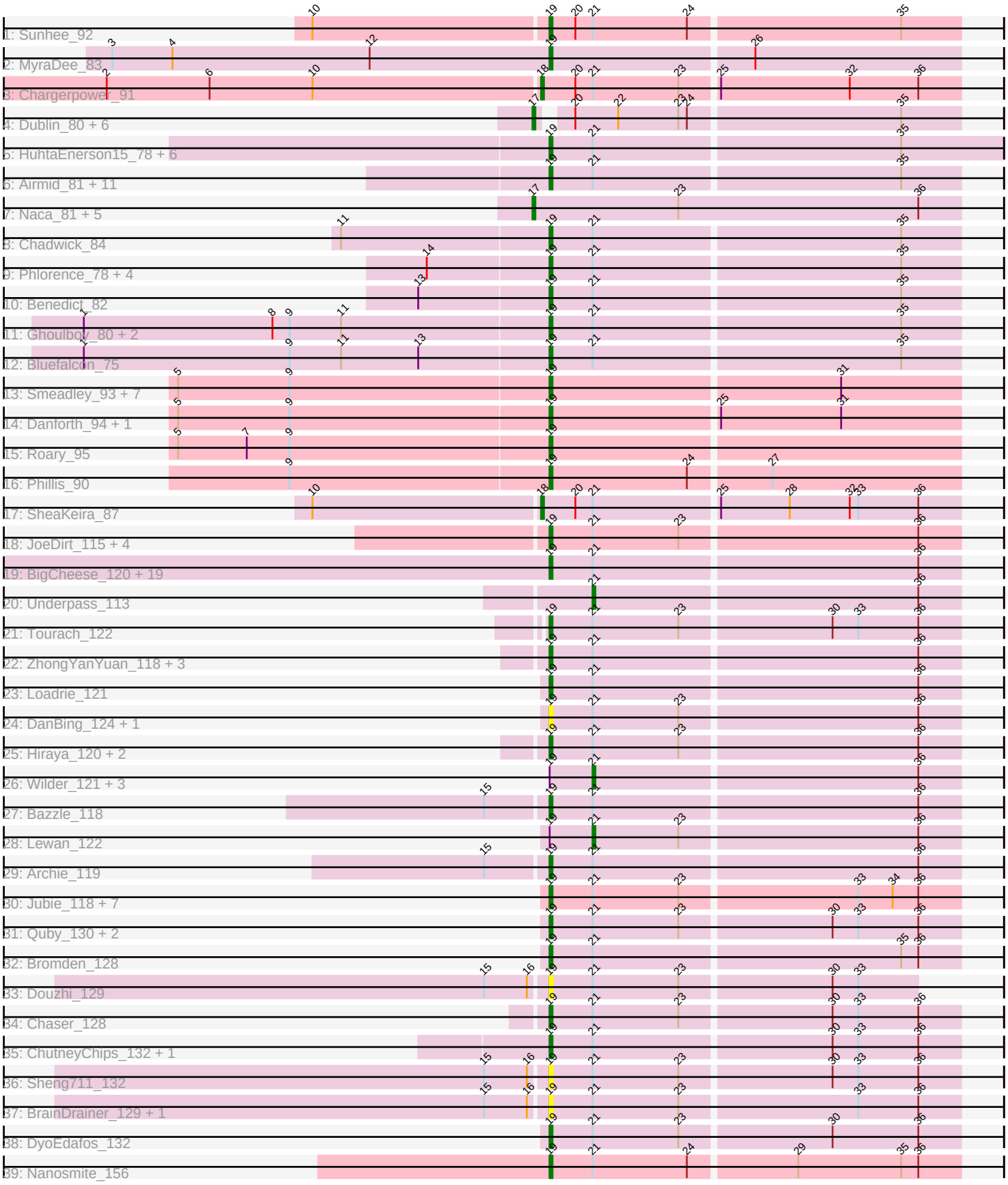
Pham 334575


1: Sunhee_92
2: MyraDee_83
3: Chargerpower_91
4: Dublin_80 + 6
5: HuhtaEnerson15_78 + 6
6: Airmid_81 + 11
7: Naca_81 + 5
8: Chadwick_84
9: Phlorence_78 + 4
10: Benedict_82
11: Ghoulboy_80 + 2
12: Bluefalcon_75
13: Smeadley_93 + 7
14: Danforth_94 + 1
15: Roary_95
16: Phillis_90
17: SheaKeira_87
18: JoeDirt_115 + 4
19: BigCheese_120 + 19
20: Underpass_113
21: Tourach_122
22: ZhongYanYuan_118 + 3
23: Loadrie_121
24: DanBing_124 + 1
25: Hiraya_120 + 2
26: Wilder_121 + 3
27: Bazzle_118
28: Lewan_122
29: Archie_119
30: Jubie_118 + 7
31: Quby_130 + 2
32: Bromden_128
33: Douzhi_129
34: Chaser_128
35: ChutneyChips_132 + 1
36: Sheng711_132
37: BrainDrainer_129 + 1
38: DyoEdafos_132
39: Nanosmite_156

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 334575 Report

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

Pham number 334575 has 124 members, 21 are drafts.

