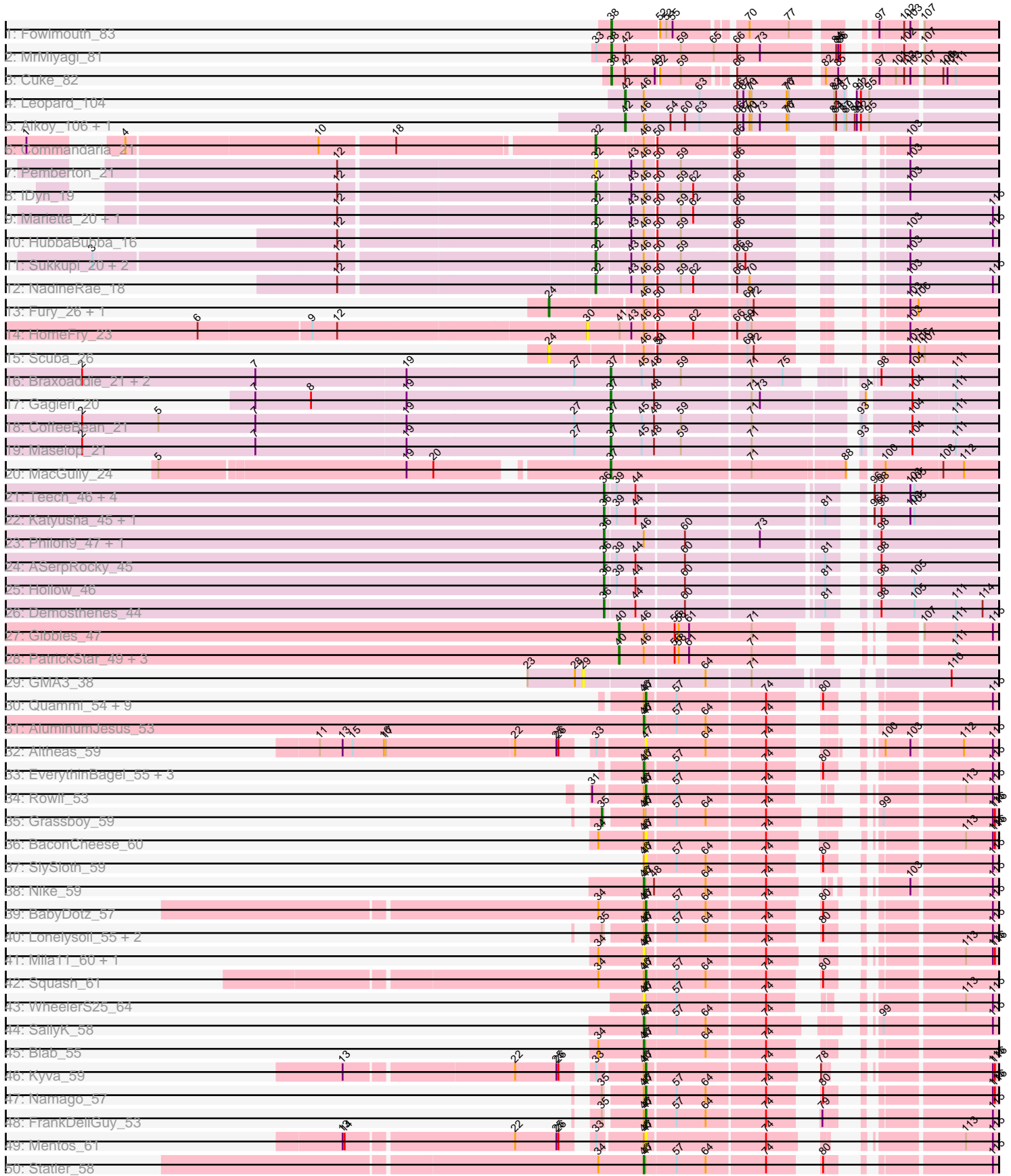
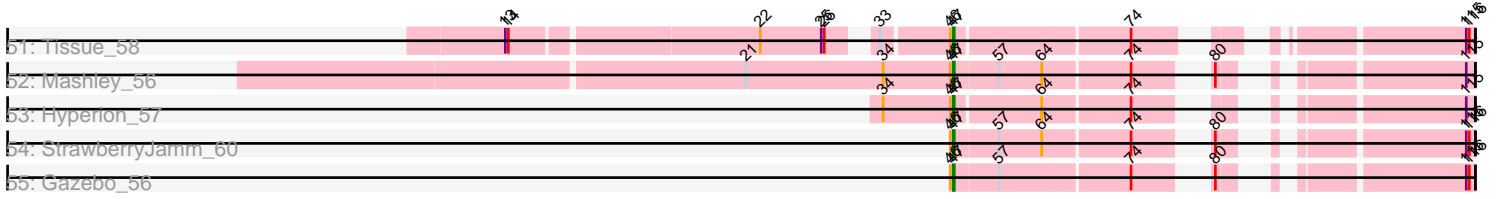


