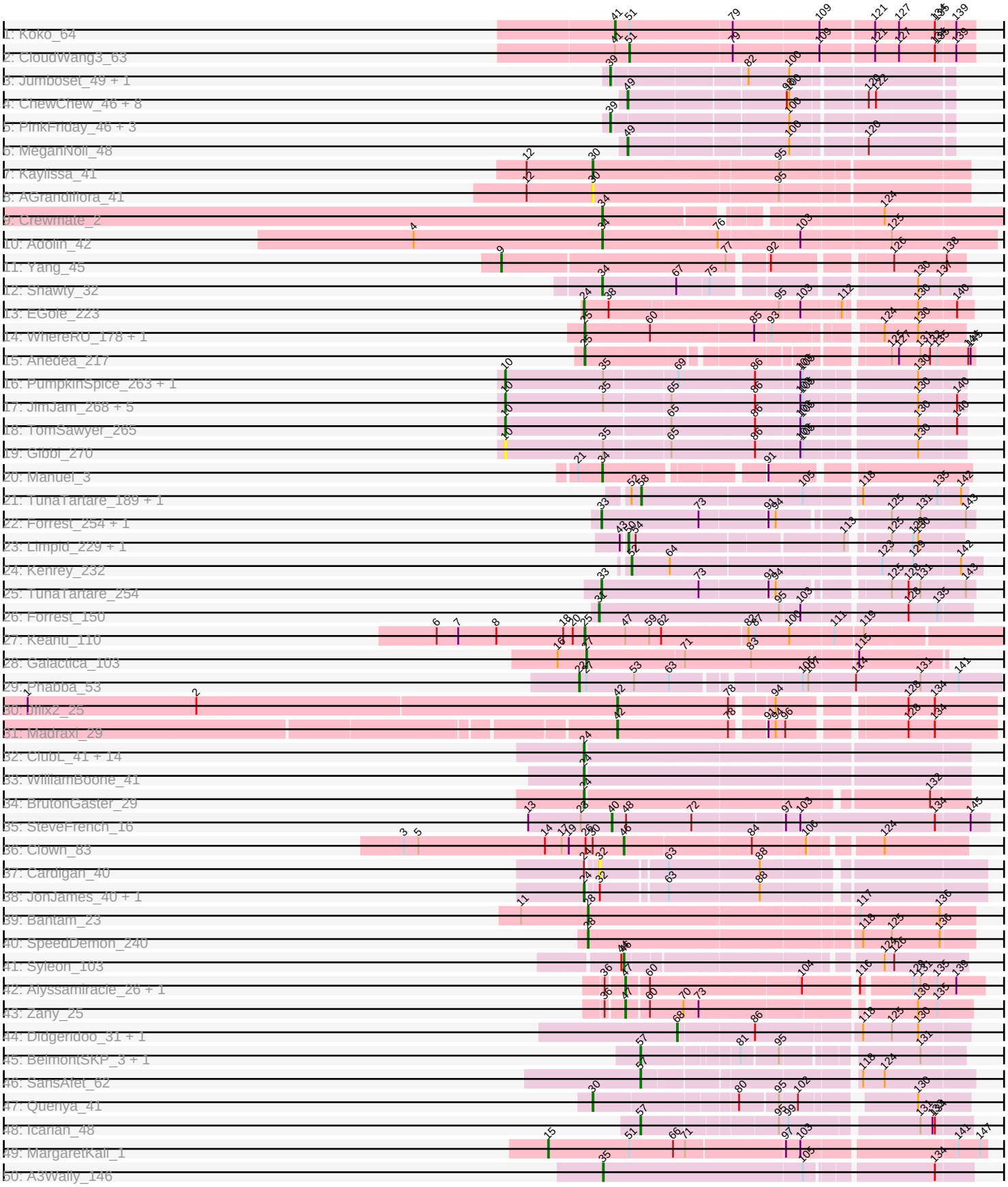
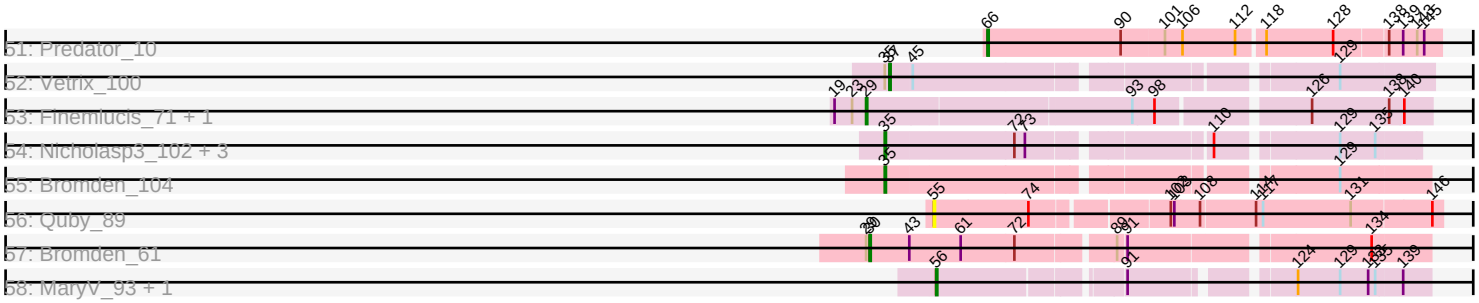
# Pham 196422


1: Koko_64
2: CloudWang3_63
3: Jumboset_49 + 1
4: ChewChew_46 + 8
5: PinkFriday_46 + 3
6: MeganNoll_48
7: Kayllssa_41
8: AGrandiflora_41
9: Crewmate_2
10: Adolin_42
11: Yang_45
12: Shawty_32
13: EGole_223
14: WhereRU_178 + 1
15: Anedea_217
16: PumpkinSpice_263 + 1
17: JimJam_268 + 5
18: TomSawyer_265
19: Gibbi_270
20: Manuel_3
21: TunaTartare_189 + 1
22: Forrest_254 + 1
23: Limpid_229 + 1
24: Kenrey_232
25: TunaTartare_254
26: Forrest_150
27: Keanu_110
28: Galactica_103
29: Phabba_53
30: Dilix2_25
31: Madraxi_29
32: ClubL_41 + 14
33: WilliamBoone_41
34: BrutonGaster_29
35: SteveFrench_16
36: Clown_83
37: Cardigan_40
38: JonJames_40 + 1
39: Bantam_23
40: SpeedDemon_240
41: Syleon_103
42: AlyssaMiracle_26 + 1
43: Zany_25
44: Didgeridoo_31 + 1
45: BelmontSKP_3 + 1
46: SansAlet_62
47: Quenya_41
48: Icarian_48
49: MargaretKail_1
50: A3Wally_146

