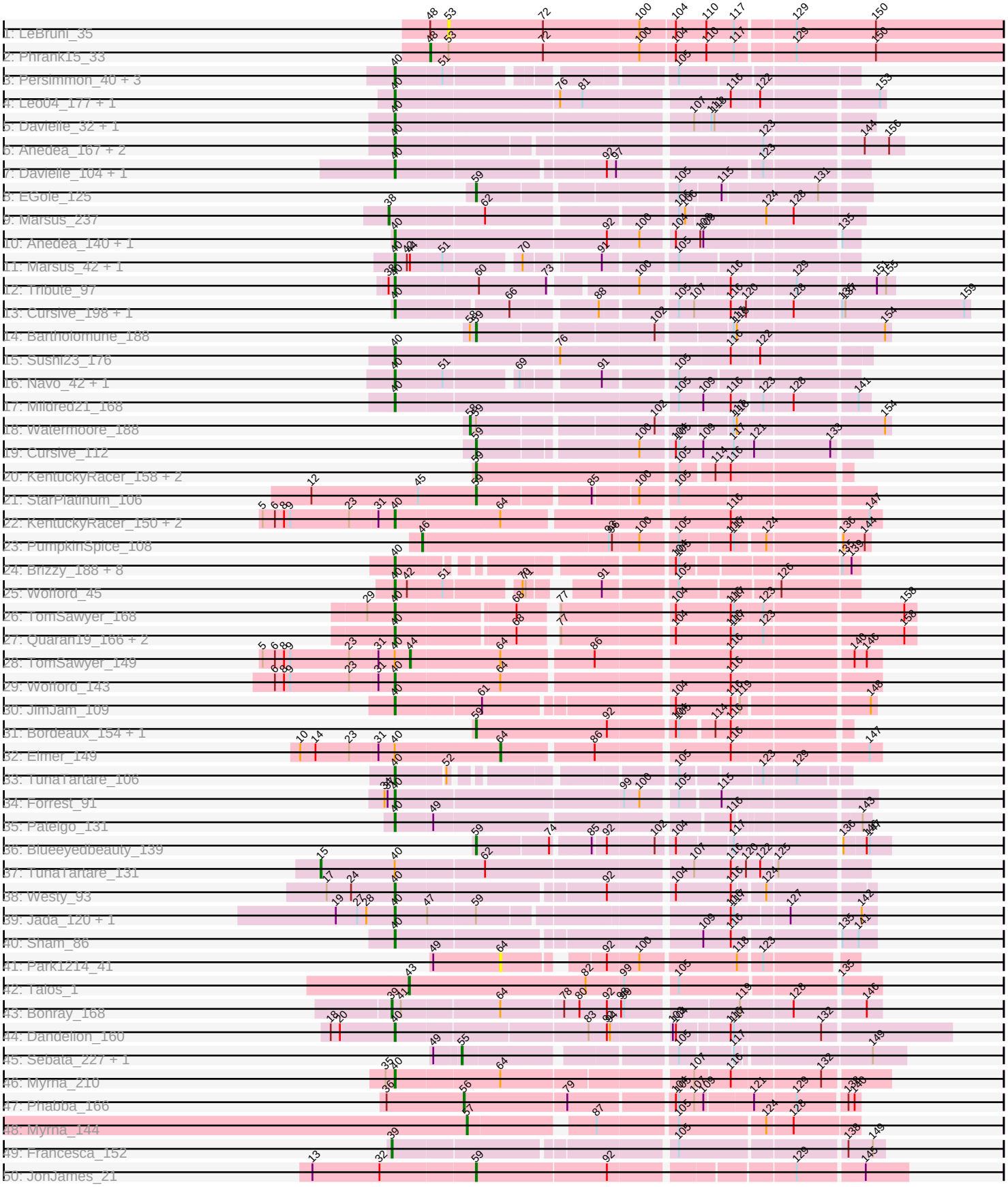
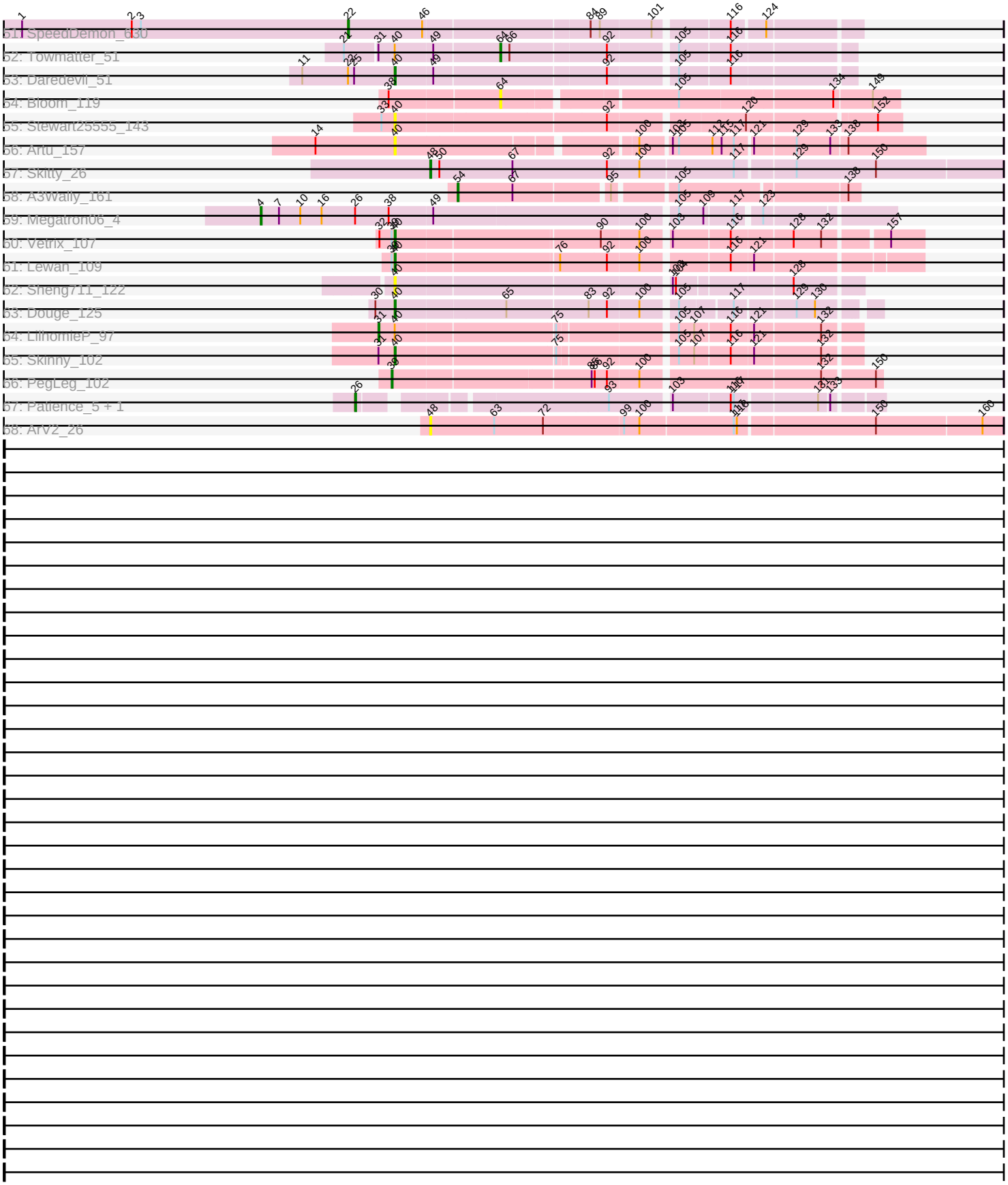
Pham 294600


