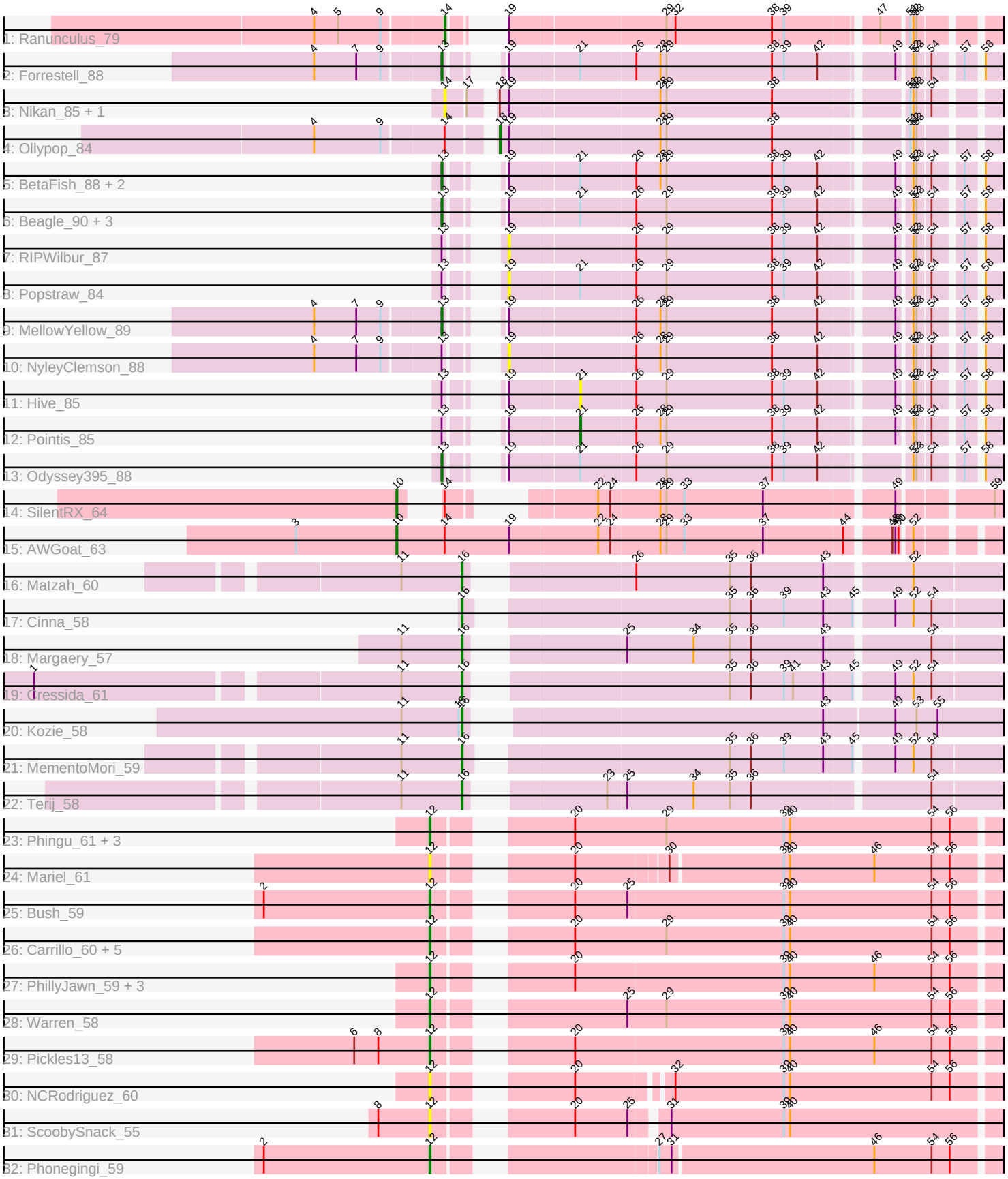
# Pham 296667


1: Ranunculus_79
2: Forrestell_88
3: Nikan_85 + 1
4: Ollypop_84
5: BetaFish_88 + 2
6: Beagle_90 + 3
7: RIPWilbur_87
8: Popstraw_84
9: MellowYellow_89
10: NyleyClemson_88
11: Hive_85
12: Pointis_85
13: Odyssey395_88
14: SilentRX_64
15: AWGoat_63
16: Matzah_60
17: Cinna_58
18: Margaery_57
19: Cressida_61
20: Kozie_58
21: MementoMori_59
22: Terij_58
23: Phingu_61 + 3
24: Mariel_61
25: Bush_59
26: Carrillo_60 + 5
27: PhillyJawn_59 + 3
28: Warren_58
29: Pickles13_58
30: NCRodriguez_60
31: ScoobySnack_55
32: Phonegingi_59

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 296667 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296667 has 49 members, 18 are drafts.

Phages represented in each track:
• Track 1 : Ranunculus_79
• Track 2 : Forrestell_88
• Track 3 : Nikan_85, Ren19_81
• Track 4 : Ollypop_84
• Track 5 : BetaFish_88, PhuzzTulsa_86, Kubulix_88
• Track 6 : Beagle_90, DogYard_88, RazzB_88, Pureglobe5_88
• Track 7 : RIPWilbur_87
• Track 8 : Popstraw_84
• Track 9 : MellowYellow_89
• Track 10 : NyleyClemson_88
• Track 11 : Hive_85
• Track 12 : Pointis_85
• Track 13 : Odyssey395_88
• Track 14 : SilentRX_64
• Track 15 : AWGoat_63
• Track 16 : Matzah_60
• Track 17 : Cinna_58
• Track 18 : Margaery_57
• Track 19 : Cressida_61
• Track 20 : Kozie_58
• Track 21 : MementoMori_59
• Track 22 : Terij_58
• Track 23 : Phingu_61, Blett_58, Guzman_58, MenE_60
• Track 24 : Mariel_61
