Pham 283629

1: EdnaMode_7 + 15
2: JCole_7
3: Yeet412_7 + 6
4: Vasanti_7
5: Sahara_7
6: FroggyToad_7
7: Easley_8 + 2
8: Clark_8
9: Sekhmet_8 + 7
10: Beenie_8
11: Powerball_7
12: Annalisa_8
13: Dorito_7 + 1
14: DobbysSock_7
15: Doggs_7 + 1
16: GEazy_7 + 1
17: Moonflower_8
18: Bunker_7 + 1
19: Bowser_7
20: Eyes_7
21: Hedwig_8 + 1
22: RayTheFireFly_8
23: Dmitri_8
24: Kiko_8
25: BackstagePass_7
26: Langerak_7 + 11
27: Thespis_7 + 36
28: Phineas_7
29: Tortellini_7
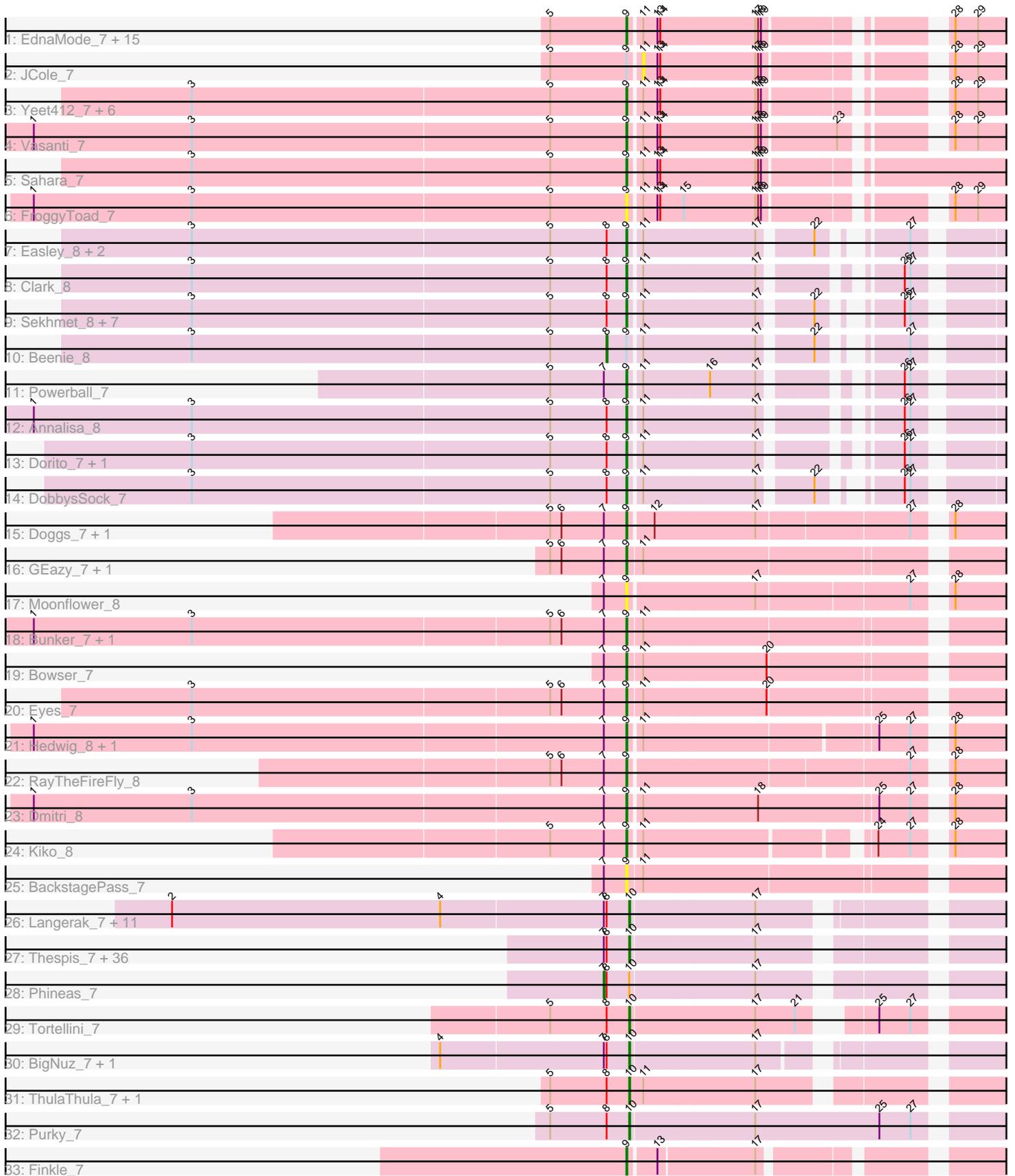30: BigNuz_7 + 1
31: ThulaThula_7 + 1
32: Purky_7
33: Finkle_7

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 283629 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283629 has 117 members, 13 are drafts.

