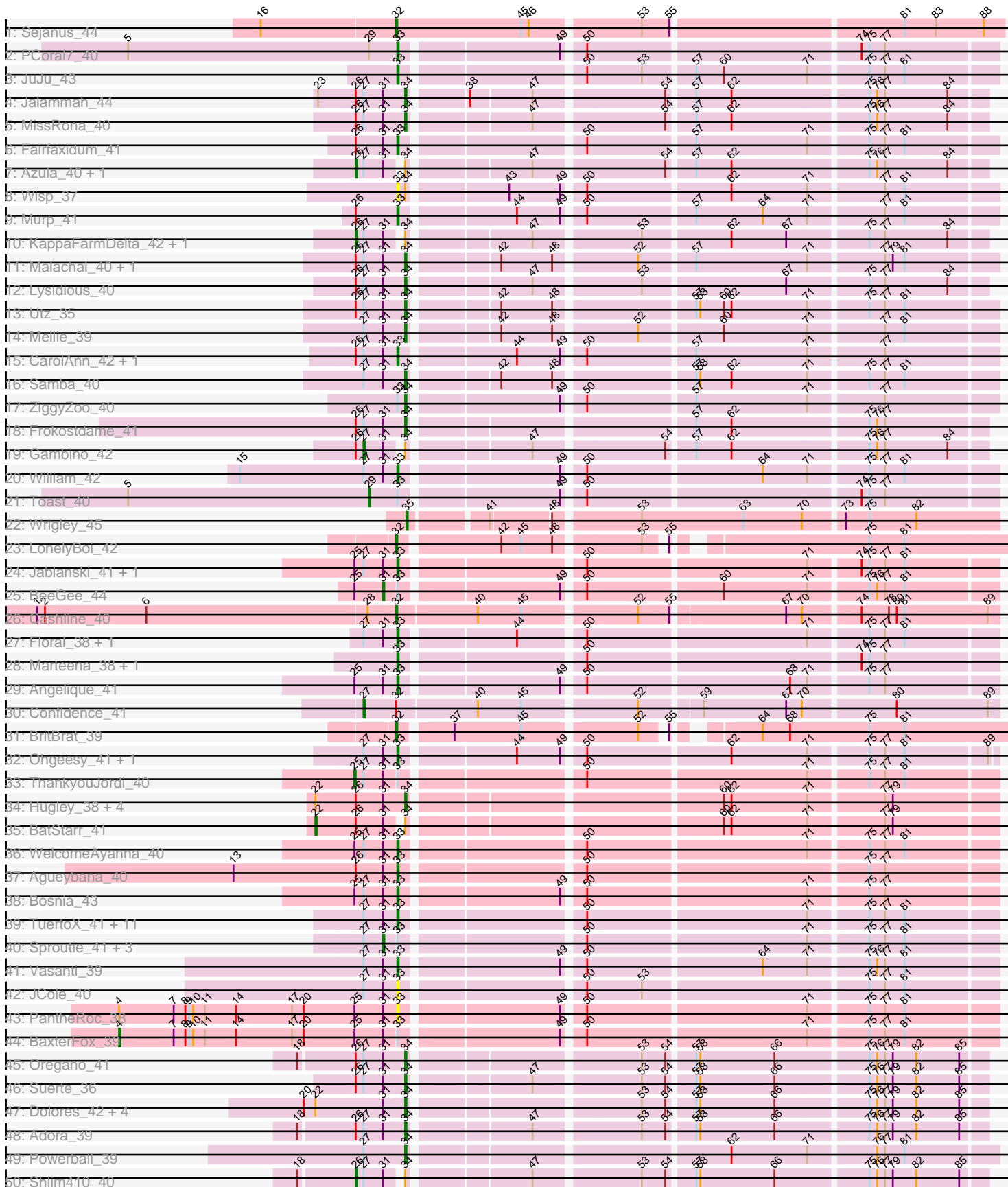
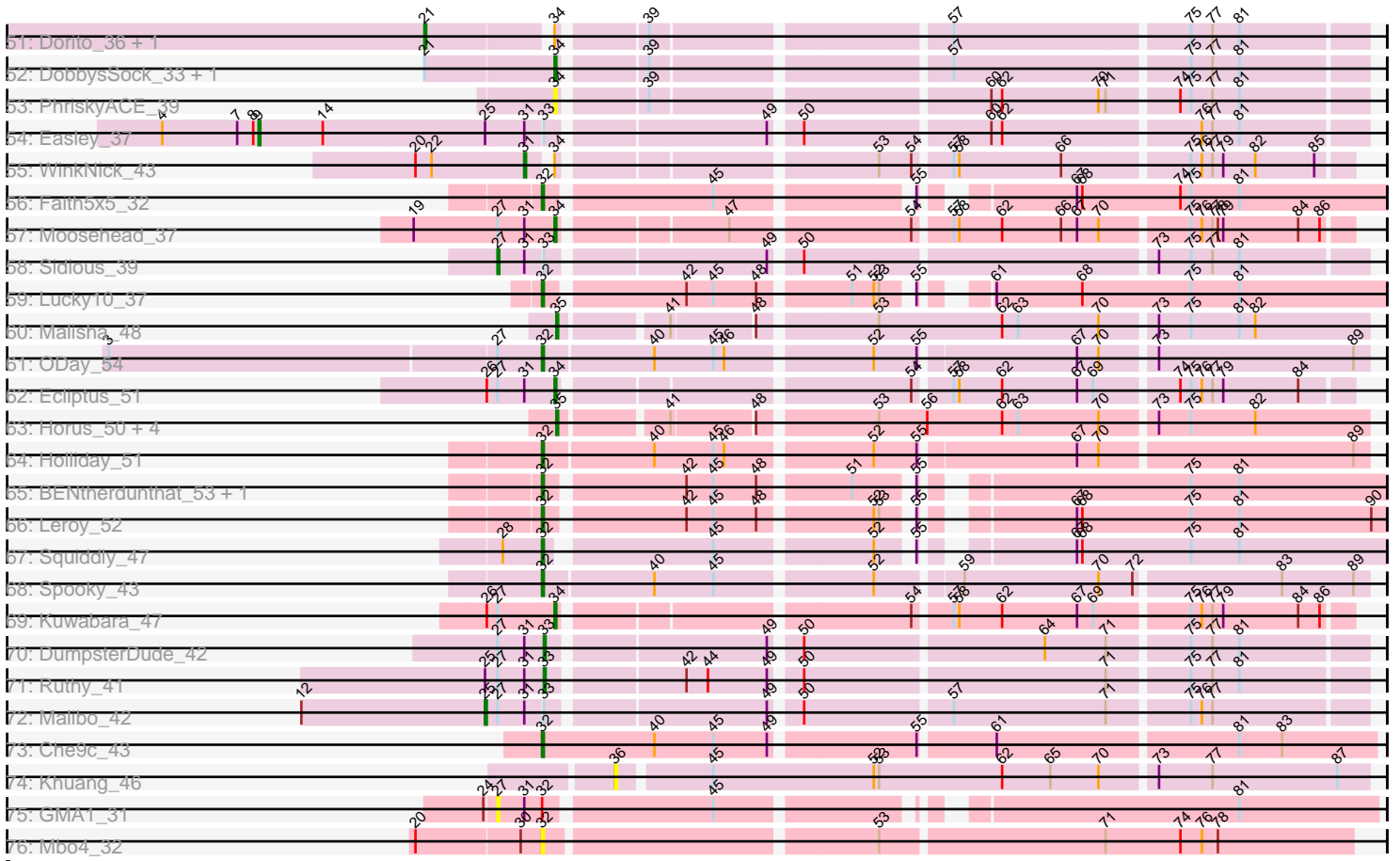