# Pham 196422


51: Predator_10
52: Vetrix_100
53: Finemlucis_71 + 1
54: Nicholasp3_102 + 3
55: Bromden_104
56: Quby_89
57: Bromden_61
58: MaryV_93 + 1

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 196422 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196422 has 103 members, 9 are drafts.

Phages represented in each track:
• Track 1 : Koko_64
• Track 2 : CloudWang3_63
• Track 3 : Jumboset_49, Pterodactyl_46
• Track 4 : ChewChew_46, CristinaYang_46, Wawa_48, BigMack_46, AppleCider_48, Suppi_48, Canowicakte_48, Bodacious_46, Nancia_46
• Track 5 : PinkFriday_46, Glenn_49, Kittykat_49, Wayne_49
• Track 6 : MeganNoll_48
• Track 7 : Kaylissa_41
• Track 8 : AGrandiflora_41
• Track 9 : Crewmate_2
• Track 10 : Adolin_42
• Track 11 : Yang_45
• Track 12 : Shawty_32
• Track 13 : EGole_223
• Track 14 : WhereRU_178, Persimmon_179
• Track 15 : Anedea_217
• Track 16 : PumpkinSpice_263, Wipeout_252
• Track 17 : JimJam_268, Starbow_257, KentuckyRacer_267, CeilingFan_274, Spelly_265, Spilled_268
• Track 18 : TomSawyer_265
• Track 19 : Gibbi_270
• Track 20 : Manuel_3
• Track 21 : TunaTartare_189, Sham_181
• Track 22 : Forrest_254, Jada_255
• Track 23 : Limpid_229, Annadreamy_222
• Track 24 : Kenrey_232
• Track 25 : TunaTartare_254
• Track 26 : Forrest_150
• Track 27 : Keanu_110
• Track 28 : Galactica_103
• Track 29 : Phabba_53
• Track 30 : Jflix2_25
• Track 31 : Madraxi_29
• Track 32 : ClubL_41, Geeche_40, Dusty_39, Miskis_43, Lozinak_41, Engineer_42, Abscondus_40, Toniann_41, Norvs_42, Cucurbita_43, Smoothie_42, Aphelion_41, Culver_41, PhinkBoden_41, Bachita_43
• Track 33 : WilliamBoone_41

• Track 34 : BrutonGaster_29
• Track 35 : SteveFrench_16
• Track 36 : Clown_83
• Track 37 : Cardigan_40
• Track 38 : JonJames_40, Yvonnetastic_38
• Track 39 : Bantam_23
• Track 40 : SpeedDemon_240
• Track 41 : Syleon_103
• Track 42 : Alyssamiracle_26, Genamy16_26
• Track 43 : Zany_25
• Track 44 : Didgeridoo_31, Finalfrontier_30
• Track 45 : BelmontSKP_3, AnnaLie_3
• Track 46 : SansAfet_62
• Track 47 : Quenya_41
• Track 48 : Icarian_48
• Track 49 : MargaretKali_1
• Track 50 : A3Wally_146
• Track 51 : Predator_10
• Track 52 : Vetrix_100
• Track 53 : Finemlucis_71, Gabriela_68
• Track 54 : Nicholasp3_102, Gardann_101, Rumpelstiltskin_98, Kahlid_101
• Track 55 : Bromden_104
• Track 56 : Quby_89
• Track 57 : Bromden_61
• Track 58 : MaryV_93, Wildcat_93

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

The start number called the most often in the published annotations is 24, it was called in 16 of the 94 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abscondus_40, Aphelion_41, Bachita_43, BrutonGaster_29, ClubL_41, Cucurbita_43, Culver_41, Dusty_39, EGole_223, Engineer_42, Geeche_40, JonJames_40, Lozinak_41, Miskis_43, Norvs_42, PhinkBoden_41, Smoothie_42, Toniann_41, WilliamBoone_41, Yvonnetastic_38,

Genes that have the "Most Annotated" start but do not call it:
• Cardigan_40,

Genes that do not have the "Most Annotated" start:
• A3Wally_146, AGrandiflora_41, Adolin_42, Alyssamiracle_26, Anedea_217, AnnaLie_3, Annadreamy_222, AppleCider_48, Bantam_23, BelmontSKP_3, BigMack_46, Bodacious_46, Bromden_104, Bromden_61, Canowicakte_48, CeilingFan_274, ChewChew_46, CloudWang3_63, Clown_83, Crewmate_2, CristinaYang_46, Didgeridoo_31, Finalfrontier_30, Finemlucis_71, Forrest_150, Forrest_254, Gabriela_68, Galactica_103, Gardann_101, Genamy16_26, Gibbi_270, Glenn_49, Icarian_48, Jada_255, Jflix2_25, JimJam_268, Jumboset_49, Kahlid_101, Kaylissa_41, Keanu_110, Kenrey_232, KentuckyRacer_267, Kittykat_49, Koko_64, Limpid_229, Madraxi_29, Manuel_3, MargaretKali_1, MaryV_93, MeganNoll_48,

Nancia_46, Nicholasp3_102, Persimmon_179, Phabba_53, PinkFriday_46, Predator_10, Pterodactyl_46, PumpkinSpice_263, Quby_89, Quenya_41, Rumpelstiltskin_98, SansAfet_62, Sham_181, Shawty_32, SpeedDemon_240, Spelly_265, Spilled_268, Starbow_257, SteveFrench_16, Suppi_48, Syleon_103, TomSawyer_265, TunaTartare_189, TunaTartare_254, Vetrix_100, Wawa_48, Wayne_49, WhereRU_178, Wildcat_93, Wipeout_252, Yang_45, Zany_25,