Phages represented in each track:
- Track 1 : Sunhee_92
- Track 2 : MyraDee_83
- Track 3 : Chargerpower_91
- Track 4 : Dublin_80, Coog_77, Theia_80, Swirley_80, Midas2_77, Cuco_79, MarysWell_80
- Track 5 : HuhtaEnerson15_78, Bonamassa_80, Micasa_81, Milcery_78, George_74, LittleCherry_78, Tarynearal_80
- Track 6 : Airmid_81, PickleBack_81, ForGetIt_81, Jovo_78, ElTiger69_84, Florence4_79, Florence1_78, Lev2_80, Prinashe11_80, Twigg_80, Jabiru_79, Aragog_80
- Track 7 : Naca_81, Chadwick_83, Benedict_81, Scorpia_80, UnionJack_82, PetterN_86
- Track 8 : Chadwick_84
- Track 9 : Phlorence_78, Conspiracy_80, Tiger_78, Discoknowium_77, AgentM_79
- Track 10 : Benedict_82
- Track 11 : Ghoulboy_80, SydNat_79, Zolita_78
- Track 12 : Bluefalcon_75
- Track 13 : Smeadley_93, Groundhog_90, Expelliarmus_90, Saintus_88, Stephig9_94, Caitlin_92, NearlyHeadless_94, Astro_92
- Track 14 : Danforth_94, Dixon_92
- Track 15 : Roary_95
- Track 16 : Phillis_90
- Track 17 : SheaKeira_87
- Track 18 : JoeDirt_115, Zaria_117, Calm_120, Wamburgrxpress_114, Poochiewood_112
- Track 19 : BigCheese_120, Kahlid_120, Soap141_121, LilDestine_117, ChengKai98_119, Wigglewiggle_121, Breezona_121, Miley16_121, DrSeegs_119, BobsGarage_120, Winky_121, Gabriela_120, Itos_121, Sarshaun_122, Lynnae_121, Faith1_119, Gardann_120, Netyap_119, Molivier_112, Vetrix_120
- Track 20 : Underpass_113
- Track 21 : Tourach_122
- Track 22 : ZhongYanYuan_118, Baoshan_120, Finemlucis_119, Rossetti_120
- Track 23 : Loadrie_121
- Track 24 : DanBing_124, DHan_122
- Track 25 : Hiraya_120, GuuelaD_118, Claus_119
- Track 26 : Wilder_121, Zakai_123, Nicholasp3_121, SoJulia_123
- Track 27 : Bazzle_118

• Track 28 : Lewan_122
• Track 29 : Archie_119
• Track 30 : Jubie_118, Clautastrophe_117, Lumos_118, Snenia_117, MsGreen_119, Jobypre_118, TriFive_119, Red305_119
• Track 31 : Quby_130, Douge_131, FarmResident_131
• Track 32 : Bromden_128
• Track 33 : Douzhi_129
• Track 34 : Chaser_128
• Track 35 : ChutneyChips_132, Kropertea_126
• Track 36 : Sheng711_132
• Track 37 : BrainDrainer_129, PYPDinur_131
• Track 38 : DyoEdafos_132
• Track 39 : Nanosmite_156

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

The start number called the most often in the published annotations is 19, it was called in 83 of the 103 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AgentM_79, Airmid_81, Aragog_80, Archie_119, Astro_92, Baoshan_120, Bazzle_118, Benedict_82, BigCheese_120, Bluefalcon_75, BobsGarage_120, Bonamassa_80, BrainDrainer_129, Breezona_121, Bromden_128, Caitlin_92, Calm_120, Chadwick_84, Chaser_128, ChengKai98_119, ChutneyChips_132, Claus_119, Clautastrophe_117, Conspiracy_80, DHan_122, DanBing_124, Danforth_94, Discoknowium_77, Dixon_92, Douge_131, Douzhi_129, DrSeegs_119, DyoEdafos_132, ElTiger69_84, Expelliarmus_90, Faith1_119, FarmResident_131, Finemlucis_119, Florence1_78, Florence4_79, ForGetIt_81, Gabriela_120, Gardann_120, George_74, Ghoulboy_80, Groundhog_90, GuuelaD_118, Hiraya_120, HuhtaEnerson15_78, Itos_121, Jabiru_79, Jobypre_118, JoeDirt_115, Jovo_78, Jubie_118, Kahlid_120, Kropertea_126, Lev2_80, LilDestine_117, LittleCherry_78, Loadrie_121, Lumos_118, Lynnae_121, Micasa_81, Milcery_78, Miley16_121, Molivier_112, MsGreen_119, MyraDee_83, Nanosmite_156, NearlyHeadless_94, Netyap_119, PYPDinur_131, Phillis_90, Phlorence_78, PickleBack_81, Poochiewood_112, Prinashe11_80, Quby_130, Red305_119, Roary_95, Rossetti_120, Saintus_88, Sarshaun_122, Sheng711_132, Smeadley_93, Snenia_117, Soap141_121, Stephig9_94, Sunhee_92, SydNat_79, Tarynearal_80, Tiger_78, Tourach_122, TriFive_119, Twigg_80, Vetrix_120, Wamburgrxpress_114, Wigglewiggle_121, Winky_121, Zaria_117, ZhongYanYuan_118, Zolita_78,

Genes that have the "Most Annotated" start but do not call it:
• Lewan_122, Nicholasp3_121, SoJulia_123, Wilder_121, Zakai_123,

Genes that do not have the "Most Annotated" start:
• Benedict_81, Chadwick_83, Chargerpower_91, Coog_77, Cuco_79, Dublin_80, MarysWell_80, Midas2_77, Naca_81, PetterN_86, Scorpia_80, SheaKeira_87, Swirley_80, Theia_80, Underpass_113, UnionJack_82,

Summary by start number:

Start 17:
• Found in 13 of 124 (10.5%) of genes in pham
• Manual Annotations of this start: 13 of 103
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Benedict_81 (A5), Chadwick_83 (A5), Coog_77 (A5), Cuco_79 (A5), Dublin_80 (A5), MarysWell_80 (A5), Midas2_77 (A5), Naca_81 (A5), PetterN_86 (A5), Scorpia_80 (A5), Swirley_80 (A5), Theia_80 (A5), UnionJack_82 (A5),

Start 18:
• Found in 2 of 124 (1.6%) of genes in pham
• Manual Annotations of this start: 2 of 103
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Chargerpower_91 (A22), SheaKeira_87 (A9),

