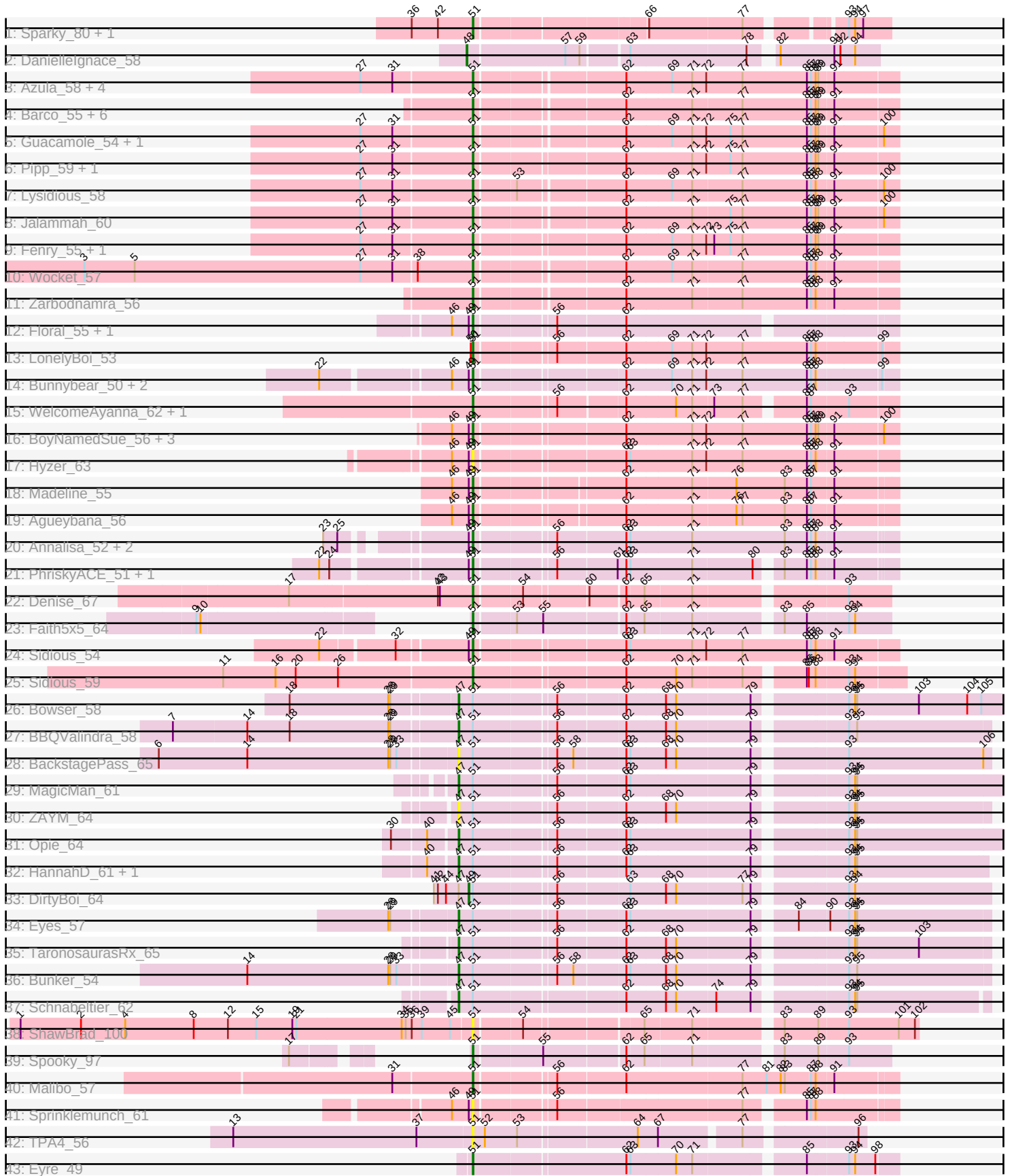


Pham 280415



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 280415 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280415 has 68 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Sparky_80, Farewell_81
- Track 2 : DanielleIgnace_58
- Track 3 : Azula_58, Gambino_60, MissRona_58, Blueberry_57, Mellie_55
- Track 4 : Barco_55, Delian_60, Hitter_57, CaptainKirk2_57, MintFen_57, Zilla_56, Samba_56
- Track 5 : Guacamole_54, JasperJr_54
- Track 6 : Pipp_59, Walrus_55
- Track 7 : Lysidious_58
- Track 8 : Jalammah_60
- Track 9 : Fenry_55, Petra_53
- Track 10 : Wocket_57
- Track 11 : Zarbodnamra_56
- Track 12 : Floral_55, Pollux_57
- Track 13 : LonelyBoi_53
- Track 14 : Bunnybear_50, Madavieve_52, Maridalia_58
- Track 15 : WelcomeAyanna_62, ThankyouJordi_62
- Track 16 : BoyNamedSue_56, EMSquaredA_54, Marteena_53, AlumE_56
- Track 17 : Hyzer_63
- Track 18 : Madeline_55
- Track 19 : Agueybana_56
- Track 20 : Annalisa_52, Tuti_55, Oregano_55
- Track 21 : PhriskyACE_51, Powerball_52
- Track 22 : Denise_67
- Track 23 : Faith5x5_64
- Track 24 : Sidious_54
- Track 25 : Sidious_59
- Track 26 : Bowser_58
- Track 27 : BBQValindra_58
- Track 28 : BackstagePass_65
- Track 29 : MagicMan_61
- Track 30 : ZAYM_64
- Track 31 : Opie_64
- Track 32 : HannahD_61, GEazy_64
- Track 33 : DirtyBoi_64
- Track 34 : Eyes_57
- Track 35 : TaronosaurusRx_65
- Track 36 : Bunker_54

- Track 37 : Schnabeltier_62
- Track 38 : ShawBrad_100
- Track 39 : Spooky_97
- Track 40 : Malibo_57
- Track 41 : Sprinklemunch_61
- Track 42 : TPA4_56
- Track 43 : Eyre_49

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

The start number called the most often in the published annotations is 51, it was called in 46 of the 58 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agueybana_56, AlumE_56, Annalisa_52, Azula_58, Barco_55, Blueberry_57, BoyNamedSue_56, Bunnybear_50, CaptainKirk2_57, Delian_60, Denise_67, EMSquaredA_54, Eyre_49, Faith5x5_64, Farewell_81, Fenry_55, Floral_55, Gambino_60, Guacamole_54, Hitter_57, Hyzer_63, Jalammah_60, JasperJr_54, LonelyBoi_53, Lysidious_58, Madavieve_52, Madeline_55, Malibo_57, Maridalia_58, Marteenaa_53, Mellie_55, MintFen_57, MissRona_58, Oregano_55, Petra_53, PhriskyACE_51, Pipp_59, Pollux_57, Powerball_52, Samba_56, ShawBrad_100, Sidious_54, Sidious_59, Sparky_80, Spooky_97, Sprinklemunch_61, TPA4_56, ThankyouJordi_62, Tuti_55, Walrus_55, WelcomeAyanna_62, Wocket_57, Zarbodnamra_56, Zilla_56,

