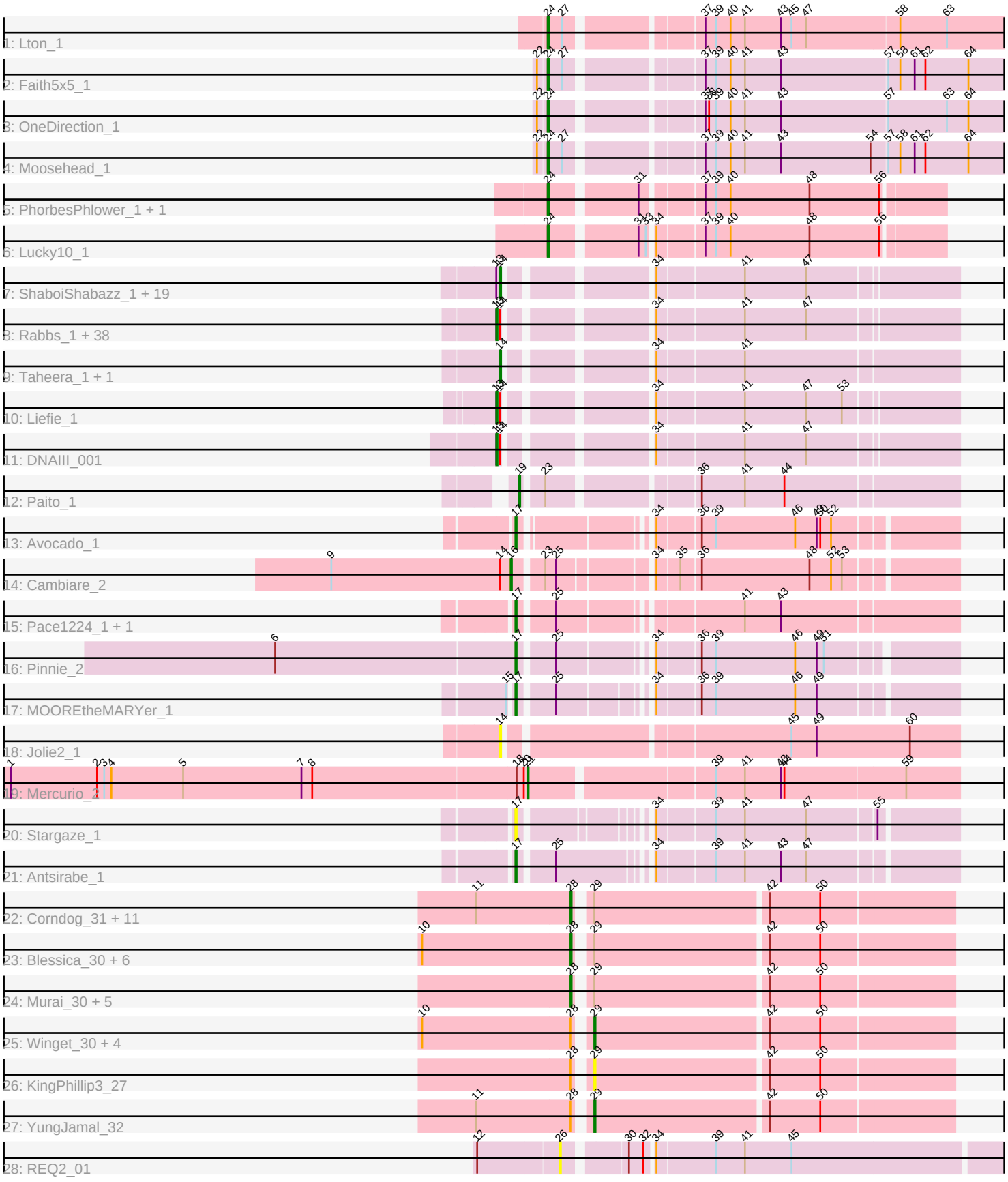
Pham 214118


1: Lton_1
2: Faith5x5_1
3: OneDirection_1
4: Moosehead_1
5: PhorbesPhlower_1 + 1
6: Lucky10_1
7: ShaboiShabazz_1 + 19
8: Rabbs_1 + 38
9: Taheera_1 + 1
10: Liefie_1
11: DNAIII_001
12: Paito_1
13: Avocado_1
14: Cambiare_2
15: Pace1224_1 + 1
16: Pinnie_2
17: MOOREtheMARYer_1
18: Jolie2_1
19: Mercurio_2
20: Stargaze_1
21: Antsirabe_1
22: Corndog_31 + 11
23: Blessica_30 + 6
24: Murai_30 + 5
25: Winget_30 + 4
26: KingPhillip3_27
27: YungJamal_32
28: REQ2_01

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 214118 Report

This analysis was run 02/22/25 on database version 588.

