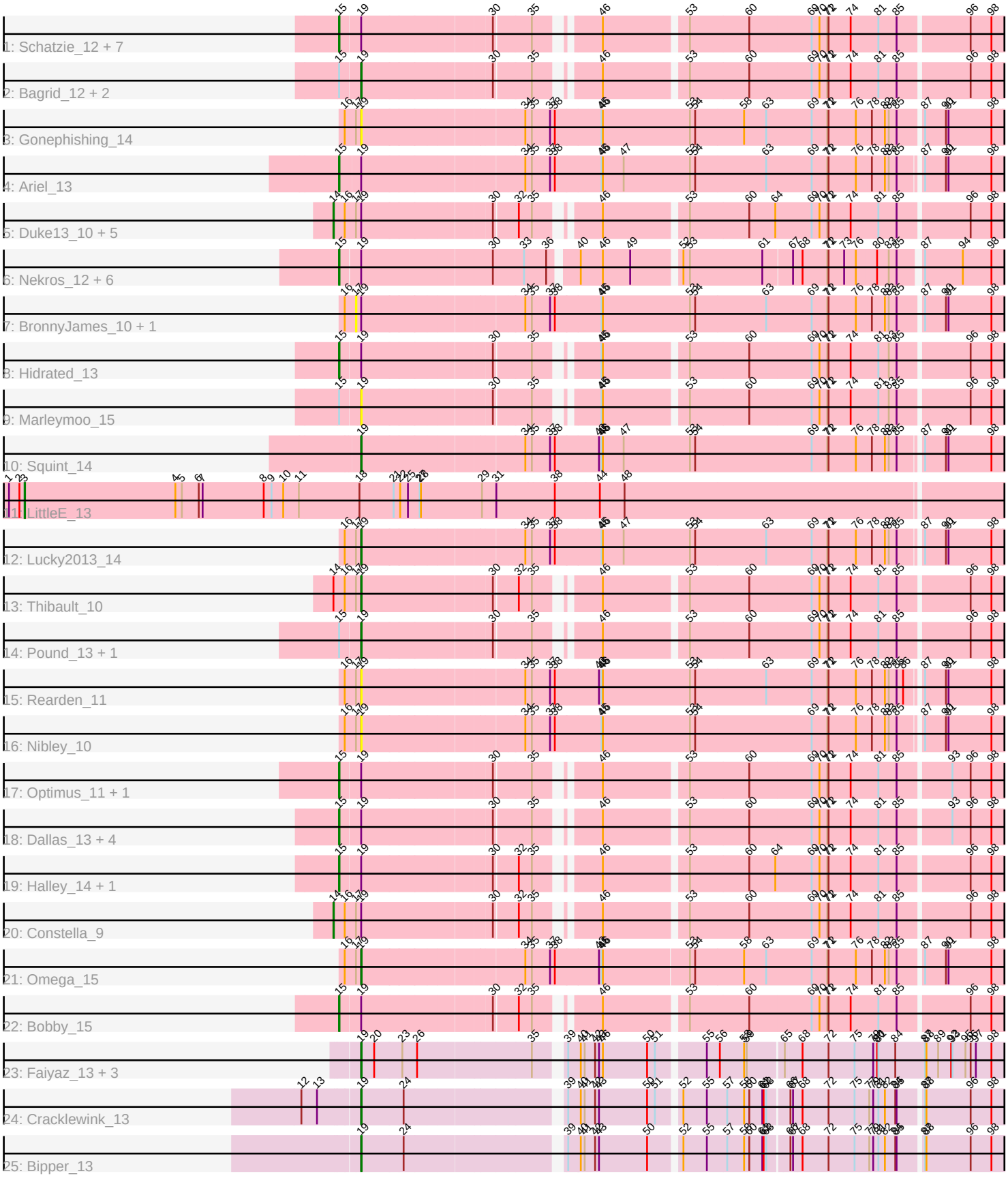
# Pham 340966


1: Schatzie_12 + 7
2: Bagrid_12 + 2
3: Gonephishing_14
4: Ariel_13
5: Duke13_10 + 5
6: Nekros_12 + 6
7: BronnyJames_10 + 1
8: Hidrated_13
9: Marleymoo_15
10: Squint_14
11: LittleE_13
12: Lucky2013_14
13: Thibault_10
14: Pound_13 + 1
15: Rearden_11
16: Nibley_10
17: Optimus_11 + 1
18: Dallas_13 + 4
19: Halley_14 + 1
20: Constella_9
21: Omega_15
22: Bobby_15
23: Faiyaz_13 + 3
24: Cracklewink_13
25: Bipper_13

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 340966 Report

This analysis was run 11/14/26 on database version 672.

Pham number 340966 has 56 members, 9 are drafts.