**Summary by start number:**

Start 9:
• Found in 1 of 103 ( 1.0% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Yang_45 (AZ1),

Start 10:
• Found in 10 of 103 ( 9.7% ) of genes in pham
• Manual Annotations of this start: 8 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CeilingFan_274 (BE2), Gibbi_270 (BE2), JimJam_268 (BE2), KentuckyRacer_267 (BE2), PumpkinSpice_263 (BE2), Spelly_265 (BE2), Spilled_268 (BE2), Starbow_257 (BE2), TomSawyer_265 (BE2), Wipeout_252 (BE2),

Start 15:
• Found in 1 of 103 ( 1.0% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: MargaretKali_1 (FB),

Start 22:
• Found in 1 of 103 ( 1.0% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Phabba_53 (C2),

Start 24:
• Found in 21 of 103 ( 20.4% ) of genes in pham
• Manual Annotations of this start: 16 of 94
• Called 95.2% of time when present
• Phage (with cluster) where this start called: Abscondus_40 (CQ1), Aphelion_41 (CQ1), Bachita_43 (CQ1), BrutonGaster_29 (CQ2), ClubL_41 (CQ1), Cucurbita_43 (CQ1), Culver_41 (CQ1), Dusty_39 (CQ1), EGole_223 (BE1), Engineer_42 (CQ1), Geeche_40 (CQ1), JonJames_40 (DD), Lozinak_41 (CQ1), Miskis_43 (CQ1), Norvs_42 (CQ1), PhinkBoden_41 (CQ1), Smoothie_42 (CQ1), Toniann_41 (CQ1), WilliamBoone_41 (CQ1), Yvonnetastic_38 (DD),

Start 25:
• Found in 4 of 103 ( 3.9% ) of genes in pham
• Manual Annotations of this start: 4 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Anedea_217 (BE1), Keanu_110 (BQ), Persimmon_179 (BE1), WhereRU_178 (BE1),

Start 27:
• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Galactica_103 (BQ),

Start 28:
• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 2 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bantam_23 (DL), SpeedDemon_240 (DL),

Start 29:
• Found in 3 of 103 ( 2.9% ) of genes in pham
• Manual Annotations of this start: 2 of 94
• Called 66.7% of time when present
• Phage (with cluster) where this start called: Finemlucis_71 (L2), Gabriela_68 (L2),

Start 30:
• Found in 5 of 103 ( 4.9% ) of genes in pham
• Manual Annotations of this start: 3 of 94
• Called 80.0% of time when present
• Phage (with cluster) where this start called: AGrandiflora_41 (AZ1), Bromden_61 (L4), Kaylissa_41 (AZ1), Quenya_41 (EB),

Start 31:
• Found in 1 of 103 ( 1.0% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Forrest_150 (BK1),

Start 32:
• Found in 3 of 103 ( 2.9% ) of genes in pham
• No Manual Annotations of this start.
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Cardigan_40 (DD),

Start 33:
• Found in 3 of 103 ( 2.9% ) of genes in pham
• Manual Annotations of this start: 3 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Forrest_254 (BK1), Jada_255 (BK1), TunaTartare_254 (BK1),

Start 34:
• Found in 4 of 103 ( 3.9% ) of genes in pham
• Manual Annotations of this start: 4 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Adolin_42 (AZ1), Crewmate_2 (AZ1), Manuel_3 (BF), Shawty_32 (BB1),

Start 35:
• Found in 16 of 103 ( 15.5% ) of genes in pham
• Manual Annotations of this start: 6 of 94
• Called 37.5% of time when present
• Phage (with cluster) where this start called: A3Wally_146 (GD1), Bromden_104 (L4), Gardann_101 (L2), Kahlid_101 (L2), Nicholasp3_102 (L2), Rumpelstiltskin_98 (L2),

Start 37:
• Found in 1 of 103 ( 1.0% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Vetrix_100 (L2),

Start 39:
• Found in 6 of 103 ( 5.8% ) of genes in pham
• Manual Annotations of this start: 6 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Glenn_49 (AK), Jumboset_49 (AK), Kittykat_49 (AK), PinkFriday_46 (AK), Pterodactyl_46 (AK), Wayne_49 (AK),

Start 40:
• Found in 1 of 103 ( 1.0% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: SteveFrench_16 (CS2),

Start 41:
• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Koko_64 (A6),

Start 42:
• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 2 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jflix2_25 (CF), Madraxi_29 (CF),

Start 46:
• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 2 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Clown_83 (DC2), Syleon_103 (DU1),

Start 47:
• Found in 4 of 103 ( 3.9% ) of genes in pham
• Manual Annotations of this start: 3 of 94
• Called 75.0% of time when present
• Phage (with cluster) where this start called: Alyssamiracle_26 (DV), Genamy16_26 (DV), Zany_25 (DV),

Start 49:

• Found in 10 of 103 ( 9.7% ) of genes in pham
• Manual Annotations of this start: 10 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AppleCider_48 (AK), BigMack_46 (AK), Bodacious_46 (AK), Canowicakte_48 (AK), ChewChew_46 (AK), CristinaYang_46 (AK), MeganNoll_48 (AK), Nancia_46 (AK), Suppi_48 (AK), Wawa_48 (AK),

Start 50:
• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 2 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Annadreamy_222 (BK1), Limpid_229 (BK1),

Start 51:
• Found in 3 of 103 ( 2.9% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 33.3% of time when present
• Phage (with cluster) where this start called: CloudWang3_63 (A6),

Start 52:
• Found in 3 of 103 ( 2.9% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Kenrey_232 (BK1),

Start 55:
• Found in 1 of 103 ( 1.0% ) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Quby_89 (L4),

Start 56:
• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 2 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: MaryV_93 (V), Wildcat_93 (V),

Start 57:
• Found in 4 of 103 ( 3.9% ) of genes in pham
• Manual Annotations of this start: 4 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AnnaLie_3 (EB), BelmontSKP_3 (EB), Icarian_48 (EB), SansAfet_62 (EB),

Start 58:
• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 2 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Sham_181 (BK1), TunaTartare_189 (BK1),

Start 66:

• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Predator_10 (H1),

Start 68:
• Found in 2 of 103 ( 1.9% ) of genes in pham
• Manual Annotations of this start: 2 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Didgeridoo_31 (EB), Finalfrontier_30 (EB),

**Summary by clusters:**

There are 26 clusters represented in this pham: GD1, BF, DD, DL, FB, BQ, DV, A6, CQ2, CQ1, BB1, CS2, AK, CF, EB, L4, L2, BK1, V, DC2, C2, H1, DU1, BE2, AZ1, BE1,

Info for manual annotations of cluster A6:
•Start number 41 was manually annotated 1 time for cluster A6.
•Start number 51 was manually annotated 1 time for cluster A6.

