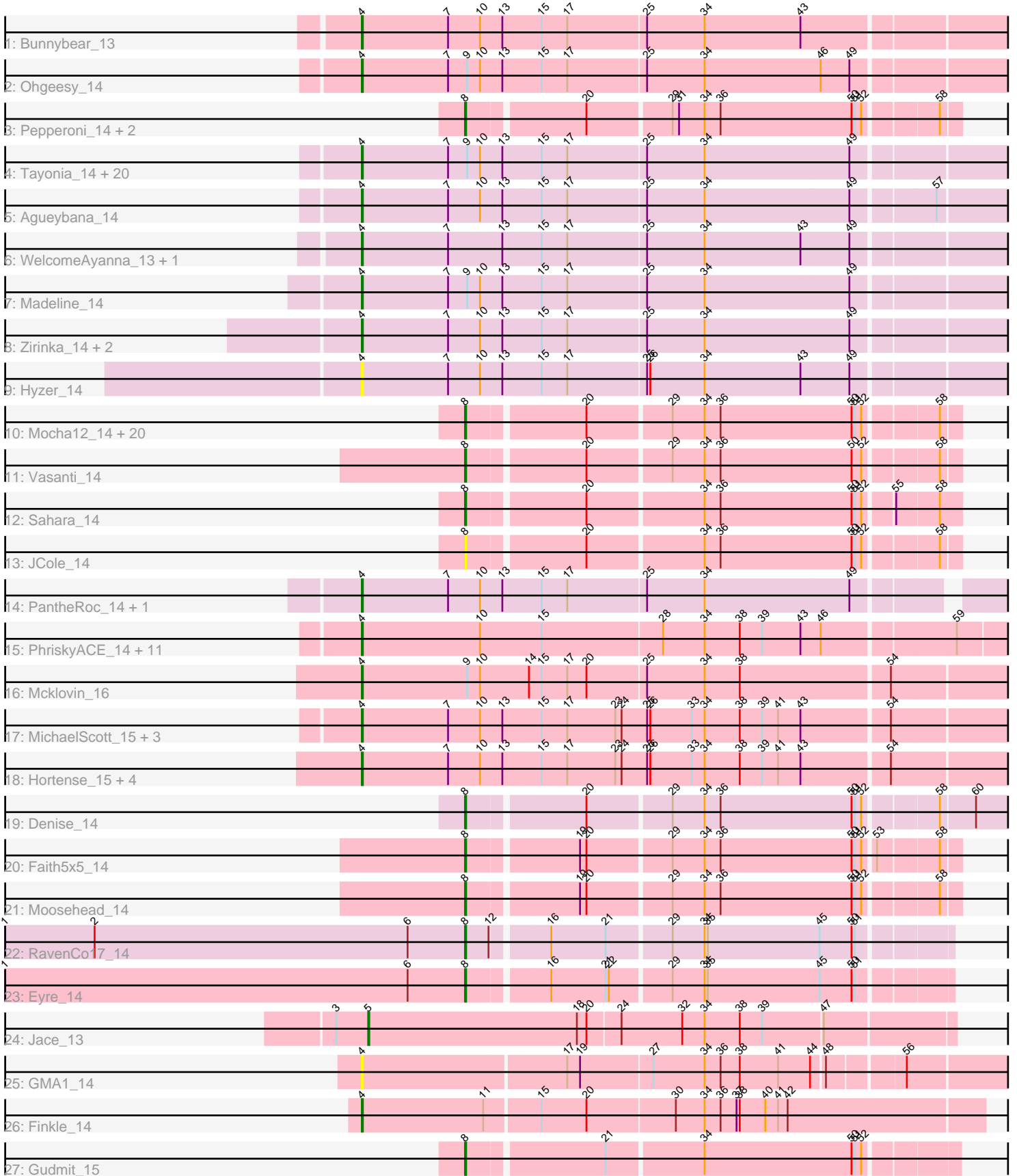


Pham 193914



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 193914 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193914 has 91 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Bunnybear_13
- Track 2 : Ohgeesy_14
- Track 3 : Pepperoni_14, Lton_14, OneDirection_14
- Track 4 : Tayonia_14, BaxterFox_13, TimTam_14, Hugley_14, Zameen_14, Kita_14, Suscepit_14, Neobush_14, Bosnia_14, Antonio_14, Herod_14, Eviarto_14, Manasvini_14, BatStarr_14, Maridalia_14, Polly_14, AlumE_14, BoyNamedSue_14, Eudoria_14, Nymphadora_14, Trumpet_14
- Track 5 : Agueybana_14
- Track 6 : WelcomeAyanna_13, ThankyouJordi_13
- Track 7 : Madeline_14
- Track 8 : Zirinka_14, Bialota_14, Yeezy_15
- Track 9 : Hyzer_14
- Track 10 : Mocha12_14, EdnaMode_14, Matteo_14, Gizermo_14, Attis_14, Whiteclaw_14, Clap_14, SoilAssassin_14, Haley23_14, GemG_14, TuertoX_14, Sproutie_14, Bjanes7_14, Savage_14, Cynthia_14, Lamberg_14, Ebert_14, Pickett_14, Nettuno_14, Yeet412_14, LordFarquaad_14
- Track 11 : Vasanti_14
- Track 12 : Sahara_14
- Track 13 : JCole_14
- Track 14 : PantheRoc_14, Sidious_14
- Track 15 : PhriskyACE_14, Clark_15, Annalisa_15, WinkNick_15, Easley_15, Dolores_15, Dorito_14, Powerball_14, Samman98_15, Thimann_15, Suerte_14, DobbysSock_14
- Track 16 : Mcklovin_16
- Track 17 : MichaelScott_15, Oregano_15, Sekhmet_15, Beenie_16
- Track 18 : Hortense_15, Twinkle_15, Howe_15, Adora_15, Shlim410_15
- Track 19 : Denise_14
- Track 20 : Faith5x5_14
- Track 21 : Moosehead_14
- Track 22 : RavenCo17_14
- Track 23 : Eyre_14
