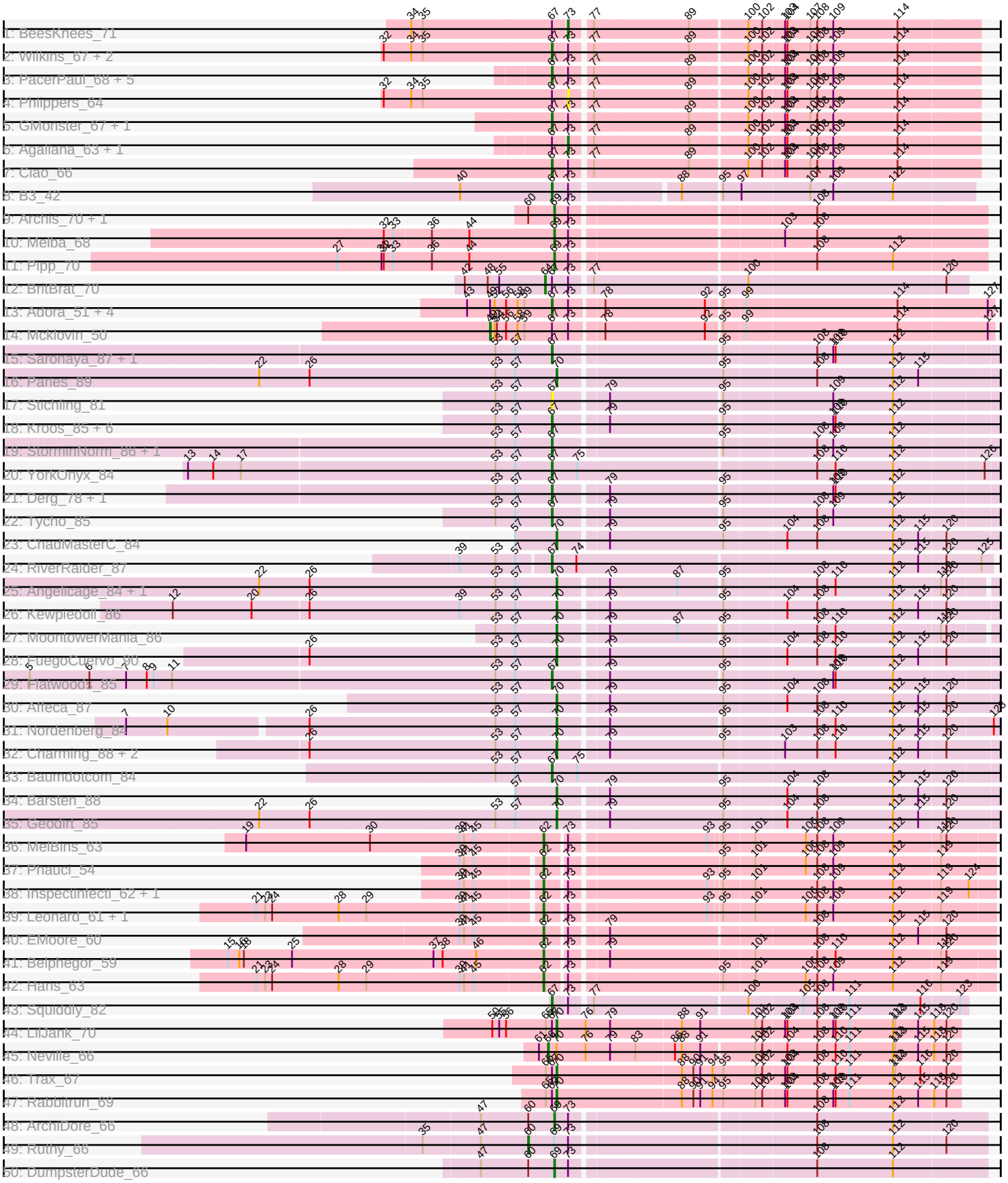
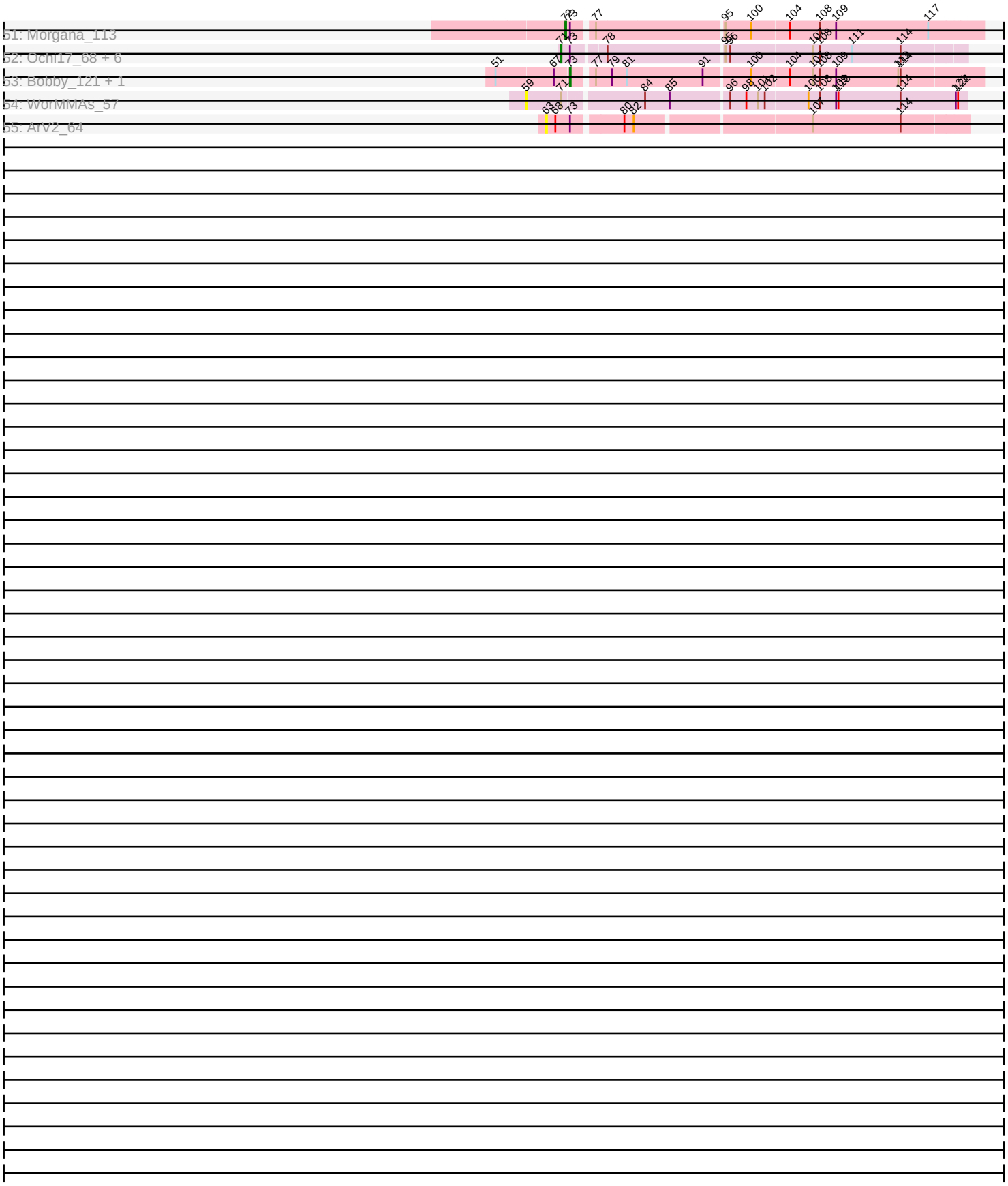
Zoomed Pham 347485