Pham 294636



Pham 294636



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 294636 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294636 has 86 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Fowlmouth_83
- Track 2 : MrMiyagi_81
- Track 3 : Cuke_82
- Track 4 : Leopard_104
- Track 5 : Aikoy_106, Onyinye_105
- Track 6 : Commandaria_21
- Track 7 : Pemberton_21
- Track 8 : IDyn_19
- Track 9 : Marietta_20, WhoseManz_20
- Track 10 : HubbaBubba_16
- Track 11 : Sukkupi_20, BiPauneto_21, Yndexa_20
- Track 12 : NadineRae_18
- Track 13 : Fury_26, Pleakley_26
- Track 14 : HomeFry_23
- Track 15 : Scuba_26
- Track 16 : Braxoaddie_21, Polyuyuki_21, Apiary_21
- Track 17 : Gagjeri_20
- Track 18 : CoffeeBean_21
- Track 19 : Maselop_21
- Track 20 : MacGully_24
- Track 21 : Teech_46, Tredge_46, Niagara_45, Kvothe_45, Teatealatte_46
- Track 22 : Katyusha_45, Benczkowski14_45
- Track 23 : Philon9_47, Vitaenoi_47
- Track 24 : ASerpRocky_45
- Track 25 : Hollow_46
- Track 26 : Demosthenes_44
- Track 27 : Gibbles_47
- Track 28 : PatrickStar_49, RobinSparkles_52, Orchid_48, Kampe_49
- Track 29 : GMA3_38
- Track 30 : Quammi_54, Wheelie_56, Casend_57, Llemily_56, Sillytadpoles_57, DonaldDuck_56, Viceroy_55, Zhafia_59, Wayne3_58, Teehee_57
- Track 31 : AluminumJesus_53
- Track 32 : Altheas_59
- Track 33 : EverythinBagel_55, Jehoshaphat_58, Rudy_54, Phabia_56
- Track 34 : Rowlf_53
- Track 35 : Grassboy_59
- Track 36 : BaconCheese_60

- Track 37 : SlySloth_59
- Track 38 : Nike_59
- Track 39 : BabyDotz_57
- Track 40 : Lonelysoil_55, Zagie_57, Judebell_58
- Track 41 : Mila11_60, MorillMayhem_58
- Track 42 : Squash_61
- Track 43 : WheelerS25_64
- Track 44 : SallyK_58
- Track 45 : Blab_55
- Track 46 : Kyva_59
- Track 47 : Namago_57
- Track 48 : FrankDeliGuy_53
- Track 49 : Mentos_61
- Track 50 : Statler_58
- Track 51 : Tissue_58
- Track 52 : Mashley_56
- Track 53 : Hyperion_57
- Track 54 : StrawberryJamm_60
- Track 55 : Gazebo_56

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

The start number called the most often in the published annotations is 47, it was called in 24 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altheas_59, BabyDotz_57, BaconCheese_60, Casend_57, DonaldDuck_56, FrankDeliGuy_53, Gazebo_56, Hyperion_57, Judebell_58, Kyva_59, Llemily_56, Lonelysoil_55, Mashley_56, Mentos_61, Namago_57, Quammi_54, Rowlf_53, Sillytadpoles_57, SlySloth_59, Squash_61, StrawberryJamm_60, Teehee_57, Tissue_58, Viceroy_55, Wayne3_58, Wheelie_56, Zagie_57, Zhafia_59,

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

- AluminumJesus_53, Blab_55, EverythinBagel_55, Grassboy_59, Jehoshaphat_58, Mila11_60, MorillMayhem_58, Nike_59, Phabia_56, Rudy_54, SallyK_58, Statler_58, WheelerS25_64,

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

- ASerpRocky_45, Aikoy_106, Apiary_21, Benczkowski14_45, BiPauneto_21, Braxoaddie_21, CoffeeBean_21, Commandaria_21, Cuke_82, Demosthenes_44, Fowlmouth_83, Fury_26, GMA3_38, Gagieri_20, Gibbles_47, Hollow_46, HomeFry_23, HubbaBubba_16, IDyn_19, Kampe_49, Katyusha_45, Kvothe_45, Leopard_104, MacGully_24, Marietta_20, Maselop_21, MrMiyagi_81, NadineRae_18, Niagara_45, Onyinye_105, Orchid_48, PatrickStar_49, Pemberton_21, Philon9_47, Pleakley_26, Polyuyuki_21, RobinSparkles_52, Scuba_26, Sukkupi_20, Teatealatte_46, Teech_46, Tredge_46, Vitaenoi_47, WhoseManz_20, Yndexa_20,

Summary by start number:

Start 24:

- Found in 3 of 86 (3.5%) of genes in pham
- Manual Annotations of this start: 2 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fury_26 (CR5), Pleakley_26 (CR5), Scuba_26 (CR5),

Start 29:

- Found in 1 of 86 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA3_38 (DF2),

Start 30:

- Found in 1 of 86 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HomeFry_23 (CR5),

Start 32:

- Found in 10 of 86 (11.6%) of genes in pham
- Manual Annotations of this start: 9 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BiPauneto_21 (CR4), Commandaria_21 (CR2), HubbaBubba_16 (CR4), IDyn_19 (CR4), Marietta_20 (CR4), NadineRae_18 (CR4), Pemberton_21 (CR4), Sukkupi_20 (CR4), WhoseManz_20 (CR4), Yndexa_20 (CR4),

Start 35:

- Found in 6 of 86 (7.0%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Grassboy_59 (EG),

Start 36:

- Found in 12 of 86 (14.0%) of genes in pham
- Manual Annotations of this start: 12 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ASerpRocky_45 (CS4), Benczkowski14_45 (CS4), Demosthenes_44 (CS4), Hollow_46 (CS4), Katyusha_45 (CS4), Kvothe_45 (CS4), Niagara_45 (CS4), Philon9_47 (CS4), Teatealatte_46 (CS4), Teech_46 (CS4), Tredge_46 (CS4), Vitaenoi_47 (CS4),

