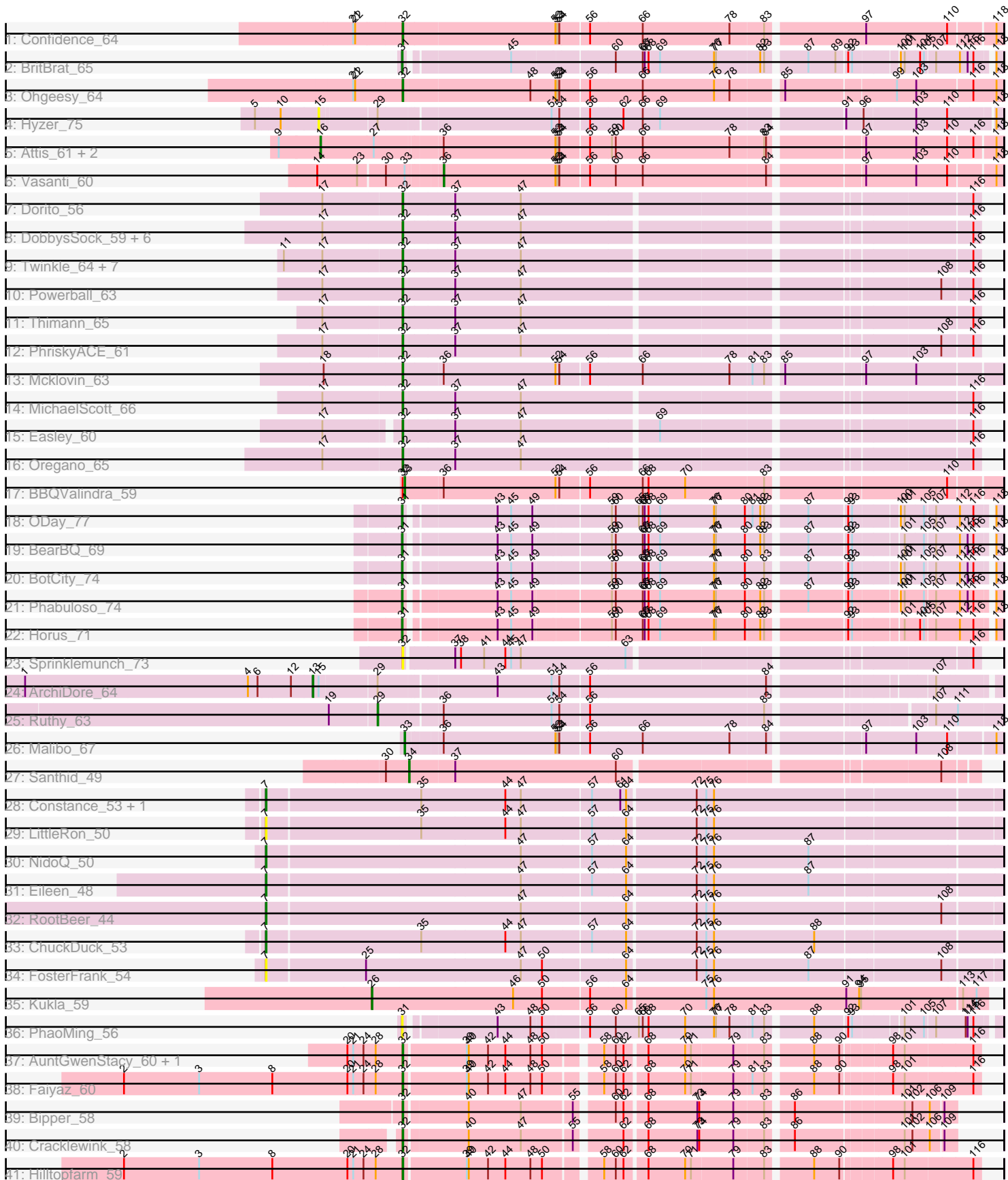


Pham 305035



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 305035 Report

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

Pham number 305035 has 58 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Confidence_64
- Track 2 : BritBrat_65
- Track 3 : Ohgeesy_64
- Track 4 : Hyzer_75
- Track 5 : Attis_61, LordFarquaad_63, SoilAssassin_61
- Track 6 : Vasanti_60
- Track 7 : Dorito_56
- Track 8 : DobbysSock_59, Beenie_59, Tuti_60, Rizz_65, Samman98_65, Invectra_67, Clark_64
- Track 9 : Twinkle_64, Howe_65, Dolores_63, Sekhmet_62, WinkNick_63, Adora_62, Hortense_65, Shlim410_63
- Track 10 : Powerball_63
- Track 11 : Thimann_65
- Track 12 : PhriskyACE_61
- Track 13 : Mcklovin_63
- Track 14 : MichaelScott_66
- Track 15 : Easley_60
- Track 16 : Oregano_65
- Track 17 : BBQValindra_59
- Track 18 : ODay_77
- Track 19 : BearBQ_69
- Track 20 : BotCity_74
- Track 21 : Phabuloso_74
- Track 22 : Horus_71
- Track 23 : Sprinklemunch_73
- Track 24 : ArchiDore_64
- Track 25 : Ruthy_63
- Track 26 : Malibo_67
- Track 27 : Santhid_49
- Track 28 : Constance_53, KayMoney_53
- Track 29 : LittleRon_50
- Track 30 : NidoQ_50
- Track 31 : Eileen_48
- Track 32 : RootBeer_44
- Track 33 : ChuckDuck_53
- Track 34 : FosterFrank_54
- Track 35 : Kukla_59

- Track 36 : PhaoMing_56
- Track 37 : AuntGwenStacy_60, Typha_59
- Track 38 : Faiyaz_60
- Track 39 : Bipper_58
- Track 40 : Cracklewink_58
- Track 41 : Hilltopfarm_59

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 29 of the 51 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adora_62, AuntGwenStacy_60, Beenie_59, Bipper_58, Clark_64, Confidence_64, Cracklewink_58, DobbysSock_59, Dolores_63, Dorito_56, Easley_60, Faiyaz_60, Hilltopfarm_59, Hortense_65, Howe_65, Invecetra_67, Mcklovin_63, MichaelScott_66, Ohgeesy_64, Oregano_65, PhriskyACE_61, Powerball_63, Rizz_65, Samman98_65, Sekhmet_62, Shlim410_63, Sprinklemunch_73, Thimann_65, Tuti_60, Twinkle_64, Typha_59, WinkNick_63,

