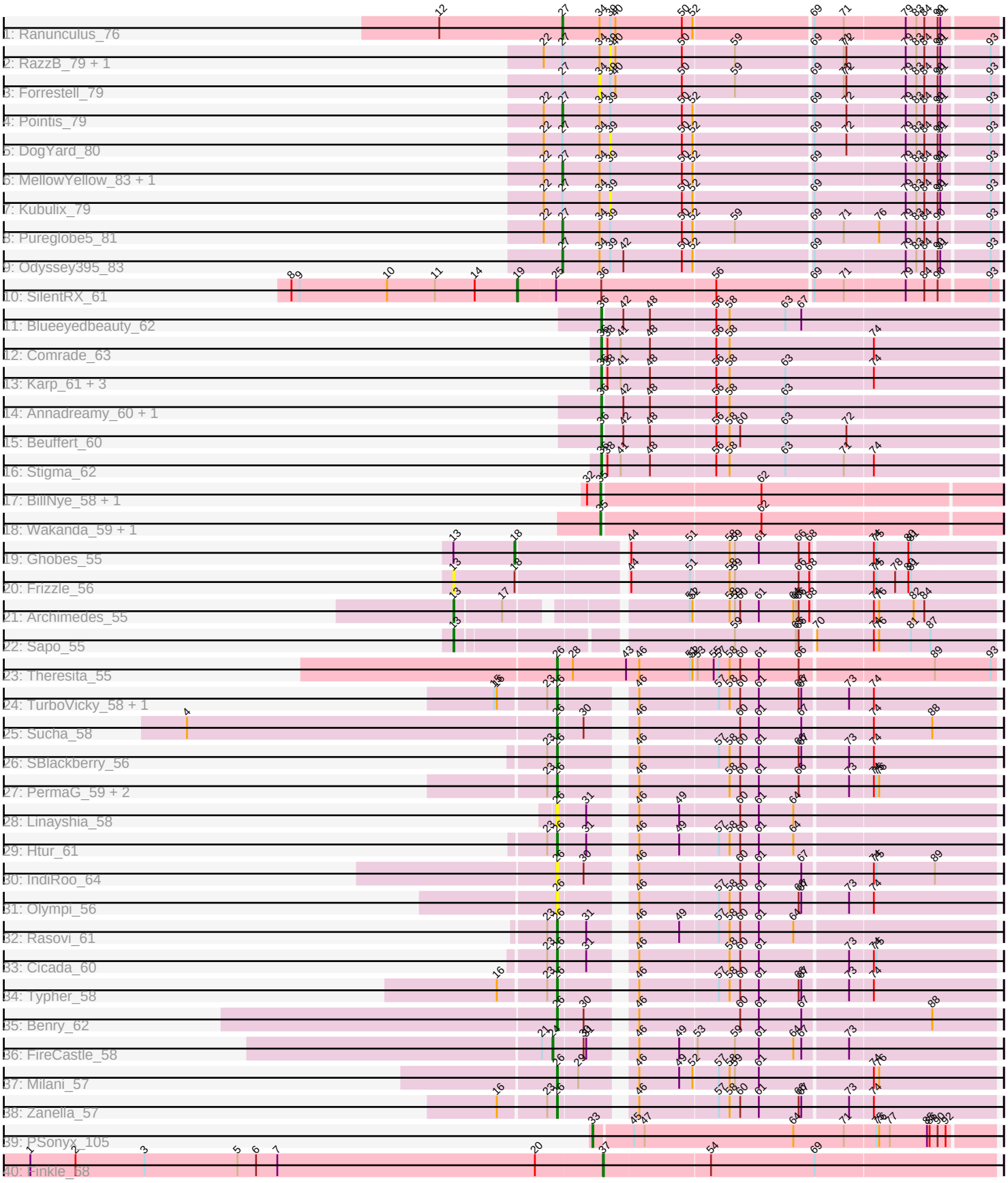
Pham 200335


1: Ranunculus_76
2: RazzB_79 + 1
3: Forrestell_79
4: Pointis_79
5: DogYard_80
6: MellowYellow_83 + 1
7: Kubulix_79
8: Pureglobe5_81
9: Odyssey395_83
10: SilentRX_61
11: Blueeyedbeauty_62
12: Comrade_63
13: Karp_61 + 3
14: Annadreamy_60 + 1
15: Beuffert_60
16: Stigma_62
17: BillNye_58 + 1
18: Wakanda_59 + 1
19: Ghobes_55
20: Frizzle_56
21: Archimedes_55
22: Sapo_55
23: Theresita_55
24: TurboVicky_58 + 1
25: Sucha_58
26: SBlackberry_56
27: PermaG_59 + 2
28: Linayshia_58
29: Htur_61
30: IndiRoo_64
31: Olympi_56
32: Rasovi_61
33: Cicada_60
34: Typher_58
35: Benry_62
36: FireCastle_58
37: Milani_57
38: Zanella_57
39: PSonyx_105
40: Finkle_58

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 200335 Report

This analysis was run 01/18/25 on database version 583.

Pham number 200335 has 51 members, 10 are drafts.

Phages represented in each track:
- Track 1 : Ranunculus_76
- Track 2 : RazzB_79, NyleyClemson_82
- Track 3 : Forrestell_79
- Track 4 : Pointis_79
- Track 5 : DogYard_80
- Track 6 : MellowYellow_83, Beagle_83
- Track 7 : Kubulix_79
- Track 8 : Pureglobe5_81
- Track 9 : Odyssey395_83
- Track 10 : SilentRX_61
- Track 11 : Blueeyedbeauty_62
- Track 12 : Comrade_63
- Track 13 : Karp_61, Westy_60, SparkleGoddess_63, Belfort_64
- Track 14 : Annadreamy_60, Limpid_59
- Track 15 : Beuffert_60
- Track 16 : Stigma_62
- Track 17 : BillNye_58, Circinus_60
- Track 18 : Wakanda_59, Muntaha_60
- Track 19 : Ghobes_55
- Track 20 : Frizzle_56
- Track 21 : Archimedes_55
- Track 22 : Sapo_55
- Track 23 : Theresita_55
- Track 24 : TurboVicky_58, Jera_58
- Track 25 : Sucha_58
- Track 26 : SBlackberry_56
- Track 27 : PermaG_59, Johann_59, Goodman_59
- Track 28 : Linayshia_58
- Track 29 : Htur_61
- Track 30 : IndiRoo_64
- Track 31 : Olympi_56
- Track 32 : Rasovi_61