Zoomed Pham 347485



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 347485 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347485 has 90 members, 6 are drafts.

Phages represented in each track:
• Track 1 : BeesKnees_71
• Track 2 : Wilkins_67, Topgun_66, BigPaolini_64
• Track 3 : PacerPaul_68, Squee_71, Francis47_67, Snazzy_66, Bigchungi_67, McGuire_69
• Track 4 : Phlippers_64
• Track 5 : GMonster_67, Dynamix_70
• Track 6 : Agaliana_63, PascalRango_66
• Track 7 : Ciao_66
• Track 8 : B3_42
• Track 9 : Archis_70, ZiggyZoo_69
• Track 10 : Melba_68
• Track 11 : Pipp_70
• Track 12 : BritBrat_70
• Track 13 : Adora_51, Shlim410_52, Hortense_54, Twinkle_53, Howe_54
• Track 14 : Mcklovin_50
• Track 15 : Saronaya_87, Gustavo_87
• Track 16 : Paries_89
• Track 17 : Stichling_81
• Track 18 : Kroos_85, Tangerine_85, Ashertheman_85, Bizzy_85, LilHam_79, SchottB_84, Kwobi_87
• Track 19 : StorminNorm_86, Gaea_86
• Track 20 : YorkOnyx_84
• Track 21 : Derg_78, Ribeye_85
• Track 22 : Tycho_85
• Track 23 : ChadMasterC_84
• Track 24 : RiverRaider_87
• Track 25 : Angelicage_84, Shivanishola_87
• Track 26 : Kewpiedoll_86
• Track 27 : MoontowerMania_86
• Track 28 : FuegoCuervo_90
• Track 29 : Flatwoods_85
• Track 30 : Affeca_87
• Track 31 : Nordenberg_84
• Track 32 : Charming_88, Tangent_88, Vivi2_89
• Track 33 : Baumdotcom_84
• Track 34 : Barsten_88
• Track 35 : Geodirt_85

• Track 36 : MelBins_63
• Track 37 : Phauci_54
• Track 38 : Inspectinfecti_62, Ali17_59
• Track 39 : Leonard_61, Phinally_61
• Track 40 : EMoore_60
• Track 41 : Belphegor_59
• Track 42 : Hans_63
• Track 43 : Squiddly_82
• Track 44 : LilJank_70
• Track 45 : Neville_66
• Track 46 : Trax_67
• Track 47 : Rabbitrun_69
• Track 48 : ArchiDore_66
• Track 49 : Ruthy_66
• Track 50 : DumpsterDude_66
• Track 51 : Morgana_113
• Track 52 : Ochi17_68, Jinglebell_70, AlpineSix_70, Llama_69, Modragons_68, Seabastian_70, OfUltron_70
• Track 53 : Bobby_121, Marleymoo_114
• Track 54 : WorMMAs_57
• Track 55 : ArV2_64

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

The start number called the most often in the published annotations is 67, it was called in 37 of the 84 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Adora_51, Ashertheman_85, B3_42, Baumdotcom_84, BigPaolini_64, Bigchungi_67, Bizzy_85, Ciao_66, Derg_78, Dynamix_70, Flatwoods_85, Francis47_67, GMonster_67, Gaea_86, Gustavo_87, Hortense_54, Howe_54, Kroos_85, Kwobi_87, LilHam_79, McGuire_69, PacerPaul_68, Ribeye_85, RiverRaider_87, Saronaya_87, SchottB_84, Shlim410_52, Snazzy_66, Squee_71, Squiddly_82, Stichling_81, StorminNorm_86, Tangerine_85, Topgun_66, Twinkle_53, Tycho_85, Wilkins_67, YorkOnyx_84,

Genes that have the "Most Annotated" start but do not call it:
• Agaliana_63, BeesKnees_71, Bobby_121, BritBrat_70, LilJank_70, Marleymoo_114, Mcklovin_50, PascalRango_66, Phlippers_64, Rabbitrun_69, Trax_67,

Genes that do not have the "Most Annotated" start:
• Affeca_87, Ali17_59, AlpineSix_70, Angelicage_84, ArV2_64, ArchiDore_66, Archis_70, Barsten_88, Belphegor_59, ChadMasterC_84, Charming_88, DumpsterDude_66, EMoore_60, FuegoCuervo_90, Geodirt_85, Hans_63, Inspectinfecti_62, Jinglebell_70, Kewpiedoll_86, Leonard_61, Llama_69, MelBins_63, Melba_68, Modragons_68, MoontowerMania_86, Morgana_113, Neville_66, Nordenberg_84, Ochi17_68, OfUltron_70, Paries_89, Phauci_54, Phinally_61, Pipp_70, Ruthy_66, Seabastian_70, Shivanishola_87, Tangent_88, Vivi2_89, WorMMAs_57, ZiggyZoo_69,

Summary by start number:

Start 49:
• Found in 6 of 90 (6.7%) of genes in pham
• Manual Annotations of this start: 1 of 84
• Called 16.7% of time when present
• Phage (with cluster) where this start called: Mcklovin_50 (CZ4),

Start 59:
• Found in 7 of 90 (7.8%) of genes in pham
• No Manual Annotations of this start.
• Called 14.3% of time when present
• Phage (with cluster) where this start called: WorMMAs_57 (UNK),

Start 60:
• Found in 5 of 90 (5.6%) of genes in pham
• Manual Annotations of this start: 1 of 84
• Called 20.0% of time when present
• Phage (with cluster) where this start called: Ruthy_66 (DW),