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

- BBQValindra_58, BackstagePass_65, Bowser_58, Bunker_54, DirtyBoi_64, Eyes_57, GEazy_64, HannahD_61, MagicMan_61, Opie_64, Schnabeltier_62, TaronosaurusRx_65, ZAYM_64,

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

- DanielleIgnace_58,

Summary by start number:

Start 47:

- Found in 13 of 68 (19.1%) of genes in pham
- Manual Annotations of this start: 10 of 58
- Called 92.3% of time when present
- Phage (with cluster) where this start called: BBQValindra_58 (DB), BackstagePass_65 (DB), Bowser_58 (DB), Bunker_54 (DB), Eyes_57 (DB), GEazy_64 (DB), HannahD_61 (DB), MagicMan_61 (DB), Opie_64 (DB), Schnabeltier_62 (DB), TaronosaurusRx_65 (DB), ZAYM_64 (DB),

Start 48:

- Found in 1 of 68 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 58
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DanielleIgnace_58 (AT),

Start 49:

- Found in 20 of 68 (29.4%) of genes in pham
- Manual Annotations of this start: 1 of 58
- Called 5.0% of time when present
- Phage (with cluster) where this start called: DirtyBoi_64 (DB),

Start 51:

- Found in 67 of 68 (98.5%) of genes in pham
- Manual Annotations of this start: 46 of 58
- Called 80.6% of time when present
- Phage (with cluster) where this start called: Agueybana_56 (CZ1), AlumE_56 (CZ1), Annalisa_52 (CZ4), Azula_58 (CV), Barco_55 (CV), Blueberry_57 (CV), BoyNamedSue_56 (CZ1), Bunnybear_50 (CZ), CaptainKirk2_57 (CV), Delian_60 (CV), Denise_67 (CZ5), EMSquaredA_54 (CY1), Eyre_49 (singleton), Faith5x5_64 (CZ6), Farewell_81 (AF), Fenry_55 (CV), Floral_55 (CY1), Gambino_60 (CV), Guacamole_54 (CV), Hitter_57 (CV), Hyzer_63 (CZ1), Jalammah_60 (CV), JasperJr_54 (CV), LonelyBoi_53 (CY7), Lysidious_58 (CV), Madavieve_52 (CZ1), Madeline_55 (CZ1), Malibo_57 (DW), Maridalia_58 (CZ1), Marteenaa_53 (CY1), Mellie_55 (CV), MintFen_57 (CV), MissRona_58 (CV), Oregano_55 (CZ4), Petra_53 (CV), PhriskyACE_51 (CZ4), Pipp_59 (CV), Pollux_57 (CY1), Powerball_52 (CZ4), Samba_56 (CV), ShawBrad_100 (DN1), Sidious_54 (CZ7), Sidious_59 (CZ7), Sparky_80 (AF), Spooky_97 (DN2), Sprinklemunch_61 (DW), TPA4_56 (singleton), ThankyouJordi_62 (CZ1), Tuti_55 (CZ4), Walrus_55 (CV), WelcomeAyanna_62 (CZ1), Wocket_57 (CV), Zarbodnamra_56 (CV), Zilla_56 (CV),