• Track 25 : Bush_59
• Track 26 : Carrillo_60, CookieDog_58, Jakelyne_61, Antuna_60, Losacky_60, Violeta_60
• Track 27 : PhillyJawn_59, Dropshot_58, Winchester007_5, Appa_58
• Track 28 : Warren_58
• Track 29 : Pickles13_58
• Track 30 : NCRodriguez_60
• Track 31 : ScoobySnack_55
• Track 32 : Phonegingi_59

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

The start number called the most often in the published annotations is 12, it was called in 11 of the 31 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Antuna_60, Appa_58, Blett_58, Bush_59, Carrillo_60, CookieDog_58, Dropshot_58, Guzman_58, Jakelyne_61, Losacky_60, Mariel_61, MenE_60, NCRodriguez_60, PhillyJawn_59, Phingu_61, Phonegingi_59, Pickles13_58, ScoobySnack_55, Violeta_60, Warren_58, Winchester007_5,

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

Genes that do not have the "Most Annotated" start:
• AWGoat_63, Beagle_90, BetaFish_88, Cinna_58, Cressida_61, DogYard_88, Forrestell_88, Hive_85, Kozie_58, Kubulix_88, Margaery_57, Matzah_60, MellowYellow_89, MementoMori_59, Nikan_85, NyleyClemson_88, Odyssey395_88, Ollypop_84, PhuzzTulsa_86, Pointis_85, Popstraw_84, Pureglobe5_88, RIPWilbur_87, Ranunculus_79, RazzB_88, Ren19_81, SilentRX_64, Terij_58,

**Summary by start number:**

Start 10:
• Found in 2 of 49 ( 4.1% ) of genes in pham
• Manual Annotations of this start: 2 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AWGoat_63 (AP4), SilentRX_64 (AP4),