Start 62:
• Found in 9 of 90 (10.0%) of genes in pham
• Manual Annotations of this start: 9 of 84
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ali17_59 (DE2), Belphegor_59 (DE2), EMoore_60 (DE2), Hans_63 (DE2), Inspectinfecti_62 (DE2), Leonard_61 (DE2), MelBins_63 (DE2), Phauci_54 (DE2), Phinally_61 (DE2),

Start 63:
• Found in 1 of 90 (1.1%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ArV2_64 (singleton),

Start 64:
• Found in 1 of 90 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 84
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BritBrat_70 (CY2),

Start 66:
• Found in 1 of 90 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 84
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Neville_66 (DU2),

Start 67:
• Found in 49 of 90 (54.4%) of genes in pham
• Manual Annotations of this start: 37 of 84
• Called 77.6% of time when present
• Phage (with cluster) where this start called: Adora_51 (CZ4), Ashertheman_85 (DE1), B3_42 (BV), Baumdotcom_84 (DE1), BigPaolini_64 (A1), Bigchungi_67 (A1), Bizzy_85 (DE1), Ciao_66 (A1), Derg_78 (DE1), Dynamix_70 (A1), Flatwoods_85

(DE1), Francis47_67 (A1), GMonster_67 (A1), Gaea_86 (DE1), Gustavo_87 (DE1), Hortense_54 (CZ4), Howe_54 (CZ4), Kroos_85 (DE1), Kwobi_87 (DE1), LilHam_79 (DE1), McGuire_69 (A1), PacerPaul_68 (A1), Ribeye_85 (DE1), RiverRaider_87 (DE1), Saronaya_87 (DE1), SchottB_84 (DE1), Shlim410_52 (CZ4), Snazzy_66 (A1), Squee_71 (A1), Squiddly_82 (DN2), Stichling_81 (DE1), StorminNorm_86 (DE1), Tangerine_85 (DE1), Topgun_66 (A1), Twinkle_53 (CZ4), Tycho_85 (DE1), Wilkins_67 (A1), YorkOnyx_84 (DE1),

Start 69:
• Found in 7 of 90 (7.8%) of genes in pham
• Manual Annotations of this start: 6 of 84
• Called 85.7% of time when present
• Phage (with cluster) where this start called: ArchiDore_66 (DW), Archis_70 (CV), DumpsterDude_66 (DW), Melba_68 (CV), Pipp_70 (CV), ZiggyZoo_69 (CV),

Start 70:
• Found in 18 of 90 (20.0%) of genes in pham
• Manual Annotations of this start: 17 of 84
• Called 94.4% of time when present
• Phage (with cluster) where this start called: Affeca_87 (DE1), Angelicage_84 (DE1), Barsten_88 (DE1), ChadMasterC_84 (DE1), Charming_88 (DE1), FuegoCuervo_90 (DE1), Geodirt_85 (DE1), Kewpiedoll_86 (DE1), LilJank_70 (DU2), MoontowerMania_86 (DE1), Nordenberg_84 (DE1), Paries_89 (DE1), Rabbitrun_69 (DU2), Shivanishola_87 (DE1), Tangent_88 (DE1), Trax_67 (DU2), Vivi2_89 (DE1),

Start 71:
• Found in 8 of 90 (8.9%) of genes in pham
• Manual Annotations of this start: 7 of 84
• Called 87.5% of time when present
• Phage (with cluster) where this start called: AlpineSix_70 (F1), Jinglebell_70 (F1), Llama_69 (F1), Modragons_68 (F1), Ochi17_68 (F1), OfUltron_70 (F1), Seabastian_70 (F1),

Start 72:
• Found in 1 of 90 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 84
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Morgana_113 (DZ),

Start 73:
• Found in 52 of 90 (57.8%) of genes in pham
• Manual Annotations of this start: 3 of 84
• Called 11.5% of time when present
• Phage (with cluster) where this start called: Agaliana_63 (A1), BeesKnees_71 (A1), Bobby_121 (J), Marleymoo_114 (J), PascalRango_66 (A1), Phlippers_64 (A1),

Summary by clusters:

There are 15 clusters represented in this pham: CY2, singleton, F1, DE1, DE2, J, CZ4, A1, BV, DZ, DN2, DW, DU2, UNK, CV,

Info for manual annotations of cluster A1:
•Start number 67 was manually annotated 12 times for cluster A1.

•Start number 73 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster BV:
•Start number 67 was manually annotated 1 time for cluster BV.

Info for manual annotations of cluster CV:
•Start number 69 was manually annotated 4 times for cluster CV.

Info for manual annotations of cluster CY2:
•Start number 64 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ4:
•Start number 49 was manually annotated 1 time for cluster CZ4.
•Start number 67 was manually annotated 5 times for cluster CZ4.

Info for manual annotations of cluster DE1:
•Start number 67 was manually annotated 18 times for cluster DE1.
•Start number 70 was manually annotated 14 times for cluster DE1.

Info for manual annotations of cluster DE2:
•Start number 62 was manually annotated 9 times for cluster DE2.

Info for manual annotations of cluster DN2:
•Start number 67 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DU2:
•Start number 66 was manually annotated 1 time for cluster DU2.
•Start number 70 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster DW:
•Start number 60 was manually annotated 1 time for cluster DW.
•Start number 69 was manually annotated 2 times for cluster DW.

Info for manual annotations of cluster DZ:
•Start number 72 was manually annotated 1 time for cluster DZ.

Info for manual annotations of cluster F1:
•Start number 71 was manually annotated 7 times for cluster F1.

Info for manual annotations of cluster J:
•Start number 73 was manually annotated 1 time for cluster J.

Gene Information:

Gene: Adora_51 Start: 38190, Stop: 38738, Start Num: 67
Candidate Starts for Adora_51:
(43, 38079), (Start: 49 @38109 has 1 MA's), (52, 38115), (56, 38130), (58, 38145), (59, 38154), (Start: 67 @38190 has 37 MA's), (Start: 73 @38211 has 3 MA's), (78, 38247), (92, 38376), (95, 38394), (99, 38421), (114, 38616), (127, 38730),

Gene: Affeca_87 Start: 58417, Stop: 58968, Start Num: 70
Candidate Starts for Affeca_87:
(53, 58342), (57, 58366), (Start: 70 @58417 has 17 MA's), (79, 58474), (95, 58621), (104, 58699), (108, 58738), (112, 58837), (115, 58870), (120, 58903),

Gene: Agaliana_63 Start: 40387, Stop: 39878, Start Num: 73
Candidate Starts for Agaliana_63:
(Start: 67 @40405 has 37 MA's), (Start: 73 @40387 has 3 MA's), (77, 40363), (89, 40243), (100, 40171), (102, 40153), (103, 40126), (104, 40123), (107, 40093), (108, 40084), (109, 40063), (114, 39979),

