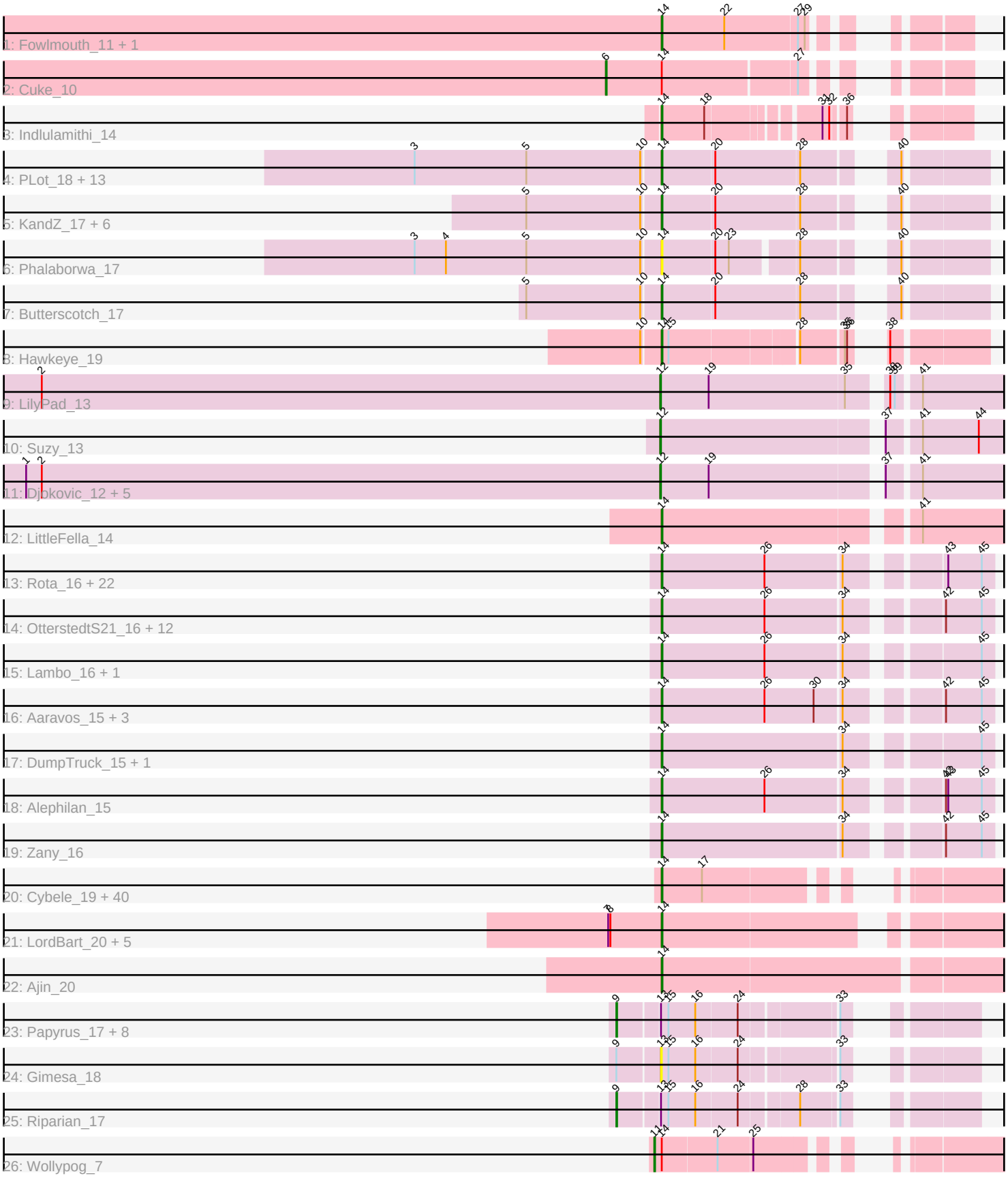
Pham 341883


1: Fowlmouth_11 + 1
2: Cuke_10
3: Indlulamithi_14
4: PLot_18 + 13
5: KandZ_17 + 6
6: Phalaborwa_17
7: Butterscotch_17
8: Hawkeye_19
9: LilyPad_13
10: Suzy_13
11: Djokovic_12 + 5
12: LittleFella_14
13: Rota_16 + 22
14: OtterstedtS21_16 + 12
15: Lambo_16 + 1
16: Aaravos_15 + 3
17: DumpTruck_15 + 1
18: Alephilan_15
19: Zany_16
20: Cybele_19 + 40
21: LordBart_20 + 5
22: Ajin_20
23: Papyrus_17 + 8
24: Gimesa_18
25: Riparian_17
26: Wollypog_7

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 341883 Report

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

Pham number 341883 has 143 members, 12 are drafts.

Phages represented in each track:
• Track 1 : Fowlmouth_11, MrMiyagi_11
• Track 2 : Cuke_10
• Track 3 : Indlulamithi_14
• Track 4 : PLot_18, WaldoWhy_18, Helpful_18, Delton_17, BigMama_15, Prager_17, Chill_18, SuperheroCarly_17, Penelope2018_17, Troll4_17, Giuseppe_17, Erk16_17, Adjutor_18, PBI1_18
• Track 5 : KandZ_17, Gumball_16, SirHarley_16, Thoth_17, Nova_17, Visconti_17, Mopey_17
• Track 6 : Phalaborwa_17
• Track 7 : Butterscotch_17
• Track 8 : Hawkeye_19
• Track 9 : LilyPad_13
• Track 10 : Suzy_13
• Track 11 : Djokovic_12, Madi_12, Terapin_12, BiteSize_12, Sienna_12, Beyoncage_12
• Track 12 : LittleFella_14
• Track 13 : Rota_16, Rumi_15, Fulcrum_17, Charminar_15, Astralis_15, Alyssamiracle_15, Stormer_15, Genamy16_15, Sampudon_17, Patos_17, DoobyDoo_15, Riduram_15, Avian_15, MoiGyank_18, LavAbarElk_15, Jalebi_17, BirthdayBoy_17, NovaSharks_15, Jamemuya19_15, GOATification_17, RazorC_15, Mima20_16, NorManre_17
• Track 14 : OtterstedtS21_16, Gibbin_17, Lila22_17, Erutan_16, ParvusTarda_16, Ranch_16, DaviePasture_16, GretelLyn_16, Nettle_16, Sadboi_16, Pywacket_16, Yikes_17, Rukungu_17
• Track 15 : Lambo_16, Wojtek_15
• Track 16 : Aaravos_15, LuckyLeo_16, Apeppi_15, Tillicus_17
• Track 17 : DumpTruck_15, Xenia2_16
• Track 18 : Alephilan_15
• Track 19 : Zany_16
• Track 20 : Cybele_19, NarutoRun_19, MortySmith_17, JDawG_18, Erudite_18, CoolCookie_19, Kate_19, Tedro_19, Neptune_19, Snakehole_20, SafetyGuy_19, Anakin_19, OhDear_19, Rachella_19, Dauntless_18, Chivey_18, Aesir_18, PhunaPhoke_19, FreddieHg_18, DannyDe_18, Hiddenleaf_18, Potty_19, Annapurna_18, WinnieLou_20, Rie18_19, Karate_18, Artiphact_19, Pharpay_19, Gilda_19, SilentWarrior_18, Tiggy93_19, Hager_20, Crestdrop_18, Haunter_19, Tongui_18, JingleBells_18, AnnaSerena_19, Krampus_19, Poultress_18, OverHedge_19, FountainFog_18