1: LeBruni_35
2: Phrank15_33
3: Persimmon_40 + 3
4: Leo04_177 + 1
5: Davielle_32 + 1
6: Anedea_167 + 2
7: Davielle_104 + 1
8: EGole_125
9: Marsus_237
10: Anedea_140 + 1
11: Marsus_42 + 1
12: Tribute_97
13: Cursive_198 + 1
14: Bartholomune_188
15: Sushi23_176
16: Navo_42 + 1
17: Mildred21_168
18: Watermoore_188
19: Cursive_112
20: KentuckyRacer_158 + 2
21: StarPlatinum_106
22: KentuckyRacer_150 + 2
23: PumpkinSpice_108
24: Brizzy_188 + 8
25: Wofford_45
26: TomSawyer_168
27: Quaran19_166 + 2
28: TomSawyer_149
29: Wofford_143
30: JimJam_109
31: Bordeaux_154 + 1
32: Elmer_149
33: TunaTartare_106
34: Forrest_91
35: Patelgo_131
36: Blueeyedbeauty_139
37: TunaTartare_131
38: Westy_93
39: Jada_120 + 1
40: Sham_86
41: Park1214_41
42: Talos_1
43: Bonray_168
44: Dandelion_160
45: Sebata_227 + 1
46: Myrna_210
47: Phabba_166
48: Myrna_144
49: Francesca_152
50: JonJames_21

Pham 294600


51: SpeedDemon_130
52: Towmatter_51
53: Daredevil_51
54: Bloom_119
55: Stewart25555_143
56: Artu_157
57: Skitty_26
58: A3Wally_161
59: Megatron06_4
60: Vetrix_107
61: Lewan_109
62: Sheng711_122
63: Douge_125
64: LilnomieP_97
65: Skinny_102
66: PegLeg_102
67: Patience_5 + 1
68: Arv2_26

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 294600 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294600 has 98 members, 8 are drafts.

Phages represented in each track:
- Track 1 : LeBruni_35
- Track 2 : Phrank15_33
- Track 3 : Persimmon_40, Davielle_41, WhereRU_41, Leo04_45
- Track 4 : Leo04_177, Paradiddles_170
- Track 5 : Davielle_32, WhereRU_32
- Track 6 : Anedea_167, Riptide_160, Wofford_171
- Track 7 : Davielle_104, WhereRU_103
- Track 8 : EGole_125
- Track 9 : Marsus_237
- Track 10 : Anedea_140, Mildred21_142
- Track 11 : Marsus_42, Anedea_42
- Track 12 : Tribute_97
- Track 13 : Cursive_198, Cadmus_194
- Track 14 : Bartholomune_188
- Track 15 : Sushi23_176
- Track 16 : Navo_42, Braelyn_43
- Track 17 : Mildred21_168
- Track 18 : Watermoore_188
- Track 19 : Cursive_112
- Track 20 : KentuckyRacer_158, StarPlatinum_159, MulchMansion_147
- Track 21 : StarPlatinum_106
- Track 22 : KentuckyRacer_150, CeilingFan_148, JimJam_152
- Track 23 : PumpkinSpice_108
- Track 24 : Brizzy_188, JimJam_195, Amabiko_192, KentuckyRacer_193, IchabodCrane_184, TomSawyer_193, Wipeout_181, Spilled_194, Mugiwara_190
- Track 25 : Wofford_45
- Track 26 : TomSawyer_168
- Track 27 : Quaran19_166, Brizzy_163, Enygma_167
- Track 28 : TomSawyer_149
- Track 29 : Wofford_143
- Track 30 : JimJam_109
- Track 31 : Bordeaux_154, AcciDwight_163
- Track 32 : Elmer_149
- Track 33 : TunaTartare_106
- Track 34 : Forrest_91
- Track 35 : Patelgo_131
- Track 36 : Blueeyedbeauty_139

• Track 37 : TunaTartare_131
• Track 38 : Westy_93
• Track 39 : Jada_120, Forrest_124
• Track 40 : Sham_86
• Track 41 : Park1214_41
• Track 42 : Talos_1
• Track 43 : Bonray_168
• Track 44 : Dandelion_160
• Track 45 : Sebata_227, Salacia_226
• Track 46 : Myrna_210
• Track 47 : Phabba_166
• Track 48 : Myrna_144
• Track 49 : Francesca_152
• Track 50 : JonJames_21
• Track 51 : SpeedDemon_630
• Track 52 : Towmatter_51
• Track 53 : Daredevil_51
• Track 54 : Bloom_119
• Track 55 : Stewart25555_143
• Track 56 : Artu_157
• Track 57 : Skitty_26
• Track 58 : A3Wally_161
• Track 59 : Megatron06_4
• Track 60 : Vetrix_107
• Track 61 : Lewan_109
• Track 62 : Sheng711_122
• Track 63 : Douge_125
• Track 64 : LilhomieP_97
• Track 65 : Skinny_102
• Track 66 : PegLeg_102
• Track 67 : Patience_5, Labelle_5
• Track 68 : ArV2_26