Gene: Ali17_59 Start: 47663, Stop: 48214, Start Num: 62
Candidate Starts for Ali17_59:
(39, 47567), (41, 47573), (45, 47585), (Start: 62 @47663 has 9 MA's), (Start: 73 @47687 has 3 MA's), (93, 47855), (95, 47870), (101, 47909), (108, 47990), (109, 48011), (112, 48089), (119, 48149), (124, 48182),

Gene: AlpineSix_70 Start: 44818, Stop: 45318, Start Num: 71
Candidate Starts for AlpineSix_70:
(Start: 71 @44818 has 7 MA's), (Start: 73 @44830 has 3 MA's), (78, 44866), (95, 45013), (96, 45019), (107, 45124), (108, 45133), (111, 45175), (114, 45238),

Gene: Angelicage_84 Start: 58491, Stop: 59027, Start Num: 70
Candidate Starts for Angelicage_84:
(2, 57744), (22, 58113), (26, 58179), (53, 58416), (57, 58440), (Start: 70 @58491 has 17 MA's), (79, 58548), (87, 58635), (95, 58689), (108, 58806), (110, 58830), (112, 58905), (119, 58965), (120, 58971),

Gene: ArV2_64 Start: 34794, Stop: 35303, Start Num: 63
Candidate Starts for ArV2_64:
(63, 34794), (68, 34806), (Start: 73 @34824 has 3 MA's), (80, 34881), (82, 34893), (107, 35109), (114, 35223),

Gene: ArchiDore_66 Start: 46873, Stop: 47409, Start Num: 69
Candidate Starts for ArchiDore_66:
(47, 46780), (Start: 60 @46840 has 1 MA's), (Start: 69 @46873 has 6 MA's), (Start: 73 @46891 has 3 MA's), (108, 47191), (112, 47290),

Gene: Archis_70 Start: 42187, Stop: 42723, Start Num: 69
Candidate Starts for Archis_70:
(Start: 60 @42154 has 1 MA's), (Start: 69 @42187 has 6 MA's), (Start: 73 @42205 has 3 MA's), (108, 42505),

Gene: Ashertheman_85 Start: 56820, Stop: 57365, Start Num: 67
Candidate Starts for Ashertheman_85:
(53, 56748), (57, 56772), (Start: 67 @56820 has 37 MA's), (79, 56880), (95, 57021), (109, 57159), (110, 57162), (112, 57237),

Gene: B3_42 Start: 28877, Stop: 29389, Start Num: 67
Candidate Starts for B3_42:
(40, 28757), (Start: 67 @28877 has 37 MA's), (Start: 73 @28895 has 3 MA's), (88, 29021), (95, 29069), (97, 29093), (107, 29180), (109, 29210), (112, 29288),

Gene: Barsten_88 Start: 58762, Stop: 59313, Start Num: 70
Candidate Starts for Barsten_88:
(57, 58708), (Start: 70 @58762 has 17 MA's), (79, 58819), (95, 58966), (104, 59044), (108, 59083), (112, 59182), (115, 59215), (120, 59248),

Gene: Baumdotcom_84 Start: 57220, Stop: 57777, Start Num: 67
Candidate Starts for Baumdotcom_84:
(53, 57148), (57, 57172), (Start: 67 @57220 has 37 MA's), (75, 57250), (112, 57649),

Gene: BeesKnees_71 Start: 43060, Stop: 42551, Start Num: 73
Candidate Starts for BeesKnees_71:
(34, 43261), (35, 43246), (Start: 67 @43078 has 37 MA's), (Start: 73 @43060 has 3 MA's), (77, 43036), (89, 42916), (100, 42844), (102, 42826), (103, 42799), (104, 42796), (107, 42766), (108, 42757), (109, 42736), (114, 42652),

Gene: Belphegor_59 Start: 48235, Stop: 48789, Start Num: 62
Candidate Starts for Belphegor_59:
(15, 47827), (16, 47842), (18, 47848), (25, 47911), (37, 48094), (38, 48106), (46, 48148), (Start: 62 @48235 has 9 MA's), (Start: 73 @48259 has 3 MA's), (79, 48301), (101, 48484), (108, 48565), (110, 48589), (112, 48664), (119, 48724), (120, 48730),

Gene: BigPaolini_64 Start: 41198, Stop: 40671, Start Num: 67
Candidate Starts for BigPaolini_64:
(32, 41417), (34, 41381), (35, 41366), (Start: 67 @41198 has 37 MA's), (Start: 73 @41180 has 3 MA's), (77, 41156), (89, 41036), (100, 40964), (102, 40946), (103, 40919), (104, 40916), (107, 40886), (108, 40877), (109, 40856), (114, 40772),

Gene: Bigchungi_67 Start: 43184, Stop: 42657, Start Num: 67
Candidate Starts for Bigchungi_67:
(Start: 67 @43184 has 37 MA's), (Start: 73 @43166 has 3 MA's), (77, 43142), (89, 43022), (100, 42950), (102, 42932), (103, 42905), (104, 42902), (107, 42872), (108, 42863), (109, 42842), (114, 42758),

Gene: Bizzy_85 Start: 56577, Stop: 57122, Start Num: 67
Candidate Starts for Bizzy_85:
(53, 56505), (57, 56529), (Start: 67 @56577 has 37 MA's), (79, 56637), (95, 56778), (109, 56916), (110, 56919), (112, 56994),

Gene: Bobby_121 Start: 71732, Stop: 72241, Start Num: 73
Candidate Starts for Bobby_121:
(51, 71645), (Start: 67 @71714 has 37 MA's), (Start: 73 @71732 has 3 MA's), (77, 71756), (79, 71774), (81, 71792), (91, 71891), (100, 71948), (104, 71996), (107, 72026), (108, 72035), (109, 72056), (113, 72137), (114, 72140),

Gene: BritBrat_70 Start: 45136, Stop: 45654, Start Num: 64
Candidate Starts for BritBrat_70:
(42, 45034), (48, 45064), (55, 45079), (Start: 64 @45136 has 1 MA's), (Start: 67 @45145 has 37 MA's), (Start: 73 @45163 has 3 MA's), (77, 45187), (100, 45379), (120, 45631),

Gene: ChadMasterC_84 Start: 58946, Stop: 59497, Start Num: 70
Candidate Starts for ChadMasterC_84:
(57, 58895), (Start: 70 @58946 has 17 MA's), (79, 59003), (95, 59150), (104, 59228), (108, 59267), (112, 59366), (115, 59399), (120, 59432),