Phages represented in each track:
• Track 1 : Schatzie_12, Ejimix_15, Yeet_12, Kalah2_14, Beem_14, DmpstrDiver_13, Dove_11, Hughesyang_13
• Track 2 : Bagrid_12, NihilNomen_13, Bombitas_11
• Track 3 : Gonephishing_14
• Track 4 : Ariel_13
• Track 5 : Duke13_10, EricMillard_14, Phoebus_14, Odette_13, BAKA_10, HokkenD_9
• Track 6 : Nekros_12, Superphikiman_14, MiaZeal_14, Porcelain_14, Courthouse_14, Hannaconda_11, KashFlow_8
• Track 7 : BronnyJames_10, Shaboozey_10
• Track 8 : Hidrated_13
• Track 9 : Marleymoo_15
• Track 10 : Squint_14
• Track 11 : LittleE_13
• Track 12 : Lucky2013_14
• Track 13 : Thibault_10
• Track 14 : Pound_13, ThreeRngTarjay_13
• Track 15 : Rearden_11
• Track 16 : Nibley_10
• Track 17 : Optimus_11, Zelink_14
• Track 18 : Dallas_13, Wanda_14, Klein_14, Minerva_13, JuicyJay_15
• Track 19 : Halley_14, Redno2_13
• Track 20 : Constella_9
• Track 21 : Omega_15
• Track 22 : Bobby_15
• Track 23 : Faiyaz_13, AuntGwenStacy_13, Hilltopfarm_13, Typha_13
• Track 24 : Cracklewink_13
• Track 25 : Bipper_13

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

The start number called the most often in the published annotations is 15, it was called in 26 of the 47 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Ariel_13, Beem_14, Bobby_15, Courthouse_14, Dallas_13, DmpstrDiver_13, Dove_11, Ejimix_15, Halley_14, Hannaconda_11, Hidrated_13, Hughesyang_13, JuicyJay_15, Kalah2_14, KashFlow_8, Klein_14, MiaZeal_14, Minerva_13, Nekros_12, Optimus_11, Porcelain_14, Redno2_13, Schatzie_12, Superphikiman_14, Wanda_14, Yeet_12, Zelink_14,

Genes that have the "Most Annotated" start but do not call it:
• Bagrid_12, Bombitas_11, Marleymoo_15, NihilNomen_13, Pound_13, ThreeRngTarjay_13,

Genes that do not have the "Most Annotated" start:
• AuntGwenStacy_13, BAKA_10, Bipper_13, BronnyJames_10, Constella_9, Cracklewink_13, Duke13_10, EricMillard_14, Faiyaz_13, Gonephishing_14, Hilltopfarm_13, HokkenD_9, LittleE_13, Lucky2013_14, Nibley_10, Odette_13, Omega_15, Phoebus_14, Rearden_11, Shaboozey_10, Squint_14, Thibault_10, Typha_13,

**Summary by start number:**

Start 3:
• Found in 1 of 56 ( 1.8% ) of genes in pham
• Manual Annotations of this start: 1 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: LittleE_13 (J),

Start 14:
• Found in 8 of 56 ( 14.3% ) of genes in pham
• Manual Annotations of this start: 6 of 47
• Called 87.5% of time when present
• Phage (with cluster) where this start called: BAKA_10 (J), Constella_9 (J), Duke13_10 (J), EricMillard_14 (J), HokkenD_9 (J), Odette_13 (J), Phoebus_14 (J),

Start 15:
• Found in 33 of 56 ( 58.9% ) of genes in pham
• Manual Annotations of this start: 26 of 47
• Called 81.8% of time when present
• Phage (with cluster) where this start called: Ariel_13 (J), Beem_14 (J), Bobby_15 (J), Courthouse_14 (J), Dallas_13 (J), DmpstrDiver_13 (J), Dove_11 (J), Ejimix_15 (J), Halley_14 (J), Hannaconda_11 (J), Hidrated_13 (J), Hughesyang_13 (J), JuicyJay_15 (J), Kalah2_14 (J), KashFlow_8 (J), Klein_14 (J), MiaZeal_14 (J), Minerva_13 (J), Nekros_12 (J), Optimus_11 (J), Porcelain_14 (J), Redno2_13 (J), Schatzie_12 (J), Superphikiman_14 (J), Wanda_14 (J), Yeet_12 (J), Zelink_14 (J),

Start 17:
• Found in 15 of 56 ( 26.8% ) of genes in pham
• No Manual Annotations of this start.
• Called 13.3% of time when present
• Phage (with cluster) where this start called: BronnyJames_10 (J), Shaboozey_10 (J),

Start 19:
• Found in 55 of 56 ( 98.2% ) of genes in pham
• Manual Annotations of this start: 14 of 47

• Called 34.5% of time when present
• Phage (with cluster) where this start called: AuntGwenStacy_13 (Y), Bagrid_12 (J), Bipper_13 (Y), Bombitas_11 (J), Cracklewink_13 (Y), Faiyaz_13 (Y), Gonephishing_14 (J), Hilltopfarm_13 (Y), Lucky2013_14 (J), Marleymoo_15 (J), Nibley_10 (J), NihilNomen_13 (J), Omega_15 (J), Pound_13 (J), Rearden_11 (J), Squint_14 (J), Thibault_10 (J), ThreeRngTarjay_13 (J), Typha_13 (Y),

**Summary by clusters:**

There are 2 clusters represented in this pham: Y, J,

Info for manual annotations of cluster J:
•Start number 3 was manually annotated 1 time for cluster J.
•Start number 14 was manually annotated 6 times for cluster J.
•Start number 15 was manually annotated 26 times for cluster J.
•Start number 19 was manually annotated 8 times for cluster J.