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

The start number called the most often in the published annotations is 40, it was called in 57 of the 90 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Amabiko_192, Anedea_140, Anedea_167, Anedea_42, Artu_157, Braelyn_43, Brizzy_163, Brizzy_188, Cadmus_194, CeilingFan_148, Cursive_198, Dandelion_160, Daredevil_51, Davielle_104, Davielle_32, Davielle_41, Douge_125, Enygma_167, Forrest_124, Forrest_91, IchabodCrane_184, Jada_120, JimJam_109, JimJam_152, JimJam_195, KentuckyRacer_150, KentuckyRacer_193, Leo04_177, Leo04_45, Lewan_109, Marsus_42, Mildred21_142, Mildred21_168, Mugiwara_190, Myrna_210, Navo_42, Paradiddles_170, Patelgo_131, Persimmon_40, Quaran19_166, Riptide_160, Sham_86, Sheng711_122, Skinny_102, Spilled_194, Stewart25555_143, Sushi23_176, TomSawyer_168, TomSawyer_193, Tribute_97, TunaTartare_106, Vetrix_107, Westy_93, WhereRU_103, WhereRU_32, WhereRU_41, Wipeout_181, Wofford_143, Wofford_171, Wofford_45,

Genes that have the "Most Annotated" start but do not call it:
• Elmer_149, LilhomieP_97, TomSawyer_149, Towmatter_51, TunaTartare_131,

Genes that do not have the "Most Annotated" start:
• A3Wally_161, AcciDwight_163, ArV2_26, Bartholomune_188, Bloom_119, Blueeyedbeauty_139, Bonray_168, Bordeaux_154, Cursive_112, EGole_125, Francesca_152, JonJames_21, KentuckyRacer_158, Labelle_5, LeBruni_35, Marsus_237, Megatron06_4, MulchMansion_147, Myrna_144, Park1214_41, Patience_5, PegLeg_102, Phabba_166, Phrank15_33, PumpkinSpice_108, Salacia_226, Sebata_227, Skitty_26, SpeedDemon_630, StarPlatinum_106, StarPlatinum_159, Talos_1, Watermoore_188,

Summary by start number:

Start 4:
• Found in 1 of 98 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Megatron06_4 (H1),

Start 15:
• Found in 1 of 98 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 100.0% of time when present
• Phage (with cluster) where this start called: TunaTartare_131 (BK1),

Start 22:
• Found in 2 of 98 (2.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 50.0% of time when present
• Phage (with cluster) where this start called: SpeedDemon_630 (DL),

Start 26:
• Found in 3 of 98 (3.1%) of genes in pham
• Manual Annotations of this start: 2 of 90
• Called 66.7% of time when present
• Phage (with cluster) where this start called: Labelle_5 (U), Patience_5 (U),

Start 31:
• Found in 9 of 98 (9.2%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 11.1% of time when present
• Phage (with cluster) where this start called: LilhomieP_97 (M1),

Start 38:
• Found in 4 of 98 (4.1%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Marsus_237 (BE1),

Start 39:
• Found in 5 of 98 (5.1%) of genes in pham

• Manual Annotations of this start: 3 of 90
• Called 60.0% of time when present
• Phage (with cluster) where this start called: Bonray_168 (C1), Francesca_152 (CG), PegLeg_102 (M1),

Start 40:
• Found in 65 of 98 (66.3%) of genes in pham
• Manual Annotations of this start: 57 of 90
• Called 92.3% of time when present
• Phage (with cluster) where this start called: Amabiko_192 (BE2), Anedea_140 (BE1), Anedea_167 (BE1), Anedea_42 (BE1), Artu_157 (FC), Braelyn_43 (BE1), Brizzy_163 (BE2), Brizzy_188 (BE2), Cadmus_194 (BE1), CeilingFan_148 (BE2), Cursive_198 (BE1), Dandelion_160 (C1), Daredevil_51 (DL), Davielle_104 (BE1), Davielle_32 (BE1), Davielle_41 (BE1), Douge_125 (L4), Enygma_167 (BE2), Forrest_124 (BK1), Forrest_91 (BK1), IchabodCrane_184 (BE2), Jada_120 (BK1), JimJam_109 (BE2), JimJam_152 (BE2), JimJam_195 (BE2), KentuckyRacer_150 (BE2), KentuckyRacer_193 (BE2), Leo04_177 (BE1), Leo04_45 (BE1), Lewan_109 (L2), Marsus_42 (BE1), Mildred21_142 (BE1), Mildred21_168 (BE1), Mugiwara_190 (BE2), Myrna_210 (C2), Navo_42 (BE1), Paradiddles_170 (BE1), Patelgo_131 (BK1), Persimmon_40 (BE1), Quaran19_166 (BE2), Riptide_160 (BE1), Sham_86 (BK1), Sheng711_122 (L4), Skinny_102 (M1), Spilled_194 (BE2), Stewart25555_143 (FC), Sushi23_176 (BE1), TomSawyer_168 (BE2), TomSawyer_193 (BE2), Tribute_97 (BE1), TunaTartare_106 (BK1), Vetrix_107 (L2), Westy_93 (BK1), WhereRU_103 (BE1), WhereRU_32 (BE1), WhereRU_41 (BE1), Wipeout_181 (BE2), Wofford_143 (BE2), Wofford_171 (BE2), Wofford_45 (BE2),

Start 43:
• Found in 1 of 98 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Talos_1 (BS),

Start 44:
• Found in 3 of 98 (3.1%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 33.3% of time when present
• Phage (with cluster) where this start called: TomSawyer_149 (BE2),

Start 46:
• Found in 2 of 98 (2.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 50.0% of time when present
• Phage (with cluster) where this start called: PumpkinSpice_108 (BE2),

Start 48:
• Found in 4 of 98 (4.1%) of genes in pham
• Manual Annotations of this start: 2 of 90
• Called 75.0% of time when present
• Phage (with cluster) where this start called: ArV2_26 (singleton), Phrank15_33 (AY), Skitty_26 (FQ),

Start 53:
• Found in 2 of 98 (2.0%) of genes in pham

• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: LeBruni_35 (AY),

Start 54:
• Found in 1 of 98 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 100.0% of time when present
• Phage (with cluster) where this start called: A3Wally_161 (GD1),

Start 55:
• Found in 2 of 98 (2.0%) of genes in pham
• Manual Annotations of this start: 2 of 90
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Salacia_226 (C1), Sebata_227 (C1),

Start 56:
• Found in 1 of 98 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Phabba_166 (C2),

Start 57:
• Found in 1 of 98 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Myrna_144 (C2),