• Track 21 : LordBart_20, RikSengupta_20, Kors_20, Bramble_20, TinyMiny_20, Sparcetus_20
• Track 22 : Ajin_20
• Track 23 : Papyrus_17, MontyDev_17, Nilo_18, Candle_17, Weiss13_17, Zenon_18, Yelo_17, Send513_17, Rope_17
• Track 24 : Gimesa_18
• Track 25 : Riparian_17
• Track 26 : Wollypog_7

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

The start number called the most often in the published annotations is 14, it was called in 111 of the 131 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aaravos_15, Adjutor_18, Aesir_18, Ajin_20, Alephilan_15, Alyssamiracle_15, Anakin_19, AnnaSerena_19, Annapurna_18, Apeppi_15, Artiphact_19, Astralis_15, Avian_15, BigMama_15, BirthdayBoy_17, Bramble_20, Butterscotch_17, Charminar_15, Chill_18, Chivey_18, CoolCookie_19, Crestdrop_18, Cybele_19, DannyDe_18, Dauntless_18, DaviePasture_16, Delton_17, DoobyDoo_15, DumpTruck_15, Erk16_17, Erudite_18, Erutan_16, FountainFog_18, Fowlmouth_11, FreddieHg_18, Fulcrum_17, GOATification_17, Genamy16_15, Gibbin_17, Gilda_19, Giuseppe_17, GretelLyn_16, Gumball_16, Hager_20, Haunter_19, Hawkeye_19, Helpful_18, Hiddenleaf_18, Indlulamithi_14, JDawG_18, Jalebi_17, Jamemuya19_15, JingleBells_18, KandZ_17, Karate_18, Kate_19, Kors_20, Krampus_19, Lambo_16, LavAbarElk_15, Lila22_17, LittleFella_14, LordBart_20, LuckyLeo_16, Mima20_16, MoiGyank_18, Mopey_17, MortySmith_17, MrMiyagi_11, NarutoRun_19, Neptune_19, Nettle_16, NorManre_17, NovaSharks_15, Nova_17, OhDear_19, OtterstedtS21_16, OverHedge_19, PBI1_18, PLot_18, ParvusTarda_16, Patos_17, Penelope2018_17, Phalaborwa_17, Pharpay_19, PhunaPhoke_19, Potty_19, Poultress_18, Prager_17, Pywacket_16, Rachella_19, Ranch_16, RazorC_15, Riduram_15, Rie18_19, RikSengupta_20, Rota_16, Rukungu_17, Rumi_15, Sadboi_16, SafetyGuy_19, Sampudon_17, SilentWarrior_18, SirHarley_16, Snakehole_20, Sparcetus_20, Stormer_15, SuperheroCarly_17, Tedro_19, Thoth_17, Tiggy93_19, Tillicus_17, TinyMiny_20, Tongui_18, Troll4_17, Visconti_17, WaldoWhy_18, WinnieLou_20, Wojtek_15, Xenia2_16, Yikes_17, Zany_16,

Genes that have the "Most Annotated" start but do not call it:
• Cuke_10, Wollypog_7,

Genes that do not have the "Most Annotated" start:
• Beyoncage_12, BiteSize_12, Candle_17, Djokovic_12, Gimesa_18, LilyPad_13, Madi_12, MontyDev_17, Nilo_18, Papyrus_17, Riparian_17, Rope_17, Send513_17, Sienna_12, Suzy_13, Terapin_12, Weiss13_17, Yelo_17, Zenon_18,

Summary by start number:

Start 6:
• Found in 1 of 143 (0.7%) of genes in pham
• Manual Annotations of this start: 1 of 131

• Called 100.0% of time when present
• Phage (with cluster) where this start called: Cuke_10 (AC),

Start 9:
• Found in 11 of 143 (7.7%) of genes in pham
• Manual Annotations of this start: 10 of 131
• Called 90.9% of time when present
• Phage (with cluster) where this start called: Candle_17 (R), MontyDev_17 (R), Nilo_18 (R), Papyrus_17 (R), Riparian_17 (R), Rope_17 (R), Send513_17 (R), Weiss13_17 (R), Yelo_17 (R), Zenon_18 (R),

Start 11:
• Found in 1 of 143 (0.7%) of genes in pham
• Manual Annotations of this start: 1 of 131
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Wollypog_7 (singleton),

Start 12:
• Found in 8 of 143 (5.6%) of genes in pham
• Manual Annotations of this start: 8 of 131
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Beyoncage_12 (DG1), BiteSize_12 (DG1), Djokovic_12 (DG1), LilyPad_13 (DG1), Madi_12 (DG1), Sienna_12 (DG1), Suzy_13 (DG1), Terapin_12 (DG1),