Pham 163463



Pham 163463



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 163463 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163463 has 113 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Sejanus_44
- Track 2 : PCoral7_40
- Track 3 : JuJu_43
- Track 4 : Jalammah_44
- Track 5 : MissRona_40
- Track 6 : Fairfaxidum_41
- Track 7 : Azula_40, Blueberry_39
- Track 8 : Wisp_37
- Track 9 : Murp_41
- Track 10 : KappaFarmDelta_42, Wocket_41
- Track 11 : Malachai_40, Begonia_40
- Track 12 : Lysidious_40
- Track 13 : Utz_35
- Track 14 : Mellie_39
- Track 15 : CarolAnn_42, Blino_43
- Track 16 : Samba_40
- Track 17 : ZiggyZoo_40
- Track 18 : Frokostdame_41
- Track 19 : Gambino_42
- Track 20 : William_42
- Track 21 : Toast_40
- Track 22 : Wrigley_45
- Track 23 : LonelyBoi_42
- Track 24 : Jablanski_41, Pytheas_41
- Track 25 : BeeGee_44
- Track 26 : Cashline_40
- Track 27 : Floral_38, Pollux_40
- Track 28 : Marteena_38, EMSquaredA_39
- Track 29 : Angelique_41
- Track 30 : Confidence_41
- Track 31 : BritBrat_39
- Track 32 : Ohgeesy_41, Madeline_38
- Track 33 : ThankyouJordi_40
- Track 34 : Hugley_38, Herod_41, Eviarto_41, Nymphadora_41, TimTam_41
- Track 35 : BatStarr_41
- Track 36 : WelcomeAyanna_40
- Track 37 : Agueybana_40

- Track 38 : Bosnia_43
- Track 39 : TuertoX_41, Ebert_43, Sahara_40, Savage_41, Lamberg_37, Whiteclaw_41, Clap_41, Haley23_41, Gizermo_41, Mocha12_41, Cynthia_41, Bjanes7_38
- Track 40 : Sproutie_41, Nettuno_37, GemG_41, Matteo_34
- Track 41 : Vasanti_39
- Track 42 : JCole_40
- Track 43 : PantheRoc_38
- Track 44 : BaxterFox_39
- Track 45 : Oregano_41
- Track 46 : Suerte_36
- Track 47 : Dolores_42, Sekhmet_42, MichaelScott_42, Clark_41, Samman98_42
- Track 48 : Adora_39
- Track 49 : Powerball_39
- Track 50 : Shlim410_40
- Track 51 : Dorito_36, Mcklovin_38
- Track 52 : DobbysSock_33, Thimann_38
- Track 53 : PhriskyACE_39
- Track 54 : Easley_37
- Track 55 : WinkNick_43
- Track 56 : Faith5x5_32
- Track 57 : Moosehead_37
- Track 58 : Sidious_39
- Track 59 : Lucky10_37
- Track 60 : Malisha_48
- Track 61 : ODay_54
- Track 62 : Ecliptus_51
- Track 63 : Horus_50, Asapag_49, Birdsong_49, Phabuloso_50, LitninMcQueen_45
- Track 64 : Holliday_51
- Track 65 : BENtherdunthat_53, Budski_51
- Track 66 : Leroy_52
- Track 67 : Squiddly_47
- Track 68 : Spooky_43
- Track 69 : Kuwabara_47
- Track 70 : DumpsterDude_42
- Track 71 : Ruthy_41
- Track 72 : Malibo_42
- Track 73 : Che9c_43
- Track 74 : Khuang_46
- Track 75 : GMA1_31
- Track 76 : Mbo4_32

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

The start number called the most often in the published annotations is 33, it was called in 34 of the 105 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agueybana_40, Angelique_41, Bjanes7_38, Blino_43, Bosnia_43, CarolAnn_42, Clap_41, Cynthia_41, DumpsterDude_42, EMSquaredA_39, Ebert_43,

Fairfaxidum_41, Floral_38, Gizermo_41, Haley23_41, JCole_40, Jablanski_41, JuJu_43, Lamberg_37, Madeline_38, Marteena_38, Mocha12_41, Murp_41, Ohgeesy_41, PCoral7_40, PantheRoc_38, Pollux_40, Pytheas_41, Ruthy_41, Sahara_40, Savage_41, TuertoX_41, Vasanti_39, WelcomeAyanna_40, Whiteclaw_41, William_42, Wisp_37,

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

- BaxterFox_39, BeeGee_44, Easley_37, GemG_41, Malibo_42, Matteo_34, Nettuno_37, Sidious_39, Sproutie_41, ThankyouJordi_40, Toast_40, ZiggyZoo_40,

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

- Adora_39, Asapag_49, Azula_40, BENtherdunthat_53, BatStarr_41, Begonia_40, Birdsong_49, Blueberry_39, BritBrat_39, Budski_51, Cashline_40, Che9c_43, Clark_41, Confidence_41, DobbysSock_33, Dolores_42, Dorito_36, Ecliptus_51, Eviarto_41, Faith5x5_32, Frokostdame_41, GMA1_31, Gambino_42, Herod_41, Holliday_51, Horus_50, Hugley_38, Jalammah_44, KappaFarmDelta_42, Khuang_46, Kuwabara_47, Leroy_52, LitninMcQueen_45, LonelyBoi_42, Lucky10_37, Lysidious_40, Malachai_40, Malisha_48, Mbo4_32, Mcklovin_38, Mellie_39, MichaelScott_42, MissRona_40, Moosehead_37, Nymphadora_41, ODay_54, Oregano_41, Phabuloso_50, PhriskyACE_39, Powerball_39, Samba_40, Samman98_42, Sejanus_44, Sekhmet_42, Shlim410_40, Spooky_43, Squiddly_47, Suerte_36, Thimann_38, TimTam_41, Utz_35, WinkNick_43, Wocket_41, Wrigley_45,

Summary by start number:

Start 4:

- Found in 3 of 113 (2.7%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 33.3% of time when present
- Phage (with cluster) where this start called: BaxterFox_39 (CZ3),

Start 9:

- Found in 3 of 113 (2.7%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Easley_37 (CZ4),

Start 21:

- Found in 4 of 113 (3.5%) of genes in pham
- Manual Annotations of this start: 2 of 105
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Dorito_36 (CZ4), Mcklovin_38 (CZ4),

Start 22:

- Found in 12 of 113 (10.6%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 8.3% of time when present
- Phage (with cluster) where this start called: BatStarr_41 (CZ1),

Start 25:

- Found in 12 of 113 (10.6%) of genes in pham
- Manual Annotations of this start: 2 of 105

- Called 16.7% of time when present
- Phage (with cluster) where this start called: Malibo_42 (DW), ThankyouJordi_40 (CZ1),

Start 26:

- Found in 29 of 113 (25.7%) of genes in pham
- Manual Annotations of this start: 5 of 105
- Called 17.2% of time when present
- Phage (with cluster) where this start called: Azula_40 (CV), Blueberry_39 (CV), KappaFarmDelta_42 (CV), Shlim410_40 (CZ4), Wocket_41 (CV),

Start 27:

- Found in 59 of 113 (52.2%) of genes in pham
- Manual Annotations of this start: 3 of 105
- Called 6.8% of time when present
- Phage (with cluster) where this start called: Confidence_41 (CY1), GMA1_31 (singleton), Gambino_42 (CV), Sidious_39 (CZ7),

Start 29:

- Found in 2 of 113 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Toast_40 (CV),

Start 31:

- Found in 74 of 113 (65.5%) of genes in pham
- Manual Annotations of this start: 6 of 105
- Called 8.1% of time when present
- Phage (with cluster) where this start called: BeeGee_44 (CY), GemG_41 (CZ2), Matteo_34 (CZ2), Nettuno_37 (CZ2), Sproutie_41 (CZ2), WinkNick_43 (CZ4),

Start 32:

- Found in 17 of 113 (15.0%) of genes in pham
- Manual Annotations of this start: 14 of 105
- Called 88.2% of time when present
- Phage (with cluster) where this start called: BENtherdunthat_53 (DN1), BritBrat_39 (CY2), Budski_51 (DN), Cashline_40 (CY), Che9c_43 (I2), Faith5x5_32 (CZ6), Holliday_51 (DN1), Leroy_52 (DN1), LonelyBoi_42 (CY), Lucky10_37 (DH), Mbo4_32 (singleton), ODay_54 (DN), Sejanus_44 (AD), Spooky_43 (DN2), Squiddly_47 (DN2),

