109, 28576), (126, 28636), (148, 28738), (154, 28774), (155, 28789), (169, 28900), (171, 28918), (177, 28954),

Gene: Carsonalex_26 Start: 20575, Stop: 21672, Start Num: 10

Candidate Starts for Carsonalex_26:

(Start: 10 @20575 has 18 MA's), (27, 20698), (70, 20896), (88, 21010), (91, 21028), (93, 21037), (97, 21055), (107, 21091), (129, 21151), (135, 21181), (159, 21331), (162, 21370), (169, 21415), (172, 21433), (176, 21457), (178, 21484), (183, 21514), (192, 21574), (197, 21610), (205, 21640), (209, 21661),

Gene: Catfish_29 Start: 24416, Stop: 25366, Start Num: 21

Candidate Starts for Catfish_29:

(Start: 21 @24416 has 3 MA's), (26, 24446), (31, 24482), (Start: 33 @24497 has 1 MA's), (40, 24527), (47, 24566), (61, 24599), (71, 24641), (88, 24749), (91, 24767), (100, 24803), (120, 24830), (131, 24854), (139, 24896), (149, 24944), (153, 24971), (157, 25007), (158, 25010), (161, 25040), (172, 25127), (174, 25142), (182, 25202), (191, 25259), (194, 25280), (206, 25340), (209, 25358),

Gene: CharlottesWeb_27 Start: 26001, Stop: 27152, Start Num: 6

Candidate Starts for CharlottesWeb_27:

(Start: 6 @26001 has 14 MA's), (14, 26061), (41, 26211), (50, 26256), (53, 26265), (56, 26277), (59, 26286), (83, 26391), (91, 26463), (123, 26610), (140, 26694), (141, 26697), (144, 26715), (146, 26721), (148, 26727), (153, 26754), (154, 26763), (155, 26778), (174, 26922), (175, 26925), (176, 26931), (196, 27081), (209, 27138), (210, 27144),

Gene: Chickadee_34 Start: 29877, Stop: 31157, Start Num: 3

Candidate Starts for Chickadee_34:

(Start: 3 @29877 has 7 MA's), (11, 30006), (24, 30096), (62, 30279), (66, 30291), (82, 30363), (90, 30453), (96, 30480), (102, 30504), (116, 30597), (133, 30657), (139, 30696), (142, 30708), (155, 30792), (157, 30804), (161, 30837), (165, 30876), (168, 30900), (172, 30918), (196, 31086), (197, 31092), (207, 31131),

Gene: CloverMinnie_29 Start: 27997, Stop: 29109, Start Num: 6

Candidate Starts for CloverMinnie_29:

(Start: 6 @27997 has 14 MA's), (25, 28111), (32, 28162), (34, 28171), (38, 28186), (41, 28201), (57, 28267), (83, 28381), (84, 28402), (91, 28453), (101, 28492), (109, 28516), (126, 28576), (148, 28678), (154, 28714), (155, 28729), (169, 28840), (171, 28858), (177, 28894),

Gene: Coldpizza_30 Start: 30502, Stop: 31638, Start Num: 6

Candidate Starts for Coldpizza_30:

(Start: 6 @30502 has 14 MA's), (14, 30559), (41, 30706), (83, 30868), (86, 30907), (89, 30931), (91, 30940), (125, 31090), (126, 31096), (133, 31129), (137, 31147), (138, 31156), (145, 31195), (150, 31216), (154, 31243), (155, 31258), (156, 31264), (163, 31333), (169, 31372), (176, 31414),

Gene: Cozz_25 Start: 20518, Stop: 21615, Start Num: 10

Candidate Starts for Cozz_25:

(Start: 10 @20518 has 18 MA's), (12, 20536), (27, 20641), (70, 20839), (88, 20953), (91, 20971), (93, 20980), (97, 20998), (107, 21034), (129, 21094), (135, 21124), (159, 21274), (162, 21313), (169, 21358), (172, 21376), (176, 21400), (183, 21457), (192, 21517), (197, 21553), (205, 21583), (209, 21604),

Gene: Dardanus_31 Start: 23524, Stop: 24384, Start Num: 33

Candidate Starts for Dardanus_31:

(13, 23410), (17, 23434), (Start: 18 @23443 has 3 MA's), (23, 23455), (Start: 33 @23524 has 1 MA's), (60, 23611), (65, 23626), (88, 23764), (91, 23782), (100, 23818), (115, 23836), (149, 23959), (153, 23986), (161, 24055), (175, 24160), (181, 24214), (182, 24217), (188, 24256), (191, 24274), (194, 24295), (203, 24340), (206, 24355), (209, 24373),

Gene: Delrey21_36 Start: 33271, Stop: 34347, Start Num: 16

Candidate Starts for Delrey21_36:

(Start: 16 @33271 has 18 MA's), (35, 33379), (44, 33424), (48, 33445), (84, 33592), (91, 33643), (101, 33682), (108, 33724), (121, 33790), (127, 33805), (134, 33832), (137, 33847), (148, 33904), (155, 33958), (156, 33964), (161, 34003), (169, 34072), (172, 34093), (176, 34117), (186, 34192), (196, 34270), (211, 34336),

Gene: Dxdert_35 Start: 30320, Stop: 31600, Start Num: 3

Candidate Starts for Dxdert_35:

(Start: 3 @30320 has 7 MA's), (11, 30449), (17, 30506), (24, 30539), (62, 30722), (66, 30734), (82, 30806), (90, 30896), (96, 30923), (102, 30947), (116, 31040), (133, 31100), (139, 31139), (142, 31151), (155, 31235), (157, 31247), (161, 31280), (168, 31343), (172, 31361), (196, 31529), (197, 31535), (207, 31574),

Gene: DinoDaryn_31 Start: 22562, Stop: 23509, Start Num: 22

Candidate Starts for DinoDaryn_31:

(Start: 22 @22562 has 3 MA's), (54, 22733), (75, 22802), (88, 22895), (91, 22913), (140, 23045), (143, 23060), (149, 23087), (157, 23150), (161, 23183), (164, 23216), (182, 23345), (190, 23390), (194, 23420), (198, 23447), (200, 23456), (209, 23498),

Gene: DoctorFroggo_36 Start: 33271, Stop: 34347, Start Num: 16

Candidate Starts for DoctorFroggo_36:

(Start: 16 @33271 has 18 MA's), (35, 33379), (44, 33424), (48, 33445), (84, 33592), (91, 33643), (101, 33682), (108, 33724), (121, 33790), (127, 33805), (134, 33832), (137, 33847), (148, 33904), (155, 33958), (156, 33964), (161, 34003), (169, 34072), (172, 34093), (176, 34117), (186, 34192), (196, 34270), (211, 34336),

Gene: EdmundFerry_33 Start: 29906, Stop: 31186, Start Num: 3

Candidate Starts for EdmundFerry_33:

(2, 29873), (Start: 3 @29906 has 7 MA's), (11, 30035), (17, 30092), (24, 30125), (62, 30308), (66, 30320), (82, 30392), (90, 30482), (96, 30509), (102, 30533), (116, 30626), (133, 30686), (139, 30725), (142, 30737), (155, 30821), (157, 30833), (161, 30866), (168, 30929), (172, 30947), (196, 31115), (197, 31121), (207, 31160),

Gene: Elliott_25 Start: 20517, Stop: 21614, Start Num: 10

Candidate Starts for Elliott_25:

(Start: 10 @20517 has 18 MA's), (12, 20535), (27, 20640), (70, 20838), (91, 20970), (93, 20979), (97, 20997), (107, 21033), (129, 21093), (135, 21123), (159, 21273), (162, 21312), (169, 21357), (172, 21375), (183, 21456), (192, 21516), (197, 21552), (205, 21582), (209, 21603),

Gene: Fairfaxidum_28 Start: 23698, Stop: 24678, Start Num: 28

Candidate Starts for Fairfaxidum_28:

(17, 23638), (Start: 28 @23698 has 12 MA's), (81, 23905), (91, 23986), (92, 23989), (97, 24013), (114, 24082), (121, 24109), (144, 24217), (145, 24220), (148, 24229), (155, 24283), (157, 24295), (163, 24358), (176, 24439), (179, 24469), (196, 24589), (213, 24661), (214, 24670),

Gene: Fresco_27 Start: 26078, Stop: 27217, Start Num: 6

Candidate Starts for Fresco_27:

(Start: 6 @26078 has 14 MA's), (8, 26087), (14, 26135), (20, 26174), (25, 26192), (36, 26261), (50, 26330), (53, 26339), (83, 26465), (91, 26537), (97, 26564), (98, 26567), (111, 26639), (130, 26693), (140, 26756), (146, 26783), (148, 26789), (155, 26840), (166, 26930), (196, 27143), (209, 27200), (210, 27206), (211, 27209),

Gene: GTE6_34 Start: 30398, Stop: 31678, Start Num: 3

Candidate Starts for GTE6_34:

(Start: 3 @30398 has 7 MA's), (11, 30527), (24, 30617), (62, 30800), (66, 30812), (82, 30884), (90, 30974), (96, 31001), (102, 31025), (116, 31118), (133, 31178), (139, 31217), (142, 31229), (155, 31313), (157, 31325), (161, 31358), (168, 31421), (196, 31607), (207, 31652),

Gene: Goib_30 Start: 22610, Stop: 23578, Start Num: 18

Candidate Starts for Goib_30:

(4, 22433), (13, 22577), (17, 22601), (Start: 18 @22610 has 3 MA's), (Start: 22 @22625 has 3 MA's), (54, 22796), (60, 22805), (75, 22865), (88, 22958), (91, 22976), (100, 23012), (101, 23015), (115, 23030), (147, 23138), (149, 23150), (157, 23216), (161, 23249), (169, 23312), (175, 23354), (176, 23360), (178, 23387), (179, 23390), (181, 23408), (182, 23411), (188, 23450), (190, 23456), (194, 23489), (209, 23567),

Gene: GoldHunter_26 Start: 20518, Stop: 21615, Start Num: 10

Candidate Starts for GoldHunter_26:

(Start: 10 @20518 has 18 MA's), (12, 20536), (27, 20641), (70, 20839), (88, 20953), (91, 20971), (93, 20980), (97, 20998), (107, 21034), (129, 21094), (135, 21124), (159, 21274), (162, 21313), (169, 21358), (172, 21376), (176, 21400), (183, 21457), (192, 21517), (197, 21553), (205, 21583), (209, 21604),

Gene: Hans_37 Start: 31512, Stop: 32516, Start Num: 16

Candidate Starts for Hans_37:

(Start: 16 @31512 has 18 MA's), (35, 31626), (39, 31647), (48, 31692), (63, 31728), (88, 31875), (91, 31893), (134, 31998), (148, 32070), (155, 32124), (161, 32169), (169, 32238), (172, 32259), (176, 32283), (186, 32358), (196, 32436), (211, 32502),