Phages represented in each track:
• Track 1 : EdnaMode_7, Lamberg_7, TuertoX_7, Clap_7, GemG_7, Denise_7, Whiteclaw_7, Gizermo_7, Nettuno_7, Ebert_7, Jalleen_7, Savage_7, Cynthia_7, Sproutie_7, Haley23_7, Mocha12_7
• Track 2 : JCole_7
• Track 3 : Yeet412_7, Attis_7, SoilAssassin_7, Matteo_7, Bjanes7_7, Pickett_7, LordFarquaad_7
• Track 4 : Vasanti_7
• Track 5 : Sahara_7
• Track 6 : FroggyToad_7
• Track 7 : Easley_8, Tuti_9, MichaelScott_8
• Track 8 : Clark_8
• Track 9 : Sekhmet_8, Oregano_8, Suerte_7, Dolores_8, Samman98_8, WinkNick_8, Thimann_8, Invectra_8
• Track 10 : Beenie_8
• Track 11 : Powerball_7
• Track 12 : Annalisa_8
• Track 13 : Dorito_7, PhriskyACE_7
• Track 14 : DobbysSock_7
• Track 15 : Doggs_7, Coriander_8
• Track 16 : GEazy_7, HannahD_7
• Track 17 : Moonflower_8
• Track 18 : Bunker_7, BBQValindra_7
• Track 19 : Bowser_7
• Track 20 : Eyes_7
• Track 21 : Hedwig_8, DirtyBoi_8
• Track 22 : RayTheFireFly_8
• Track 23 : Dmitri_8
• Track 24 : Kiko_8
• Track 25 : BackstagePass_7
• Track 26 : Langerak_7, Mangethe_7, Majeke_7, Donovan_7, GaloreK_7, BronnyJr_7, Sonah_7, Arib1_7, Phegasus_7, Jebeks_7, Juniormint_7, Techage_7
• Track 27 : Thespis_7, Glaske_7, StevieRay_7, Venti_7, Brusacoram_7, Etoile_7, Shipwreck_7, Bunnies_7, Atcoo_7, Phalm_7, Camster_7, Chubbello_7, Megiddo_7, FirstPlacePfu_7, Polkaroo_7, Pygmy_7, Jung_7, Kari_7, KilKor_7, HUHilltop_7, Necropolis_7, StressBall_7, Xavia_7, Dynamo_7, Bhagsy_7, Bartholomew_7, Bogie_7, CactusJack_7, Zilizebeth_7, PeanutPie_7, Willsammy_7, Malithi_7, Gavriela_7, Ksquared_7, Fishburne_7, Vidya_7, GreaseLightnin_7

- Track 28 : Phineas_7
- Track 29 : Tortellini_7
- Track 30 : BigNuz_7, Nazo_7
- Track 31 : ThulaThula_7, Phayonce_7
- Track 32 : Purky_7
- Track 33 : Finkle_7

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

The start number called the most often in the published annotations is 9, it was called in 53 of the 104 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Annalisa_8, Attis_7, BBQValindra_7, BackstagePass_7, Bjanes7_7, Bowser_7, Bunker_7, Clap_7, Clark_8, Coriander_8, Cynthia_7, Denise_7, DirtyBoi_8, Dmitri_8, DobbysSock_7, Doggs_7, Dolores_8, Dorito_7, Easley_8, Ebert_7, EdnaMode_7, Eyes_7, Finkle_7, FroggyToad_7, GEazy_7, GemG_7, Gizermo_7, Haley23_7, HannahD_7, Hedwig_8, Invectra_8, Jalleen_7, Kiko_8, Lamberg_7, LordFarquaad_7, Matteo_7, MichaelScott_8, Mocha12_7, Moonflower_8, Nettuno_7, Oregano_8, PhriskyACE_7, Pickett_7, Powerball_7, RayTheFireFly_8, Sahara_7, Samman98_8, Savage_7, Sekhmet_8, SoilAssassin_7, Sproutie_7, Suerte_7, Thimann_8, TuertoX_7, Tuti_9, Vasanti_7, Whiteclaw_7, WinkNick_8, Yeet412_7,