Start 13:
• Found in 11 of 143 (7.7%) of genes in pham
• No Manual Annotations of this start.
• Called 9.1% of time when present
• Phage (with cluster) where this start called: Gimesa_18 (R),

Start 14:
• Found in 124 of 143 (86.7%) of genes in pham
• Manual Annotations of this start: 111 of 131
• Called 98.4% of time when present
• Phage (with cluster) where this start called: Aaravos_15 (DV), Adjutor_18 (D1), Aesir_18 (EF), Ajin_20 (EF), Alephilan_15 (DV), Alyssamiracle_15 (DV), Anakin_19 (EF), AnnaSerena_19 (EF), Annapurna_18 (EF), Apeppi_15 (DV), Artiphact_19 (EF), Astralis_15 (DV), Avian_15 (DV), BigMama_15 (D1), BirthdayBoy_17 (DV), Bramble_20 (EF), Butterscotch_17 (D1), Charminar_15 (DV), Chill_18 (D1), Chivey_18 (EF), CoolCookie_19 (EF), Crestdrop_18 (EF), Cybele_19 (EF), DannyDe_18 (EF), Dauntless_18 (EF), DaviePasture_16 (DV), Delton_17 (D1), DoobyDoo_15 (DV), DumpTruck_15 (DV), Erk16_17 (D1), Erudite_18 (EF), Erutan_16 (DV), FountainFog_18 (EF), Fowlmouth_11 (AC), FreddieHg_18 (EF), Fulcrum_17 (DV), GOATification_17 (DV), Genamy16_15 (DV), Gibbin_17 (DV), Gilda_19 (EF), Giuseppe_17 (D1), GretelLyn_16 (DV), Gumball_16 (D1), Hager_20 (EF), Haunter_19 (EF), Hawkeye_19 (D2), Helpful_18 (D1), Hiddenleaf_18 (EF), Indlulamithi_14 (AC), JDawG_18 (EF), Jalebi_17 (DV), Jamemuya19_15 (DV), JingleBells_18 (EF), KandZ_17 (D1), Karate_18 (EF), Kate_19 (EF), Kors_20 (EF), Krampus_19 (EF), Lambo_16 (DV), LavAbarElk_15 (DV), Lila22_17 (DV), LittleFella_14 (DG2), LordBart_20 (EF), LuckyLeo_16 (DV), Mima20_16 (DV), MoiGyank_18 (DV), Mopey_17 (D1), MortySmith_17 (EF), MrMiyagi_11 (AC), NarutoRun_19 (EF), Neptune_19 (EF), Nettle_16 (DV), NorManre_17 (DV),

NovaSharks_15 (DV), Nova_17 (D1), OhDear_19 (EF), OtterstedtS21_16 (DV), OverHedge_19 (EF), PBI1_18 (D1), PLot_18 (D1), ParvusTarda_16 (DV), Patos_17 (DV), Penelope2018_17 (D1), Phalaborwa_17 (D1), Pharpay_19 (EF), PhunaPhoke_19 (EF), Potty_19 (EF), Poultress_18 (EF), Prager_17 (D1), Pywacket_16 (DV), Rachella_19 (EF), Ranch_16 (DV), RazorC_15 (DV), Riduram_15 (DV), Rie18_19 (EF), RikSengupta_20 (EF), Rota_16 (DV), Rukungu_17 (DV), Rumi_15 (DV), Sadboi_16 (DV), SafetyGuy_19 (EF), Sampudon_17 (DV), SilentWarrior_18 (EF), SirHarley_16 (D1), Snakehole_20 (EF), Sparcetus_20 (EF), Stormer_15 (DV), SuperheroCarly_17 (D1), Tedro_19 (EF), Thoth_17 (D1), Tiggy93_19 (EF), Tillicus_17 (DV), TinyMiny_20 (EF), Tongui_18 (EF), Troll4_17 (D1), Visconti_17 (D1), WaldoWhy_18 (D1), WinnieLou_20 (EF), Wojtek_15 (DV), Xenia2_16 (DV), Yikes_17 (DV), Zany_16 (DV),

Summary by clusters:

There are 9 clusters represented in this pham: AC, EF, singleton, DG2, R, DV, DG1, D2, D1,

Info for manual annotations of cluster AC:
•Start number 6 was manually annotated 1 time for cluster AC.
•Start number 14 was manually annotated 3 times for cluster AC.

Info for manual annotations of cluster D1:
•Start number 14 was manually annotated 22 times for cluster D1.

Info for manual annotations of cluster D2:
•Start number 14 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DG1:
•Start number 12 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:
•Start number 14 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:
•Start number 14 was manually annotated 40 times for cluster DV.

Info for manual annotations of cluster EF:
•Start number 14 was manually annotated 44 times for cluster EF.

Info for manual annotations of cluster R:
•Start number 9 was manually annotated 10 times for cluster R.

Gene Information:

Gene: Aaravos_15 Start: 12482, Stop: 12883, Start Num: 14
Candidate Starts for Aaravos_15:
(Start: 14 @12482 has 111 MA's), (26, 12620), (30, 12686), (34, 12719), (42, 12821), (45, 12869),

Gene: Adjutor_18 Start: 12029, Stop: 12397, Start Num: 14
Candidate Starts for Adjutor_18:

(3, 11702), (5, 11852), (10, 12005), (Start: 14 @12029 has 111 MA's), (20, 12098), (28, 12209), (40, 12293),

Gene: Aesir_18 Start: 10669, Stop: 11052, Start Num: 14
Candidate Starts for Aesir_18:
(Start: 14 @10669 has 111 MA's), (17, 10723),

Gene: Ajin_20 Start: 10733, Stop: 11206, Start Num: 14
Candidate Starts for Ajin_20:
(Start: 14 @10733 has 111 MA's),

Gene: Alephilan_15 Start: 12410, Stop: 12811, Start Num: 14
Candidate Starts for Alephilan_15:
(Start: 14 @12410 has 111 MA's), (26, 12548), (34, 12647), (42, 12749), (43, 12752), (45, 12797),

Gene: Alyssamiracle_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for Alyssamiracle_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: Anakin_19 Start: 10879, Stop: 11262, Start Num: 14
Candidate Starts for Anakin_19:
(Start: 14 @10879 has 111 MA's), (17, 10933),