Info for manual annotations of cluster AK:
•Start number 39 was manually annotated 6 times for cluster AK.
•Start number 49 was manually annotated 10 times for cluster AK.

Info for manual annotations of cluster AZ1:
•Start number 9 was manually annotated 1 time for cluster AZ1.
•Start number 30 was manually annotated 1 time for cluster AZ1.
•Start number 34 was manually annotated 2 times for cluster AZ1.

Info for manual annotations of cluster BB1:
•Start number 34 was manually annotated 1 time for cluster BB1.

Info for manual annotations of cluster BE1:
•Start number 24 was manually annotated 1 time for cluster BE1.
•Start number 25 was manually annotated 3 times for cluster BE1.

Info for manual annotations of cluster BE2:
•Start number 10 was manually annotated 8 times for cluster BE2.

Info for manual annotations of cluster BF:
•Start number 34 was manually annotated 1 time for cluster BF.

Info for manual annotations of cluster BK1:
•Start number 31 was manually annotated 1 time for cluster BK1.
•Start number 33 was manually annotated 3 times for cluster BK1.
•Start number 50 was manually annotated 2 times for cluster BK1.
•Start number 52 was manually annotated 1 time for cluster BK1.
•Start number 58 was manually annotated 2 times for cluster BK1.

Info for manual annotations of cluster BQ:
•Start number 25 was manually annotated 1 time for cluster BQ.

•Start number 27 was manually annotated 1 time for cluster BQ.

Info for manual annotations of cluster C2:
•Start number 22 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster CF:
•Start number 42 was manually annotated 2 times for cluster CF.

Info for manual annotations of cluster CQ1:
•Start number 24 was manually annotated 12 times for cluster CQ1.

Info for manual annotations of cluster CQ2:
•Start number 24 was manually annotated 1 time for cluster CQ2.

Info for manual annotations of cluster CS2:
•Start number 40 was manually annotated 1 time for cluster CS2.

Info for manual annotations of cluster DC2:
•Start number 46 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DD:
•Start number 24 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DL:
•Start number 28 was manually annotated 2 times for cluster DL.

Info for manual annotations of cluster DU1:
•Start number 46 was manually annotated 1 time for cluster DU1.

Info for manual annotations of cluster DV:
•Start number 47 was manually annotated 3 times for cluster DV.

Info for manual annotations of cluster EB:
•Start number 30 was manually annotated 1 time for cluster EB.
•Start number 57 was manually annotated 4 times for cluster EB.
•Start number 68 was manually annotated 2 times for cluster EB.

Info for manual annotations of cluster FB:
•Start number 15 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster GD1:
•Start number 35 was manually annotated 1 time for cluster GD1.

Info for manual annotations of cluster H1:
•Start number 66 was manually annotated 1 time for cluster H1.

Info for manual annotations of cluster L2:
•Start number 29 was manually annotated 2 times for cluster L2.
•Start number 35 was manually annotated 4 times for cluster L2.
•Start number 37 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L4:
•Start number 30 was manually annotated 1 time for cluster L4.

•Start number 35 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster V:
•Start number 56 was manually annotated 2 times for cluster V.

### *Gene Information:*

Gene: A3Wally_146 Start: 90094, Stop: 90525, Start Num: 35
Candidate Starts for A3Wally_146:
(Start: 35 @90094 has 6 MA's), (105, 90337), (134, 90481),

Gene: AGrandiflora_41 Start: 29625, Stop: 30068, Start Num: 30
Candidate Starts for AGrandiflora_41:
(12, 29544), (Start: 30 @29625 has 3 MA's), (95, 29847),

Gene: Abscondus_40 Start: 17135, Stop: 17593, Start Num: 24
Candidate Starts for Abscondus_40:
(Start: 24 @17135 has 16 MA's),

Gene: Adolin_42 Start: 29874, Stop: 30347, Start Num: 34
Candidate Starts for Adolin_42:
(4, 29637), (Start: 34 @29874 has 4 MA's), (76, 30018), (103, 30111), (125, 30219),

Gene: Alyssamiracle_26 Start: 15136, Stop: 15546, Start Num: 47
Candidate Starts for Alyssamiracle_26:
(36, 15115), (Start: 47 @15136 has 3 MA's), (60, 15160), (104, 15343), (116, 15403), (129, 15460), (131, 15469), (135, 15490), (139, 15511),

Gene: Anedea_217 Start: 106294, Stop: 106719, Start Num: 25
Candidate Starts for Anedea_217:
(Start: 25 @106294 has 4 MA's), (125, 106618), (127, 106627), (131, 106654), (132, 106666), (135, 106675), (144, 106711), (145, 106714),

Gene: AnnaLie_3 Start: 681, Stop: 1031, Start Num: 57
Candidate Starts for AnnaLie_3:
(Start: 57 @681 has 4 MA's), (81, 786), (95, 828), (131, 978),

Gene: Annadreamy_222 Start: 109759, Stop: 110133, Start Num: 50
Candidate Starts for Annadreamy_222:
(43, 109753), (Start: 50 @109759 has 2 MA's), (54, 109768), (113, 110005), (125, 110047), (129, 110074), (130, 110080),