Genes that have the "Most Annotated" start but do not call it:
- Beenie_8, JCole_7,

Genes that do not have the "Most Annotated" start:
- Arib1_7, Atcoo_7, Bartholomew_7, Bhagsy_7, BigNuz_7, Bogie_7, BronnyJr_7, Brusacoram_7, Bunnies_7, CactusJack_7, Camster_7, Chubbello_7, Donovan_7, Dynamo_7, Etoile_7, FirstPlacePfu_7, Fishburne_7, GaloreK_7, Gavriela_7, Glaske_7, GreaseLightnin_7, HUHilltop_7, Jebeks_7, Jung_7, Juniormint_7, Kari_7, KilKor_7, Ksquared_7, Langerak_7, Majeke_7, Malithi_7, Mangethe_7, Megiddo_7, Nazo_7, Necropolis_7, PeanutPie_7, Phalm_7, Phayonce_7, Phegasus_7, Phineas_7, Polkaroo_7, Purky_7, Pygmy_7, Shipwreck_7, Sonah_7, StevieRay_7, StressBall_7, Techage_7, Thespis_7, ThulaThula_7, Tortellini_7, Venti_7, Vidya_7, Willsammy_7, Xavia_7, Zilizebeth_7,

Summary by start number:

Start 7:
- Found in 68 of 117 (58.1%) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Phineas_7 (P1),

Start 8:
- Found in 73 of 117 (62.4%) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 1.4% of time when present
- Phage (with cluster) where this start called: Beenie_8 (CZ4),

Start 9:
• Found in 61 of 117 (52.1%) of genes in pham
• Manual Annotations of this start: 53 of 104
• Called 96.7% of time when present
• Phage (with cluster) where this start called: Annalisa_8 (CZ4), Attis_7 (CZ2), BBQValindra_7 (DB), BackstagePass_7 (DB), Bjanes7_7 (CZ2), Bowser_7 (DB), Bunker_7 (DB), Clap_7 (CZ2), Clark_8 (CZ4), Coriander_8 (DB), Cynthia_7 (CZ2), Denise_7 (CZ5), DirtyBoi_8 (DB), Dmitri_8 (DB), DobbysSock_7 (CZ4), Doggs_7 (DB), Dolores_8 (CZ4), Dorito_7 (CZ4), Easley_8 (CZ4), Ebert_7 (CZ2), EdnaMode_7 (CZ2), Eyes_7 (DB), Finkle_7 (singleton), FroggyToad_7 (CZ2), GEazy_7 (DB), GemG_7 (CZ2), Gizermo_7 (CZ2), Haley23_7 (CZ2), HannahD_7 (DB), Hedwig_8 (DB), Invectra_8 (CZ4), Jalleen_7 (CZ2), Kiko_8 (DB), Lamberg_7 (CZ2), LordFarquaad_7 (CZ2), Matteo_7 (CZ2), MichaelScott_8 (CZ4), Mocha12_7 (CZ2), Moonflower_8 (DB), Nettuno_7 (CZ2), Oregano_8 (CZ4), PhriskyACE_7 (CZ4), Pickett_7 (CZ2), Powerball_7 (CZ4), RayTheFireFly_8 (DB), Sahara_7 (CZ2), Samman98_8 (CZ4), Savage_7 (CZ2), Sekhmet_8 (CZ4), SoilAssassin_7 (CZ2), Sproutie_7 (CZ2), Suerte_7 (CZ4), Thimann_8 (CZ4), TuertoX_7 (CZ2), Tuti_9 (CZ4), Vasanti_7 (CZ2), Whiteclaw_7 (CZ2), WinkNick_8 (CZ4), Yeet412_7 (CZ2),