Start 58:
• Found in 2 of 98 (2.0%) of genes in pham
• Manual Annotations of this start: 1 of 90
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Watermoore_188 (BE1),

Start 59:
• Found in 14 of 98 (14.3%) of genes in pham
• Manual Annotations of this start: 10 of 90
• Called 78.6% of time when present
• Phage (with cluster) where this start called: AcciDwight_163 (BE2), Bartholomune_188 (BE1), Blueeyedbeauty_139 (BK1), Bordeaux_154 (BE2), Cursive_112 (BE1), EGole_125 (BE1), JonJames_21 (DD), KentuckyRacer_158 (BE2), MulchMansion_147 (BE1), StarPlatinum_106 (BE2), StarPlatinum_159 (BE2),

Start 64:
• Found in 11 of 98 (11.2%) of genes in pham
• Manual Annotations of this start: 2 of 90
• Called 36.4% of time when present
• Phage (with cluster) where this start called: Bloom_119 (FC), Elmer_149 (BE2), Park1214_41 (BS), Towmatter_51 (DL),

Summary by clusters:

There are 19 clusters represented in this pham: FQ, DL, GD1, DD, H1, CG, M1, singleton, AY, L4, FC, L2, BK1, BS, BE2, C2, C1, BE1, U,

Info for manual annotations of cluster AY:
•Start number 48 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster BE1:
•Start number 38 was manually annotated 1 time for cluster BE1.
•Start number 40 was manually annotated 23 times for cluster BE1.
•Start number 58 was manually annotated 1 time for cluster BE1.
•Start number 59 was manually annotated 4 times for cluster BE1.

Info for manual annotations of cluster BE2:
•Start number 40 was manually annotated 20 times for cluster BE2.
•Start number 44 was manually annotated 1 time for cluster BE2.
•Start number 46 was manually annotated 1 time for cluster BE2.
•Start number 59 was manually annotated 4 times for cluster BE2.
•Start number 64 was manually annotated 1 time for cluster BE2.

Info for manual annotations of cluster BK1:
•Start number 15 was manually annotated 1 time for cluster BK1.
•Start number 40 was manually annotated 7 times for cluster BK1.
•Start number 59 was manually annotated 1 time for cluster BK1.

Info for manual annotations of cluster BS:
•Start number 43 was manually annotated 1 time for cluster BS.

Info for manual annotations of cluster C1:
•Start number 39 was manually annotated 1 time for cluster C1.
•Start number 40 was manually annotated 1 time for cluster C1.
•Start number 55 was manually annotated 2 times for cluster C1.

Info for manual annotations of cluster C2:
•Start number 40 was manually annotated 1 time for cluster C2.
•Start number 56 was manually annotated 1 time for cluster C2.
•Start number 57 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster CG:
•Start number 39 was manually annotated 1 time for cluster CG.

Info for manual annotations of cluster DD:
•Start number 59 was manually annotated 1 time for cluster DD.

Info for manual annotations of cluster DL:
•Start number 22 was manually annotated 1 time for cluster DL.
•Start number 40 was manually annotated 1 time for cluster DL.
•Start number 64 was manually annotated 1 time for cluster DL.

Info for manual annotations of cluster FQ:
•Start number 48 was manually annotated 1 time for cluster FQ.

Info for manual annotations of cluster GD1:

•Start number 54 was manually annotated 1 time for cluster GD1.

Info for manual annotations of cluster H1:
•Start number 4 was manually annotated 1 time for cluster H1.

Info for manual annotations of cluster L2:
•Start number 40 was manually annotated 2 times for cluster L2.

Info for manual annotations of cluster L4:
•Start number 40 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster M1:
•Start number 31 was manually annotated 1 time for cluster M1.
•Start number 39 was manually annotated 1 time for cluster M1.
•Start number 40 was manually annotated 1 time for cluster M1.

Info for manual annotations of cluster U:
•Start number 26 was manually annotated 2 times for cluster U.

Gene Information:

Gene: A3Wally_161 Start: 93240, Stop: 93602, Start Num: 54
Candidate Starts for A3Wally_161:
(Start: 54 @93240 has 1 MA's), (67, 93294), (95, 93381), (105, 93435), (138, 93591),

Gene: AcciDwight_163 Start: 88123, Stop: 88467, Start Num: 59
Candidate Starts for AcciDwight_163:
(Start: 59 @88123 has 10 MA's), (92, 88252), (104, 88312), (105, 88315), (114, 88345), (116, 88360),

Gene: Amabiko_192 Start: 96212, Stop: 96601, Start Num: 40
Candidate Starts for Amabiko_192:
(Start: 40 @96212 has 57 MA's), (104, 96437), (105, 96440), (135, 96584), (139, 96593),

Gene: Anedea_167 Start: 92344, Stop: 92802, Start Num: 40
Candidate Starts for Anedea_167:
(Start: 40 @92344 has 57 MA's), (123, 92674), (144, 92764), (156, 92788),

Gene: Anedea_140 Start: 84644, Stop: 85069, Start Num: 40
Candidate Starts for Anedea_140:
(Start: 40 @84644 has 57 MA's), (92, 84845), (100, 84875), (104, 84902), (108, 84926), (109, 84929), (135, 85052),

Gene: Anedea_42 Start: 21646, Stop: 22047, Start Num: 40
Candidate Starts for Anedea_42:
(Start: 40 @21646 has 57 MA's), (42, 21658), (Start: 44 @21661 has 1 MA's), (51, 21691), (70, 21757), (91, 21820), (105, 21883),

Gene: ArV2_26 Start: 20690, Stop: 21238, Start Num: 48
Candidate Starts for ArV2_26:
(Start: 48 @20690 has 2 MA's), (63, 20753), (72, 20801), (99, 20879), (100, 20894), (117, 20984), (118, 20987), (150, 21116), (160, 21218),

Gene: Artu_157 Start: 108175, Stop: 108654, Start Num: 40
Candidate Starts for Artu_157:
(14, 108097), (Start: 40 @108175 has 57 MA's), (100, 108391), (103, 108418), (105, 108424), (112, 108457), (115, 108466), (117, 108478), (121, 108493), (129, 108532), (133, 108565), (138, 108580),

Gene: Bartholomune_188 Start: 98185, Stop: 98556, Start Num: 59
Candidate Starts for Bartholomune_188:
(Start: 58 @98179 has 1 MA's), (Start: 59 @98185 has 10 MA's), (102, 98344), (117, 98410), (118, 98413), (154, 98551),