Gene: Aphelion_41 Start: 17404, Stop: 17862, Start Num: 24
Candidate Starts for Aphelion_41:
(Start: 24 @17404 has 16 MA's),

Gene: AppleCider_48 Start: 35943, Stop: 36317, Start Num: 49
Candidate Starts for AppleCider_48:
(Start: 49 @35943 has 10 MA's), (98, 36129), (100, 36132), (120, 36216), (122, 36225),

Gene: Bachita_43 Start: 17837, Stop: 18295, Start Num: 24

Candidate Starts for Bachita_43:
(Start: 24 @17837 has 16 MA's),

Gene: Bantam_23 Start: 14778, Stop: 15239, Start Num: 28
Candidate Starts for Bantam_23:
(11, 14694), (Start: 28 @14778 has 2 MA's), (117, 15099), (136, 15198),

Gene: BelmontSKP_3 Start: 681, Stop: 1031, Start Num: 57
Candidate Starts for BelmontSKP_3:
(Start: 57 @681 has 4 MA's), (81, 786), (95, 828), (131, 978),

Gene: BigMack_46 Start: 34816, Stop: 35190, Start Num: 49
Candidate Starts for BigMack_46:
(Start: 49 @34816 has 10 MA's), (98, 35002), (100, 35005), (120, 35089), (122, 35098),

Gene: Bodacious_46 Start: 34773, Stop: 35147, Start Num: 49
Candidate Starts for Bodacious_46:
(Start: 49 @34773 has 10 MA's), (98, 34959), (100, 34962), (120, 35046), (122, 35055),

Gene: Bromden_104 Start: 63270, Stop: 63686, Start Num: 35
Candidate Starts for Bromden_104:
(Start: 35 @63270 has 6 MA's), (129, 63612),

Gene: Bromden_61 Start: 43963, Stop: 44400, Start Num: 30
Candidate Starts for Bromden_61:
(Start: 29 @43960 has 2 MA's), (Start: 30 @43963 has 3 MA's), (43, 43996), (61, 44038), (72, 44083), (89, 44158), (91, 44164), (134, 44353),

Gene: BrutonGaster_29 Start: 14029, Stop: 14475, Start Num: 24
Candidate Starts for BrutonGaster_29:
(Start: 24 @14029 has 16 MA's), (132, 14428),

Gene: Canowicakte_48 Start: 35978, Stop: 36352, Start Num: 49
Candidate Starts for Canowicakte_48:
(Start: 49 @35978 has 10 MA's), (98, 36164), (100, 36167), (120, 36251), (122, 36260),

Gene: Cardigan_40 Start: 19035, Stop: 19475, Start Num: 32
Candidate Starts for Cardigan_40:
(Start: 24 @19023 has 16 MA's), (32, 19035), (63, 19110), (88, 19218),

Gene: CeilingFan_274 Start: 120156, Stop: 119614, Start Num: 10
Candidate Starts for CeilingFan_274:
(Start: 10 @120156 has 8 MA's), (Start: 35 @120033 has 6 MA's), (65, 119955), (86, 119853), (103, 119802), (105, 119799), (130, 119670), (140, 119625),

Gene: ChewChew_46 Start: 34904, Stop: 35278, Start Num: 49
Candidate Starts for ChewChew_46:
(Start: 49 @34904 has 10 MA's), (98, 35090), (100, 35093), (120, 35177), (122, 35186),

Gene: CloudWang3_63 Start: 38546, Stop: 38136, Start Num: 51
Candidate Starts for CloudWang3_63:
(Start: 41 @38564 has 1 MA's), (Start: 51 @38546 has 1 MA's), (79, 38423), (109, 38318), (121, 38258), (127, 38228), (134, 38183), (135, 38180), (139, 38159),

Gene: Clown_83 Start: 53992, Stop: 54378, Start Num: 46
Candidate Starts for Clown_83:
(3, 53719), (5, 53737), (14, 53896), (17, 53917), (19, 53926), (26, 53947), (Start: 30 @53956 has 3 MA's), (Start: 46 @53992 has 2 MA's), (84, 54142), (106, 54202), (124, 54277),

Gene: ClubL_41 Start: 17326, Stop: 17784, Start Num: 24
Candidate Starts for ClubL_41:
(Start: 24 @17326 has 16 MA's),

Gene: Crewmate_2 Start: 546, Stop: 995, Start Num: 34
Candidate Starts for Crewmate_2:
(Start: 34 @546 has 4 MA's), (124, 846),

Gene: CristinaYang_46 Start: 34900, Stop: 35274, Start Num: 49
Candidate Starts for CristinaYang_46:
(Start: 49 @34900 has 10 MA's), (98, 35086), (100, 35089), (120, 35173), (122, 35182),

Gene: Cucurbita_43 Start: 18696, Stop: 19154, Start Num: 24
Candidate Starts for Cucurbita_43:
(Start: 24 @18696 has 16 MA's),

Gene: Culver_41 Start: 17135, Stop: 17593, Start Num: 24
Candidate Starts for Culver_41:
(Start: 24 @17135 has 16 MA's),

Gene: Didgeridoo_31 Start: 22465, Stop: 22809, Start Num: 68
Candidate Starts for Didgeridoo_31:
(Start: 68 @22465 has 2 MA's), (86, 22555), (118, 22678), (125, 22714), (130, 22747),

Gene: Dusty_39 Start: 17135, Stop: 17593, Start Num: 24
Candidate Starts for Dusty_39:
(Start: 24 @17135 has 16 MA's),

Gene: EGole_223 Start: 113552, Stop: 114001, Start Num: 24
Candidate Starts for EGole_223:
(Start: 24 @113552 has 16 MA's), (38, 113582), (95, 113783), (103, 113807), (112, 113852), (130, 113936), (140, 113981),

Gene: Engineer_42 Start: 17352, Stop: 17810, Start Num: 24
Candidate Starts for Engineer_42:
(Start: 24 @17352 has 16 MA's),

Gene: Finalfrontier_30 Start: 22829, Stop: 23173, Start Num: 68
Candidate Starts for Finalfrontier_30:
(Start: 68 @22829 has 2 MA's), (86, 22919), (118, 23042), (125, 23078), (130, 23111),