Start 37:

- Found in 7 of 86 (8.1%) of genes in pham
- Manual Annotations of this start: 7 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apiary_21 (CR6), Braxoaddie_21 (CR6), CoffeeBean_21 (CR6), Gagieri_20 (CR6), MacGully_24 (CR7), Maselop_21 (CR6), Polyyuki_21 (CR6),

Start 38:

- Found in 3 of 86 (3.5%) of genes in pham
- Manual Annotations of this start: 3 of 75

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cuke_82 (AC), Fowlmouth_83 (AC), MrMiyagi_81 (AC),

Start 40:

- Found in 5 of 86 (5.8%) of genes in pham
- Manual Annotations of this start: 5 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gibbles_47 (CX), Kampe_49 (CX), Orchid_48 (CX), PatrickStar_49 (CX), RobinSparkles_52 (CX),

Start 42:

- Found in 5 of 86 (5.8%) of genes in pham
- Manual Annotations of this start: 3 of 75
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Aikoy_106 (AE), Leopard_104 (AE), Onyinye_105 (AE),

Start 46:

- Found in 64 of 86 (74.4%) of genes in pham
- Manual Annotations of this start: 9 of 75
- Called 18.8% of time when present
- Phage (with cluster) where this start called: AluminumJesus_53 (EG), Blab_55 (EG), EverythinBagel_55 (EG), Jehoshaphat_58 (EG), Mila11_60 (EG), MorillMayhem_58 (EG), Nike_59 (EG), Phabia_56 (EG), Rudy_54 (EG), SallyK_58 (EG), Statler_58 (EG), WheelerS25_64 (EG),

Start 47:

- Found in 41 of 86 (47.7%) of genes in pham
- Manual Annotations of this start: 24 of 75
- Called 68.3% of time when present
- Phage (with cluster) where this start called: Altheas_59 (EG), BabyDotz_57 (EG), BaconCheese_60 (EG), Casend_57 (EG), DonaldDuck_56 (EG), FrankDeliGuy_53 (EG), Gazebo_56 (EG), Hyperion_57 (EG), Judebell_58 (EG), Kyva_59 (EG), Llemily_56 (EG), Lonelysoil_55 (EG), Mashley_56 (EG), Mentos_61 (EG), Namago_57 (EG), Quamm_i_54 (EG), Rowlf_53 (EG), Sillytadpoles_57 (EG), SlySloth_59 (EG), Squash_61 (EG), StrawberryJamm_60 (EG), Teehee_57 (EG), Tissue_58 (EG), Viceroy_55 (EG), Wayne3_58 (EG), Wheelie_56 (EG), Zagie_57 (EG), Zhafia_59 (EG),

Summary by clusters:

There are 11 clusters represented in this pham: CR2, AC, AE, CR6, CR4, CR5, EG, DF2, CX, CS4, CR7,

Info for manual annotations of cluster AC:

- Start number 38 was manually annotated 3 times for cluster AC.

Info for manual annotations of cluster AE:

- Start number 42 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster CR2:

- Start number 32 was manually annotated 1 time for cluster CR2.

Info for manual annotations of cluster CR4:

- Start number 32 was manually annotated 8 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 24 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CR6:

- Start number 37 was manually annotated 6 times for cluster CR6.

Info for manual annotations of cluster CR7:

- Start number 37 was manually annotated 1 time for cluster CR7.

Info for manual annotations of cluster CS4:

- Start number 36 was manually annotated 12 times for cluster CS4.

Info for manual annotations of cluster CX:

- Start number 40 was manually annotated 5 times for cluster CX.

Info for manual annotations of cluster EG:

- Start number 35 was manually annotated 1 time for cluster EG.
- Start number 46 was manually annotated 9 times for cluster EG.
- Start number 47 was manually annotated 24 times for cluster EG.

Gene Information:

Gene: ASerpRocky_45 Start: 46949, Stop: 46455, Start Num: 36

Candidate Starts for ASerpRocky_45:

(Start: 36 @46949 has 12 MA's), (39, 46934), (44, 46907), (60, 46841), (81, 46658), (98, 46619),

Gene: Aikoy_106 Start: 67335, Stop: 67865, Start Num: 42

Candidate Starts for Aikoy_106:

(Start: 42 @67335 has 3 MA's), (Start: 46 @67362 has 9 MA's), (54, 67401), (60, 67422), (63, 67443), (66, 67494), (67, 67503), (70, 67512), (71, 67515), (73, 67527), (76, 67566), (77, 67569), (83, 67635), (84, 67638), (87, 67650), (89, 67653), (90, 67665), (91, 67668), (92, 67674), (95, 67686),

Gene: Altheas_59 Start: 43024, Stop: 42620, Start Num: 47

Candidate Starts for Altheas_59:

(11, 43459), (13, 43426), (15, 43411), (16, 43366), (17, 43363), (22, 43180), (25, 43120), (26, 43117), (33, 43087), (Start: 47 @43024 has 24 MA's), (64, 42937), (74, 42856), (100, 42775), (103, 42739), (112, 42670), (115, 42628),

Gene: AluminumJesus_53 Start: 41962, Stop: 41567, Start Num: 46

Candidate Starts for AluminumJesus_53:

(Start: 46 @41962 has 9 MA's), (Start: 47 @41959 has 24 MA's), (57, 41917), (64, 41875), (74, 41794),