Gene: Bloom_119 Start: 91780, Stop: 92142, Start Num: 64
Candidate Starts for Bloom_119:
(Start: 38 @91675 has 1 MA's), (Start: 64 @91780 has 2 MA's), (105, 91936), (134, 92080), (149, 92116),

Gene: Blueeyedbeauty_139 Start: 79396, Stop: 79761, Start Num: 59
Candidate Starts for Blueeyedbeauty_139:
(Start: 59 @79396 has 10 MA's), (74, 79465), (85, 79498), (92, 79510), (102, 79555), (104, 79570), (117, 79621), (136, 79717), (146, 79738), (147, 79741),

Gene: Bonray_168 Start: 94840, Stop: 95289, Start Num: 39
Candidate Starts for Bonray_168:
(Start: 39 @94840 has 3 MA's), (41, 94849), (Start: 64 @94942 has 2 MA's), (78, 95002), (80, 95017), (92, 95044), (98, 95056), (99, 95059), (119, 95161), (128, 95209), (146, 95275),

Gene: Bordeaux_154 Start: 87839, Stop: 88183, Start Num: 59
Candidate Starts for Bordeaux_154:
(Start: 59 @87839 has 10 MA's), (92, 87968), (104, 88028), (105, 88031), (114, 88061), (116, 88076),

Gene: Braelyn_43 Start: 22198, Stop: 22599, Start Num: 40
Candidate Starts for Braelyn_43:
(Start: 40 @22198 has 57 MA's), (51, 22243), (69, 22306), (91, 22372), (105, 22435),

Gene: Brizzy_188 Start: 96656, Stop: 97045, Start Num: 40
Candidate Starts for Brizzy_188:
(Start: 40 @96656 has 57 MA's), (104, 96881), (105, 96884), (135, 97028), (139, 97037),

Gene: Brizzy_163 Start: 90852, Stop: 91316, Start Num: 40
Candidate Starts for Brizzy_163:
(Start: 40 @90852 has 57 MA's), (68, 90960), (77, 90990), (104, 91092), (116, 91146), (117, 91149), (123, 91176), (158, 91305),

Gene: Cadmus_194 Start: 103833, Stop: 104354, Start Num: 40
Candidate Starts for Cadmus_194:
(Start: 40 @103833 has 57 MA's), (66, 103935), (88, 104010), (105, 104076), (107, 104091), (116, 104127), (120, 104142), (128, 104184), (135, 104229), (137, 104232), (159, 104349),

Gene: CeilingFan_148 Start: 86515, Stop: 86958, Start Num: 40
Candidate Starts for CeilingFan_148:
(5, 86389), (6, 86401), (8, 86410), (9, 86416), (23, 86473), (Start: 31 @86500 has 1 MA's), (Start: 40 @86515 has 57 MA's), (Start: 64 @86614 has 2 MA's), (116, 86821), (147, 86947),

Gene: Cursive_198 Start: 103181, Stop: 103702, Start Num: 40
Candidate Starts for Cursive_198:
(Start: 40 @103181 has 57 MA's), (66, 103283), (88, 103358), (105, 103424), (107, 103439), (116, 103475), (120, 103490), (128, 103532), (135, 103577), (137, 103580), (159, 103697),

Gene: Cursive_112 Start: 77217, Stop: 77573, Start Num: 59
Candidate Starts for Cursive_112:
(Start: 59 @77217 has 10 MA's), (100, 77361), (104, 77391), (105, 77394), (109, 77418), (117, 77448), (121, 77466), (133, 77538),

Gene: Dandelion_160 Start: 94845, Stop: 95354, Start Num: 40
Candidate Starts for Dandelion_160:
(18, 94782), (20, 94791), (Start: 40 @94845 has 57 MA's), (83, 95025), (92, 95043), (94, 95046), (103, 95097), (104, 95100), (116, 95148), (117, 95151), (132, 95232),

Gene: Daredevil_51 Start: 40951, Stop: 41370, Start Num: 40
Candidate Starts for Daredevil_51:
(11, 40861), (Start: 22 @40906 has 1 MA's), (25, 40912), (Start: 40 @40951 has 57 MA's), (49, 40987), (92, 41149), (105, 41209), (116, 41257),

Gene: Davielle_32 Start: 14821, Stop: 14384, Start Num: 40
Candidate Starts for Davielle_32:
(Start: 40 @14821 has 57 MA's), (107, 14548), (111, 14533), (113, 14530),

Gene: Davielle_104 Start: 73218, Stop: 73643, Start Num: 40
Candidate Starts for Davielle_104:
(Start: 40 @73218 has 57 MA's), (92, 73410), (97, 73419), (123, 73548),

Gene: Davielle_41 Start: 21615, Stop: 22016, Start Num: 40
Candidate Starts for Davielle_41:
(Start: 40 @21615 has 57 MA's), (51, 21660), (105, 21852),

Gene: Douge_125 Start: 66042, Stop: 66473, Start Num: 40
Candidate Starts for Douge_125:
(30, 66024), (Start: 40 @66042 has 57 MA's), (65, 66147), (83, 66225), (92, 66243), (100, 66273), (105, 66303), (117, 66351), (129, 66405), (130, 66423),

Gene: EGole_125 Start: 82153, Stop: 82503, Start Num: 59
Candidate Starts for EGole_125:
(Start: 59 @82153 has 10 MA's), (105, 82330), (115, 82369), (131, 82456),

Gene: Elmer_149 Start: 88649, Stop: 88993, Start Num: 64
Candidate Starts for Elmer_149:
(10, 88460), (14, 88475), (23, 88508), (Start: 31 @88535 has 1 MA's), (Start: 40 @88550 has 57 MA's), (Start: 64 @88649 has 2 MA's), (86, 88733), (116, 88856), (147, 88982),

Gene: Enygma_167 Start: 93249, Stop: 93713, Start Num: 40
Candidate Starts for Enygma_167:
(Start: 40 @93249 has 57 MA's), (68, 93357), (77, 93387), (104, 93489), (116, 93543), (117, 93546), (123, 93573), (158, 93702),

Gene: Forrest_91 Start: 63801, Stop: 64238, Start Num: 40
Candidate Starts for Forrest_91:

(34, 63792), (37, 63795), (Start: 40 @63801 has 57 MA's), (99, 64017), (100, 64032), (105, 64062), (115, 64098),