Summary by clusters:

There are 16 clusters represented in this pham: CY1, CY7, AF, CZ6, CZ1, DB, singleton, CZ4, CZ7, CZ, DN1, AT, DN2, DW, CZ5, CV,

Info for manual annotations of cluster AF:

- Start number 51 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster AT:

- Start number 48 was manually annotated 1 time for cluster AT.

Info for manual annotations of cluster CV:

- Start number 51 was manually annotated 21 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 51 was manually annotated 4 times for cluster CY1.

Info for manual annotations of cluster CY7:

- Start number 51 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster CZ:

- Start number 51 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 51 was manually annotated 7 times for cluster CZ1.

Info for manual annotations of cluster CZ4:

- Start number 51 was manually annotated 3 times for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 51 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ6:

- Start number 51 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster CZ7:

- Start number 51 was manually annotated 2 times for cluster CZ7.

Info for manual annotations of cluster DB:

- Start number 47 was manually annotated 10 times for cluster DB.
- Start number 49 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DN2:

- Start number 51 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DW:

- Start number 51 was manually annotated 1 time for cluster DW.

Gene Information:

Gene: Agueybana_56 Start: 39653, Stop: 40237, Start Num: 51

Candidate Starts for Agueybana_56:

(46, 39623), (Start: 49 @39647 has 1 MA's), (Start: 51 @39653 has 46 MA's), (62, 39854), (71, 39950), (76, 40013), (77, 40022), (83, 40085), (85, 40118), (87, 40121), (91, 40151),

Gene: AlumE_56 Start: 39435, Stop: 40025, Start Num: 51

Candidate Starts for AlumE_56:

(46, 39405), (Start: 49 @39429 has 1 MA's), (Start: 51 @39435 has 46 MA's), (62, 39639), (71, 39735), (72, 39756), (77, 39807), (85, 39903), (87, 39906), (88, 39912), (89, 39915), (91, 39936), (100, 40005),

Gene: Annalisa_52 Start: 35792, Stop: 36379, Start Num: 51

Candidate Starts for Annalisa_52:

(23, 35615), (25, 35636), (Start: 49 @35786 has 1 MA's), (Start: 51 @35792 has 46 MA's), (56, 35900), (62, 35996), (63, 36002), (71, 36092), (83, 36230), (85, 36263), (87, 36266), (88, 36272), (91, 36296),

Gene: Azula_58 Start: 39149, Stop: 39736, Start Num: 51

Candidate Starts for Azula_58:

(27, 38987), (31, 39035), (Start: 51 @39149 has 46 MA's), (62, 39350), (69, 39416), (71, 39446), (72, 39467), (77, 39518), (85, 39614), (87, 39617), (88, 39623), (89, 39626), (91, 39647),

Gene: BBQValindra_58 Start: 41020, Stop: 41751, Start Num: 47

Candidate Starts for BBQValindra_58:

(7, 40606), (14, 40714), (18, 40777), (28, 40924), (29, 40927), (Start: 47 @41020 has 10 MA's), (Start: 51 @41038 has 46 MA's), (56, 41152), (62, 41245), (68, 41302), (70, 41317), (79, 41425), (93, 41545), (95, 41557),

Gene: BackstagePass_65 Start: 40434, Stop: 41168, Start Num: 47

Candidate Starts for BackstagePass_65:

(6, 39999), (14, 40131), (28, 40341), (29, 40344), (33, 40353), (Start: 47 @40434 has 10 MA's), (Start: 51 @40452 has 46 MA's), (56, 40566), (58, 40590), (62, 40659), (63, 40665), (68, 40716), (70, 40731), (79, 40839), (93, 40959), (106, 41157),

Gene: Barco_55 Start: 36423, Stop: 37010, Start Num: 51

Candidate Starts for Barco_55:

(Start: 51 @36423 has 46 MA's), (62, 36624), (71, 36720), (77, 36792), (85, 36888), (87, 36891), (88, 36897), (89, 36900), (91, 36921),

Gene: Blueberry_57 Start: 39149, Stop: 39736, Start Num: 51

Candidate Starts for Blueberry_57:

(27, 38987), (31, 39035), (Start: 51 @39149 has 46 MA's), (62, 39350), (69, 39416), (71, 39446), (72, 39467), (77, 39518), (85, 39614), (87, 39617), (88, 39623), (89, 39626), (91, 39647),

Gene: Bowser_58 Start: 40743, Stop: 41495, Start Num: 47

Candidate Starts for Bowser_58:

(18, 40503), (28, 40650), (29, 40653), (Start: 47 @40743 has 10 MA's), (Start: 51 @40761 has 46 MA's), (56, 40875), (62, 40968), (68, 41025), (70, 41040), (79, 41148), (93, 41268), (94, 41277), (95, 41280), (103, 41370), (104, 41442), (105, 41463),

Gene: BoyNamedSue_56 Start: 39435, Stop: 40025, Start Num: 51

Candidate Starts for BoyNamedSue_56:

(46, 39405), (Start: 49 @39429 has 1 MA's), (Start: 51 @39435 has 46 MA's), (62, 39639), (71, 39735), (72, 39756), (77, 39807), (85, 39903), (87, 39906), (88, 39912), (89, 39915), (91, 39936), (100, 40005),

Gene: Bunker_54 Start: 39327, Stop: 40058, Start Num: 47

Candidate Starts for Bunker_54:

(14, 39024), (28, 39234), (29, 39237), (33, 39246), (Start: 47 @39327 has 10 MA's), (Start: 51 @39345 has 46 MA's), (56, 39459), (58, 39483), (62, 39552), (63, 39558), (68, 39609), (70, 39624), (79, 39732), (93, 39852), (95, 39864),

Gene: Bunnybear_50 Start: 37443, Stop: 38027, Start Num: 51

Candidate Starts for Bunnybear_50:

(22, 37239), (46, 37413), (Start: 49 @37437 has 1 MA's), (Start: 51 @37443 has 46 MA's), (62, 37644), (69, 37710), (71, 37740), (72, 37761), (77, 37812), (85, 37908), (87, 37911), (88, 37917), (99, 38007),

Gene: CaptainKirk2_57 Start: 36662, Stop: 37249, Start Num: 51

Candidate Starts for CaptainKirk2_57:

(Start: 51 @36662 has 46 MA's), (62, 36863), (71, 36959), (77, 37031), (85, 37127), (87, 37130), (88, 37136), (89, 37139), (91, 37160),

Gene: DanielleIgnace_58 Start: 38690, Stop: 39253, Start Num: 48

Candidate Starts for DanielleIgnace_58:

(Start: 48 @38690 has 1 MA's), (57, 38831), (59, 38852), (63, 38915), (78, 39083), (82, 39110), (91, 39188), (92, 39197), (94, 39218),

Gene: Delian_60 Start: 36660, Stop: 37247, Start Num: 51

Candidate Starts for Delian_60:

(Start: 51 @36660 has 46 MA's), (62, 36861), (71, 36957), (77, 37029), (85, 37125), (87, 37128), (88, 37134), (89, 37137), (91, 37158),

Gene: Denise_67 Start: 40135, Stop: 40689, Start Num: 51

Candidate Starts for Denise_67:

(17, 39871), (42, 40084), (43, 40087), (Start: 51 @40135 has 46 MA's), (54, 40201), (60, 40285), (62, 40333), (65, 40357), (71, 40423), (93, 40627),

Gene: DirtyBoi_64 Start: 41042, Stop: 41764, Start Num: 49

Candidate Starts for DirtyBoi_64:

(41, 40991), (42, 40997), (44, 41009), (Start: 47 @41027 has 10 MA's), (Start: 49 @41042 has 1 MA's), (Start: 51 @41048 has 46 MA's), (56, 41162), (63, 41261), (68, 41312), (70, 41327), (77, 41423), (79, 41435), (93, 41555), (94, 41564),

Gene: EMSquaredA_54 Start: 38610, Stop: 39200, Start Num: 51

Candidate Starts for EMSquaredA_54:

(46, 38580), (Start: 49 @38604 has 1 MA's), (Start: 51 @38610 has 46 MA's), (62, 38814), (71, 38910), (72, 38931), (77, 38982), (85, 39078), (87, 39081), (88, 39087), (89, 39090), (91, 39111), (100, 39180),

Gene: Eyes_57 Start: 40795, Stop: 41526, Start Num: 47

Candidate Starts for Eyes_57:

(28, 40702), (29, 40705), (Start: 47 @40795 has 10 MA's), (Start: 51 @40813 has 46 MA's), (56, 40927), (62, 41020), (63, 41026), (79, 41200), (84, 41251), (90, 41293), (93, 41320), (94, 41329), (95, 41332),

Gene: Eyre_49 Start: 34637, Stop: 35221, Start Num: 51

Candidate Starts for Eyre_49:

(Start: 51 @34637 has 46 MA's), (62, 34853), (63, 34859), (70, 34925), (71, 34949), (85, 35096), (93, 35153), (94, 35162), (98, 35192),

Gene: Faith5x5_64 Start: 38441, Stop: 39004, Start Num: 51

Candidate Starts for Faith5x5_64:

(9, 38189), (10, 38195), (Start: 51 @38441 has 46 MA's), (53, 38498), (55, 38537), (62, 38648), (65, 38672), (71, 38738), (83, 38852), (85, 38885), (93, 38942), (94, 38951),

Gene: Farewell_81 Start: 52822, Stop: 53370, Start Num: 51

Candidate Starts for Farewell_81:

(36, 52732), (42, 52771), (Start: 51 @52822 has 46 MA's), (66, 53056), (77, 53191), (93, 53308), (94, 53317), (97, 53329),

Gene: Fenry_55 Start: 38167, Stop: 38757, Start Num: 51

Candidate Starts for Fenry_55:

(27, 38005), (31, 38053), (Start: 51 @38167 has 46 MA's), (62, 38371), (69, 38437), (71, 38467), (72, 38488), (73, 38497), (75, 38521), (77, 38539), (85, 38635), (87, 38638), (88, 38644), (89, 38647), (91, 38668),

Gene: Floral_55 Start: 40516, Stop: 41088, Start Num: 51

Candidate Starts for Floral_55:

(46, 40486), (Start: 49 @40510 has 1 MA's), (Start: 51 @40516 has 46 MA's), (56, 40624), (62, 40720),

Gene: GEazy_64 Start: 40986, Stop: 41714, Start Num: 47

Candidate Starts for GEazy_64:

(40, 40947), (Start: 47 @40986 has 10 MA's), (Start: 51 @41004 has 46 MA's), (56, 41118), (62, 41211), (63, 41217), (79, 41391), (93, 41511), (94, 41520), (95, 41523),

Gene: Gambino_60 Start: 39149, Stop: 39736, Start Num: 51

Candidate Starts for Gambino_60:

(27, 38987), (31, 39035), (Start: 51 @39149 has 46 MA's), (62, 39350), (69, 39416), (71, 39446), (72, 39467), (77, 39518), (85, 39614), (87, 39617), (88, 39623), (89, 39626), (91, 39647),

Gene: Guacamole_54 Start: 36889, Stop: 37476, Start Num: 51

Candidate Starts for Guacamole_54:

(27, 36727), (31, 36775), (Start: 51 @36889 has 46 MA's), (62, 37090), (69, 37156), (71, 37186), (72, 37207), (75, 37240), (77, 37258), (85, 37354), (87, 37357), (88, 37363), (89, 37366), (91, 37387), (100, 37456),

Gene: HannahD_61 Start: 40353, Stop: 41081, Start Num: 47

Candidate Starts for HannahD_61:

(40, 40314), (Start: 47 @40353 has 10 MA's), (Start: 51 @40371 has 46 MA's), (56, 40485), (62, 40578), (63, 40584), (79, 40758), (93, 40878), (94, 40887), (95, 40890),

Gene: Hitter_57 Start: 36465, Stop: 37052, Start Num: 51

Candidate Starts for Hitter_57:

(Start: 51 @36465 has 46 MA's), (62, 36666), (71, 36762), (77, 36834), (85, 36930), (87, 36933), (88, 36939), (89, 36942), (91, 36963),

Gene: Hyzer_63 Start: 42350, Stop: 42940, Start Num: 51

Candidate Starts for Hyzer_63:

(46, 42320), (Start: 49 @42344 has 1 MA's), (Start: 51 @42350 has 46 MA's), (62, 42554), (63, 42560), (71, 42650), (72, 42671), (77, 42722), (85, 42818), (87, 42821), (88, 42827), (91, 42851),

Gene: Jalammah_60 Start: 39468, Stop: 40055, Start Num: 51

Candidate Starts for Jalammah_60:

(27, 39306), (31, 39354), (Start: 51 @39468 has 46 MA's), (62, 39669), (71, 39765), (75, 39819), (77, 39837), (85, 39933), (87, 39936), (88, 39942), (89, 39945), (91, 39966), (100, 40035),