Start 19:
• Found in 108 of 124 (87.1%) of genes in pham
• Manual Annotations of this start: 83 of 103
• Called 95.4% of time when present
• Phage (with cluster) where this start called: AgentM_79 (A5), Airmid_81 (A5), Aragog_80 (A5), Archie_119 (L2), Astro_92 (A8), Baoshan_120 (L2), Bazzle_118 (L2), Benedict_82 (A5), BigCheese_120 (L2), Bluefalcon_75 (A5), BobsGarage_120 (L2), Bonamassa_80 (A5), BrainDrainer_129 (L4), Breezona_121 (L2), Bromden_128 (L4), Caitlin_92 (A8), Calm_120 (L1), Chadwick_84 (A5), Chaser_128 (L4), ChengKai98_119 (L2), ChutneyChips_132 (L4), Claus_119 (L2), Clautastrophe_117 (L3), Conspiracy_80 (A5), DHan_122 (L2), DanBing_124 (L2), Danforth_94 (A8), Discoknowium_77 (A5), Dixon_92 (A8), Douge_131 (L4), Douzhi_129 (L4), DrSeegs_119 (L2), DyoEdafos_132 (L4), ElTiger69_84 (A5), Expelliarmus_90 (A8), Faith1_119 (L2), FarmResident_131 (L4), Finemlucis_119 (L2), Florence1_78 (A5), Florence4_79 (A5), ForGetIt_81 (A5), Gabriela_120 (L2), Gardann_120 (L2), George_74 (A5), Ghoulboy_80 (A5), Groundhog_90 (A8), GuuelaD_118 (L2), Hiraya_120 (L2), HuhtaEnerson15_78 (A5), Itos_121 (L2), Jabiru_79 (A5), Jobypre_118 (L3), JoeDirt_115 (L1), Jovo_78 (A5), Jubie_118 (L3), Kahlid_120 (L2), Kropertea_126 (L4), Lev2_80 (A5), LilDestine_117 (L2), LittleCherry_78 (A5), Loadrie_121 (L2), Lumos_118 (L3), Lynnae_121 (L2), Micasa_81 (A5), Milcery_78 (A5), Miley16_121 (L2), Molivier_112 (L2), MsGreen_119 (L3), MyraDee_83 (A18), Nanosmite_156 (M3), NearlyHeadless_94 (A8), Netyap_119 (L2), PYPDinur_131 (L4), Phillis_90 (A8), Phlorence_78 (A5), PickleBack_81 (A5), Poochiewood_112 (L1), Prinashe11_80 (A5), Quby_130 (L4), Red305_119 (L3), Roary_95 (A8), Rossetti_120 (L2), Saintus_88 (A8), Sarshaun_122 (L2), Sheng711_132 (L4), Smeadley_93 (A8), Snenia_117 (L3), Soap141_121 (L2), Stephig9_94 (A8), Sunhee_92 (A14), SydNat_79 (A5), Tarynearal_80 (A5), Tiger_78 (A5), Tourach_122 (L2), TriFive_119 (L3), Twigg_80 (A5), Vetrix_120 (L2), Wamburgrxpress_114 (L1), Wigglewiggle_121 (L2), Winky_121 (L2), Zaria_117 (L1), ZhongYanYuan_118 (L2), Zolita_78 (A5),

Start 21:
• Found in 98 of 124 (79.0%) of genes in pham
• Manual Annotations of this start: 5 of 103
• Called 6.1% of time when present
• Phage (with cluster) where this start called: Lewan_122 (L2), Nicholasp3_121 (L2), SoJulia_123 (L2), Underpass_113 (L2), Wilder_121 (L2), Zakai_123 (L2),

Summary by clusters:

There are 11 clusters represented in this pham: A14, A22, L2, A18, L4, A5, L3, M3, L1, A9, A8,

Info for manual annotations of cluster A14:
•Start number 19 was manually annotated 1 time for cluster A14.

Info for manual annotations of cluster A18:
•Start number 19 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A22:
•Start number 18 was manually annotated 1 time for cluster A22.

Info for manual annotations of cluster A5:
•Start number 17 was manually annotated 13 times for cluster A5.
•Start number 19 was manually annotated 28 times for cluster A5.

Info for manual annotations of cluster A8:
•Start number 19 was manually annotated 12 times for cluster A8.

Info for manual annotations of cluster A9:
•Start number 18 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster L1:
•Start number 19 was manually annotated 4 times for cluster L1.

Info for manual annotations of cluster L2:
•Start number 19 was manually annotated 23 times for cluster L2.
•Start number 21 was manually annotated 5 times for cluster L2.

Info for manual annotations of cluster L3:
•Start number 19 was manually annotated 7 times for cluster L3.

Info for manual annotations of cluster L4:
•Start number 19 was manually annotated 6 times for cluster L4.

Info for manual annotations of cluster M3:
•Start number 19 was manually annotated 1 time for cluster M3.

Gene Information:

Gene: AgentM_79 Start: 46397, Stop: 46257, Start Num: 19
Candidate Starts for AgentM_79:
(14, 46439), (Start: 19 @46397 has 83 MA's), (Start: 21 @46382 has 5 MA's), (35, 46277),

Gene: Airmid_81 Start: 46746, Stop: 46606, Start Num: 19
Candidate Starts for Airmid_81:
(Start: 19 @46746 has 83 MA's), (Start: 21 @46731 has 5 MA's), (35, 46626),

Gene: Aragog_80 Start: 46694, Stop: 46554, Start Num: 19

Candidate Starts for Aragog_80:
(Start: 19 @46694 has 83 MA's), (Start: 21 @46679 has 5 MA's), (35, 46574),

Gene: Archie_119 Start: 65851, Stop: 65711, Start Num: 19
Candidate Starts for Archie_119:
(15, 65872), (Start: 19 @65851 has 83 MA's), (Start: 21 @65836 has 5 MA's), (36, 65725),

Gene: Astro_92 Start: 48233, Stop: 48093, Start Num: 19
Candidate Starts for Astro_92:
(5, 48362), (9, 48323), (Start: 19 @48233 has 83 MA's), (31, 48134),

Gene: Baoshan_120 Start: 66069, Stop: 65929, Start Num: 19
Candidate Starts for Baoshan_120:
(Start: 19 @66069 has 83 MA's), (Start: 21 @66054 has 5 MA's), (36, 65943),

Gene: Bazzle_118 Start: 66439, Stop: 66299, Start Num: 19
Candidate Starts for Bazzle_118:
(15, 66460), (Start: 19 @66439 has 83 MA's), (Start: 21 @66424 has 5 MA's), (36, 66313),