Gene: Forrest_124 Start: 77019, Stop: 77447, Start Num: 40
Candidate Starts for Forrest_124:
(19, 76962), (27, 76983), (28, 76992), (Start: 40 @77019 has 57 MA's), (47, 77049), (Start: 59 @77094 has 10 MA's), (116, 77319), (117, 77322), (127, 77370), (142, 77433),

Gene: Francesca_152 Start: 89986, Stop: 90429, Start Num: 39
Candidate Starts for Francesca_152:
(Start: 39 @89986 has 3 MA's), (105, 90241), (138, 90394), (149, 90418),

Gene: IchabodCrane_184 Start: 95913, Stop: 96302, Start Num: 40
Candidate Starts for IchabodCrane_184:
(Start: 40 @95913 has 57 MA's), (104, 96138), (105, 96141), (135, 96285), (139, 96294),

Gene: Jada_120 Start: 75949, Stop: 76377, Start Num: 40
Candidate Starts for Jada_120:
(19, 75892), (27, 75913), (28, 75922), (Start: 40 @75949 has 57 MA's), (47, 75979), (Start: 59 @76024 has 10 MA's), (116, 76249), (117, 76252), (127, 76300), (142, 76363),

Gene: JimJam_195 Start: 97834, Stop: 98223, Start Num: 40
Candidate Starts for JimJam_195:
(Start: 40 @97834 has 57 MA's), (104, 98059), (105, 98062), (135, 98206), (139, 98215),

Gene: JimJam_152 Start: 87443, Stop: 87886, Start Num: 40
Candidate Starts for JimJam_152:
(5, 87317), (6, 87329), (8, 87338), (9, 87344), (23, 87401), (Start: 31 @87428 has 1 MA's), (Start: 40 @87443 has 57 MA's), (Start: 64 @87542 has 2 MA's), (116, 87749), (147, 87875),

Gene: JimJam_109 Start: 73736, Stop: 74164, Start Num: 40
Candidate Starts for JimJam_109:
(Start: 40 @73736 has 57 MA's), (61, 73817), (104, 73985), (116, 74039), (119, 74045), (148, 74159),

Gene: JonJames_21 Start: 7188, Stop: 7577, Start Num: 59
Candidate Starts for JonJames_21:
(13, 7032), (32, 7098), (Start: 59 @7188 has 10 MA's), (92, 7314), (129, 7476), (145, 7536),

Gene: KentuckyRacer_158 Start: 88711, Stop: 89055, Start Num: 59
Candidate Starts for KentuckyRacer_158:
(Start: 59 @88711 has 10 MA's), (105, 88903), (114, 88933), (116, 88948),

Gene: KentuckyRacer_150 Start: 87011, Stop: 87454, Start Num: 40
Candidate Starts for KentuckyRacer_150:
(5, 86885), (6, 86897), (8, 86906), (9, 86912), (23, 86969), (Start: 31 @86996 has 1 MA's), (Start: 40 @87011 has 57 MA's), (Start: 64 @87110 has 2 MA's), (116, 87317), (147, 87443),

Gene: KentuckyRacer_193 Start: 97580, Stop: 97969, Start Num: 40
Candidate Starts for KentuckyRacer_193:
(Start: 40 @97580 has 57 MA's), (104, 97805), (105, 97808), (135, 97952), (139, 97961),

Gene: Labelle_5 Start: 2590, Stop: 3042, Start Num: 26
Candidate Starts for Labelle_5:

(Start: 26 @2590 has 2 MA's), (93, 2803), (103, 2857), (116, 2911), (117, 2914), (131, 2989), (133, 2998),

Gene: LeBruni_35 Start: 24508, Stop: 25041, Start Num: 53
Candidate Starts for LeBruni_35:
(Start: 48 @24490 has 2 MA's), (53, 24508), (72, 24601), (100, 24694), (104, 24727), (110, 24757), (117, 24784), (129, 24838), (150, 24916),

Gene: Leo04_177 Start: 96224, Stop: 96667, Start Num: 40
Candidate Starts for Leo04_177:
(Start: 40 @96224 has 57 MA's), (76, 96377), (81, 96398), (116, 96530), (122, 96554), (153, 96662),

Gene: Leo04_45 Start: 23281, Stop: 23682, Start Num: 40
Candidate Starts for Leo04_45:
(Start: 40 @23281 has 57 MA's), (51, 23326), (105, 23518),

Gene: Lewan_109 Start: 63302, Stop: 63781, Start Num: 40
Candidate Starts for Lewan_109:
(Start: 39 @63299 has 3 MA's), (Start: 40 @63302 has 57 MA's), (76, 63455), (92, 63500), (100, 63530), (116, 63608), (121, 63629),

Gene: LilhomieP_97 Start: 57511, Stop: 57948, Start Num: 31
Candidate Starts for LilhomieP_97:
(Start: 31 @57511 has 1 MA's), (Start: 40 @57526 has 57 MA's), (75, 57676), (105, 57781), (107, 57796), (116, 57829), (121, 57850), (132, 57913),

Gene: Marsus_237 Start: 116691, Stop: 117125, Start Num: 38
Candidate Starts for Marsus_237:
(Start: 38 @116691 has 1 MA's), (62, 116781), (105, 116952), (106, 116958), (124, 117033), (128, 117060),

Gene: Marsus_42 Start: 21346, Stop: 21747, Start Num: 40
Candidate Starts for Marsus_42:
(Start: 40 @21346 has 57 MA's), (42, 21358), (Start: 44 @21361 has 1 MA's), (51, 21391), (70, 21457), (91, 21520), (105, 21583),

Gene: Megatron06_4 Start: 2094, Stop: 2681, Start Num: 4
Candidate Starts for Megatron06_4:
(Start: 4 @2094 has 1 MA's), (7, 2112), (10, 2133), (16, 2154), (Start: 26 @2187 has 2 MA's), (Start: 38 @2220 has 1 MA's), (49, 2262), (105, 2490), (109, 2514), (117, 2541), (123, 2562),

Gene: Mildred21_168 Start: 90931, Stop: 91365, Start Num: 40
Candidate Starts for Mildred21_168:
(Start: 40 @90931 has 57 MA's), (105, 91192), (109, 91216), (116, 91243), (123, 91270), (128, 91297), (141, 91354),

Gene: Mildred21_142 Start: 85401, Stop: 85826, Start Num: 40
Candidate Starts for Mildred21_142:
(Start: 40 @85401 has 57 MA's), (92, 85602), (100, 85632), (104, 85659), (108, 85683), (109, 85686), (135, 85809),