- Track 24 : Jace_13
- Track 25 : GMA1_14
- Track 26 : Finkle_14
- Track 27 : Gudmit_15

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

The start number called the most often in the published annotations is 4, it was called in 52 of the 84 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adora_15, Agueybana_14, AlumE_14, Annalisa_15, Antonio_14, BatStarr_14, BaxterFox_13, Beenie_16, Bialota_14, Bosnia_14, BoyNamedSue_14, Bunnybear_13, Clark_15, DobbysSock_14, Dolores_15, Dorito_14, Easley_15, Eudoria_14, Eviarto_14, Finkle_14, GMA1_14, Herod_14, Hortense_15, Howe_15, Hugley_14, Hyzer_14, Kita_14, Madeline_14, Manasvini_14, Maridalia_14, Mcklovin_16, MichaelScott_15, Neobush_14, Nymphadora_14, Ohgeesy_14, Oregano_15, PantheRoc_14, PhriskyACE_14, Polly_14, Powerball_14, Samman98_15, Sekhmet_15, Shlim410_15, Sidious_14, Suerte_14, Suscepit_14, Tayonia_14, ThankyouJordi_13, Thimann_15, TimTam_14, Trumpet_14, Twinkle_15, WelcomeAyanna_13, WinkNick_15, Yeezy_15, Zameen_14, Zirinka_14,

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

-

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

- Attis_14, Bjaner7_14, Clap_14, Cynthia_14, Denise_14, Ebert_14, EdnaMode_14, Eyre_14, Faith5x5_14, GemG_14, Gizermo_14, Gudmit_15, Haley23_14, JCole_14, Jace_13, Lamberg_14, LordFarquaad_14, Lton_14, Matteo_14, Mocha12_14, Moosehead_14, Nettuno_14, OneDirection_14, Pepperoni_14, Pickett_14, RavenCo17_14, Sahara_14, Savage_14, SoilAssassin_14, Sproutie_14, TuertoX_14, Vasanti_14, Whiteclaw_14, Yeet412_14,

Summary by start number:

Start 4:

- Found in 57 of 91 (62.6%) of genes in pham
- Manual Annotations of this start: 52 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adora_15 (CZ4), Agueybana_14 (CZ1), AlumE_14 (CZ1), Annalisa_15 (CZ4), Antonio_14 (CZ1), BatStarr_14 (CZ1), BaxterFox_13 (CZ3), Beenie_16 (CZ4), Bialota_14 (CZ1), Bosnia_14 (CZ1), BoyNamedSue_14 (CZ1), Bunnybear_13 (CZ), Clark_15 (CZ4), DobbysSock_14 (CZ4), Dolores_15 (CZ4), Dorito_14 (CZ4), Easley_15 (CZ4), Eudoria_14 (CZ1), Eviarto_14 (CZ1), Finkle_14 (singleton), GMA1_14 (singleton), Herod_14 (CZ1), Hortense_15 (CZ4), Howe_15 (CZ4), Hugley_14 (CZ1), Hyzer_14 (CZ1), Kita_14 (CZ1), Madeline_14 (CZ1), Manasvini_14 (CZ1), Maridalia_14 (CZ1), Mcklovin_16 (CZ4), MichaelScott_15 (CZ4), Neobush_14 (CZ1), Nymphadora_14 (CZ1), Ohgeesy_14 (CZ), Oregano_15 (CZ4), PantheRoc_14 (CZ3), PhriskyACE_14 (CZ4), Polly_14 (CZ1), Powerball_14 (CZ4), Samman98_15 (CZ4), Sekhmet_15 (CZ4), Shlim410_15 (CZ4), Sidious_14 (CZ7), Suerte_14 (CZ4), Suscepit_14 (CZ1), Tayonia_14 (CZ1), ThankyouJordi_13 (CZ1), Thimann_15 (CZ4), TimTam_14 (CZ1), Trumpet_14 (CZ1), Twinkle_15 (CZ4), WelcomeAyanna_13 (CZ1), WinkNick_15 (CZ4), Yeezy_15 (CZ3), Zameen_14 (CZ1), Zirinka_14 (CZ1),

Start 5:

- Found in 1 of 91 (1.1%) of genes in pham

- Manual Annotations of this start: 1 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jace_13 (singleton),

Start 8:

- Found in 33 of 91 (36.3%) of genes in pham
- Manual Annotations of this start: 31 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attis_14 (CZ2), Bjanes7_14 (CZ2), Clap_14 (CZ2), Cynthia_14 (CZ2), Denise_14 (CZ5), Ebert_14 (CZ2), EdnaMode_14 (CZ2), Eyre_14 (singleton), Faith5x5_14 (CZ6), GemG_14 (CZ2), Gizermo_14 (CZ2), Gudmit_15 (singleton), Haley23_14 (CZ2), JCole_14 (CZ2), Lamberg_14 (CZ2), LordFarquaad_14 (CZ2), Lton_14 (CZ), Matteo_14 (CZ2), Mocha12_14 (CZ2), Moosehead_14 (CZ6), Nettuno_14 (CZ2), OneDirection_14 (CZ6), Pepperoni_14 (CZ), Pickett_14 (CZ2), RavenCo17_14 (CZ8), Sahara_14 (CZ2), Savage_14 (CZ2), SoilAssassin_14 (CZ2), Sproutie_14 (CZ2), TuertoX_14 (CZ2), Vasanti_14 (CZ2), Whiteclaw_14 (CZ2), Yeet412_14 (CZ2),

Summary by clusters:

There are 10 clusters represented in this pham: singleton, CZ2, CZ3, CZ1, CZ6, CZ7, CZ4, CZ5, CZ, CZ8,

Info for manual annotations of cluster CZ:

- Start number 4 was manually annotated 2 times for cluster CZ.
- Start number 8 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 4 was manually annotated 25 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 8 was manually annotated 23 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 4 was manually annotated 3 times for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 4 was manually annotated 20 times for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 8 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ6:

- Start number 8 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster CZ7:

- Start number 4 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster CZ8:

- Start number 8 was manually annotated 1 time for cluster CZ8.