Gene: AnnaSerena_19 Start: 10885, Stop: 11271, Start Num: 14
Candidate Starts for AnnaSerena_19:
(Start: 14 @10885 has 111 MA's), (17, 10939),

Gene: Annapurna_18 Start: 10088, Stop: 10471, Start Num: 14
Candidate Starts for Annapurna_18:
(Start: 14 @10088 has 111 MA's), (17, 10142),

Gene: Apeppi_15 Start: 12532, Stop: 12933, Start Num: 14
Candidate Starts for Apeppi_15:
(Start: 14 @12532 has 111 MA's), (26, 12670), (30, 12736), (34, 12769), (42, 12871), (45, 12919),

Gene: Artiphact_19 Start: 10877, Stop: 11263, Start Num: 14
Candidate Starts for Artiphact_19:
(Start: 14 @10877 has 111 MA's), (17, 10931),

Gene: Astralis_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for Astralis_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: Avian_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for Avian_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: Beyoncage_12 Start: 8251, Stop: 8748, Start Num: 12
Candidate Starts for Beyoncage_12:
(1, 7399), (2, 7420), (Start: 12 @8251 has 8 MA's), (19, 8314), (37, 8527), (41, 8566),

Gene: BigMama_15 Start: 12102, Stop: 12473, Start Num: 14
Candidate Starts for BigMama_15:

(3, 11775), (5, 11925), (10, 12078), (Start: 14 @12102 has 111 MA's), (20, 12171), (28, 12285), (40, 12369),

Gene: BirthdayBoy_17 Start: 13263, Stop: 13664, Start Num: 14
Candidate Starts for BirthdayBoy_17:
(Start: 14 @13263 has 111 MA's), (26, 13401), (34, 13500), (43, 13605), (45, 13650),

Gene: BiteSize_12 Start: 8251, Stop: 8748, Start Num: 12
Candidate Starts for BiteSize_12:
(1, 7399), (2, 7420), (Start: 12 @8251 has 8 MA's), (19, 8314), (37, 8527), (41, 8566),

Gene: Bramble_20 Start: 10701, Stop: 11171, Start Num: 14
Candidate Starts for Bramble_20:
(7, 10629), (8, 10632), (Start: 14 @10701 has 111 MA's),

Gene: Butterscotch_17 Start: 12089, Stop: 12457, Start Num: 14
Candidate Starts for Butterscotch_17:
(5, 11912), (10, 12065), (Start: 14 @12089 has 111 MA's), (20, 12158), (28, 12269), (40, 12353),

Gene: Candle_17 Start: 12422, Stop: 12811, Start Num: 9
Candidate Starts for Candle_17:
(Start: 9 @12422 has 10 MA's), (13, 12473), (15, 12482), (16, 12518), (24, 12572), (33, 12689),

Gene: Charminar_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for Charminar_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: Chill_18 Start: 12092, Stop: 12463, Start Num: 14
Candidate Starts for Chill_18:
(3, 11765), (5, 11915), (10, 12068), (Start: 14 @12092 has 111 MA's), (20, 12161), (28, 12275), (40, 12359),

Gene: Chivey_18 Start: 10082, Stop: 10465, Start Num: 14
Candidate Starts for Chivey_18:
(Start: 14 @10082 has 111 MA's), (17, 10136),

Gene: CoolCookie_19 Start: 10883, Stop: 11269, Start Num: 14
Candidate Starts for CoolCookie_19:
(Start: 14 @10883 has 111 MA's), (17, 10937),

Gene: Crestdrop_18 Start: 9955, Stop: 10338, Start Num: 14
Candidate Starts for Crestdrop_18:
(Start: 14 @9955 has 111 MA's), (17, 10009),

Gene: Cuke_10 Start: 7596, Stop: 7985, Start Num: 6
Candidate Starts for Cuke_10:
(Start: 6 @7596 has 1 MA's), (Start: 14 @7671 has 111 MA's), (27, 7845),

Gene: Cybele_19 Start: 10853, Stop: 11239, Start Num: 14
Candidate Starts for Cybele_19:
(Start: 14 @10853 has 111 MA's), (17, 10907),

Gene: DannyDe_18 Start: 10073, Stop: 10456, Start Num: 14

Candidate Starts for DannyDe_18:
(Start: 14 @10073 has 111 MA's), (17, 10127),

Gene: Dauntless_18 Start: 10598, Stop: 10981, Start Num: 14
Candidate Starts for Dauntless_18:
(Start: 14 @10598 has 111 MA's), (17, 10652),

Gene: DaviePasture_16 Start: 13020, Stop: 13421, Start Num: 14
Candidate Starts for DaviePasture_16:
(Start: 14 @13020 has 111 MA's), (26, 13158), (34, 13257), (42, 13359), (45, 13407),

Gene: Delton_17 Start: 12098, Stop: 12469, Start Num: 14
Candidate Starts for Delton_17:
(3, 11771), (5, 11921), (10, 12074), (Start: 14 @12098 has 111 MA's), (20, 12167), (28, 12281), (40, 12365),

Gene: Djokovic_12 Start: 8251, Stop: 8748, Start Num: 12
Candidate Starts for Djokovic_12:
(1, 7399), (2, 7420), (Start: 12 @8251 has 8 MA's), (19, 8314), (37, 8527), (41, 8566),

Gene: DoobyDoo_15 Start: 12197, Stop: 12598, Start Num: 14
Candidate Starts for DoobyDoo_15:
(Start: 14 @12197 has 111 MA's), (26, 12335), (34, 12434), (43, 12539), (45, 12584),

Gene: DumpTruck_15 Start: 12451, Stop: 12852, Start Num: 14
Candidate Starts for DumpTruck_15:
(Start: 14 @12451 has 111 MA's), (34, 12688), (45, 12838),

Gene: Erk16_17 Start: 12092, Stop: 12460, Start Num: 14
Candidate Starts for Erk16_17:
(3, 11765), (5, 11915), (10, 12068), (Start: 14 @12092 has 111 MA's), (20, 12161), (28, 12272), (40, 12356),