Gene: Charming_88 Start: 57261, Stop: 57812, Start Num: 70
Candidate Starts for Charming_88:
(26, 56946), (53, 57183), (57, 57207), (Start: 70 @57261 has 17 MA's), (79, 57318), (95, 57465), (103, 57540), (108, 57582), (110, 57606), (112, 57681), (115, 57714), (120, 57747),

Gene: Ciao_66 Start: 42488, Stop: 41961, Start Num: 67
Candidate Starts for Ciao_66:
(Start: 67 @42488 has 37 MA's), (Start: 73 @42470 has 3 MA's), (77, 42446), (89, 42326), (100, 42254), (102, 42236), (103, 42209), (104, 42206), (107, 42176), (108, 42167), (109, 42146), (114, 42062),

Gene: Derg_78 Start: 55474, Stop: 56019, Start Num: 67
Candidate Starts for Derg_78:
(53, 55402), (57, 55426), (Start: 67 @55474 has 37 MA's), (79, 55534), (95, 55675), (109, 55813), (110, 55816), (112, 55891),

Gene: DumpsterDude_66 Start: 48604, Stop: 49140, Start Num: 69
Candidate Starts for DumpsterDude_66:
(47, 48511), (Start: 60 @48571 has 1 MA's), (Start: 69 @48604 has 6 MA's), (Start: 73 @48622 has 3 MA's), (108, 48922), (112, 49021),

Gene: Dynamix_70 Start: 42982, Stop: 42455, Start Num: 67
Candidate Starts for Dynamix_70:
(Start: 67 @42982 has 37 MA's), (Start: 73 @42964 has 3 MA's), (77, 42940), (89, 42820), (100, 42748), (102, 42730), (103, 42703), (104, 42700), (107, 42670), (108, 42661), (109, 42640), (114, 42556),

Gene: EMoore_60 Start: 48994, Stop: 49545, Start Num: 62
Candidate Starts for EMoore_60:
(39, 48889), (41, 48895), (45, 48907), (Start: 62 @48994 has 9 MA's), (Start: 73 @49018 has 3 MA's), (79, 49060), (108, 49318), (112, 49417), (115, 49450), (120, 49483),

Gene: Flatwoods_85 Start: 56388, Stop: 56933, Start Num: 67
Candidate Starts for Flatwoods_85:
(3, 55647), (4, 55680), (5, 55716), (6, 55794), (7, 55842), (8, 55869), (9, 55878), (11, 55902), (53, 56316), (57, 56340), (Start: 67 @56388 has 37 MA's), (79, 56448), (95, 56589), (109, 56727), (110, 56730), (112, 56805),

Gene: Francis47_67 Start: 44249, Stop: 43722, Start Num: 67
Candidate Starts for Francis47_67:
(Start: 67 @44249 has 37 MA's), (Start: 73 @44231 has 3 MA's), (77, 44207), (89, 44087), (100, 44015), (102, 43997), (103, 43970), (104, 43967), (107, 43937), (108, 43928), (109, 43907), (114, 43823),

Gene: FuegoCuervo_90 Start: 58288, Stop: 58839, Start Num: 70
Candidate Starts for FuegoCuervo_90:
(26, 57976), (53, 58213), (57, 58237), (Start: 70 @58288 has 17 MA's), (79, 58345), (95, 58492), (104, 58570), (108, 58609), (110, 58633), (112, 58708), (115, 58741), (120, 58774),

Gene: GMonster_67 Start: 43329, Stop: 42802, Start Num: 67
Candidate Starts for GMonster_67:

(Start: 67 @43329 has 37 MA's), (Start: 73 @43311 has 3 MA's), (77, 43287), (89, 43167), (100, 43095), (102, 43077), (103, 43050), (104, 43047), (107, 43017), (108, 43008), (109, 42987), (114, 42903),

Gene: Gaea_86 Start: 56738, Stop: 57283, Start Num: 67
Candidate Starts for Gaea_86:
(53, 56666), (57, 56690), (Start: 67 @56738 has 37 MA's), (95, 56939), (108, 57056), (109, 57077), (112, 57155),

Gene: Geodirt_85 Start: 58756, Stop: 59307, Start Num: 70
Candidate Starts for Geodirt_85:
(1, 57886), (2, 58006), (22, 58375), (26, 58441), (53, 58678), (57, 58702), (Start: 70 @58756 has 17 MA's), (79, 58813), (95, 58960), (104, 59038), (108, 59077), (112, 59176), (115, 59209), (120, 59242),

Gene: Gustavo_87 Start: 57570, Stop: 58115, Start Num: 67
Candidate Starts for Gustavo_87:
(53, 57498), (57, 57522), (Start: 67 @57570 has 37 MA's), (95, 57771), (108, 57888), (109, 57909), (110, 57912), (112, 57987),

Gene: Hans_63 Start: 48399, Stop: 48953, Start Num: 62
Candidate Starts for Hans_63:
(21, 48033), (23, 48045), (24, 48054), (28, 48138), (29, 48174), (39, 48294), (41, 48300), (45, 48312), (Start: 62 @48399 has 9 MA's), (Start: 73 @48423 has 3 MA's), (95, 48609), (101, 48648), (106, 48714), (108, 48729), (109, 48750), (112, 48828), (119, 48888),

Gene: Hortense_54 Start: 39545, Stop: 40093, Start Num: 67
Candidate Starts for Hortense_54:
(43, 39434), (Start: 49 @39464 has 1 MA's), (52, 39470), (56, 39485), (58, 39500), (59, 39509), (Start: 67 @39545 has 37 MA's), (Start: 73 @39566 has 3 MA's), (78, 39602), (92, 39731), (95, 39749), (99, 39776), (114, 39971), (127, 40085),

Gene: Howe_54 Start: 39545, Stop: 40093, Start Num: 67
Candidate Starts for Howe_54:
(43, 39434), (Start: 49 @39464 has 1 MA's), (52, 39470), (56, 39485), (58, 39500), (59, 39509), (Start: 67 @39545 has 37 MA's), (Start: 73 @39566 has 3 MA's), (78, 39602), (92, 39731), (95, 39749), (99, 39776), (114, 39971), (127, 40085),

Gene: Inspectinfecti_62 Start: 48512, Stop: 49063, Start Num: 62
Candidate Starts for Inspectinfecti_62:
(39, 48416), (41, 48422), (45, 48434), (Start: 62 @48512 has 9 MA's), (Start: 73 @48536 has 3 MA's), (93, 48704), (95, 48719), (101, 48758), (108, 48839), (109, 48860), (112, 48938), (119, 48998), (124, 49031),