Gene Information:

Gene: Adora_15 Start: 8998, Stop: 9651, Start Num: 4

Candidate Starts for Adora_15:

(Start: 4 @8998 has 52 MA's), (7, 9079), (10, 9109), (13, 9130), (15, 9166), (17, 9190), (23, 9235), (24, 9241), (25, 9265), (26, 9268), (33, 9307), (34, 9319), (38, 9352), (39, 9373), (41, 9388), (43, 9409), (54, 9487),

Gene: Agueybana_14 Start: 9286, Stop: 9933, Start Num: 4

Candidate Starts for Agueybana_14:

(Start: 4 @9286 has 52 MA's), (7, 9367), (10, 9397), (13, 9418), (15, 9454), (17, 9478), (25, 9550), (34, 9604), (49, 9739), (57, 9811),

Gene: AlumE_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for AlumE_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Annalisa_15 Start: 8856, Stop: 9503, Start Num: 4

Candidate Starts for Annalisa_15:

(Start: 4 @8856 has 52 MA's), (10, 8967), (15, 9024), (28, 9135), (34, 9174), (38, 9207), (39, 9228), (43, 9264), (46, 9282), (59, 9399),

Gene: Antonio_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Antonio_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Attis_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for Attis_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: BatStarr_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for BatStarr_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: BaxterFox_13 Start: 8633, Stop: 9280, Start Num: 4

Candidate Starts for BaxterFox_13:

(Start: 4 @8633 has 52 MA's), (7, 8714), (9, 8732), (10, 8744), (13, 8765), (15, 8801), (17, 8825), (25, 8897), (34, 8951), (49, 9086),

Gene: Beenie_16 Start: 8840, Stop: 9493, Start Num: 4

Candidate Starts for Beenie_16:

(Start: 4 @8840 has 52 MA's), (7, 8921), (10, 8951), (13, 8972), (15, 9008), (17, 9032), (23, 9077), (24, 9083), (25, 9107), (26, 9110), (33, 9149), (34, 9161), (38, 9194), (39, 9215), (41, 9230), (43, 9251), (54, 9329),

Gene: Bialota_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Bialota_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Bjaner7_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for Bjaner7_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: Bosnia_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Bosnia_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: BoyNamedSue_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for BoyNamedSue_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Bunnybear_13 Start: 9302, Stop: 9949, Start Num: 4

Candidate Starts for Bunnybear_13:

(Start: 4 @9302 has 52 MA's), (7, 9383), (10, 9413), (13, 9434), (15, 9470), (17, 9494), (25, 9566), (34, 9620), (43, 9710),

Gene: Clap_14 Start: 9137, Stop: 9571, Start Num: 8

Candidate Starts for Clap_14:

(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491), (58, 9554),

Gene: Clark_15 Start: 8856, Stop: 9503, Start Num: 4

Candidate Starts for Clark_15:

(Start: 4 @8856 has 52 MA's), (10, 8967), (15, 9024), (28, 9135), (34, 9174), (38, 9207), (39, 9228), (43, 9264), (46, 9282), (59, 9399),

Gene: Cynthia_14 Start: 9137, Stop: 9571, Start Num: 8

Candidate Starts for Cynthia_14:

(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491), (58, 9554),

Gene: Denise_14 Start: 9083, Stop: 9601, Start Num: 8

Candidate Starts for Denise_14:

(Start: 8 @9083 has 31 MA's), (20, 9185), (29, 9260), (34, 9290), (36, 9305), (50, 9428), (51, 9431), (52, 9437), (58, 9500), (60, 9530),

Gene: DobbysSock_14 Start: 8339, Stop: 8986, Start Num: 4

Candidate Starts for DobbysSock_14:

(Start: 4 @8339 has 52 MA's), (10, 8450), (15, 8507), (28, 8618), (34, 8657), (38, 8690), (39, 8711), (43, 8747), (46, 8765), (59, 8882),

Gene: Dolores_15 Start: 8841, Stop: 9488, Start Num: 4

Candidate Starts for Dolores_15:

(Start: 4 @8841 has 52 MA's), (10, 8952), (15, 9009), (28, 9120), (34, 9159), (38, 9192), (39, 9213), (43, 9249), (46, 9267), (59, 9384),

Gene: Dorito_14 Start: 8338, Stop: 8985, Start Num: 4

Candidate Starts for Dorito_14:

(Start: 4 @8338 has 52 MA's), (10, 8449), (15, 8506), (28, 8617), (34, 8656), (38, 8689), (39, 8710), (43, 8746), (46, 8764), (59, 8881),