Gene: JasperJr_54 Start: 36889, Stop: 37476, Start Num: 51

Candidate Starts for JasperJr_54:

(27, 36727), (31, 36775), (Start: 51 @36889 has 46 MA's), (62, 37090), (69, 37156), (71, 37186), (72, 37207), (75, 37240), (77, 37258), (85, 37354), (87, 37357), (88, 37363), (89, 37366), (91, 37387), (100, 37456),

Gene: LonelyBoi_53 Start: 40470, Stop: 41057, Start Num: 51

Candidate Starts for LonelyBoi_53:

(50, 40467), (Start: 51 @40470 has 46 MA's), (56, 40578), (62, 40674), (69, 40740), (71, 40770), (72, 40791), (77, 40842), (85, 40938), (87, 40941), (88, 40947), (99, 41037),

Gene: Lysidious_58 Start: 38835, Stop: 39422, Start Num: 51

Candidate Starts for Lysidious_58:

(27, 38673), (31, 38721), (Start: 51 @38835 has 46 MA's), (53, 38892), (62, 39036), (69, 39102), (71, 39132), (77, 39204), (85, 39300), (87, 39303), (88, 39309), (91, 39333), (100, 39402),

Gene: Madavieve_52 Start: 38399, Stop: 38983, Start Num: 51

Candidate Starts for Madavieve_52:

(22, 38195), (46, 38369), (Start: 49 @38393 has 1 MA's), (Start: 51 @38399 has 46 MA's), (62, 38600), (69, 38666), (71, 38696), (72, 38717), (77, 38768), (85, 38864), (87, 38867), (88, 38873), (99, 38963),

Gene: Madeline_55 Start: 39843, Stop: 40427, Start Num: 51

Candidate Starts for Madeline_55:

(46, 39813), (Start: 49 @39837 has 1 MA's), (Start: 51 @39843 has 46 MA's), (62, 40044), (71, 40140), (76, 40203), (83, 40275), (85, 40308), (87, 40311), (91, 40341),

Gene: MagicMan_61 Start: 41953, Stop: 42714, Start Num: 47

Candidate Starts for MagicMan_61:

(Start: 47 @41953 has 10 MA's), (Start: 51 @41971 has 46 MA's), (56, 42085), (62, 42178), (63, 42184), (79, 42358), (93, 42478), (94, 42487), (95, 42490),

Gene: Malibo_57 Start: 39555, Stop: 40142, Start Num: 51

Candidate Starts for Malibo_57:

(31, 39441), (Start: 51 @39555 has 46 MA's), (56, 39663), (62, 39759), (77, 39927), (81, 39963), (82, 39984), (83, 39990), (87, 40026), (88, 40032), (91, 40056),

Gene: Maridalia_58 Start: 39189, Stop: 39773, Start Num: 51

Candidate Starts for Maridalia_58:

(22, 38985), (46, 39159), (Start: 49 @39183 has 1 MA's), (Start: 51 @39189 has 46 MA's), (62, 39390), (69, 39456), (71, 39486), (72, 39507), (77, 39558), (85, 39654), (87, 39657), (88, 39663), (99, 39753),

Gene: Marteena_53 Start: 38610, Stop: 39200, Start Num: 51

Candidate Starts for Marteena_53:

(46, 38580), (Start: 49 @38604 has 1 MA's), (Start: 51 @38610 has 46 MA's), (62, 38814), (71, 38910), (72, 38931), (77, 38982), (85, 39078), (87, 39081), (88, 39087), (89, 39090), (91, 39111), (100, 39180),

Gene: Mellie_55 Start: 36842, Stop: 37432, Start Num: 51

Candidate Starts for Mellie_55:

(27, 36680), (31, 36728), (Start: 51 @36842 has 46 MA's), (62, 37046), (69, 37112), (71, 37142), (72, 37163), (77, 37214), (85, 37310), (87, 37313), (88, 37319), (89, 37322), (91, 37343),

Gene: MintFen_57 Start: 37276, Stop: 37863, Start Num: 51

Candidate Starts for MintFen_57:

(Start: 51 @37276 has 46 MA's), (62, 37477), (71, 37573), (77, 37645), (85, 37741), (87, 37744), (88, 37750), (89, 37753), (91, 37774),

Gene: MissRona_58 Start: 39150, Stop: 39737, Start Num: 51

Candidate Starts for MissRona_58:

(27, 38988), (31, 39036), (Start: 51 @39150 has 46 MA's), (62, 39351), (69, 39417), (71, 39447), (72, 39468), (77, 39519), (85, 39615), (87, 39618), (88, 39624), (89, 39627), (91, 39648),

Gene: Opie_64 Start: 42071, Stop: 42832, Start Num: 47

Candidate Starts for Opie_64:

(30, 41987), (40, 42032), (Start: 47 @42071 has 10 MA's), (Start: 51 @42089 has 46 MA's), (56, 42203), (62, 42296), (63, 42302), (79, 42476), (93, 42596), (94, 42605), (95, 42608),

Gene: Oregano_55 Start: 36424, Stop: 37011, Start Num: 51

Candidate Starts for Oregano_55:

(23, 36247), (25, 36268), (Start: 49 @36418 has 1 MA's), (Start: 51 @36424 has 46 MA's), (56, 36532), (62, 36628), (63, 36634), (71, 36724), (83, 36862), (85, 36895), (87, 36898), (88, 36904), (91, 36928),

Gene: Petra_53 Start: 35617, Stop: 36207, Start Num: 51

Candidate Starts for Petra_53:

(27, 35455), (31, 35503), (Start: 51 @35617 has 46 MA's), (62, 35821), (69, 35887), (71, 35917), (72, 35938), (73, 35947), (75, 35971), (77, 35989), (85, 36085), (87, 36088), (88, 36094), (89, 36097), (91, 36118),

Gene: PhriskyACE_51 Start: 36416, Stop: 36979, Start Num: 51

Candidate Starts for PhriskyACE_51:

(22, 36212), (24, 36227), (Start: 49 @36410 has 1 MA's), (Start: 51 @36416 has 46 MA's), (56, 36524), (61, 36608), (62, 36620), (63, 36626), (71, 36716), (80, 36803), (83, 36830), (85, 36863), (87, 36866), (88, 36872), (91, 36896),

Gene: Pipp_59 Start: 37969, Stop: 38559, Start Num: 51

Candidate Starts for Pipp_59:

(27, 37807), (31, 37855), (Start: 51 @37969 has 46 MA's), (62, 38173), (71, 38269), (72, 38290), (75, 38323), (77, 38341), (85, 38437), (87, 38440), (88, 38446), (89, 38449), (91, 38470),

Gene: Pollux_57 Start: 40516, Stop: 41088, Start Num: 51

Candidate Starts for Pollux_57:

(46, 40486), (Start: 49 @40510 has 1 MA's), (Start: 51 @40516 has 46 MA's), (56, 40624), (62, 40720),

Gene: Powerball_52 Start: 36542, Stop: 37105, Start Num: 51

Candidate Starts for Powerball_52:

(22, 36338), (24, 36353), (Start: 49 @36536 has 1 MA's), (Start: 51 @36542 has 46 MA's), (56, 36650), (61, 36734), (62, 36746), (63, 36752), (71, 36842), (80, 36929), (83, 36956), (85, 36989), (87, 36992), (88, 36998), (91, 37022),

Gene: Samba_56 Start: 39498, Stop: 40085, Start Num: 51

Candidate Starts for Samba_56:

(Start: 51 @39498 has 46 MA's), (62, 39699), (71, 39795), (77, 39867), (85, 39963), (87, 39966), (88, 39972), (89, 39975), (91, 39996),

Gene: Schnabeltier_62 Start: 41372, Stop: 42097, Start Num: 47

Candidate Starts for Schnabeltier_62:

(Start: 47 @41372 has 10 MA's), (Start: 51 @41390 has 46 MA's), (62, 41597), (68, 41654), (70, 41669), (74, 41726), (79, 41777), (93, 41897), (94, 41906), (95, 41909),

Gene: ShawBrad_100 Start: 50885, Stop: 51478, Start Num: 51

Candidate Starts for ShawBrad_100:

(1, 50216), (2, 50306), (4, 50372), (8, 50474), (12, 50525), (15, 50567), (19, 50621), (21, 50627), (34, 50783), (35, 50789), (36, 50798), (39, 50813), (45, 50855), (Start: 51 @50885 has 46 MA's), (54, 50951), (65, 51107), (71, 51173), (83, 51287), (89, 51335), (93, 51377), (101, 51449), (102, 51473),

Gene: Sidious_54 Start: 38723, Stop: 39313, Start Num: 51

Candidate Starts for Sidious_54:

(22, 38519), (32, 38621), (Start: 49 @38717 has 1 MA's), (Start: 51 @38723 has 46 MA's), (62, 38927), (63, 38933), (71, 39023), (72, 39044), (77, 39095), (85, 39191), (87, 39194), (88, 39200), (91, 39224),

Gene: Sidious_59 Start: 42258, Stop: 42845, Start Num: 51

Candidate Starts for Sidious_59:

(11, 41895), (16, 41973), (20, 42003), (26, 42066), (Start: 51 @42258 has 46 MA's), (62, 42468), (70, 42540), (71, 42564), (77, 42636), (85, 42711), (86, 42714), (88, 42720), (93, 42765), (94, 42774),

