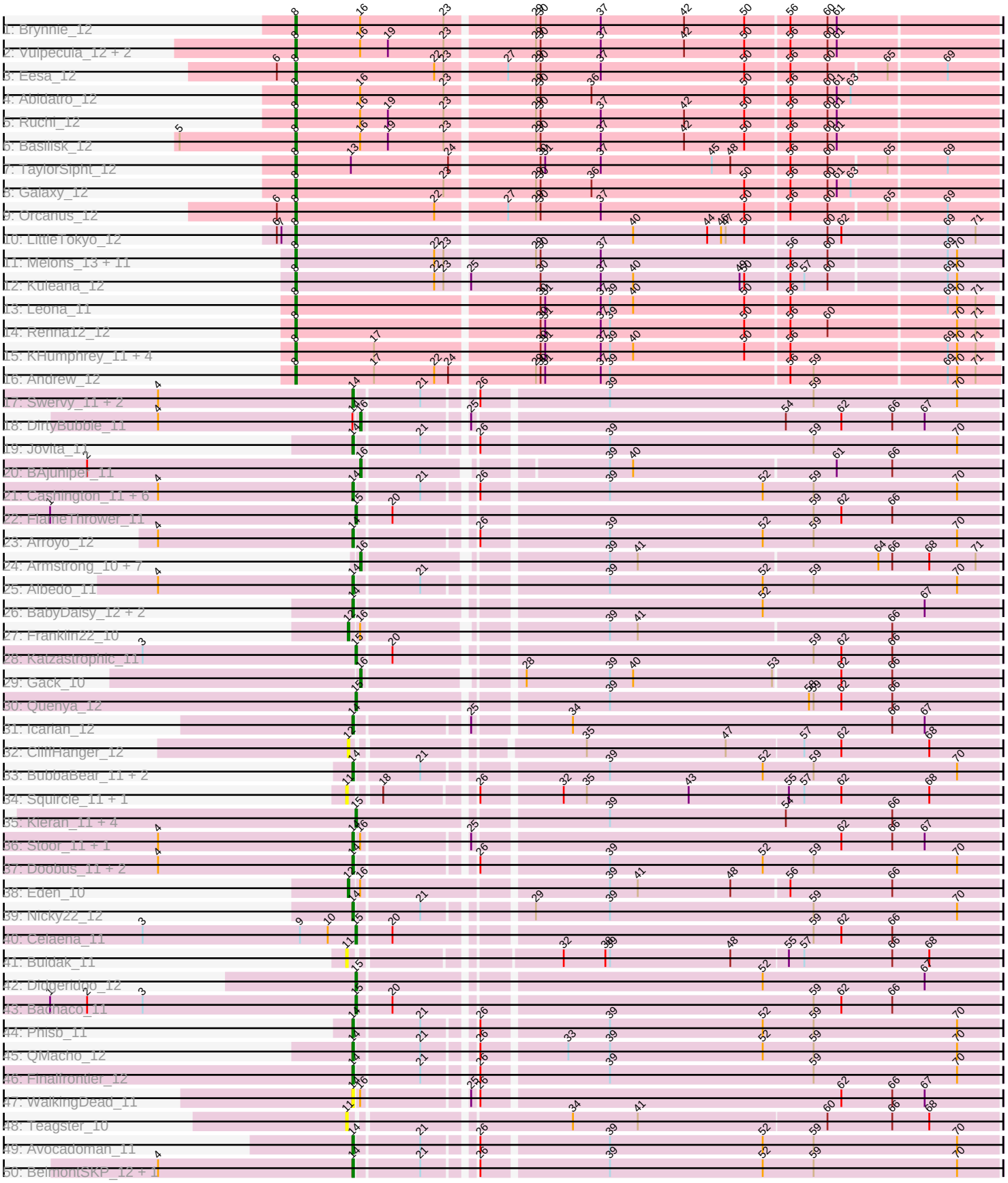
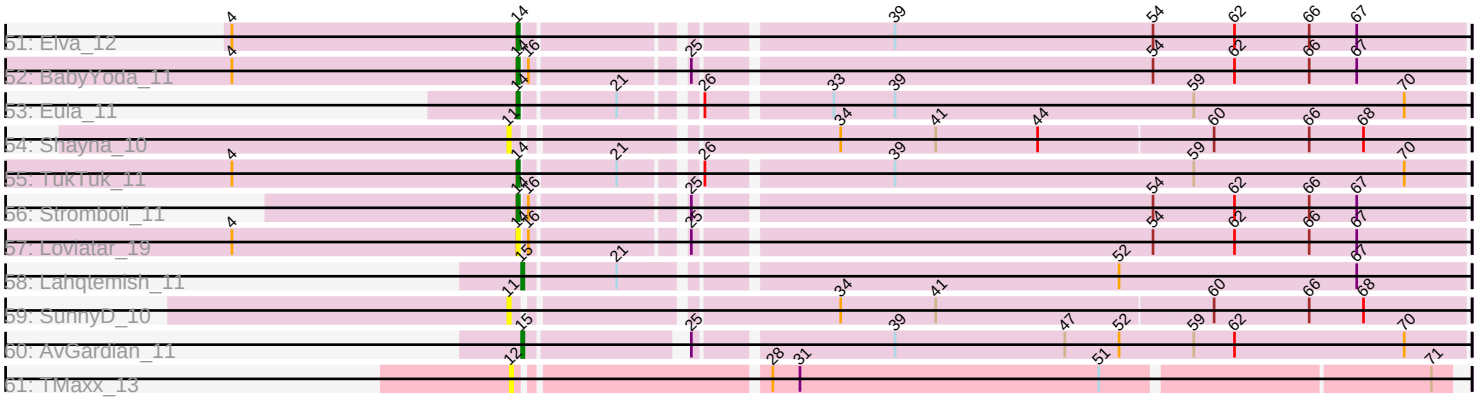
Pham 195348