Gene: Finemlucis_71 Start: 49120, Stop: 49566, Start Num: 29
Candidate Starts for Finemlucis_71:
(19, 49093), (23, 49108), (Start: 29 @49120 has 2 MA's), (93, 49336), (98, 49354), (126, 49468), (138, 49531), (140, 49543),

Gene: Forrest_254 Start: 120939, Stop: 121364, Start Num: 33

Candidate Starts for Forrest_254:
(Start: 33 @120939 has 3 MA's), (73, 121056), (91, 121137), (94, 121146), (125, 121263), (131, 121299), (143, 121353),

Gene: Forrest_150 Start: 82816, Stop: 83256, Start Num: 31
Candidate Starts for Forrest_150:
(Start: 31 @82816 has 1 MA's), (95, 83032), (103, 83056), (128, 83179), (135, 83215),

Gene: Gabriela_68 Start: 47246, Stop: 47692, Start Num: 29
Candidate Starts for Gabriela_68:
(19, 47219), (23, 47234), (Start: 29 @47246 has 2 MA's), (93, 47462), (98, 47480), (126, 47594), (138, 47657), (140, 47669),

Gene: Galactica_103 Start: 72510, Stop: 72941, Start Num: 27
Candidate Starts for Galactica_103:
(16, 72474), (Start: 27 @72510 has 1 MA's), (71, 72630), (83, 72711), (115, 72837),

Gene: Gardann_101 Start: 61924, Stop: 62331, Start Num: 35
Candidate Starts for Gardann_101:
(Start: 35 @61924 has 6 MA's), (72, 62029), (73, 62038), (110, 62173), (129, 62266), (135, 62296),

Gene: Geeche_40 Start: 17226, Stop: 17684, Start Num: 24
Candidate Starts for Geeche_40:
(Start: 24 @17226 has 16 MA's),

Gene: Genamy16_26 Start: 15136, Stop: 15546, Start Num: 47
Candidate Starts for Genamy16_26:
(36, 15115), (Start: 47 @15136 has 3 MA's), (60, 15160), (104, 15343), (116, 15403), (129, 15460), (131, 15469), (135, 15490), (139, 15511),

Gene: Gibbi_270 Start: 119649, Stop: 119107, Start Num: 10
Candidate Starts for Gibbi_270:
(Start: 10 @119649 has 8 MA's), (Start: 35 @119526 has 6 MA's), (65, 119448), (86, 119346), (103, 119295), (105, 119292), (130, 119163),

Gene: Glenn_49 Start: 36170, Stop: 36574, Start Num: 39
Candidate Starts for Glenn_49:
(Start: 39 @36170 has 6 MA's), (100, 36380),

Gene: Icarian_48 Start: 33307, Stop: 33684, Start Num: 57
Candidate Starts for Icarian_48:
(Start: 57 @33307 has 4 MA's), (95, 33460), (99, 33472), (131, 33622), (133, 33637), (134, 33640),

Gene: Jada_255 Start: 120179, Stop: 120604, Start Num: 33
Candidate Starts for Jada_255:
(Start: 33 @120179 has 3 MA's), (73, 120296), (91, 120377), (94, 120386), (125, 120503), (131, 120539), (143, 120593),

Gene: Jflix2_25 Start: 25439, Stop: 25867, Start Num: 42
Candidate Starts for Jflix2_25:
(1, 24707), (2, 24917), (Start: 42 @25439 has 2 MA's), (78, 25574), (94, 25619), (128, 25760), (134, 25793),

Gene: JimJam_268 Start: 121085, Stop: 120543, Start Num: 10
Candidate Starts for JimJam_268:
(Start: 10 @121085 has 8 MA's), (Start: 35 @120962 has 6 MA's), (65, 120884), (86, 120782), (103, 120731), (105, 120728), (130, 120599), (140, 120554),

Gene: JonJames_40 Start: 21238, Stop: 21690, Start Num: 24
Candidate Starts for JonJames_40:
(Start: 24 @21238 has 16 MA's), (32, 21250), (63, 21325), (88, 21433),

Gene: Jumboset_49 Start: 36068, Stop: 36457, Start Num: 39
Candidate Starts for Jumboset_49:
(Start: 39 @36068 has 6 MA's), (82, 36221), (100, 36272),

Gene: Kahlid_101 Start: 61842, Stop: 62249, Start Num: 35
Candidate Starts for Kahlid_101:
(Start: 35 @61842 has 6 MA's), (72, 61947), (73, 61956), (110, 62091), (129, 62184), (135, 62214),

Gene: Kaylissa_41 Start: 29646, Stop: 30089, Start Num: 30
Candidate Starts for Kaylissa_41:
(12, 29565), (Start: 30 @29646 has 3 MA's), (95, 29868),

Gene: Keanu_110 Start: 78255, Stop: 78767, Start Num: 25
Candidate Starts for Keanu_110:
(6, 78069), (7, 78096), (8, 78144), (18, 78228), (20, 78240), (Start: 25 @78255 has 4 MA's), (Start: 47 @78306 has 3 MA's), (59, 78336), (62, 78351), (82, 78456), (87, 78465), (100, 78507), (111, 78561), (119, 78594),

Gene: Kenrey_232 Start: 111193, Stop: 111606, Start Num: 52
Candidate Starts for Kenrey_232:
(Start: 52 @111193 has 1 MA's), (64, 111241), (123, 111484), (129, 111523), (142, 111580),

Gene: KentuckyRacer_267 Start: 121000, Stop: 120458, Start Num: 10
Candidate Starts for KentuckyRacer_267:
(Start: 10 @121000 has 8 MA's), (Start: 35 @120877 has 6 MA's), (65, 120799), (86, 120697), (103, 120646), (105, 120643), (130, 120514), (140, 120469),

Gene: Kittykat_49 Start: 35170, Stop: 35559, Start Num: 39
Candidate Starts for Kittykat_49:
(Start: 39 @35170 has 6 MA's), (100, 35374),