Start 12:
• Found in 21 of 49 ( 42.9% ) of genes in pham
• Manual Annotations of this start: 11 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Antuna_60 (GA), Appa_58 (GA), Blett_58 (GA), Bush_59 (GA), Carrillo_60 (GA), CookieDog_58 (GA), Dropshot_58 (GA), Guzman_58 (GA), Jakelyne_61 (GA), Losacky_60 (GA), Mariel_61 (GA), MenE_60 (GA), NCRodriguez_60 (GA), PhillyJawn_59 (GA), Phingu_61 (GA), Phonegingi_59 (GA), Pickles13_58 (GA), ScoobySnack_55 (GA), Violeta_60 (GA), Warren_58 (GA), Winchester007_5 (GA),

Start 13:
• Found in 15 of 49 ( 30.6% ) of genes in pham
• Manual Annotations of this start: 8 of 31
• Called 66.7% of time when present
• Phage (with cluster) where this start called: Beagle_90 (AP2), BetaFish_88 (AP2), DogYard_88 (AP2), Forrestell_88 (AP2), Kubulix_88 (AP2), MellowYellow_89 (AP2), Odyssey395_88 (AP2), PhuzzTulsa_86 (AP2), Pureglobe5_88 (AP2), RazzB_88 (AP2),

Start 14:
• Found in 6 of 49 ( 12.2% ) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 50.0% of time when present

• Phage (with cluster) where this start called: Nikan_85 (AP2), Ranunculus_79 (AP), Ren19_81 (AP2),

Start 16:
• Found in 7 of 49 ( 14.3% ) of genes in pham
• Manual Annotations of this start: 7 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Cinna_58 (EI), Cressida_61 (EI), Kozie_58 (EI), Margaery_57 (EI), Matzah_60 (EI), MementoMori_59 (EI), Terij_58 (EI),

Start 18:
• Found in 3 of 49 ( 6.1% ) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Ollypop_84 (AP2),

Start 19:
• Found in 20 of 49 ( 40.8% ) of genes in pham
• No Manual Annotations of this start.
• Called 15.0% of time when present
• Phage (with cluster) where this start called: NyleyClemson_88 (AP2), Popstraw_84 (AP2), RIPWilbur_87 (AP2),

Start 21:
• Found in 12 of 49 ( 24.5% ) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 16.7% of time when present
• Phage (with cluster) where this start called: Hive_85 (AP2), Pointis_85 (AP2),

**Summary by clusters:**

There are 5 clusters represented in this pham: AP2, AP, EI, AP4, GA,

Info for manual annotations of cluster AP:
•Start number 14 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP2:
•Start number 13 was manually annotated 8 times for cluster AP2.
•Start number 18 was manually annotated 1 time for cluster AP2.
•Start number 21 was manually annotated 1 time for cluster AP2.

Info for manual annotations of cluster AP4:
•Start number 10 was manually annotated 2 times for cluster AP4.

Info for manual annotations of cluster EI:
•Start number 16 was manually annotated 7 times for cluster EI.

Info for manual annotations of cluster GA:
•Start number 12 was manually annotated 11 times for cluster GA.

### *Gene Information:*

Gene: AWGoat_63 Start: 45285, Stop: 44725, Start Num: 10
Candidate Starts for AWGoat_63:
(3, 45384), (Start: 10 @45285 has 2 MA's), (Start: 14 @45237 has 1 MA's), (19, 45174), (22, 45087), (24, 45075), (28, 45027), (29, 45021), (33, 45003), (37, 44925), (44, 44847), (48, 44808), (49, 44805), (50, 44802), (52, 44793),

Gene: Antuna_60 Start: 34595, Stop: 35113, Start Num: 12
Candidate Starts for Antuna_60:
(Start: 12 @34595 has 11 MA's), (20, 34697), (29, 34787), (39, 34904), (40, 34910), (54, 35051), (56, 35069),

Gene: Appa_58 Start: 34360, Stop: 34875, Start Num: 12
Candidate Starts for Appa_58:
(Start: 12 @34360 has 11 MA's), (20, 34462), (39, 34666), (40, 34672), (46, 34756), (54, 34813), (56, 34831),

Gene: Beagle_90 Start: 51932, Stop: 51468, Start Num: 13
Candidate Starts for Beagle_90:
(Start: 13 @51932 has 8 MA's), (19, 51911), (Start: 21 @51845 has 1 MA's), (26, 51791), (29, 51761), (38, 51656), (39, 51644), (42, 51611), (49, 51548), (52, 51536), (53, 51533), (54, 51521), (57, 51497), (58, 51485),