- Track 33 : Cicada_60
- Track 34 : Typher_58
- Track 35 : Benry_62
- Track 36 : FireCastle_58
- Track 37 : Milani_57

• Track 38 : Zanella_57
• Track 39 : PSonyx_105
• Track 40 : Finkle_68

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

The start number called the most often in the published annotations is 26, it was called in 15 of the 41 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Benry_62, Cicada_60, Goodman_59, Htur_61, IndiRoo_64, Jera_58, Johann_59, Linayshia_58, Milani_57, Olympi_56, PermaG_59, Rasovi_61, SBlackberry_56, Sucha_58, Theresita_55, TurboVicky_58, Typher_58, Zanella_57,

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

Genes that do not have the "Most Annotated" start:
• Annadreamy_60, Archimedes_55, Beagle_83, Belfort_64, Beuffert_60, BillNye_58, Blueeyedbeauty_62, Circinus_60, Comrade_63, DogYard_80, Finkle_68, FireCastle_58, Forrestell_79, Frizzle_56, Ghobes_55, Karp_61, Kubulix_79, Limpid_59, MellowYellow_83, Muntaha_60, NyleyClemson_82, Odyssey395_83, PSonyx_105, Pointis_79, Pureglobe5_81, Ranunculus_76, RazzB_79, Sapo_55, SilentRX_61, SparkleGoddess_63, Stigma_62, Wakanda_59, Westy_60,

Summary by start number:

Start 13:
• Found in 4 of 51 (7.8%) of genes in pham
• Manual Annotations of this start: 2 of 41
• Called 75.0% of time when present
• Phage (with cluster) where this start called: Archimedes_55 (DA), Frizzle_56 (DA), Sapo_55 (DA),

Start 18:
• Found in 2 of 51 (3.9%) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Ghobes_55 (DA),

Start 19:
• Found in 1 of 51 (2.0%) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 100.0% of time when present
• Phage (with cluster) where this start called: SilentRX_61 (AP4),

Start 24:
• Found in 1 of 51 (2.0%) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 100.0% of time when present