1: Brynnie_12
2: Vulpecula_12 + 2
3: Eesa_12
4: Abidatro_12
5: Ruchi_12
6: Basilisk_12
7: TaylorSpht_12
8: Galaxy_12
9: Orcanus_12
10: LittleTokyo_12
11: Melons_13 + 11
12: Kuleana_12
13: Leona_11
14: Renna12_12
15: KHumphrey_11 + 4
16: Andrew_12
17: Swervy_11 + 2
18: DirtyBubble_11
19: Jovita_11
20: BAjuniper_11
21: Cashington_11 + 6
22: FlameThrower_11
23: Arroyo_12
24: Armstrong_10 + 7
25: Albedo_11
26: BabyDaisy_12 + 2
27: Franklin22_10
28: Katzastrophic_11
29: Gack_10
30: Quenya_12
31: Icarian_12
32: CliffHanger_12
33: BubbaBear_11 + 2
34: Squircle_11 + 1
35: Kieran_11 + 4
36: Stoor_11 + 1
37: Doobus_11 + 2
38: Eden_10
39: Nicky22_12
40: Celaena_11
41: Buidak_11
42: Didgeridoo_12
43: Badhaco_11
44: Phisb_11
45: QiMacho_12
46: FinalFrontier_12
47: WalkingDead_11
48: Teagster_10
49: Avocadoman_11
50: BelmontSKP_12 + 1

Pham 195348


51: Elva_12
52: BabyYoda_11
53: Eula_11
54: Shayna_10
55: TukTuk_11
56: Stromboli_11
57: Loviatar_19
58: Lahqtemish_11
59: SunnyD_10
60: AvGardian_11
61: TMaxx_13

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 195348 Report

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

Pham number 195348 has 106 members, 17 are drafts.

Phages represented in each track:
- Track 1 : Brynnie_12
- Track 2 : Vulpecula_12, Jamun_12, Chickaboom_11
- Track 3 : Eesa_12
- Track 4 : Abidatro_12
- Track 5 : Ruchi_12
- Track 6 : Basilisk_12
- Track 7 : TaylorSipht_12
- Track 8 : Galaxy_12
- Track 9 : Orcanus_12
- Track 10 : LittleTokyo_12
- Track 11 : Melons_13, Polka_12, Amelia_13, Cote_13, Bedetta_13, Lunar_13, Daob_13, Coral_12, Colusalem_12, Kepler_12, HannahPhantana_13, Jerole_13
- Track 12 : Kuleana_12
- Track 13 : Leona_11
- Track 14 : Renna12_12
- Track 15 : KHumphrey_11, Juno112_11, PhluffyCoco_11, RedFox_11, Camara_11
- Track 16 : Andrew_12
- Track 17 : Swervy_11, Slay_11, SarBear_11
- Track 18 : DirtyBubble_11
- Track 19 : Jovita_11
- Track 20 : BAjuniper_11
- Track 21 : Cashington_11, Abigail_11, Burritobowl_11, DickRichards_11, Johnathan_11, SansAfet_11, LimaBean_11
- Track 22 : FlameThrower_11
- Track 23 : Arroyo_12
- Track 24 : Armstrong_10, Clayda5_10, Coltrane_10, Vitas_10, Rollins_10, Brahms_10, Bernstein_10, Skylord_10
- Track 25 : Albedo_11
- Track 26 : BabyDaisy_12, Kate33_11, IndyLu_11
- Track 27 : Franklin22_10
- Track 28 : Katzastrophic_11
- Track 29 : Gack_10
- Track 30 : Quenya_12
- Track 31 : Icarian_12
- Track 32 : CliffHanger_12
- Track 33 : BubbaBear_11, Kenzers_11, Lynlen_11
- Track 34 : Squircle_11, Olliecat_11

• Track 35 : Kieran_11, Rona_11, ChiliPepper_11, Dismas_11, Sharkboy_11
• Track 36 : Stoor_11, SanaSana_12
• Track 37 : Doobus_11, Albright_11, CroZenni_11
• Track 38 : Eden_10
• Track 39 : Nicky22_12
• Track 40 : Celaena_11
• Track 41 : Buldak_11
• Track 42 : Didgeridoo_12
• Track 43 : Bachaco_11
• Track 44 : Phisb_11
• Track 45 : QMacho_12
• Track 46 : Finalfrontier_12
• Track 47 : WalkingDead_11
• Track 48 : Teagster_10
• Track 49 : Avocadoman_11
• Track 50 : BelmontSKP_12, AnnaLie_12
• Track 51 : Elva_12
• Track 52 : BabyYoda_11
• Track 53 : Eula_11
• Track 54 : Shayna_10
• Track 55 : TukTuk_11
• Track 56 : Stromboli_11
• Track 57 : Loviatar_19
• Track 58 : Lahqtemish_11
• Track 59 : SunnyD_10
• Track 60 : AvGardian_11
• Track 61 : TMaxx_13

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 35 of the 89 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abigail_11, Albedo_11, Albright_11, AnnaLie_12, Arroyo_12, Avocadoman_11, BabyDaisy_12, BabyYoda_11, BelmontSKP_12, BubbaBear_11, Burritobowl_11, Cashington_11, CroZenni_11, DickRichards_11, Doobus_11, Elva_12, Eula_11, Finalfrontier_12, Icarian_12, IndyLu_11, Johnathan_11, Jovita_11, Kate33_11, Kenzers_11, LimaBean_11, Loviatar_19, Lynlen_11, Nicky22_12, Phisb_11, QMacho_12, SanaSana_12, SansAfet_11, SarBear_11, Slay_11, Stoor_11, Stromboli_11, Swervy_11, TukTuk_11, WalkingDead_11,

Genes that have the "Most Annotated" start but do not call it:
• DirtyBubble_11,

Genes that do not have the "Most Annotated" start:
• Abidatro_12, Amelia_13, Andrew_12, Armstrong_10, AvGardian_11, BAjuniper_11, Bachaco_11, Basilisk_12, Bedetta_13, Bernstein_10, Brahms_10, Brynnie_12, Buldak_11, Camara_11, Celaena_11, Chickaboom_11, ChiliPepper_11, Clayda5_10, CliffHanger_12, Coltrane_10, Colusalem_12, Coral_12, Cote_13, Daob_13,

