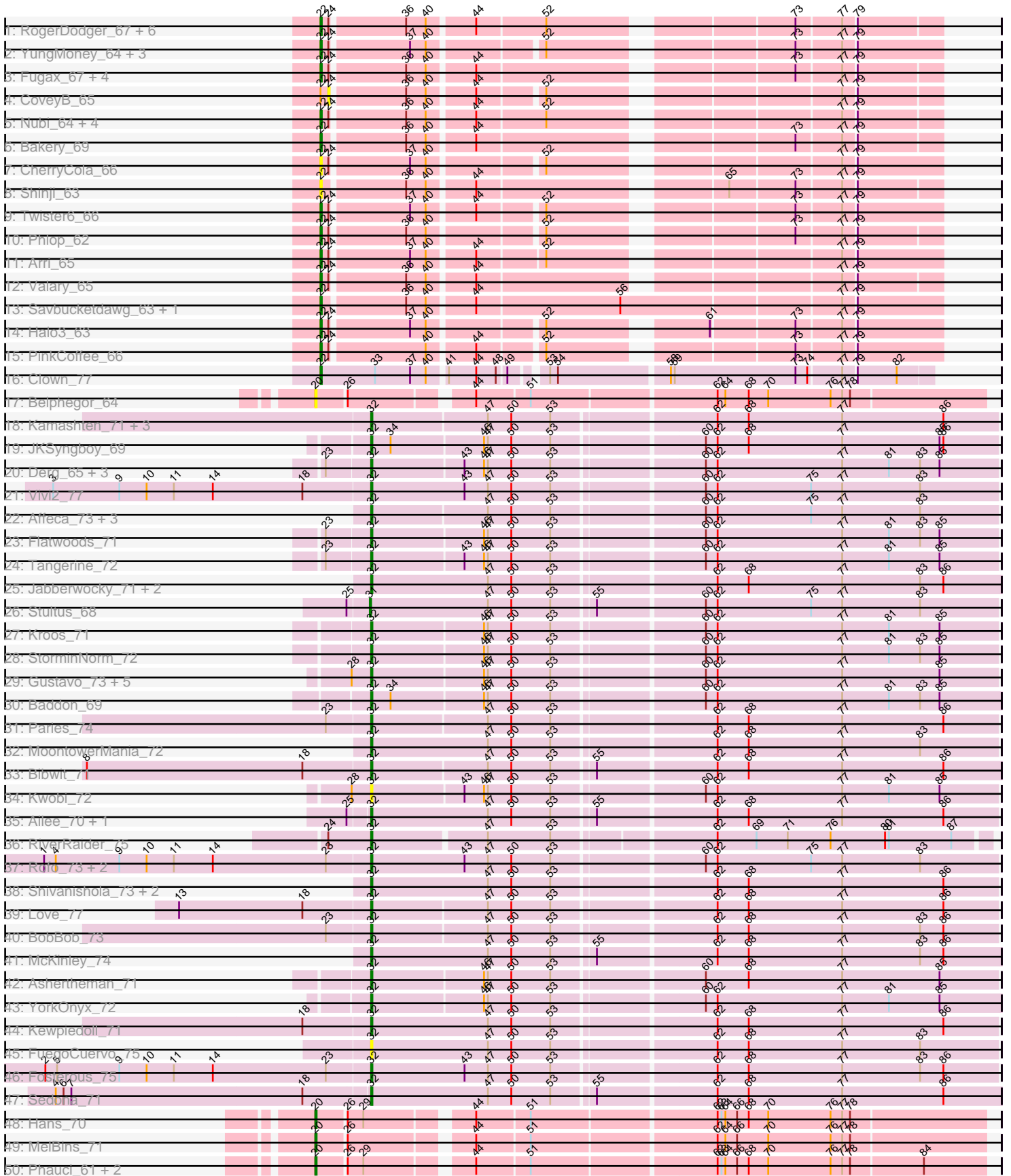
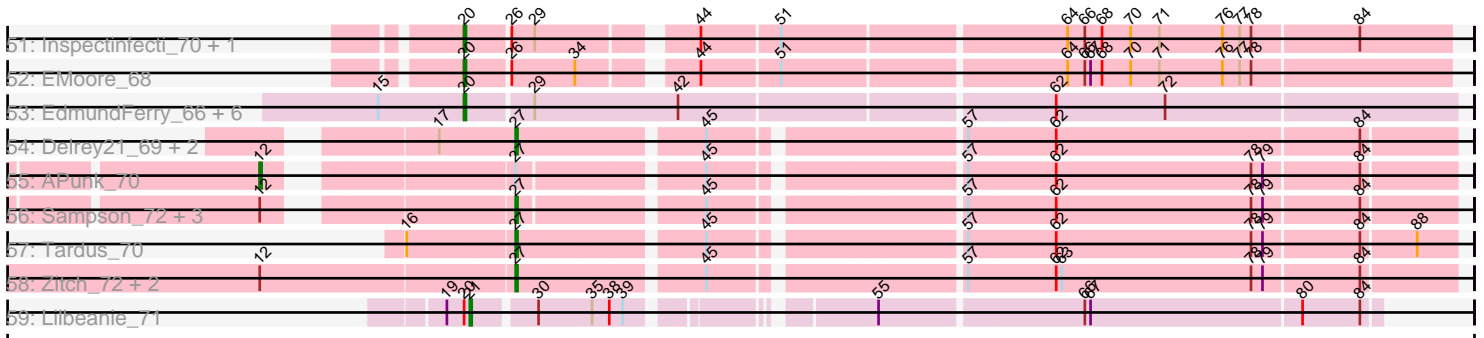


Pham 215990



Pham 215990



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 215990 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215990 has 114 members, 18 are drafts.

Phages represented in each track:

- Track 1 : RogerDodger_67, Salvador_63, Evamon_63, SmokingBunny_64, Togo_63, Portcullis_66, PullumCavea_63
- Track 2 : YungMoney_64, Fireball_67, Mutzi_63, TillyBobJoe_64
- Track 3 : Fugax_67, Barb_66, ClamChowder_66, Egi03_65, KimmyK_65
- Track 4 : CoveyB_65
- Track 5 : Nubi_64, Gezellig_65, VanDeWege_66, Danyall_65, Wizard_62
- Track 6 : Bakery_69
- Track 7 : CherryCola_66
- Track 8 : Shinji_63
- Track 9 : Twister6_66
- Track 10 : Phlop_62
- Track 11 : Arri_65
- Track 12 : Valary_65
- Track 13 : Savbucketdawg_63, Jambalaya_63
- Track 14 : Halo3_63
- Track 15 : PinkCoffee_66
- Track 16 : Clown_77
- Track 17 : Belphegor_64
- Track 18 : Kamashten_71, Barsten_73, Thing3_71, Galadriel_73
- Track 19 : JKSyngboy_69
- Track 20 : Derg_65, Tycho_70, Bizzy_72, Ribeye_71
- Track 21 : Vivi2_77
- Track 22 : Affeca_73, Sitar_72, Angelicage_71, Sanjuju_71
- Track 23 : Flatwoods_71
- Track 24 : Tangerine_72
- Track 25 : Jabberwocky_71, Brandonk123_77, Fitzgerald_71
- Track 26 : Stultus_68
- Track 27 : Kroos_71
- Track 28 : StorminNorm_72
- Track 29 : Gustavo_73, Saronaya_73, SchottB_69, Baumdotcom_69, Gaea_72, LilHam_65
- Track 30 : Baddon_69
- Track 31 : Paries_74
- Track 32 : MoontowerMania_72
- Track 33 : Bibwit_71
- Track 34 : Kwobi_72
- Track 35 : Ailee_70, Lennon_72