• Phage (with cluster) where this start called: FireCastle_58 (EJ),

Start 26:
• Found in 18 of 51 (35.3%) of genes in pham
• Manual Annotations of this start: 15 of 41
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Benry_62 (EJ), Cicada_60 (EJ), Goodman_59 (EJ), Htur_61 (EJ), IndiRoo_64 (EJ), Jera_58 (EJ), Johann_59 (EJ), Linayshia_58 (EJ), Milani_57 (EJ), Olympi_56 (EJ), PermaG_59 (EJ), Rasovi_61 (EJ), SBlackberry_56 (EJ), Sucha_58 (EJ), Theresita_55 (EA7), TurboVicky_58 (EJ), Typher_58 (EJ), Zanella_57 (EJ),

Start 27:
• Found in 11 of 51 (21.6%) of genes in pham
• Manual Annotations of this start: 6 of 41
• Called 54.5% of time when present
• Phage (with cluster) where this start called: Beagle_83 (AP2), MellowYellow_83 (AP2), Odyssey395_83 (AP2), Pointis_79 (AP2), Pureglobe5_81 (AP2), Ranunculus_76 (AP),

Start 33:
• Found in 1 of 51 (2.0%) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 100.0% of time when present
• Phage (with cluster) where this start called: PSonyx_105 (singleton),

Start 34:
• Found in 11 of 51 (21.6%) of genes in pham
• No Manual Annotations of this start.
• Called 9.1% of time when present
• Phage (with cluster) where this start called: Forrestell_79 (AP2),

Start 35:
• Found in 4 of 51 (7.8%) of genes in pham
• Manual Annotations of this start: 4 of 41
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BillNye_58 (BK2), Circinus_60 (BK2), Muntaha_60 (BK2), Wakanda_59 (BK2),

Start 36:
• Found in 11 of 51 (21.6%) of genes in pham
• Manual Annotations of this start: 9 of 41
• Called 90.9% of time when present
• Phage (with cluster) where this start called: Annadreamy_60 (BK1), Belfort_64 (BK1), Beuffert_60 (BK1), Blueeyedbeauty_62 (BK1), Comrade_63 (BK1), Karp_61 (BK1), Limpid_59 (BK1), SparkleGoddess_63 (BK1), Stigma_62 (BK1), Westy_60 (BK1),

Start 37:
• Found in 1 of 51 (2.0%) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Finkle_68 (singleton),

Start 39:
• Found in 11 of 51 (21.6%) of genes in pham
• No Manual Annotations of this start.
• Called 36.4% of time when present
• Phage (with cluster) where this start called: DogYard_80 (AP2), Kubulix_79 (AP2), NyleyClemson_82 (AP2), RazzB_79 (AP2),

Summary by clusters:

There are 9 clusters represented in this pham: singleton, EJ, AP2, AP4, DA, AP, BK1, BK2, EA7,

Info for manual annotations of cluster AP:
•Start number 27 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP2:
•Start number 27 was manually annotated 5 times for cluster AP2.

Info for manual annotations of cluster AP4:
•Start number 19 was manually annotated 1 time for cluster AP4.

Info for manual annotations of cluster BK1:
•Start number 36 was manually annotated 9 times for cluster BK1.

Info for manual annotations of cluster BK2:
•Start number 35 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster DA:
•Start number 13 was manually annotated 2 times for cluster DA.
•Start number 18 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster EA7:
•Start number 26 was manually annotated 1 time for cluster EA7.

Info for manual annotations of cluster EJ:
•Start number 24 was manually annotated 1 time for cluster EJ.
•Start number 26 was manually annotated 14 times for cluster EJ.