Gene: Mugiwara_190 Start: 97213, Stop: 97602, Start Num: 40
Candidate Starts for Mugiwara_190:

(Start: 40 @97213 has 57 MA's), (104, 97438), (105, 97441), (135, 97585), (139, 97594),

Gene: MulchMansion_147 Start: 87054, Stop: 87398, Start Num: 59
Candidate Starts for MulchMansion_147:
(Start: 59 @87054 has 10 MA's), (105, 87246), (114, 87276), (116, 87291),

Gene: Myrna_210 Start: 122711, Stop: 123163, Start Num: 40
Candidate Starts for Myrna_210:
(35, 122702), (Start: 40 @122711 has 57 MA's), (Start: 64 @122810 has 2 MA's), (107, 122984), (116, 123017), (132, 123101),

Gene: Myrna_144 Start: 92033, Stop: 92380, Start Num: 57
Candidate Starts for Myrna_144:
(Start: 57 @92033 has 1 MA's), (87, 92141), (105, 92213), (124, 92294), (128, 92318),

Gene: Navo_42 Start: 22093, Stop: 22494, Start Num: 40
Candidate Starts for Navo_42:
(Start: 40 @22093 has 57 MA's), (51, 22138), (69, 22201), (91, 22267), (105, 22330),

Gene: Paradiddles_170 Start: 96596, Stop: 97039, Start Num: 40
Candidate Starts for Paradiddles_170:
(Start: 40 @96596 has 57 MA's), (76, 96749), (81, 96770), (116, 96902), (122, 96926), (153, 97034),

Gene: Park1214_41 Start: 12803, Stop: 13108, Start Num: 64
Candidate Starts for Park1214_41:
(49, 12737), (Start: 64 @12803 has 2 MA's), (92, 12884), (100, 12914), (118, 13004), (123, 13025),

Gene: Patelgo_131 Start: 78593, Stop: 79012, Start Num: 40
Candidate Starts for Patelgo_131:
(Start: 40 @78593 has 57 MA's), (49, 78629), (116, 78893), (143, 79004),

Gene: Patience_5 Start: 2590, Stop: 3042, Start Num: 26
Candidate Starts for Patience_5:
(Start: 26 @2590 has 2 MA's), (93, 2803), (103, 2857), (116, 2911), (117, 2914), (131, 2989), (133, 2998),

Gene: PegLeg_102 Start: 57809, Stop: 58258, Start Num: 39
Candidate Starts for PegLeg_102:
(Start: 39 @57809 has 3 MA's), (85, 57995), (86, 57998), (92, 58010), (100, 58040), (132, 58205), (150, 58253),

Gene: Persimmon_40 Start: 21025, Stop: 21426, Start Num: 40
Candidate Starts for Persimmon_40:
(Start: 40 @21025 has 57 MA's), (51, 21070), (105, 21262),

Gene: Phabba_166 Start: 92816, Stop: 93178, Start Num: 56
Candidate Starts for Phabba_166:
(36, 92741), (Start: 56 @92816 has 1 MA's), (79, 92915), (104, 93011), (105, 93014), (107, 93029), (109, 93038), (121, 93083), (129, 93122), (138, 93167), (140, 93173),

Gene: Phrank15_33 Start: 23639, Stop: 24190, Start Num: 48
Candidate Starts for Phrank15_33:

(Start: 48 @23639 has 2 MA's), (53, 23657), (72, 23750), (100, 23843), (104, 23876), (110, 23906), (117, 23933), (129, 23987), (150, 24065),

Gene: PumpkinSpice_108 Start: 73788, Stop: 74195, Start Num: 46
Candidate Starts for PumpkinSpice_108:
(Start: 46 @73788 has 1 MA's), (93, 73965), (96, 73968), (100, 73992), (105, 74025), (116, 74073), (117, 74076), (124, 74103), (136, 74169), (144, 74190),

Gene: Quaran19_166 Start: 91061, Stop: 91525, Start Num: 40
Candidate Starts for Quaran19_166:
(Start: 40 @91061 has 57 MA's), (68, 91169), (77, 91199), (104, 91301), (116, 91355), (117, 91358), (123, 91385), (158, 91514),

Gene: Riptide_160 Start: 90983, Stop: 91441, Start Num: 40
Candidate Starts for Riptide_160:
(Start: 40 @90983 has 57 MA's), (123, 91313), (144, 91403), (156, 91427),

Gene: Salacia_226 Start: 127343, Stop: 126957, Start Num: 55
Candidate Starts for Salacia_226:
(49, 127367), (Start: 55 @127343 has 2 MA's), (105, 127157), (117, 127112), (149, 126989),

Gene: Sebata_227 Start: 127157, Stop: 126771, Start Num: 55
Candidate Starts for Sebata_227:
(49, 127181), (Start: 55 @127157 has 2 MA's), (105, 126971), (117, 126926), (149, 126803),

Gene: Sham_86 Start: 65422, Stop: 65853, Start Num: 40
Candidate Starts for Sham_86:
(Start: 40 @65422 has 57 MA's), (109, 65698), (116, 65725), (135, 65821), (141, 65836),

Gene: Sheng711_122 Start: 64965, Stop: 65390, Start Num: 40
Candidate Starts for Sheng711_122:
(Start: 40 @64965 has 57 MA's), (103, 65220), (104, 65223), (128, 65328),

Gene: Skinny_102 Start: 57955, Stop: 58377, Start Num: 40
Candidate Starts for Skinny_102:
(Start: 31 @57940 has 1 MA's), (Start: 40 @57955 has 57 MA's), (75, 58105), (105, 58210), (107, 58225), (116, 58258), (121, 58279), (132, 58342),

Gene: Skitty_26 Start: 20961, Stop: 21509, Start Num: 48
Candidate Starts for Skitty_26:
(Start: 48 @20961 has 2 MA's), (50, 20970), (67, 21042), (92, 21135), (100, 21165), (117, 21255), (129, 21309), (150, 21387),

Gene: SpeedDemon_630 Start: 48321, Stop: 48788, Start Num: 22
Candidate Starts for SpeedDemon_630:
(1, 48000), (2, 48108), (3, 48117), (Start: 22 @48321 has 1 MA's), (Start: 46 @48393 has 1 MA's), (84, 48549), (89, 48558), (101, 48606), (116, 48672), (124, 48702),

Gene: Spilled_194 Start: 96766, Stop: 97155, Start Num: 40
Candidate Starts for Spilled_194:
(Start: 40 @96766 has 57 MA's), (104, 96991), (105, 96994), (135, 97138), (139, 97147),