Gene: Easley_15 Start: 8845, Stop: 9492, Start Num: 4

Candidate Starts for Easley_15:

(Start: 4 @8845 has 52 MA's), (10, 8956), (15, 9013), (28, 9124), (34, 9163), (38, 9196), (39, 9217), (43, 9253), (46, 9271), (59, 9388),

Gene: Ebert_14 Start: 9137, Stop: 9571, Start Num: 8

Candidate Starts for Ebert_14:

(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491), (58, 9554),

Gene: EdnaMode_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for EdnaMode_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: Eudoria_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Eudoria_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Eviarto_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Eviarto_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Eyre_14 Start: 9759, Stop: 10187, Start Num: 8

Candidate Starts for Eyre_14:

(1, 9327), (6, 9705), (Start: 8 @9759 has 31 MA's), (16, 9828), (21, 9879), (22, 9882), (29, 9936), (34, 9966), (35, 9969), (45, 10074), (50, 10104), (51, 10107),

Gene: Faith5x5_14 Start: 9042, Stop: 9476, Start Num: 8

Candidate Starts for Faith5x5_14:

(Start: 8 @9042 has 31 MA's), (19, 9138), (20, 9144), (29, 9219), (34, 9249), (36, 9264), (50, 9387), (51, 9390), (52, 9396), (53, 9405), (58, 9459),

Gene: Finkle_14 Start: 8643, Stop: 9212, Start Num: 4

Candidate Starts for Finkle_14:

(Start: 4 @8643 has 52 MA's), (11, 8757), (15, 8805), (20, 8847), (30, 8928), (34, 8955), (36, 8970), (37, 8985), (38, 8988), (40, 9012), (41, 9024), (42, 9033),

Gene: GMA1_14 Start: 8784, Stop: 9359, Start Num: 4

Candidate Starts for GMA1_14:

(Start: 4 @8784 has 52 MA's), (17, 8970), (19, 8982), (27, 9048), (34, 9096), (36, 9111), (38, 9129), (41, 9165), (44, 9195), (48, 9204), (56, 9270),

Gene: GemG_14 Start: 9137, Stop: 9571, Start Num: 8

Candidate Starts for GemG_14:

(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491), (58, 9554),

Gene: Gizermo_14 Start: 9137, Stop: 9571, Start Num: 8
Candidate Starts for Gizermo_14:
(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485),
(52, 9491), (58, 9554),

Gene: Gudmit_15 Start: 9859, Stop: 10293, Start Num: 8
Candidate Starts for Gudmit_15:
(Start: 8 @9859 has 31 MA's), (21, 9979), (34, 10066), (50, 10204), (51, 10207), (52, 10213),

Gene: Haley23_14 Start: 9137, Stop: 9571, Start Num: 8
Candidate Starts for Haley23_14:
(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485),
(52, 9491), (58, 9554),

Gene: Herod_14 Start: 9285, Stop: 9932, Start Num: 4
Candidate Starts for Herod_14:
(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25,
9549), (34, 9603), (49, 9738),

Gene: Hortense_15 Start: 9045, Stop: 9698, Start Num: 4
Candidate Starts for Hortense_15:
(Start: 4 @9045 has 52 MA's), (7, 9126), (10, 9156), (13, 9177), (15, 9213), (17, 9237), (23, 9282), (24,
9288), (25, 9312), (26, 9315), (33, 9354), (34, 9366), (38, 9399), (39, 9420), (41, 9435), (43, 9456),
(54, 9534),

Gene: Howe_15 Start: 9045, Stop: 9698, Start Num: 4
Candidate Starts for Howe_15:
(Start: 4 @9045 has 52 MA's), (7, 9126), (10, 9156), (13, 9177), (15, 9213), (17, 9237), (23, 9282), (24,
9288), (25, 9312), (26, 9315), (33, 9354), (34, 9366), (38, 9399), (39, 9420), (41, 9435), (43, 9456),
(54, 9534),

Gene: Hugley_14 Start: 9285, Stop: 9932, Start Num: 4
Candidate Starts for Hugley_14:
(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25,
9549), (34, 9603), (49, 9738),