Gene: Sparky_80 Start: 54416, Stop: 54964, Start Num: 51

Candidate Starts for Sparky_80:

(36, 54326), (42, 54365), (Start: 51 @54416 has 46 MA's), (66, 54650), (77, 54785), (93, 54902), (94, 54911), (97, 54923),

Gene: Spooky_97 Start: 52512, Stop: 53075, Start Num: 51

Candidate Starts for Spooky_97:

(17, 52416), (Start: 51 @52512 has 46 MA's), (55, 52608), (62, 52719), (65, 52743), (71, 52809), (83, 52923), (89, 52971), (93, 53013),

Gene: Sprinklemunch_61 Start: 41882, Stop: 42448, Start Num: 51

Candidate Starts for Sprinklemunch_61:

(46, 41852), (Start: 49 @41876 has 1 MA's), (Start: 51 @41882 has 46 MA's), (56, 41990), (77, 42251), (85, 42326), (87, 42329), (88, 42335),

Gene: TPA4_56 Start: 40632, Stop: 41162, Start Num: 51

Candidate Starts for TPA4_56:

(13, 40278), (37, 40551), (Start: 51 @40632 has 46 MA's), (52, 40650), (53, 40698), (64, 40863), (67, 40893), (77, 41004), (96, 41151),

Gene: TaronosaurusRx_65 Start: 41369, Stop: 42100, Start Num: 47

Candidate Starts for TaronosaurusRx_65:

(Start: 47 @41369 has 10 MA's), (Start: 51 @41387 has 46 MA's), (56, 41501), (62, 41594), (68, 41651), (70, 41666), (79, 41774), (93, 41894), (94, 41903), (95, 41906), (103, 41996),

Gene: ThankyouJordi_62 Start: 43975, Stop: 44550, Start Num: 51

Candidate Starts for ThankyouJordi_62:

(Start: 51 @43975 has 46 MA's), (56, 44089), (62, 44182), (70, 44254), (71, 44278), (73, 44308), (77, 44350), (85, 44425), (87, 44431), (93, 44482),

Gene: Tuti_55 Start: 37172, Stop: 37759, Start Num: 51

Candidate Starts for Tuti_55:

(23, 36995), (25, 37016), (Start: 49 @37166 has 1 MA's), (Start: 51 @37172 has 46 MA's), (56, 37280), (62, 37376), (63, 37382), (71, 37472), (83, 37610), (85, 37643), (87, 37646), (88, 37652), (91, 37676),

Gene: Walrus_55 Start: 36777, Stop: 37367, Start Num: 51

Candidate Starts for Walrus_55:

(27, 36615), (31, 36663), (Start: 51 @36777 has 46 MA's), (62, 36981), (71, 37077), (72, 37098), (75, 37131), (77, 37149), (85, 37245), (87, 37248), (88, 37254), (89, 37257), (91, 37278),

Gene: WelcomeAyanna_62 Start: 44122, Stop: 44697, Start Num: 51

Candidate Starts for WelcomeAyanna_62:

(Start: 51 @44122 has 46 MA's), (56, 44236), (62, 44329), (70, 44401), (71, 44425), (73, 44455), (77, 44497), (85, 44572), (87, 44578), (93, 44629),

Gene: Wocket_57 Start: 37262, Stop: 37849, Start Num: 51

Candidate Starts for Wocket_57:

(3, 36689), (5, 36764), (27, 37100), (31, 37148), (38, 37181), (Start: 51 @37262 has 46 MA's), (62, 37463), (69, 37529), (71, 37559), (77, 37631), (85, 37727), (87, 37730), (88, 37736), (91, 37760),

Gene: ZAYM_64 Start: 41414, Stop: 42145, Start Num: 47

Candidate Starts for ZAYM_64:

(Start: 47 @41414 has 10 MA's), (Start: 51 @41432 has 46 MA's), (56, 41546), (62, 41639), (68, 41696), (70, 41711), (79, 41819), (93, 41939), (94, 41948), (95, 41951),

Gene: Zarbodnamra_56 Start: 36684, Stop: 37271, Start Num: 51

Candidate Starts for Zarbodnamra_56:

(Start: 51 @36684 has 46 MA's), (62, 36885), (71, 36981), (77, 37053), (85, 37149), (87, 37152), (88, 37158), (91, 37182),

Gene: Zilla_56 Start: 36440, Stop: 37027, Start Num: 51

Candidate Starts for Zilla_56:

(Start: 51 @36440 has 46 MA's), (62, 36641), (71, 36737), (77, 36809), (85, 36905), (87, 36908), (88, 36914), (89, 36917), (91, 36938),