Start 10:
• Found in 56 of 117 (47.9%) of genes in pham
• Manual Annotations of this start: 49 of 104
• Called 98.2% of time when present
• Phage (with cluster) where this start called: Arib1_7 (P1), Atcoo_7 (P1), Bartholomew_7 (P1), Bhagsy_7 (P1), BigNuz_7 (P4), Bogie_7 (P1), BronnyJr_7 (P1), Brusacoram_7 (P1), Bunnies_7 (P1), CactusJack_7 (P1), Camster_7 (P1), Chubbello_7 (none), Donovan_7 (P1), Dynamo_7 (P1), Etoile_7 (P1), FirstPlacePfu_7 (P1), Fishburne_7 (P1), GaloreK_7 (P1), Gavriela_7 (P1), Glaske_7 (P1), GreaseLightnin_7 (P1), HUHilltop_7 (P1), Jebeks_7 (P1), Jung_7 (P1), Juniormint_7 (P1), Kari_7 (P1), KilKor_7 (P1), Ksquared_7 (P1), Langerak_7 (P1), Majeke_7 (P1), Malithi_7 (P1), Mangethe_7 (P1), Megiddo_7 (P1), Nazo_7 (P4), Necropolis_7 (P1), PeanutPie_7 (P1), Phalm_7 (P1), Phayonce_7 (P5), Phegasus_7 (P1), Polkaroo_7 (P1), Purky_7 (P6), Pygmy_7 (P1), Shipwreck_7 (P1), Sonah_7 (P1), StevieRay_7 (P1), StressBall_7 (P1), Techage_7 (P1), Thespis_7 (P1), ThulaThula_7 (P5), Tortellini_7 (P2), Venti_7 (P1), Vidya_7 (P1), Willsammy_7 (P1), Xavia_7 (P3), Zilizebeth_7 (P1),

Start 11:
• Found in 58 of 117 (49.6%) of genes in pham
• No Manual Annotations of this start.
• Called 1.7% of time when present
• Phage (with cluster) where this start called: JCole_7 (CZ2),

Summary by clusters:

There are 12 clusters represented in this pham: P2, P3, singleton, P1, P6, P4, P5, CZ2, DB, none, CZ4, CZ5,

Info for manual annotations of cluster CZ2:
•Start number 9 was manually annotated 23 times for cluster CZ2.

Info for manual annotations of cluster CZ4:

•Start number 8 was manually annotated 1 time for cluster CZ4.
•Start number 9 was manually annotated 15 times for cluster CZ4.

Info for manual annotations of cluster CZ5:
•Start number 9 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster DB:
•Start number 9 was manually annotated 13 times for cluster DB.

Info for manual annotations of cluster P1:
•Start number 7 was manually annotated 1 time for cluster P1.
•Start number 10 was manually annotated 42 times for cluster P1.

Info for manual annotations of cluster P2:
•Start number 10 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:
•Start number 10 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:
•Start number 10 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:
•Start number 10 was manually annotated 2 times for cluster P5.

Info for manual annotations of cluster P6:
•Start number 10 was manually annotated 1 time for cluster P6.

Gene Information:

Gene: Annalisa_8 Start: 6265, Stop: 6591, Start Num: 9
Candidate Starts for Annalisa_8:
(1, 5638), (3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (26, 6502), (27, 6508),

Gene: Arib1_7 Start: 6243, Stop: 6590, Start Num: 10
Candidate Starts for Arib1_7:
(2, 5760), (4, 6045), (Start: 7 @6216 has 1 MA's), (Start: 8 @6219 has 1 MA's), (Start: 10 @6243 has 49 MA's), (17, 6372),

Gene: Atcoo_7 Start: 6226, Stop: 6576, Start Num: 10
Candidate Starts for Atcoo_7:
(Start: 7 @6199 has 1 MA's), (Start: 8 @6202 has 1 MA's), (Start: 10 @6226 has 49 MA's), (17, 6355),

Gene: Attis_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Attis_7:
(3, 5315), (5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: BBQValindra_7 Start: 6114, Stop: 6488, Start Num: 9

Candidate Starts for BBQValindra_7:
(1, 5490), (3, 5658), (5, 6033), (6, 6045), (Start: 7 @6090 has 1 MA's), (Start: 9 @6114 has 53 MA's), (11, 6129),

Gene: BackstagePass_7 Start: 6091, Stop: 6465, Start Num: 9
Candidate Starts for BackstagePass_7:
(Start: 7 @6067 has 1 MA's), (Start: 9 @6091 has 53 MA's), (11, 6106),