Gene: Benedict_82 Start: 46562, Stop: 46422, Start Num: 19
Candidate Starts for Benedict_82:
(13, 46607), (Start: 19 @46562 has 83 MA's), (Start: 21 @46547 has 5 MA's), (35, 46442),

Gene: Benedict_81 Start: 46318, Stop: 46169, Start Num: 17
Candidate Starts for Benedict_81:
(Start: 17 @46318 has 13 MA's), (23, 46267), (36, 46183),

Gene: BigCheese_120 Start: 66330, Stop: 66190, Start Num: 19
Candidate Starts for BigCheese_120:
(Start: 19 @66330 has 83 MA's), (Start: 21 @66315 has 5 MA's), (36, 66204),

Gene: Bluefalcon_75 Start: 46979, Stop: 46839, Start Num: 19
Candidate Starts for Bluefalcon_75:
(1, 47141), (9, 47069), (11, 47051), (13, 47024), (Start: 19 @46979 has 83 MA's), (Start: 21 @46964 has 5 MA's), (35, 46859),

Gene: BobsGarage_120 Start: 66330, Stop: 66190, Start Num: 19
Candidate Starts for BobsGarage_120:
(Start: 19 @66330 has 83 MA's), (Start: 21 @66315 has 5 MA's), (36, 66204),

Gene: Bonamassa_80 Start: 46736, Stop: 46596, Start Num: 19
Candidate Starts for Bonamassa_80:
(Start: 19 @46736 has 83 MA's), (Start: 21 @46721 has 5 MA's), (35, 46616),

Gene: BrainDrainer_129 Start: 67611, Stop: 67471, Start Num: 19
Candidate Starts for BrainDrainer_129:
(15, 67632), (16, 67617), (Start: 19 @67611 has 83 MA's), (Start: 21 @67596 has 5 MA's), (23, 67566), (33, 67506), (36, 67485),

Gene: Breezona_121 Start: 66665, Stop: 66525, Start Num: 19
Candidate Starts for Breezona_121:
(Start: 19 @66665 has 83 MA's), (Start: 21 @66650 has 5 MA's), (36, 66539),

Gene: Bromden_128 Start: 68762, Stop: 68622, Start Num: 19
Candidate Starts for Bromden_128:
(Start: 19 @68762 has 83 MA's), (Start: 21 @68747 has 5 MA's), (35, 68642), (36, 68636),

Gene: Caitlin_92 Start: 47925, Stop: 47785, Start Num: 19
Candidate Starts for Caitlin_92:
(5, 48054), (9, 48015), (Start: 19 @47925 has 83 MA's), (31, 47826),

Gene: Calm_120 Start: 64636, Stop: 64496, Start Num: 19
Candidate Starts for Calm_120:
(Start: 19 @64636 has 83 MA's), (Start: 21 @64621 has 5 MA's), (23, 64591), (36, 64510),

Gene: Chadwick_84 Start: 46627, Stop: 46487, Start Num: 19
Candidate Starts for Chadwick_84:
(11, 46699), (Start: 19 @46627 has 83 MA's), (Start: 21 @46612 has 5 MA's), (35, 46507),

Gene: Chadwick_83 Start: 46383, Stop: 46234, Start Num: 17
Candidate Starts for Chadwick_83:
(Start: 17 @46383 has 13 MA's), (23, 46332), (36, 46248),

Gene: Chargerpower_91 Start: 48512, Stop: 48369, Start Num: 18
Candidate Starts for Chargerpower_91:
(2, 48662), (6, 48626), (10, 48590), (Start: 18 @48512 has 2 MA's), (20, 48500), (Start: 21 @48494 has 5 MA's), (23, 48464), (25, 48452), (32, 48407), (36, 48383),

Gene: Chaser_128 Start: 67472, Stop: 67332, Start Num: 19
Candidate Starts for Chaser_128:
(Start: 19 @67472 has 83 MA's), (Start: 21 @67457 has 5 MA's), (23, 67427), (30, 67376), (33, 67367), (36, 67346),

Gene: ChengKai98_119 Start: 65738, Stop: 65598, Start Num: 19
Candidate Starts for ChengKai98_119:
(Start: 19 @65738 has 83 MA's), (Start: 21 @65723 has 5 MA's), (36, 65612),

Gene: ChutneyChips_132 Start: 67724, Stop: 67584, Start Num: 19
Candidate Starts for ChutneyChips_132:
(Start: 19 @67724 has 83 MA's), (Start: 21 @67709 has 5 MA's), (30, 67628), (33, 67619), (36, 67598),

Gene: Claus_119 Start: 65982, Stop: 65842, Start Num: 19
Candidate Starts for Claus_119:
(Start: 19 @65982 has 83 MA's), (Start: 21 @65967 has 5 MA's), (23, 65937), (36, 65856),

Gene: Clautastrophe_117 Start: 66000, Stop: 65860, Start Num: 19
Candidate Starts for Clautastrophe_117:
(Start: 19 @66000 has 83 MA's), (Start: 21 @65985 has 5 MA's), (23, 65955), (33, 65895), (34, 65883), (36, 65874),

Gene: Conspiracy_80 Start: 46637, Stop: 46497, Start Num: 19
Candidate Starts for Conspiracy_80:
(14, 46679), (Start: 19 @46637 has 83 MA's), (Start: 21 @46622 has 5 MA's), (35, 46517),

Gene: Coog_77 Start: 46766, Stop: 46626, Start Num: 17
Candidate Starts for Coog_77:

(Start: 17 @46766 has 13 MA's), (20, 46757), (22, 46742), (23, 46721), (24, 46718), (35, 46646),

Gene: Cuco_79 Start: 46626, Stop: 46486, Start Num: 17
Candidate Starts for Cuco_79:
(Start: 17 @46626 has 13 MA's), (20, 46617), (22, 46602), (23, 46581), (24, 46578), (35, 46506),

Gene: DHan_122 Start: 66380, Stop: 66240, Start Num: 19
Candidate Starts for DHan_122:
(Start: 19 @66380 has 83 MA's), (Start: 21 @66365 has 5 MA's), (23, 66335), (36, 66254),