Gene: Hyzer_14 Start: 9285, Stop: 9932, Start Num: 4
Candidate Starts for Hyzer_14:
(Start: 4 @9285 has 52 MA's), (7, 9366), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (26,
9552), (34, 9603), (43, 9693), (49, 9738),

Gene: JCole_14 Start: 9137, Stop: 9571, Start Num: 8
Candidate Starts for JCole_14:
(Start: 8 @9137 has 31 MA's), (20, 9239), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491),
(58, 9554),

Gene: Jace_13 Start: 8989, Stop: 9525, Start Num: 5
Candidate Starts for Jace_13:
(3, 8959), (Start: 5 @8989 has 1 MA's), (18, 9184), (20, 9193), (24, 9223), (32, 9280), (34, 9301), (38,
9334), (39, 9355), (47, 9409),

Gene: Kita_14 Start: 9285, Stop: 9932, Start Num: 4
Candidate Starts for Kita_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Lamberg_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for Lamberg_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: LordFarquaad_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for LordFarquaad_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: Lton_14 Start: 9099, Stop: 9533, Start Num: 8

Candidate Starts for Lton_14:

(Start: 8 @9099 has 31 MA's), (20, 9201), (29, 9276), (31, 9282), (34, 9306), (36, 9321), (50, 9444), (51, 9447), (52, 9453), (58, 9516),

Gene: Madeline_14 Start: 9287, Stop: 9934, Start Num: 4

Candidate Starts for Madeline_14:

(Start: 4 @9287 has 52 MA's), (7, 9368), (9, 9386), (10, 9398), (13, 9419), (15, 9455), (17, 9479), (25, 9551), (34, 9605), (49, 9740),

Gene: Manasvini_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Manasvini_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Maridalia_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Maridalia_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Matteo_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for Matteo_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: Mcklovin_16 Start: 10161, Stop: 10811, Start Num: 4

Candidate Starts for Mcklovin_16:

(Start: 4 @10161 has 52 MA's), (9, 10260), (10, 10272), (14, 10317), (15, 10329), (17, 10353), (20, 10371), (25, 10425), (34, 10479), (38, 10512), (54, 10647),

Gene: MichaelScott_15 Start: 8840, Stop: 9493, Start Num: 4

Candidate Starts for MichaelScott_15:

(Start: 4 @8840 has 52 MA's), (7, 8921), (10, 8951), (13, 8972), (15, 9008), (17, 9032), (23, 9077), (24, 9083), (25, 9107), (26, 9110), (33, 9149), (34, 9161), (38, 9194), (39, 9215), (41, 9230), (43, 9251), (54, 9329),

Gene: Mocha12_14 Start: 9137, Stop: 9571, Start Num: 8

Candidate Starts for Mocha12_14:

(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491), (58, 9554),

Gene: Moosehead_14 Start: 9045, Stop: 9479, Start Num: 8

Candidate Starts for Moosehead_14:

(Start: 8 @9045 has 31 MA's), (19, 9141), (20, 9147), (29, 9222), (34, 9252), (36, 9267), (50, 9390), (51, 9393), (52, 9399), (58, 9462),

Gene: Neobush_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Neobush_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Nettuno_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for Nettuno_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: Nymphadora_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Nymphadora_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Ohgeesy_14 Start: 8633, Stop: 9280, Start Num: 4

Candidate Starts for Ohgeesy_14:

(Start: 4 @8633 has 52 MA's), (7, 8714), (9, 8732), (10, 8744), (13, 8765), (15, 8801), (17, 8825), (25, 8897), (34, 8951), (46, 9059), (49, 9086),

Gene: OneDirection_14 Start: 9043, Stop: 9477, Start Num: 8

Candidate Starts for OneDirection_14:

(Start: 8 @9043 has 31 MA's), (20, 9145), (29, 9220), (31, 9226), (34, 9250), (36, 9265), (50, 9388), (51, 9391), (52, 9397), (58, 9460),

Gene: Oregano_15 Start: 8511, Stop: 9164, Start Num: 4

Candidate Starts for Oregano_15:

(Start: 4 @8511 has 52 MA's), (7, 8592), (10, 8622), (13, 8643), (15, 8679), (17, 8703), (23, 8748), (24, 8754), (25, 8778), (26, 8781), (33, 8820), (34, 8832), (38, 8865), (39, 8886), (41, 8901), (43, 8922), (54, 9000),