Gene: Jinglebell_70 Start: 44817, Stop: 45317, Start Num: 71
Candidate Starts for Jinglebell_70:
(Start: 71 @44817 has 7 MA's), (Start: 73 @44829 has 3 MA's), (78, 44865), (95, 45012), (96, 45018), (107, 45123), (108, 45132), (111, 45174), (114, 45237),

Gene: Kewpiedoll_86 Start: 58734, Stop: 59285, Start Num: 70
Candidate Starts for Kewpiedoll_86:
(12, 58248), (20, 58350), (26, 58422), (39, 58614), (53, 58659), (57, 58683), (Start: 70 @58734 has 17 MA's), (79, 58791), (95, 58938), (104, 59016), (108, 59055), (112, 59154), (115, 59187), (120, 59220),

Gene: Kroos_85 Start: 57238, Stop: 57783, Start Num: 67
Candidate Starts for Kroos_85:
(53, 57166), (57, 57190), (Start: 67 @57238 has 37 MA's), (79, 57298), (95, 57439), (109, 57577), (110, 57580), (112, 57655),

Gene: Kwobi_87 Start: 57747, Stop: 58292, Start Num: 67
Candidate Starts for Kwobi_87:
(53, 57675), (57, 57699), (Start: 67 @57747 has 37 MA's), (79, 57807), (95, 57948), (109, 58086), (110, 58089), (112, 58164),

Gene: Leonard_61 Start: 48589, Stop: 49140, Start Num: 62
Candidate Starts for Leonard_61:
(21, 48232), (23, 48244), (24, 48253), (28, 48337), (29, 48373), (39, 48493), (41, 48499), (45, 48511), (Start: 62 @48589 has 9 MA's), (Start: 73 @48613 has 3 MA's), (93, 48781), (95, 48796), (101, 48835), (106, 48901), (108, 48916), (109, 48937), (112, 49015), (119, 49075),

Gene: LilHam_79 Start: 54859, Stop: 55404, Start Num: 67
Candidate Starts for LilHam_79:
(53, 54787), (57, 54811), (Start: 67 @54859 has 37 MA's), (79, 54919), (95, 55060), (109, 55198), (110, 55201), (112, 55276),

Gene: LilJank_70 Start: 44222, Stop: 44731, Start Num: 70
Candidate Starts for LilJank_70:
(50, 44141), (55, 44150), (56, 44159), (65, 44210), (Start: 67 @44216 has 37 MA's), (Start: 70 @44222 has 17 MA's), (76, 44258), (79, 44288), (88, 44378), (91, 44402), (101, 44471), (102, 44480), (103, 44507), (104, 44510), (108, 44549), (109, 44570), (110, 44573), (111, 44591), (112, 44648), (113, 44651), (115, 44681), (118, 44699), (120, 44714),

Gene: Llama_69 Start: 44672, Stop: 45172, Start Num: 71
Candidate Starts for Llama_69:
(Start: 71 @44672 has 7 MA's), (Start: 73 @44684 has 3 MA's), (78, 44720), (95, 44867), (96, 44873), (107, 44978), (108, 44987), (111, 45029), (114, 45092),

Gene: Marleymoo_114 Start: 67478, Stop: 67987, Start Num: 73
Candidate Starts for Marleymoo_114:
(51, 67391), (Start: 67 @67460 has 37 MA's), (Start: 73 @67478 has 3 MA's), (77, 67502), (79, 67520), (81, 67538), (91, 67637), (100, 67694), (104, 67742), (107, 67772), (108, 67781), (109, 67802), (113, 67883), (114, 67886),

Gene: McGuire_69 Start: 42765, Stop: 42238, Start Num: 67
Candidate Starts for McGuire_69:
(Start: 67 @42765 has 37 MA's), (Start: 73 @42747 has 3 MA's), (77, 42723), (89, 42603), (100, 42531), (102, 42513), (103, 42486), (104, 42483), (107, 42453), (108, 42444), (109, 42423), (114, 42339),

Gene: Mcklovin_50 Start: 40931, Stop: 41560, Start Num: 49
Candidate Starts for Mcklovin_50:
(Start: 49 @40931 has 1 MA's), (52, 40937), (54, 40940), (56, 40952), (58, 40967), (59, 40976), (Start: 67 @41012 has 37 MA's), (Start: 73 @41033 has 3 MA's), (78, 41069), (92, 41198), (95, 41216), (99, 41243), (114, 41438), (127, 41552),

Gene: MelBins_63 Start: 48826, Stop: 49377, Start Num: 62
Candidate Starts for MelBins_63:

(19, 48448), (30, 48607), (39, 48721), (41, 48727), (45, 48739), (Start: 62 @48826 has 9 MA's), (Start: 73 @48850 has 3 MA's), (93, 49018), (95, 49033), (101, 49072), (106, 49138), (108, 49153), (109, 49174), (112, 49252), (119, 49312), (120, 49318),

Gene: Melba_68 Start: 42034, Stop: 42570, Start Num: 69
Candidate Starts for Melba_68:
(32, 41815), (33, 41827), (36, 41875), (44, 41923), (Start: 69 @42034 has 6 MA's), (Start: 73 @42052 has 3 MA's), (103, 42310), (108, 42352),

Gene: Modragons_68 Start: 44661, Stop: 45161, Start Num: 71
Candidate Starts for Modragons_68:
(Start: 71 @44661 has 7 MA's), (Start: 73 @44673 has 3 MA's), (78, 44709), (95, 44856), (96, 44862), (107, 44967), (108, 44976), (111, 45018), (114, 45081),

Gene: MoontowerMania_86 Start: 59208, Stop: 59744, Start Num: 70
Candidate Starts for MoontowerMania_86:
(53, 59133), (57, 59157), (Start: 70 @59208 has 17 MA's), (79, 59265), (87, 59352), (95, 59406), (108, 59523), (110, 59547), (112, 59622), (119, 59682), (120, 59688),

Gene: Morgana_113 Start: 62342, Stop: 62860, Start Num: 72
Candidate Starts for Morgana_113:
(Start: 72 @62342 has 1 MA's), (Start: 73 @62348 has 3 MA's), (77, 62372), (95, 62531), (100, 62564), (104, 62612), (108, 62651), (109, 62672), (117, 62792),

Gene: Neville_66 Start: 43162, Stop: 43677, Start Num: 66
Candidate Starts for Neville_66:
(61, 43150), (Start: 66 @43162 has 1 MA's), (Start: 70 @43171 has 17 MA's), (76, 43207), (79, 43237), (83, 43270), (86, 43318), (88, 43327), (91, 43351), (101, 43417), (102, 43426), (104, 43456), (108, 43495), (110, 43519), (111, 43537), (112, 43594), (113, 43597), (115, 43627), (118, 43645), (120, 43660),