Gene: Erudite_18 Start: 10598, Stop: 10981, Start Num: 14
Candidate Starts for Erudite_18:
(Start: 14 @10598 has 111 MA's), (17, 10652),

Gene: Erutan_16 Start: 12710, Stop: 13111, Start Num: 14
Candidate Starts for Erutan_16:
(Start: 14 @12710 has 111 MA's), (26, 12848), (34, 12947), (42, 13049), (45, 13097),

Gene: FountainFog_18 Start: 10213, Stop: 10590, Start Num: 14
Candidate Starts for FountainFog_18:
(Start: 14 @10213 has 111 MA's), (17, 10267),

Gene: Fowlmouth_11 Start: 7833, Stop: 8153, Start Num: 14
Candidate Starts for Fowlmouth_11:
(Start: 14 @7833 has 111 MA's), (22, 7917), (27, 8013), (29, 8022),

Gene: FreddieHg_18 Start: 10098, Stop: 10481, Start Num: 14
Candidate Starts for FreddieHg_18:
(Start: 14 @10098 has 111 MA's), (17, 10152),

Gene: Fulcrum_17 Start: 13243, Stop: 13644, Start Num: 14
Candidate Starts for Fulcrum_17:
(Start: 14 @13243 has 111 MA's), (26, 13381), (34, 13480), (43, 13585), (45, 13630),

Gene: GOATification_17 Start: 13243, Stop: 13644, Start Num: 14
Candidate Starts for GOATification_17:
(Start: 14 @13243 has 111 MA's), (26, 13381), (34, 13480), (43, 13585), (45, 13630),

Gene: Genamy16_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for Genamy16_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: Gibbin_17 Start: 13303, Stop: 13704, Start Num: 14
Candidate Starts for Gibbin_17:
(Start: 14 @13303 has 111 MA's), (26, 13441), (34, 13540), (42, 13642), (45, 13690),

Gene: Gilda_19 Start: 10877, Stop: 11263, Start Num: 14
Candidate Starts for Gilda_19:
(Start: 14 @10877 has 111 MA's), (17, 10931),

Gene: Gimesa_18 Start: 12283, Stop: 12621, Start Num: 13
Candidate Starts for Gimesa_18:
(Start: 9 @12232 has 10 MA's), (13, 12283), (15, 12292), (16, 12328), (24, 12382), (33, 12499),

Gene: Giuseppe_17 Start: 12081, Stop: 12449, Start Num: 14
Candidate Starts for Giuseppe_17:
(3, 11754), (5, 11904), (10, 12057), (Start: 14 @12081 has 111 MA's), (20, 12150), (28, 12261), (40, 12345),

Gene: GretelLyn_16 Start: 13577, Stop: 13978, Start Num: 14
Candidate Starts for GretelLyn_16:
(Start: 14 @13577 has 111 MA's), (26, 13715), (34, 13814), (42, 13916), (45, 13964),

Gene: Gumball_16 Start: 12039, Stop: 12407, Start Num: 14
Candidate Starts for Gumball_16:
(5, 11862), (10, 12015), (Start: 14 @12039 has 111 MA's), (20, 12108), (28, 12219), (40, 12303),

Gene: Hager_20 Start: 10452, Stop: 10835, Start Num: 14
Candidate Starts for Hager_20:
(Start: 14 @10452 has 111 MA's), (17, 10506),

Gene: Haunter_19 Start: 10293, Stop: 10676, Start Num: 14
Candidate Starts for Haunter_19:
(Start: 14 @10293 has 111 MA's), (17, 10347),

Gene: Hawkeye_19 Start: 11988, Stop: 12344, Start Num: 14
Candidate Starts for Hawkeye_19:
(10, 11964), (Start: 14 @11988 has 111 MA's), (15, 11997), (28, 12156), (35, 12210), (36, 12213), (38, 12225),

Gene: Helpful_18 Start: 12089, Stop: 12457, Start Num: 14
Candidate Starts for Helpful_18:

(3, 11762), (5, 11912), (10, 12065), (Start: 14 @12089 has 111 MA's), (20, 12158), (28, 12269), (40, 12353),

Gene: Hiddenleaf_18 Start: 10082, Stop: 10465, Start Num: 14
Candidate Starts for Hiddenleaf_18:
(Start: 14 @10082 has 111 MA's), (17, 10136),

Gene: Indlulamithi_14 Start: 9919, Stop: 10230, Start Num: 14
Candidate Starts for Indlulamithi_14:
(Start: 14 @9919 has 111 MA's), (18, 9976), (31, 10105), (32, 10114), (36, 10129),

Gene: JDawG_18 Start: 10663, Stop: 11046, Start Num: 14
Candidate Starts for JDawG_18:
(Start: 14 @10663 has 111 MA's), (17, 10717),

Gene: Jalebi_17 Start: 13753, Stop: 14154, Start Num: 14
Candidate Starts for Jalebi_17:
(Start: 14 @13753 has 111 MA's), (26, 13891), (34, 13990), (43, 14095), (45, 14140),

Gene: Jamemuya19_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for Jamemuya19_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: JingleBells_18 Start: 10159, Stop: 10545, Start Num: 14
Candidate Starts for JingleBells_18:
(Start: 14 @10159 has 111 MA's), (17, 10213),

Gene: KandZ_17 Start: 12189, Stop: 12557, Start Num: 14
Candidate Starts for KandZ_17:
(5, 12012), (10, 12165), (Start: 14 @12189 has 111 MA's), (20, 12258), (28, 12369), (40, 12453),

Gene: Karate_18 Start: 10301, Stop: 10684, Start Num: 14
Candidate Starts for Karate_18:
(Start: 14 @10301 has 111 MA's), (17, 10355),

Gene: Kate_19 Start: 10885, Stop: 11271, Start Num: 14
Candidate Starts for Kate_19:
(Start: 14 @10885 has 111 MA's), (17, 10939),

Gene: Kors_20 Start: 10764, Stop: 11252, Start Num: 14
Candidate Starts for Kors_20:
(7, 10692), (8, 10695), (Start: 14 @10764 has 111 MA's),

Gene: Krampus_19 Start: 10883, Stop: 11269, Start Num: 14
Candidate Starts for Krampus_19:
(Start: 14 @10883 has 111 MA's), (17, 10937),