Pham number 214118 has 114 members, 12 are drafts.

Phages represented in each track:
• Track 1 : Lton_1
• Track 2 : Faith5x5_1
• Track 3 : OneDirection_1
• Track 4 : Moosehead_1
• Track 5 : PhorbesPhlower_1, Morkie_1
• Track 6 : Lucky10_1
• Track 7 : ShaboiShabazz_1, Peeb_1, Sweets_1, Maliketh_1, Darionha_1, Cherrybomb426_1, AzulaCat_1, Sizemore_1, Mowgli_1, Schiebel_1, GoldenAsh_1, Phish_1, Grizzly_1, Hotshotbaby7_1, PinkYoshi_1, Kasen3_1, Plagueis_1, Wendigo_1, DMoney_1, Olga_1
• Track 8 : Rabbs_1, Phreak_1, CassieYates_1, Marmie_1, Crespo_1, OctaviousRex_1, Aroostook_1, Barkley26_1, Gomashi_1, LouisV14_1, JorRay_1, TinaBug_1, BruceB_1, ECartman_1, Hope_1, Halo_1, Gideon_1, Jolene_1, Frosty24_1, Avrafan_1, Jane_1, TomBrady_1, Zombie_1, BPs_1, CLED96_1, ZoMa_1, Jonghyun_1, Camri_1, Annihilator_1, Renaissance_1, Kareem_1, Remy19_1, Cedasite_1, Periodt_1, Angel_1, BQuat_1, Sneeze_1, Chance64_1, Coleslaw_1
• Track 9 : Taheera_1, Terror_1
• Track 10 : Liefie_1
• Track 11 : DNAIII_001
• Track 12 : Paito_1
• Track 13 : Avocado_1
• Track 14 : Cambiare_2
• Track 15 : Pace1224_1, FlagStaff_1
• Track 16 : Pinnie_2
• Track 17 : MOOREtheMARYer_1
• Track 18 : Jolie2_1
• Track 19 : Mercurio_2
• Track 20 : Stargaze_1
• Track 21 : Antsirabe_1
• Track 22 : Corndog_31, Vorrps_29, Bora_27, Wildflower_30, Ashwin_31, Mori_29, NiebruSaylor_29, Zakhe101_30, Shida_30, Dylan_29, Firecracker_30, Krili_29
• Track 23 : Blessica_30, Zebo_28, MadKillah_31, Smooch_32, Wogge42_29, Schuy_31, Vagabond_30
• Track 24 : Murai_30, Familton_30, Idergollasper_29, FoulBall_29, JangDynasty_29, TelAviv_27
• Track 25 : Winget_30, SchoolBus_29, Alkhayr_28, Ryadel_32, Catdawg_29

• Track 26 : KingPhillip3_27
• Track 27 : YungJamal_32
• Track 28 : REQ2_01

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

The start number called the most often in the published annotations is 13, it was called in 40 of the 102 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Angel_1, Annihilator_1, Aroostook_1, Avrafan_1, BPs_1, BQuat_1, Barkley26_1, BruceB_1, CLED96_1, Camri_1, CassieYates_1, Cedasite_1, Chance64_1, Coleslaw_1, Crespo_1, DNAIII_001, ECartman_1, Frosty24_1, Gideon_1, Gomashi_1, Halo_1, Hope_1, Jane_1, Jolene_1, Jonghyun_1, JorRay_1, Kareem_1, Liefie_1, LouisV14_1, Marmie_1, OctaviousRex_1, Periodt_1, Phreak_1, Rabbs_1, Remy19_1, Renaissance_1, Sneeze_1, TinaBug_1, TomBrady_1, ZoMa_1, Zombie_1,