Info for manual annotations of cluster Y:
•Start number 19 was manually annotated 6 times for cluster Y.

***Gene Information:***

Gene: Ariel_13 Start: 7304, Stop: 8782, Start Num: 15
Candidate Starts for Ariel_13:
(Start: 15 @7304 has 26 MA's), (Start: 19 @7349 has 14 MA's), (34, 7697), (35, 7712), (37, 7751), (38, 7760), (45, 7865), (46, 7868), (47, 7916), (53, 8069), (54, 8081), (63, 8243), (69, 8348), (71, 8384), (72, 8387), (76, 8450), (78, 8483), (82, 8513), (83, 8522), (85, 8540), (87, 8585), (90, 8633), (91, 8639), (98, 8738),

Gene: AuntGwenStacy_13 Start: 8958, Stop: 10352, Start Num: 19
Candidate Starts for AuntGwenStacy_13:
(Start: 19 @8958 has 14 MA's), (20, 8988), (23, 9051), (26, 9084), (35, 9330), (39, 9381), (40, 9408), (41, 9417), (42, 9441), (43, 9450), (46, 9459), (50, 9561), (51, 9579), (55, 9678), (56, 9708), (58, 9762), (59, 9768), (65, 9846), (68, 9882), (72, 9942), (75, 10002), (79, 10044), (80, 10053), (81, 10056), (84, 10095), (87, 10164), (88, 10167), (89, 10194), (92, 10224), (93, 10227), (95, 10257), (96, 10269), (97, 10281), (98, 10317),

Gene: BAKA_10 Start: 7877, Stop: 9301, Start Num: 14
Candidate Starts for BAKA_10:
(Start: 14 @7877 has 6 MA's), (16, 7901), (17, 7925), (Start: 19 @7937 has 14 MA's), (30, 8219), (32, 8267), (35, 8297), (46, 8405), (53, 8585), (60, 8720), (64, 8780), (69, 8861), (70, 8879), (71, 8897), (72, 8900), (74, 8951), (81, 9014), (85, 9056), (96, 9212), (98, 9260),

Gene: Bagrid_12 Start: 7730, Stop: 9094, Start Num: 19
Candidate Starts for Bagrid_12:
(Start: 15 @7685 has 26 MA's), (Start: 19 @7730 has 14 MA's), (30, 8012), (35, 8090), (46, 8198), (53, 8378), (60, 8513), (69, 8654), (70, 8672), (71, 8690), (72, 8693), (74, 8744), (81, 8807), (85, 8849), (96, 9005), (98, 9053),

Gene: Beem_14 Start: 8251, Stop: 9660, Start Num: 15
Candidate Starts for Beem_14:

(Start: 15 @8251 has 26 MA's), (Start: 19 @8296 has 14 MA's), (30, 8578), (35, 8656), (46, 8764), (53, 8944), (60, 9079), (69, 9220), (70, 9238), (71, 9256), (72, 9259), (74, 9310), (81, 9373), (85, 9415), (96, 9571), (98, 9619),

Gene: Bipper_13 Start: 9078, Stop: 10457, Start Num: 19
Candidate Starts for Bipper_13:
(Start: 19 @9078 has 14 MA's), (24, 9174), (39, 9501), (40, 9528), (41, 9537), (42, 9561), (43, 9570), (50, 9681), (52, 9744), (55, 9798), (57, 9843), (58, 9882), (60, 9894), (61, 9924), (62, 9927), (63, 9933), (66, 9975), (67, 9981), (68, 10002), (72, 10062), (75, 10122), (77, 10155), (79, 10164), (81, 10176), (82, 10191), (84, 10215), (85, 10218), (87, 10269), (88, 10272), (96, 10374), (98, 10422),

Gene: Bobby_15 Start: 8203, Stop: 9612, Start Num: 15
Candidate Starts for Bobby_15:
(Start: 15 @8203 has 26 MA's), (Start: 19 @8248 has 14 MA's), (30, 8530), (32, 8578), (35, 8608), (46, 8716), (53, 8896), (60, 9031), (69, 9172), (70, 9190), (71, 9208), (72, 9211), (74, 9262), (81, 9325), (85, 9367), (96, 9523), (98, 9571),

Gene: Bombitas_11 Start: 7605, Stop: 8969, Start Num: 19
Candidate Starts for Bombitas_11:
(Start: 15 @7560 has 26 MA's), (Start: 19 @7605 has 14 MA's), (30, 7887), (35, 7965), (46, 8073), (53, 8253), (60, 8388), (69, 8529), (70, 8547), (71, 8565), (72, 8568), (74, 8619), (81, 8682), (85, 8724), (96, 8880), (98, 8928),

Gene: BronnyJames_10 Start: 6541, Stop: 7992, Start Num: 17
Candidate Starts for BronnyJames_10:
(16, 6517), (17, 6541), (Start: 19 @6553 has 14 MA's), (34, 6901), (35, 6916), (37, 6955), (38, 6964), (45, 7069), (46, 7072), (53, 7273), (54, 7285), (63, 7447), (69, 7552), (71, 7588), (72, 7591), (76, 7654), (78, 7687), (82, 7717), (83, 7726), (85, 7744), (87, 7795), (90, 7843), (91, 7849), (98, 7948),