Gene: Lambo_16 Start: 13247, Stop: 13648, Start Num: 14
Candidate Starts for Lambo_16:
(Start: 14 @13247 has 111 MA's), (26, 13385), (34, 13484), (45, 13634),

Gene: LavAbarElk_15 Start: 11680, Stop: 12081, Start Num: 14
Candidate Starts for LavAbarElk_15:

(Start: 14 @11680 has 111 MA's), (26, 11818), (34, 11917), (43, 12022), (45, 12067),

Gene: Lila22_17 Start: 13201, Stop: 13602, Start Num: 14
Candidate Starts for Lila22_17:
(Start: 14 @13201 has 111 MA's), (26, 13339), (34, 13438), (42, 13540), (45, 13588),

Gene: LilyPad_13 Start: 8994, Stop: 9467, Start Num: 12
Candidate Starts for LilyPad_13:
(2, 8163), (Start: 12 @8994 has 8 MA's), (19, 9057), (35, 9237), (38, 9276), (39, 9282), (41, 9309),

Gene: LittleFella_14 Start: 10852, Stop: 11364, Start Num: 14
Candidate Starts for LittleFella_14:
(Start: 14 @10852 has 111 MA's), (41, 11167),

Gene: LordBart_20 Start: 10737, Stop: 11168, Start Num: 14
Candidate Starts for LordBart_20:
(7, 10665), (8, 10668), (Start: 14 @10737 has 111 MA's),

Gene: LuckyLeo_16 Start: 12532, Stop: 12933, Start Num: 14
Candidate Starts for LuckyLeo_16:
(Start: 14 @12532 has 111 MA's), (26, 12670), (30, 12736), (34, 12769), (42, 12871), (45, 12919),

Gene: Madi_12 Start: 8251, Stop: 8748, Start Num: 12
Candidate Starts for Madi_12:
(1, 7399), (2, 7420), (Start: 12 @8251 has 8 MA's), (19, 8314), (37, 8527), (41, 8566),

Gene: Mima20_16 Start: 12930, Stop: 13331, Start Num: 14
Candidate Starts for Mima20_16:
(Start: 14 @12930 has 111 MA's), (26, 13068), (34, 13167), (43, 13272), (45, 13317),

Gene: MoiGyank_18 Start: 13614, Stop: 14015, Start Num: 14
Candidate Starts for MoiGyank_18:
(Start: 14 @13614 has 111 MA's), (26, 13752), (34, 13851), (43, 13956), (45, 14001),

Gene: MontyDev_17 Start: 12080, Stop: 12469, Start Num: 9
Candidate Starts for MontyDev_17:
(Start: 9 @12080 has 10 MA's), (13, 12131), (15, 12140), (16, 12176), (24, 12230), (33, 12347),

Gene: Mopey_17 Start: 12089, Stop: 12457, Start Num: 14
Candidate Starts for Mopey_17:
(5, 11912), (10, 12065), (Start: 14 @12089 has 111 MA's), (20, 12158), (28, 12269), (40, 12353),

Gene: MortySmith_17 Start: 10060, Stop: 10443, Start Num: 14
Candidate Starts for MortySmith_17:
(Start: 14 @10060 has 111 MA's), (17, 10114),

Gene: MrMiyagi_11 Start: 7833, Stop: 8153, Start Num: 14
Candidate Starts for MrMiyagi_11:
(Start: 14 @7833 has 111 MA's), (22, 7917), (27, 8013), (29, 8022),

Gene: NarutoRun_19 Start: 10879, Stop: 11262, Start Num: 14
Candidate Starts for NarutoRun_19:
(Start: 14 @10879 has 111 MA's), (17, 10933),

Gene: Neptune_19 Start: 10853, Stop: 11239, Start Num: 14
Candidate Starts for Neptune_19:
(Start: 14 @10853 has 111 MA's), (17, 10907),

Gene: Nettle_16 Start: 13477, Stop: 13878, Start Num: 14
Candidate Starts for Nettle_16:
(Start: 14 @13477 has 111 MA's), (26, 13615), (34, 13714), (42, 13816), (45, 13864),

Gene: Nilo_18 Start: 12419, Stop: 12808, Start Num: 9
Candidate Starts for Nilo_18:
(Start: 9 @12419 has 10 MA's), (13, 12470), (15, 12479), (16, 12515), (24, 12569), (33, 12686),

Gene: NorManre_17 Start: 12809, Stop: 13210, Start Num: 14
Candidate Starts for NorManre_17:
(Start: 14 @12809 has 111 MA's), (26, 12947), (34, 13046), (43, 13151), (45, 13196),

Gene: Nova_17 Start: 12516, Stop: 12884, Start Num: 14
Candidate Starts for Nova_17:
(5, 12339), (10, 12492), (Start: 14 @12516 has 111 MA's), (20, 12585), (28, 12696), (40, 12780),

Gene: NovaSharks_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for NovaSharks_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: OhDear_19 Start: 10882, Stop: 11268, Start Num: 14
Candidate Starts for OhDear_19:
(Start: 14 @10882 has 111 MA's), (17, 10936),

Gene: OtterstedtS21_16 Start: 12899, Stop: 13300, Start Num: 14
Candidate Starts for OtterstedtS21_16:
(Start: 14 @12899 has 111 MA's), (26, 13037), (34, 13136), (42, 13238), (45, 13286),

Gene: OverHedge_19 Start: 10850, Stop: 11236, Start Num: 14
Candidate Starts for OverHedge_19:
(Start: 14 @10850 has 111 MA's), (17, 10904),

Gene: PBI1_18 Start: 12020, Stop: 12388, Start Num: 14
Candidate Starts for PBI1_18:
(3, 11693), (5, 11843), (10, 11996), (Start: 14 @12020 has 111 MA's), (20, 12089), (28, 12200), (40, 12284),

Gene: PLot_18 Start: 12092, Stop: 12460, Start Num: 14
Candidate Starts for PLot_18:
(3, 11765), (5, 11915), (10, 12068), (Start: 14 @12092 has 111 MA's), (20, 12161), (28, 12272), (40, 12356),