Genes that have the "Most Annotated" start but do not call it:
• AzulaCat_1, Cherrybomb426_1, DMoney_1, Darionha_1, GoldenAsh_1, Grizzly_1, Hotshotbaby7_1, Kasen3_1, Maliketh_1, Mowgli_1, Olga_1, Peeb_1, Phish_1, PinkYoshi_1, Plagueis_1, Schiebel_1, ShaboiShabazz_1, Sizemore_1, Sweets_1, Wendigo_1,

Genes that do not have the "Most Annotated" start:
• Alkhayr_28, Antsirabe_1, Ashwin_31, Avocado_1, Blessica_30, Bora_27, Cambiare_2, Catdawg_29, Corndog_31, Dylan_29, Faith5x5_1, Familton_30, Firecracker_30, FlagStaff_1, FoulBall_29, Idergollasper_29, JangDynasty_29, Jolie2_1, KingPhillip3_27, Krili_29, Lton_1, Lucky10_1, MOOREtheMARYer_1, MadKillah_31, Mercurio_2, Moosehead_1, Mori_29, Morkie_1, Murai_30, NiebruSaylor_29, OneDirection_1, Pace1224_1, Paito_1, PhorbesPhlower_1, Pinnie_2, REQ2_01, Ryadel_32, SchoolBus_29, Schuy_31, Shida_30, Smooch_32, Stargaze_1, Taheera_1, TelAviv_27, Terror_1, Vagabond_30, Vorrps_29, Wildflower_30, Winget_30, Wogge42_29, YungJamal_32, Zakhe101_30, Zebo_28,

Summary by start number:

Start 13:
• Found in 61 of 114 (53.5%) of genes in pham
• Manual Annotations of this start: 40 of 102
• Called 67.2% of time when present
• Phage (with cluster) where this start called: Angel_1 (G1), Annihilator_1 (G1), Aroostook_1 (G1), Avrafan_1 (G1), BPs_1 (G1), BQuat_1 (G1), Barkley26_1 (G1), BruceB_1 (G1), CLED96_1 (G1), Camri_1 (G1), CassieYates_1 (G1), Cedasite_1 (G1), Chance64_1 (G1), Coleslaw_1 (G1), Crespo_1 (G1), DNAIII_001 (G1), ECartman_1 (G1), Frosty24_1 (G1), Gideon_1 (G1), Gomashi_1 (G1), Halo_1 (G1), Hope_1 (G1), Jane_1 (G1), Jolene_1 (G1), Jonghyun_1 (G1), JorRay_1 (G1), Kareem_1 (G1), Liefie_1 (G1), LouisV14_1 (G1), Marmie_1 (G1), OctaviousRex_1 (G1), Periodt_1 (G1), Phreak_1 (G1), Rabbs_1 (G1), Remy19_1 (G1), Renaissance_1 (G1), Sneeze_1 (G1), TinaBug_1 (G1), TomBrady_1 (G1), ZoMa_1

(G1), Zombie_1 (G1),

Start 14:
• Found in 65 of 114 (57.0%) of genes in pham
• Manual Annotations of this start: 19 of 102
• Called 35.4% of time when present
• Phage (with cluster) where this start called: AzulaCat_1 (G1), Cherrybomb426_1 (G1), DMoney_1 (G1), Darionha_1 (G1), GoldenAsh_1 (G1), Grizzly_1 (G1), Hotshotbaby7_1 (G1), Jolie2_1 (G4), Kasen3_1 (G1), Maliketh_1 (G1), Mowgli_1 (G1), Olga_1 (G1), Peeb_1 (G1), Phish_1 (G1), PinkYoshi_1 (G1), Plagueis_1 (G1), Schiebel_1 (G1), ShaboiShabazz_1 (G1), Sizemore_1 (G1), Sweets_1 (G1), Taheera_1 (G1), Terror_1 (G1), Wendigo_1 (G1),

Start 16:
• Found in 1 of 114 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 102
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Cambiare_2 (G2),

Start 17:
• Found in 7 of 114 (6.1%) of genes in pham
• Manual Annotations of this start: 5 of 102
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Antsirabe_1 (G5), Avocado_1 (G2), FlagStaff_1 (G2), MOOREtheMARYer_1 (G3), Pace1224_1 (G2), Pinnie_2 (G3), Stargaze_1 (G5),

Start 19:
• Found in 1 of 114 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 102
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Paito_1 (G1),