Didgeridoo_12, Dismas_11, Eden_10, Eesa_12, FlameThrower_11, Franklin22_10, Gack_10, Galaxy_12, HannahPhantana_13, Jamun_12, Jerole_13, Juno112_11, KHumphrey_11, Katzastrophic_11, Kepler_12, Kieran_11, Kuleana_12, Lahqtemish_11, Leona_11, LittleTokyo_12, Lunar_13, Melons_13, Olliecat_11, Orcanus_12, PhluffyCoco_11, Polka_12, Quenya_12, RedFox_11, Renna12_12, Rollins_10, Rona_11, Ruchi_12, Sharkboy_11, Shayna_10, Skylord_10, Squircle_11, SunnyD_10, TMaxx_13, TaylorSipht_12, Teagster_10, Vitas_10, Vulpecula_12,

Summary by start number:

Start 8:
• Found in 33 of 106 (31.1%) of genes in pham
• Manual Annotations of this start: 28 of 89
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Abidatro_12 (AS1), Amelia_13 (AS2), Andrew_12 (AS3), Basilisk_12 (AS1), Bedetta_13 (AS2), Brynnie_12 (AS1), Camara_11 (AS3), Chickaboom_11 (AS1), Colusalem_12 (AS2), Coral_12 (AS2), Cote_13 (AS2), Daob_13 (AS2), Eesa_12 (AS1), Galaxy_12 (AS1), HannahPhantana_13 (AS2), Jamun_12 (AS1), Jerole_13 (AS2), Juno112_11 (AS3), KHumphrey_11 (AS3), Kepler_12 (AS2), Kuleana_12 (AS2), Leona_11 (AS3), LittleTokyo_12 (AS2), Lunar_13 (AS2), Melons_13 (AS2), Orcanus_12 (AS1), PhluffyCoco_11 (AS3), Polka_12 (AS2), RedFox_11 (AS3), Renna12_12 (AS3), Ruchi_12 (AS1), TaylorSipht_12 (AS1), Vulpecula_12 (AS1),

Start 11:
• Found in 6 of 106 (5.7%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Buldak_11 (EB), Olliecat_11 (EB), Shayna_10 (EB), Squircle_11 (EB), SunnyD_10 (EB), Teagster_10 (EB),

Start 12:
• Found in 4 of 106 (3.8%) of genes in pham
• Manual Annotations of this start: 2 of 89
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CliffHanger_12 (EB), Eden_10 (EB), Franklin22_10 (EB), TMaxx_13 (FR),

Start 14:
• Found in 40 of 106 (37.7%) of genes in pham
• Manual Annotations of this start: 35 of 89
• Called 97.5% of time when present
• Phage (with cluster) where this start called: Abigail_11 (EB), Albedo_11 (EB), Albright_11 (EB), AnnaLie_12 (EB), Arroyo_12 (EB), Avocadoman_11 (EB), BabyDaisy_12 (EB), BabyYoda_11 (EB), BelmontSKP_12 (EB), BubbaBear_11 (EB), Burritobowl_11 (EB), Cashington_11 (EB), CroZenni_11 (EB), DickRichards_11 (EB), Doobus_11 (EB), Elva_12 (EB), Eula_11 (EB), Finalfrontier_12 (EB), Icarian_12 (EB), IndyLu_11 (EB), Johnathan_11 (EB), Jovita_11 (EB), Kate33_11 (EB), Kenzers_11 (EB), LimaBean_11 (EB), Loviatar_19 (EB), Lynlen_11 (EB), Nicky22_12 (EB), Phisb_11 (EB), QMacho_12 (EB), SanaSana_12 (EB), SansAfet_11 (EB), SarBear_11 (EB), Slay_11 (EB), Stoor_11 (EB), Stromboli_11 (EB), Swervy_11 (EB), TukTuk_11 (EB), WalkingDead_11 (EB),

Start 15:
• Found in 13 of 106 (12.3%) of genes in pham
• Manual Annotations of this start: 13 of 89
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AvGardian_11 (EB), Bachaco_11 (EB), Celaena_11 (EB), ChiliPepper_11 (EB), Didgeridoo_12 (EB), Dismas_11 (EB), FlameThrower_11 (EB), Katzastrophic_11 (EB), Kieran_11 (EB), Lahqtemish_11 (EB), Quenya_12 (EB), Rona_11 (EB), Sharkboy_11 (EB),

Start 16:
• Found in 26 of 106 (24.5%) of genes in pham
• Manual Annotations of this start: 11 of 89
• Called 42.3% of time when present
• Phage (with cluster) where this start called: Armstrong_10 (EB), BAjuniper_11 (EB), Bernstein_10 (EB), Brahms_10 (EB), Clayda5_10 (EB), Coltrane_10 (EB), DirtyBubble_11 (EB), Gack_10 (EB), Rollins_10 (EB), Skylord_10 (EB), Vitas_10 (EB),

Summary by clusters:

There are 5 clusters represented in this pham: AS3, AS2, AS1, FR, EB,

Info for manual annotations of cluster AS1:
•Start number 8 was manually annotated 11 times for cluster AS1.

Info for manual annotations of cluster AS2:
•Start number 8 was manually annotated 11 times for cluster AS2.

Info for manual annotations of cluster AS3:
•Start number 8 was manually annotated 6 times for cluster AS3.

Info for manual annotations of cluster EB:
•Start number 12 was manually annotated 2 times for cluster EB.
•Start number 14 was manually annotated 35 times for cluster EB.
•Start number 15 was manually annotated 13 times for cluster EB.
•Start number 16 was manually annotated 11 times for cluster EB.

Gene Information:

Gene: Abidatro_12 Start: 8321, Stop: 8764, Start Num: 8
Candidate Starts for Abidatro_12:
(Start: 8 @8321 has 28 MA's), (Start: 16 @8363 has 11 MA's), (23, 8417), (29, 8471), (30, 8474), (36, 8507), (50, 8606), (56, 8633), (60, 8657), (61, 8663), (63, 8672),

Gene: Abigail_11 Start: 8030, Stop: 8425, Start Num: 14
Candidate Starts for Abigail_11:
(4, 7904), (Start: 14 @8030 has 35 MA's), (21, 8069), (26, 8096), (39, 8174), (52, 8273), (59, 8306), (70, 8399),

Gene: Albedo_11 Start: 7905, Stop: 8300, Start Num: 14

Candidate Starts for Albedo_11:
(4, 7779), (Start: 14 @7905 has 35 MA's), (21, 7944), (39, 8049), (52, 8148), (59, 8181), (70, 8274),