- Track 36 : RiverRaider_75
- Track 37 : Rofo_73, Charming_76, Tangent_75
- Track 38 : Shivanishola_73, Geodirt_71, ChadMasterC_72
- Track 39 : Love_77
- Track 40 : BobBob_73
- Track 41 : McKinley_74
- Track 42 : Ashertheman_71
- Track 43 : YorkOnyx_72
- Track 44 : Kewpiedoll_71
- Track 45 : FuegoCuervo_75
- Track 46 : Fosterous_75
- Track 47 : Sedona_71
- Track 48 : Hans_70
- Track 49 : MelBins_71
- Track 50 : Phauci_61, Leonard_69, Phinally_69
- Track 51 : Inspectinfecti_70, Ali17_66
- Track 52 : EMoore_68
- Track 53 : EdmundFerry_66, Chickadee_68, Twonlo_66, Tiamoceli_67, Kwekel_68, RoadKill_65, GTE6_69
- Track 54 : Delrey21_69, Verity_69, DoctorFroggo_69
- Track 55 : APunk_70
- Track 56 : Sampson_72, Abblin_70, Scioto_70, Natkenzie_70
- Track 57 : Tardus_70
- Track 58 : Zitch_72, ViaConlectus_69, Zipp_71
- Track 59 : Lilbeanie_71

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

The start number called the most often in the published annotations is 32, it was called in 42 of the 96 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Affeca_73, Ailee_70, Angelicage_71, Ashertheman_71, Baddon_69, Barsten_73, Baumdotcom_69, Bibwit_71, Bizzy_72, BobBob_73, Brandonk123_77, ChadMasterC_72, Charming_76, Derg_65, Fitzgerald_71, Flatwoods_71, Fosterous_75, FuegoCuervo_75, Gaea_72, Galadriel_73, Geodirt_71, Gustavo_73, JKSyngboy_69, Jabberwocky_71, Kamashten_71, Kewpiedoll_71, Kroos_71, Kwobi_72, Lennon_72, LilHam_65, Love_77, McKinley_74, MoontowerMania_72, Paries_74, Ribeye_71, RiverRaider_75, Rofo_73, Sanjuju_71, Saronaya_73, SchottB_69, Sedona_71, Shivanishola_73, Sitar_72, StorminNorm_72, Tangent_75, Tangerine_72, Thing3_71, Tycho_70, Vivi2_77, YorkOnyx_72,

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

-

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

- APunk_70, Abblin_70, Ali17_66, Arri_65, Bakery_69, Barb_66, Belphegor_64, CherryCola_66, Chickadee_68, ClamChowder_66, Clown_77, CoveyB_65, Danyall_65, Delrey21_69, DoctorFroggo_69, EMoore_68, EdmundFerry_66, Egi03_65, Evamon_63, Fireball_67, Fugax_67, GTE6_69, Gezellig_65, Halo3_63,

Hans_70, Inspectinfecti_70, Jambalaya_63, KimmyK_65, Kwekel_68, Leonard_69, Lilbeanie_71, MelBins_71, Mutzi_63, Natkenzie_70, Nubi_64, Phauci_61, Phinally_69, Phlop_62, PinkCoffee_66, Portcullis_66, PullumCavea_63, RoadKill_65, RogerDodger_67, Salvador_63, Sampson_72, Savbucketdawg_63, Scioto_70, Shinji_63, SmokingBunny_64, Stultus_68, Tardus_70, Tiamoceli_67, TillyBobJoe_64, Togo_63, Twister6_66, Twonlo_66, Valary_65, VanDeWege_66, Verity_69, ViaConlectus_69, Wizard_62, YungMoney_64, Zipp_71, Zitch_72,

Summary by start number:

Start 12:

- Found in 8 of 114 (7.0%) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 12.5% of time when present
- Phage (with cluster) where this start called: APunk_70 (DE4),

Start 20:

- Found in 17 of 114 (14.9%) of genes in pham
- Manual Annotations of this start: 14 of 96
- Called 94.1% of time when present
- Phage (with cluster) where this start called: Ali17_66 (DE2), Belphegor_64 (DE), Chickadee_68 (DE3), EMOore_68 (DE2), EdmundFerry_66 (DE3), GTE6_69 (DE3), Hans_70 (DE2), Inspectinfecti_70 (DE2), Kwekel_68 (DE3), Leonard_69 (DE2), MelBins_71 (DE2), Phauci_61 (DE2), Phinally_69 (DE2), RoadKill_65 (DE3), Tiamoceli_67 (DE3), Twonlo_66 (DE3),

Start 21:

- Found in 1 of 114 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lilbeanie_71 (DE5),

Start 22:

- Found in 34 of 114 (29.8%) of genes in pham
- Manual Annotations of this start: 29 of 96
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Arri_65 (DC1), Bakery_69 (DC1), Barb_66 (DC1), CherryCola_66 (DC1), ClamChowder_66 (DC1), Clown_77 (DC2), Danyall_65 (DC1), Egi03_65 (DC1), Evamon_63 (DC1), Fireball_67 (DC1), Fugax_67 (DC1), Gezellig_65 (DC1), Halo3_63 (DC1), Jambalaya_63 (DC1), KimmyK_65 (DC1), Mutzi_63 (DC1), Nubi_64 (DC1), Phlop_62 (DC1), PinkCoffee_66 (DC1), Portcullis_66 (DC1), PullumCavea_63 (DC1), RogerDodger_67 (DC1), Salvador_63 (DC1), Savbucketdawg_63 (DC1), Shinji_63 (DC1), SmokingBunny_64 (DC1), TillyBobJoe_64 (DC1), Togo_63 (DC1), Twister6_66 (DC1), Valary_65 (DC1), VanDeWege_66 (DC1), Wizard_62 (DC1), YungMoney_64 (DC1),

Start 24:

- Found in 30 of 114 (26.3%) of genes in pham
- No Manual Annotations of this start.
- Called 3.3% of time when present
- Phage (with cluster) where this start called: CoveyB_65 (DC1),