Gene Information:

Gene: Annadreamy_60 Start: 51230, Stop: 51667, Start Num: 36
Candidate Starts for Annadreamy_60:
(Start: 36 @51230 has 9 MA's), (42, 51251), (48, 51281), (56, 51353), (58, 51368), (63, 51431),

Gene: Archimedes_55 Start: 43046, Stop: 43597, Start Num: 13
Candidate Starts for Archimedes_55:
(Start: 13 @43046 has 2 MA's), (17, 43097), (51, 43268), (52, 43271), (58, 43310), (59, 43316), (60, 43322), (61, 43343), (64, 43382), (65, 43385), (66, 43388), (68, 43400), (74, 43463), (76, 43469), (82, 43508), (84, 43520),

Gene: Beagle_83 Start: 49552, Stop: 49079, Start Num: 27
Candidate Starts for Beagle_83:
(22, 49573), (Start: 27 @49552 has 6 MA's), (34, 49510), (39, 49498), (50, 49417), (52, 49405), (69, 49276), (79, 49177), (83, 49165), (84, 49156), (90, 49141), (91, 49138), (93, 49087),

Gene: Belfort_64 Start: 53741, Stop: 54178, Start Num: 36
Candidate Starts for Belfort_64:
(Start: 36 @53741 has 9 MA's), (38, 53744), (41, 53759), (48, 53792), (56, 53864), (58, 53879), (63, 53942), (74, 54038),

Gene: Benry_62 Start: 40481, Stop: 40939, Start Num: 26
Candidate Starts for Benry_62:
(Start: 26 @40481 has 15 MA's), (30, 40508), (46, 40550), (60, 40661), (61, 40682), (67, 40730), (88, 40868),

Gene: Beuffert_60 Start: 52367, Stop: 52804, Start Num: 36
Candidate Starts for Beuffert_60:
(Start: 36 @52367 has 9 MA's), (42, 52388), (48, 52418), (56, 52490), (58, 52505), (60, 52517), (63, 52568), (72, 52637),

Gene: BillNye_58 Start: 55236, Stop: 55673, Start Num: 35
Candidate Starts for BillNye_58:
(32, 55221), (Start: 35 @55236 has 4 MA's), (62, 55410),

Gene: Blueeyedbeauty_62 Start: 51742, Stop: 52179, Start Num: 36
Candidate Starts for Blueeyedbeauty_62:
(Start: 36 @51742 has 9 MA's), (42, 51763), (48, 51793), (56, 51865), (58, 51880), (63, 51943), (67, 51961),

Gene: Cicada_60 Start: 40725, Stop: 41183, Start Num: 26
Candidate Starts for Cicada_60:
(23, 40716), (Start: 26 @40725 has 15 MA's), (31, 40755), (46, 40794), (58, 40893), (60, 40905), (61, 40926), (73, 41022), (74, 41046), (75, 41049),

Gene: Circinus_60 Start: 55375, Stop: 55812, Start Num: 35
Candidate Starts for Circinus_60:
(32, 55360), (Start: 35 @55375 has 4 MA's), (62, 55549),

Gene: Comrade_63 Start: 53357, Stop: 53794, Start Num: 36
Candidate Starts for Comrade_63:
(Start: 36 @53357 has 9 MA's), (38, 53360), (41, 53375), (48, 53408), (56, 53480), (58, 53495), (74, 53654),

Gene: DogYard_80 Start: 49714, Stop: 49295, Start Num: 39
Candidate Starts for DogYard_80:
(22, 49789), (Start: 27 @49768 has 6 MA's), (34, 49726), (39, 49714), (50, 49633), (52, 49621), (69, 49492), (72, 49456), (79, 49393), (83, 49381), (84, 49372), (90, 49357), (91, 49354), (93, 49303),

Gene: Finkle_68 Start: 42206, Stop: 42640, Start Num: 37
Candidate Starts for Finkle_68:
(1, 41561), (2, 41612), (3, 41690), (5, 41795), (6, 41816), (7, 41840), (20, 42131), (Start: 37 @42206 has 1 MA's), (54, 42323), (69, 42440),

Gene: FireCastle_58 Start: 41353, Stop: 41814, Start Num: 24
Candidate Starts for FireCastle_58:
(21, 41341), (Start: 24 @41353 has 1 MA's), (30, 41383), (31, 41386), (46, 41425), (49, 41470), (53, 41488), (59, 41530), (61, 41557), (64, 41596), (67, 41605), (73, 41653),

Gene: Forrestell_79 Start: 48972, Stop: 48538, Start Num: 34
Candidate Starts for Forrestell_79:
(Start: 27 @49014 has 6 MA's), (34, 48972), (39, 48960), (40, 48954), (50, 48879), (59, 48822), (69, 48738), (71, 48705), (72, 48702), (79, 48636), (83, 48624), (84, 48615), (90, 48600), (91, 48597), (93, 48546),