Gene: DanBing_124 Start: 66747, Stop: 66607, Start Num: 19
Candidate Starts for DanBing_124:
(Start: 19 @66747 has 83 MA's), (Start: 21 @66732 has 5 MA's), (23, 66702), (36, 66621),

Gene: Danforth_94 Start: 48387, Stop: 48247, Start Num: 19
Candidate Starts for Danforth_94:
(5, 48516), (9, 48477), (Start: 19 @48387 has 83 MA's), (25, 48330), (31, 48288),

Gene: Discoknowium_77 Start: 46154, Stop: 46014, Start Num: 19
Candidate Starts for Discoknowium_77:
(14, 46196), (Start: 19 @46154 has 83 MA's), (Start: 21 @46139 has 5 MA's), (35, 46034),

Gene: Dixon_92 Start: 47792, Stop: 47652, Start Num: 19
Candidate Starts for Dixon_92:
(5, 47921), (9, 47882), (Start: 19 @47792 has 83 MA's), (25, 47735), (31, 47693),

Gene: Douge_131 Start: 68103, Stop: 67963, Start Num: 19
Candidate Starts for Douge_131:
(Start: 19 @68103 has 83 MA's), (Start: 21 @68088 has 5 MA's), (23, 68058), (30, 68007), (33, 67998), (36, 67977),

Gene: Douzhi_129 Start: 67783, Stop: 67658, Start Num: 19
Candidate Starts for Douzhi_129:
(15, 67804), (16, 67789), (Start: 19 @67783 has 83 MA's), (Start: 21 @67768 has 5 MA's), (23, 67738), (30, 67687), (33, 67678),

Gene: DrSeegs_119 Start: 66665, Stop: 66525, Start Num: 19
Candidate Starts for DrSeegs_119:
(Start: 19 @66665 has 83 MA's), (Start: 21 @66650 has 5 MA's), (36, 66539),

Gene: Dublin_80 Start: 46898, Stop: 46758, Start Num: 17
Candidate Starts for Dublin_80:
(Start: 17 @46898 has 13 MA's), (20, 46889), (22, 46874), (23, 46853), (24, 46850), (35, 46778),

Gene: DyoEdafos_132 Start: 67482, Stop: 67342, Start Num: 19
Candidate Starts for DyoEdafos_132:
(Start: 19 @67482 has 83 MA's), (Start: 21 @67467 has 5 MA's), (23, 67437), (30, 67386), (36, 67356),

Gene: ElTiger69_84 Start: 47010, Stop: 46870, Start Num: 19
Candidate Starts for ElTiger69_84:
(Start: 19 @47010 has 83 MA's), (Start: 21 @46995 has 5 MA's), (35, 46890),

Gene: Expelliarmus_90 Start: 48006, Stop: 47866, Start Num: 19

Candidate Starts for Expelliarmus_90:
(5, 48135), (9, 48096), (Start: 19 @48006 has 83 MA's), (31, 47907),

Gene: Faith1_119 Start: 65973, Stop: 65833, Start Num: 19
Candidate Starts for Faith1_119:
(Start: 19 @65973 has 83 MA's), (Start: 21 @65958 has 5 MA's), (36, 65847),

Gene: FarmResident_131 Start: 67235, Stop: 67095, Start Num: 19
Candidate Starts for FarmResident_131:
(Start: 19 @67235 has 83 MA's), (Start: 21 @67220 has 5 MA's), (23, 67190), (30, 67139), (33, 67130), (36, 67109),

Gene: Finemlucis_119 Start: 67003, Stop: 66863, Start Num: 19
Candidate Starts for Finemlucis_119:
(Start: 19 @67003 has 83 MA's), (Start: 21 @66988 has 5 MA's), (36, 66877),

Gene: Florence1_78 Start: 46525, Stop: 46385, Start Num: 19
Candidate Starts for Florence1_78:
(Start: 19 @46525 has 83 MA's), (Start: 21 @46510 has 5 MA's), (35, 46405),

Gene: Florence4_79 Start: 46525, Stop: 46385, Start Num: 19
Candidate Starts for Florence4_79:
(Start: 19 @46525 has 83 MA's), (Start: 21 @46510 has 5 MA's), (35, 46405),

Gene: ForGetIt_81 Start: 46944, Stop: 46804, Start Num: 19
Candidate Starts for ForGetIt_81:
(Start: 19 @46944 has 83 MA's), (Start: 21 @46929 has 5 MA's), (35, 46824),

Gene: Gabriela_120 Start: 65218, Stop: 65078, Start Num: 19
Candidate Starts for Gabriela_120:
(Start: 19 @65218 has 83 MA's), (Start: 21 @65203 has 5 MA's), (36, 65092),

Gene: Gardann_120 Start: 65895, Stop: 65755, Start Num: 19
Candidate Starts for Gardann_120:
(Start: 19 @65895 has 83 MA's), (Start: 21 @65880 has 5 MA's), (36, 65769),

Gene: George_74 Start: 46907, Stop: 46767, Start Num: 19
Candidate Starts for George_74:
(Start: 19 @46907 has 83 MA's), (Start: 21 @46892 has 5 MA's), (35, 46787),

Gene: Ghoulboy_80 Start: 46910, Stop: 46770, Start Num: 19
Candidate Starts for Ghoulboy_80:
(1, 47072), (8, 47006), (9, 47000), (11, 46982), (Start: 19 @46910 has 83 MA's), (Start: 21 @46895 has 5 MA's), (35, 46790),

Gene: Groundhog_90 Start: 48062, Stop: 47922, Start Num: 19
Candidate Starts for Groundhog_90:
(5, 48191), (9, 48152), (Start: 19 @48062 has 83 MA's), (31, 47963),

Gene: GuuelaD_118 Start: 66157, Stop: 66017, Start Num: 19
Candidate Starts for GuuelaD_118:
(Start: 19 @66157 has 83 MA's), (Start: 21 @66142 has 5 MA's), (23, 66112), (36, 66031),