Gene: Albright_11 Start: 7911, Stop: 8306, Start Num: 14
Candidate Starts for Albright_11:
(4, 7785), (Start: 14 @7911 has 35 MA's), (26, 7977), (39, 8055), (52, 8154), (59, 8187), (70, 8280),

Gene: Amelia_13 Start: 8497, Stop: 8940, Start Num: 8
Candidate Starts for Amelia_13:
(Start: 8 @8497 has 28 MA's), (22, 8587), (23, 8593), (29, 8647), (30, 8650), (37, 8689), (56, 8809), (60, 8833), (69, 8905), (70, 8911),

Gene: Andrew_12 Start: 8281, Stop: 8724, Start Num: 8
Candidate Starts for Andrew_12:
(Start: 8 @8281 has 28 MA's), (17, 8332), (22, 8371), (24, 8380), (29, 8431), (30, 8434), (31, 8437), (37, 8473), (39, 8479), (56, 8593), (59, 8608), (69, 8692), (70, 8698), (71, 8710),

Gene: AnnaLie_12 Start: 8320, Stop: 8715, Start Num: 14
Candidate Starts for AnnaLie_12:
(4, 8194), (Start: 14 @8320 has 35 MA's), (21, 8359), (26, 8386), (39, 8464), (52, 8563), (59, 8596), (70, 8689),

Gene: Armstrong_10 Start: 7692, Stop: 8081, Start Num: 16
Candidate Starts for Armstrong_10:
(Start: 16 @7692 has 11 MA's), (39, 7833), (41, 7851), (64, 8004), (66, 8013), (68, 8037), (71, 8067),

Gene: Arroyo_12 Start: 8381, Stop: 8776, Start Num: 14
Candidate Starts for Arroyo_12:
(4, 8255), (Start: 14 @8381 has 35 MA's), (26, 8447), (39, 8525), (52, 8624), (59, 8657), (70, 8750),

Gene: AvGardian_11 Start: 7970, Stop: 8365, Start Num: 15
Candidate Starts for AvGardian_11:
(Start: 15 @7970 has 13 MA's), (25, 8033), (39, 8114), (47, 8189), (52, 8213), (59, 8246), (62, 8264), (70, 8339),

Gene: Avocadoman_11 Start: 7969, Stop: 8364, Start Num: 14
Candidate Starts for Avocadoman_11:
(Start: 14 @7969 has 35 MA's), (21, 8008), (26, 8035), (39, 8113), (52, 8212), (59, 8245), (70, 8338),

Gene: BAjuniper_11 Start: 7857, Stop: 8243, Start Num: 16
Candidate Starts for BAjuniper_11:
(2, 7680), (Start: 16 @7857 has 11 MA's), (39, 7995), (40, 8010), (61, 8139), (66, 8175),

Gene: BabyDaisy_12 Start: 8133, Stop: 8531, Start Num: 14
Candidate Starts for BabyDaisy_12:
(Start: 14 @8133 has 35 MA's), (52, 8379), (67, 8484),

Gene: BabyYoda_11 Start: 8162, Stop: 8557, Start Num: 14
Candidate Starts for BabyYoda_11:
(4, 8036), (Start: 14 @8162 has 35 MA's), (Start: 16 @8165 has 11 MA's), (25, 8225), (54, 8420), (62, 8456), (66, 8489), (67, 8510),

Gene: Bachaco_11 Start: 8051, Stop: 8449, Start Num: 15

Candidate Starts for Bachaco_11:
(1, 7853), (2, 7877), (3, 7913), (Start: 15 @8051 has 13 MA's), (20, 8072), (59, 8330), (62, 8348), (66, 8381),

Gene: Basilisk_12 Start: 8645, Stop: 9088, Start Num: 8
Candidate Starts for Basilisk_12:
(5, 8570), (Start: 8 @8645 has 28 MA's), (Start: 16 @8687 has 11 MA's), (19, 8705), (23, 8741), (29, 8795), (30, 8798), (37, 8837), (42, 8891), (50, 8930), (56, 8957), (60, 8981), (61, 8987),

Gene: Bedetta_13 Start: 8497, Stop: 8940, Start Num: 8
Candidate Starts for Bedetta_13:
(Start: 8 @8497 has 28 MA's), (22, 8587), (23, 8593), (29, 8647), (30, 8650), (37, 8689), (56, 8809), (60, 8833), (69, 8905), (70, 8911),

Gene: BelmontSKP_12 Start: 8320, Stop: 8715, Start Num: 14
Candidate Starts for BelmontSKP_12:
(4, 8194), (Start: 14 @8320 has 35 MA's), (21, 8359), (26, 8386), (39, 8464), (52, 8563), (59, 8596), (70, 8689),

Gene: Bernstein_10 Start: 7752, Stop: 8141, Start Num: 16
Candidate Starts for Bernstein_10:
(Start: 16 @7752 has 11 MA's), (39, 7893), (41, 7911), (64, 8064), (66, 8073), (68, 8097), (71, 8127),

Gene: Brahms_10 Start: 7692, Stop: 8081, Start Num: 16
Candidate Starts for Brahms_10:
(Start: 16 @7692 has 11 MA's), (39, 7833), (41, 7851), (64, 8004), (66, 8013), (68, 8037), (71, 8067),

Gene: Brynnie_12 Start: 8457, Stop: 8900, Start Num: 8
Candidate Starts for Brynnie_12:
(Start: 8 @8457 has 28 MA's), (Start: 16 @8499 has 11 MA's), (23, 8553), (29, 8607), (30, 8610), (37, 8649), (42, 8703), (50, 8742), (56, 8769), (60, 8793), (61, 8799),

Gene: BubbaBear_11 Start: 7905, Stop: 8300, Start Num: 14
Candidate Starts for BubbaBear_11:
(Start: 14 @7905 has 35 MA's), (21, 7944), (39, 8049), (52, 8148), (59, 8181), (70, 8274),

Gene: Buldak_11 Start: 8189, Stop: 8584, Start Num: 11
Candidate Starts for Buldak_11:
(11, 8189), (32, 8306), (38, 8333), (39, 8336), (48, 8414), (55, 8450), (57, 8459), (66, 8516), (68, 8540),