Gene: Frizzle_56 Start: 43417, Stop: 43992, Start Num: 13
Candidate Starts for Frizzle_56:
(Start: 13 @43417 has 2 MA's), (Start: 18 @43486 has 1 MA's), (44, 43597), (51, 43663), (58, 43705), (59, 43711), (66, 43783), (68, 43795), (74, 43858), (75, 43861), (78, 43882), (80, 43897), (81, 43900),

Gene: Ghobes_55 Start: 43399, Stop: 43905, Start Num: 18
Candidate Starts for Ghobes_55:
(Start: 13 @43330 has 2 MA's), (Start: 18 @43399 has 1 MA's), (44, 43510), (51, 43576), (58, 43618), (59, 43624), (61, 43651), (66, 43696), (68, 43708), (74, 43771), (75, 43774), (80, 43810), (81, 43813),

Gene: Goodman_59 Start: 40738, Stop: 41196, Start Num: 26
Candidate Starts for Goodman_59:
(23, 40729), (Start: 26 @40738 has 15 MA's), (46, 40807), (58, 40906), (60, 40918), (61, 40939), (66, 40984), (73, 41035), (74, 41059), (75, 41062), (76, 41065),

Gene: Htur_61 Start: 41312, Stop: 41770, Start Num: 26
Candidate Starts for Htur_61:
(23, 41303), (Start: 26 @41312 has 15 MA's), (31, 41342), (46, 41381), (49, 41426), (57, 41468), (58, 41480), (60, 41492), (61, 41513), (64, 41552),

Gene: IndiRoo_64 Start: 41012, Stop: 41470, Start Num: 26
Candidate Starts for IndiRoo_64:
(Start: 26 @41012 has 15 MA's), (30, 41039), (46, 41081), (60, 41192), (61, 41213), (67, 41261), (74, 41333), (75, 41336), (89, 41402),

Gene: Jera_58 Start: 39419, Stop: 39877, Start Num: 26
Candidate Starts for Jera_58:
(15, 39356), (16, 39359), (23, 39410), (Start: 26 @39419 has 15 MA's), (46, 39488), (57, 39575), (58, 39587), (60, 39599), (61, 39620), (66, 39665), (67, 39668), (73, 39716), (74, 39740),

Gene: Johann_59 Start: 40738, Stop: 41196, Start Num: 26
Candidate Starts for Johann_59:
(23, 40729), (Start: 26 @40738 has 15 MA's), (46, 40807), (58, 40906), (60, 40918), (61, 40939), (66, 40984), (73, 41035), (74, 41059), (75, 41062), (76, 41065),

Gene: Karp_61 Start: 52956, Stop: 53393, Start Num: 36
Candidate Starts for Karp_61:
(Start: 36 @52956 has 9 MA's), (38, 52959), (41, 52974), (48, 53007), (56, 53079), (58, 53094), (63, 53157), (74, 53253),

Gene: Kubulix_79 Start: 49384, Stop: 48965, Start Num: 39
Candidate Starts for Kubulix_79:

(22, 49459), (Start: 27 @49438 has 6 MA's), (34, 49396), (39, 49384), (50, 49303), (52, 49291), (69, 49162), (79, 49063), (83, 49051), (84, 49042), (90, 49027), (91, 49024), (93, 48973),

Gene: Limpid_59 Start: 51229, Stop: 51666, Start Num: 36
Candidate Starts for Limpid_59:
(Start: 36 @51229 has 9 MA's), (42, 51250), (48, 51280), (56, 51352), (58, 51367), (63, 51430),

Gene: Linayshia_58 Start: 41250, Stop: 41708, Start Num: 26
Candidate Starts for Linayshia_58:
(Start: 26 @41250 has 15 MA's), (31, 41280), (46, 41319), (49, 41364), (60, 41430), (61, 41451), (64, 41490),

Gene: MellowYellow_83 Start: 49680, Stop: 49207, Start Num: 27
Candidate Starts for MellowYellow_83:
(22, 49701), (Start: 27 @49680 has 6 MA's), (34, 49638), (39, 49626), (50, 49545), (52, 49533), (69, 49404), (79, 49305), (83, 49293), (84, 49284), (90, 49269), (91, 49266), (93, 49215),