Gene: Constella_9 Start: 7058, Stop: 8482, Start Num: 14
Candidate Starts for Constella_9:
(Start: 14 @7058 has 6 MA's), (16, 7082), (17, 7106), (Start: 19 @7118 has 14 MA's), (30, 7400), (32, 7448), (35, 7478), (46, 7586), (53, 7766), (60, 7901), (69, 8042), (70, 8060), (71, 8078), (72, 8081), (74, 8132), (81, 8195), (85, 8237), (96, 8393), (98, 8441),

Gene: Courthouse_14 Start: 8110, Stop: 9552, Start Num: 15
Candidate Starts for Courthouse_14:
(Start: 15 @8110 has 26 MA's), (Start: 19 @8155 has 14 MA's), (30, 8443), (33, 8509), (36, 8560), (40, 8614), (46, 8665), (49, 8728), (52, 8830), (53, 8845), (61, 9010), (67, 9073), (68, 9094), (71, 9151), (72, 9154), (73, 9190), (76, 9217), (80, 9262), (83, 9289), (85, 9307), (87, 9352), (94, 9439), (98, 9505),

Gene: Cracklewink_13 Start: 9078, Stop: 10457, Start Num: 19
Candidate Starts for Cracklewink_13:
(12, 8958), (13, 8994), (Start: 19 @9078 has 14 MA's), (24, 9174), (39, 9501), (40, 9528), (41, 9537), (42, 9561), (43, 9570), (50, 9681), (51, 9699), (52, 9744), (55, 9798), (57, 9843), (58, 9882), (60, 9894), (61, 9924), (62, 9927), (63, 9933), (66, 9975), (67, 9981), (68, 10002), (72, 10062), (75, 10122), (77, 10155), (79, 10164), (81, 10176), (82, 10191), (84, 10215), (85, 10218), (87, 10269), (88, 10272), (96, 10374), (98, 10422),

Gene: Dallas_13 Start: 7790, Stop: 9199, Start Num: 15
Candidate Starts for Dallas_13:
(Start: 15 @7790 has 26 MA's), (Start: 19 @7835 has 14 MA's), (30, 8117), (35, 8195), (46, 8303), (53, 8483), (60, 8618), (69, 8759), (70, 8777), (71, 8795), (72, 8798), (74, 8849), (81, 8912), (85, 8954), (93,

9068), (96, 9110), (98, 9158),

Gene: DmpstrDiver_13 Start: 8431, Stop: 9840, Start Num: 15
Candidate Starts for DmpstrDiver_13:
(Start: 15 @8431 has 26 MA's), (Start: 19 @8476 has 14 MA's), (30, 8758), (35, 8836), (46, 8944), (53, 9124), (60, 9259), (69, 9400), (70, 9418), (71, 9436), (72, 9439), (74, 9490), (81, 9553), (85, 9595), (96, 9751), (98, 9799),

Gene: Dove_11 Start: 7559, Stop: 8968, Start Num: 15
Candidate Starts for Dove_11:
(Start: 15 @7559 has 26 MA's), (Start: 19 @7604 has 14 MA's), (30, 7886), (35, 7964), (46, 8072), (53, 8252), (60, 8387), (69, 8528), (70, 8546), (71, 8564), (72, 8567), (74, 8618), (81, 8681), (85, 8723), (96, 8879), (98, 8927),

Gene: Duke13_10 Start: 7805, Stop: 9229, Start Num: 14
Candidate Starts for Duke13_10:
(Start: 14 @7805 has 6 MA's), (16, 7829), (17, 7853), (Start: 19 @7865 has 14 MA's), (30, 8147), (32, 8195), (35, 8225), (46, 8333), (53, 8513), (60, 8648), (64, 8708), (69, 8789), (70, 8807), (71, 8825), (72, 8828), (74, 8879), (81, 8942), (85, 8984), (96, 9140), (98, 9188),

Gene: Ejimix_15 Start: 9001, Stop: 10410, Start Num: 15
Candidate Starts for Ejimix_15:
(Start: 15 @9001 has 26 MA's), (Start: 19 @9046 has 14 MA's), (30, 9328), (35, 9406), (46, 9514), (53, 9694), (60, 9829), (69, 9970), (70, 9988), (71, 10006), (72, 10009), (74, 10060), (81, 10123), (85, 10165), (96, 10321), (98, 10369),

Gene: EricMillard_14 Start: 8525, Stop: 9949, Start Num: 14
Candidate Starts for EricMillard_14:
(Start: 14 @8525 has 6 MA's), (16, 8549), (17, 8573), (Start: 19 @8585 has 14 MA's), (30, 8867), (32, 8915), (35, 8945), (46, 9053), (53, 9233), (60, 9368), (64, 9428), (69, 9509), (70, 9527), (71, 9545), (72, 9548), (74, 9599), (81, 9662), (85, 9704), (96, 9860), (98, 9908),