Start 33:

- Found in 49 of 113 (43.4%) of genes in pham
- Manual Annotations of this start: 34 of 105
- Called 75.5% of time when present
- Phage (with cluster) where this start called: Agueybana_40 (CZ1), Angelique_41 (CY1), Bjaner7_38 (CZ2), Blino_43 (CV), Bosnia_43 (CZ1), CarolAnn_42 (CV), Clap_41 (CZ2), Cynthia_41 (CZ2), DumpsterDude_42 (DW), EMSquaredA_39 (CY1), Ebert_43 (CZ2), Fairfaxidum_41 (CV), Floral_38 (CY1), Gizermo_41 (CZ2), Haley23_41 (CZ2), JCole_40 (CZ2), Jablanski_41 (CY), JuJu_43 (CV), Lamberg_37 (CZ2), Madeline_38 (CZ1), Marteena_38 (CY1), Mocha12_41 (CZ2), Murp_41 (CV), Ohgeesy_41 (CZ), PCoral7_40 (CV), PantheRoc_38 (CZ3), Pollux_40 (CY1), Pytheas_41 (CY), Ruthy_41 (DW), Sahara_40 (CZ2), Savage_41 (CZ2), TuertoX_41 (CZ2), Vasanti_39 (CZ2), WelcomeAyanna_40 (CZ1), Whiteclaw_41 (CZ2),

William_42 (CV), Wisp_37 (CV),

Start 34:

- Found in 41 of 113 (36.3%) of genes in pham
- Manual Annotations of this start: 28 of 105
- Called 73.2% of time when present
- Phage (with cluster) where this start called: Adora_39 (CZ4), Begonia_40 (CV), Clark_41 (CZ4), DobbysSock_33 (CZ4), Dolores_42 (CZ4), Ecliptus_51 (DN), Eviarto_41 (CZ1), Frokostdame_41 (CV), Herod_41 (CZ1), Hugley_38 (CZ1), Jalammah_44 (CV), Kuwabara_47 (DN4), Lysidious_40 (CV), Malachai_40 (CV), Mellie_39 (CV), MichaelScott_42 (CZ4), MissRona_40 (CV), Moosehead_37 (CZ6), Nymphadora_41 (CZ1), Oregano_41 (CZ4), PhriskyACE_39 (CZ4), Powerball_39 (CZ4), Samba_40 (CV), Samman98_42 (CZ4), Sekhmet_42 (CZ4), Suerte_36 (CZ4), Thimann_38 (CZ4), TimTam_41 (CZ1), Utz_35 (CV), ZiggyZoo_40 (CV),

Start 35:

- Found in 7 of 113 (6.2%) of genes in pham
- Manual Annotations of this start: 7 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Asapag_49 (DN1), Birdsong_49 (DN), Horus_50 (DN1), LitninMcQueen_45 (DN1), Malisha_48 (DN), Phabuloso_50 (DN1), Wrigley_45 (CY),

Start 36:

- Found in 1 of 113 (0.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Khuang_46 (UNK),

Summary by clusters:

There are 21 clusters represented in this pham: DN, CY2, CY1, I2, AD, DH, CZ, CZ2, CZ3, CZ1, CZ6, singleton, CZ4, CZ7, DN4, CY, DN1, DN2, DW, UNK, CV,

Info for manual annotations of cluster AD:

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

Info for manual annotations of cluster CV:

- Start number 26 was manually annotated 4 times for cluster CV.
- Start number 27 was manually annotated 1 time for cluster CV.
- Start number 29 was manually annotated 1 time for cluster CV.
- Start number 33 was manually annotated 7 times for cluster CV.
- Start number 34 was manually annotated 10 times for cluster CV.

Info for manual annotations of cluster CY:

- Start number 31 was manually annotated 1 time for cluster CY.
- Start number 32 was manually annotated 2 times for cluster CY.
- Start number 33 was manually annotated 2 times for cluster CY.
- Start number 35 was manually annotated 1 time for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 27 was manually annotated 1 time for cluster CY1.
- Start number 33 was manually annotated 5 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 32 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ:

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

Info for manual annotations of cluster CZ1:

- Start number 22 was manually annotated 1 time for cluster CZ1.
- Start number 25 was manually annotated 1 time for cluster CZ1.
- Start number 33 was manually annotated 4 times for cluster CZ1.
- Start number 34 was manually annotated 4 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 31 was manually annotated 4 times for cluster CZ2.
- Start number 33 was manually annotated 13 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 4 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 9 was manually annotated 1 time for cluster CZ4.
- Start number 21 was manually annotated 2 times for cluster CZ4.
- Start number 26 was manually annotated 1 time for cluster CZ4.
- Start number 31 was manually annotated 1 time for cluster CZ4.
- Start number 34 was manually annotated 11 times for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 32 was manually annotated 1 time for cluster CZ6.
- Start number 34 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster CZ7:

- Start number 27 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster DH:

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

Info for manual annotations of cluster DN:

- Start number 32 was manually annotated 2 times for cluster DN.
- Start number 34 was manually annotated 1 time for cluster DN.
- Start number 35 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 32 was manually annotated 3 times for cluster DN1.
- Start number 35 was manually annotated 4 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 32 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN4:

- Start number 34 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DW:

- Start number 25 was manually annotated 1 time for cluster DW.
- Start number 33 was manually annotated 2 times for cluster DW.

Info for manual annotations of cluster I2:

- Start number 32 was manually annotated 1 time for cluster I2.

Gene Information:

Gene: Adora_39 Start: 32929, Stop: 32522, Start Num: 34

Candidate Starts for Adora_39:

(18, 32998), (Start: 26 @32959 has 5 MA's), (Start: 27 @32953 has 3 MA's), (Start: 31 @32938 has 6 MA's), (Start: 34 @32929 has 28 MA's), (47, 32845), (53, 32770), (54, 32752), (57, 32734), (58, 32731), (66, 32674), (75, 32608), (76, 32602), (77, 32596), (79, 32590), (82, 32572), (85, 32539),

Gene: Agueybana_40 Start: 32094, Stop: 31669, Start Num: 33

Candidate Starts for Agueybana_40:

(13, 32217), (Start: 26 @32124 has 5 MA's), (Start: 31 @32103 has 6 MA's), (Start: 33 @32094 has 34 MA's), (50, 31968), (75, 31764), (77, 31752),

Gene: Angelique_41 Start: 32667, Stop: 32242, Start Num: 33

Candidate Starts for Angelique_41:

(Start: 25 @32697 has 2 MA's), (Start: 31 @32676 has 6 MA's), (Start: 33 @32667 has 34 MA's), (49, 32553), (50, 32541), (68, 32391), (71, 32379), (75, 32337), (77, 32325),

Gene: Asapag_49 Start: 34231, Stop: 33809, Start Num: 35

Candidate Starts for Asapag_49:

(Start: 35 @34231 has 7 MA's), (41, 34177), (48, 34135), (53, 34075), (56, 34048), (62, 34006), (63, 33997), (70, 33952), (73, 33925), (75, 33907), (82, 33871),

Gene: Azula_40 Start: 32407, Stop: 31970, Start Num: 26

Candidate Starts for Azula_40:

(Start: 26 @32407 has 5 MA's), (Start: 27 @32401 has 3 MA's), (Start: 31 @32386 has 6 MA's), (Start: 34 @32377 has 28 MA's), (47, 32293), (54, 32200), (57, 32182), (62, 32155), (75, 32056), (76, 32050), (77, 32044), (84, 31996),

Gene: BENtherdunthat_53 Start: 34239, Stop: 33820, Start Num: 32

Candidate Starts for BENtherdunthat_53:

(Start: 32 @34239 has 14 MA's), (42, 34167), (45, 34152), (48, 34128), (51, 34083), (55, 34056), (75, 33927), (81, 33900),