Start 21:
• Found in 1 of 114 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 102
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Mercurio_2 (G4),

Start 24:
• Found in 7 of 114 (6.1%) of genes in pham
• Manual Annotations of this start: 7 of 102
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Faith5x5_1 (CZ6), Lton_1 (CZ), Lucky10_1 (DH), Moosehead_1 (CZ6), Morkie_1 (DH), OneDirection_1 (CZ6), PhorbesPhlower_1 (DH),

Start 26:
• Found in 1 of 114 (0.9%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: REQ2_01 (singleton),

Start 28:
• Found in 32 of 114 (28.1%) of genes in pham
• Manual Annotations of this start: 23 of 102
• Called 78.1% of time when present
• Phage (with cluster) where this start called: Ashwin_31 (O), Blessica_30 (O), Bora_27 (O), Corndog_31 (O), Dylan_29 (O), Familton_30 (O), Firecracker_30 (O), FoulBall_29 (O), Idergollasper_29 (O), JangDynasty_29 (O), Krili_29 (O), MadKillah_31 (O), Mori_29 (O), Murai_30 (O), NiebruSaylor_29 (O), Schuy_31 (O), Shida_30 (O), Smooch_32 (O), TelAviv_27 (O), Vagabond_30 (O), Vorrps_29 (O), Wildflower_30 (O), Wogge42_29 (O), Zakhe101_30 (O), Zebo_28 (O),

Start 29:
• Found in 32 of 114 (28.1%) of genes in pham
• Manual Annotations of this start: 5 of 102
• Called 21.9% of time when present
• Phage (with cluster) where this start called: Alkhayr_28 (O), Catdawg_29 (O), KingPhillip3_27 (O), Ryadel_32 (O), SchoolBus_29 (O), Winget_30 (O), YungJamal_32 (O),

Summary by clusters:

There are 10 clusters represented in this pham: singleton, G4, G3, G1, DH, CZ6, G5, O, CZ, G2,

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

Info for manual annotations of cluster CZ6:
•Start number 24 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster DH:
•Start number 24 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster G1:
•Start number 13 was manually annotated 40 times for cluster G1.
•Start number 14 was manually annotated 19 times for cluster G1.
•Start number 19 was manually annotated 1 time for cluster G1.

Info for manual annotations of cluster G2:
•Start number 16 was manually annotated 1 time for cluster G2.
•Start number 17 was manually annotated 2 times for cluster G2.

Info for manual annotations of cluster G3:
•Start number 17 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:
•Start number 21 was manually annotated 1 time for cluster G4.

Info for manual annotations of cluster G5:
•Start number 17 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster O:
•Start number 28 was manually annotated 23 times for cluster O.

•Start number 29 was manually annotated 5 times for cluster O.

Gene Information:

Gene: Alkhayr_28 Start: 13190, Stop: 13480, Start Num: 29
Candidate Starts for Alkhayr_28:
(10, 13058), (Start: 28 @13181 has 23 MA's), (Start: 29 @13190 has 5 MA's), (42, 13331), (50, 13373),

Gene: Angel_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Angel_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Annihilator_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Annihilator_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Antsirabe_1 Start: 53, Stop: 382, Start Num: 17
Candidate Starts for Antsirabe_1:
(Start: 17 @53 has 5 MA's), (25, 80), (34, 146), (39, 191), (41, 215), (43, 245), (47, 266),

Gene: Aroostook_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Aroostook_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Ashwin_31 Start: 13191, Stop: 13490, Start Num: 28
Candidate Starts for Ashwin_31:
(11, 13113), (Start: 28 @13191 has 23 MA's), (Start: 29 @13200 has 5 MA's), (42, 13341), (50, 13383),

Gene: Avocado_1 Start: 54, Stop: 380, Start Num: 17
Candidate Starts for Avocado_1:
(Start: 17 @54 has 5 MA's), (34, 144), (36, 177), (39, 189), (46, 255), (49, 273), (50, 276), (52, 285),

Gene: Avrafan_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Avrafan_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: AzulaCat_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for AzulaCat_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: BPs_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for BPs_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: BQuat_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for BQuat_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Barkley26_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Barkley26_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Blessica_30 Start: 13214, Stop: 13513, Start Num: 28
Candidate Starts for Blessica_30:
(10, 13091), (Start: 28 @13214 has 23 MA's), (Start: 29 @13223 has 5 MA's), (42, 13364), (50, 13406),