Gene: Faiyaz_13 Start: 8958, Stop: 10352, Start Num: 19
Candidate Starts for Faiyaz_13:
(Start: 19 @8958 has 14 MA's), (20, 8988), (23, 9051), (26, 9084), (35, 9330), (39, 9381), (40, 9408), (41, 9417), (42, 9441), (43, 9450), (46, 9459), (50, 9561), (51, 9579), (55, 9678), (56, 9708), (58, 9762), (59, 9768), (65, 9846), (68, 9882), (72, 9942), (75, 10002), (79, 10044), (80, 10053), (81, 10056), (84, 10095), (87, 10164), (88, 10167), (89, 10194), (92, 10224), (93, 10227), (95, 10257), (96, 10269), (97, 10281), (98, 10317),

Gene: Gonephishing_14 Start: 8496, Stop: 9935, Start Num: 19
Candidate Starts for Gonephishing_14:
(16, 8460), (17, 8484), (Start: 19 @8496 has 14 MA's), (34, 8844), (35, 8859), (37, 8898), (38, 8907), (45, 9012), (46, 9015), (53, 9216), (54, 9228), (58, 9339), (63, 9390), (69, 9495), (71, 9531), (72, 9534), (76, 9597), (78, 9630), (82, 9660), (83, 9669), (85, 9687), (87, 9738), (90, 9786), (91, 9792), (98, 9891),

Gene: Halley_14 Start: 8251, Stop: 9660, Start Num: 15
Candidate Starts for Halley_14:
(Start: 15 @8251 has 26 MA's), (Start: 19 @8296 has 14 MA's), (30, 8578), (32, 8626), (35, 8656), (46, 8764), (53, 8944), (60, 9079), (64, 9139), (69, 9220), (70, 9238), (71, 9256), (72, 9259), (74, 9310), (81, 9373), (85, 9415), (96, 9571), (98, 9619),

Gene: Hannaconda_11 Start: 6790, Stop: 8232, Start Num: 15

Candidate Starts for Hannaconda_11:
(Start: 15 @6790 has 26 MA's), (Start: 19 @6835 has 14 MA's), (30, 7123), (33, 7189), (36, 7240), (40, 7294), (46, 7345), (49, 7408), (52, 7510), (53, 7525), (61, 7690), (67, 7753), (68, 7774), (71, 7831), (72, 7834), (73, 7870), (76, 7897), (80, 7942), (83, 7969), (85, 7987), (87, 8032), (94, 8119), (98, 8185),

Gene: Hidrated_13 Start: 8364, Stop: 9773, Start Num: 15
Candidate Starts for Hidrated_13:
(Start: 15 @8364 has 26 MA's), (Start: 19 @8409 has 14 MA's), (30, 8691), (35, 8769), (45, 8874), (46, 8877), (53, 9057), (60, 9192), (69, 9333), (70, 9351), (71, 9369), (72, 9372), (74, 9423), (81, 9486), (83, 9510), (85, 9528), (96, 9684), (98, 9732),

Gene: Hilltopfarm_13 Start: 8988, Stop: 10382, Start Num: 19
Candidate Starts for Hilltopfarm_13:
(Start: 19 @8988 has 14 MA's), (20, 9018), (23, 9081), (26, 9114), (35, 9360), (39, 9411), (40, 9438), (41, 9447), (42, 9471), (43, 9480), (46, 9489), (50, 9591), (51, 9609), (55, 9708), (56, 9738), (58, 9792), (59, 9798), (65, 9876), (68, 9912), (72, 9972), (75, 10032), (79, 10074), (80, 10083), (81, 10086), (84, 10125), (87, 10194), (88, 10197), (89, 10224), (92, 10254), (93, 10257), (95, 10287), (96, 10299), (97, 10311), (98, 10347),

Gene: HokkenD_9 Start: 7808, Stop: 9232, Start Num: 14
Candidate Starts for HokkenD_9:
(Start: 14 @7808 has 6 MA's), (16, 7832), (17, 7856), (Start: 19 @7868 has 14 MA's), (30, 8150), (32, 8198), (35, 8228), (46, 8336), (53, 8516), (60, 8651), (64, 8711), (69, 8792), (70, 8810), (71, 8828), (72, 8831), (74, 8882), (81, 8945), (85, 8987), (96, 9143), (98, 9191),

Gene: Hughesyang_13 Start: 8431, Stop: 9840, Start Num: 15
Candidate Starts for Hughesyang_13:
(Start: 15 @8431 has 26 MA's), (Start: 19 @8476 has 14 MA's), (30, 8758), (35, 8836), (46, 8944), (53, 9124), (60, 9259), (69, 9400), (70, 9418), (71, 9436), (72, 9439), (74, 9490), (81, 9553), (85, 9595), (96, 9751), (98, 9799),

Gene: JuicyJay_15 Start: 9081, Stop: 10490, Start Num: 15
Candidate Starts for JuicyJay_15:
(Start: 15 @9081 has 26 MA's), (Start: 19 @9126 has 14 MA's), (30, 9408), (35, 9486), (46, 9594), (53, 9774), (60, 9909), (69, 10050), (70, 10068), (71, 10086), (72, 10089), (74, 10140), (81, 10203), (85, 10245), (93, 10359), (96, 10401), (98, 10449),