Gene: Apiary_21 Start: 10881, Stop: 11363, Start Num: 37

Candidate Starts for Apiary_21:

(2, 10119), (7, 10371), (19, 10587), (27, 10830), (Start: 37 @10881 has 7 MA's), (45, 10926), (48, 10944), (59, 10980), (71, 11076), (75, 11121), (98, 11196), (104, 11241), (111, 11301),

Gene: BabyDotz_57 Start: 43429, Stop: 43037, Start Num: 47

Candidate Starts for BabyDotz_57:

(34, 43498), (Start: 46 @43432 has 9 MA's), (Start: 47 @43429 has 24 MA's), (57, 43387), (64, 43345), (74, 43264), (80, 43219), (115, 43045),

Gene: BaconCheese_60 Start: 43894, Stop: 43499, Start Num: 47

Candidate Starts for BaconCheese_60:

(34, 43963), (Start: 46 @43897 has 9 MA's), (Start: 47 @43894 has 24 MA's), (74, 43732), (113, 43546), (115, 43507), (116, 43504),

Gene: Benczkowski14_45 Start: 47238, Stop: 46744, Start Num: 36

Candidate Starts for Benczkowski14_45:

(Start: 36 @47238 has 12 MA's), (39, 47223), (44, 47196), (81, 46947), (96, 46917), (98, 46908), (103, 46866), (105, 46860),

Gene: BiPauneto_21 Start: 8586, Stop: 9044, Start Num: 32

Candidate Starts for BiPauneto_21:

(3, 7887), (12, 8232), (Start: 32 @8586 has 9 MA's), (43, 8634), (Start: 46 @8652 has 9 MA's), (50, 8667), (59, 8700), (66, 8775), (68, 8787), (103, 8916),

Gene: Blab_55 Start: 42584, Stop: 42189, Start Num: 46

Candidate Starts for Blab_55:

(34, 42650), (Start: 46 @42584 has 9 MA's), (Start: 47 @42581 has 24 MA's), (64, 42497), (74, 42416),

Gene: Braxoaddie_21 Start: 10869, Stop: 11351, Start Num: 37

Candidate Starts for Braxoaddie_21:

(2, 10107), (7, 10359), (19, 10575), (27, 10818), (Start: 37 @10869 has 7 MA's), (45, 10914), (48, 10932), (59, 10968), (71, 11064), (75, 11109), (98, 11184), (104, 11229), (111, 11289),

Gene: Casend_57 Start: 42837, Stop: 42448, Start Num: 47

Candidate Starts for Casend_57:

(Start: 46 @42840 has 9 MA's), (Start: 47 @42837 has 24 MA's), (57, 42798), (74, 42675), (80, 42630), (115, 42456),

Gene: CoffeeBean_21 Start: 10806, Stop: 11321, Start Num: 37

Candidate Starts for CoffeeBean_21:

(2, 10044), (5, 10155), (7, 10296), (19, 10512), (27, 10755), (Start: 37 @10806 has 7 MA's), (45, 10851), (48, 10869), (59, 10905), (71, 11001), (93, 11136), (104, 11199), (111, 11259),

Gene: Commandaria_21 Start: 9793, Stop: 10248, Start Num: 32

Candidate Starts for Commandaria_21:

(1, 9061), (4, 9148), (10, 9418), (18, 9520), (Start: 32 @9793 has 9 MA's), (Start: 46 @9856 has 9 MA's), (50, 9871), (66, 9979), (103, 10120),

Gene: Cuke_82 Start: 48535, Stop: 49002, Start Num: 38

Candidate Starts for Cuke_82:

(Start: 38 @48535 has 3 MA's), (Start: 42 @48553 has 3 MA's), (49, 48595), (52, 48598), (59, 48628), (66, 48685), (82, 48799), (85, 48817), (97, 48841), (101, 48862), (102, 48874), (103, 48883), (107, 48895), (108, 48922), (109, 48928), (111, 48940),

Gene: Demosthenes_44 Start: 46925, Stop: 46431, Start Num: 36

Candidate Starts for Demosthenes_44:

(Start: 36 @46925 has 12 MA's), (44, 46883), (60, 46817), (81, 46634), (98, 46595), (105, 46547), (111, 46490), (114, 46451),

Gene: DonaldDuck_56 Start: 42186, Stop: 41797, Start Num: 47

Candidate Starts for DonaldDuck_56:

(Start: 46 @42189 has 9 MA's), (Start: 47 @42186 has 24 MA's), (57, 42147), (74, 42024), (80, 41979), (115, 41805),

Gene: EverythinBagel_55 Start: 42550, Stop: 42158, Start Num: 46

Candidate Starts for EverythinBagel_55:

(Start: 46 @42550 has 9 MA's), (Start: 47 @42547 has 24 MA's), (57, 42508), (74, 42385), (80, 42340), (115, 42166),

Gene: Fowlmouth_83 Start: 51110, Stop: 51577, Start Num: 38

Candidate Starts for Fowlmouth_83:

(Start: 38 @51110 has 3 MA's), (52, 51173), (53, 51182), (55, 51191), (70, 51278), (77, 51335), (97, 51416), (102, 51449), (103, 51458), (107, 51470),

Gene: FrankDeliGuy_53 Start: 42165, Stop: 41773, Start Num: 47

Candidate Starts for FrankDeliGuy_53:

(Start: 35 @42216 has 1 MA's), (Start: 46 @42168 has 9 MA's), (Start: 47 @42165 has 24 MA's), (57, 42126), (64, 42084), (74, 42003), (79, 41958), (115, 41781),