Gene: Hiraya_120 Start: 66332, Stop: 66192, Start Num: 19
Candidate Starts for Hiraya_120:
(Start: 19 @66332 has 83 MA's), (Start: 21 @66317 has 5 MA's), (23, 66287), (36, 66206),

Gene: HuhtaEnerson15_78 Start: 46668, Stop: 46513, Start Num: 19
Candidate Starts for HuhtaEnerson15_78:
(Start: 19 @46668 has 83 MA's), (Start: 21 @46653 has 5 MA's), (35, 46548),

Gene: Itos_121 Start: 64879, Stop: 64739, Start Num: 19
Candidate Starts for Itos_121:
(Start: 19 @64879 has 83 MA's), (Start: 21 @64864 has 5 MA's), (36, 64753),

Gene: Jabiru_79 Start: 46164, Stop: 46024, Start Num: 19
Candidate Starts for Jabiru_79:
(Start: 19 @46164 has 83 MA's), (Start: 21 @46149 has 5 MA's), (35, 46044),

Gene: Jobypre_118 Start: 65998, Stop: 65858, Start Num: 19
Candidate Starts for Jobypre_118:
(Start: 19 @65998 has 83 MA's), (Start: 21 @65983 has 5 MA's), (23, 65953), (33, 65893), (34, 65881), (36, 65872),

Gene: JoeDirt_115 Start: 64619, Stop: 64479, Start Num: 19
Candidate Starts for JoeDirt_115:
(Start: 19 @64619 has 83 MA's), (Start: 21 @64604 has 5 MA's), (23, 64574), (36, 64493),

Gene: Jovo_78 Start: 47200, Stop: 47060, Start Num: 19
Candidate Starts for Jovo_78:
(Start: 19 @47200 has 83 MA's), (Start: 21 @47185 has 5 MA's), (35, 47080),

Gene: Jubie_118 Start: 66133, Stop: 65993, Start Num: 19
Candidate Starts for Jubie_118:
(Start: 19 @66133 has 83 MA's), (Start: 21 @66118 has 5 MA's), (23, 66088), (33, 66028), (34, 66016), (36, 66007),

Gene: Kahlid_120 Start: 66180, Stop: 66040, Start Num: 19
Candidate Starts for Kahlid_120:
(Start: 19 @66180 has 83 MA's), (Start: 21 @66165 has 5 MA's), (36, 66054),

Gene: Kropertea_126 Start: 67245, Stop: 67105, Start Num: 19
Candidate Starts for Kropertea_126:
(Start: 19 @67245 has 83 MA's), (Start: 21 @67230 has 5 MA's), (30, 67149), (33, 67140), (36, 67119),

Gene: Lev2_80 Start: 46553, Stop: 46413, Start Num: 19
Candidate Starts for Lev2_80:
(Start: 19 @46553 has 83 MA's), (Start: 21 @46538 has 5 MA's), (35, 46433),

Gene: Lewan_122 Start: 66675, Stop: 66550, Start Num: 21
Candidate Starts for Lewan_122:
(Start: 19 @66690 has 83 MA's), (Start: 21 @66675 has 5 MA's), (23, 66645), (36, 66564),

Gene: LilDestine_117 Start: 65350, Stop: 65210, Start Num: 19
Candidate Starts for LilDestine_117:
(Start: 19 @65350 has 83 MA's), (Start: 21 @65335 has 5 MA's), (36, 65224),

Gene: LittleCherry_78 Start: 46259, Stop: 46119, Start Num: 19
Candidate Starts for LittleCherry_78:
(Start: 19 @46259 has 83 MA's), (Start: 21 @46244 has 5 MA's), (35, 46139),

Gene: Loadrie_121 Start: 66722, Stop: 66582, Start Num: 19
Candidate Starts for Loadrie_121:
(Start: 19 @66722 has 83 MA's), (Start: 21 @66707 has 5 MA's), (36, 66596),

Gene: Lumos_118 Start: 65995, Stop: 65855, Start Num: 19
Candidate Starts for Lumos_118:
(Start: 19 @65995 has 83 MA's), (Start: 21 @65980 has 5 MA's), (23, 65950), (33, 65890), (34, 65878), (36, 65869),

Gene: Lynnae_121 Start: 65993, Stop: 65853, Start Num: 19
Candidate Starts for Lynnae_121:
(Start: 19 @65993 has 83 MA's), (Start: 21 @65978 has 5 MA's), (36, 65867),

Gene: MarysWell_80 Start: 47141, Stop: 47001, Start Num: 17
Candidate Starts for MarysWell_80:
(Start: 17 @47141 has 13 MA's), (20, 47132), (22, 47117), (23, 47096), (24, 47093), (35, 47021),

Gene: Micasa_81 Start: 46924, Stop: 46769, Start Num: 19
Candidate Starts for Micasa_81:
(Start: 19 @46924 has 83 MA's), (Start: 21 @46909 has 5 MA's), (35, 46804),

Gene: Midas2_77 Start: 46766, Stop: 46626, Start Num: 17
Candidate Starts for Midas2_77:
(Start: 17 @46766 has 13 MA's), (20, 46757), (22, 46742), (23, 46721), (24, 46718), (35, 46646),

Gene: Milcery_78 Start: 46553, Stop: 46413, Start Num: 19
Candidate Starts for Milcery_78:
(Start: 19 @46553 has 83 MA's), (Start: 21 @46538 has 5 MA's), (35, 46433),

Gene: Miley16_121 Start: 66665, Stop: 66525, Start Num: 19
Candidate Starts for Miley16_121:
(Start: 19 @66665 has 83 MA's), (Start: 21 @66650 has 5 MA's), (36, 66539),

Gene: Molivier_112 Start: 61136, Stop: 60996, Start Num: 19
Candidate Starts for Molivier_112:
(Start: 19 @61136 has 83 MA's), (Start: 21 @61121 has 5 MA's), (36, 61010),

Gene: MsGreen_119 Start: 65997, Stop: 65857, Start Num: 19
Candidate Starts for MsGreen_119:
(Start: 19 @65997 has 83 MA's), (Start: 21 @65982 has 5 MA's), (23, 65952), (33, 65892), (34, 65880), (36, 65871),