Gene: Kalah2_14 Start: 8850, Stop: 10259, Start Num: 15
Candidate Starts for Kalah2_14:
(Start: 15 @8850 has 26 MA's), (Start: 19 @8895 has 14 MA's), (30, 9177), (35, 9255), (46, 9363), (53, 9543), (60, 9678), (69, 9819), (70, 9837), (71, 9855), (72, 9858), (74, 9909), (81, 9972), (85, 10014), (96, 10170), (98, 10218),

Gene: KashFlow_8 Start: 6356, Stop: 7798, Start Num: 15
Candidate Starts for KashFlow_8:
(Start: 15 @6356 has 26 MA's), (Start: 19 @6401 has 14 MA's), (30, 6689), (33, 6755), (36, 6806), (40, 6860), (46, 6911), (49, 6974), (52, 7076), (53, 7091), (61, 7256), (67, 7319), (68, 7340), (71, 7397), (72, 7400), (73, 7436), (76, 7463), (80, 7508), (83, 7535), (85, 7553), (87, 7598), (94, 7685), (98, 7751),

Gene: Klein_14 Start: 7827, Stop: 9236, Start Num: 15
Candidate Starts for Klein_14:
(Start: 15 @7827 has 26 MA's), (Start: 19 @7872 has 14 MA's), (30, 8154), (35, 8232), (46, 8340), (53, 8520), (60, 8655), (69, 8796), (70, 8814), (71, 8832), (72, 8835), (74, 8886), (81, 8949), (85, 8991), (93,

9105), (96, 9147), (98, 9195),

Gene: LittleE_13 Start: 8350, Stop: 10591, Start Num: 3
Candidate Starts for LittleE_13:
(1, 8314), (2, 8338), (Start: 3 @8350 has 1 MA's), (4, 8698), (5, 8713), (6, 8752), (7, 8761), (8, 8902), (9, 8920), (10, 8947), (11, 8983), (18, 9121), (21, 9199), (22, 9214), (25, 9232), (27, 9259), (28, 9262), (29, 9403), (31, 9436), (38, 9568), (44, 9670), (48, 9727),

Gene: Lucky2013_14 Start: 7901, Stop: 9334, Start Num: 19
Candidate Starts for Lucky2013_14:
(16, 7865), (17, 7889), (Start: 19 @7901 has 14 MA's), (34, 8249), (35, 8264), (37, 8303), (38, 8312), (45, 8417), (46, 8420), (47, 8468), (53, 8621), (54, 8633), (63, 8795), (69, 8900), (71, 8936), (72, 8939), (76, 9002), (78, 9035), (82, 9065), (83, 9074), (85, 9092), (87, 9137), (90, 9185), (91, 9191), (98, 9290),

Gene: Marleymoo_15 Start: 8954, Stop: 10318, Start Num: 19
Candidate Starts for Marleymoo_15:
(Start: 15 @8909 has 26 MA's), (Start: 19 @8954 has 14 MA's), (30, 9236), (35, 9314), (45, 9419), (46, 9422), (53, 9602), (60, 9737), (69, 9878), (70, 9896), (71, 9914), (72, 9917), (74, 9968), (81, 10031), (83, 10055), (85, 10073), (96, 10229), (98, 10277),

Gene: MiaZeal_14 Start: 7929, Stop: 9371, Start Num: 15
Candidate Starts for MiaZeal_14:
(Start: 15 @7929 has 26 MA's), (Start: 19 @7974 has 14 MA's), (30, 8262), (33, 8328), (36, 8379), (40, 8433), (46, 8484), (49, 8547), (52, 8649), (53, 8664), (61, 8829), (67, 8892), (68, 8913), (71, 8970), (72, 8973), (73, 9009), (76, 9036), (80, 9081), (83, 9108), (85, 9126), (87, 9171), (94, 9258), (98, 9324),

Gene: Minerva_13 Start: 8310, Stop: 9719, Start Num: 15
Candidate Starts for Minerva_13:
(Start: 15 @8310 has 26 MA's), (Start: 19 @8355 has 14 MA's), (30, 8637), (35, 8715), (46, 8823), (53, 9003), (60, 9138), (69, 9279), (70, 9297), (71, 9315), (72, 9318), (74, 9369), (81, 9432), (85, 9474), (93, 9588), (96, 9630), (98, 9678),

Gene: Nekros_12 Start: 7977, Stop: 9419, Start Num: 15
Candidate Starts for Nekros_12:
(Start: 15 @7977 has 26 MA's), (Start: 19 @8022 has 14 MA's), (30, 8310), (33, 8376), (36, 8427), (40, 8481), (46, 8532), (49, 8595), (52, 8697), (53, 8712), (61, 8877), (67, 8940), (68, 8961), (71, 9018), (72, 9021), (73, 9057), (76, 9084), (80, 9129), (83, 9156), (85, 9174), (87, 9219), (94, 9306), (98, 9372),

Gene: Nibley_10 Start: 6519, Stop: 7952, Start Num: 19
Candidate Starts for Nibley_10:
(16, 6483), (17, 6507), (Start: 19 @6519 has 14 MA's), (34, 6867), (35, 6882), (37, 6921), (38, 6930), (45, 7035), (46, 7038), (53, 7239), (54, 7251), (69, 7518), (71, 7554), (72, 7557), (76, 7620), (78, 7653), (82, 7683), (83, 7692), (85, 7710), (87, 7755), (90, 7803), (91, 7809), (98, 7908),