Gene: Horseradish_26 Start: 20064, Stop: 21086, Start Num: 10

Candidate Starts for Horseradish_26:

(5, 19995), (Start: 10 @20064 has 18 MA's), (12, 20082), (27, 20187), (88, 20499), (91, 20517), (93, 20526), (99, 20550), (129, 20565), (152, 20694), (159, 20745), (161, 20766), (169, 20829), (172, 20847), (177, 20880), (185, 20943), (202, 21039),

Gene: Huff_31 Start: 22562, Stop: 23509, Start Num: 22

Candidate Starts for Huff_31:

(Start: 22 @22562 has 3 MA's), (54, 22733), (75, 22802), (88, 22895), (91, 22913), (140, 23045), (143, 23060), (149, 23087), (157, 23150), (161, 23183), (164, 23216), (168, 23240), (182, 23345), (190, 23390), (194, 23420), (198, 23447), (200, 23456), (209, 23498),

Gene: Inspectinfecti_36 Start: 31874, Stop: 32962, Start Num: 16

Candidate Starts for Inspectinfecti_36:

(Start: 16 @31874 has 18 MA's), (35, 31988), (39, 32009), (48, 32054), (63, 32090), (91, 32255), (101, 32294), (108, 32336), (127, 32417), (134, 32444), (137, 32459), (155, 32570), (161, 32615), (166, 32663), (169, 32684), (172, 32705), (176, 32729), (196, 32882), (211, 32948),

Gene: KappaFarmDelta_30 Start: 23868, Stop: 24845, Start Num: 28

Candidate Starts for KappaFarmDelta_30:

(17, 23808), (Start: 28 @23868 has 12 MA's), (43, 23949), (Start: 52 @23982 has 1 MA's), (68, 24009), (81, 24075), (87, 24132), (91, 24156), (114, 24252), (144, 24387), (145, 24390), (155, 24453), (161, 24498), (169, 24567), (173, 24588), (196, 24759), (208, 24810),

Gene: Kwekel_34 Start: 29835, Stop: 31115, Start Num: 3

Candidate Starts for Kwekel_34:

(Start: 3 @29835 has 7 MA's), (11, 29964), (24, 30054), (62, 30237), (66, 30249), (82, 30321), (90, 30411), (96, 30438), (102, 30462), (116, 30555), (133, 30615), (139, 30654), (142, 30666), (155, 30750), (157, 30762), (161, 30795), (168, 30858), (169, 30864), (196, 31044), (197, 31050), (207, 31089),

Gene: Leonard_35 Start: 31510, Stop: 32598, Start Num: 16

Candidate Starts for Leonard_35:

(Start: 16 @31510 has 18 MA's), (35, 31624), (39, 31645), (58, 31714), (63, 31726), (91, 31891), (101, 31930), (108, 31972), (127, 32053), (134, 32080), (137, 32095), (148, 32152), (155, 32206), (161, 32251), (169, 32320), (172, 32341), (176, 32365), (186, 32440), (196, 32518), (211, 32584),

Gene: Ligma_27 Start: 26078, Stop: 27217, Start Num: 6

Candidate Starts for Ligma_27:

(Start: 6 @26078 has 14 MA's), (8, 26087), (14, 26135), (20, 26174), (25, 26192), (36, 26261), (50, 26330), (53, 26339), (83, 26465), (91, 26537), (97, 26564), (98, 26567), (111, 26639), (130, 26693), (140, 26756), (146, 26783), (148, 26789), (155, 26840), (166, 26930), (196, 27143), (209, 27200), (210, 27206), (211, 27209),

Gene: Lilbeanie_32 Start: 26757, Stop: 27755, Start Num: 16

Candidate Starts for Lilbeanie_32:

(Start: 16 @26757 has 18 MA's), (35, 26865), (36, 26868), (38, 26877), (48, 26931), (Start: 52 @26943 has 1 MA's), (58, 26955), (69, 26985), (88, 27114), (91, 27132), (113, 27198), (114, 27204), (134, 27234), (155, 27360), (163, 27435), (172, 27495), (175, 27513), (196, 27669),

Gene: MScarn_27 Start: 20153, Stop: 21250, Start Num: 10

Candidate Starts for MScarn_27:

(5, 20084), (Start: 10 @20153 has 18 MA's), (12, 20171), (27, 20276), (72, 20483), (88, 20588), (91, 20606), (93, 20615), (106, 20669), (129, 20729), (152, 20858), (159, 20909), (169, 20993), (172, 21011), (177, 21044), (184, 21095), (185, 21107), (202, 21203), (209, 21239),

Gene: MakoManhole_29 Start: 28075, Stop: 29187, Start Num: 6

Candidate Starts for MakoManhole_29:

(Start: 6 @28075 has 14 MA's), (25, 28189), (32, 28240), (34, 28249), (38, 28264), (41, 28279), (57, 28345), (83, 28459), (84, 28480), (91, 28531), (101, 28570), (109, 28594), (126, 28654), (148, 28756), (154, 28792), (155, 28807), (169, 28918), (171, 28936), (177, 28972),

Gene: Mariokart_27 Start: 26000, Stop: 27151, Start Num: 6

Candidate Starts for Mariokart_27:

(Start: 6 @26000 has 14 MA's), (14, 26060), (41, 26210), (50, 26255), (53, 26264), (56, 26276), (59, 26285), (83, 26390), (91, 26462), (123, 26609), (140, 26693), (141, 26696), (144, 26714), (146, 26720), (148, 26726), (153, 26753), (154, 26762), (155, 26777), (174, 26921), (175, 26924), (176, 26930), (196, 27080), (209, 27137), (210, 27143),

Gene: MelBins_36 Start: 31659, Stop: 32747, Start Num: 16

Candidate Starts for MelBins_36:

(Start: 16 @31659 has 18 MA's), (35, 31773), (39, 31794), (48, 31839), (58, 31863), (63, 31875), (91, 32040), (101, 32079), (108, 32121), (127, 32202), (134, 32229), (137, 32244), (155, 32355), (161, 32400), (166, 32448), (169, 32469), (172, 32490), (176, 32514), (196, 32667), (211, 32733),

Gene: MossRose_29 Start: 28054, Stop: 29166, Start Num: 6

Candidate Starts for MossRose_29:

(Start: 6 @28054 has 14 MA's), (25, 28168), (32, 28219), (34, 28228), (38, 28243), (41, 28258), (57, 28324), (83, 28438), (84, 28459), (91, 28510), (101, 28549), (109, 28573), (126, 28633), (148, 28735), (154, 28771), (155, 28786), (169, 28897), (171, 28915), (177, 28951),

Gene: MunkgeeRoachy_25 Start: 20565, Stop: 21695, Start Num: 10

Candidate Starts for MunkgeeRoachy_25:

(Start: 10 @20565 has 18 MA's), (12, 20583), (27, 20688), (70, 20886), (88, 21000), (91, 21018), (93, 21027), (105, 21081), (123, 21162), (129, 21174), (135, 21204), (159, 21354), (169, 21438), (172, 21456), (177, 21489), (183, 21537), (185, 21552), (202, 21648), (209, 21684),

Gene: Murp_29 Start: 23645, Stop: 24622, Start Num: 28

Candidate Starts for Murp_29:

(17, 23585), (Start: 28 @23645 has 12 MA's), (43, 23726), (Start: 52 @23759 has 1 MA's), (68, 23786), (74, 23825), (81, 23852), (87, 23909), (91, 23933), (141, 24146), (144, 24164), (145, 24167), (148, 24176), (155, 24230), (161, 24275), (169, 24344), (194, 24515), (196, 24536), (208, 24587),

Gene: NHagos_27 Start: 26589, Stop: 27701, Start Num: 6

Candidate Starts for NHagos_27:

(Start: 6 @26589 has 14 MA's), (Start: 16 @26658 has 18 MA's), (Start: 22 @26691 has 3 MA's), (25, 26703), (27, 26727), (32, 26754), (38, 26778), (41, 26793), (57, 26859), (83, 26973), (86, 27012), (109, 27111), (126, 27171), (142, 27246), (147, 27270), (148, 27273), (154, 27309), (155, 27324), (157, 27336), (161, 27369), (169, 27435), (177, 27489), (209, 27687),

Gene: Natkenzie_37 Start: 33084, Stop: 34160, Start Num: 16

Candidate Starts for Natkenzie_37:

(1, 32790), (7, 33018), (Start: 16 @33084 has 18 MA's), (35, 33192), (45, 33240), (48, 33258), (84, 33405), (85, 33417), (91, 33456), (101, 33495), (108, 33537), (121, 33603), (127, 33618), (134, 33645), (137, 33660), (155, 33771), (161, 33816), (163, 33846), (166, 33864), (169, 33885), (172, 33906), (176, 33930), (196, 34083), (211, 34149),

Gene: Nina_26 Start: 21560, Stop: 22657, Start Num: 10

Candidate Starts for Nina_26:

(Start: 10 @21560 has 18 MA's), (12, 21578), (27, 21683), (70, 21881), (91, 22013), (93, 22022), (97, 22040), (107, 22076), (129, 22136), (135, 22166), (159, 22316), (162, 22355), (169, 22400), (172, 22418), (176, 22442), (183, 22499), (192, 22559), (197, 22595), (205, 22625), (209, 22646),

Gene: PCoral7_29 Start: 23615, Stop: 24595, Start Num: 28

Candidate Starts for PCoral7_29:

(17, 23555), (Start: 28 @23615 has 12 MA's), (Start: 52 @23726 has 1 MA's), (81, 23822), (86, 23870), (91, 23903), (97, 23930), (114, 23999), (119, 24023), (121, 24026), (141, 24116), (144, 24134), (145, 24137), (155, 24200), (163, 24275), (187, 24431), (196, 24506), (213, 24578), (214, 24587),

Gene: Petra_30 Start: 23485, Stop: 24351, Start Num: 52

Candidate Starts for Petra_30:

(17, 23311), (Start: 28 @23371 has 12 MA's), (43, 23452), (Start: 52 @23485 has 1 MA's), (68, 23512), (74, 23551), (81, 23578), (91, 23659), (97, 23686), (100, 23695), (114, 23755), (119, 23779), (121, 23782), (142, 23875), (144, 23890), (145, 23893), (155, 23956), (157, 23968), (161, 24001), (163, 24031), (187, 24187), (194, 24241), (196, 24262),

Gene: Phauci_28 Start: 28099, Stop: 29187, Start Num: 16

Candidate Starts for Phauci_28:

(Start: 16 @28099 has 18 MA's), (35, 28213), (39, 28234), (58, 28303), (63, 28315), (91, 28480), (101, 28519), (108, 28561), (127, 28642), (134, 28669), (137, 28684), (155, 28795), (161, 28840), (166, 28888), (169, 28909), (172, 28930), (176, 28954), (186, 29029), (196, 29107), (211, 29173),

Gene: Phinally_35 Start: 31507, Stop: 32595, Start Num: 16

Candidate Starts for Phinally_35:

(Start: 16 @31507 has 18 MA's), (35, 31621), (39, 31642), (58, 31711), (63, 31723), (91, 31888), (101, 31927), (108, 31969), (127, 32050), (134, 32077), (137, 32092), (148, 32149), (155, 32203), (161, 32248), (169, 32317), (172, 32338), (176, 32362), (186, 32437), (196, 32515), (211, 32581),

Gene: PotPie_25 Start: 21139, Stop: 22131, Start Num: 28

Candidate Starts for PotPie_25:

(Start: 28 @21139 has 12 MA's), (64, 21286), (73, 21328), (75, 21334), (76, 21337), (80, 21355), (86, 21412), (91, 21445), (117, 21574), (127, 21583), (141, 21652), (146, 21676), (155, 21736), (163, 21811), (172, 21871), (173, 21874), (189, 21991), (194, 22024), (199, 22060), (208, 22096), (209, 22102), (212, 22114),

Gene: PrincePatrick_28 Start: 23694, Stop: 24674, Start Num: 28

Candidate Starts for PrincePatrick_28:

(17, 23634), (Start: 28 @23694 has 12 MA's), (Start: 52 @23805 has 1 MA's), (81, 23901), (86, 23949), (91, 23982), (97, 24009), (100, 24018), (114, 24078), (119, 24102), (121, 24105), (141, 24195), (144, 24213), (145, 24216), (155, 24279), (163, 24354), (187, 24510), (196, 24585), (208, 24636),

Gene: PsychoKiller_25 Start: 20517, Stop: 21614, Start Num: 10

Candidate Starts for PsychoKiller_25:

(Start: 10 @20517 has 18 MA's), (12, 20535), (27, 20640), (70, 20838), (91, 20970), (93, 20979), (97, 20997), (107, 21033), (129, 21093), (135, 21123), (159, 21273), (162, 21312), (169, 21357), (172, 21375), (183, 21456), (192, 21516), (197, 21552), (205, 21582), (209, 21603),

Gene: Quasar_25 Start: 21126, Stop: 22223, Start Num: 10

Candidate Starts for Quasar_25:

(Start: 10 @21126 has 18 MA's), (12, 21144), (27, 21249), (70, 21447), (88, 21561), (91, 21579), (93, 21588), (97, 21606), (107, 21642), (129, 21702), (135, 21732), (159, 21882), (162, 21921), (169, 21966), (172, 21984), (176, 22008), (183, 22065), (192, 22125), (197, 22161), (205, 22191), (209, 22212),

Gene: RedBaron_26 Start: 20561, Stop: 21658, Start Num: 10

Candidate Starts for RedBaron_26:

(Start: 10 @20561 has 18 MA's), (12, 20579), (27, 20684), (70, 20882), (91, 21014), (93, 21023), (97, 21041), (107, 21077), (129, 21137), (159, 21317), (162, 21356), (169, 21401), (172, 21419), (176, 21443), (183, 21500), (192, 21560), (197, 21596), (205, 21626), (209, 21647),

Gene: RoadKill_32 Start: 29401, Stop: 30681, Start Num: 3

Candidate Starts for RoadKill_32:

(Start: 3 @29401 has 7 MA's), (11, 29530), (17, 29587), (24, 29620), (62, 29803), (66, 29815), (82, 29887), (90, 29977), (96, 30004), (102, 30028), (116, 30121), (133, 30181), (139, 30220), (142, 30232), (155, 30316), (157, 30328), (161, 30361), (168, 30424), (172, 30442), (196, 30610), (197, 30616), (207, 30655),

Gene: Sampson_37 Start: 33029, Stop: 34105, Start Num: 16

Candidate Starts for Sampson_37:

(1, 32735), (7, 32963), (Start: 16 @33029 has 18 MA's), (35, 33137), (45, 33185), (48, 33203), (84, 33350), (85, 33362), (91, 33401), (101, 33440), (108, 33482), (121, 33548), (127, 33563), (134, 33590), (137, 33605), (155, 33716), (161, 33761), (163, 33791), (166, 33809), (169, 33830), (172, 33851), (176, 33875), (196, 34028), (211, 34094),

Gene: Sapo_25 Start: 21383, Stop: 22177, Start Num: 46

Candidate Starts for Sapo_25:

(Start: 46 @21383 has 1 MA's), (55, 21425), (65, 21461), (84, 21551), (96, 21626), (97, 21629), (141, 21722), (163, 21878), (169, 21917), (190, 22055), (193, 22085), (195, 22094), (205, 22142),

Gene: Scioto_37 Start: 33084, Stop: 34160, Start Num: 16

Candidate Starts for Scioto_37:

(1, 32790), (7, 33018), (Start: 16 @33084 has 18 MA's), (35, 33192), (45, 33240), (48, 33258), (84, 33405), (85, 33417), (91, 33456), (101, 33495), (108, 33537), (121, 33603), (127, 33618), (134, 33645), (137, 33660), (155, 33771), (161, 33816), (163, 33846), (166, 33864), (169, 33885), (172, 33906), (176, 33930), (196, 34083), (211, 34149),