Gene: Milani_57 Start: 40485, Stop: 40943, Start Num: 26
Candidate Starts for Milani_57:
(Start: 26 @40485 has 15 MA's), (29, 40506), (46, 40554), (49, 40599), (52, 40614), (57, 40641), (58, 40653), (59, 40659), (61, 40686), (74, 40806), (76, 40812),

Gene: Muntaha_60 Start: 53621, Stop: 54058, Start Num: 35
Candidate Starts for Muntaha_60:
(Start: 35 @53621 has 4 MA's), (62, 53795),

Gene: NyleyClemson_82 Start: 49244, Stop: 48822, Start Num: 39
Candidate Starts for NyleyClemson_82:
(22, 49319), (Start: 27 @49298 has 6 MA's), (34, 49256), (39, 49244), (40, 49238), (50, 49163), (59, 49106), (69, 49022), (71, 48989), (72, 48986), (79, 48920), (83, 48908), (84, 48899), (90, 48884), (91, 48881), (93, 48830),

Gene: Odyssey395_83 Start: 49789, Stop: 49316, Start Num: 27
Candidate Starts for Odyssey395_83:
(Start: 27 @49789 has 6 MA's), (34, 49747), (39, 49735), (42, 49720), (50, 49654), (52, 49642), (69, 49513), (79, 49414), (83, 49402), (84, 49393), (90, 49378), (91, 49375), (93, 49324),

Gene: Olympi_56 Start: 40555, Stop: 41013, Start Num: 26
Candidate Starts for Olympi_56:
(Start: 26 @40555 has 15 MA's), (46, 40624), (57, 40711), (58, 40723), (60, 40735), (61, 40756), (66, 40801), (67, 40804), (73, 40852), (74, 40876),

Gene: PSonyx_105 Start: 56948, Stop: 56508, Start Num: 33
Candidate Starts for PSonyx_105:
(Start: 33 @56948 has 1 MA's), (45, 56906), (47, 56894), (64, 56726), (71, 56669), (75, 56636), (76, 56633), (77, 56621), (85, 56579), (86, 56576), (90, 56567), (92, 56558),

Gene: PermaG_59 Start: 40663, Stop: 41121, Start Num: 26
Candidate Starts for PermaG_59:
(23, 40654), (Start: 26 @40663 has 15 MA's), (46, 40732), (58, 40831), (60, 40843), (61, 40864), (66, 40909), (73, 40960), (74, 40984), (75, 40987), (76, 40990),

Gene: Pointis_79 Start: 49365, Stop: 48892, Start Num: 27

Candidate Starts for Pointis_79:
(22, 49386), (Start: 27 @49365 has 6 MA's), (34, 49323), (39, 49311), (50, 49230), (52, 49218), (69, 49089), (72, 49053), (79, 48990), (83, 48978), (84, 48969), (90, 48954), (91, 48951), (93, 48900),

Gene: Pureglobe5_81 Start: 49812, Stop: 49336, Start Num: 27
Candidate Starts for Pureglobe5_81:
(22, 49833), (Start: 27 @49812 has 6 MA's), (34, 49770), (39, 49758), (50, 49677), (52, 49665), (59, 49620), (69, 49536), (71, 49503), (76, 49464), (79, 49434), (83, 49422), (84, 49413), (90, 49398), (93, 49344),

Gene: Ranunculus_76 Start: 52106, Stop: 51633, Start Num: 27
Candidate Starts for Ranunculus_76:
(12, 52244), (Start: 27 @52106 has 6 MA's), (34, 52064), (39, 52052), (40, 52046), (50, 51971), (52, 51959), (69, 51830), (71, 51797), (79, 51731), (83, 51719), (84, 51710), (90, 51695), (91, 51692),

Gene: Rasovi_61 Start: 41312, Stop: 41770, Start Num: 26
Candidate Starts for Rasovi_61:
(23, 41303), (Start: 26 @41312 has 15 MA's), (31, 41342), (46, 41381), (49, 41426), (57, 41468), (58, 41480), (60, 41492), (61, 41513), (64, 41552),

Gene: RazzB_79 Start: 49370, Stop: 48948, Start Num: 39
Candidate Starts for RazzB_79:
(22, 49445), (Start: 27 @49424 has 6 MA's), (34, 49382), (39, 49370), (40, 49364), (50, 49289), (59, 49232), (69, 49148), (71, 49115), (72, 49112), (79, 49046), (83, 49034), (84, 49025), (90, 49010), (91, 49007), (93, 48956),