Gene: Papyrus_17 Start: 12081, Stop: 12470, Start Num: 9
Candidate Starts for Papyrus_17:
(Start: 9 @12081 has 10 MA's), (13, 12132), (15, 12141), (16, 12177), (24, 12231), (33, 12348),

Gene: ParvusTarda_16 Start: 12381, Stop: 12782, Start Num: 14
Candidate Starts for ParvusTarda_16:

(Start: 14 @12381 has 111 MA's), (26, 12519), (34, 12618), (42, 12720), (45, 12768),

Gene: Patos_17 Start: 12809, Stop: 13210, Start Num: 14
Candidate Starts for Patos_17:
(Start: 14 @12809 has 111 MA's), (26, 12947), (34, 13046), (43, 13151), (45, 13196),

Gene: Penelope2018_17 Start: 12089, Stop: 12457, Start Num: 14
Candidate Starts for Penelope2018_17:
(3, 11762), (5, 11912), (10, 12065), (Start: 14 @12089 has 111 MA's), (20, 12158), (28, 12269), (40, 12353),

Gene: Phalaborwa_17 Start: 12134, Stop: 12490, Start Num: 14
Candidate Starts for Phalaborwa_17:
(3, 11807), (4, 11849), (5, 11957), (10, 12110), (Start: 14 @12134 has 111 MA's), (20, 12203), (23, 12221), (28, 12302), (40, 12386),

Gene: Pharpay_19 Start: 10898, Stop: 11284, Start Num: 14
Candidate Starts for Pharpay_19:
(Start: 14 @10898 has 111 MA's), (17, 10952),

Gene: PhunaPhoke_19 Start: 10871, Stop: 11257, Start Num: 14
Candidate Starts for PhunaPhoke_19:
(Start: 14 @10871 has 111 MA's), (17, 10925),

Gene: Potty_19 Start: 10876, Stop: 11262, Start Num: 14
Candidate Starts for Potty_19:
(Start: 14 @10876 has 111 MA's), (17, 10930),

Gene: Poultress_18 Start: 10652, Stop: 11035, Start Num: 14
Candidate Starts for Poultress_18:
(Start: 14 @10652 has 111 MA's), (17, 10706),

Gene: Prager_17 Start: 12098, Stop: 12469, Start Num: 14
Candidate Starts for Prager_17:
(3, 11771), (5, 11921), (10, 12074), (Start: 14 @12098 has 111 MA's), (20, 12167), (28, 12281), (40, 12365),

Gene: Pywacket_16 Start: 13738, Stop: 14139, Start Num: 14
Candidate Starts for Pywacket_16:
(Start: 14 @13738 has 111 MA's), (26, 13876), (34, 13975), (42, 14077), (45, 14125),

Gene: Rachella_19 Start: 10882, Stop: 11265, Start Num: 14
Candidate Starts for Rachella_19:
(Start: 14 @10882 has 111 MA's), (17, 10936),

Gene: Ranch_16 Start: 11747, Stop: 12148, Start Num: 14
Candidate Starts for Ranch_16:
(Start: 14 @11747 has 111 MA's), (26, 11885), (34, 11984), (42, 12086), (45, 12134),

Gene: RazorC_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for RazorC_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: Riduram_15 Start: 10787, Stop: 11188, Start Num: 14
Candidate Starts for Riduram_15:
(Start: 14 @10787 has 111 MA's), (26, 10925), (34, 11024), (43, 11129), (45, 11174),

Gene: Rie18_19 Start: 10236, Stop: 10616, Start Num: 14
Candidate Starts for Rie18_19:
(Start: 14 @10236 has 111 MA's), (17, 10290),

Gene: RikSengupta_20 Start: 10816, Stop: 11289, Start Num: 14
Candidate Starts for RikSengupta_20:
(7, 10744), (8, 10747), (Start: 14 @10816 has 111 MA's),

Gene: Riparian_17 Start: 11880, Stop: 12269, Start Num: 9
Candidate Starts for Riparian_17:
(Start: 9 @11880 has 10 MA's), (13, 11931), (15, 11940), (16, 11976), (24, 12030), (28, 12102), (33, 12147),

Gene: Rope_17 Start: 12072, Stop: 12461, Start Num: 9
Candidate Starts for Rope_17:
(Start: 9 @12072 has 10 MA's), (13, 12123), (15, 12132), (16, 12168), (24, 12222), (33, 12339),

Gene: Rota_16 Start: 12705, Stop: 13106, Start Num: 14
Candidate Starts for Rota_16:
(Start: 14 @12705 has 111 MA's), (26, 12843), (34, 12942), (43, 13047), (45, 13092),

Gene: Rukungu_17 Start: 13446, Stop: 13847, Start Num: 14
Candidate Starts for Rukungu_17:
(Start: 14 @13446 has 111 MA's), (26, 13584), (34, 13683), (42, 13785), (45, 13833),

Gene: Rumi_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for Rumi_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: Sadboi_16 Start: 13577, Stop: 13978, Start Num: 14
Candidate Starts for Sadboi_16:
(Start: 14 @13577 has 111 MA's), (26, 13715), (34, 13814), (42, 13916), (45, 13964),

Gene: SafetyGuy_19 Start: 10882, Stop: 11268, Start Num: 14
Candidate Starts for SafetyGuy_19:
(Start: 14 @10882 has 111 MA's), (17, 10936),

Gene: Sampudon_17 Start: 13753, Stop: 14154, Start Num: 14
Candidate Starts for Sampudon_17:
(Start: 14 @13753 has 111 MA's), (26, 13891), (34, 13990), (43, 14095), (45, 14140),

Gene: Send513_17 Start: 12422, Stop: 12811, Start Num: 9
Candidate Starts for Send513_17:
(Start: 9 @12422 has 10 MA's), (13, 12473), (15, 12482), (16, 12518), (24, 12572), (33, 12689),

Gene: Sienna_12 Start: 8251, Stop: 8748, Start Num: 12
Candidate Starts for Sienna_12:
(1, 7399), (2, 7420), (Start: 12 @8251 has 8 MA's), (19, 8314), (37, 8527), (41, 8566),