Gene: Fury_26 Start: 10463, Stop: 10972, Start Num: 24

Candidate Starts for Fury_26:

(Start: 24 @10463 has 2 MA's), (Start: 46 @10580 has 9 MA's), (50, 10595), (69, 10718), (72, 10727), (103, 10844), (106, 10856),

Gene: GMA3_38 Start: 40837, Stop: 40325, Start Num: 29

Candidate Starts for GMA3_38:

(23, 40918), (28, 40849), (29, 40837), (64, 40669), (71, 40609), (110, 40390),

Gene: Gagieri_20 Start: 10423, Stop: 10938, Start Num: 37

Candidate Starts for Gagieri_20:

(7, 9913), (8, 9994), (19, 10129), (Start: 37 @10423 has 7 MA's), (48, 10486), (71, 10618), (73, 10630), (94, 10759), (104, 10816), (111, 10876),

Gene: Gazebo_56 Start: 42670, Stop: 42278, Start Num: 47

Candidate Starts for Gazebo_56:

(Start: 46 @42673 has 9 MA's), (Start: 47 @42670 has 24 MA's), (57, 42628), (74, 42505), (80, 42460), (115, 42286), (116, 42283),

Gene: Gibbles_47 Start: 45170, Stop: 44748, Start Num: 40

Candidate Starts for Gibbles_47:

(Start: 40 @45170 has 5 MA's), (Start: 46 @45134 has 9 MA's), (56, 45095), (58, 45089), (61, 45074), (71, 44984), (107, 44855), (111, 44810), (115, 44756),

Gene: Grassboy_59 Start: 43110, Stop: 42643, Start Num: 35

Candidate Starts for Grassboy_59:

(Start: 35 @43110 has 1 MA's), (Start: 46 @43062 has 9 MA's), (Start: 47 @43059 has 24 MA's), (57, 43020), (64, 42978), (74, 42897), (99, 42801), (115, 42651), (116, 42648),

Gene: Hollow_46 Start: 47574, Stop: 47080, Start Num: 36

Candidate Starts for Hollow_46:

(Start: 36 @47574 has 12 MA's), (39, 47559), (44, 47532), (60, 47466), (81, 47283), (98, 47244), (105, 47196),

Gene: HomeFry_23 Start: 9368, Stop: 9835, Start Num: 30

Candidate Starts for HomeFry_23:

(6, 8822), (9, 8981), (12, 9017), (30, 9368), (41, 9413), (43, 9428), (Start: 46 @9443 has 9 MA's), (50, 9458), (62, 9509), (66, 9566), (69, 9581), (71, 9587), (103, 9707),

Gene: HubbaBubba_16 Start: 7112, Stop: 7570, Start Num: 32

Candidate Starts for HubbaBubba_16:

(12, 6758), (Start: 32 @7112 has 9 MA's), (43, 7160), (Start: 46 @7178 has 9 MA's), (50, 7193), (59, 7226), (66, 7301), (103, 7442), (115, 7562),

Gene: Hyperion_57 Start: 42845, Stop: 42456, Start Num: 47

Candidate Starts for Hyperion_57:

(34, 42914), (Start: 46 @42848 has 9 MA's), (Start: 47 @42845 has 24 MA's), (64, 42764), (74, 42683), (115, 42464),

Gene: IDyn_19 Start: 8503, Stop: 8961, Start Num: 32

Candidate Starts for IDyn_19:

(12, 8149), (Start: 32 @8503 has 9 MA's), (43, 8551), (Start: 46 @8569 has 9 MA's), (50, 8584), (59, 8617), (62, 8635), (66, 8692), (103, 8833),

Gene: Jehoshaphat_58 Start: 43108, Stop: 42716, Start Num: 46

Candidate Starts for Jehoshaphat_58:

(Start: 46 @43108 has 9 MA's), (Start: 47 @43105 has 24 MA's), (57, 43066), (74, 42943), (80, 42898), (115, 42724),

Gene: Judebell_58 Start: 42554, Stop: 42165, Start Num: 47

Candidate Starts for Judebell_58:

(Start: 35 @42605 has 1 MA's), (Start: 46 @42557 has 9 MA's), (Start: 47 @42554 has 24 MA's), (57, 42515), (64, 42473), (74, 42392), (80, 42347), (115, 42173),

Gene: Kampe_49 Start: 45153, Stop: 44731, Start Num: 40

Candidate Starts for Kampe_49:

(Start: 40 @45153 has 5 MA's), (Start: 46 @45117 has 9 MA's), (56, 45078), (58, 45072), (61, 45057), (71, 44967), (111, 44793),

Gene: Katyusha_45 Start: 47238, Stop: 46744, Start Num: 36

Candidate Starts for Katyusha_45:

(Start: 36 @47238 has 12 MA's), (39, 47223), (44, 47196), (81, 46947), (96, 46917), (98, 46908), (103, 46866), (105, 46860),

Gene: Kvothe_45 Start: 47137, Stop: 46643, Start Num: 36

Candidate Starts for Kvothe_45:

(Start: 36 @47137 has 12 MA's), (39, 47122), (44, 47095), (96, 46816), (98, 46807), (103, 46765), (105, 46759),

Gene: Kyva_59 Start: 43089, Stop: 42700, Start Num: 47

Candidate Starts for Kyva_59:

(13, 43476), (22, 43245), (25, 43185), (26, 43182), (33, 43152), (Start: 46 @43092 has 9 MA's), (Start: 47 @43089 has 24 MA's), (74, 42927), (78, 42882), (115, 42708), (116, 42705),