Start 27:

- Found in 12 of 114 (10.5%) of genes in pham
- Manual Annotations of this start: 8 of 96
- Called 91.7% of time when present
- Phage (with cluster) where this start called: Abblin_70 (DE4), Delrey21_69 (DE4), DoctorFroggo_69 (DE4), Natkenzie_70 (DE4), Sampson_72 (DE4), Scioto_70 (DE4), Tardus_70 (DE4), Verity_69 (DE4), ViaConlectus_69 (DE4), Zipp_71 (DE4), Zitch_72 (DE4),

Start 31:

- Found in 1 of 114 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Stultus_68 (DE1),

Start 32:

- Found in 50 of 114 (43.9%) of genes in pham
- Manual Annotations of this start: 42 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Affeca_73 (DE1), Ailee_70 (DE1), Angelicage_71 (DE1), Ashertheman_71 (DE1), Baddon_69 (DE1), Barsten_73 (DE1), Baumdotcom_69 (DE1), Bibwit_71 (DE1), Bizzy_72 (DE1), BobBob_73 (DE1), Brandonk123_77 (DE1), ChadMasterC_72 (DE1), Charming_76 (DE1), Derg_65 (DE1), Fitzgerald_71 (DE1), Flatwoods_71 (DE1), Fosterous_75 (DE1), FuegoCuervo_75 (DE1), Gaea_72 (DE1), Galadriel_73 (DE1), Geodirt_71 (DE1), Gustavo_73 (DE1), JKSyngboy_69 (DE1), Jabberwocky_71 (DE1), Kamashten_71 (DE1), Kewpiedoll_71 (DE1), Kroos_71 (DE1), Kwobi_72 (DE1), Lennon_72 (DE1), LilHam_65 (DE1), Love_77 (DE1), McKinley_74 (DE1), MoontowerMania_72 (DE1), Paries_74 (DE1), Ribeye_71 (DE1), RiverRaider_75 (DE1), Rofo_73 (DE1), Sanjuju_71 (DE1), Saronaya_73 (DE1), SchottB_69 (DE1), Sedona_71 (DE1), Shivanishola_73 (DE1), Sitar_72 (DE1), StorminNorm_72 (DE1), Tangent_75 (DE1), Tangerine_72 (DE1), Thing3_71 (DE1), Tycho_70 (DE1), Vivi2_77 (DE1), YorkOnyx_72 (DE1),

Summary by clusters:

There are 8 clusters represented in this pham: DE3, DE1, DE2, DE, DE4, DE5, DC2, DC1,

Info for manual annotations of cluster DC1:

- Start number 22 was manually annotated 28 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 DE1:

- Start number 31 was manually annotated 1 time for cluster DE1.
- Start number 32 was manually annotated 42 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 20 was manually annotated 8 times for cluster DE2.

Info for manual annotations of cluster DE3:

- Start number 20 was manually annotated 6 times for cluster DE3.

Info for manual annotations of cluster DE4:

- Start number 12 was manually annotated 1 time for cluster DE4.
- Start number 27 was manually annotated 8 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 21 was manually annotated 1 time for cluster DE5.

Gene Information:

Gene: APunk_70 Start: 52521, Stop: 53081, Start Num: 12

Candidate Starts for APunk_70:

(Start: 12 @52521 has 1 MA's), (Start: 27 @52629 has 8 MA's), (45, 52716), (57, 52833), (62, 52878), (78, 52980), (79, 52986), (84, 53034),

Gene: Abblin_70 Start: 52787, Stop: 53239, Start Num: 27

Candidate Starts for Abblin_70:

(Start: 12 @52679 has 1 MA's), (Start: 27 @52787 has 8 MA's), (45, 52874), (57, 52991), (62, 53036), (78, 53138), (79, 53144), (84, 53192),

Gene: Affeca_73 Start: 54755, Stop: 55222, Start Num: 32

Candidate Starts for Affeca_73:

(Start: 32 @54755 has 42 MA's), (47, 54842), (50, 54860), (53, 54890), (60, 54998), (62, 55007), (75, 55079), (77, 55103), (83, 55163),

Gene: Ailee_70 Start: 53740, Stop: 54210, Start Num: 32

Candidate Starts for Ailee_70:

(25, 53725), (Start: 32 @53740 has 42 MA's), (47, 53830), (50, 53848), (53, 53878), (55, 53908), (62, 53995), (68, 54019), (77, 54091), (86, 54169),

Gene: Ali17_66 Start: 51680, Stop: 52162, Start Num: 20

Candidate Starts for Ali17_66:

(Start: 20 @51680 has 14 MA's), (26, 51701), (29, 51713), (44, 51785), (51, 51824), (64, 51965), (66, 51974), (68, 51983), (70, 51998), (71, 52013), (76, 52046), (77, 52055), (78, 52061), (84, 52115),

Gene: Angelicage_71 Start: 54682, Stop: 55149, Start Num: 32

Candidate Starts for Angelicage_71:

(Start: 32 @54682 has 42 MA's), (47, 54769), (50, 54787), (53, 54817), (60, 54925), (62, 54934), (75, 55006), (77, 55030), (83, 55090),

Gene: Arri_65 Start: 47814, Stop: 48242, Start Num: 22

Candidate Starts for Arri_65:

(Start: 22 @47814 has 29 MA's), (24, 47820), (37, 47877), (40, 47889), (44, 47922), (52, 47970), (77, 48168), (79, 48177),

Gene: Ashertheman_71 Start: 52896, Stop: 53363, Start Num: 32

Candidate Starts for Ashertheman_71:

(Start: 32 @52896 has 42 MA's), (46, 52980), (47, 52983), (50, 53001), (53, 53031), (60, 53139), (68, 53172), (77, 53244), (85, 53319),

Gene: Baddon_69 Start: 53548, Stop: 54018, Start Num: 32

Candidate Starts for Baddon_69:

(Start: 32 @53548 has 42 MA's), (34, 53563), (46, 53632), (47, 53635), (50, 53653), (53, 53683), (60, 53791), (62, 53800), (77, 53896), (81, 53932), (83, 53956), (85, 53971),

Gene: Bakery_69 Start: 50094, Stop: 50522, Start Num: 22

Candidate Starts for Bakery_69:

(Start: 22 @50094 has 29 MA's), (36, 50154), (40, 50169), (44, 50202), (73, 50418), (77, 50451), (79, 50460),

Gene: Barb_66 Start: 47691, Stop: 48119, Start Num: 22

Candidate Starts for Barb_66:

(Start: 22 @47691 has 29 MA's), (24, 47697), (36, 47751), (40, 47766), (44, 47799), (73, 48015), (77, 48048), (79, 48057),

Gene: Barsten_73 Start: 54515, Stop: 54982, Start Num: 32

Candidate Starts for Barsten_73:

(Start: 32 @54515 has 42 MA's), (47, 54602), (50, 54620), (53, 54650), (62, 54767), (68, 54791), (77, 54863), (86, 54941),

Gene: Baumdotcom_69 Start: 52867, Stop: 53334, Start Num: 32

Candidate Starts for Baumdotcom_69:

(28, 52852), (Start: 32 @52867 has 42 MA's), (46, 52951), (47, 52954), (50, 52972), (53, 53002), (60, 53110), (62, 53119), (77, 53215), (85, 53290),

Gene: Belphegor_64 Start: 51428, Stop: 51910, Start Num: 20

Candidate Starts for Belphegor_64:

(Start: 20 @51428 has 14 MA's), (26, 51449), (44, 51533), (51, 51572), (62, 51707), (64, 51713), (68, 51731), (70, 51746), (76, 51794), (77, 51803), (78, 51809),

Gene: Bibwit_71 Start: 53384, Stop: 53854, Start Num: 32

Candidate Starts for Bibwit_71:

(8, 53168), (18, 53333), (Start: 32 @53384 has 42 MA's), (47, 53471), (50, 53489), (53, 53519), (55, 53549), (62, 53636), (68, 53660), (77, 53732), (86, 53810),

Gene: Bizzy_72 Start: 52780, Stop: 53247, Start Num: 32

Candidate Starts for Bizzy_72:

(23, 52747), (Start: 32 @52780 has 42 MA's), (43, 52849), (46, 52864), (47, 52867), (50, 52885), (53, 52915), (60, 53023), (62, 53032), (77, 53128), (81, 53164), (83, 53188), (85, 53203),

Gene: BobBob_73 Start: 53918, Stop: 54385, Start Num: 32

Candidate Starts for BobBob_73:

(23, 53885), (Start: 32 @53918 has 42 MA's), (47, 54005), (50, 54023), (53, 54053), (62, 54170), (68, 54194), (77, 54266), (83, 54326), (86, 54344),

Gene: Brandonk123_77 Start: 54387, Stop: 54854, Start Num: 32

Candidate Starts for Brandonk123_77:

(Start: 32 @54387 has 42 MA's), (47, 54474), (50, 54492), (53, 54522), (62, 54639), (68, 54663), (77, 54735), (83, 54795), (86, 54813),

Gene: ChadMasterC_72 Start: 55740, Stop: 56210, Start Num: 32

Candidate Starts for ChadMasterC_72:

(Start: 32 @55740 has 42 MA's), (47, 55830), (50, 55848), (53, 55878), (62, 55995), (68, 56019), (77, 56091), (86, 56169),

Gene: Charming_76 Start: 53666, Stop: 54136, Start Num: 32

Candidate Starts for Charming_76:

(1, 53417), (4, 53426), (9, 53474), (10, 53495), (11, 53516), (14, 53546), (23, 53633), (Start: 32 @53666 has 42 MA's), (43, 53738), (47, 53756), (50, 53774), (53, 53804), (60, 53912), (62, 53921), (75, 53993), (77, 54017), (83, 54077),

Gene: CherryCola_66 Start: 48435, Stop: 48860, Start Num: 22

Candidate Starts for CherryCola_66:

(Start: 22 @48435 has 29 MA's), (24, 48441), (37, 48498), (40, 48510), (52, 48588), (77, 48786), (79, 48795),

Gene: Chickadee_68 Start: 49457, Stop: 49957, Start Num: 20

Candidate Starts for Chickadee_68:

(15, 49412), (Start: 20 @49457 has 14 MA's), (29, 49490), (42, 49565), (62, 49751), (72, 49808),

Gene: ClamChowder_66 Start: 47691, Stop: 48119, Start Num: 22

Candidate Starts for ClamChowder_66:

(Start: 22 @47691 has 29 MA's), (24, 47697), (36, 47751), (40, 47766), (44, 47799), (73, 48015), (77, 48048), (79, 48057),

Gene: Clown_77 Start: 51931, Stop: 52368, Start Num: 22

Candidate Starts for Clown_77:

(Start: 22 @51931 has 29 MA's), (33, 51973), (37, 52000), (40, 52012), (41, 52024), (44, 52045), (48, 52060), (49, 52066), (53, 52087), (54, 52093), (58, 52174), (59, 52177), (73, 52270), (74, 52279), (77, 52303), (79, 52312), (82, 52342),

Gene: CoveyB_65 Start: 47534, Stop: 47950, Start Num: 24

Candidate Starts for CoveyB_65:

(Start: 22 @47528 has 29 MA's), (24, 47534), (36, 47588), (40, 47603), (44, 47636), (52, 47681), (77, 47879), (79, 47888),

Gene: Danyall_65 Start: 47785, Stop: 48210, Start Num: 22

Candidate Starts for Danyall_65:

(Start: 22 @47785 has 29 MA's), (24, 47791), (36, 47845), (40, 47860), (44, 47893), (52, 47938), (77, 48136), (79, 48145),

Gene: Delrey21_69 Start: 54127, Stop: 54582, Start Num: 27

Candidate Starts for Delrey21_69:

(17, 54088), (Start: 27 @54127 has 8 MA's), (45, 54217), (57, 54334), (62, 54379), (84, 54535),

Gene: Derg_65 Start: 51580, Stop: 52047, Start Num: 32

Candidate Starts for Derg_65:

(23, 51547), (Start: 32 @51580 has 42 MA's), (43, 51649), (46, 51664), (47, 51667), (50, 51685), (53, 51715), (60, 51823), (62, 51832), (77, 51928), (81, 51964), (83, 51988), (85, 52003),

Gene: DoctorFroggo_69 Start: 54127, Stop: 54582, Start Num: 27

Candidate Starts for DoctorFroggo_69:

(17, 54088), (Start: 27 @54127 has 8 MA's), (45, 54217), (57, 54334), (62, 54379), (84, 54535),

Gene: EMoore_68 Start: 53300, Stop: 53782, Start Num: 20

Candidate Starts for EMoore_68:

(Start: 20 @53300 has 14 MA's), (26, 53321), (34, 53354), (44, 53405), (51, 53444), (64, 53585), (66, 53594), (67, 53597), (68, 53603), (70, 53618), (71, 53633), (76, 53666), (77, 53675), (78, 53681),

Gene: EdmundFerry_66 Start: 49005, Stop: 49505, Start Num: 20

Candidate Starts for EdmundFerry_66:

(15, 48960), (Start: 20 @49005 has 14 MA's), (29, 49038), (42, 49113), (62, 49299), (72, 49356),

Gene: Egi03_65 Start: 47551, Stop: 47979, Start Num: 22

Candidate Starts for Egi03_65:

(Start: 22 @47551 has 29 MA's), (24, 47557), (36, 47611), (40, 47626), (44, 47659), (73, 47875), (77, 47908), (79, 47917),