Gene: Bora_27 Start: 12644, Stop: 12943, Start Num: 28
Candidate Starts for Bora_27:
(11, 12566), (Start: 28 @12644 has 23 MA's), (Start: 29 @12653 has 5 MA's), (42, 12794), (50, 12836),

Gene: BruceB_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for BruceB_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: CLED96_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for CLED96_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Cambiare_2 Start: 534, Stop: 869, Start Num: 16
Candidate Starts for Cambiare_2:
(9, 384), (Start: 14 @525 has 19 MA's), (Start: 16 @534 has 1 MA's), (23, 555), (25, 564), (34, 633),
(35, 651), (36, 666), (48, 756), (52, 774), (53, 783),

Gene: Camri_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Camri_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: CassieYates_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for CassieYates_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Catdawg_29 Start: 12829, Stop: 13119, Start Num: 29
Candidate Starts for Catdawg_29:
(10, 12697), (Start: 28 @12820 has 23 MA's), (Start: 29 @12829 has 5 MA's), (42, 12970), (50, 13012),

Gene: Cedasite_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Cedasite_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Chance64_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Chance64_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Cherrybomb426_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Cherrybomb426_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Coleslaw_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Coleslaw_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Corndog_31 Start: 13270, Stop: 13569, Start Num: 28
Candidate Starts for Corndog_31:
(11, 13192), (Start: 28 @13270 has 23 MA's), (Start: 29 @13279 has 5 MA's), (42, 13420), (50, 13462),

Gene: Crespo_1 Start: 44, Stop: 388, Start Num: 13
Candidate Starts for Crespo_1:
(Start: 13 @44 has 40 MA's), (Start: 14 @47 has 19 MA's), (34, 149), (41, 218), (47, 269),

Gene: DMoney_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for DMoney_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: DNAIII_001 Start: 52, Stop: 396, Start Num: 13
Candidate Starts for DNAIII_001:
(Start: 13 @52 has 40 MA's), (Start: 14 @55 has 19 MA's), (34, 157), (41, 226), (47, 277),

Gene: Darionha_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Darionha_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Dylan_29 Start: 12996, Stop: 13295, Start Num: 28
Candidate Starts for Dylan_29:
(11, 12918), (Start: 28 @12996 has 23 MA's), (Start: 29 @13005 has 5 MA's), (42, 13146), (50, 13188),

Gene: ECartman_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for ECartman_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Faith5x5_1 Start: 103, Stop: 465, Start Num: 24
Candidate Starts for Faith5x5_1:
(22, 97), (Start: 24 @103 has 7 MA's), (27, 115), (37, 214), (39, 223), (40, 235), (41, 247), (43, 277),
(57, 364), (58, 373), (61, 385), (62, 394), (64, 430),

Gene: Familton_30 Start: 12824, Stop: 13123, Start Num: 28
Candidate Starts for Familton_30:
(Start: 28 @12824 has 23 MA's), (Start: 29 @12833 has 5 MA's), (42, 12974), (50, 13016),

Gene: Firecracker_30 Start: 12894, Stop: 13193, Start Num: 28
Candidate Starts for Firecracker_30:
(11, 12816), (Start: 28 @12894 has 23 MA's), (Start: 29 @12903 has 5 MA's), (42, 13044), (50, 13086),

Gene: FlagStaff_1 Start: 52, Stop: 387, Start Num: 17
Candidate Starts for FlagStaff_1:
(Start: 17 @52 has 5 MA's), (25, 79), (41, 214), (43, 244),

Gene: FoulBall_29 Start: 12818, Stop: 13117, Start Num: 28
Candidate Starts for FoulBall_29:
(Start: 28 @12818 has 23 MA's), (Start: 29 @12827 has 5 MA's), (42, 12968), (50, 13010),

Gene: Frosty24_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Frosty24_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Gideon_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Gideon_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: GoldenAsh_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for GoldenAsh_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Gomashi_1 Start: 44, Stop: 388, Start Num: 13
Candidate Starts for Gomashi_1:
(Start: 13 @44 has 40 MA's), (Start: 14 @47 has 19 MA's), (34, 149), (41, 218), (47, 269),