Gene: BatStarr_41 Start: 33776, Stop: 33300, Start Num: 22

Candidate Starts for BatStarr_41:

(Start: 22 @33776 has 1 MA's), (Start: 26 @33746 has 5 MA's), (Start: 31 @33725 has 6 MA's), (Start: 34 @33716 has 28 MA's), (60, 33500), (62, 33494), (71, 33437), (77, 33383), (79, 33377),

Gene: BaxterFox_39 Start: 32252, Stop: 31617, Start Num: 4

Candidate Starts for BaxterFox_39:

(Start: 4 @32252 has 1 MA's), (7, 32210), (8, 32201), (Start: 9 @32198 has 1 MA's), (10, 32195), (11, 32186), (14, 32162), (17, 32120), (20, 32111), (Start: 25 @32072 has 2 MA's), (Start: 31 @32051 has 6 MA's), (Start: 33 @32042 has 34 MA's), (49, 31928), (50, 31916), (71, 31754), (75, 31712), (77,

31700), (81, 31685),

Gene: BeeGee_44 Start: 33574, Stop: 33140, Start Num: 31

Candidate Starts for BeeGee_44:

(Start: 25 @33595 has 2 MA's), (Start: 31 @33574 has 6 MA's), (Start: 33 @33565 has 34 MA's), (49, 33451), (50, 33439), (60, 33340), (71, 33277), (75, 33235), (76, 33229), (77, 33223), (81, 33208),

Gene: Begonia_40 Start: 33887, Stop: 33471, Start Num: 34

Candidate Starts for Begonia_40:

(Start: 26 @33917 has 5 MA's), (Start: 27 @33911 has 3 MA's), (Start: 31 @33896 has 6 MA's), (Start: 34 @33887 has 28 MA's), (42, 33827), (48, 33788), (52, 33731), (57, 33692), (71, 33608), (77, 33554), (79, 33548), (81, 33539),

Gene: Birdsong_49 Start: 34452, Stop: 34030, Start Num: 35

Candidate Starts for Birdsong_49:

(Start: 35 @34452 has 7 MA's), (41, 34398), (48, 34356), (53, 34296), (56, 34269), (62, 34227), (63, 34218), (70, 34173), (73, 34146), (75, 34128), (82, 34092),

Gene: Bjaner7_38 Start: 30276, Stop: 29851, Start Num: 33

Candidate Starts for Bjaner7_38:

(Start: 27 @30300 has 3 MA's), (Start: 31 @30285 has 6 MA's), (Start: 33 @30276 has 34 MA's), (50, 30150), (71, 29988), (75, 29946), (77, 29934), (81, 29919),

Gene: Blino_43 Start: 35401, Stop: 34976, Start Num: 33

Candidate Starts for Blino_43:

(Start: 26 @35431 has 5 MA's), (Start: 27 @35425 has 3 MA's), (Start: 31 @35410 has 6 MA's), (Start: 33 @35401 has 34 MA's), (44, 35320), (49, 35287), (50, 35275), (57, 35197), (71, 35113), (77, 35059),

Gene: Blueberry_39 Start: 32407, Stop: 31970, Start Num: 26

Candidate Starts for Blueberry_39:

(Start: 26 @32407 has 5 MA's), (Start: 27 @32401 has 3 MA's), (Start: 31 @32386 has 6 MA's), (Start: 34 @32377 has 28 MA's), (47, 32293), (54, 32200), (57, 32182), (62, 32155), (75, 32056), (76, 32050), (77, 32044), (84, 31996),

Gene: Bosnia_43 Start: 35655, Stop: 35230, Start Num: 33

Candidate Starts for Bosnia_43:

(Start: 25 @35685 has 2 MA's), (Start: 27 @35679 has 3 MA's), (Start: 31 @35664 has 6 MA's), (Start: 33 @35655 has 34 MA's), (49, 35541), (50, 35529), (71, 35367), (75, 35325), (77, 35313),

Gene: BritBrat_39 Start: 33527, Stop: 33108, Start Num: 32

Candidate Starts for BritBrat_39:

(Start: 32 @33527 has 14 MA's), (37, 33491), (45, 33440), (52, 33359), (55, 33344), (64, 33296), (68, 33275), (75, 33215), (81, 33188),

Gene: Budski_51 Start: 35130, Stop: 34711, Start Num: 32

Candidate Starts for Budski_51:

(Start: 32 @35130 has 14 MA's), (42, 35058), (45, 35043), (48, 35019), (51, 34974), (55, 34947), (75, 34818), (81, 34791),

Gene: CarolAnn_42 Start: 35400, Stop: 34975, Start Num: 33

Candidate Starts for CarolAnn_42:

(Start: 26 @35430 has 5 MA's), (Start: 27 @35424 has 3 MA's), (Start: 31 @35409 has 6 MA's), (Start: 33 @35400 has 34 MA's), (44, 35319), (49, 35286), (50, 35274), (57, 35196), (71, 35112), (77, 35058),

Gene: Cashline_40 Start: 33855, Stop: 33421, Start Num: 32

Candidate Starts for Cashline_40:

(1, 34128), (2, 34122), (6, 34044), (28, 33876), (Start: 32 @33855 has 14 MA's), (40, 33795), (45, 33762), (52, 33681), (55, 33657), (67, 33576), (70, 33564), (74, 33525), (78, 33504), (80, 33498), (81, 33492), (89, 33429),

Gene: Che9c_43 Start: 34201, Stop: 33758, Start Num: 32

Candidate Starts for Che9c_43:

(Start: 32 @34201 has 14 MA's), (40, 34138), (45, 34105), (49, 34075), (55, 34000), (61, 33961), (81, 33832), (83, 33808),

Gene: Clap_41 Start: 30455, Stop: 30030, Start Num: 33

Candidate Starts for Clap_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: Clark_41 Start: 30731, Stop: 30324, Start Num: 34

Candidate Starts for Clark_41:

(20, 30800), (Start: 22 @30791 has 1 MA's), (Start: 31 @30740 has 6 MA's), (Start: 34 @30731 has 28 MA's), (53, 30572), (54, 30554), (57, 30536), (58, 30533), (66, 30476), (75, 30410), (76, 30404), (77, 30398), (79, 30392), (82, 30374), (85, 30341),

Gene: Confidence_41 Start: 31704, Stop: 31246, Start Num: 27

Candidate Starts for Confidence_41:

(Start: 27 @31704 has 3 MA's), (Start: 32 @31680 has 14 MA's), (40, 31620), (45, 31587), (52, 31506), (59, 31464), (67, 31401), (70, 31389), (80, 31323), (89, 31254),

Gene: Cynthia_41 Start: 30455, Stop: 30030, Start Num: 33

Candidate Starts for Cynthia_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: DobbysSock_33 Start: 29249, Stop: 28833, Start Num: 34

Candidate Starts for DobbysSock_33:

(Start: 21 @29312 has 2 MA's), (Start: 34 @29249 has 28 MA's), (39, 29207), (57, 29054), (75, 28928), (77, 28916), (81, 28901),

Gene: Dolores_42 Start: 31603, Stop: 31196, Start Num: 34

Candidate Starts for Dolores_42:

(20, 31672), (Start: 22 @31663 has 1 MA's), (Start: 31 @31612 has 6 MA's), (Start: 34 @31603 has 28 MA's), (53, 31444), (54, 31426), (57, 31408), (58, 31405), (66, 31348), (75, 31282), (76, 31276), (77, 31270), (79, 31264), (82, 31246), (85, 31213),

Gene: Dorito_36 Start: 28956, Stop: 28477, Start Num: 21

Candidate Starts for Dorito_36:

(Start: 21 @28956 has 2 MA's), (Start: 34 @28893 has 28 MA's), (39, 28851), (57, 28698), (75, 28572), (77, 28560), (81, 28545),

Gene: DumpsterDude_42 Start: 35820, Stop: 35395, Start Num: 33

Candidate Starts for DumpsterDude_42:

(Start: 27 @35844 has 3 MA's), (Start: 31 @35829 has 6 MA's), (Start: 33 @35820 has 34 MA's), (49, 35706), (50, 35694), (64, 35565), (71, 35532), (75, 35490), (77, 35478), (81, 35463),

Gene: EMSquaredA_39 Start: 31766, Stop: 31341, Start Num: 33
Candidate Starts for EMSquaredA_39:
(Start: 33 @31766 has 34 MA's), (50, 31640), (74, 31442), (75, 31436), (77, 31424),

Gene: Easley_37 Start: 29189, Stop: 28608, Start Num: 9
Candidate Starts for Easley_37:
(Start: 4 @29243 has 1 MA's), (7, 29201), (8, 29192), (Start: 9 @29189 has 1 MA's), (14, 29153),
(Start: 25 @29063 has 2 MA's), (Start: 31 @29042 has 6 MA's), (Start: 33 @29033 has 34 MA's), (49,
28919), (50, 28907), (60, 28808), (62, 28802), (76, 28697), (77, 28691), (81, 28676),

Gene: Ebert_43 Start: 30379, Stop: 29954, Start Num: 33
Candidate Starts for Ebert_43:
(Start: 27 @30403 has 3 MA's), (Start: 31 @30388 has 6 MA's), (Start: 33 @30379 has 34 MA's), (50,
30253), (71, 30091), (75, 30049), (77, 30037), (81, 30022),

Gene: Ecliptus_51 Start: 35343, Stop: 34936, Start Num: 34
Candidate Starts for Ecliptus_51:
(Start: 26 @35373 has 5 MA's), (Start: 27 @35367 has 3 MA's), (Start: 31 @35352 has 6 MA's), (Start:
34 @35343 has 28 MA's), (54, 35166), (57, 35148), (58, 35145), (62, 35121), (67, 35079), (69, 35070),
(74, 35028), (75, 35022), (76, 35016), (77, 35010), (79, 35004), (84, 34962),

Gene: Eviarto_41 Start: 33692, Stop: 33276, Start Num: 34
Candidate Starts for Eviarto_41:
(Start: 22 @33752 has 1 MA's), (Start: 26 @33722 has 5 MA's), (Start: 31 @33701 has 6 MA's), (Start:
34 @33692 has 28 MA's), (60, 33476), (62, 33470), (71, 33413), (77, 33359), (79, 33353),

Gene: Fairfaxidum_41 Start: 32795, Stop: 32370, Start Num: 33
Candidate Starts for Fairfaxidum_41:
(Start: 26 @32825 has 5 MA's), (Start: 31 @32804 has 6 MA's), (Start: 33 @32795 has 34 MA's), (50,
32669), (57, 32591), (71, 32507), (75, 32465), (77, 32453), (81, 32438),

Gene: Faith5x5_32 Start: 26770, Stop: 26351, Start Num: 32
Candidate Starts for Faith5x5_32:
(Start: 32 @26770 has 14 MA's), (45, 26683), (55, 26587), (67, 26521), (68, 26518), (74, 26464), (75,
26458), (81, 26431),

Gene: Floral_38 Start: 33839, Stop: 33414, Start Num: 33
Candidate Starts for Floral_38:
(Start: 27 @33863 has 3 MA's), (Start: 31 @33848 has 6 MA's), (Start: 33 @33839 has 34 MA's), (44,
33758), (50, 33713), (71, 33551), (75, 33509), (77, 33497), (81, 33482),

Gene: Frokostdame_41 Start: 32700, Stop: 32293, Start Num: 34
Candidate Starts for Frokostdame_41:
(Start: 26 @32730 has 5 MA's), (Start: 27 @32724 has 3 MA's), (Start: 31 @32709 has 6 MA's), (Start:
34 @32700 has 28 MA's), (57, 32505), (62, 32478), (75, 32379), (76, 32373), (77, 32367),

Gene: GMA1_31 Start: 24915, Stop: 24478, Start Num: 27
Candidate Starts for GMA1_31:
(24, 24921), (Start: 27 @24915 has 3 MA's), (Start: 31 @24900 has 6 MA's), (Start: 32 @24891 has
14 MA's), (45, 24804), (81, 24552),

Gene: Gambino_42 Start: 32401, Stop: 31970, Start Num: 27

Candidate Starts for Gambino_42:

(Start: 26 @32407 has 5 MA's), (Start: 27 @32401 has 3 MA's), (Start: 31 @32386 has 6 MA's), (Start: 34 @32377 has 28 MA's), (47, 32293), (54, 32200), (57, 32182), (62, 32155), (75, 32056), (76, 32050), (77, 32044), (84, 31996),

Gene: GemG_41 Start: 30464, Stop: 30030, Start Num: 31

Candidate Starts for GemG_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: Gizermo_41 Start: 30455, Stop: 30030, Start Num: 33

Candidate Starts for Gizermo_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: Haley23_41 Start: 30455, Stop: 30030, Start Num: 33

Candidate Starts for Haley23_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: Herod_41 Start: 33716, Stop: 33300, Start Num: 34

Candidate Starts for Herod_41:

(Start: 22 @33776 has 1 MA's), (Start: 26 @33746 has 5 MA's), (Start: 31 @33725 has 6 MA's), (Start: 34 @33716 has 28 MA's), (60, 33500), (62, 33494), (71, 33437), (77, 33383), (79, 33377),

Gene: Holliday_51 Start: 34485, Stop: 34051, Start Num: 32

Candidate Starts for Holliday_51:

(Start: 32 @34485 has 14 MA's), (40, 34425), (45, 34392), (46, 34386), (52, 34311), (55, 34287), (67, 34206), (70, 34194), (89, 34059),

Gene: Horus_50 Start: 34860, Stop: 34438, Start Num: 35

Candidate Starts for Horus_50:

(Start: 35 @34860 has 7 MA's), (41, 34806), (48, 34764), (53, 34704), (56, 34677), (62, 34635), (63, 34626), (70, 34581), (73, 34554), (75, 34536), (82, 34500),

Gene: Hugley_38 Start: 33715, Stop: 33299, Start Num: 34

Candidate Starts for Hugley_38:

(Start: 22 @33775 has 1 MA's), (Start: 26 @33745 has 5 MA's), (Start: 31 @33724 has 6 MA's), (Start: 34 @33715 has 28 MA's), (60, 33499), (62, 33493), (71, 33436), (77, 33382), (79, 33376),

Gene: JCole_40 Start: 29723, Stop: 29298, Start Num: 33

Candidate Starts for JCole_40:

(Start: 27 @29747 has 3 MA's), (Start: 31 @29732 has 6 MA's), (Start: 33 @29723 has 34 MA's), (50, 29597), (53, 29555), (75, 29393), (77, 29381), (81, 29366),

Gene: Jablanski_41 Start: 33024, Stop: 32599, Start Num: 33

Candidate Starts for Jablanski_41:

(Start: 25 @33054 has 2 MA's), (Start: 27 @33048 has 3 MA's), (Start: 31 @33033 has 6 MA's), (Start: 33 @33024 has 34 MA's), (50, 32898), (71, 32736), (74, 32700), (75, 32694), (77, 32682), (81, 32667),

Gene: Jalammah_44 Start: 34077, Stop: 33670, Start Num: 34

Candidate Starts for Jalammah_44:

(23, 34134), (Start: 26 @34107 has 5 MA's), (Start: 27 @34101 has 3 MA's), (Start: 31 @34086 has 6 MA's), (Start: 34 @34077 has 28 MA's), (38, 34038), (47, 33993), (54, 33900), (57, 33882), (62, 33855), (75, 33756), (76, 33750), (77, 33744), (84, 33696),

Gene: JuJu_43 Start: 33227, Stop: 32802, Start Num: 33

Candidate Starts for JuJu_43:

(Start: 33 @33227 has 34 MA's), (50, 33101), (53, 33059), (57, 33023), (60, 33002), (71, 32939), (75, 32897), (77, 32885), (81, 32870),