Gene: Nordenberg_84 Start: 56836, Stop: 57381, Start Num: 70
Candidate Starts for Nordenberg_84:
(7, 56296), (10, 56350), (26, 56521), (53, 56758), (57, 56782), (Start: 70 @56836 has 17 MA's), (79, 56893), (95, 57034), (108, 57151), (110, 57175), (112, 57250), (115, 57283), (120, 57316), (128, 57373),

Gene: Ochi17_68 Start: 44268, Stop: 44768, Start Num: 71
Candidate Starts for Ochi17_68:
(Start: 71 @44268 has 7 MA's), (Start: 73 @44280 has 3 MA's), (78, 44316), (95, 44463), (96, 44469), (107, 44574), (108, 44583), (111, 44625), (114, 44688),

Gene: OfUltron_70 Start: 44817, Stop: 45317, Start Num: 71
Candidate Starts for OfUltron_70:
(Start: 71 @44817 has 7 MA's), (Start: 73 @44829 has 3 MA's), (78, 44865), (95, 45012), (96, 45018), (107, 45123), (108, 45132), (111, 45174), (114, 45237),

Gene: PacerPaul_68 Start: 43616, Stop: 43089, Start Num: 67
Candidate Starts for PacerPaul_68:
(Start: 67 @43616 has 37 MA's), (Start: 73 @43598 has 3 MA's), (77, 43574), (89, 43454), (100, 43382), (102, 43364), (103, 43337), (104, 43334), (107, 43304), (108, 43295), (109, 43274), (114, 43190),

Gene: Paries_89 Start: 59385, Stop: 59936, Start Num: 70
Candidate Starts for Paries_89:
(2, 58638), (22, 59007), (26, 59073), (53, 59310), (57, 59334), (Start: 70 @59385 has 17 MA's), (95, 59589), (108, 59706), (112, 59805), (115, 59838),

Gene: PascalRango_66 Start: 43210, Stop: 42701, Start Num: 73
Candidate Starts for PascalRango_66:
(Start: 67 @43228 has 37 MA's), (Start: 73 @43210 has 3 MA's), (77, 43186), (89, 43066), (100, 42994), (102, 42976), (103, 42949), (104, 42946), (107, 42916), (108, 42907), (109, 42886), (114, 42802),

Gene: Phauci_54 Start: 45438, Stop: 45992, Start Num: 62
Candidate Starts for Phauci_54:
(39, 45342), (41, 45348), (45, 45360), (Start: 62 @45438 has 9 MA's), (Start: 73 @45462 has 3 MA's), (95, 45648), (101, 45687), (106, 45753), (108, 45768), (109, 45789), (112, 45867), (119, 45927),

Gene: Phinally_61 Start: 48586, Stop: 49137, Start Num: 62
Candidate Starts for Phinally_61:
(21, 48229), (23, 48241), (24, 48250), (28, 48334), (29, 48370), (39, 48490), (41, 48496), (45, 48508), (Start: 62 @48586 has 9 MA's), (Start: 73 @48610 has 3 MA's), (93, 48778), (95, 48793), (101, 48832), (106, 48898), (108, 48913), (109, 48934), (112, 49012), (119, 49072),

Gene: Phlippers_64 Start: 43680, Stop: 43171, Start Num: 73
Candidate Starts for Phlippers_64:
(32, 43917), (34, 43881), (35, 43866), (Start: 67 @43698 has 37 MA's), (Start: 73 @43680 has 3 MA's), (77, 43656), (89, 43536), (100, 43464), (102, 43446), (103, 43419), (104, 43416), (107, 43386), (108, 43377), (109, 43356), (114, 43272),

Gene: Pipp_70 Start: 43377, Stop: 43913, Start Num: 69
Candidate Starts for Pipp_70:
(27, 43095), (31, 43152), (32, 43155), (33, 43167), (36, 43218), (44, 43266), (Start: 69 @43377 has 6 MA's), (Start: 73 @43395 has 3 MA's), (108, 43695), (112, 43794),

Gene: Rabbitrun_69 Start: 43576, Stop: 44085, Start Num: 70
Candidate Starts for Rabbitrun_69:
(65, 43564), (Start: 67 @43570 has 37 MA's), (Start: 70 @43576 has 17 MA's), (88, 43732), (90, 43747), (91, 43756), (94, 43771), (95, 43783), (101, 43825), (102, 43834), (103, 43861), (104, 43864), (108, 43903), (109, 43924), (110, 43927), (111, 43945), (112, 44002), (115, 44035), (118, 44053), (120, 44068),

Gene: Ribeye_85 Start: 56713, Stop: 57258, Start Num: 67
Candidate Starts for Ribeye_85:
(53, 56641), (57, 56665), (Start: 67 @56713 has 37 MA's), (79, 56773), (95, 56914), (109, 57052), (110, 57055), (112, 57130),

Gene: RiverRaider_87 Start: 56191, Stop: 56745, Start Num: 67
Candidate Starts for RiverRaider_87:
(39, 56080), (53, 56125), (57, 56149), (Start: 67 @56191 has 37 MA's), (74, 56221), (112, 56620), (115, 56653), (120, 56686), (125, 56731),

Gene: Ruthy_66 Start: 46749, Stop: 47318, Start Num: 60
Candidate Starts for Ruthy_66:

(35, 46617), (47, 46689), (Start: 60 @46749 has 1 MA's), (Start: 69 @46782 has 6 MA's), (Start: 73 @46800 has 3 MA's), (108, 47100), (112, 47199), (120, 47265),

Gene: Saronaya_87 Start: 57570, Stop: 58115, Start Num: 67
Candidate Starts for Saronaya_87:
(53, 57498), (57, 57522), (Start: 67 @57570 has 37 MA's), (95, 57771), (108, 57888), (109, 57909), (110, 57912), (112, 57987),

Gene: SchottB_84 Start: 57633, Stop: 58178, Start Num: 67
Candidate Starts for SchottB_84:
(53, 57561), (57, 57585), (Start: 67 @57633 has 37 MA's), (79, 57693), (95, 57834), (109, 57972), (110, 57975), (112, 58050),

Gene: Seabastian_70 Start: 44818, Stop: 45318, Start Num: 71
Candidate Starts for Seabastian_70:
(Start: 71 @44818 has 7 MA's), (Start: 73 @44830 has 3 MA's), (78, 44866), (95, 45013), (96, 45019), (107, 45124), (108, 45133), (111, 45175), (114, 45238),

Gene: Shivanishola_87 Start: 56849, Stop: 57385, Start Num: 70
Candidate Starts for Shivanishola_87:
(2, 56102), (22, 56471), (26, 56537), (53, 56774), (57, 56798), (Start: 70 @56849 has 17 MA's), (79, 56906), (87, 56993), (95, 57047), (108, 57164), (110, 57188), (112, 57263), (119, 57323), (120, 57329),