Gene: Grizzly_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Grizzly_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Halo_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Halo_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Hope_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Hope_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Hotshotbaby7_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Hotshotbaby7_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Idergollasper_29 Start: 12818, Stop: 13117, Start Num: 28
Candidate Starts for Idergollasper_29:
(Start: 28 @12818 has 23 MA's), (Start: 29 @12827 has 5 MA's), (42, 12968), (50, 13010),

Gene: Jane_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Jane_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: JangDynasty_29 Start: 12913, Stop: 13212, Start Num: 28
Candidate Starts for JangDynasty_29:
(Start: 28 @12913 has 23 MA's), (Start: 29 @12922 has 5 MA's), (42, 13063), (50, 13105),

Gene: Jolene_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Jolene_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Jolie2_1 Start: 45, Stop: 404, Start Num: 14
Candidate Starts for Jolie2_1:
(Start: 14 @45 has 19 MA's), (45, 264), (49, 285), (60, 363),

Gene: Jonghyun_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Jonghyun_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: JorRay_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for JorRay_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Kareem_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Kareem_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Kasen3_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Kasen3_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: KingPhillip3_27 Start: 12827, Stop: 13117, Start Num: 29
Candidate Starts for KingPhillip3_27:
(Start: 28 @12818 has 23 MA's), (Start: 29 @12827 has 5 MA's), (42, 12968), (50, 13010),

Gene: Krili_29 Start: 12988, Stop: 13287, Start Num: 28
Candidate Starts for Krili_29:
(11, 12910), (Start: 28 @12988 has 23 MA's), (Start: 29 @12997 has 5 MA's), (42, 13138), (50, 13180),

Gene: Liefie_1 Start: 42, Stop: 386, Start Num: 13
Candidate Starts for Liefie_1:
(Start: 13 @42 has 40 MA's), (Start: 14 @45 has 19 MA's), (34, 147), (41, 216), (47, 267), (53, 297),

Gene: LouisV14_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for LouisV14_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Lton_1 Start: 107, Stop: 469, Start Num: 24
Candidate Starts for Lton_1:
(Start: 24 @107 has 7 MA's), (27, 119), (37, 218), (39, 227), (40, 239), (41, 251), (43, 281), (45, 290), (47, 302), (58, 377), (63, 416),

Gene: Lucky10_1 Start: 45, Stop: 347, Start Num: 24
Candidate Starts for Lucky10_1:
(Start: 24 @45 has 7 MA's), (31, 111), (33, 117), (34, 120), (37, 156), (39, 165), (40, 177), (48, 243), (56, 300),

Gene: MOOREtheMARYer_1 Start: 53, Stop: 379, Start Num: 17
Candidate Starts for MOOREtheMARYer_1:
(15, 50), (Start: 17 @53 has 5 MA's), (25, 80), (34, 143), (36, 176), (39, 188), (46, 254), (49, 272),

Gene: MadKillah_31 Start: 13207, Stop: 13506, Start Num: 28
Candidate Starts for MadKillah_31:
(10, 13084), (Start: 28 @13207 has 23 MA's), (Start: 29 @13216 has 5 MA's), (42, 13357), (50, 13399),

Gene: Maliketh_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Maliketh_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Marmie_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Marmie_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Mercurio_2 Start: 700, Stop: 1044, Start Num: 21
Candidate Starts for Mercurio_2:

(1, 271), (2, 343), (3, 349), (4, 355), (5, 415), (7, 514), (8, 523), (18, 691), (20, 697), (Start: 21 @700 has 1 MA's), (39, 844), (41, 868), (43, 898), (44, 901), (59, 1000),

Gene: Moosehead_1 Start: 103, Stop: 465, Start Num: 24
Candidate Starts for Moosehead_1:
(22, 97), (Start: 24 @103 has 7 MA's), (27, 115), (37, 214), (39, 223), (40, 235), (41, 247), (43, 277), (54, 352), (57, 364), (58, 373), (61, 385), (62, 394), (64, 430),

Gene: Mori_29 Start: 12859, Stop: 13158, Start Num: 28
Candidate Starts for Mori_29:
(11, 12781), (Start: 28 @12859 has 23 MA's), (Start: 29 @12868 has 5 MA's), (42, 13009), (50, 13051),