Gene: BetaFish_88 Start: 52147, Stop: 51683, Start Num: 13
Candidate Starts for BetaFish_88:
(Start: 13 @52147 has 8 MA's), (19, 52126), (Start: 21 @52060 has 1 MA's), (26, 52006), (28, 51982), (29, 51976), (38, 51871), (39, 51859), (42, 51826), (49, 51763), (52, 51751), (53, 51748), (54, 51736), (57, 51712), (58, 51700),

Gene: Blett_58 Start: 34545, Stop: 35063, Start Num: 12
Candidate Starts for Blett_58:
(Start: 12 @34545 has 11 MA's), (20, 34647), (29, 34737), (39, 34854), (40, 34860), (54, 35001), (56, 35019),

Gene: Bush_59 Start: 34494, Stop: 35009, Start Num: 12
Candidate Starts for Bush_59:
(2, 34329), (Start: 12 @34494 has 11 MA's), (20, 34596), (25, 34647), (39, 34800), (40, 34806), (54, 34947), (56, 34965),

Gene: Carrillo_60 Start: 34468, Stop: 34986, Start Num: 12
Candidate Starts for Carrillo_60:
(Start: 12 @34468 has 11 MA's), (20, 34570), (29, 34660), (39, 34777), (40, 34783), (54, 34924), (56, 34942),

Gene: Cinna_58 Start: 40223, Stop: 40708, Start Num: 16
Candidate Starts for Cinna_58:
(Start: 16 @40223 has 7 MA's), (35, 40451), (36, 40472), (39, 40505), (43, 40544), (45, 40571), (49, 40604), (52, 40622), (54, 40640),

Gene: CookieDog_58 Start: 34468, Stop: 34986, Start Num: 12
Candidate Starts for CookieDog_58:

(Start: 12 @34468 has 11 MA's), (20, 34570), (29, 34660), (39, 34777), (40, 34783), (54, 34924), (56, 34942),

Gene: Cressida_61 Start: 39855, Stop: 40334, Start Num: 16
Candidate Starts for Cressida_61:
(1, 39453), (11, 39795), (Start: 16 @39855 has 7 MA's), (35, 40077), (36, 40098), (39, 40131), (41, 40140), (43, 40170), (45, 40197), (49, 40230), (52, 40248), (54, 40266),

Gene: DogYard_88 Start: 51637, Stop: 51173, Start Num: 13
Candidate Starts for DogYard_88:
(Start: 13 @51637 has 8 MA's), (19, 51616), (Start: 21 @51550 has 1 MA's), (26, 51496), (29, 51466), (38, 51361), (39, 51349), (42, 51316), (49, 51253), (52, 51241), (53, 51238), (54, 51226), (57, 51202), (58, 51190),

Gene: Dropshot_58 Start: 34195, Stop: 34710, Start Num: 12
Candidate Starts for Dropshot_58:
(Start: 12 @34195 has 11 MA's), (20, 34297), (39, 34501), (40, 34507), (46, 34591), (54, 34648), (56, 34666),

Gene: Forrestell_88 Start: 50880, Stop: 50416, Start Num: 13
Candidate Starts for Forrestell_88:
(4, 51000), (7, 50958), (9, 50934), (Start: 13 @50880 has 8 MA's), (19, 50859), (Start: 21 @50793 has 1 MA's), (26, 50739), (28, 50715), (29, 50709), (38, 50604), (39, 50592), (42, 50559), (49, 50496), (52, 50484), (53, 50481), (54, 50469), (57, 50445), (58, 50433),

Gene: Guzman_58 Start: 34415, Stop: 34933, Start Num: 12
Candidate Starts for Guzman_58:
(Start: 12 @34415 has 11 MA's), (20, 34517), (29, 34607), (39, 34724), (40, 34730), (54, 34871), (56, 34889),