Gene: SBlackberry_56 Start: 40464, Stop: 40922, Start Num: 26
Candidate Starts for SBlackberry_56:
(23, 40455), (Start: 26 @40464 has 15 MA's), (46, 40533), (57, 40620), (58, 40632), (60, 40644), (61, 40665), (66, 40710), (67, 40713), (73, 40761), (74, 40785),

Gene: Sapo_55 Start: 43149, Stop: 43712, Start Num: 13
Candidate Starts for Sapo_55:
(Start: 13 @43149 has 2 MA's), (59, 43431), (65, 43500), (66, 43503), (70, 43518), (74, 43578), (76, 43584), (81, 43620), (87, 43641),

Gene: SilentRX_61 Start: 45105, Stop: 44584, Start Num: 19
Candidate Starts for SilentRX_61:
(8, 45360), (9, 45351), (10, 45252), (11, 45198), (14, 45153), (Start: 19 @45105 has 1 MA's), (25, 45063), (Start: 36 @45012 has 9 MA's), (56, 44886), (69, 44781), (71, 44748), (79, 44682), (84, 44661), (90, 44646), (93, 44592),

Gene: SparkleGoddess_63 Start: 53358, Stop: 53795, Start Num: 36
Candidate Starts for SparkleGoddess_63:
(Start: 36 @53358 has 9 MA's), (38, 53361), (41, 53376), (48, 53409), (56, 53481), (58, 53496), (63, 53559), (74, 53655),

Gene: Stigma_62 Start: 53372, Stop: 53809, Start Num: 36
Candidate Starts for Stigma_62:
(Start: 36 @53372 has 9 MA's), (38, 53375), (41, 53390), (48, 53423), (56, 53495), (58, 53510), (63, 53573), (71, 53639), (74, 53669),

Gene: Sucha_58 Start: 39912, Stop: 40370, Start Num: 26

Candidate Starts for Sucha_58:
(4, 39498), (Start: 26 @39912 has 15 MA's), (30, 39939), (46, 39981), (60, 40092), (61, 40113), (67, 40161), (74, 40233), (88, 40299),

Gene: Theresita_55 Start: 38885, Stop: 39367, Start Num: 26
Candidate Starts for Theresita_55:
(Start: 26 @38885 has 15 MA's), (28, 38903), (43, 38963), (46, 38978), (51, 39035), (52, 39038), (53, 39041), (55, 39059), (57, 39065), (58, 39077), (60, 39089), (61, 39110), (66, 39155), (89, 39299), (93, 39362),

Gene: TurboVicky_58 Start: 40681, Stop: 41139, Start Num: 26
Candidate Starts for TurboVicky_58:
(15, 40618), (16, 40621), (23, 40672), (Start: 26 @40681 has 15 MA's), (46, 40750), (57, 40837), (58, 40849), (60, 40861), (61, 40882), (66, 40927), (67, 40930), (73, 40978), (74, 41002),

Gene: Typher_58 Start: 40240, Stop: 40698, Start Num: 26
Candidate Starts for Typher_58:
(16, 40180), (23, 40231), (Start: 26 @40240 has 15 MA's), (46, 40309), (57, 40396), (58, 40408), (60, 40420), (61, 40441), (66, 40486), (67, 40489), (73, 40537), (74, 40561),

Gene: Wakanda_59 Start: 53558, Stop: 53995, Start Num: 35
Candidate Starts for Wakanda_59:
(Start: 35 @53558 has 4 MA's), (62, 53732),

Gene: Westy_60 Start: 53358, Stop: 53795, Start Num: 36
Candidate Starts for Westy_60:
(Start: 36 @53358 has 9 MA's), (38, 53361), (41, 53376), (48, 53409), (56, 53481), (58, 53496), (63, 53559), (74, 53655),

Gene: Zanella_57 Start: 40485, Stop: 40943, Start Num: 26
Candidate Starts for Zanella_57:
(16, 40425), (23, 40476), (Start: 26 @40485 has 15 MA's), (46, 40554), (57, 40641), (58, 40653), (60, 40665), (61, 40686), (66, 40731), (67, 40734), (73, 40782), (74, 40806),