Gene: Shatter_27 Start: 26078, Stop: 27217, Start Num: 6

Candidate Starts for Shatter_27:

(Start: 6 @26078 has 14 MA's), (8, 26087), (14, 26135), (20, 26174), (25, 26192), (36, 26261), (50, 26330), (53, 26339), (83, 26465), (91, 26537), (97, 26564), (98, 26567), (111, 26639), (130, 26693), (140, 26756), (146, 26783), (148, 26789), (155, 26840), (166, 26930), (196, 27143), (209, 27200), (210, 27206), (211, 27209),

Gene: SheckWes_25 Start: 20283, Stop: 21275, Start Num: 28

Candidate Starts for SheckWes_25:

(Start: 28 @20283 has 12 MA's), (64, 20430), (73, 20472), (76, 20481), (80, 20499), (86, 20556), (91, 20589), (101, 20628), (117, 20718), (127, 20727), (141, 20796), (146, 20820), (155, 20880), (163, 20955), (172, 21015), (173, 21018), (189, 21135), (194, 21168), (199, 21204), (208, 21240), (209, 21246), (212, 21258),

Gene: SketchMex_24 Start: 20168, Stop: 21265, Start Num: 10

Candidate Starts for SketchMex_24:

(5, 20099), (Start: 10 @20168 has 18 MA's), (12, 20186), (27, 20291), (72, 20498), (88, 20603), (91, 20621), (93, 20630), (106, 20684), (129, 20744), (152, 20873), (159, 20924), (169, 21008), (172, 21026), (177, 21059), (184, 21110), (185, 21122), (202, 21218), (209, 21254),

Gene: Socotra_26 Start: 20517, Stop: 21614, Start Num: 10

Candidate Starts for Socotra_26:

(Start: 10 @20517 has 18 MA's), (12, 20535), (27, 20640), (70, 20838), (88, 20952), (91, 20970), (93, 20979), (97, 20997), (107, 21033), (129, 21093), (135, 21123), (159, 21273), (162, 21312), (169, 21357), (172, 21375), (176, 21399), (183, 21456), (192, 21516), (197, 21552), (205, 21582), (209, 21603),

Gene: Sopespian_25 Start: 20518, Stop: 21615, Start Num: 10

Candidate Starts for Sopespian_25:

(Start: 10 @20518 has 18 MA's), (12, 20536), (27, 20641), (70, 20839), (91, 20971), (93, 20980), (97, 20998), (107, 21034), (129, 21094), (135, 21124), (159, 21274), (162, 21313), (169, 21358), (172, 21376), (176, 21400), (183, 21457), (192, 21517), (197, 21553), (205, 21583), (209, 21604),

Gene: Sour_31 Start: 30307, Stop: 31437, Start Num: 6

Candidate Starts for Sour_31:

(Start: 6 @30307 has 14 MA's), (20, 30400), (Start: 22 @30406 has 3 MA's), (37, 30496), (41, 30511), (59, 30577), (91, 30754), (114, 30850), (142, 30967), (145, 30985), (155, 31048), (167, 31150), (169, 31162), (171, 31177), (174, 31195), (185, 31276), (196, 31354), (208, 31405), (209, 31411),

Gene: Splinter_29 Start: 22610, Stop: 23578, Start Num: 18

Candidate Starts for Splinter_29:

(4, 22433), (13, 22577), (17, 22601), (Start: 18 @22610 has 3 MA's), (Start: 22 @22625 has 3 MA's), (54, 22796), (60, 22805), (75, 22865), (88, 22958), (91, 22976), (100, 23012), (101, 23015), (115, 23030), (147, 23138), (149, 23150), (157, 23216), (161, 23249), (169, 23312), (175, 23354), (176, 23360), (178, 23387), (179, 23390), (181, 23408), (182, 23411), (188, 23450), (190, 23456), (194, 23489), (209, 23567),

Gene: Starburst_26 Start: 20518, Stop: 21615, Start Num: 10

Candidate Starts for Starburst_26:

(Start: 10 @20518 has 18 MA's), (12, 20536), (27, 20641), (70, 20839), (88, 20953), (91, 20971), (93, 20980), (97, 20998), (107, 21034), (129, 21094), (135, 21124), (159, 21274), (162, 21313), (169, 21358), (172, 21376), (176, 21400), (183, 21457), (192, 21517), (197, 21553), (205, 21583), (209, 21604),

Gene: SteamedHams_27 Start: 20181, Stop: 21269, Start Num: 10

Candidate Starts for SteamedHams_27:

(9, 20178), (Start: 10 @20181 has 18 MA's), (12, 20199), (27, 20304), (51, 20427), (88, 20616), (91, 20634), (93, 20643), (95, 20655), (132, 20766), (141, 20820), (145, 20841), (159, 20928), (169, 21012), (172, 21030), (177, 21063), (185, 21126), (188, 21144), (189, 21147), (190, 21150), (197, 21207), (209, 21258),

Gene: SummitAcademy_25 Start: 20359, Stop: 21351, Start Num: 28

Candidate Starts for SummitAcademy_25:

(Start: 28 @20359 has 12 MA's), (64, 20506), (76, 20557), (80, 20575), (86, 20632), (91, 20665), (117, 20794), (127, 20803), (141, 20872), (146, 20896), (155, 20956), (163, 21031), (172, 21091), (173, 21094), (189, 21211), (194, 21244), (199, 21280), (208, 21316), (209, 21322), (212, 21334),