Gene: Hive_85 Start: 51530, Stop: 51153, Start Num: 21
Candidate Starts for Hive_85:
(Start: 13 @51617 has 8 MA's), (19, 51596), (Start: 21 @51530 has 1 MA's), (26, 51476), (29, 51446), (38, 51341), (39, 51329), (42, 51296), (49, 51233), (52, 51221), (53, 51218), (54, 51206), (57, 51182), (58, 51170),

Gene: Jakelyne_61 Start: 34561, Stop: 35079, Start Num: 12
Candidate Starts for Jakelyne_61:
(Start: 12 @34561 has 11 MA's), (20, 34663), (29, 34753), (39, 34870), (40, 34876), (54, 35017), (56, 35035),

Gene: Kozie_58 Start: 39608, Stop: 40093, Start Num: 16
Candidate Starts for Kozie_58:
(11, 39548), (15, 39605), (Start: 16 @39608 has 7 MA's), (43, 39920), (49, 39986), (53, 40007), (55, 40028),

Gene: Kubulix_88 Start: 51304, Stop: 50840, Start Num: 13
Candidate Starts for Kubulix_88:
(Start: 13 @51304 has 8 MA's), (19, 51283), (Start: 21 @51217 has 1 MA's), (26, 51163), (28, 51139), (29, 51133), (38, 51028), (39, 51016), (42, 50983), (49, 50920), (52, 50908), (53, 50905), (54, 50893), (57, 50869), (58, 50857),

Gene: Losacky_60 Start: 34726, Stop: 35244, Start Num: 12

Candidate Starts for Losacky_60:
(Start: 12 @34726 has 11 MA's), (20, 34828), (29, 34918), (39, 35035), (40, 35041), (54, 35182), (56, 35200),

Gene: Margaery_57 Start: 39484, Stop: 39963, Start Num: 16
Candidate Starts for Margaery_57:
(11, 39424), (Start: 16 @39484 has 7 MA's), (25, 39604), (34, 39670), (35, 39706), (36, 39727), (43, 39799), (54, 39895),

Gene: Mariel_61 Start: 34944, Stop: 35447, Start Num: 12
Candidate Starts for Mariel_61:
(Start: 12 @34944 has 11 MA's), (20, 35046), (30, 35130), (39, 35238), (40, 35244), (46, 35328), (54, 35385), (56, 35403),

Gene: Matzah_60 Start: 40308, Stop: 40787, Start Num: 16
Candidate Starts for Matzah_60:
(11, 40248), (Start: 16 @40308 has 7 MA's), (26, 40437), (35, 40530), (36, 40551), (43, 40623), (52, 40701),

Gene: MellowYellow_89 Start: 51546, Stop: 51082, Start Num: 13
Candidate Starts for MellowYellow_89:
(4, 51666), (7, 51624), (9, 51600), (Start: 13 @51546 has 8 MA's), (19, 51525), (26, 51405), (28, 51381), (29, 51375), (38, 51270), (42, 51225), (49, 51162), (52, 51150), (53, 51147), (54, 51135), (57, 51111), (58, 51099),

Gene: MementoMori_59 Start: 39882, Stop: 40367, Start Num: 16
Candidate Starts for MementoMori_59:
(11, 39822), (Start: 16 @39882 has 7 MA's), (35, 40110), (36, 40131), (39, 40164), (43, 40203), (45, 40230), (49, 40263), (52, 40281), (54, 40299),

Gene: MenE_60 Start: 34617, Stop: 35135, Start Num: 12
Candidate Starts for MenE_60:
(Start: 12 @34617 has 11 MA's), (20, 34719), (29, 34809), (39, 34926), (40, 34932), (54, 35073), (56, 35091),

Gene: NCRodriguez_60 Start: 34686, Stop: 35189, Start Num: 12
Candidate Starts for NCRodriguez_60:
(Start: 12 @34686 has 11 MA's), (20, 34788), (32, 34872), (39, 34980), (40, 34986), (54, 35127), (56, 35145),