Gene: NihilNomen_13 Start: 8355, Stop: 9719, Start Num: 19
Candidate Starts for NihilNomen_13:
(Start: 15 @8310 has 26 MA's), (Start: 19 @8355 has 14 MA's), (30, 8637), (35, 8715), (46, 8823), (53, 9003), (60, 9138), (69, 9279), (70, 9297), (71, 9315), (72, 9318), (74, 9369), (81, 9432), (85, 9474), (96, 9630), (98, 9678),

Gene: Odette_13 Start: 7778, Stop: 9202, Start Num: 14
Candidate Starts for Odette_13:

(Start: 14 @7778 has 6 MA's), (16, 7802), (17, 7826), (Start: 19 @7838 has 14 MA's), (30, 8120), (32, 8168), (35, 8198), (46, 8306), (53, 8486), (60, 8621), (64, 8681), (69, 8762), (70, 8780), (71, 8798), (72, 8801), (74, 8852), (81, 8915), (85, 8957), (96, 9113), (98, 9161),

Gene: Omega_15 Start: 9877, Stop: 11310, Start Num: 19
Candidate Starts for Omega_15:
(16, 9841), (17, 9865), (Start: 19 @9877 has 14 MA's), (34, 10225), (35, 10240), (37, 10279), (38, 10288), (43, 10387), (45, 10393), (46, 10396), (53, 10591), (54, 10603), (58, 10714), (63, 10765), (69, 10870), (71, 10906), (72, 10909), (76, 10972), (78, 11005), (82, 11035), (83, 11044), (85, 11062), (87, 11113), (90, 11161), (91, 11167), (98, 11266),

Gene: Optimus_11 Start: 7894, Stop: 9303, Start Num: 15
Candidate Starts for Optimus_11:
(Start: 15 @7894 has 26 MA's), (Start: 19 @7939 has 14 MA's), (30, 8221), (35, 8299), (46, 8407), (53, 8587), (60, 8722), (69, 8863), (70, 8881), (71, 8899), (72, 8902), (74, 8953), (81, 9016), (85, 9058), (93, 9172), (96, 9214), (98, 9262),

Gene: Phoebus_14 Start: 8525, Stop: 9949, Start Num: 14
Candidate Starts for Phoebus_14:
(Start: 14 @8525 has 6 MA's), (16, 8549), (17, 8573), (Start: 19 @8585 has 14 MA's), (30, 8867), (32, 8915), (35, 8945), (46, 9053), (53, 9233), (60, 9368), (64, 9428), (69, 9509), (70, 9527), (71, 9545), (72, 9548), (74, 9599), (81, 9662), (85, 9704), (96, 9860), (98, 9908),

Gene: Porcelain_14 Start: 7929, Stop: 9371, Start Num: 15
Candidate Starts for Porcelain_14:
(Start: 15 @7929 has 26 MA's), (Start: 19 @7974 has 14 MA's), (30, 8262), (33, 8328), (36, 8379), (40, 8433), (46, 8484), (49, 8547), (52, 8649), (53, 8664), (61, 8829), (67, 8892), (68, 8913), (71, 8970), (72, 8973), (73, 9009), (76, 9036), (80, 9081), (83, 9108), (85, 9126), (87, 9171), (94, 9258), (98, 9324),

Gene: Pound_13 Start: 8429, Stop: 9793, Start Num: 19
Candidate Starts for Pound_13:
(Start: 15 @8384 has 26 MA's), (Start: 19 @8429 has 14 MA's), (30, 8711), (35, 8789), (46, 8897), (53, 9077), (60, 9212), (69, 9353), (70, 9371), (71, 9389), (72, 9392), (74, 9443), (81, 9506), (85, 9548), (96, 9704), (98, 9752),

Gene: Rearden_11 Start: 6546, Stop: 7982, Start Num: 19
Candidate Starts for Rearden_11:
(16, 6510), (17, 6534), (Start: 19 @6546 has 14 MA's), (34, 6894), (35, 6909), (37, 6948), (38, 6957), (43, 7056), (45, 7062), (46, 7065), (53, 7266), (54, 7278), (63, 7440), (69, 7545), (71, 7581), (72, 7584), (76, 7647), (78, 7680), (82, 7710), (83, 7719), (85, 7737), (86, 7752), (87, 7782), (90, 7830), (91, 7836), (98, 7935),

Gene: Redno2_13 Start: 8021, Stop: 9430, Start Num: 15
Candidate Starts for Redno2_13:
(Start: 15 @8021 has 26 MA's), (Start: 19 @8066 has 14 MA's), (30, 8348), (32, 8396), (35, 8426), (46, 8534), (53, 8714), (60, 8849), (64, 8909), (69, 8990), (70, 9008), (71, 9026), (72, 9029), (74, 9080), (81, 9143), (85, 9185), (96, 9341), (98, 9389),

Gene: Schatzie_12 Start: 7560, Stop: 8969, Start Num: 15
Candidate Starts for Schatzie_12:
(Start: 15 @7560 has 26 MA's), (Start: 19 @7605 has 14 MA's), (30, 7887), (35, 7965), (46, 8073), (53, 8253), (60, 8388), (69, 8529), (70, 8547), (71, 8565), (72, 8568), (74, 8619), (81, 8682), (85, 8724), (96, 8880), (98, 8928),