Gene: MyraDee_83 Start: 45467, Stop: 45327, Start Num: 19
Candidate Starts for MyraDee_83:
(3, 45620), (4, 45599), (12, 45530), (Start: 19 @45467 has 83 MA's), (26, 45398),

Gene: Naca_81 Start: 47061, Stop: 46912, Start Num: 17
Candidate Starts for Naca_81:

(Start: 17 @47061 has 13 MA's), (23, 47010), (36, 46926),

Gene: Nanosmite_156 Start: 75027, Stop: 74887, Start Num: 19
Candidate Starts for Nanosmite_156:
(Start: 19 @75027 has 83 MA's), (Start: 21 @75012 has 5 MA's), (24, 74979), (29, 74943), (35, 74907), (36, 74901),

Gene: NearlyHeadless_94 Start: 48124, Stop: 47984, Start Num: 19
Candidate Starts for NearlyHeadless_94:
(5, 48253), (9, 48214), (Start: 19 @48124 has 83 MA's), (31, 48025),

Gene: Netyap_119 Start: 66379, Stop: 66239, Start Num: 19
Candidate Starts for Netyap_119:
(Start: 19 @66379 has 83 MA's), (Start: 21 @66364 has 5 MA's), (36, 66253),

Gene: Nicholasp3_121 Start: 65880, Stop: 65755, Start Num: 21
Candidate Starts for Nicholasp3_121:
(Start: 19 @65895 has 83 MA's), (Start: 21 @65880 has 5 MA's), (36, 65769),

Gene: PYPDinur_131 Start: 68116, Stop: 67976, Start Num: 19
Candidate Starts for PYPDinur_131:
(15, 68137), (16, 68122), (Start: 19 @68116 has 83 MA's), (Start: 21 @68101 has 5 MA's), (23, 68071), (33, 68011), (36, 67990),

Gene: PetterN_86 Start: 46848, Stop: 46699, Start Num: 17
Candidate Starts for PetterN_86:
(Start: 17 @46848 has 13 MA's), (23, 46797), (36, 46713),

Gene: Phillis_90 Start: 47137, Stop: 46997, Start Num: 19
Candidate Starts for Phillis_90:
(9, 47227), (Start: 19 @47137 has 83 MA's), (24, 47089), (27, 47062),

Gene: Phlorence_78 Start: 46297, Stop: 46157, Start Num: 19
Candidate Starts for Phlorence_78:
(14, 46339), (Start: 19 @46297 has 83 MA's), (Start: 21 @46282 has 5 MA's), (35, 46177),

Gene: PickleBack_81 Start: 46751, Stop: 46611, Start Num: 19
Candidate Starts for PickleBack_81:
(Start: 19 @46751 has 83 MA's), (Start: 21 @46736 has 5 MA's), (35, 46631),

Gene: Poochiewood_112 Start: 64858, Stop: 64718, Start Num: 19
Candidate Starts for Poochiewood_112:
(Start: 19 @64858 has 83 MA's), (Start: 21 @64843 has 5 MA's), (23, 64813), (36, 64732),

Gene: Prinashe11_80 Start: 46763, Stop: 46623, Start Num: 19
Candidate Starts for Prinashe11_80:
(Start: 19 @46763 has 83 MA's), (Start: 21 @46748 has 5 MA's), (35, 46643),

Gene: Quby_130 Start: 67381, Stop: 67241, Start Num: 19
Candidate Starts for Quby_130:
(Start: 19 @67381 has 83 MA's), (Start: 21 @67366 has 5 MA's), (23, 67336), (30, 67285), (33, 67276), (36, 67255),

Gene: Red305_119 Start: 65998, Stop: 65858, Start Num: 19
Candidate Starts for Red305_119:
(Start: 19 @65998 has 83 MA's), (Start: 21 @65983 has 5 MA's), (23, 65953), (33, 65893), (34, 65881), (36, 65872),

Gene: Roary_95 Start: 48261, Stop: 48121, Start Num: 19
Candidate Starts for Roary_95:
(5, 48390), (7, 48366), (9, 48351), (Start: 19 @48261 has 83 MA's),

Gene: Rossetti_120 Start: 65842, Stop: 65702, Start Num: 19
Candidate Starts for Rossetti_120:
(Start: 19 @65842 has 83 MA's), (Start: 21 @65827 has 5 MA's), (36, 65716),

Gene: Saintus_88 Start: 44989, Stop: 44849, Start Num: 19
Candidate Starts for Saintus_88:
(5, 45118), (9, 45079), (Start: 19 @44989 has 83 MA's), (31, 44890),

Gene: Sarshaun_122 Start: 67162, Stop: 67022, Start Num: 19
Candidate Starts for Sarshaun_122:
(Start: 19 @67162 has 83 MA's), (Start: 21 @67147 has 5 MA's), (36, 67036),

Gene: Scorpia_80 Start: 46419, Stop: 46270, Start Num: 17
Candidate Starts for Scorpia_80:
(Start: 17 @46419 has 13 MA's), (23, 46368), (36, 46284),

Gene: SheaKeira_87 Start: 48886, Stop: 48743, Start Num: 18
Candidate Starts for SheaKeira_87:
(10, 48964), (Start: 18 @48886 has 2 MA's), (20, 48874), (Start: 21 @48868 has 5 MA's), (25, 48826), (28, 48802), (32, 48781), (33, 48778), (36, 48757),

Gene: Sheng711_132 Start: 67571, Stop: 67431, Start Num: 19
Candidate Starts for Sheng711_132:
(15, 67592), (16, 67577), (Start: 19 @67571 has 83 MA's), (Start: 21 @67556 has 5 MA's), (23, 67526), (30, 67475), (33, 67466), (36, 67445),

Gene: Smeadley_93 Start: 48128, Stop: 47988, Start Num: 19
Candidate Starts for Smeadley_93:
(5, 48257), (9, 48218), (Start: 19 @48128 has 83 MA's), (31, 48029),