Gene: StarPlatinum_106 Start: 73373, Stop: 73726, Start Num: 59

Candidate Starts for StarPlatinum_106:
(12, 73211), (45, 73316), (Start: 59 @73373 has 10 MA's), (85, 73475), (100, 73514), (105, 73547),

Gene: StarPlatinum_159 Start: 89611, Stop: 89955, Start Num: 59
Candidate Starts for StarPlatinum_159:
(Start: 59 @89611 has 10 MA's), (105, 89803), (114, 89833), (116, 89848),

Gene: Stewart25555_143 Start: 101011, Stop: 101472, Start Num: 40
Candidate Starts for Stewart25555_143:
(33, 100999), (Start: 40 @101011 has 57 MA's), (92, 101209), (120, 101332), (152, 101449),

Gene: Sushi23_176 Start: 96586, Stop: 97014, Start Num: 40
Candidate Starts for Sushi23_176:
(Start: 40 @96586 has 57 MA's), (76, 96739), (116, 96892), (122, 96916),

Gene: Talos_1 Start: 667, Stop: 230, Start Num: 43
Candidate Starts for Talos_1:
(Start: 43 @667 has 1 MA's), (82, 496), (99, 460), (105, 415), (135, 268),

Gene: TomSawyer_168 Start: 92075, Stop: 92539, Start Num: 40
Candidate Starts for TomSawyer_168:
(29, 92048), (Start: 40 @92075 has 57 MA's), (68, 92183), (77, 92213), (104, 92315), (116, 92369), (117, 92372), (123, 92399), (158, 92528),

Gene: TomSawyer_193 Start: 97685, Stop: 98074, Start Num: 40
Candidate Starts for TomSawyer_193:
(Start: 40 @97685 has 57 MA's), (104, 97910), (105, 97913), (135, 98057), (139, 98066),

Gene: TomSawyer_149 Start: 86660, Stop: 87088, Start Num: 44
Candidate Starts for TomSawyer_149:
(5, 86519), (6, 86531), (8, 86540), (9, 86546), (23, 86603), (Start: 31 @86630 has 1 MA's), (Start: 40 @86645 has 57 MA's), (Start: 44 @86660 has 1 MA's), (Start: 64 @86744 has 2 MA's), (86, 86828), (116, 86951), (140, 87062), (146, 87074),

Gene: Towmatter_51 Start: 41131, Stop: 41451, Start Num: 64
Candidate Starts for Towmatter_51:
(21, 40987), (Start: 31 @41017 has 1 MA's), (Start: 40 @41032 has 57 MA's), (49, 41068), (Start: 64 @41131 has 2 MA's), (66, 41140), (92, 41230), (105, 41290), (116, 41338),

Gene: Tribute_97 Start: 71749, Stop: 72189, Start Num: 40
Candidate Starts for Tribute_97:
(Start: 38 @71743 has 1 MA's), (Start: 40 @71749 has 57 MA's), (60, 71827), (73, 71893), (100, 71968), (116, 72043), (129, 72103), (151, 72172), (155, 72181),

Gene: TunaTartare_106 Start: 73259, Stop: 73636, Start Num: 40
Candidate Starts for TunaTartare_106:
(Start: 40 @73259 has 57 MA's), (52, 73304), (105, 73487), (123, 73559), (129, 73589),

Gene: TunaTartare_131 Start: 79206, Stop: 79715, Start Num: 15
Candidate Starts for TunaTartare_131:
(Start: 15 @79206 has 1 MA's), (Start: 40 @79278 has 57 MA's), (62, 79362), (107, 79554), (116, 79590), (120, 79605), (122, 79617), (125, 79632),

Gene: Vetrix_107 Start: 63521, Stop: 64000, Start Num: 40
Candidate Starts for Vetrix_107:
(32, 63506), (Start: 39 @63518 has 3 MA's), (Start: 40 @63521 has 57 MA's), (90, 63713), (100, 63749), (103, 63773), (116, 63827), (128, 63884), (132, 63911), (157, 63968),

Gene: Watermoore_188 Start: 100639, Stop: 101016, Start Num: 58
Candidate Starts for Watermoore_188:
(Start: 58 @100639 has 1 MA's), (Start: 59 @100645 has 10 MA's), (102, 100804), (117, 100870), (118, 100873), (154, 101011),

Gene: Westy_93 Start: 66532, Stop: 66957, Start Num: 40
Candidate Starts for Westy_93:
(17, 66466), (24, 66490), (Start: 40 @66532 has 57 MA's), (92, 66724), (104, 66781), (116, 66835), (124, 66862),

Gene: WhereRU_103 Start: 73218, Stop: 73643, Start Num: 40
Candidate Starts for WhereRU_103:
(Start: 40 @73218 has 57 MA's), (92, 73410), (97, 73419), (123, 73548),

Gene: WhereRU_32 Start: 14821, Stop: 14384, Start Num: 40
Candidate Starts for WhereRU_32:
(Start: 40 @14821 has 57 MA's), (107, 14548), (111, 14533), (113, 14530),

Gene: WhereRU_41 Start: 21615, Stop: 22016, Start Num: 40
Candidate Starts for WhereRU_41:
(Start: 40 @21615 has 57 MA's), (51, 21660), (105, 21852),

Gene: Wipeout_181 Start: 97029, Stop: 97418, Start Num: 40
Candidate Starts for Wipeout_181:
(Start: 40 @97029 has 57 MA's), (104, 97254), (105, 97257), (135, 97401), (139, 97410),

Gene: Wofford_45 Start: 23131, Stop: 23520, Start Num: 40
Candidate Starts for Wofford_45:
(Start: 40 @23131 has 57 MA's), (42, 23143), (51, 23176), (70, 23242), (71, 23245), (91, 23293), (105, 23356), (126, 23446),

Gene: Wofford_143 Start: 88534, Stop: 88977, Start Num: 40
Candidate Starts for Wofford_143:
(6, 88420), (8, 88429), (9, 88435), (23, 88492), (Start: 31 @88519 has 1 MA's), (Start: 40 @88534 has 57 MA's), (Start: 64 @88633 has 2 MA's), (116, 88840),

Gene: Wofford_171 Start: 96384, Stop: 96842, Start Num: 40
Candidate Starts for Wofford_171:
(Start: 40 @96384 has 57 MA's), (123, 96714), (144, 96804), (156, 96828),