Gene: Burritobowl_11 Start: 7938, Stop: 8333, Start Num: 14
Candidate Starts for Burritobowl_11:
(4, 7812), (Start: 14 @7938 has 35 MA's), (21, 7977), (26, 8004), (39, 8082), (52, 8181), (59, 8214), (70, 8307),

Gene: Camara_11 Start: 7903, Stop: 8343, Start Num: 8
Candidate Starts for Camara_11:
(Start: 8 @7903 has 28 MA's), (17, 7954), (30, 8056), (31, 8059), (37, 8095), (39, 8101), (40, 8116), (50, 8188), (56, 8215), (69, 8314), (70, 8320), (71, 8332),

Gene: Cashington_11 Start: 7928, Stop: 8323, Start Num: 14
Candidate Starts for Cashington_11:

(4, 7802), (Start: 14 @7928 has 35 MA's), (21, 7967), (26, 7994), (39, 8072), (52, 8171), (59, 8204), (70, 8297),

Gene: Celaena_11 Start: 7988, Stop: 8386, Start Num: 15
Candidate Starts for Celaena_11:
(3, 7850), (9, 7952), (10, 7970), (Start: 15 @7988 has 13 MA's), (20, 8009), (59, 8267), (62, 8285), (66, 8318),

Gene: Chickaboom_11 Start: 8002, Stop: 8445, Start Num: 8
Candidate Starts for Chickaboom_11:
(Start: 8 @8002 has 28 MA's), (Start: 16 @8044 has 11 MA's), (19, 8062), (23, 8098), (29, 8152), (30, 8155), (37, 8194), (42, 8248), (50, 8287), (56, 8314), (60, 8338), (61, 8344),

Gene: ChiliPepper_11 Start: 8141, Stop: 8542, Start Num: 15
Candidate Starts for ChiliPepper_11:
(Start: 15 @8141 has 13 MA's), (39, 8291), (54, 8405), (66, 8474),

Gene: Clayda5_10 Start: 7692, Stop: 8081, Start Num: 16
Candidate Starts for Clayda5_10:
(Start: 16 @7692 has 11 MA's), (39, 7833), (41, 7851), (64, 8004), (66, 8013), (68, 8037), (71, 8067),

Gene: CliffHanger_12 Start: 7883, Stop: 8278, Start Num: 12
Candidate Starts for CliffHanger_12:
(Start: 12 @7883 has 2 MA's), (35, 8015), (47, 8105), (57, 8153), (62, 8177), (68, 8234),

Gene: Coltrane_10 Start: 7692, Stop: 8081, Start Num: 16
Candidate Starts for Coltrane_10:
(Start: 16 @7692 has 11 MA's), (39, 7833), (41, 7851), (64, 8004), (66, 8013), (68, 8037), (71, 8067),

Gene: Colusalem_12 Start: 8336, Stop: 8779, Start Num: 8
Candidate Starts for Colusalem_12:
(Start: 8 @8336 has 28 MA's), (22, 8426), (23, 8432), (29, 8486), (30, 8489), (37, 8528), (56, 8648), (60, 8672), (69, 8744), (70, 8750),

Gene: Coral_12 Start: 8336, Stop: 8779, Start Num: 8
Candidate Starts for Coral_12:
(Start: 8 @8336 has 28 MA's), (22, 8426), (23, 8432), (29, 8486), (30, 8489), (37, 8528), (56, 8648), (60, 8672), (69, 8744), (70, 8750),

Gene: Cote_13 Start: 8497, Stop: 8940, Start Num: 8
Candidate Starts for Cote_13:
(Start: 8 @8497 has 28 MA's), (22, 8587), (23, 8593), (29, 8647), (30, 8650), (37, 8689), (56, 8809), (60, 8833), (69, 8905), (70, 8911),

Gene: CroZenni_11 Start: 7911, Stop: 8306, Start Num: 14
Candidate Starts for CroZenni_11:
(4, 7785), (Start: 14 @7911 has 35 MA's), (26, 7977), (39, 8055), (52, 8154), (59, 8187), (70, 8280),

Gene: Daob_13 Start: 8500, Stop: 8943, Start Num: 8
Candidate Starts for Daob_13:
(Start: 8 @8500 has 28 MA's), (22, 8590), (23, 8596), (29, 8650), (30, 8653), (37, 8692), (56, 8812), (60, 8836), (69, 8908), (70, 8914),

Gene: DickRichards_11 Start: 8405, Stop: 8800, Start Num: 14
Candidate Starts for DickRichards_11:
(4, 8279), (Start: 14 @8405 has 35 MA's), (21, 8444), (26, 8471), (39, 8549), (52, 8648), (59, 8681), (70, 8774),

Gene: Didgeridoo_12 Start: 8135, Stop: 8533, Start Num: 15
Candidate Starts for Didgeridoo_12:
(Start: 15 @8135 has 13 MA's), (52, 8381), (67, 8486),

Gene: DirtyBubble_11 Start: 8173, Stop: 8565, Start Num: 16
Candidate Starts for DirtyBubble_11:
(4, 8044), (Start: 14 @8170 has 35 MA's), (Start: 16 @8173 has 11 MA's), (25, 8233), (54, 8428), (62, 8464), (66, 8497), (67, 8518),

Gene: Dismas_11 Start: 8141, Stop: 8542, Start Num: 15
Candidate Starts for Dismas_11:
(Start: 15 @8141 has 13 MA's), (39, 8291), (54, 8405), (66, 8474),

Gene: Doobus_11 Start: 8142, Stop: 8537, Start Num: 14
Candidate Starts for Doobus_11:
(4, 8016), (Start: 14 @8142 has 35 MA's), (26, 8208), (39, 8286), (52, 8385), (59, 8418), (70, 8511),

Gene: Eden_10 Start: 7777, Stop: 8181, Start Num: 12
Candidate Starts for Eden_10:
(Start: 12 @7777 has 2 MA's), (Start: 16 @7783 has 11 MA's), (39, 7933), (41, 7951), (48, 8011), (56, 8047), (66, 8113),

Gene: Eesa_12 Start: 8495, Stop: 8935, Start Num: 8
Candidate Starts for Eesa_12:
(6, 8483), (Start: 8 @8495 has 28 MA's), (22, 8585), (23, 8591), (27, 8627), (29, 8645), (30, 8648), (37, 8687), (50, 8780), (56, 8807), (60, 8831), (65, 8867), (69, 8903),