Gene: KappaFarmDelta_42 Start: 31734, Stop: 31297, Start Num: 26

Candidate Starts for KappaFarmDelta_42:

(Start: 26 @31734 has 5 MA's), (Start: 27 @31728 has 3 MA's), (Start: 31 @31713 has 6 MA's), (Start: 34 @31704 has 28 MA's), (47, 31620), (53, 31545), (62, 31482), (67, 31440), (75, 31383), (77, 31371), (84, 31323),

Gene: Khuang_46 Start: 28987, Stop: 28583, Start Num: 36

Candidate Starts for Khuang_46:

(36, 28987), (45, 28939), (52, 28849), (53, 28846), (62, 28780), (65, 28753), (70, 28726), (73, 28699), (77, 28669), (87, 28600),

Gene: Kuwabara_47 Start: 33695, Stop: 33288, Start Num: 34

Candidate Starts for Kuwabara_47:

(Start: 26 @33725 has 5 MA's), (Start: 27 @33719 has 3 MA's), (Start: 34 @33695 has 28 MA's), (54, 33518), (57, 33500), (58, 33497), (62, 33473), (67, 33431), (69, 33422), (75, 33374), (76, 33368), (77, 33362), (79, 33356), (84, 33314), (86, 33302),

Gene: Lamberg_37 Start: 28964, Stop: 28539, Start Num: 33

Candidate Starts for Lamberg_37:

(Start: 27 @28988 has 3 MA's), (Start: 31 @28973 has 6 MA's), (Start: 33 @28964 has 34 MA's), (50, 28838), (71, 28676), (75, 28634), (77, 28622), (81, 28607),

Gene: Leroy_52 Start: 35141, Stop: 34722, Start Num: 32

Candidate Starts for Leroy_52:

(Start: 32 @35141 has 14 MA's), (42, 35069), (45, 35054), (48, 35030), (52, 34973), (53, 34970), (55, 34958), (67, 34892), (68, 34889), (75, 34829), (81, 34802), (90, 34730),

Gene: LitninMcQueen_45 Start: 33001, Stop: 32579, Start Num: 35

Candidate Starts for LitninMcQueen_45:

(Start: 35 @33001 has 7 MA's), (41, 32947), (48, 32905), (53, 32845), (56, 32818), (62, 32776), (63, 32767), (70, 32722), (73, 32695), (75, 32677), (82, 32641),

Gene: LonelyBoi_42 Start: 35097, Stop: 34678, Start Num: 32

Candidate Starts for LonelyBoi_42:

(Start: 32 @35097 has 14 MA's), (42, 35025), (45, 35010), (48, 34986), (53, 34926), (55, 34914), (75, 34785), (81, 34758),

Gene: Lucky10_37 Start: 29939, Stop: 29520, Start Num: 32

Candidate Starts for Lucky10_37:

(Start: 32 @29939 has 14 MA's), (42, 29867), (45, 29852), (48, 29828), (51, 29783), (52, 29771), (53, 29768), (55, 29756), (61, 29735), (68, 29687), (75, 29627), (81, 29600),

Gene: Lysidious_40 Start: 32794, Stop: 32387, Start Num: 34

Candidate Starts for Lysidious_40:

(Start: 26 @32824 has 5 MA's), (Start: 27 @32818 has 3 MA's), (Start: 31 @32803 has 6 MA's), (Start: 34 @32794 has 28 MA's), (47, 32710), (53, 32635), (67, 32530), (75, 32473), (77, 32461), (84, 32413),

Gene: Madeline_38 Start: 32781, Stop: 32359, Start Num: 33

Candidate Starts for Madeline_38:

(Start: 27 @32805 has 3 MA's), (Start: 31 @32790 has 6 MA's), (Start: 33 @32781 has 34 MA's), (44, 32700), (49, 32667), (50, 32655), (62, 32550), (71, 32493), (75, 32451), (77, 32439), (81, 32424), (89, 32364),

Gene: Malachai_40 Start: 33887, Stop: 33471, Start Num: 34

Candidate Starts for Malachai_40:

(Start: 26 @33917 has 5 MA's), (Start: 27 @33911 has 3 MA's), (Start: 31 @33896 has 6 MA's), (Start: 34 @33887 has 28 MA's), (42, 33827), (48, 33788), (52, 33731), (57, 33692), (71, 33608), (77, 33554), (79, 33548), (81, 33539),

Gene: Malibo_42 Start: 33467, Stop: 33012, Start Num: 25

Candidate Starts for Malibo_42:

(12, 33569), (Start: 25 @33467 has 2 MA's), (Start: 27 @33461 has 3 MA's), (Start: 31 @33446 has 6 MA's), (Start: 33 @33437 has 34 MA's), (49, 33323), (50, 33311), (57, 33233), (71, 33149), (75, 33107), (76, 33101), (77, 33095),

Gene: Malisha_48 Start: 33889, Stop: 33467, Start Num: 35

Candidate Starts for Malisha_48:

(Start: 35 @33889 has 7 MA's), (41, 33835), (48, 33793), (53, 33733), (62, 33664), (63, 33655), (70, 33610), (73, 33583), (75, 33565), (81, 33538), (82, 33529),

Gene: Marteena_38 Start: 31766, Stop: 31341, Start Num: 33

Candidate Starts for Marteena_38:

(Start: 33 @31766 has 34 MA's), (50, 31640), (74, 31442), (75, 31436), (77, 31424),

Gene: Matteo_34 Start: 28015, Stop: 27581, Start Num: 31

Candidate Starts for Matteo_34:

(Start: 27 @28030 has 3 MA's), (Start: 31 @28015 has 6 MA's), (Start: 33 @28006 has 34 MA's), (50, 27880), (71, 27718), (75, 27676), (77, 27664), (81, 27649),

Gene: Mbo4_32 Start: 30257, Stop: 29826, Start Num: 32

Candidate Starts for Mbo4_32:

(20, 30326), (30, 30269), (Start: 32 @30257 has 14 MA's), (53, 30083), (71, 29963), (74, 29921), (76, 29909), (78, 29900),

Gene: Mcklovin_38 Start: 35728, Stop: 35249, Start Num: 21

Candidate Starts for Mcklovin_38:

(Start: 21 @35728 has 2 MA's), (Start: 34 @35665 has 28 MA's), (39, 35623), (57, 35470), (75, 35344), (77, 35332), (81, 35317),

Gene: Mellie_39 Start: 31603, Stop: 31187, Start Num: 34

Candidate Starts for Mellie_39:

(Start: 27 @31627 has 3 MA's), (Start: 31 @31612 has 6 MA's), (Start: 34 @31603 has 28 MA's), (42, 31543), (48, 31504), (52, 31447), (60, 31387), (71, 31324), (77, 31270), (81, 31255),

Gene: MichaelScott_42 Start: 32207, Stop: 31800, Start Num: 34

Candidate Starts for MichaelScott_42:

(20, 32276), (Start: 22 @32267 has 1 MA's), (Start: 31 @32216 has 6 MA's), (Start: 34 @32207 has 28 MA's), (53, 32048), (54, 32030), (57, 32012), (58, 32009), (66, 31952), (75, 31886), (76, 31880), (77, 31874), (79, 31868), (82, 31850), (85, 31817),

Gene: MissRona_40 Start: 32378, Stop: 31971, Start Num: 34

Candidate Starts for MissRona_40:

(Start: 26 @32408 has 5 MA's), (Start: 27 @32402 has 3 MA's), (Start: 31 @32387 has 6 MA's), (Start: 34 @32378 has 28 MA's), (47, 32294), (54, 32201), (57, 32183), (62, 32156), (75, 32057), (76, 32051), (77, 32045), (84, 31997),

Gene: Mocha12_41 Start: 30455, Stop: 30030, Start Num: 33

Candidate Starts for Mocha12_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: Moosehead_37 Start: 27045, Stop: 26638, Start Num: 34

Candidate Starts for Moosehead_37:

(19, 27114), (Start: 27 @27069 has 3 MA's), (Start: 31 @27054 has 6 MA's), (Start: 34 @27045 has 28 MA's), (47, 26961), (54, 26868), (57, 26850), (58, 26847), (62, 26823), (66, 26790), (67, 26781), (70, 26769), (75, 26724), (76, 26718), (77, 26712), (78, 26709), (79, 26706), (84, 26664), (86, 26652),

Gene: Murp_41 Start: 34198, Stop: 33773, Start Num: 33

Candidate Starts for Murp_41:

(Start: 26 @34228 has 5 MA's), (Start: 33 @34198 has 34 MA's), (44, 34117), (49, 34084), (50, 34072), (57, 33994), (64, 33943), (71, 33910), (77, 33856), (81, 33841),

Gene: Nettuno_37 Start: 28973, Stop: 28539, Start Num: 31

Candidate Starts for Nettuno_37:

(Start: 27 @28988 has 3 MA's), (Start: 31 @28973 has 6 MA's), (Start: 33 @28964 has 34 MA's), (50, 28838), (71, 28676), (75, 28634), (77, 28622), (81, 28607),

Gene: Nymphadora_41 Start: 33716, Stop: 33300, Start Num: 34

Candidate Starts for Nymphadora_41:

(Start: 22 @33776 has 1 MA's), (Start: 26 @33746 has 5 MA's), (Start: 31 @33725 has 6 MA's), (Start: 34 @33716 has 28 MA's), (60, 33500), (62, 33494), (71, 33437), (77, 33383), (79, 33377),

Gene: ODay_54 Start: 35640, Stop: 35206, Start Num: 32

Candidate Starts for ODay_54:

(3, 35877), (Start: 27 @35664 has 3 MA's), (Start: 32 @35640 has 14 MA's), (40, 35580), (45, 35547), (46, 35541), (52, 35466), (55, 35442), (67, 35361), (70, 35349), (73, 35322), (89, 35214),

Gene: Ohgeesy_41 Start: 33576, Stop: 33154, Start Num: 33

Candidate Starts for Ohgeesy_41:

(Start: 27 @33600 has 3 MA's), (Start: 31 @33585 has 6 MA's), (Start: 33 @33576 has 34 MA's), (44, 33495), (49, 33462), (50, 33450), (62, 33345), (71, 33288), (75, 33246), (77, 33234), (81, 33219), (89, 33159),

Gene: Oregano_41 Start: 30919, Stop: 30512, Start Num: 34

Candidate Starts for Oregano_41:

(18, 30988), (Start: 26 @30949 has 5 MA's), (Start: 27 @30943 has 3 MA's), (Start: 31 @30928 has 6 MA's), (Start: 34 @30919 has 28 MA's), (53, 30760), (54, 30742), (57, 30724), (58, 30721), (66, 30664), (75, 30598), (76, 30592), (77, 30586), (79, 30580), (82, 30562), (85, 30529),

Gene: PCoral7_40 Start: 32596, Stop: 32171, Start Num: 33

Candidate Starts for PCoral7_40:

(5, 32800), (Start: 29 @32617 has 1 MA's), (Start: 33 @32596 has 34 MA's), (49, 32482), (50, 32470), (74, 32272), (75, 32266), (77, 32254),

Gene: PantheRoc_38 Start: 31017, Stop: 30592, Start Num: 33

Candidate Starts for PantheRoc_38:

(Start: 4 @31227 has 1 MA's), (7, 31185), (8, 31176), (Start: 9 @31173 has 1 MA's), (10, 31170), (11, 31161), (14, 31137), (17, 31095), (20, 31086), (Start: 25 @31047 has 2 MA's), (Start: 31 @31026 has 6 MA's), (Start: 33 @31017 has 34 MA's), (49, 30903), (50, 30891), (71, 30729), (75, 30687), (77, 30675), (81, 30660),

Gene: Phabuloso_50 Start: 34086, Stop: 33664, Start Num: 35

Candidate Starts for Phabuloso_50:

(Start: 35 @34086 has 7 MA's), (41, 34032), (48, 33990), (53, 33930), (56, 33903), (62, 33861), (63, 33852), (70, 33807), (73, 33780), (75, 33762), (82, 33726),

Gene: PhriskyACE_39 Start: 31628, Stop: 31212, Start Num: 34

Candidate Starts for PhriskyACE_39:

(Start: 34 @31628 has 28 MA's), (39, 31586), (60, 31412), (62, 31406), (70, 31352), (71, 31349), (74, 31313), (75, 31307), (77, 31295), (81, 31280),

Gene: Pollux_40 Start: 33839, Stop: 33414, Start Num: 33

Candidate Starts for Pollux_40:

(Start: 27 @33863 has 3 MA's), (Start: 31 @33848 has 6 MA's), (Start: 33 @33839 has 34 MA's), (44, 33758), (50, 33713), (71, 33551), (75, 33509), (77, 33497), (81, 33482),

Gene: Powerball_39 Start: 31217, Stop: 30801, Start Num: 34

Candidate Starts for Powerball_39:

(Start: 27 @31241 has 3 MA's), (Start: 34 @31217 has 28 MA's), (62, 30995), (71, 30938), (76, 30890), (77, 30884), (81, 30869),

Gene: Pytheas_41 Start: 33023, Stop: 32598, Start Num: 33

Candidate Starts for Pytheas_41:

(Start: 25 @33053 has 2 MA's), (Start: 27 @33047 has 3 MA's), (Start: 31 @33032 has 6 MA's), (Start: 33 @33023 has 34 MA's), (50, 32897), (71, 32735), (74, 32699), (75, 32693), (77, 32681), (81, 32666),

Gene: Ruthy_41 Start: 33805, Stop: 33380, Start Num: 33

Candidate Starts for Ruthy_41:

(Start: 25 @33835 has 2 MA's), (Start: 27 @33829 has 3 MA's), (Start: 31 @33814 has 6 MA's), (Start: 33 @33805 has 34 MA's), (42, 33736), (44, 33724), (49, 33691), (50, 33679), (71, 33517), (75, 33475), (77, 33463), (81, 33448),

Gene: Sahara_40 Start: 30202, Stop: 29777, Start Num: 33

Candidate Starts for Sahara_40:

(Start: 27 @30226 has 3 MA's), (Start: 31 @30211 has 6 MA's), (Start: 33 @30202 has 34 MA's), (50, 30076), (71, 29914), (75, 29872), (77, 29860), (81, 29845),

Gene: Samba_40 Start: 33996, Stop: 33580, Start Num: 34

Candidate Starts for Samba_40:

(Start: 27 @34020 has 3 MA's), (Start: 31 @34005 has 6 MA's), (Start: 34 @33996 has 28 MA's), (42, 33936), (48, 33897), (57, 33801), (58, 33798), (62, 33774), (71, 33717), (75, 33675), (77, 33663), (81, 33648),

Gene: Samman98_42 Start: 30834, Stop: 30427, Start Num: 34

Candidate Starts for Samman98_42:

(20, 30903), (Start: 22 @30894 has 1 MA's), (Start: 31 @30843 has 6 MA's), (Start: 34 @30834 has 28 MA's), (53, 30675), (54, 30657), (57, 30639), (58, 30636), (66, 30579), (75, 30513), (76, 30507), (77, 30501), (79, 30495), (82, 30477), (85, 30444),

Gene: Savage_41 Start: 30455, Stop: 30030, Start Num: 33

Candidate Starts for Savage_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: Sejanus_44 Start: 41143, Stop: 40700, Start Num: 32

Candidate Starts for Sejanus_44:

(16, 41245), (Start: 32 @41143 has 14 MA's), (45, 41047), (46, 41041), (53, 40963), (55, 40942), (81, 40774), (83, 40750), (88, 40714),

Gene: Sekhmet_42 Start: 31734, Stop: 31327, Start Num: 34

Candidate Starts for Sekhmet_42:

(20, 31803), (Start: 22 @31794 has 1 MA's), (Start: 31 @31743 has 6 MA's), (Start: 34 @31734 has 28 MA's), (53, 31575), (54, 31557), (57, 31539), (58, 31536), (66, 31479), (75, 31413), (76, 31407), (77, 31401), (79, 31395), (82, 31377), (85, 31344),

Gene: Shlim410_40 Start: 34314, Stop: 33877, Start Num: 26

Candidate Starts for Shlim410_40:

(18, 34353), (Start: 26 @34314 has 5 MA's), (Start: 27 @34308 has 3 MA's), (Start: 31 @34293 has 6 MA's), (Start: 34 @34284 has 28 MA's), (47, 34200), (53, 34125), (54, 34107), (57, 34089), (58, 34086), (66, 34029), (75, 33963), (76, 33957), (77, 33951), (79, 33945), (82, 33927), (85, 33894),

Gene: Sidious_39 Start: 32458, Stop: 32009, Start Num: 27

Candidate Starts for Sidious_39:

(Start: 27 @32458 has 3 MA's), (Start: 31 @32443 has 6 MA's), (Start: 33 @32434 has 34 MA's), (49, 32320), (50, 32308), (73, 32122), (75, 32104), (77, 32092), (81, 32077),

Gene: Spooky_43 Start: 32309, Stop: 31875, Start Num: 32

Candidate Starts for Spooky_43:

(Start: 32 @32309 has 14 MA's), (40, 32249), (45, 32216), (52, 32135), (59, 32093), (70, 32018), (72, 32000), (83, 31922), (89, 31883),

Gene: Sproutie_41 Start: 30464, Stop: 30030, Start Num: 31

Candidate Starts for Sproutie_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: Squiddly_47 Start: 34769, Stop: 34353, Start Num: 32

Candidate Starts for Squiddly_47:

(28, 34790), (Start: 32 @34769 has 14 MA's), (45, 34685), (52, 34604), (55, 34589), (67, 34523), (68, 34520), (75, 34460), (81, 34433),

Gene: Suerte_36 Start: 30205, Stop: 29798, Start Num: 34

Candidate Starts for Suerte_36:

(Start: 26 @30235 has 5 MA's), (Start: 27 @30229 has 3 MA's), (Start: 31 @30214 has 6 MA's), (Start: 34 @30205 has 28 MA's), (47, 30121), (53, 30046), (54, 30028), (57, 30010), (58, 30007), (66, 29950),

(75, 29884), (76, 29878), (77, 29872), (79, 29866), (82, 29848), (85, 29815),

Gene: ThankyouJordi_40 Start: 33282, Stop: 32827, Start Num: 25

Candidate Starts for ThankyouJordi_40:

(Start: 25 @33282 has 2 MA's), (Start: 27 @33276 has 3 MA's), (Start: 31 @33261 has 6 MA's), (Start: 33 @33252 has 34 MA's), (50, 33126), (71, 32964), (75, 32922), (77, 32910), (81, 32895),

Gene: Thimann_38 Start: 29775, Stop: 29359, Start Num: 34

Candidate Starts for Thimann_38:

(Start: 21 @29838 has 2 MA's), (Start: 34 @29775 has 28 MA's), (39, 29733), (57, 29580), (75, 29454), (77, 29442), (81, 29427),

Gene: TimTam_41 Start: 33716, Stop: 33300, Start Num: 34

Candidate Starts for TimTam_41:

(Start: 22 @33776 has 1 MA's), (Start: 26 @33746 has 5 MA's), (Start: 31 @33725 has 6 MA's), (Start: 34 @33716 has 28 MA's), (60, 33500), (62, 33494), (71, 33437), (77, 33383), (79, 33377),

Gene: Toast_40 Start: 32617, Stop: 32171, Start Num: 29

Candidate Starts for Toast_40:

(5, 32800), (Start: 29 @32617 has 1 MA's), (Start: 33 @32596 has 34 MA's), (49, 32482), (50, 32470), (74, 32272), (75, 32266), (77, 32254),

Gene: TuertoX_41 Start: 30455, Stop: 30030, Start Num: 33

Candidate Starts for TuertoX_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: Utz_35 Start: 32686, Stop: 32270, Start Num: 34

Candidate Starts for Utz_35:

(Start: 26 @32716 has 5 MA's), (Start: 27 @32710 has 3 MA's), (Start: 31 @32695 has 6 MA's), (Start: 34 @32686 has 28 MA's), (42, 32626), (48, 32587), (57, 32491), (58, 32488), (60, 32470), (62, 32464), (71, 32407), (75, 32365), (77, 32353), (81, 32338),

Gene: Vasanti_39 Start: 29720, Stop: 29295, Start Num: 33

Candidate Starts for Vasanti_39:

(Start: 27 @29744 has 3 MA's), (Start: 31 @29729 has 6 MA's), (Start: 33 @29720 has 34 MA's), (49, 29606), (50, 29594), (64, 29465), (71, 29432), (75, 29390), (76, 29384), (77, 29378), (81, 29363),

Gene: WelcomeAyanna_40 Start: 33399, Stop: 32974, Start Num: 33

Candidate Starts for WelcomeAyanna_40:

(Start: 25 @33429 has 2 MA's), (Start: 27 @33423 has 3 MA's), (Start: 31 @33408 has 6 MA's), (Start: 33 @33399 has 34 MA's), (50, 33273), (71, 33111), (75, 33069), (77, 33057), (81, 33042),

Gene: Whiteclaw_41 Start: 30455, Stop: 30030, Start Num: 33

Candidate Starts for Whiteclaw_41:

(Start: 27 @30479 has 3 MA's), (Start: 31 @30464 has 6 MA's), (Start: 33 @30455 has 34 MA's), (50, 30329), (71, 30167), (75, 30125), (77, 30113), (81, 30098),

Gene: William_42 Start: 33105, Stop: 32680, Start Num: 33

Candidate Starts for William_42:

(15, 33222), (Start: 27 @33129 has 3 MA's), (Start: 31 @33114 has 6 MA's), (Start: 33 @33105 has 34 MA's), (49, 32991), (50, 32979), (64, 32850), (71, 32817), (75, 32775), (77, 32763), (81, 32748),

Gene: WinkNick_43 Start: 31535, Stop: 31119, Start Num: 31

Candidate Starts for WinkNick_43:

(20, 31595), (Start: 22 @31586 has 1 MA's), (Start: 31 @31535 has 6 MA's), (Start: 34 @31526 has 28 MA's), (53, 31367), (54, 31349), (57, 31331), (58, 31328), (66, 31271), (75, 31205), (76, 31199), (77, 31193), (79, 31187), (82, 31169), (85, 31136),

Gene: Wisp_37 Start: 31135, Stop: 30710, Start Num: 33

Candidate Starts for Wisp_37:

(Start: 33 @31135 has 34 MA's), (Start: 34 @31129 has 28 MA's), (43, 31060), (49, 31021), (50, 31009), (62, 30904), (71, 30847), (77, 30793), (81, 30778),

Gene: Wocket_41 Start: 31899, Stop: 31462, Start Num: 26

Candidate Starts for Wocket_41:

(Start: 26 @31899 has 5 MA's), (Start: 27 @31893 has 3 MA's), (Start: 31 @31878 has 6 MA's), (Start: 34 @31869 has 28 MA's), (47, 31785), (53, 31710), (62, 31647), (67, 31605), (75, 31548), (77, 31536), (84, 31488),

Gene: Wrigley_45 Start: 33632, Stop: 33210, Start Num: 35

Candidate Starts for Wrigley_45:

(Start: 35 @33632 has 7 MA's), (41, 33578), (48, 33536), (53, 33476), (63, 33398), (70, 33353), (73, 33326), (75, 33308), (82, 33272),

Gene: ZiggyZoo_40 Start: 32348, Stop: 31929, Start Num: 34

Candidate Starts for ZiggyZoo_40:

(Start: 33 @32354 has 34 MA's), (Start: 34 @32348 has 28 MA's), (49, 32240), (50, 32228), (57, 32150), (71, 32066), (77, 32012),