Gene: Evamon_63 Start: 47229, Stop: 47651, Start Num: 22

Candidate Starts for Evamon_63:

(Start: 22 @47229 has 29 MA's), (24, 47235), (36, 47289), (40, 47304), (44, 47337), (52, 47382), (73, 47547), (77, 47580), (79, 47589),

Gene: Fireball_67 Start: 48087, Stop: 48512, Start Num: 22

Candidate Starts for Fireball_67:

(Start: 22 @48087 has 29 MA's), (24, 48093), (37, 48150), (40, 48162), (52, 48240), (73, 48405), (77, 48438), (79, 48447),

Gene: Fitzgerald_71 Start: 54530, Stop: 54997, Start Num: 32

Candidate Starts for Fitzgerald_71:

(Start: 32 @54530 has 42 MA's), (47, 54617), (50, 54635), (53, 54665), (62, 54782), (68, 54806), (77, 54878), (83, 54938), (86, 54956),

Gene: Flatwoods_71 Start: 52089, Stop: 52556, Start Num: 32

Candidate Starts for Flatwoods_71:

(23, 52056), (Start: 32 @52089 has 42 MA's), (46, 52173), (47, 52176), (50, 52194), (53, 52224), (60, 52332), (62, 52341), (77, 52437), (81, 52473), (83, 52497), (85, 52512),

Gene: Fosterous_75 Start: 54660, Stop: 55130, Start Num: 32

Candidate Starts for Fosterous_75:

(2, 54411), (5, 54420), (9, 54468), (10, 54489), (11, 54510), (14, 54540), (23, 54627), (Start: 32 @54660 has 42 MA's), (43, 54732), (47, 54750), (50, 54768), (53, 54798), (62, 54915), (68, 54939), (77, 55011), (83, 55071), (86, 55089),

Gene: FuegoCuervo_75 Start: 54114, Stop: 54584, Start Num: 32

Candidate Starts for FuegoCuervo_75:

(Start: 32 @54114 has 42 MA's), (47, 54204), (50, 54222), (53, 54252), (62, 54369), (68, 54393), (77, 54465), (83, 54525),

Gene: Fugax_67 Start: 47683, Stop: 48111, Start Num: 22

Candidate Starts for Fugax_67:

(Start: 22 @47683 has 29 MA's), (24, 47689), (36, 47743), (40, 47758), (44, 47791), (73, 48007), (77, 48040), (79, 48049),

Gene: GTE6_69 Start: 50250, Stop: 50750, Start Num: 20

Candidate Starts for GTE6_69:

(15, 50205), (Start: 20 @50250 has 14 MA's), (29, 50283), (42, 50358), (62, 50544), (72, 50601),

Gene: Gaea_72 Start: 52676, Stop: 53143, Start Num: 32

Candidate Starts for Gaea_72:

(28, 52661), (Start: 32 @52676 has 42 MA's), (46, 52760), (47, 52763), (50, 52781), (53, 52811), (60, 52919), (62, 52928), (77, 53024), (85, 53099),

Gene: Galadriel_73 Start: 54623, Stop: 55090, Start Num: 32

Candidate Starts for Galadriel_73:

(Start: 32 @54623 has 42 MA's), (47, 54710), (50, 54728), (53, 54758), (62, 54875), (68, 54899), (77, 54971), (86, 55049),

Gene: Geodirt_71 Start: 54989, Stop: 55459, Start Num: 32

Candidate Starts for Geodirt_71:

(Start: 32 @54989 has 42 MA's), (47, 55079), (50, 55097), (53, 55127), (62, 55244), (68, 55268), (77, 55340), (86, 55418),

Gene: Gezellig_65 Start: 47681, Stop: 48106, Start Num: 22

Candidate Starts for Gezellig_65:

(Start: 22 @47681 has 29 MA's), (24, 47687), (36, 47741), (40, 47756), (44, 47789), (52, 47834), (77, 48032), (79, 48041),

Gene: Gustavo_73 Start: 53661, Stop: 54128, Start Num: 32

Candidate Starts for Gustavo_73:

(28, 53646), (Start: 32 @53661 has 42 MA's), (46, 53745), (47, 53748), (50, 53766), (53, 53796), (60, 53904), (62, 53913), (77, 54009), (85, 54084),

Gene: Halo3_63 Start: 48266, Stop: 48691, Start Num: 22

Candidate Starts for Halo3_63:

(Start: 22 @48266 has 29 MA's), (24, 48272), (37, 48329), (40, 48341), (52, 48419), (61, 48524), (73, 48584), (77, 48617), (79, 48626),

Gene: Hans_70 Start: 52553, Stop: 53035, Start Num: 20

Candidate Starts for Hans_70:

(Start: 20 @52553 has 14 MA's), (26, 52574), (29, 52586), (44, 52658), (51, 52697), (62, 52832), (63, 52835), (64, 52838), (66, 52847), (68, 52856), (70, 52871), (76, 52919), (77, 52928), (78, 52934),

Gene: Inspectinfecti_70 Start: 52524, Stop: 53006, Start Num: 20

Candidate Starts for Inspectinfecti_70:

(Start: 20 @52524 has 14 MA's), (26, 52545), (29, 52557), (44, 52629), (51, 52668), (64, 52809), (66, 52818), (68, 52827), (70, 52842), (71, 52857), (76, 52890), (77, 52899), (78, 52905), (84, 52959),

Gene: JKSyngboy_69 Start: 53569, Stop: 54036, Start Num: 32

Candidate Starts for JKSyngboy_69:

(Start: 32 @53569 has 42 MA's), (34, 53584), (46, 53653), (47, 53656), (50, 53674), (53, 53704), (60, 53812), (62, 53821), (68, 53845), (77, 53917), (85, 53992), (86, 53995),

Gene: Jabberwocky_71 Start: 54753, Stop: 55226, Start Num: 32

Candidate Starts for Jabberwocky_71:

(Start: 32 @54753 has 42 MA's), (47, 54843), (50, 54861), (53, 54891), (62, 55008), (68, 55032), (77, 55104), (83, 55164), (86, 55182),

Gene: Jambalaya_63 Start: 47534, Stop: 47986, Start Num: 22

Candidate Starts for Jambalaya_63:

(Start: 22 @47534 has 29 MA's), (36, 47594), (40, 47609), (44, 47642), (56, 47750), (77, 47912), (79, 47921),

Gene: Kamashten_71 Start: 53749, Stop: 54216, Start Num: 32

Candidate Starts for Kamashten_71:

(Start: 32 @53749 has 42 MA's), (47, 53836), (50, 53854), (53, 53884), (62, 54001), (68, 54025), (77, 54097), (86, 54175),

Gene: Kewpiedoll_71 Start: 54676, Stop: 55146, Start Num: 32

Candidate Starts for Kewpiedoll_71:

(18, 54625), (Start: 32 @54676 has 42 MA's), (47, 54766), (50, 54784), (53, 54814), (62, 54931), (68, 54955), (77, 55027), (86, 55105),

Gene: KimmyK_65 Start: 48125, Stop: 48553, Start Num: 22

Candidate Starts for KimmyK_65:

(Start: 22 @48125 has 29 MA's), (24, 48131), (36, 48185), (40, 48200), (44, 48233), (73, 48449), (77, 48482), (79, 48491),

Gene: Kroos_71 Start: 53215, Stop: 53682, Start Num: 32

Candidate Starts for Kroos_71:

(Start: 32 @53215 has 42 MA's), (46, 53299), (47, 53302), (50, 53320), (53, 53350), (60, 53458), (62, 53467), (77, 53563), (81, 53599), (85, 53638),

Gene: Kwekel_68 Start: 49370, Stop: 49870, Start Num: 20

Candidate Starts for Kwekel_68:

(15, 49325), (Start: 20 @49370 has 14 MA's), (29, 49403), (42, 49478), (62, 49664), (72, 49721),

Gene: Kwobi_72 Start: 53480, Stop: 53947, Start Num: 32

Candidate Starts for Kwobi_72:

(28, 53465), (Start: 32 @53480 has 42 MA's), (43, 53549), (46, 53564), (47, 53567), (50, 53585), (53, 53615), (60, 53723), (62, 53732), (77, 53828), (81, 53864), (85, 53903),

Gene: Lennon_72 Start: 55403, Stop: 55873, Start Num: 32

Candidate Starts for Lennon_72:

(25, 55388), (Start: 32 @55403 has 42 MA's), (47, 55493), (50, 55511), (53, 55541), (55, 55571), (62, 55658), (68, 55682), (77, 55754), (86, 55832),

Gene: Leonard_69 Start: 52587, Stop: 53069, Start Num: 20

Candidate Starts for Leonard_69:

(Start: 20 @52587 has 14 MA's), (26, 52608), (29, 52620), (44, 52692), (51, 52731), (62, 52866), (63, 52869), (64, 52872), (66, 52881), (68, 52890), (70, 52905), (76, 52953), (77, 52962), (78, 52968), (84, 53022),

Gene: LilHam_65 Start: 50562, Stop: 51029, Start Num: 32

Candidate Starts for LilHam_65:

(28, 50547), (Start: 32 @50562 has 42 MA's), (46, 50646), (47, 50649), (50, 50667), (53, 50697), (60, 50805), (62, 50814), (77, 50910), (85, 50985),

Gene: Lilbeanie_71 Start: 48552, Stop: 48977, Start Num: 21

Candidate Starts for Lilbeanie_71:

(19, 48540), (Start: 20 @48549 has 14 MA's), (Start: 21 @48552 has 1 MA's), (30, 48582), (35, 48609), (38, 48618), (39, 48624), (55, 48726), (66, 48828), (67, 48831), (80, 48939), (84, 48969),

Gene: Love_77 Start: 55148, Stop: 55615, Start Num: 32

Candidate Starts for Love_77:

(13, 55004), (18, 55097), (Start: 32 @55148 has 42 MA's), (47, 55235), (50, 55253), (53, 55283), (62, 55400), (68, 55424), (77, 55496), (86, 55574),

Gene: McKinley_74 Start: 54263, Stop: 54736, Start Num: 32

Candidate Starts for McKinley_74:

(Start: 32 @54263 has 42 MA's), (47, 54353), (50, 54371), (53, 54401), (55, 54431), (62, 54518), (68, 54542), (77, 54614), (83, 54674), (86, 54692),

Gene: MelBins_71 Start: 52795, Stop: 53277, Start Num: 20

Candidate Starts for MelBins_71:

(Start: 20 @52795 has 14 MA's), (26, 52816), (44, 52900), (51, 52939), (62, 53074), (64, 53080), (66, 53089), (70, 53113), (76, 53161), (77, 53170), (78, 53176),

Gene: MoontowerMania_72 Start: 55099, Stop: 55569, Start Num: 32

Candidate Starts for MoontowerMania_72:

(Start: 32 @55099 has 42 MA's), (47, 55189), (50, 55207), (53, 55237), (62, 55354), (68, 55378), (77, 55450), (83, 55510),

Gene: Mutzi_63 Start: 48963, Stop: 49388, Start Num: 22

Candidate Starts for Mutzi_63:

(Start: 22 @48963 has 29 MA's), (24, 48969), (37, 49026), (40, 49038), (52, 49116), (73, 49281), (77, 49314), (79, 49323),

Gene: Natkenzie_70 Start: 52787, Stop: 53239, Start Num: 27

Candidate Starts for Natkenzie_70:

(Start: 12 @52679 has 1 MA's), (Start: 27 @52787 has 8 MA's), (45, 52874), (57, 52991), (62, 53036), (78, 53138), (79, 53144), (84, 53192),

Gene: Nubi_64 Start: 47334, Stop: 47762, Start Num: 22

Candidate Starts for Nubi_64:

(Start: 22 @47334 has 29 MA's), (24, 47340), (36, 47394), (40, 47409), (44, 47442), (52, 47493), (77, 47691), (79, 47700),

Gene: Paries_74 Start: 54767, Stop: 55234, Start Num: 32

Candidate Starts for Paries_74:

(23, 54734), (Start: 32 @54767 has 42 MA's), (47, 54854), (50, 54872), (53, 54902), (62, 55019), (68, 55043), (77, 55115), (86, 55193),

Gene: Phauci_61 Start: 49630, Stop: 50112, Start Num: 20

Candidate Starts for Phauci_61:

(Start: 20 @49630 has 14 MA's), (26, 49651), (29, 49663), (44, 49735), (51, 49774), (62, 49909), (63, 49912), (64, 49915), (66, 49924), (68, 49933), (70, 49948), (76, 49996), (77, 50005), (78, 50011), (84, 50065),

Gene: Phinally_69 Start: 52584, Stop: 53066, Start Num: 20

Candidate Starts for Phinally_69:

(Start: 20 @52584 has 14 MA's), (26, 52605), (29, 52617), (44, 52689), (51, 52728), (62, 52863), (63, 52866), (64, 52869), (66, 52878), (68, 52887), (70, 52902), (76, 52950), (77, 52959), (78, 52965), (84, 53019),

Gene: Phlop_62 Start: 47691, Stop: 48113, Start Num: 22

Candidate Starts for Phlop_62:

(Start: 22 @47691 has 29 MA's), (24, 47697), (36, 47751), (40, 47766), (52, 47844), (73, 48009), (77, 48042), (79, 48051),

Gene: PinkCoffee_66 Start: 47697, Stop: 48122, Start Num: 22

Candidate Starts for PinkCoffee_66:

(Start: 22 @47697 has 29 MA's), (24, 47703), (40, 47772), (44, 47805), (52, 47850), (73, 48015), (77, 48048), (79, 48057),