Gene: Elva_12 Start: 8225, Stop: 8620, Start Num: 14
Candidate Starts for Elva_12:
(4, 8099), (Start: 14 @8225 has 35 MA's), (39, 8369), (54, 8483), (62, 8519), (66, 8552), (67, 8573),

Gene: Eula_11 Start: 7912, Stop: 8307, Start Num: 14
Candidate Starts for Eula_11:
(Start: 14 @7912 has 35 MA's), (21, 7951), (26, 7978), (33, 8029), (39, 8056), (59, 8188), (70, 8281),

Gene: Finalfrontier_12 Start: 8424, Stop: 8819, Start Num: 14
Candidate Starts for Finalfrontier_12:
(Start: 14 @8424 has 35 MA's), (21, 8463), (26, 8490), (39, 8568), (59, 8700), (70, 8793),

Gene: FlameThrower_11 Start: 7876, Stop: 8274, Start Num: 15
Candidate Starts for FlameThrower_11:
(1, 7678), (Start: 15 @7876 has 13 MA's), (20, 7897), (59, 8155), (62, 8173), (66, 8206),

Gene: Franklin22_10 Start: 7758, Stop: 8153, Start Num: 12
Candidate Starts for Franklin22_10:
(Start: 12 @7758 has 2 MA's), (Start: 16 @7764 has 11 MA's), (39, 7905), (41, 7923), (66, 8085),

Gene: Gack_10 Start: 7830, Stop: 8219, Start Num: 16

Candidate Starts for Gack_10:
(Start: 16 @7830 has 11 MA's), (28, 7917), (39, 7971), (40, 7986), (53, 8076), (62, 8118), (66, 8151),

Gene: Galaxy_12 Start: 8328, Stop: 8771, Start Num: 8
Candidate Starts for Galaxy_12:
(Start: 8 @8328 has 28 MA's), (23, 8424), (29, 8478), (30, 8481), (36, 8514), (50, 8613), (56, 8640), (60, 8664), (61, 8670), (63, 8679),

Gene: HannahPhantana_13 Start: 8500, Stop: 8943, Start Num: 8
Candidate Starts for HannahPhantana_13:
(Start: 8 @8500 has 28 MA's), (22, 8590), (23, 8596), (29, 8650), (30, 8653), (37, 8692), (56, 8812), (60, 8836), (69, 8908), (70, 8914),

Gene: Icarian_12 Start: 8152, Stop: 8547, Start Num: 14
Candidate Starts for Icarian_12:
(Start: 14 @8152 has 35 MA's), (25, 8215), (34, 8272), (66, 8479), (67, 8500),

Gene: IndyLu_11 Start: 7957, Stop: 8355, Start Num: 14
Candidate Starts for IndyLu_11:
(Start: 14 @7957 has 35 MA's), (52, 8203), (67, 8308),

Gene: Jamun_12 Start: 8669, Stop: 9112, Start Num: 8
Candidate Starts for Jamun_12:
(Start: 8 @8669 has 28 MA's), (Start: 16 @8711 has 11 MA's), (19, 8729), (23, 8765), (29, 8819), (30, 8822), (37, 8861), (42, 8915), (50, 8954), (56, 8981), (60, 9005), (61, 9011),

Gene: Jerole_13 Start: 8497, Stop: 8940, Start Num: 8
Candidate Starts for Jerole_13:
(Start: 8 @8497 has 28 MA's), (22, 8587), (23, 8593), (29, 8647), (30, 8650), (37, 8689), (56, 8809), (60, 8833), (69, 8905), (70, 8911),

Gene: Johnathan_11 Start: 7911, Stop: 8306, Start Num: 14
Candidate Starts for Johnathan_11:
(4, 7785), (Start: 14 @7911 has 35 MA's), (21, 7950), (26, 7977), (39, 8055), (52, 8154), (59, 8187), (70, 8280),

Gene: Jovita_11 Start: 8013, Stop: 8408, Start Num: 14
Candidate Starts for Jovita_11:
(Start: 14 @8013 has 35 MA's), (21, 8052), (26, 8079), (39, 8157), (59, 8289), (70, 8382),

Gene: Juno112_11 Start: 7903, Stop: 8343, Start Num: 8
Candidate Starts for Juno112_11:
(Start: 8 @7903 has 28 MA's), (17, 7954), (30, 8056), (31, 8059), (37, 8095), (39, 8101), (40, 8116), (50, 8188), (56, 8215), (69, 8314), (70, 8320), (71, 8332),

Gene: KHumphrey_11 Start: 7902, Stop: 8342, Start Num: 8
Candidate Starts for KHumphrey_11:
(Start: 8 @7902 has 28 MA's), (17, 7953), (30, 8055), (31, 8058), (37, 8094), (39, 8100), (40, 8115), (50, 8187), (56, 8214), (69, 8313), (70, 8319), (71, 8331),

Gene: Kate33_11 Start: 7956, Stop: 8354, Start Num: 14
Candidate Starts for Kate33_11:
(Start: 14 @7956 has 35 MA's), (52, 8202), (67, 8307),

Gene: Katzastrophic_11 Start: 8051, Stop: 8449, Start Num: 15
Candidate Starts for Katzastrophic_11:
(3, 7913), (Start: 15 @8051 has 13 MA's), (20, 8072), (59, 8330), (62, 8348), (66, 8381),

Gene: Kenzers_11 Start: 7928, Stop: 8323, Start Num: 14
Candidate Starts for Kenzers_11:
(Start: 14 @7928 has 35 MA's), (21, 7967), (39, 8072), (52, 8171), (59, 8204), (70, 8297),

Gene: Kepler_12 Start: 8335, Stop: 8778, Start Num: 8
Candidate Starts for Kepler_12:
(Start: 8 @8335 has 28 MA's), (22, 8425), (23, 8431), (29, 8485), (30, 8488), (37, 8527), (56, 8647), (60, 8671), (69, 8743), (70, 8749),

Gene: Kieran_11 Start: 8144, Stop: 8545, Start Num: 15
Candidate Starts for Kieran_11:
(Start: 15 @8144 has 13 MA's), (39, 8294), (54, 8408), (66, 8477),