Gene: Koko_64 Start: 38904, Stop: 38476, Start Num: 41
Candidate Starts for Koko_64:
(Start: 41 @38904 has 1 MA's), (Start: 51 @38886 has 1 MA's), (79, 38763), (109, 38658), (121, 38598), (127, 38568), (134, 38523), (135, 38520), (139, 38499),

Gene: Limpid_229 Start: 115072, Stop: 115446, Start Num: 50
Candidate Starts for Limpid_229:
(43, 115066), (Start: 50 @115072 has 2 MA's), (54, 115081), (113, 115318), (125, 115360), (129, 115387), (130, 115393),

Gene: Lozinak_41 Start: 17407, Stop: 17865, Start Num: 24
Candidate Starts for Lozinak_41:
(Start: 24 @17407 has 16 MA's),

Gene: Madraxi_29 Start: 27630, Stop: 28058, Start Num: 42
Candidate Starts for Madraxi_29:
(Start: 42 @27630 has 2 MA's), (78, 27765), (91, 27801), (94, 27810), (96, 27822), (128, 27951), (134, 27984),

Gene: Manuel_3 Start: 3413, Stop: 3811, Start Num: 34
Candidate Starts for Manuel_3:
(21, 3383), (Start: 34 @3413 has 4 MA's), (91, 3590),

Gene: MargaretKali_1 Start: 50, Stop: 577, Start Num: 15
Candidate Starts for MargaretKali_1:
(Start: 15 @50 has 1 MA's), (Start: 51 @152 has 1 MA's), (Start: 66 @206 has 1 MA's), (71, 221), (97, 341), (103, 359), (141, 542), (147, 569),

Gene: MaryV_93 Start: 56140, Stop: 56508, Start Num: 56
Candidate Starts for MaryV_93:
(Start: 56 @56140 has 2 MA's), (91, 56281), (124, 56398), (129, 56434), (133, 56458), (135, 56464), (139, 56485),

Gene: MeganNoll_48 Start: 36135, Stop: 36509, Start Num: 49
Candidate Starts for MeganNoll_48:
(Start: 49 @36135 has 10 MA's), (100, 36324), (120, 36408),

Gene: Miskis_43 Start: 17170, Stop: 17628, Start Num: 24
Candidate Starts for Miskis_43:
(Start: 24 @17170 has 16 MA's),

Gene: Nancia_46 Start: 34773, Stop: 35147, Start Num: 49
Candidate Starts for Nancia_46:
(Start: 49 @34773 has 10 MA's), (98, 34959), (100, 34962), (120, 35046), (122, 35055),

Gene: Nicholasp3_102 Start: 61924, Stop: 62331, Start Num: 35
Candidate Starts for Nicholasp3_102:
(Start: 35 @61924 has 6 MA's), (72, 62029), (73, 62038), (110, 62173), (129, 62266), (135, 62296),

Gene: Norvs_42 Start: 17409, Stop: 17867, Start Num: 24
Candidate Starts for Norvs_42:
(Start: 24 @17409 has 16 MA's),

Gene: Persimmon_179 Start: 94749, Stop: 95180, Start Num: 25
Candidate Starts for Persimmon_179:
(Start: 25 @94749 has 4 MA's), (60, 94827), (85, 94953), (93, 94971), (124, 95082), (130, 95124),

Gene: Phabba_53 Start: 19044, Stop: 18553, Start Num: 22
Candidate Starts for Phabba_53:
(Start: 22 @19044 has 1 MA's), (Start: 27 @19035 has 1 MA's), (53, 18975), (63, 18933), (105, 18795), (107, 18789), (114, 18732), (131, 18651), (141, 18606),

Gene: PhinkBoden_41 Start: 17790, Stop: 18248, Start Num: 24
Candidate Starts for PhinkBoden_41:
(Start: 24 @17790 has 16 MA's),

Gene: PinkFriday_46 Start: 35018, Stop: 35407, Start Num: 39
Candidate Starts for PinkFriday_46:
(Start: 39 @35018 has 6 MA's), (100, 35222),

Gene: Predator_10 Start: 6815, Stop: 7189, Start Num: 66
Candidate Starts for Predator_10:
(Start: 66 @6815 has 1 MA's), (90, 6929), (101, 6965), (106, 6980), (112, 7025), (118, 7046), (128, 7103), (138, 7145), (139, 7157), (143, 7169), (145, 7175),

Gene: Pterodactyl_46 Start: 34733, Stop: 35122, Start Num: 39
Candidate Starts for Pterodactyl_46:
(Start: 39 @34733 has 6 MA's), (82, 34886), (100, 34937),

Gene: PumpkinSpice_263 Start: 119441, Stop: 118899, Start Num: 10
Candidate Starts for PumpkinSpice_263:
(Start: 10 @119441 has 8 MA's), (Start: 35 @119318 has 6 MA's), (69, 119231), (86, 119138), (103, 119087), (105, 119084), (130, 118955),

Gene: Quby_89 Start: 56408, Stop: 56815, Start Num: 55
Candidate Starts for Quby_89:
(55, 56408), (74, 56486), (102, 56591), (103, 56594), (108, 56615), (114, 56660), (117, 56666), (131, 56741), (146, 56807),

Gene: Quenya_41 Start: 29700, Stop: 30113, Start Num: 30
Candidate Starts for Quenya_41:
(Start: 30 @29700 has 3 MA's), (80, 29865), (95, 29907), (102, 29928), (130, 30051),

Gene: Rumpelstiltskin_98 Start: 61717, Stop: 62124, Start Num: 35
Candidate Starts for Rumpelstiltskin_98:
(Start: 35 @61717 has 6 MA's), (72, 61822), (73, 61831), (110, 61966), (129, 62059), (135, 62089),

Gene: SansAfet_62 Start: 38774, Stop: 39154, Start Num: 57
Candidate Starts for SansAfet_62:
(Start: 57 @38774 has 4 MA's), (118, 39017), (124, 39044),

Gene: Sham_181 Start: 98652, Stop: 99035, Start Num: 58
Candidate Starts for Sham_181:
(Start: 52 @98640 has 1 MA's), (Start: 58 @98652 has 2 MA's), (105, 98844), (118, 98907), (135, 99000), (142, 99027),