Gene: TZGordon_31 Start: 22485, Stop: 23432, Start Num: 22

Candidate Starts for TZGordon_31:

(Start: 22 @22485 has 3 MA's), (54, 22656), (75, 22725), (88, 22818), (91, 22836), (140, 22968), (143, 22983), (149, 23010), (157, 23073), (161, 23106), (164, 23139), (168, 23163), (182, 23268), (190, 23313), (194, 23343), (198, 23370), (200, 23379), (209, 23421),

Gene: Tardus_38 Start: 32448, Stop: 33524, Start Num: 16

Candidate Starts for Tardus_38:

(Start: 16 @32448 has 18 MA's), (35, 32556), (45, 32604), (48, 32622), (84, 32769), (85, 32781), (91, 32820), (101, 32859), (108, 32901), (121, 32967), (127, 32982), (134, 33009), (137, 33024), (148, 33081), (155, 33135), (161, 33180), (169, 33249), (172, 33270), (176, 33294), (186, 33369), (196, 33447), (211, 33513),

Gene: Tiamoceli_35 Start: 30734, Stop: 32014, Start Num: 3

Candidate Starts for Tiamoceli_35:

(Start: 3 @30734 has 7 MA's), (11, 30863), (24, 30953), (62, 31136), (66, 31148), (82, 31220), (90, 31310), (96, 31337), (100, 31352), (102, 31361), (116, 31454), (133, 31514), (142, 31565), (155, 31649), (157, 31661), (161, 31694), (168, 31757), (172, 31775), (190, 31892), (196, 31943), (207, 31988),

Gene: TinaLin_31 Start: 22732, Stop: 23730, Start Num: 21

Candidate Starts for TinaLin_31:

(19, 22729), (Start: 21 @22732 has 3 MA's), (47, 22879), (54, 22900), (72, 22957), (75, 22969), (91, 23080), (140, 23263), (155, 23356), (160, 23392), (161, 23401), (175, 23506), (176, 23512), (178, 23539), (179, 23542), (197, 23668), (203, 23686), (204, 23695), (209, 23719),

Gene: Toast_29 Start: 23615, Stop: 24595, Start Num: 28

Candidate Starts for Toast_29:

(17, 23555), (Start: 28 @23615 has 12 MA's), (Start: 52 @23726 has 1 MA's), (81, 23822), (86, 23870), (91, 23903), (97, 23930), (114, 23999), (119, 24023), (121, 24026), (141, 24116), (144, 24134), (145, 24137), (155, 24200), (163, 24275), (187, 24431), (196, 24506), (213, 24578), (214, 24587),

Gene: Tolls_27 Start: 20184, Stop: 21263, Start Num: 10

Candidate Starts for Tolls_27:

(9, 20181), (Start: 10 @20184 has 18 MA's), (12, 20202), (27, 20307), (51, 20430), (77, 20535), (88, 20619), (91, 20637), (96, 20661), (128, 20742), (132, 20760), (141, 20814), (159, 20922), (169, 21006), (172, 21024), (177, 21057), (185, 21120), (188, 21138), (189, 21141), (190, 21144), (197, 21201),

Gene: Troje_25 Start: 20150, Stop: 21247, Start Num: 10

Candidate Starts for Troje_25:

(5, 20081), (Start: 10 @20150 has 18 MA's), (12, 20168), (27, 20273), (72, 20480), (88, 20585), (91, 20603), (93, 20612), (106, 20666), (129, 20726), (152, 20855), (159, 20906), (169, 20990), (172, 21008), (177, 21041), (184, 21092), (185, 21104), (202, 21200), (209, 21236),

Gene: Twonlo_32 Start: 29352, Stop: 30632, Start Num: 3

Candidate Starts for Twonlo_32:

(Start: 3 @29352 has 7 MA's), (11, 29481), (17, 29538), (24, 29571), (62, 29754), (66, 29766), (82, 29838), (90, 29928), (96, 29955), (102, 29979), (116, 30072), (133, 30132), (139, 30171), (142, 30183), (155, 30267), (157, 30279), (161, 30312), (168, 30375), (172, 30393), (196, 30561), (197, 30567), (207, 30606),

Gene: Typhonomachy_26 Start: 20517, Stop: 21647, Start Num: 10

Candidate Starts for Typhonomachy_26:

(Start: 10 @20517 has 18 MA's), (12, 20535), (27, 20640), (70, 20838), (88, 20952), (91, 20970), (93, 20979), (105, 21033), (123, 21114), (129, 21126), (136, 21159), (159, 21306), (162, 21345), (169, 21390), (172, 21408), (176, 21432), (183, 21489), (192, 21549), (197, 21585), (205, 21615), (209, 21636),

Gene: Vendetta_29 Start: 22610, Stop: 23578, Start Num: 18

Candidate Starts for Vendetta_29:

(4, 22433), (13, 22577), (17, 22601), (Start: 18 @22610 has 3 MA's), (Start: 22 @22625 has 3 MA's), (60, 22805), (75, 22865), (88, 22958), (91, 22976), (100, 23012), (101, 23015), (115, 23030), (147, 23138), (149, 23150), (157, 23216), (161, 23249), (169, 23312), (175, 23354), (176, 23360), (178, 23387), (179, 23390), (181, 23408), (182, 23411), (188, 23450), (190, 23456), (194, 23489), (209, 23567),

Gene: Verity_36 Start: 33271, Stop: 34347, Start Num: 16

Candidate Starts for Verity_36:

(Start: 16 @33271 has 18 MA's), (35, 33379), (44, 33424), (48, 33445), (84, 33592), (91, 33643), (101, 33682), (108, 33724), (121, 33790), (127, 33805), (134, 33832), (137, 33847), (148, 33904), (155, 33958), (156, 33964), (161, 34003), (169, 34072), (172, 34093), (176, 34117), (186, 34192), (196, 34270), (211, 34336),

Gene: ViaConlectus_37 Start: 31720, Stop: 32796, Start Num: 16

Candidate Starts for ViaConlectus_37:

(1, 31426), (7, 31654), (Start: 16 @31720 has 18 MA's), (35, 31828), (45, 31876), (48, 31894), (84, 32041), (85, 32053), (91, 32092), (101, 32131), (108, 32173), (121, 32239), (127, 32254), (134, 32281), (137, 32296), (155, 32407), (161, 32452), (163, 32482), (166, 32500), (169, 32521), (176, 32566), (196, 32719), (211, 32785),

Gene: Vine_26 Start: 21286, Stop: 22272, Start Num: 28

Candidate Starts for Vine_26:

(Start: 28 @21286 has 12 MA's), (73, 21475), (91, 21592), (117, 21721), (127, 21730), (141, 21799), (146, 21823), (155, 21883), (163, 21958), (172, 22018), (173, 22021), (194, 22168), (199, 22204), (208, 22240), (212, 22258),

Gene: William_29 Start: 23441, Stop: 24427, Start Num: 28

Candidate Starts for William_29:

(17, 23381), (Start: 28 @23441 has 12 MA's), (42, 23504), (Start: 52 @23552 has 1 MA's), (81, 23648), (91, 23729), (92, 23732), (97, 23756), (114, 23825), (121, 23852), (144, 23960), (145, 23963), (155, 24026), (157, 24038), (163, 24101), (176, 24182), (179, 24212), (196, 24332),

Gene: Wocket_30 Start: 24063, Stop: 25040, Start Num: 28

Candidate Starts for Wocket_30:

(17, 24003), (Start: 28 @24063 has 12 MA's), (43, 24144), (Start: 52 @24177 has 1 MA's), (68, 24204), (81, 24270), (87, 24327), (91, 24351), (144, 24582), (145, 24585), (155, 24648), (161, 24693), (169, 24762), (196, 24954), (208, 25005),

Gene: Wooper_29 Start: 28066, Stop: 29163, Start Num: 6

Candidate Starts for Wooper_29:

(Start: 6 @28066 has 14 MA's), (25, 28180), (34, 28240), (38, 28255), (41, 28270), (83, 28450), (86, 28489), (91, 28522), (109, 28579), (123, 28627), (126, 28639), (147, 28732), (148, 28735), (149, 28744), (154, 28771), (155, 28786), (156, 28792), (169, 28891), (170, 28897), (177, 28948), (179, 28969), (187, 29014), (207, 29134),

Gene: Yeshua_29 Start: 28043, Stop: 29140, Start Num: 6

Candidate Starts for Yeshua_29:

(Start: 6 @28043 has 14 MA's), (25, 28157), (34, 28217), (38, 28232), (41, 28247), (83, 28427), (86, 28466), (91, 28499), (109, 28556), (123, 28604), (126, 28616), (147, 28709), (148, 28712), (149, 28721), (154, 28748), (155, 28763), (156, 28769), (169, 28868), (170, 28874), (177, 28925), (179, 28946), (187, 28991), (207, 29111),

Gene: Yucky_27 Start: 21145, Stop: 22131, Start Num: 28

Candidate Starts for Yucky_27:

(Start: 28 @21145 has 12 MA's), (73, 21334), (91, 21451), (96, 21475), (115, 21574), (118, 21580), (141, 21658), (142, 21661), (146, 21682), (155, 21742), (163, 21817), (168, 21850), (176, 21901), (189, 21994), (208, 22099), (212, 22117),

Gene: Yummy_26 Start: 20064, Stop: 21200, Start Num: 10

Candidate Starts for Yummy_26:

(5, 19995), (Start: 10 @20064 has 18 MA's), (12, 20082), (27, 20187), (88, 20499), (91, 20517), (93, 20526), (99, 20550), (104, 20577), (129, 20679), (152, 20808), (159, 20859), (161, 20880), (169, 20943), (172, 20961), (177, 20994), (185, 21057), (202, 21153),

Gene: Zipp_36 Start: 33174, Stop: 34250, Start Num: 16

Candidate Starts for Zipp_36:

(Start: 16 @33174 has 18 MA's), (35, 33282), (45, 33330), (48, 33348), (84, 33495), (85, 33507), (91, 33546), (101, 33585), (108, 33627), (121, 33693), (127, 33708), (134, 33735), (137, 33750), (148, 33807), (155, 33861), (161, 33906), (169, 33975), (172, 33996), (176, 34020), (186, 34095), (196, 34173), (211, 34239),

Gene: Zitch_38 Start: 31061, Stop: 32053, Start Num: 16

Candidate Starts for Zitch_38:

(Start: 16 @31061 has 18 MA's), (35, 31169), (45, 31217), (48, 31235), (84, 31382), (85, 31394), (88, 31415), (91, 31433), (134, 31538), (148, 31610), (155, 31664), (161, 31709), (169, 31778), (172, 31799), (176, 31823), (186, 31898), (196, 31976), (211, 32042),