Gene: Leopard_104 Start: 67266, Stop: 67778, Start Num: 42

Candidate Starts for Leopard_104:

(Start: 42 @67266 has 3 MA's), (Start: 46 @67293 has 9 MA's), (63, 67374), (66, 67425), (67, 67434), (70, 67443), (71, 67446), (76, 67497), (77, 67500), (83, 67566), (84, 67569), (87, 67581), (91, 67584), (92, 67590), (95, 67599),

Gene: Llemily_56 Start: 41881, Stop: 41492, Start Num: 47

Candidate Starts for Llemily_56:

(Start: 46 @41884 has 9 MA's), (Start: 47 @41881 has 24 MA's), (57, 41842), (74, 41719), (80, 41674), (115, 41500),

Gene: Lonelysoil_55 Start: 42037, Stop: 41648, Start Num: 47

Candidate Starts for Lonelysoil_55:

(Start: 35 @42088 has 1 MA's), (Start: 46 @42040 has 9 MA's), (Start: 47 @42037 has 24 MA's), (57, 41998), (64, 41956), (74, 41875), (80, 41830), (115, 41656),

Gene: MacGully_24 Start: 10356, Stop: 10865, Start Num: 37

Candidate Starts for MacGully_24:

(5, 9750), (19, 10098), (20, 10137), (Start: 37 @10356 has 7 MA's), (71, 10551), (88, 10677), (100, 10704), (108, 10785), (112, 10815),

Gene: Marietta_20 Start: 8429, Stop: 8887, Start Num: 32

Candidate Starts for Marietta_20:

(12, 8075), (Start: 32 @8429 has 9 MA's), (43, 8477), (Start: 46 @8495 has 9 MA's), (50, 8510), (59, 8543), (62, 8561), (66, 8618), (115, 8879),

Gene: Maselop_21 Start: 10882, Stop: 11397, Start Num: 37

Candidate Starts for Maselop_21:

(2, 10120), (7, 10372), (19, 10588), (27, 10831), (Start: 37 @10882 has 7 MA's), (45, 10927), (48, 10945), (59, 10981), (71, 11077), (93, 11212), (104, 11275), (111, 11335),

Gene: Mashley_56 Start: 42624, Stop: 42232, Start Num: 47

Candidate Starts for Mashley_56:

(21, 42828), (34, 42693), (Start: 46 @42627 has 9 MA's), (Start: 47 @42624 has 24 MA's), (57, 42582), (64, 42540), (74, 42459), (80, 42414), (115, 42240),

Gene: Mentos_61 Start: 43855, Stop: 43466, Start Num: 47

Candidate Starts for Mentos_61:

(13, 44245), (14, 44242), (22, 44011), (25, 43951), (26, 43948), (33, 43918), (Start: 46 @43858 has 9 MA's), (Start: 47 @43855 has 24 MA's), (74, 43693), (113, 43513), (115, 43474),

Gene: Mila11_60 Start: 44086, Stop: 43688, Start Num: 46

Candidate Starts for Mila11_60:

(34, 44152), (Start: 46 @44086 has 9 MA's), (Start: 47 @44083 has 24 MA's), (74, 43921), (113, 43735), (115, 43696), (116, 43693),

Gene: MorillMayhem_58 Start: 42963, Stop: 42565, Start Num: 46

Candidate Starts for MorillMayhem_58:

(34, 43029), (Start: 46 @42963 has 9 MA's), (Start: 47 @42960 has 24 MA's), (74, 42798), (113, 42612), (115, 42573), (116, 42570),

Gene: MrMiyagi_81 Start: 51354, Stop: 51842, Start Num: 38

Candidate Starts for MrMiyagi_81:

(33, 51333), (Start: 38 @51354 has 3 MA's), (Start: 42 @51372 has 3 MA's), (59, 51447), (65, 51495), (66, 51525), (73, 51558), (84, 51654), (85, 51657), (86, 51660), (102, 51714), (107, 51735),

Gene: NadineRae_18 Start: 7679, Stop: 8137, Start Num: 32

Candidate Starts for NadineRae_18:

(12, 7325), (Start: 32 @7679 has 9 MA's), (43, 7727), (Start: 46 @7745 has 9 MA's), (50, 7760), (59, 7793), (62, 7811), (66, 7868), (70, 7886), (103, 8009), (115, 8129),

Gene: Namago_57 Start: 42027, Stop: 41638, Start Num: 47

Candidate Starts for Namago_57:

(Start: 35 @42078 has 1 MA's), (Start: 46 @42030 has 9 MA's), (Start: 47 @42027 has 24 MA's), (57, 41988), (64, 41946), (74, 41865), (80, 41820), (115, 41646), (116, 41643),

Gene: Niagara_45 Start: 47216, Stop: 46722, Start Num: 36

Candidate Starts for Niagara_45:

(Start: 36 @47216 has 12 MA's), (39, 47201), (44, 47174), (96, 46895), (98, 46886), (103, 46844), (105, 46838),

Gene: Nike_59 Start: 43351, Stop: 42950, Start Num: 46

Candidate Starts for Nike_59:

(Start: 46 @43351 has 9 MA's), (Start: 47 @43348 has 24 MA's), (48, 43336), (64, 43264), (74, 43183), (103, 43069), (115, 42958),

Gene: Onyinye_105 Start: 67128, Stop: 67658, Start Num: 42

Candidate Starts for Onyinye_105:

(Start: 42 @67128 has 3 MA's), (Start: 46 @67155 has 9 MA's), (54, 67194), (60, 67215), (63, 67236), (66, 67287), (67, 67296), (70, 67305), (71, 67308), (73, 67320), (76, 67359), (77, 67362), (83, 67428), (84, 67431), (87, 67443), (89, 67446), (90, 67458), (91, 67461), (92, 67467), (95, 67479),

Gene: Orchid_48 Start: 45154, Stop: 44732, Start Num: 40

Candidate Starts for Orchid_48:

(Start: 40 @45154 has 5 MA's), (Start: 46 @45118 has 9 MA's), (56, 45079), (58, 45073), (61, 45058), (71, 44968), (111, 44794),

Gene: PatrickStar_49 Start: 45153, Stop: 44731, Start Num: 40

Candidate Starts for PatrickStar_49:

(Start: 40 @45153 has 5 MA's), (Start: 46 @45117 has 9 MA's), (56, 45078), (58, 45072), (61, 45057), (71, 44967), (111, 44793),

Gene: Pemberton_21 Start: 8397, Stop: 8855, Start Num: 32

Candidate Starts for Pemberton_21:

(12, 8043), (Start: 32 @8397 has 9 MA's), (43, 8445), (Start: 46 @8463 has 9 MA's), (50, 8478), (59, 8511), (66, 8586), (103, 8727),

Gene: Phabia_56 Start: 42299, Stop: 41907, Start Num: 46

Candidate Starts for Phabia_56:

(Start: 46 @42299 has 9 MA's), (Start: 47 @42296 has 24 MA's), (57, 42257), (74, 42134), (80, 42089), (115, 41915),

Gene: Philon9_47 Start: 48247, Stop: 47753, Start Num: 36

Candidate Starts for Philon9_47:

(Start: 36 @48247 has 12 MA's), (Start: 46 @48193 has 9 MA's), (60, 48139), (73, 48037), (98, 47917),

Gene: Pleakley_26 Start: 10464, Stop: 10973, Start Num: 24

Candidate Starts for Pleakley_26:

(Start: 24 @10464 has 2 MA's), (Start: 46 @10581 has 9 MA's), (50, 10596), (69, 10719), (72, 10728), (103, 10845), (106, 10857),

Gene: Polyuyki_21 Start: 10892, Stop: 11374, Start Num: 37

Candidate Starts for Polyuyki_21:

(2, 10130), (7, 10382), (19, 10598), (27, 10841), (Start: 37 @10892 has 7 MA's), (45, 10937), (48, 10955), (59, 10991), (71, 11087), (75, 11132), (98, 11207), (104, 11252), (111, 11312),

Gene: Quammi_54 Start: 41996, Stop: 41607, Start Num: 47

Candidate Starts for Quammi_54:

(Start: 46 @41999 has 9 MA's), (Start: 47 @41996 has 24 MA's), (57, 41957), (74, 41834), (80, 41789), (115, 41615),

Gene: RobinSparkles_52 Start: 45706, Stop: 45284, Start Num: 40

Candidate Starts for RobinSparkles_52:

(Start: 40 @45706 has 5 MA's), (Start: 46 @45670 has 9 MA's), (56, 45631), (58, 45625), (61, 45610), (71, 45520), (111, 45346),

Gene: Rowlf_53 Start: 41900, Stop: 41508, Start Num: 47

Candidate Starts for Rowlf_53:

(31, 41969), (Start: 46 @41903 has 9 MA's), (Start: 47 @41900 has 24 MA's), (57, 41858), (74, 41735), (113, 41555), (115, 41516),

Gene: Rudy_54 Start: 42035, Stop: 41643, Start Num: 46

Candidate Starts for Rudy_54:

(Start: 46 @42035 has 9 MA's), (Start: 47 @42032 has 24 MA's), (57, 41993), (74, 41870), (80, 41825), (115, 41651),

Gene: SallyK_58 Start: 43182, Stop: 42760, Start Num: 46

Candidate Starts for SallyK_58:

(Start: 46 @43182 has 9 MA's), (Start: 47 @43179 has 24 MA's), (57, 43137), (64, 43095), (74, 43014), (99, 42918), (115, 42768),

Gene: Scuba_26 Start: 10550, Stop: 11059, Start Num: 24

Candidate Starts for Scuba_26:

(Start: 24 @10550 has 2 MA's), (Start: 46 @10667 has 9 MA's), (50, 10682), (51, 10685), (69, 10805), (72, 10814), (103, 10931), (106, 10943), (107, 10952),

Gene: Sillytadpoles_57 Start: 41869, Stop: 41480, Start Num: 47

Candidate Starts for Sillytadpoles_57:

(Start: 46 @41872 has 9 MA's), (Start: 47 @41869 has 24 MA's), (57, 41830), (74, 41707), (80, 41662), (115, 41488),

Gene: SlySloth_59 Start: 42544, Stop: 42152, Start Num: 47

Candidate Starts for SlySloth_59:

(Start: 46 @42547 has 9 MA's), (Start: 47 @42544 has 24 MA's), (57, 42502), (64, 42460), (74, 42379), (80, 42334), (115, 42160),

Gene: Squash_61 Start: 43540, Stop: 43148, Start Num: 47

Candidate Starts for Squash_61:

(34, 43609), (Start: 46 @43543 has 9 MA's), (Start: 47 @43540 has 24 MA's), (57, 43498), (64, 43456), (74, 43375), (80, 43330),