Gene: Shawty_32 Start: 26307, Stop: 26723, Start Num: 34
Candidate Starts for Shawty_32:
(Start: 34 @26307 has 4 MA's), (67, 26400), (75, 26439), (130, 26661), (137, 26688),

Gene: Smoothie_42 Start: 17407, Stop: 17865, Start Num: 24
Candidate Starts for Smoothie_42:
(Start: 24 @17407 has 16 MA's),

Gene: SpeedDemon_240 Start: 15094, Stop: 15555, Start Num: 28
Candidate Starts for SpeedDemon_240:
(Start: 28 @15094 has 2 MA's), (118, 15418), (125, 15454), (136, 15514),

Gene: Spelly_265 Start: 118353, Stop: 117811, Start Num: 10

Candidate Starts for Spelly_265:
(Start: 10 @118353 has 8 MA's), (Start: 35 @118230 has 6 MA's), (65, 118152), (86, 118050), (103, 117999), (105, 117996), (130, 117867), (140, 117822),

Gene: Spilled_268 Start: 120017, Stop: 119475, Start Num: 10
Candidate Starts for Spilled_268:
(Start: 10 @120017 has 8 MA's), (Start: 35 @119894 has 6 MA's), (65, 119816), (86, 119714), (103, 119663), (105, 119660), (130, 119531), (140, 119486),

Gene: Starbow_257 Start: 118397, Stop: 117855, Start Num: 10
Candidate Starts for Starbow_257:
(Start: 10 @118397 has 8 MA's), (Start: 35 @118274 has 6 MA's), (65, 118196), (86, 118094), (103, 118043), (105, 118040), (130, 117911), (140, 117866),

Gene: SteveFrench_16 Start: 15937, Stop: 16392, Start Num: 40
Candidate Starts for SteveFrench_16:
(13, 15832), (23, 15898), (Start: 40 @15937 has 1 MA's), (48, 15955), (72, 16036), (97, 16144), (103, 16162), (134, 16327), (145, 16369),

Gene: Suppi_48 Start: 35978, Stop: 36352, Start Num: 49
Candidate Starts for Suppi_48:
(Start: 49 @35978 has 10 MA's), (98, 36164), (100, 36167), (120, 36251), (122, 36260),

Gene: Syleon_103 Start: 59026, Stop: 59409, Start Num: 46
Candidate Starts for Syleon_103:
(44, 59023), (Start: 46 @59026 has 2 MA's), (124, 59308), (126, 59320),

Gene: TomSawyer_265 Start: 121328, Stop: 120786, Start Num: 10
Candidate Starts for TomSawyer_265:
(Start: 10 @121328 has 8 MA's), (65, 121127), (86, 121025), (103, 120974), (105, 120971), (130, 120842), (140, 120797),

Gene: Toniann_41 Start: 17352, Stop: 17810, Start Num: 24
Candidate Starts for Toniann_41:
(Start: 24 @17352 has 16 MA's),

Gene: TunaTartare_189 Start: 100701, Stop: 101084, Start Num: 58
Candidate Starts for TunaTartare_189:
(Start: 52 @100689 has 1 MA's), (Start: 58 @100701 has 2 MA's), (105, 100893), (118, 100956), (135, 101049), (142, 101076),

Gene: TunaTartare_254 Start: 124119, Stop: 124544, Start Num: 33
Candidate Starts for TunaTartare_254:
(Start: 33 @124119 has 3 MA's), (73, 124236), (91, 124317), (94, 124326), (125, 124443), (128, 124464), (131, 124479), (143, 124533),

Gene: Vetrix_100 Start: 61960, Stop: 62376, Start Num: 37
Candidate Starts for Vetrix_100:
(Start: 35 @61957 has 6 MA's), (Start: 37 @61960 has 1 MA's), (45, 61978), (129, 62299),

Gene: Wawa_48 Start: 35937, Stop: 36311, Start Num: 49
Candidate Starts for Wawa_48:
(Start: 49 @35937 has 10 MA's), (98, 36123), (100, 36126), (120, 36210), (122, 36219),

Gene: Wayne_49 Start: 36024, Stop: 36443, Start Num: 39
Candidate Starts for Wayne_49:
(Start: 39 @36024 has 6 MA's), (100, 36234),

Gene: WhereRU_178 Start: 95501, Stop: 95932, Start Num: 25
Candidate Starts for WhereRU_178:
(Start: 25 @95501 has 4 MA's), (60, 95579), (85, 95705), (93, 95723), (124, 95834), (130, 95876),

Gene: Wildcat_93 Start: 56150, Stop: 56518, Start Num: 56
Candidate Starts for Wildcat_93:
(Start: 56 @56150 has 2 MA's), (91, 56291), (124, 56408), (129, 56444), (133, 56468), (135, 56474), (139, 56495),

Gene: WilliamBoone_41 Start: 16716, Stop: 17174, Start Num: 24
Candidate Starts for WilliamBoone_41:
(Start: 24 @16716 has 16 MA's),

Gene: Wipeout_252 Start: 120280, Stop: 119738, Start Num: 10
Candidate Starts for Wipeout_252:
(Start: 10 @120280 has 8 MA's), (Start: 35 @120157 has 6 MA's), (69, 120070), (86, 119977), (103, 119926), (105, 119923), (130, 119794),

Gene: Yang_45 Start: 32671, Stop: 33198, Start Num: 9
Candidate Starts for Yang_45:
(Start: 9 @32671 has 1 MA's), (77, 32941), (92, 32983), (126, 33112), (138, 33175),

Gene: Yvonnetastic_38 Start: 18787, Stop: 19239, Start Num: 24
Candidate Starts for Yvonnetastic_38:
(Start: 24 @18787 has 16 MA's), (32, 18799), (63, 18874), (88, 18982),

Gene: Zany_25 Start: 17287, Stop: 17679, Start Num: 47
Candidate Starts for Zany_25:
(36, 17266), (Start: 47 @17287 has 3 MA's), (60, 17311), (70, 17353), (73, 17371), (130, 17614), (135, 17638),