Gene: Morkie_1 Start: 44, Stop: 346, Start Num: 24
Candidate Starts for Morkie_1:
(Start: 24 @44 has 7 MA's), (31, 110), (37, 155), (39, 164), (40, 176), (48, 242), (56, 299),

Gene: Mowgli_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Mowgli_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Murai_30 Start: 13049, Stop: 13348, Start Num: 28
Candidate Starts for Murai_30:
(Start: 28 @13049 has 23 MA's), (Start: 29 @13058 has 5 MA's), (42, 13199), (50, 13241),

Gene: NiebruSaylor_29 Start: 12860, Stop: 13159, Start Num: 28
Candidate Starts for NiebruSaylor_29:
(11, 12782), (Start: 28 @12860 has 23 MA's), (Start: 29 @12869 has 5 MA's), (42, 13010), (50, 13052),

Gene: OctaviousRex_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for OctaviousRex_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Olga_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Olga_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: OneDirection_1 Start: 104, Stop: 466, Start Num: 24
Candidate Starts for OneDirection_1:
(22, 98), (Start: 24 @104 has 7 MA's), (37, 215), (38, 218), (39, 224), (40, 236), (41, 248), (43, 278), (57, 365), (63, 413), (64, 431),

Gene: Pace1224_1 Start: 52, Stop: 387, Start Num: 17
Candidate Starts for Pace1224_1:
(Start: 17 @52 has 5 MA's), (25, 79), (41, 214), (43, 244),

Gene: Paito_1 Start: 47, Stop: 382, Start Num: 19
Candidate Starts for Paito_1:
(Start: 19 @47 has 1 MA's), (23, 62), (36, 173), (41, 209), (44, 242),

Gene: Peeb_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Peeb_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Periodt_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Periodt_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Phish_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Phish_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: PhorbesPhlower_1 Start: 44, Stop: 346, Start Num: 24
Candidate Starts for PhorbesPhlower_1:
(Start: 24 @44 has 7 MA's), (31, 110), (37, 155), (39, 164), (40, 176), (48, 242), (56, 299),

Gene: Phreak_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Phreak_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: PinkYoshi_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for PinkYoshi_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Pinnie_2 Start: 520, Stop: 846, Start Num: 17
Candidate Starts for Pinnie_2:
(6, 322), (Start: 17 @520 has 5 MA's), (25, 547), (34, 613), (36, 646), (39, 658), (46, 724), (49, 742), (51, 748),

Gene: Plagueis_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Plagueis_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: REQ2_01 Start: 71, Stop: 421, Start Num: 26
Candidate Starts for REQ2_01:
(12, 5), (26, 71), (30, 116), (32, 128), (34, 134), (39, 182), (41, 206), (45, 245),

Gene: Rabbs_1 Start: 44, Stop: 388, Start Num: 13
Candidate Starts for Rabbs_1:
(Start: 13 @44 has 40 MA's), (Start: 14 @47 has 19 MA's), (34, 149), (41, 218), (47, 269),

Gene: Remy19_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Remy19_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Renaissance_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Renaissance_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Ryadel_32 Start: 13643, Stop: 13933, Start Num: 29
Candidate Starts for Ryadel_32:
(10, 13511), (Start: 28 @13634 has 23 MA's), (Start: 29 @13643 has 5 MA's), (42, 13784), (50, 13826),

Gene: Schiebel_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Schiebel_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: SchoolBus_29 Start: 12830, Stop: 13120, Start Num: 29
Candidate Starts for SchoolBus_29:
(10, 12698), (Start: 28 @12821 has 23 MA's), (Start: 29 @12830 has 5 MA's), (42, 12971), (50, 13013),

Gene: Schuy_31 Start: 13207, Stop: 13506, Start Num: 28
Candidate Starts for Schuy_31:
(10, 13084), (Start: 28 @13207 has 23 MA's), (Start: 29 @13216 has 5 MA's), (42, 13357), (50, 13399),

Gene: ShaboiShabazz_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for ShaboiShabazz_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Shida_30 Start: 13114, Stop: 13413, Start Num: 28
Candidate Starts for Shida_30:
(11, 13036), (Start: 28 @13114 has 23 MA's), (Start: 29 @13123 has 5 MA's), (42, 13264), (50, 13306),