Gene: PantheRoc_14 Start: 8634, Stop: 9266, Start Num: 4

Candidate Starts for PantheRoc_14:

(Start: 4 @8634 has 52 MA's), (7, 8715), (10, 8745), (13, 8766), (15, 8802), (17, 8826), (25, 8898), (34, 8952), (49, 9087),

Gene: Pepperoni_14 Start: 9393, Stop: 9827, Start Num: 8

Candidate Starts for Pepperoni_14:

(Start: 8 @9393 has 31 MA's), (20, 9495), (29, 9570), (31, 9576), (34, 9600), (36, 9615), (50, 9738), (51, 9741), (52, 9747), (58, 9810),

Gene: PhriskyACE_14 Start: 8338, Stop: 8985, Start Num: 4

Candidate Starts for PhriskyACE_14:

(Start: 4 @8338 has 52 MA's), (10, 8449), (15, 8506), (28, 8617), (34, 8656), (38, 8689), (39, 8710), (43, 8746), (46, 8764), (59, 8881),

Gene: Pickett_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for Pickett_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: Polly_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Polly_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Powerball_14 Start: 8347, Stop: 8994, Start Num: 4

Candidate Starts for Powerball_14:

(Start: 4 @8347 has 52 MA's), (10, 8458), (15, 8515), (28, 8626), (34, 8665), (38, 8698), (39, 8719), (43, 8755), (46, 8773), (59, 8890),

Gene: RavenCo17_14 Start: 9940, Stop: 10368, Start Num: 8

Candidate Starts for RavenCo17_14:

(1, 9508), (2, 9592), (6, 9886), (Start: 8 @9940 has 31 MA's), (12, 9961), (16, 10009), (21, 10060), (29, 10117), (34, 10147), (35, 10150), (45, 10255), (50, 10285), (51, 10288),

Gene: Sahara_14 Start: 9154, Stop: 9591, Start Num: 8

Candidate Starts for Sahara_14:

(Start: 8 @9154 has 31 MA's), (20, 9256), (34, 9361), (36, 9376), (50, 9499), (51, 9502), (52, 9508), (55, 9532), (58, 9571),

Gene: Samman98_15 Start: 8856, Stop: 9503, Start Num: 4

Candidate Starts for Samman98_15:

(Start: 4 @8856 has 52 MA's), (10, 8967), (15, 9024), (28, 9135), (34, 9174), (38, 9207), (39, 9228), (43, 9264), (46, 9282), (59, 9399),

Gene: Savage_14 Start: 9137, Stop: 9571, Start Num: 8

Candidate Starts for Savage_14:

(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491), (58, 9554),

Gene: Sekhmet_15 Start: 8840, Stop: 9493, Start Num: 4

Candidate Starts for Sekhmet_15:

(Start: 4 @8840 has 52 MA's), (7, 8921), (10, 8951), (13, 8972), (15, 9008), (17, 9032), (23, 9077), (24, 9083), (25, 9107), (26, 9110), (33, 9149), (34, 9161), (38, 9194), (39, 9215), (41, 9230), (43, 9251), (54, 9329),

Gene: Shlim410_15 Start: 9045, Stop: 9698, Start Num: 4

Candidate Starts for Shlim410_15:

(Start: 4 @9045 has 52 MA's), (7, 9126), (10, 9156), (13, 9177), (15, 9213), (17, 9237), (23, 9282), (24, 9288), (25, 9312), (26, 9315), (33, 9354), (34, 9366), (38, 9399), (39, 9420), (41, 9435), (43, 9456), (54, 9534),

Gene: Sidious_14 Start: 8632, Stop: 9279, Start Num: 4

Candidate Starts for Sidious_14:

(Start: 4 @8632 has 52 MA's), (7, 8713), (10, 8743), (13, 8764), (15, 8800), (17, 8824), (25, 8896), (34, 8950), (49, 9085),

Gene: SoilAssassin_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for SoilAssassin_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: Sproutie_14 Start: 9137, Stop: 9571, Start Num: 8