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

- BBQValindra_59,

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

- ArchiDore_64, Attis_61, BearBQ_69, BotCity_74, BritBrat_65, ChuckDuck_53, Constance_53, Eileen_48, FosterFrank_54, Horus_71, Hyzer_75, KayMoney_53, Kukla_59, LittleRon_50, LordFarquaad_63, Malibo_67, NidoQ_50, ODay_77, Phabuloso_74, PhaoMing_56, RootBeer_44, Ruthy_63, Santhid_49, SoilAssassin_61, Vasanti_60,

Summary by start number:

Start 7:

- Found in 8 of 58 (13.8%) of genes in pham
- Manual Annotations of this start: 6 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChuckDuck_53 (FA), Constance_53 (FA), Eileen_48 (FA), FosterFrank_54 (FA), KayMoney_53 (FA), LittleRon_50 (FA), NidoQ_50 (FA), RootBeer_44 (FA),

Start 13:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArchiDore_64 (DW),

Start 15:

- Found in 2 of 58 (3.4%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present

- Phage (with cluster) where this start called: Hyzer_75 (CZ1),

Start 16:

- Found in 3 of 58 (5.2%) of genes in pham
- Manual Annotations of this start: 3 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attis_61 (CZ2), LordFarquaad_63 (CZ2), SoilAssassin_61 (CZ2),

Start 26:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kukla_59 (FJ),

Start 29:

- Found in 3 of 58 (5.2%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Ruthy_63 (DW),

Start 31:

- Found in 7 of 58 (12.1%) of genes in pham
- Manual Annotations of this start: 6 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BearBQ_69 (DN), BotCity_74 (DN), BritBrat_65 (CY2), Horus_71 (DN1), ODay_77 (DN), Phabuloso_74 (DN1), PhaoMing_56 (UNK),

Start 32:

- Found in 33 of 58 (56.9%) of genes in pham
- Manual Annotations of this start: 29 of 51
- Called 97.0% of time when present
- Phage (with cluster) where this start called: Adora_62 (CZ4), AuntGwenStacy_60 (Y), Beenie_59 (CZ4), Bipper_58 (Y), Clark_64 (CZ4), Confidence_64 (CY1), Cracklewink_58 (Y), DobbysSock_59 (CZ4), Dolores_63 (CZ4), Dorito_56 (CZ4), Easley_60 (CZ4), Faiyaz_60 (Y), Hilltopfarm_59 (Y), Hortense_65 (CZ4), Howe_65 (CZ4), Invectra_67 (CZ4), Mcklovin_63 (CZ4), MichaelScott_66 (CZ4), Ohgeesy_64 (CZ), Oregano_65 (CZ4), PhriskyACE_61 (CZ4), Powerball_63 (CZ4), Rizz_65 (CZ4), Samman98_65 (CZ4), Sekhmet_62 (CZ4), Shlim410_63 (CZ4), Sprinklemunch_73 (DW), Thimann_65 (CZ4), Tuti_60 (CZ4), Twinkle_64 (CZ4), Typha_59 (Y), WinkNick_63 (CZ4),

Start 33:

- Found in 3 of 58 (5.2%) of genes in pham
- Manual Annotations of this start: 2 of 51
- Called 66.7% of time when present
- Phage (with cluster) where this start called: BBQValindra_59 (DB), Malibo_67 (DW),

Start 34:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Santhid_49 (DY),

Start 36:

- Found in 8 of 58 (13.8%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Vasanti_60 (CZ2),

Summary by clusters:

There are 15 clusters represented in this pham: DN, CY2, CY1, CZ, CZ2, CZ1, DB, CZ4, FA, DN1, DY, Y, DW, FJ, UNK,

Info for manual annotations of cluster CY1:

- Start number 32 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 31 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ:

- Start number 32 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ2:

- Start number 16 was manually annotated 3 times for cluster CZ2.
- Start number 36 was manually annotated 1 time for cluster CZ2.

Info for manual annotations of cluster CZ4:

- Start number 32 was manually annotated 22 times for cluster CZ4.

Info for manual annotations of cluster DB:

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

Info for manual annotations of cluster DN:

- Start number 31 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 31 was manually annotated 2 times for cluster DN1.

Info for manual annotations of cluster DW:

- Start number 13 was manually annotated 1 time for cluster DW.
- Start number 29 was manually annotated 1 time for cluster DW.
- Start number 33 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster DY:

- Start number 34 was manually annotated 1 time for cluster DY.

Info for manual annotations of cluster FA:

- Start number 7 was manually annotated 6 times for cluster FA.

Info for manual annotations of cluster FJ:

- Start number 26 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster Y:

•Start number 32 was manually annotated 5 times for cluster Y.

Gene Information:

Gene: Adora_62 Start: 43256, Stop: 44095, Start Num: 32

Candidate Starts for Adora_62:

(11, 43076), (17, 43136), (Start: 32 @43256 has 29 MA's), (37, 43334), (47, 43436), (116, 44084),

Gene: ArchiDore_64 Start: 45624, Stop: 46604, Start Num: 13

Candidate Starts for ArchiDore_64:

(1, 45183), (4, 45528), (6, 45543), (12, 45591), (Start: 13 @45624 has 1 MA's), (15, 45633), (Start: 29 @45717 has 1 MA's), (43, 45888), (51, 45972), (54, 45984), (56, 46026), (84, 46296), (107, 46518),

Gene: Attis_61 Start: 41335, Stop: 42336, Start Num: 16

Candidate Starts for Attis_61:

(9, 41272), (Start: 16 @41335 has 3 MA's), (27, 41413), (Start: 36 @41509 has 1 MA's), (52, 41683), (53, 41686), (54, 41689), (56, 41731), (59, 41764), (60, 41770), (66, 41812), (78, 41947), (83, 41998), (84, 42001), (97, 42133), (103, 42211), (110, 42259), (116, 42295), (118, 42325),

Gene: AuntGwenStacy_60 Start: 43522, Stop: 44343, Start Num: 32

Candidate Starts for AuntGwenStacy_60:

(20, 43438), (21, 43447), (24, 43462), (28, 43480), (Start: 32 @43522 has 29 MA's), (39, 43615), (40, 43618), (42, 43648), (44, 43675), (48, 43714), (50, 43732), (58, 43807), (60, 43825), (62, 43837), (68, 43867), (70, 43924), (71, 43933), (79, 43996), (83, 44041), (88, 44104), (90, 44143), (98, 44212), (101, 44230), (116, 44332),

Gene: BBQValindra_59 Start: 41751, Stop: 42629, Start Num: 33

Candidate Starts for BBQValindra_59:

(Start: 32 @41748 has 29 MA's), (Start: 33 @41751 has 2 MA's), (Start: 36 @41802 has 1 MA's), (52, 41976), (54, 41982), (56, 42024), (66, 42105), (68, 42114), (70, 42171), (83, 42291), (110, 42552),

Gene: BearBQ_69 Start: 43538, Stop: 44368, Start Num: 31

Candidate Starts for BearBQ_69:

(Start: 31 @43538 has 6 MA's), (43, 43664), (45, 43685), (49, 43718), (59, 43826), (60, 43832), (66, 43874), (67, 43877), (68, 43883), (69, 43901), (76, 43982), (77, 43985), (80, 44030), (82, 44051), (83, 44057), (87, 44111), (92, 44168), (93, 44171), (101, 44240), (105, 44267), (107, 44282), (112, 44315), (115, 44327), (116, 44336), (118, 44357),

Gene: Beenie_59 Start: 41304, Stop: 42143, Start Num: 32

Candidate Starts for Beenie_59:

(17, 41181), (Start: 32 @41304 has 29 MA's), (37, 41382), (47, 41484), (116, 42132),

Gene: Bipper_58 Start: 42349, Stop: 43125, Start Num: 32

Candidate Starts for Bipper_58:

(Start: 32 @42349 has 29 MA's), (40, 42442), (47, 42523), (55, 42598), (60, 42649), (62, 42661), (68, 42691), (73, 42766), (74, 42769), (79, 42820), (83, 42865), (86, 42898), (101, 43054), (102, 43066), (106, 43090), (109, 43108),

Gene: BotCity_74 Start: 43774, Stop: 44604, Start Num: 31

Candidate Starts for BotCity_74:

(Start: 31 @43774 has 6 MA's), (43, 43900), (45, 43921), (49, 43954), (59, 44062), (60, 44068), (66, 44110), (67, 44113), (68, 44119), (69, 44137), (76, 44218), (77, 44221), (80, 44266), (83, 44293), (87, 44347), (92, 44404), (93, 44407), (100, 44470), (101, 44476), (105, 44503), (107, 44518), (112, 44551), (115, 44563), (116, 44572), (118, 44593),

Gene: BritBrat_65 Start: 43022, Stop: 43852, Start Num: 31

Candidate Starts for BritBrat_65:

(Start: 31 @43022 has 6 MA's), (45, 43169), (60, 43316), (66, 43358), (67, 43361), (68, 43367), (69, 43385), (76, 43466), (77, 43469), (82, 43535), (83, 43541), (87, 43595), (89, 43637), (92, 43652), (93, 43655), (100, 43718), (101, 43724), (104, 43745), (105, 43751), (107, 43766), (112, 43799), (115, 43811), (116, 43820), (118, 43841),

Gene: ChuckDuck_53 Start: 34124, Stop: 35224, Start Num: 7

Candidate Starts for ChuckDuck_53:

(Start: 7 @34124 has 6 MA's), (35, 34358), (44, 34487), (47, 34511), (57, 34616), (64, 34667), (72, 34769), (75, 34784), (76, 34796), (88, 34952),

Gene: Clark_64 Start: 41067, Stop: 41906, Start Num: 32

Candidate Starts for Clark_64:

(17, 40944), (Start: 32 @41067 has 29 MA's), (37, 41145), (47, 41247), (116, 41895),

Gene: Confidence_64 Start: 42274, Stop: 43167, Start Num: 32

Candidate Starts for Confidence_64:

(21, 42202), (22, 42205), (Start: 32 @42274 has 29 MA's), (52, 42505), (53, 42508), (54, 42511), (56, 42553), (66, 42634), (78, 42769), (83, 42820), (97, 42964), (110, 43090), (118, 43156),

Gene: Constance_53 Start: 34710, Stop: 35807, Start Num: 7

Candidate Starts for Constance_53:

(Start: 7 @34710 has 6 MA's), (35, 34944), (44, 35073), (47, 35097), (57, 35202), (61, 35244), (64, 35253), (72, 35355), (75, 35370), (76, 35382),

Gene: Cracklewink_58 Start: 42330, Stop: 43106, Start Num: 32

Candidate Starts for Cracklewink_58:

(Start: 32 @42330 has 29 MA's), (40, 42423), (47, 42504), (55, 42579), (62, 42642), (68, 42672), (73, 42747), (74, 42750), (79, 42801), (83, 42846), (86, 42879), (101, 43035), (102, 43047), (106, 43071), (109, 43089),

Gene: DobbysSock_59 Start: 40715, Stop: 41554, Start Num: 32

Candidate Starts for DobbysSock_59:

(17, 40592), (Start: 32 @40715 has 29 MA's), (37, 40793), (47, 40895), (116, 41543),

Gene: Dolores_63 Start: 40400, Stop: 41236, Start Num: 32

Candidate Starts for Dolores_63:

(11, 40220), (17, 40280), (Start: 32 @40400 has 29 MA's), (37, 40478), (47, 40580), (116, 41225),

Gene: Dorito_56 Start: 38217, Stop: 39053, Start Num: 32

Candidate Starts for Dorito_56:

(17, 38097), (Start: 32 @38217 has 29 MA's), (37, 38292), (47, 38394), (116, 39042),

Gene: Easley_60 Start: 39896, Stop: 40729, Start Num: 32

Candidate Starts for Easley_60:

(17, 39791), (Start: 32 @39896 has 29 MA's), (37, 39971), (47, 40073), (69, 40277), (116, 40718),

Gene: Eileen_48 Start: 31825, Stop: 32925, Start Num: 7

Candidate Starts for Eileen_48:

(Start: 7 @31825 has 6 MA's), (47, 32212), (57, 32317), (64, 32368), (72, 32470), (75, 32485), (76, 32497), (87, 32644),

Gene: Faiyaz_60 Start: 43512, Stop: 44333, Start Num: 32

Candidate Starts for Faiyaz_60:

(2, 43080), (3, 43197), (8, 43311), (20, 43428), (21, 43437), (24, 43452), (28, 43470), (Start: 32 @43512 has 29 MA's), (39, 43605), (40, 43608), (42, 43638), (44, 43665), (48, 43704), (50, 43722), (58, 43797), (60, 43815), (62, 43827), (68, 43857), (70, 43914), (71, 43923), (79, 43986), (81, 44013), (83, 44031), (88, 44094), (90, 44133), (98, 44202), (101, 44220), (116, 44322),

Gene: FosterFrank_54 Start: 33446, Stop: 34543, Start Num: 7

Candidate Starts for FosterFrank_54:

(Start: 7 @33446 has 6 MA's), (25, 33596), (47, 33833), (50, 33866), (64, 33989), (72, 34091), (75, 34106), (76, 34118), (87, 34265), (108, 34460),

Gene: Hilltopfarm_59 Start: 43214, Stop: 44035, Start Num: 32

Candidate Starts for Hilltopfarm_59:

(2, 42782), (3, 42899), (8, 43013), (20, 43130), (21, 43139), (24, 43154), (28, 43172), (Start: 32 @43214 has 29 MA's), (39, 43307), (40, 43310), (42, 43340), (44, 43367), (48, 43406), (50, 43424), (58, 43499), (60, 43517), (62, 43529), (68, 43559), (70, 43616), (71, 43625), (79, 43688), (83, 43733), (88, 43796), (90, 43835), (98, 43904), (101, 43922), (116, 44024),

Gene: Hortense_65 Start: 44611, Stop: 45450, Start Num: 32

Candidate Starts for Hortense_65:

(11, 44431), (17, 44491), (Start: 32 @44611 has 29 MA's), (37, 44689), (47, 44791), (116, 45439),