Gene: Kuleana_12 Start: 8295, Stop: 8735, Start Num: 8
Candidate Starts for Kuleana_12:
(Start: 8 @8295 has 28 MA's), (22, 8385), (23, 8391), (25, 8403), (30, 8448), (37, 8487), (40, 8508), (49, 8577), (50, 8580), (56, 8607), (57, 8616), (60, 8631), (69, 8703), (70, 8709),

Gene: Lahqtemish_11 Start: 8003, Stop: 8401, Start Num: 15
Candidate Starts for Lahqtemish_11:
(Start: 15 @8003 has 13 MA's), (21, 8042), (52, 8249), (67, 8354),

Gene: Leona_11 Start: 7953, Stop: 8393, Start Num: 8
Candidate Starts for Leona_11:
(Start: 8 @7953 has 28 MA's), (30, 8106), (31, 8109), (37, 8145), (39, 8151), (40, 8166), (50, 8238), (56, 8265), (69, 8364), (70, 8370), (71, 8382),

Gene: LimaBean_11 Start: 7911, Stop: 8306, Start Num: 14
Candidate Starts for LimaBean_11:
(4, 7785), (Start: 14 @7911 has 35 MA's), (21, 7950), (26, 7977), (39, 8055), (52, 8154), (59, 8187), (70, 8280),

Gene: LittleTokyo_12 Start: 8235, Stop: 8678, Start Num: 8
Candidate Starts for LittleTokyo_12:
(6, 8223), (7, 8226), (Start: 8 @8235 has 28 MA's), (40, 8448), (44, 8496), (46, 8505), (47, 8508), (50, 8520), (60, 8571), (62, 8580), (69, 8646), (71, 8664),

Gene: Loviatar_19 Start: 8231, Stop: 8626, Start Num: 14
Candidate Starts for Loviatar_19:
(4, 8105), (Start: 14 @8231 has 35 MA's), (Start: 16 @8234 has 11 MA's), (25, 8294), (54, 8489), (62, 8525), (66, 8558), (67, 8579),

Gene: Lunar_13 Start: 8497, Stop: 8940, Start Num: 8
Candidate Starts for Lunar_13:
(Start: 8 @8497 has 28 MA's), (22, 8587), (23, 8593), (29, 8647), (30, 8650), (37, 8689), (56, 8809), (60, 8833), (69, 8905), (70, 8911),

Gene: Lynlen_11 Start: 7928, Stop: 8323, Start Num: 14

Candidate Starts for Lynlen_11:
(Start: 14 @7928 has 35 MA's), (21, 7967), (39, 8072), (52, 8171), (59, 8204), (70, 8297),

Gene: Melons_13 Start: 8497, Stop: 8940, Start Num: 8
Candidate Starts for Melons_13:
(Start: 8 @8497 has 28 MA's), (22, 8587), (23, 8593), (29, 8647), (30, 8650), (37, 8689), (56, 8809), (60, 8833), (69, 8905), (70, 8911),

Gene: Nicky22_12 Start: 8359, Stop: 8754, Start Num: 14
Candidate Starts for Nicky22_12:
(Start: 14 @8359 has 35 MA's), (21, 8398), (29, 8455), (39, 8503), (59, 8635), (70, 8728),

Gene: Olliecat_11 Start: 8144, Stop: 8536, Start Num: 11
Candidate Starts for Olliecat_11:
(11, 8144), (18, 8159), (26, 8210), (32, 8258), (35, 8273), (43, 8339), (55, 8402), (57, 8411), (62, 8435), (68, 8492),

Gene: Orcanus_12 Start: 8285, Stop: 8725, Start Num: 8
Candidate Starts for Orcanus_12:
(6, 8273), (Start: 8 @8285 has 28 MA's), (22, 8375), (27, 8417), (29, 8435), (30, 8438), (37, 8477), (50, 8570), (56, 8597), (60, 8621), (65, 8657), (69, 8693),

Gene: Phisb_11 Start: 7905, Stop: 8300, Start Num: 14
Candidate Starts for Phisb_11:
(Start: 14 @7905 has 35 MA's), (21, 7944), (26, 7971), (39, 8049), (52, 8148), (59, 8181), (70, 8274),

Gene: PhluffyCoco_11 Start: 7902, Stop: 8342, Start Num: 8
Candidate Starts for PhluffyCoco_11:
(Start: 8 @7902 has 28 MA's), (17, 7953), (30, 8055), (31, 8058), (37, 8094), (39, 8100), (40, 8115), (50, 8187), (56, 8214), (69, 8313), (70, 8319), (71, 8331),

Gene: Polka_12 Start: 8336, Stop: 8779, Start Num: 8
Candidate Starts for Polka_12:
(Start: 8 @8336 has 28 MA's), (22, 8426), (23, 8432), (29, 8486), (30, 8489), (37, 8528), (56, 8648), (60, 8672), (69, 8744), (70, 8750),

Gene: QMacho_12 Start: 8395, Stop: 8790, Start Num: 14
Candidate Starts for QMacho_12:
(Start: 14 @8395 has 35 MA's), (21, 8434), (26, 8461), (33, 8512), (39, 8539), (52, 8638), (59, 8671), (70, 8764),

Gene: Quenya_12 Start: 8046, Stop: 8447, Start Num: 15
Candidate Starts for Quenya_12:
(Start: 15 @8046 has 13 MA's), (39, 8196), (58, 8325), (59, 8328), (62, 8346), (66, 8379),

Gene: RedFox_11 Start: 7902, Stop: 8342, Start Num: 8
Candidate Starts for RedFox_11:
(Start: 8 @7902 has 28 MA's), (17, 7953), (30, 8055), (31, 8058), (37, 8094), (39, 8100), (40, 8115), (50, 8187), (56, 8214), (69, 8313), (70, 8319), (71, 8331),

Gene: Renna12_12 Start: 8102, Stop: 8545, Start Num: 8
Candidate Starts for Renna12_12:

(Start: 8 @8102 has 28 MA's), (30, 8255), (31, 8258), (37, 8294), (39, 8300), (50, 8387), (56, 8414), (60, 8438), (70, 8519), (71, 8531),

Gene: Rollins_10 Start: 7752, Stop: 8141, Start Num: 16
Candidate Starts for Rollins_10:
(Start: 16 @7752 has 11 MA's), (39, 7893), (41, 7911), (64, 8064), (66, 8073), (68, 8097), (71, 8127),