Gene: Snenia_117 Start: 65999, Stop: 65859, Start Num: 19
Candidate Starts for Snenia_117:
(Start: 19 @65999 has 83 MA's), (Start: 21 @65984 has 5 MA's), (23, 65954), (33, 65894), (34, 65882), (36, 65873),

Gene: SoJulia_123 Start: 67891, Stop: 67766, Start Num: 21
Candidate Starts for SoJulia_123:
(Start: 19 @67906 has 83 MA's), (Start: 21 @67891 has 5 MA's), (36, 67780),

Gene: Soap141_121 Start: 67162, Stop: 67022, Start Num: 19
Candidate Starts for Soap141_121:
(Start: 19 @67162 has 83 MA's), (Start: 21 @67147 has 5 MA's), (36, 67036),

Gene: Stephig9_94 Start: 48479, Stop: 48339, Start Num: 19

Candidate Starts for Stephig9_94:
(5, 48608), (9, 48569), (Start: 19 @48479 has 83 MA's), (31, 48380),

Gene: Sunhee_92 Start: 48062, Stop: 47922, Start Num: 19
Candidate Starts for Sunhee_92:
(10, 48143), (Start: 19 @48062 has 83 MA's), (20, 48053), (Start: 21 @48047 has 5 MA's), (24, 48014), (35, 47942),

Gene: Swirley_80 Start: 46798, Stop: 46658, Start Num: 17
Candidate Starts for Swirley_80:
(Start: 17 @46798 has 13 MA's), (20, 46789), (22, 46774), (23, 46753), (24, 46750), (35, 46678),

Gene: SydNat_79 Start: 46919, Stop: 46779, Start Num: 19
Candidate Starts for SydNat_79:
(1, 47081), (8, 47015), (9, 47009), (11, 46991), (Start: 19 @46919 has 83 MA's), (Start: 21 @46904 has 5 MA's), (35, 46799),

Gene: Tarynearal_80 Start: 46707, Stop: 46567, Start Num: 19
Candidate Starts for Tarynearal_80:
(Start: 19 @46707 has 83 MA's), (Start: 21 @46692 has 5 MA's), (35, 46587),

Gene: Theia_80 Start: 47129, Stop: 46989, Start Num: 17
Candidate Starts for Theia_80:
(Start: 17 @47129 has 13 MA's), (20, 47120), (22, 47105), (23, 47084), (24, 47081), (35, 47009),

Gene: Tiger_78 Start: 46218, Stop: 46078, Start Num: 19
Candidate Starts for Tiger_78:
(14, 46260), (Start: 19 @46218 has 83 MA's), (Start: 21 @46203 has 5 MA's), (35, 46098),

Gene: Tourach_122 Start: 67517, Stop: 67377, Start Num: 19
Candidate Starts for Tourach_122:
(Start: 19 @67517 has 83 MA's), (Start: 21 @67502 has 5 MA's), (23, 67472), (30, 67421), (33, 67412), (36, 67391),

Gene: TriFive_119 Start: 66111, Stop: 65971, Start Num: 19
Candidate Starts for TriFive_119:
(Start: 19 @66111 has 83 MA's), (Start: 21 @66096 has 5 MA's), (23, 66066), (33, 66006), (34, 65994), (36, 65985),

Gene: Twigg_80 Start: 46673, Stop: 46533, Start Num: 19
Candidate Starts for Twigg_80:
(Start: 19 @46673 has 83 MA's), (Start: 21 @46658 has 5 MA's), (35, 46553),

Gene: Underpass_113 Start: 60916, Stop: 60791, Start Num: 21
Candidate Starts for Underpass_113:
(Start: 21 @60916 has 5 MA's), (36, 60805),

Gene: UnionJack_82 Start: 46252, Stop: 46103, Start Num: 17
Candidate Starts for UnionJack_82:
(Start: 17 @46252 has 13 MA's), (23, 46201), (36, 46117),

Gene: Vetrix_120 Start: 66805, Stop: 66665, Start Num: 19
Candidate Starts for Vetrix_120:

(Start: 19 @66805 has 83 MA's), (Start: 21 @66790 has 5 MA's), (36, 66679),

Gene: Wamburgrxpress_114 Start: 64020, Stop: 63880, Start Num: 19
Candidate Starts for Wamburgrxpress_114:
(Start: 19 @64020 has 83 MA's), (Start: 21 @64005 has 5 MA's), (23, 63975), (36, 63894),

Gene: Wigglewiggle_121 Start: 66401, Stop: 66261, Start Num: 19
Candidate Starts for Wigglewiggle_121:
(Start: 19 @66401 has 83 MA's), (Start: 21 @66386 has 5 MA's), (36, 66275),

Gene: Wilder_121 Start: 66019, Stop: 65894, Start Num: 21
Candidate Starts for Wilder_121:
(Start: 19 @66034 has 83 MA's), (Start: 21 @66019 has 5 MA's), (36, 65908),

Gene: Winky_121 Start: 66666, Stop: 66526, Start Num: 19
Candidate Starts for Winky_121:
(Start: 19 @66666 has 83 MA's), (Start: 21 @66651 has 5 MA's), (36, 66540),

Gene: Zakai_123 Start: 66361, Stop: 66236, Start Num: 21
Candidate Starts for Zakai_123:
(Start: 19 @66376 has 83 MA's), (Start: 21 @66361 has 5 MA's), (36, 66250),

Gene: Zaria_117 Start: 64101, Stop: 63961, Start Num: 19
Candidate Starts for Zaria_117:
(Start: 19 @64101 has 83 MA's), (Start: 21 @64086 has 5 MA's), (23, 64056), (36, 63975),

Gene: ZhongYanYuan_118 Start: 65768, Stop: 65628, Start Num: 19
Candidate Starts for ZhongYanYuan_118:
(Start: 19 @65768 has 83 MA's), (Start: 21 @65753 has 5 MA's), (36, 65642),

Gene: Zolita_78 Start: 46902, Stop: 46762, Start Num: 19
Candidate Starts for Zolita_78:
(1, 47064), (8, 46998), (9, 46992), (11, 46974), (Start: 19 @46902 has 83 MA's), (Start: 21 @46887 has 5 MA's), (35, 46782),