Candidate Starts for Sproutie_14:

(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491), (58, 9554),

Gene: Suerte_14 Start: 8339, Stop: 8986, Start Num: 4

Candidate Starts for Suerte_14:

(Start: 4 @8339 has 52 MA's), (10, 8450), (15, 8507), (28, 8618), (34, 8657), (38, 8690), (39, 8711), (43, 8747), (46, 8765), (59, 8882),

Gene: Suscepit_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Suscepit_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Tayonia_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Tayonia_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: ThankyouJordi_13 Start: 9309, Stop: 9956, Start Num: 4

Candidate Starts for ThankyouJordi_13:

(Start: 4 @9309 has 52 MA's), (7, 9390), (13, 9441), (15, 9477), (17, 9501), (25, 9573), (34, 9627), (43, 9717), (49, 9762),

Gene: Thimann_15 Start: 8826, Stop: 9473, Start Num: 4

Candidate Starts for Thimann_15:

(Start: 4 @8826 has 52 MA's), (10, 8937), (15, 8994), (28, 9105), (34, 9144), (38, 9177), (39, 9198), (43, 9234), (46, 9252), (59, 9369),

Gene: TimTam_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for TimTam_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Trumpet_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Trumpet_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: TuertoX_14 Start: 9137, Stop: 9571, Start Num: 8

Candidate Starts for TuertoX_14:

(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491), (58, 9554),

Gene: Twinkle_15 Start: 9045, Stop: 9698, Start Num: 4

Candidate Starts for Twinkle_15:

(Start: 4 @9045 has 52 MA's), (7, 9126), (10, 9156), (13, 9177), (15, 9213), (17, 9237), (23, 9282), (24, 9288), (25, 9312), (26, 9315), (33, 9354), (34, 9366), (38, 9399), (39, 9420), (41, 9435), (43, 9456), (54, 9534),

Gene: Vasanti_14 Start: 9086, Stop: 9520, Start Num: 8

Candidate Starts for Vasanti_14:

(Start: 8 @9086 has 31 MA's), (20, 9188), (29, 9263), (34, 9293), (36, 9308), (50, 9431), (52, 9440), (58, 9503),

Gene: WelcomeAyanna_13 Start: 9309, Stop: 9956, Start Num: 4

Candidate Starts for WelcomeAyanna_13:

(Start: 4 @9309 has 52 MA's), (7, 9390), (13, 9441), (15, 9477), (17, 9501), (25, 9573), (34, 9627), (43, 9717), (49, 9762),

Gene: Whiteclaw_14 Start: 9137, Stop: 9571, Start Num: 8

Candidate Starts for Whiteclaw_14:

(Start: 8 @9137 has 31 MA's), (20, 9239), (29, 9314), (34, 9344), (36, 9359), (50, 9482), (51, 9485), (52, 9491), (58, 9554),

Gene: WinkNick_15 Start: 8841, Stop: 9488, Start Num: 4

Candidate Starts for WinkNick_15:

(Start: 4 @8841 has 52 MA's), (10, 8952), (15, 9009), (28, 9120), (34, 9159), (38, 9192), (39, 9213), (43, 9249), (46, 9267), (59, 9384),

Gene: Yeet412_14 Start: 9070, Stop: 9504, Start Num: 8

Candidate Starts for Yeet412_14:

(Start: 8 @9070 has 31 MA's), (20, 9172), (29, 9247), (34, 9277), (36, 9292), (50, 9415), (51, 9418), (52, 9424), (58, 9487),

Gene: Yeezy_15 Start: 8643, Stop: 9290, Start Num: 4

Candidate Starts for Yeezy_15:

(Start: 4 @8643 has 52 MA's), (7, 8724), (10, 8754), (13, 8775), (15, 8811), (17, 8835), (25, 8907), (34, 8961), (49, 9096),

Gene: Zameen_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Zameen_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (9, 9384), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),

Gene: Zirinka_14 Start: 9285, Stop: 9932, Start Num: 4

Candidate Starts for Zirinka_14:

(Start: 4 @9285 has 52 MA's), (7, 9366), (10, 9396), (13, 9417), (15, 9453), (17, 9477), (25, 9549), (34, 9603), (49, 9738),