Gene: Statler_58 Start: 42622, Stop: 42227, Start Num: 46

Candidate Starts for Statler_58:

(34, 42688), (Start: 46 @42622 has 9 MA's), (Start: 47 @42619 has 24 MA's), (57, 42577), (64, 42535), (74, 42454), (80, 42409), (115, 42235),

Gene: StrawberryJamm_60 Start: 42333, Stop: 41941, Start Num: 47

Candidate Starts for StrawberryJamm_60:

(Start: 46 @42336 has 9 MA's), (Start: 47 @42333 has 24 MA's), (57, 42291), (64, 42249), (74, 42168), (80, 42123), (115, 41949), (116, 41946),

Gene: Sukkupi_20 Start: 8477, Stop: 8935, Start Num: 32

Candidate Starts for Sukkupi_20:

(3, 7778), (12, 8123), (Start: 32 @8477 has 9 MA's), (43, 8525), (Start: 46 @8543 has 9 MA's), (50, 8558), (59, 8591), (66, 8666), (68, 8678), (103, 8807),

Gene: Teatealatte_46 Start: 47140, Stop: 46646, Start Num: 36

Candidate Starts for Teatealatte_46:

(Start: 36 @47140 has 12 MA's), (39, 47125), (44, 47098), (96, 46819), (98, 46810), (103, 46768), (105, 46762),

Gene: Teech_46 Start: 46941, Stop: 46447, Start Num: 36

Candidate Starts for Teech_46:

(Start: 36 @46941 has 12 MA's), (39, 46926), (44, 46899), (96, 46620), (98, 46611), (103, 46569), (105, 46563),

Gene: Teehee_57 Start: 43102, Stop: 42713, Start Num: 47

Candidate Starts for Teehee_57:

(Start: 46 @43105 has 9 MA's), (Start: 47 @43102 has 24 MA's), (57, 43063), (74, 42940), (80, 42895), (115, 42721),

Gene: Tissue_58 Start: 42946, Stop: 42539, Start Num: 47

Candidate Starts for Tissue_58:

(13, 43333), (14, 43330), (22, 43102), (25, 43042), (26, 43039), (33, 43009), (Start: 46 @42949 has 9 MA's), (Start: 47 @42946 has 24 MA's), (74, 42784), (115, 42547), (116, 42544),

Gene: Tredge_46 Start: 47140, Stop: 46646, Start Num: 36

Candidate Starts for Tredge_46:

(Start: 36 @47140 has 12 MA's), (39, 47125), (44, 47098), (96, 46819), (98, 46810), (103, 46768), (105, 46762),

Gene: Viceroy_55 Start: 42002, Stop: 41613, Start Num: 47

Candidate Starts for Viceroy_55:

(Start: 46 @42005 has 9 MA's), (Start: 47 @42002 has 24 MA's), (57, 41963), (74, 41840), (80, 41795), (115, 41621),

Gene: Vitaenoi_47 Start: 48246, Stop: 47752, Start Num: 36

Candidate Starts for Vitaenoi_47:

(Start: 36 @48246 has 12 MA's), (Start: 46 @48192 has 9 MA's), (60, 48138), (73, 48036), (98, 47916),

Gene: Wayne3_58 Start: 42865, Stop: 42476, Start Num: 47

Candidate Starts for Wayne3_58:

(Start: 46 @42868 has 9 MA's), (Start: 47 @42865 has 24 MA's), (57, 42826), (74, 42703), (80, 42658), (115, 42484),

Gene: WheelerS25_64 Start: 44030, Stop: 43635, Start Num: 46

Candidate Starts for WheelerS25_64:

(Start: 46 @44030 has 9 MA's), (Start: 47 @44027 has 24 MA's), (57, 43985), (74, 43862), (113, 43682), (115, 43643),

Gene: Wheelie_56 Start: 42186, Stop: 41797, Start Num: 47

Candidate Starts for Wheelie_56:

(Start: 46 @42189 has 9 MA's), (Start: 47 @42186 has 24 MA's), (57, 42147), (74, 42024), (80, 41979), (115, 41805),

Gene: WhoseManz_20 Start: 8040, Stop: 8498, Start Num: 32

Candidate Starts for WhoseManz_20:

(12, 7686), (Start: 32 @8040 has 9 MA's), (43, 8088), (Start: 46 @8106 has 9 MA's), (50, 8121), (59, 8154), (62, 8172), (66, 8229), (115, 8490),

Gene: Yndexa_20 Start: 8477, Stop: 8935, Start Num: 32

Candidate Starts for Yndexa_20:

(3, 7778), (12, 8123), (Start: 32 @8477 has 9 MA's), (43, 8525), (Start: 46 @8543 has 9 MA's), (50, 8558), (59, 8591), (66, 8666), (68, 8678), (103, 8807),

Gene: Zagie_57 Start: 42527, Stop: 42138, Start Num: 47

Candidate Starts for Zagie_57:

(Start: 35 @42578 has 1 MA's), (Start: 46 @42530 has 9 MA's), (Start: 47 @42527 has 24 MA's), (57, 42488), (64, 42446), (74, 42365), (80, 42320), (115, 42146),

Gene: Zhafia_59 Start: 42666, Stop: 42277, Start Num: 47

Candidate Starts for Zhafia_59:

(Start: 46 @42669 has 9 MA's), (Start: 47 @42666 has 24 MA's), (57, 42627), (74, 42504), (80, 42459), (115, 42285),