Gene: Sizemore_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Sizemore_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Smooch_32 Start: 14365, Stop: 14664, Start Num: 28
Candidate Starts for Smooch_32:
(10, 14242), (Start: 28 @14365 has 23 MA's), (Start: 29 @14374 has 5 MA's), (42, 14515), (50, 14557),

Gene: Sneeze_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Sneeze_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Stargaze_1 Start: 52, Stop: 372, Start Num: 17
Candidate Starts for Stargaze_1:
(Start: 17 @52 has 5 MA's), (34, 136), (39, 181), (41, 205), (47, 256), (55, 310),

Gene: Sweets_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Sweets_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Taheera_1 Start: 47, Stop: 391, Start Num: 14
Candidate Starts for Taheera_1:
(Start: 14 @47 has 19 MA's), (34, 149), (41, 218),

Gene: TelAviv_27 Start: 12815, Stop: 13114, Start Num: 28
Candidate Starts for TelAviv_27:
(Start: 28 @12815 has 23 MA's), (Start: 29 @12824 has 5 MA's), (42, 12965), (50, 13007),

Gene: Terror_1 Start: 47, Stop: 391, Start Num: 14
Candidate Starts for Terror_1:
(Start: 14 @47 has 19 MA's), (34, 149), (41, 218),

Gene: TinaBug_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for TinaBug_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: TomBrady_1 Start: 44, Stop: 388, Start Num: 13

Candidate Starts for TomBrady_1:
(Start: 13 @44 has 40 MA's), (Start: 14 @47 has 19 MA's), (34, 149), (41, 218), (47, 269),

Gene: Vagabond_30 Start: 13088, Stop: 13387, Start Num: 28
Candidate Starts for Vagabond_30:
(10, 12965), (Start: 28 @13088 has 23 MA's), (Start: 29 @13097 has 5 MA's), (42, 13238), (50, 13280),

Gene: Vorrps_29 Start: 12860, Stop: 13159, Start Num: 28
Candidate Starts for Vorrps_29:
(11, 12782), (Start: 28 @12860 has 23 MA's), (Start: 29 @12869 has 5 MA's), (42, 13010), (50, 13052),

Gene: Wendigo_1 Start: 46, Stop: 387, Start Num: 14
Candidate Starts for Wendigo_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Wildflower_30 Start: 12855, Stop: 13154, Start Num: 28
Candidate Starts for Wildflower_30:
(11, 12777), (Start: 28 @12855 has 23 MA's), (Start: 29 @12864 has 5 MA's), (42, 13005), (50, 13047),

Gene: Winget_30 Start: 13096, Stop: 13386, Start Num: 29
Candidate Starts for Winget_30:
(10, 12964), (Start: 28 @13087 has 23 MA's), (Start: 29 @13096 has 5 MA's), (42, 13237), (50, 13279),

Gene: Wogge42_29 Start: 13177, Stop: 13476, Start Num: 28
Candidate Starts for Wogge42_29:
(10, 13054), (Start: 28 @13177 has 23 MA's), (Start: 29 @13186 has 5 MA's), (42, 13327), (50, 13369),

Gene: YungJamal_32 Start: 13159, Stop: 13449, Start Num: 29
Candidate Starts for YungJamal_32:
(11, 13072), (Start: 28 @13150 has 23 MA's), (Start: 29 @13159 has 5 MA's), (42, 13300), (50, 13342),

Gene: Zakhe101_30 Start: 13000, Stop: 13299, Start Num: 28
Candidate Starts for Zakhe101_30:
(11, 12922), (Start: 28 @13000 has 23 MA's), (Start: 29 @13009 has 5 MA's), (42, 13150), (50, 13192),

Gene: Zebo_28 Start: 12821, Stop: 13120, Start Num: 28
Candidate Starts for Zebo_28:
(10, 12698), (Start: 28 @12821 has 23 MA's), (Start: 29 @12830 has 5 MA's), (42, 12971), (50, 13013),

Gene: ZoMa_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for ZoMa_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),

Gene: Zombie_1 Start: 43, Stop: 387, Start Num: 13
Candidate Starts for Zombie_1:
(Start: 13 @43 has 40 MA's), (Start: 14 @46 has 19 MA's), (34, 148), (41, 217), (47, 268),