Gene: Shlim410_52 Start: 39545, Stop: 40093, Start Num: 67
Candidate Starts for Shlim410_52:
(43, 39434), (Start: 49 @39464 has 1 MA's), (52, 39470), (56, 39485), (58, 39500), (59, 39509), (Start: 67 @39545 has 37 MA's), (Start: 73 @39566 has 3 MA's), (78, 39602), (92, 39731), (95, 39749), (99, 39776), (114, 39971), (127, 40085),

Gene: Snazzy_66 Start: 42446, Stop: 41919, Start Num: 67
Candidate Starts for Snazzy_66:
(Start: 67 @42446 has 37 MA's), (Start: 73 @42428 has 3 MA's), (77, 42404), (89, 42284), (100, 42212), (102, 42194), (103, 42167), (104, 42164), (107, 42134), (108, 42125), (109, 42104), (114, 42020),

Gene: Squee_71 Start: 43484, Stop: 42957, Start Num: 67
Candidate Starts for Squee_71:
(Start: 67 @43484 has 37 MA's), (Start: 73 @43466 has 3 MA's), (77, 43442), (89, 43322), (100, 43250), (102, 43232), (103, 43205), (104, 43202), (107, 43172), (108, 43163), (109, 43142), (114, 43058),

Gene: Squiddly_82 Start: 49442, Stop: 49951, Start Num: 67
Candidate Starts for Squiddly_82:
(Start: 67 @49442 has 37 MA's), (Start: 73 @49460 has 3 MA's), (77, 49484), (100, 49676), (105, 49745), (108, 49763), (111, 49805), (116, 49898), (123, 49943),

Gene: Stichling_81 Start: 56241, Stop: 56786, Start Num: 67
Candidate Starts for Stichling_81:
(53, 56169), (57, 56193), (Start: 67 @56241 has 37 MA's), (79, 56301), (95, 56442), (109, 56580), (112, 56658),

Gene: StorminNorm_86 Start: 57514, Stop: 58059, Start Num: 67

Candidate Starts for StorminNorm_86:
(53, 57442), (57, 57466), (Start: 67 @57514 has 37 MA's), (95, 57715), (108, 57832), (109, 57853), (112, 57931),

Gene: Tangent_88 Start: 57542, Stop: 58093, Start Num: 70
Candidate Starts for Tangent_88:
(26, 57227), (53, 57464), (57, 57488), (Start: 70 @57542 has 17 MA's), (79, 57599), (95, 57746), (103, 57821), (108, 57863), (110, 57887), (112, 57962), (115, 57995), (120, 58028),

Gene: Tangerine_85 Start: 56571, Stop: 57116, Start Num: 67
Candidate Starts for Tangerine_85:
(53, 56499), (57, 56523), (Start: 67 @56571 has 37 MA's), (79, 56631), (95, 56772), (109, 56910), (110, 56913), (112, 56988),

Gene: Topgun_66 Start: 42611, Stop: 42084, Start Num: 67
Candidate Starts for Topgun_66:
(32, 42830), (34, 42794), (35, 42779), (Start: 67 @42611 has 37 MA's), (Start: 73 @42593 has 3 MA's), (77, 42569), (89, 42449), (100, 42377), (102, 42359), (103, 42332), (104, 42329), (107, 42299), (108, 42290), (109, 42269), (114, 42185),

Gene: Trax_67 Start: 43626, Stop: 44135, Start Num: 70
Candidate Starts for Trax_67:
(65, 43614), (Start: 67 @43620 has 37 MA's), (Start: 70 @43626 has 17 MA's), (88, 43782), (90, 43797), (91, 43806), (94, 43821), (95, 43833), (101, 43875), (102, 43884), (103, 43911), (104, 43914), (108, 43953), (110, 43977), (111, 43995), (112, 44052), (113, 44055), (116, 44088), (120, 44118),

Gene: Twinkle_53 Start: 40604, Stop: 41152, Start Num: 67
Candidate Starts for Twinkle_53:
(43, 40493), (Start: 49 @40523 has 1 MA's), (52, 40529), (56, 40544), (58, 40559), (59, 40568), (Start: 67 @40604 has 37 MA's), (Start: 73 @40625 has 3 MA's), (78, 40661), (92, 40790), (95, 40808), (99, 40835), (114, 41030), (127, 41144),

Gene: Tycho_85 Start: 57048, Stop: 57593, Start Num: 67
Candidate Starts for Tycho_85:
(53, 56976), (57, 57000), (Start: 67 @57048 has 37 MA's), (79, 57108), (95, 57249), (108, 57366), (109, 57387), (112, 57465),

Gene: Vivi2_89 Start: 58598, Stop: 59149, Start Num: 70
Candidate Starts for Vivi2_89:
(26, 58283), (53, 58520), (57, 58544), (Start: 70 @58598 has 17 MA's), (79, 58655), (95, 58802), (103, 58877), (108, 58919), (110, 58943), (112, 59018), (115, 59051), (120, 59084),

Gene: Wilkins_67 Start: 42541, Stop: 42014, Start Num: 67
Candidate Starts for Wilkins_67:
(32, 42760), (34, 42724), (35, 42709), (Start: 67 @42541 has 37 MA's), (Start: 73 @42523 has 3 MA's), (77, 42499), (89, 42379), (100, 42307), (102, 42289), (103, 42262), (104, 42259), (107, 42229), (108, 42220), (109, 42199), (114, 42115),

Gene: WorMMAs_57 Start: 39197, Stop: 38649, Start Num: 59
Candidate Starts for WorMMAs_57:
(59, 39197), (Start: 71 @39152 has 7 MA's), (84, 39056), (85, 39026), (96, 38954), (98, 38933), (101, 38918), (102, 38909), (106, 38855), (108, 38840), (109, 38819), (110, 38816), (114, 38735), (121, 38663), (122, 38660),

Gene: YorkOnyx_84 Start: 56683, Stop: 57240, Start Num: 67
Candidate Starts for YorkOnyx_84:
(13, 56218), (14, 56251), (17, 56287), (53, 56611), (57, 56635), (Start: 67 @56683 has 37 MA's), (75, 56713), (108, 57013), (110, 57037), (112, 57112), (126, 57223),

Gene: ZiggyZoo_69 Start: 44651, Stop: 45187, Start Num: 69
Candidate Starts for ZiggyZoo_69:
(Start: 60 @44618 has 1 MA's), (Start: 69 @44651 has 6 MA's), (Start: 73 @44669 has 3 MA's), (108, 44969),