Gene: SilentWarrior_18 Start: 10089, Stop: 10472, Start Num: 14
Candidate Starts for SilentWarrior_18:
(Start: 14 @10089 has 111 MA's), (17, 10143),

Gene: SirHarley_16 Start: 12021, Stop: 12389, Start Num: 14
Candidate Starts for SirHarley_16:
(5, 11844), (10, 11997), (Start: 14 @12021 has 111 MA's), (20, 12090), (28, 12201), (40, 12285),

Gene: Snakehole_20 Start: 10178, Stop: 10561, Start Num: 14
Candidate Starts for Snakehole_20:
(Start: 14 @10178 has 111 MA's), (17, 10232),

Gene: Sparcetus_20 Start: 10695, Stop: 11168, Start Num: 14
Candidate Starts for Sparcetus_20:
(7, 10623), (8, 10626), (Start: 14 @10695 has 111 MA's),

Gene: Stormer_15 Start: 10817, Stop: 11218, Start Num: 14
Candidate Starts for Stormer_15:
(Start: 14 @10817 has 111 MA's), (26, 10955), (34, 11054), (43, 11159), (45, 11204),

Gene: SuperheroCarly_17 Start: 11951, Stop: 12319, Start Num: 14
Candidate Starts for SuperheroCarly_17:
(3, 11624), (5, 11774), (10, 11927), (Start: 14 @11951 has 111 MA's), (20, 12020), (28, 12131), (40, 12215),

Gene: Suzy_13 Start: 9494, Stop: 9976, Start Num: 12
Candidate Starts for Suzy_13:
(Start: 12 @9494 has 8 MA's), (37, 9770), (41, 9809), (44, 9884),

Gene: Tedro_19 Start: 10349, Stop: 10735, Start Num: 14
Candidate Starts for Tedro_19:
(Start: 14 @10349 has 111 MA's), (17, 10403),

Gene: Terapin_12 Start: 8251, Stop: 8748, Start Num: 12
Candidate Starts for Terapin_12:
(1, 7399), (2, 7420), (Start: 12 @8251 has 8 MA's), (19, 8314), (37, 8527), (41, 8566),

Gene: Thoth_17 Start: 12086, Stop: 12454, Start Num: 14
Candidate Starts for Thoth_17:
(5, 11909), (10, 12062), (Start: 14 @12086 has 111 MA's), (20, 12155), (28, 12266), (40, 12350),

Gene: Tiggy93_19 Start: 10882, Stop: 11268, Start Num: 14
Candidate Starts for Tiggy93_19:
(Start: 14 @10882 has 111 MA's), (17, 10936),

Gene: Tillicus_17 Start: 12127, Stop: 12528, Start Num: 14
Candidate Starts for Tillicus_17:
(Start: 14 @12127 has 111 MA's), (26, 12265), (30, 12331), (34, 12364), (42, 12466), (45, 12514),

Gene: TinyMiny_20 Start: 10714, Stop: 11187, Start Num: 14
Candidate Starts for TinyMiny_20:
(7, 10642), (8, 10645), (Start: 14 @10714 has 111 MA's),

Gene: Tongui_18 Start: 10225, Stop: 10608, Start Num: 14
Candidate Starts for Tongui_18:
(Start: 14 @10225 has 111 MA's), (17, 10279),

Gene: Troll4_17 Start: 12090, Stop: 12458, Start Num: 14
Candidate Starts for Troll4_17:
(3, 11763), (5, 11913), (10, 12066), (Start: 14 @12090 has 111 MA's), (20, 12159), (28, 12270), (40, 12354),

Gene: Visconti_17 Start: 12099, Stop: 12467, Start Num: 14
Candidate Starts for Visconti_17:
(5, 11922), (10, 12075), (Start: 14 @12099 has 111 MA's), (20, 12168), (28, 12279), (40, 12363),

Gene: WaldoWhy_18 Start: 12092, Stop: 12463, Start Num: 14
Candidate Starts for WaldoWhy_18:
(3, 11765), (5, 11915), (10, 12068), (Start: 14 @12092 has 111 MA's), (20, 12161), (28, 12275), (40, 12359),

Gene: Weiss13_17 Start: 12112, Stop: 12501, Start Num: 9
Candidate Starts for Weiss13_17:
(Start: 9 @12112 has 10 MA's), (13, 12163), (15, 12172), (16, 12208), (24, 12262), (33, 12379),

Gene: WinnieLou_20 Start: 10521, Stop: 10904, Start Num: 14
Candidate Starts for WinnieLou_20:
(Start: 14 @10521 has 111 MA's), (17, 10575),

Gene: Wojtek_15 Start: 12454, Stop: 12855, Start Num: 14
Candidate Starts for Wojtek_15:
(Start: 14 @12454 has 111 MA's), (26, 12592), (34, 12691), (45, 12841),

Gene: Wollypog_7 Start: 7470, Stop: 7859, Start Num: 11
Candidate Starts for Wollypog_7:
(Start: 11 @7470 has 1 MA's), (Start: 14 @7479 has 111 MA's), (21, 7551), (25, 7596),

Gene: Xenia2_16 Start: 12493, Stop: 12894, Start Num: 14
Candidate Starts for Xenia2_16:
(Start: 14 @12493 has 111 MA's), (34, 12730), (45, 12880),

Gene: Yelo_17 Start: 12422, Stop: 12811, Start Num: 9
Candidate Starts for Yelo_17:
(Start: 9 @12422 has 10 MA's), (13, 12473), (15, 12482), (16, 12518), (24, 12572), (33, 12689),

Gene: Yikes_17 Start: 13838, Stop: 14239, Start Num: 14
Candidate Starts for Yikes_17:
(Start: 14 @13838 has 111 MA's), (26, 13976), (34, 14075), (42, 14177), (45, 14225),

Gene: Zany_16 Start: 12967, Stop: 13368, Start Num: 14
Candidate Starts for Zany_16:
(Start: 14 @12967 has 111 MA's), (34, 13204), (42, 13306), (45, 13354),

Gene: Zenon_18 Start: 12424, Stop: 12813, Start Num: 9
Candidate Starts for Zenon_18:
(Start: 9 @12424 has 10 MA's), (13, 12475), (15, 12484), (16, 12520), (24, 12574), (33, 12691),