Gene: Rona_11 Start: 8141, Stop: 8542, Start Num: 15
Candidate Starts for Rona_11:
(Start: 15 @8141 has 13 MA's), (39, 8291), (54, 8405), (66, 8474),

Gene: Ruchi_12 Start: 8591, Stop: 9034, Start Num: 8
Candidate Starts for Ruchi_12:
(Start: 8 @8591 has 28 MA's), (Start: 16 @8633 has 11 MA's), (19, 8651), (23, 8687), (29, 8741), (30, 8744), (37, 8783), (42, 8837), (50, 8876), (56, 8903), (60, 8927), (61, 8933),

Gene: SanaSana_12 Start: 8160, Stop: 8555, Start Num: 14
Candidate Starts for SanaSana_12:
(4, 8034), (Start: 14 @8160 has 35 MA's), (Start: 16 @8163 has 11 MA's), (25, 8223), (62, 8454), (66, 8487), (67, 8508),

Gene: SansAfet_11 Start: 7922, Stop: 8317, Start Num: 14
Candidate Starts for SansAfet_11:
(4, 7796), (Start: 14 @7922 has 35 MA's), (21, 7961), (26, 7988), (39, 8066), (52, 8165), (59, 8198), (70, 8291),

Gene: SarBear_11 Start: 7888, Stop: 8283, Start Num: 14
Candidate Starts for SarBear_11:
(4, 7762), (Start: 14 @7888 has 35 MA's), (21, 7927), (26, 7954), (39, 8032), (59, 8164), (70, 8257),

Gene: Sharkboy_11 Start: 8140, Stop: 8541, Start Num: 15
Candidate Starts for Sharkboy_11:
(Start: 15 @8140 has 13 MA's), (39, 8290), (54, 8404), (66, 8473),

Gene: Shayna_10 Start: 7746, Stop: 8147, Start Num: 11
Candidate Starts for Shayna_10:
(11, 7746), (34, 7875), (41, 7917), (44, 7962), (60, 8037), (66, 8079), (68, 8103),

Gene: Skylord_10 Start: 7692, Stop: 8081, Start Num: 16
Candidate Starts for Skylord_10:
(Start: 16 @7692 has 11 MA's), (39, 7833), (41, 7851), (64, 8004), (66, 8013), (68, 8037), (71, 8067),

Gene: Slay_11 Start: 8364, Stop: 8759, Start Num: 14
Candidate Starts for Slay_11:
(4, 8238), (Start: 14 @8364 has 35 MA's), (21, 8403), (26, 8430), (39, 8508), (59, 8640), (70, 8733),

Gene: Squircle_11 Start: 8143, Stop: 8535, Start Num: 11
Candidate Starts for Squircle_11:
(11, 8143), (18, 8158), (26, 8209), (32, 8257), (35, 8272), (43, 8338), (55, 8401), (57, 8410), (62, 8434), (68, 8491),

Gene: Stoor_11 Start: 8157, Stop: 8552, Start Num: 14
Candidate Starts for Stoor_11:

(4, 8031), (Start: 14 @8157 has 35 MA's), (Start: 16 @8160 has 11 MA's), (25, 8220), (62, 8451), (66, 8484), (67, 8505),

Gene: Stromboli_11 Start: 8161, Stop: 8556, Start Num: 14
Candidate Starts for Stromboli_11:
(Start: 14 @8161 has 35 MA's), (Start: 16 @8164 has 11 MA's), (25, 8224), (54, 8419), (62, 8455), (66, 8488), (67, 8509),

Gene: SunnyD_10 Start: 7746, Stop: 8147, Start Num: 11
Candidate Starts for SunnyD_10:
(11, 7746), (34, 7875), (41, 7917), (60, 8037), (66, 8079), (68, 8103),

Gene: Swervy_11 Start: 7888, Stop: 8283, Start Num: 14
Candidate Starts for Swervy_11:
(4, 7762), (Start: 14 @7888 has 35 MA's), (21, 7927), (26, 7954), (39, 8032), (59, 8164), (70, 8257),

Gene: TMaxx_13 Start: 7597, Stop: 7989, Start Num: 12
Candidate Starts for TMaxx_13:
(Start: 12 @7597 has 2 MA's), (28, 7699), (31, 7711), (51, 7843), (71, 7981),

Gene: TaylorSipht_12 Start: 8370, Stop: 8810, Start Num: 8
Candidate Starts for TaylorSipht_12:
(Start: 8 @8370 has 28 MA's), (13, 8406), (24, 8469), (30, 8523), (31, 8526), (37, 8562), (45, 8634), (48, 8646), (56, 8682), (60, 8706), (65, 8742), (69, 8778),

Gene: Teagster_10 Start: 7746, Stop: 8147, Start Num: 11
Candidate Starts for Teagster_10:
(11, 7746), (34, 7875), (41, 7917), (60, 8037), (66, 8079), (68, 8103),

Gene: TukTuk_11 Start: 7948, Stop: 8343, Start Num: 14
Candidate Starts for TukTuk_11:
(4, 7822), (Start: 14 @7948 has 35 MA's), (21, 7987), (26, 8014), (39, 8092), (59, 8224), (70, 8317),

Gene: Vitas_10 Start: 7692, Stop: 8081, Start Num: 16
Candidate Starts for Vitas_10:
(Start: 16 @7692 has 11 MA's), (39, 7833), (41, 7851), (64, 8004), (66, 8013), (68, 8037), (71, 8067),

Gene: Vulpecula_12 Start: 8667, Stop: 9110, Start Num: 8
Candidate Starts for Vulpecula_12:
(Start: 8 @8667 has 28 MA's), (Start: 16 @8709 has 11 MA's), (19, 8727), (23, 8763), (29, 8817), (30, 8820), (37, 8859), (42, 8913), (50, 8952), (56, 8979), (60, 9003), (61, 9009),

Gene: WalkingDead_11 Start: 8148, Stop: 8543, Start Num: 14
Candidate Starts for WalkingDead_11:
(Start: 14 @8148 has 35 MA's), (Start: 16 @8151 has 11 MA's), (25, 8211), (26, 8214), (62, 8442), (66, 8475), (67, 8496),