Gene: Horus_71 Start: 43494, Stop: 44324, Start Num: 31

Candidate Starts for Horus_71:

(Start: 31 @43494 has 6 MA's), (43, 43620), (45, 43641), (49, 43674), (59, 43782), (60, 43788), (66, 43830), (67, 43833), (68, 43839), (69, 43857), (76, 43938), (77, 43941), (80, 43986), (82, 44007), (83, 44013), (92, 44124), (93, 44127), (101, 44196), (104, 44217), (105, 44223), (107, 44238), (112, 44271), (116, 44292), (118, 44313),

Gene: Howe_65 Start: 44611, Stop: 45450, Start Num: 32

Candidate Starts for Howe_65:

(11, 44431), (17, 44491), (Start: 32 @44611 has 29 MA's), (37, 44689), (47, 44791), (116, 45439),

Gene: Hyzer_75 Start: 50006, Stop: 50998, Start Num: 15

Candidate Starts for Hyzer_75:

(5, 49919), (10, 49952), (15, 50006), (Start: 29 @50087 has 1 MA's), (51, 50342), (54, 50354), (56, 50396), (62, 50447), (66, 50477), (69, 50504), (91, 50771), (96, 50795), (103, 50873), (110, 50921), (118, 50987),

Gene: Invectra_67 Start: 42640, Stop: 43479, Start Num: 32

Candidate Starts for Invectra_67:

(17, 42517), (Start: 32 @42640 has 29 MA's), (37, 42718), (47, 42820), (116, 43468),

Gene: KayMoney_53 Start: 34053, Stop: 35150, Start Num: 7

Candidate Starts for KayMoney_53:

(Start: 7 @34053 has 6 MA's), (35, 34287), (44, 34416), (47, 34440), (57, 34545), (61, 34587), (64, 34596), (72, 34698), (75, 34713), (76, 34725),

Gene: Kukla_59 Start: 36053, Stop: 36976, Start Num: 26

Candidate Starts for Kukla_59:

(Start: 26 @36053 has 1 MA's), (46, 36269), (50, 36314), (56, 36383), (64, 36437), (75, 36554), (76, 36566), (91, 36770), (94, 36788), (95, 36791), (113, 36941), (117, 36959),

Gene: LittleRon_50 Start: 33651, Stop: 34748, Start Num: 7

Candidate Starts for LittleRon_50:

(Start: 7 @33651 has 6 MA's), (35, 33885), (44, 34014), (47, 34038), (57, 34143), (64, 34194), (72, 34296), (75, 34311), (76, 34323),

Gene: LordFarquaad_63 Start: 41316, Stop: 42317, Start Num: 16

Candidate Starts for LordFarquaad_63:

(9, 41253), (Start: 16 @41316 has 3 MA's), (27, 41394), (Start: 36 @41490 has 1 MA's), (52, 41664), (53, 41667), (54, 41670), (56, 41712), (59, 41745), (60, 41751), (66, 41793), (78, 41928), (83, 41979), (84, 41982), (97, 42114), (103, 42192), (110, 42240), (116, 42276), (118, 42306),

Gene: Malibo_67 Start: 44890, Stop: 45759, Start Num: 33

Candidate Starts for Malibo_67:

(Start: 33 @44890 has 2 MA's), (Start: 36 @44935 has 1 MA's), (52, 45109), (53, 45112), (54, 45115), (56, 45157), (66, 45238), (78, 45373), (84, 45427), (97, 45556), (103, 45634), (110, 45682), (118, 45748),

Gene: Mcklovin_63 Start: 46941, Stop: 47825, Start Num: 32

Candidate Starts for Mcklovin_63:

(18, 46821), (Start: 32 @46941 has 29 MA's), (Start: 36 @46998 has 1 MA's), (52, 47172), (54, 47178), (56, 47220), (66, 47301), (78, 47436), (81, 47469), (83, 47487), (85, 47505), (97, 47622), (103, 47700),

Gene: MichaelScott_66 Start: 42331, Stop: 43167, Start Num: 32

Candidate Starts for MichaelScott_66:

(17, 42211), (Start: 32 @42331 has 29 MA's), (37, 42406), (47, 42508), (116, 43156),

Gene: NidoQ_50 Start: 34199, Stop: 35299, Start Num: 7

Candidate Starts for NidoQ_50:

(Start: 7 @34199 has 6 MA's), (47, 34586), (57, 34691), (64, 34742), (72, 34844), (75, 34859), (76, 34871), (87, 35018),

Gene: ODay_77 Start: 44730, Stop: 45560, Start Num: 31

Candidate Starts for ODay_77:

(Start: 31 @44730 has 6 MA's), (43, 44856), (45, 44877), (49, 44910), (59, 45018), (60, 45024), (65, 45060), (66, 45066), (67, 45069), (68, 45075), (69, 45093), (76, 45174), (77, 45177), (80, 45222), (81, 45231), (82, 45243), (83, 45249), (87, 45303), (92, 45360), (93, 45363), (100, 45426), (101, 45432), (105, 45459), (107, 45474), (112, 45507), (116, 45528), (118, 45549),

Gene: Ohgeesy_64 Start: 43662, Stop: 44552, Start Num: 32

Candidate Starts for Ohgeesy_64:

(21, 43590), (22, 43593), (Start: 32 @43662 has 29 MA's), (48, 43854), (52, 43893), (53, 43896), (54, 43899), (56, 43941), (66, 44022), (76, 44133), (78, 44157), (85, 44226), (99, 44391), (103, 44421), (116, 44505), (118, 44541),

Gene: Oregano_65 Start: 41205, Stop: 42041, Start Num: 32

Candidate Starts for Oregano_65:

(17, 41085), (Start: 32 @41205 has 29 MA's), (37, 41280), (47, 41382), (116, 42030),

Gene: Phabuloso_74 Start: 42992, Stop: 43822, Start Num: 31

Candidate Starts for Phabuloso_74:

(Start: 31 @42992 has 6 MA's), (43, 43118), (45, 43139), (49, 43172), (59, 43280), (60, 43286), (66, 43328), (67, 43331), (68, 43337), (69, 43355), (76, 43436), (77, 43439), (80, 43484), (82, 43505), (83, 43511), (87, 43565), (92, 43622), (93, 43625), (100, 43688), (101, 43694), (105, 43721), (107, 43736), (112, 43769), (115, 43781), (116, 43790), (118, 43811),

Gene: PhaoMing_56 Start: 38766, Stop: 39596, Start Num: 31

Candidate Starts for PhaoMing_56:

(Start: 31 @38766 has 6 MA's), (43, 38892), (48, 38943), (50, 38958), (56, 39021), (60, 39060), (65, 39096), (66, 39102), (68, 39111), (70, 39168), (76, 39210), (77, 39213), (78, 39234), (81, 39267), (83, 39285), (88, 39348), (92, 39396), (93, 39399), (101, 39468), (105, 39495), (107, 39510), (114, 39552), (115, 39555), (116, 39564),

Gene: PhriskyACE_61 Start: 41222, Stop: 42058, Start Num: 32

Candidate Starts for PhriskyACE_61:

(17, 41102), (Start: 32 @41222 has 29 MA's), (37, 41297), (47, 41399), (108, 42002), (116, 42047),

Gene: Powerball_63 Start: 41331, Stop: 42167, Start Num: 32

Candidate Starts for Powerball_63:

(17, 41208), (Start: 32 @41331 has 29 MA's), (37, 41406), (47, 41508), (108, 42111), (116, 42156),

Gene: Rizz_65 Start: 41856, Stop: 42695, Start Num: 32

Candidate Starts for Rizz_65:

(17, 41733), (Start: 32 @41856 has 29 MA's), (37, 41934), (47, 42036), (116, 42684),

Gene: RootBeer_44 Start: 30900, Stop: 31997, Start Num: 7

Candidate Starts for RootBeer_44:

(Start: 7 @30900 has 6 MA's), (47, 31287), (64, 31443), (72, 31545), (75, 31560), (76, 31572), (108, 31914),

Gene: Ruthy_63 Start: 45360, Stop: 46259, Start Num: 29

Candidate Starts for Ruthy_63:

(19, 45288), (Start: 29 @45360 has 1 MA's), (Start: 36 @45447 has 1 MA's), (51, 45615), (54, 45627), (56, 45669), (83, 45936), (107, 46161), (111, 46191),

Gene: Samman98_65 Start: 41170, Stop: 42009, Start Num: 32

Candidate Starts for Samman98_65:

(17, 41047), (Start: 32 @41170 has 29 MA's), (37, 41248), (47, 41350), (116, 41998),

Gene: Santhid_49 Start: 31927, Stop: 32751, Start Num: 34

Candidate Starts for Santhid_49:

(30, 31891), (Start: 34 @31927 has 1 MA's), (37, 31996), (60, 32245), (108, 32701),

Gene: Sekhmet_62 Start: 40799, Stop: 41635, Start Num: 32

Candidate Starts for Sekhmet_62:

(11, 40619), (17, 40679), (Start: 32 @40799 has 29 MA's), (37, 40877), (47, 40979), (116, 41624),

Gene: Shlim410_63 Start: 44611, Stop: 45450, Start Num: 32

Candidate Starts for Shlim410_63:

(11, 44431), (17, 44491), (Start: 32 @44611 has 29 MA's), (37, 44689), (47, 44791), (116, 45439),

Gene: SoilAssassin_61 Start: 41334, Stop: 42335, Start Num: 16

Candidate Starts for SoilAssassin_61:

(9, 41271), (Start: 16 @41334 has 3 MA's), (27, 41412), (Start: 36 @41508 has 1 MA's), (52, 41682), (53, 41685), (54, 41688), (56, 41730), (59, 41763), (60, 41769), (66, 41811), (78, 41946), (83, 41997), (84, 42000), (97, 42132), (103, 42210), (110, 42258), (116, 42294), (118, 42324),

Gene: Sprinklemunch_73 Start: 47017, Stop: 47847, Start Num: 32

Candidate Starts for Sprinklemunch_73:

(Start: 32 @47017 has 29 MA's), (37, 47089), (38, 47098), (41, 47134), (44, 47167), (45, 47176), (47, 47191), (63, 47353), (116, 47836),

Gene: Thimann_65 Start: 41439, Stop: 42275, Start Num: 32

Candidate Starts for Thimann_65:

(17, 41319), (Start: 32 @41439 has 29 MA's), (37, 41514), (47, 41616), (116, 42264),

Gene: Tuti_60 Start: 42186, Stop: 43025, Start Num: 32

Candidate Starts for Tuti_60:

(17, 42063), (Start: 32 @42186 has 29 MA's), (37, 42264), (47, 42366), (116, 43014),

Gene: Twinkle_64 Start: 45670, Stop: 46509, Start Num: 32

Candidate Starts for Twinkle_64:

(11, 45490), (17, 45550), (Start: 32 @45670 has 29 MA's), (37, 45748), (47, 45850), (116, 46498),

Gene: Typha_59 Start: 43522, Stop: 44343, Start Num: 32

Candidate Starts for Typha_59:

(20, 43438), (21, 43447), (24, 43462), (28, 43480), (Start: 32 @43522 has 29 MA's), (39, 43615), (40, 43618), (42, 43648), (44, 43675), (48, 43714), (50, 43732), (58, 43807), (60, 43825), (62, 43837), (68, 43867), (70, 43924), (71, 43933), (79, 43996), (83, 44041), (88, 44104), (90, 44143), (98, 44212), (101, 44230), (116, 44332),

Gene: Vasanti_60 Start: 40525, Stop: 41349, Start Num: 36

Candidate Starts for Vasanti_60:

(14, 40357), (23, 40414), (30, 40453), (Start: 33 @40480 has 2 MA's), (Start: 36 @40525 has 1 MA's), (52, 40699), (53, 40702), (54, 40705), (56, 40747), (60, 40786), (66, 40828), (84, 41017), (97, 41146), (103, 41224), (110, 41272), (118, 41338),

Gene: WinkNick_63 Start: 40323, Stop: 41159, Start Num: 32

Candidate Starts for WinkNick_63:

(11, 40143), (17, 40203), (Start: 32 @40323 has 29 MA's), (37, 40401), (47, 40503), (116, 41148),