Gene: Shaboozey_10 Start: 6541, Stop: 7992, Start Num: 17
Candidate Starts for Shaboozey_10:
(16, 6517), (17, 6541), (Start: 19 @6553 has 14 MA's), (34, 6901), (35, 6916), (37, 6955), (38, 6964), (45, 7069), (46, 7072), (53, 7273), (54, 7285), (63, 7447), (69, 7552), (71, 7588), (72, 7591), (76, 7654), (78, 7687), (82, 7717), (83, 7726), (85, 7744), (87, 7795), (90, 7843), (91, 7849), (98, 7948),

Gene: Squint_14 Start: 7718, Stop: 9151, Start Num: 19
Candidate Starts for Squint_14:
(Start: 19 @7718 has 14 MA's), (34, 8066), (35, 8081), (37, 8120), (38, 8129), (43, 8228), (45, 8234), (46, 8237), (47, 8285), (53, 8438), (54, 8450), (69, 8717), (71, 8753), (72, 8756), (76, 8819), (78, 8852), (82, 8882), (83, 8891), (85, 8909), (87, 8954), (90, 9002), (91, 9008), (98, 9107),

Gene: Superphikiman_14 Start: 8110, Stop: 9552, Start Num: 15
Candidate Starts for Superphikiman_14:
(Start: 15 @8110 has 26 MA's), (Start: 19 @8155 has 14 MA's), (30, 8443), (33, 8509), (36, 8560), (40, 8614), (46, 8665), (49, 8728), (52, 8830), (53, 8845), (61, 9010), (67, 9073), (68, 9094), (71, 9151), (72, 9154), (73, 9190), (76, 9217), (80, 9262), (83, 9289), (85, 9307), (87, 9352), (94, 9439), (98, 9505),

Gene: Thibault_10 Start: 7865, Stop: 9229, Start Num: 19
Candidate Starts for Thibault_10:
(Start: 14 @7805 has 6 MA's), (16, 7829), (17, 7853), (Start: 19 @7865 has 14 MA's), (30, 8147), (32, 8195), (35, 8225), (46, 8333), (53, 8513), (60, 8648), (69, 8789), (70, 8807), (71, 8825), (72, 8828), (74, 8879), (81, 8942), (85, 8984), (96, 9140), (98, 9188),

Gene: ThreeRngTarjay_13 Start: 8429, Stop: 9793, Start Num: 19
Candidate Starts for ThreeRngTarjay_13:
(Start: 15 @8384 has 26 MA's), (Start: 19 @8429 has 14 MA's), (30, 8711), (35, 8789), (46, 8897), (53, 9077), (60, 9212), (69, 9353), (70, 9371), (71, 9389), (72, 9392), (74, 9443), (81, 9506), (85, 9548), (96, 9704), (98, 9752),

Gene: Typha_13 Start: 8958, Stop: 10352, Start Num: 19
Candidate Starts for Typha_13:
(Start: 19 @8958 has 14 MA's), (20, 8988), (23, 9051), (26, 9084), (35, 9330), (39, 9381), (40, 9408), (41, 9417), (42, 9441), (43, 9450), (46, 9459), (50, 9561), (51, 9579), (55, 9678), (56, 9708), (58, 9762), (59, 9768), (65, 9846), (68, 9882), (72, 9942), (75, 10002), (79, 10044), (80, 10053), (81, 10056), (84, 10095), (87, 10164), (88, 10167), (89, 10194), (92, 10224), (93, 10227), (95, 10257), (96, 10269), (97, 10281), (98, 10317),

Gene: Wanda_14 Start: 7827, Stop: 9236, Start Num: 15
Candidate Starts for Wanda_14:
(Start: 15 @7827 has 26 MA's), (Start: 19 @7872 has 14 MA's), (30, 8154), (35, 8232), (46, 8340), (53, 8520), (60, 8655), (69, 8796), (70, 8814), (71, 8832), (72, 8835), (74, 8886), (81, 8949), (85, 8991), (93, 9105), (96, 9147), (98, 9195),

Gene: Yeet_12 Start: 7560, Stop: 8969, Start Num: 15
Candidate Starts for Yeet_12:
(Start: 15 @7560 has 26 MA's), (Start: 19 @7605 has 14 MA's), (30, 7887), (35, 7965), (46, 8073), (53, 8253), (60, 8388), (69, 8529), (70, 8547), (71, 8565), (72, 8568), (74, 8619), (81, 8682), (85, 8724), (96, 8880), (98, 8928),

Gene: Zelink_14 Start: 8412, Stop: 9821, Start Num: 15
Candidate Starts for Zelink_14:

(Start: 15 @8412 has 26 MA's), (Start: 19 @8457 has 14 MA's), (30, 8739), (35, 8817), (46, 8925), (53, 9105), (60, 9240), (69, 9381), (70, 9399), (71, 9417), (72, 9420), (74, 9471), (81, 9534), (85, 9576), (93, 9690), (96, 9732), (98, 9780),