Gene: Nikan_85 Start: 51306, Stop: 50818, Start Num: 14
Candidate Starts for Nikan_85:
(Start: 14 @51306 has 1 MA's), (17, 51288), (Start: 18 @51270 has 1 MA's), (19, 51261), (28, 51117), (29, 51111), (38, 51006), (51, 50889), (52, 50886), (53, 50883), (54, 50871),

Gene: NyleyClemson_88 Start: 51143, Stop: 50700, Start Num: 19
Candidate Starts for NyleyClemson_88:
(4, 51284), (7, 51242), (9, 51218), (Start: 13 @51164 has 8 MA's), (19, 51143), (26, 51023), (28, 50999), (29, 50993), (38, 50888), (42, 50843), (49, 50780), (52, 50768), (53, 50765), (54, 50753), (57, 50729), (58, 50717),

Gene: Odyssey395_88 Start: 51326, Stop: 50862, Start Num: 13
Candidate Starts for Odyssey395_88:

(Start: 13 @51326 has 8 MA's), (19, 51305), (Start: 21 @51239 has 1 MA's), (26, 51185), (29, 51155), (38, 51050), (39, 51038), (42, 51005), (52, 50930), (53, 50927), (54, 50915), (57, 50891), (58, 50879),

Gene: Ollypop_84 Start: 52585, Stop: 52133, Start Num: 18
Candidate Starts for Ollypop_84:
(4, 52744), (9, 52678), (Start: 14 @52621 has 1 MA's), (Start: 18 @52585 has 1 MA's), (19, 52576), (28, 52432), (29, 52426), (38, 52321), (51, 52204), (52, 52201), (53, 52198),

Gene: PhillyJawn_59 Start: 34357, Stop: 34872, Start Num: 12
Candidate Starts for PhillyJawn_59:
(Start: 12 @34357 has 11 MA's), (20, 34459), (39, 34663), (40, 34669), (46, 34753), (54, 34810), (56, 34828),

Gene: Phingu_61 Start: 34581, Stop: 35099, Start Num: 12
Candidate Starts for Phingu_61:
(Start: 12 @34581 has 11 MA's), (20, 34683), (29, 34773), (39, 34890), (40, 34896), (54, 35037), (56, 35055),

Gene: Phonegingi_59 Start: 34677, Stop: 35180, Start Num: 12
Candidate Starts for Phonegingi_59:
(2, 34512), (Start: 12 @34677 has 11 MA's), (27, 34854), (31, 34866), (46, 35061), (54, 35118), (56, 35136),

Gene: PhuzzTulsa_86 Start: 51786, Stop: 51322, Start Num: 13
Candidate Starts for PhuzzTulsa_86:
(Start: 13 @51786 has 8 MA's), (19, 51765), (Start: 21 @51699 has 1 MA's), (26, 51645), (28, 51621), (29, 51615), (38, 51510), (39, 51498), (42, 51465), (49, 51402), (52, 51390), (53, 51387), (54, 51375), (57, 51351), (58, 51339),

Gene: Pickles13_58 Start: 35036, Stop: 35551, Start Num: 12
Candidate Starts for Pickles13_58:
(6, 34961), (8, 34985), (Start: 12 @35036 has 11 MA's), (20, 35138), (39, 35342), (40, 35348), (46, 35432), (54, 35489), (56, 35507),

Gene: Pointis_85 Start: 51144, Stop: 50767, Start Num: 21
Candidate Starts for Pointis_85:
(Start: 13 @51231 has 8 MA's), (19, 51210), (Start: 21 @51144 has 1 MA's), (26, 51090), (28, 51066), (29, 51060), (38, 50955), (39, 50943), (42, 50910), (49, 50847), (52, 50835), (53, 50832), (54, 50820), (57, 50796), (58, 50784),

Gene: Popstraw_84 Start: 51375, Stop: 50932, Start Num: 19
Candidate Starts for Popstraw_84:
(Start: 13 @51396 has 8 MA's), (19, 51375), (Start: 21 @51309 has 1 MA's), (26, 51255), (29, 51225), (38, 51120), (39, 51108), (42, 51075), (49, 51012), (52, 51000), (53, 50997), (54, 50985), (57, 50961), (58, 50949),