Gene: Portcullis_66 Start: 47818, Stop: 48243, Start Num: 22

Candidate Starts for Portcullis_66:

(Start: 22 @47818 has 29 MA's), (24, 47824), (36, 47878), (40, 47893), (44, 47926), (52, 47971), (73, 48136), (77, 48169), (79, 48178),

Gene: PullumCavea_63 Start: 47868, Stop: 48290, Start Num: 22

Candidate Starts for PullumCavea_63:

(Start: 22 @47868 has 29 MA's), (24, 47874), (36, 47928), (40, 47943), (44, 47976), (52, 48021), (73, 48186), (77, 48219), (79, 48228),

Gene: Ribeye_71 Start: 52819, Stop: 53286, Start Num: 32

Candidate Starts for Ribeye_71:

(23, 52786), (Start: 32 @52819 has 42 MA's), (43, 52888), (46, 52903), (47, 52906), (50, 52924), (53, 52954), (60, 53062), (62, 53071), (77, 53167), (81, 53203), (83, 53227), (85, 53242),

Gene: RiverRaider_75 Start: 52799, Stop: 53251, Start Num: 32

Candidate Starts for RiverRaider_75:

(24, 52766), (Start: 32 @52799 has 42 MA's), (47, 52883), (53, 52931), (62, 53045), (69, 53075), (71, 53099), (76, 53132), (80, 53174), (81, 53177), (87, 53225),

Gene: RoadKill_65 Start: 48875, Stop: 49375, Start Num: 20

Candidate Starts for RoadKill_65:

(15, 48830), (Start: 20 @48875 has 14 MA's), (29, 48908), (42, 48983), (62, 49169), (72, 49226),

Gene: Rofo_73 Start: 54242, Stop: 54712, Start Num: 32

Candidate Starts for Rofo_73:

(1, 53993), (4, 54002), (9, 54050), (10, 54071), (11, 54092), (14, 54122), (23, 54209), (Start: 32 @54242 has 42 MA's), (43, 54314), (47, 54332), (50, 54350), (53, 54380), (60, 54488), (62, 54497), (75, 54569), (77, 54593), (83, 54653),

Gene: RogerDodger_67 Start: 47990, Stop: 48418, Start Num: 22

Candidate Starts for RogerDodger_67:

(Start: 22 @47990 has 29 MA's), (24, 47996), (36, 48050), (40, 48065), (44, 48098), (52, 48149), (73, 48314), (77, 48347), (79, 48356),

Gene: Salvador_63 Start: 47227, Stop: 47649, Start Num: 22

Candidate Starts for Salvador_63:

(Start: 22 @47227 has 29 MA's), (24, 47233), (36, 47287), (40, 47302), (44, 47335), (52, 47380), (73, 47545), (77, 47578), (79, 47587),

Gene: Sampson_72 Start: 52938, Stop: 53390, Start Num: 27

Candidate Starts for Sampson_72:

(Start: 12 @52830 has 1 MA's), (Start: 27 @52938 has 8 MA's), (45, 53025), (57, 53142), (62, 53187), (78, 53289), (79, 53295), (84, 53343),

Gene: Sanjuju_71 Start: 54617, Stop: 55087, Start Num: 32

Candidate Starts for Sanjuju_71:

(Start: 32 @54617 has 42 MA's), (47, 54707), (50, 54725), (53, 54755), (60, 54863), (62, 54872), (75, 54944), (77, 54968), (83, 55028),

Gene: Saronaya_73 Start: 53661, Stop: 54128, Start Num: 32

Candidate Starts for Saronaya_73:

(28, 53646), (Start: 32 @53661 has 42 MA's), (46, 53745), (47, 53748), (50, 53766), (53, 53796), (60, 53904), (62, 53913), (77, 54009), (85, 54084),

Gene: Savbucketdawg_63 Start: 47534, Stop: 47986, Start Num: 22

Candidate Starts for Savbucketdawg_63:

(Start: 22 @47534 has 29 MA's), (36, 47594), (40, 47609), (44, 47642), (56, 47750), (77, 47912), (79, 47921),

Gene: SchottB_69 Start: 53282, Stop: 53749, Start Num: 32

Candidate Starts for SchottB_69:

(28, 53267), (Start: 32 @53282 has 42 MA's), (46, 53366), (47, 53369), (50, 53387), (53, 53417), (60, 53525), (62, 53534), (77, 53630), (85, 53705),

Gene: Scioto_70 Start: 52788, Stop: 53240, Start Num: 27

Candidate Starts for Scioto_70:

(Start: 12 @52680 has 1 MA's), (Start: 27 @52788 has 8 MA's), (45, 52875), (57, 52992), (62, 53037), (78, 53139), (79, 53145), (84, 53193),

Gene: Sedona_71 Start: 55187, Stop: 55660, Start Num: 32

Candidate Starts for Sedona_71:

(4, 54950), (6, 54956), (7, 54962), (18, 55139), (Start: 32 @55187 has 42 MA's), (47, 55277), (50, 55295), (53, 55325), (55, 55355), (62, 55442), (68, 55466), (77, 55538), (86, 55616),

Gene: Shinji_63 Start: 47397, Stop: 47825, Start Num: 22

Candidate Starts for Shinji_63:

(Start: 22 @47397 has 29 MA's), (36, 47457), (40, 47472), (44, 47505), (65, 47673), (73, 47721), (77, 47754), (79, 47763),

Gene: Shivanishola_73 Start: 52967, Stop: 53437, Start Num: 32

Candidate Starts for Shivanishola_73:

(Start: 32 @52967 has 42 MA's), (47, 53057), (50, 53075), (53, 53105), (62, 53222), (68, 53246), (77, 53318), (86, 53396),

Gene: Sitar_72 Start: 55161, Stop: 55631, Start Num: 32

Candidate Starts for Sitar_72:

(Start: 32 @55161 has 42 MA's), (47, 55251), (50, 55269), (53, 55299), (60, 55407), (62, 55416), (75, 55488), (77, 55512), (83, 55572),

Gene: SmokingBunny_64 Start: 47828, Stop: 48256, Start Num: 22

Candidate Starts for SmokingBunny_64:

(Start: 22 @47828 has 29 MA's), (24, 47834), (36, 47888), (40, 47903), (44, 47936), (52, 47987), (73, 48152), (77, 48185), (79, 48194),

Gene: StorminNorm_72 Start: 53449, Stop: 53916, Start Num: 32

Candidate Starts for StorminNorm_72:

(Start: 32 @53449 has 42 MA's), (46, 53533), (47, 53536), (50, 53554), (53, 53584), (60, 53692), (62, 53701), (77, 53797), (81, 53833), (83, 53857), (85, 53872),

Gene: Stultus_68 Start: 53408, Stop: 53878, Start Num: 31

Candidate Starts for Stultus_68:

(25, 53393), (Start: 31 @53408 has 1 MA's), (47, 53498), (50, 53516), (53, 53546), (55, 53576), (60, 53654), (62, 53663), (75, 53735), (77, 53759), (83, 53819),

Gene: Tangent_75 Start: 53947, Stop: 54417, Start Num: 32

Candidate Starts for Tangent_75:

(1, 53698), (4, 53707), (9, 53755), (10, 53776), (11, 53797), (14, 53827), (23, 53914), (Start: 32 @53947 has 42 MA's), (43, 54019), (47, 54037), (50, 54055), (53, 54085), (60, 54193), (62, 54202), (75, 54274), (77, 54298), (83, 54358),

Gene: Tangerine_72 Start: 52955, Stop: 53422, Start Num: 32

Candidate Starts for Tangerine_72:

(23, 52922), (Start: 32 @52955 has 42 MA's), (43, 53024), (46, 53039), (47, 53042), (50, 53060), (53, 53090), (60, 53198), (62, 53207), (77, 53303), (81, 53339), (85, 53378),

Gene: Tardus_70 Start: 52842, Stop: 53297, Start Num: 27

Candidate Starts for Tardus_70:

(16, 52788), (Start: 27 @52842 has 8 MA's), (45, 52932), (57, 53049), (62, 53094), (78, 53196), (79, 53202), (84, 53250), (88, 53277),

Gene: Thing3_71 Start: 53749, Stop: 54216, Start Num: 32

Candidate Starts for Thing3_71:

(Start: 32 @53749 has 42 MA's), (47, 53836), (50, 53854), (53, 53884), (62, 54001), (68, 54025), (77, 54097), (86, 54175),

Gene: Tiamoceli_67 Start: 50337, Stop: 50837, Start Num: 20

Candidate Starts for Tiamoceli_67:

(15, 50292), (Start: 20 @50337 has 14 MA's), (29, 50370), (42, 50445), (62, 50631), (72, 50688),

Gene: TillyBobJoe_64 Start: 47687, Stop: 48112, Start Num: 22

Candidate Starts for TillyBobJoe_64:

(Start: 22 @47687 has 29 MA's), (24, 47693), (37, 47750), (40, 47762), (52, 47840), (73, 48005), (77, 48038), (79, 48047),

Gene: Togo_63 Start: 47828, Stop: 48256, Start Num: 22

Candidate Starts for Togo_63:

(Start: 22 @47828 has 29 MA's), (24, 47834), (36, 47888), (40, 47903), (44, 47936), (52, 47987), (73, 48152), (77, 48185), (79, 48194),

Gene: Twister6_66 Start: 47588, Stop: 48013, Start Num: 22

Candidate Starts for Twister6_66:

(Start: 22 @47588 has 29 MA's), (24, 47594), (37, 47651), (40, 47663), (44, 47696), (52, 47741), (73, 47906), (77, 47939), (79, 47948),

Gene: Twonlo_66 Start: 49429, Stop: 49929, Start Num: 20

Candidate Starts for Twonlo_66:

(15, 49384), (Start: 20 @49429 has 14 MA's), (29, 49462), (42, 49537), (62, 49723), (72, 49780),

Gene: Tycho_70 Start: 52768, Stop: 53235, Start Num: 32

Candidate Starts for Tycho_70:

(23, 52735), (Start: 32 @52768 has 42 MA's), (43, 52837), (46, 52852), (47, 52855), (50, 52873), (53, 52903), (60, 53011), (62, 53020), (77, 53116), (81, 53152), (83, 53176), (85, 53191),

Gene: Valary_65 Start: 48435, Stop: 48863, Start Num: 22

Candidate Starts for Valary_65:

(Start: 22 @48435 has 29 MA's), (24, 48441), (36, 48495), (40, 48510), (44, 48543), (77, 48792), (79, 48801),

Gene: VanDeWege_66 Start: 47775, Stop: 48197, Start Num: 22

Candidate Starts for VanDeWege_66:

(Start: 22 @47775 has 29 MA's), (24, 47781), (36, 47835), (40, 47850), (44, 47883), (52, 47928), (77, 48126), (79, 48135),

Gene: Verity_69 Start: 54127, Stop: 54582, Start Num: 27

Candidate Starts for Verity_69:

(17, 54088), (Start: 27 @54127 has 8 MA's), (45, 54217), (57, 54334), (62, 54379), (84, 54535),

Gene: ViaConlectus_69 Start: 51742, Stop: 52194, Start Num: 27

Candidate Starts for ViaConlectus_69:

(Start: 12 @51613 has 1 MA's), (Start: 27 @51742 has 8 MA's), (45, 51829), (57, 51946), (62, 51991), (63, 51994), (78, 52093), (79, 52099), (84, 52147),

Gene: Vivi2_77 Start: 55003, Stop: 55473, Start Num: 32

Candidate Starts for Vivi2_77:

(3, 54760), (9, 54811), (10, 54832), (11, 54853), (14, 54883), (18, 54952), (Start: 32 @55003 has 42 MA's), (43, 55075), (47, 55093), (50, 55111), (53, 55141), (60, 55249), (62, 55258), (75, 55330), (77, 55354), (83, 55414),

Gene: Wizard_62 Start: 47681, Stop: 48106, Start Num: 22

Candidate Starts for Wizard_62:

(Start: 22 @47681 has 29 MA's), (24, 47687), (36, 47741), (40, 47756), (44, 47789), (52, 47834), (77, 48032), (79, 48041),

Gene: YorkOnyx_72 Start: 52969, Stop: 53439, Start Num: 32

Candidate Starts for YorkOnyx_72:

(Start: 32 @52969 has 42 MA's), (46, 53053), (47, 53056), (50, 53074), (53, 53104), (60, 53212), (62, 53221), (77, 53317), (81, 53353), (85, 53392),

Gene: YungMoney_64 Start: 49803, Stop: 50228, Start Num: 22

Candidate Starts for YungMoney_64:

(Start: 22 @49803 has 29 MA's), (24, 49809), (37, 49866), (40, 49878), (52, 49956), (73, 50121), (77, 50154), (79, 50163),

Gene: Zipp_71 Start: 54166, Stop: 54618, Start Num: 27

Candidate Starts for Zipp_71:

(Start: 12 @54037 has 1 MA's), (Start: 27 @54166 has 8 MA's), (45, 54253), (57, 54370), (62, 54415), (63, 54418), (78, 54517), (79, 54523), (84, 54571),

Gene: Zitch_72 Start: 52448, Stop: 52903, Start Num: 27

Candidate Starts for Zitch_72:

(Start: 12 @52319 has 1 MA's), (Start: 27 @52448 has 8 MA's), (45, 52538), (57, 52655), (62, 52700), (63, 52703), (78, 52802), (79, 52808), (84, 52856),