Gene: Pureglobe5_88 Start: 51878, Stop: 51414, Start Num: 13
Candidate Starts for Pureglobe5_88:
(Start: 13 @51878 has 8 MA's), (19, 51857), (Start: 21 @51791 has 1 MA's), (26, 51737), (29, 51707), (38, 51602), (39, 51590), (42, 51557), (49, 51494), (52, 51482), (53, 51479), (54, 51467), (57, 51443), (58, 51431),

Gene: RIPWilbur_87 Start: 51180, Stop: 50737, Start Num: 19

Candidate Starts for RIPWilbur_87:
(Start: 13 @51201 has 8 MA's), (19, 51180), (26, 51060), (29, 51030), (38, 50925), (39, 50913), (42, 50880), (49, 50817), (52, 50805), (53, 50802), (54, 50790), (57, 50766), (58, 50754),

Gene: Ranunculus_79 Start: 53102, Stop: 52644, Start Num: 14
Candidate Starts for Ranunculus_79:
(4, 53225), (5, 53201), (9, 53159), (Start: 14 @53102 has 1 MA's), (19, 53087), (29, 52937), (32, 52928), (38, 52832), (39, 52820), (47, 52739), (51, 52715), (52, 52712), (53, 52709),

Gene: RazzB_88 Start: 51290, Stop: 50826, Start Num: 13
Candidate Starts for RazzB_88:
(Start: 13 @51290 has 8 MA's), (19, 51269), (Start: 21 @51203 has 1 MA's), (26, 51149), (29, 51119), (38, 51014), (39, 51002), (42, 50969), (49, 50906), (52, 50894), (53, 50891), (54, 50879), (57, 50855), (58, 50843),

Gene: Ren19_81 Start: 50852, Stop: 50364, Start Num: 14
Candidate Starts for Ren19_81:
(Start: 14 @50852 has 1 MA's), (17, 50834), (Start: 18 @50816 has 1 MA's), (19, 50807), (28, 50663), (29, 50657), (38, 50552), (51, 50435), (52, 50432), (53, 50429), (54, 50417),

Gene: ScoobySnack_55 Start: 34331, Stop: 34834, Start Num: 12
Candidate Starts for ScoobySnack_55:
(8, 34280), (Start: 12 @34331 has 11 MA's), (20, 34433), (25, 34484), (31, 34514), (39, 34625), (40, 34631),

Gene: SilentRX_64 Start: 46122, Stop: 45652, Start Num: 10
Candidate Starts for SilentRX_64:
(Start: 10 @46122 has 2 MA's), (Start: 14 @46110 has 1 MA's), (22, 46023), (24, 46011), (28, 45963), (29, 45957), (33, 45939), (37, 45861), (49, 45741), (59, 45660),

Gene: Terij_58 Start: 38927, Stop: 39406, Start Num: 16
Candidate Starts for Terij_58:
(11, 38867), (Start: 16 @38927 has 7 MA's), (23, 39029), (25, 39047), (34, 39113), (35, 39149), (36, 39170), (54, 39338),

Gene: Violeta_60 Start: 34459, Stop: 34977, Start Num: 12
Candidate Starts for Violeta_60:
(Start: 12 @34459 has 11 MA's), (20, 34561), (29, 34651), (39, 34768), (40, 34774), (54, 34915), (56, 34933),

Gene: Warren_58 Start: 34417, Stop: 34935, Start Num: 12
Candidate Starts for Warren_58:
(Start: 12 @34417 has 11 MA's), (25, 34570), (29, 34609), (39, 34726), (40, 34732), (54, 34873), (56, 34891),

Gene: Winchester007_5 Start: 1631, Stop: 2146, Start Num: 12
Candidate Starts for Winchester007_5:
(Start: 12 @1631 has 11 MA's), (20, 1733), (39, 1937), (40, 1943), (46, 2027), (54, 2084), (56, 2102),