Gene: Bartholomew_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Bartholomew_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Beenie_8 Start: 6244, Stop: 6585, Start Num: 8
Candidate Starts for Beenie_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (27, 6502),

Gene: Bhagsy_7 Start: 6229, Stop: 6579, Start Num: 10
Candidate Starts for Bhagsy_7:
(Start: 7 @6202 has 1 MA's), (Start: 8 @6205 has 1 MA's), (Start: 10 @6229 has 49 MA's), (17, 6358),

Gene: BigNuz_7 Start: 6216, Stop: 6557, Start Num: 10
Candidate Starts for BigNuz_7:
(4, 6018), (Start: 7 @6189 has 1 MA's), (Start: 8 @6192 has 1 MA's), (Start: 10 @6216 has 49 MA's), (17, 6345),

Gene: Bjanes7_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Bjanes7_7:
(3, 5315), (5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Bogie_7 Start: 6226, Stop: 6576, Start Num: 10
Candidate Starts for Bogie_7:
(Start: 7 @6199 has 1 MA's), (Start: 8 @6202 has 1 MA's), (Start: 10 @6226 has 49 MA's), (17, 6355),

Gene: Bowser_7 Start: 6112, Stop: 6486, Start Num: 9
Candidate Starts for Bowser_7:
(Start: 7 @6088 has 1 MA's), (Start: 9 @6112 has 53 MA's), (11, 6127), (20, 6256),

Gene: BronnyJr_7 Start: 6246, Stop: 6593, Start Num: 10
Candidate Starts for BronnyJr_7:
(2, 5763), (4, 6048), (Start: 7 @6219 has 1 MA's), (Start: 8 @6222 has 1 MA's), (Start: 10 @6246 has 49 MA's), (17, 6375),

Gene: Brusacoram_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for Brusacoram_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: Bunker_7 Start: 6114, Stop: 6488, Start Num: 9
Candidate Starts for Bunker_7:
(1, 5490), (3, 5658), (5, 6033), (6, 6045), (Start: 7 @6090 has 1 MA's), (Start: 9 @6114 has 53 MA's), (11, 6129),

Gene: Bunnies_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Bunnies_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: CactusJack_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for CactusJack_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: Camster_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Camster_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Chubbello_7 Start: 6237, Stop: 6587, Start Num: 10
Candidate Starts for Chubbello_7:
(Start: 7 @6210 has 1 MA's), (Start: 8 @6213 has 1 MA's), (Start: 10 @6237 has 49 MA's), (17, 6366),

Gene: Clap_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Clap_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Clark_8 Start: 6265, Stop: 6591, Start Num: 9
Candidate Starts for Clark_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (26, 6502), (27, 6508),

Gene: Coriander_8 Start: 6499, Stop: 6873, Start Num: 9
Candidate Starts for Coriander_8:
(5, 6418), (6, 6430), (Start: 7 @6475 has 1 MA's), (Start: 9 @6499 has 53 MA's), (12, 6523), (17, 6628), (27, 6784), (28, 6808),

Gene: Cynthia_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Cynthia_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Denise_7 Start: 5783, Stop: 6130, Start Num: 9
Candidate Starts for Denise_7:
(5, 5702), (Start: 9 @5783 has 53 MA's), (11, 5795), (13, 5810), (14, 5813), (17, 5912), (18, 5915), (19, 5918), (28, 6071), (29, 6095),

Gene: DirtyBoi_8 Start: 6478, Stop: 6846, Start Num: 9
Candidate Starts for DirtyBoi_8:
(1, 5854), (3, 6022), (Start: 7 @6454 has 1 MA's), (Start: 9 @6478 has 53 MA's), (11, 6490), (25, 6724), (27, 6757), (28, 6781),

Gene: Dmitri_8 Start: 6478, Stop: 6855, Start Num: 9
Candidate Starts for Dmitri_8:
(1, 5854), (3, 6022), (Start: 7 @6454 has 1 MA's), (Start: 9 @6478 has 53 MA's), (11, 6490), (18, 6610), (25, 6733), (27, 6766), (28, 6790),

Gene: DobbysSock_7 Start: 5763, Stop: 6083, Start Num: 9
Candidate Starts for DobbysSock_7:

(3, 5304), (5, 5682), (Start: 8 @5742 has 1 MA's), (Start: 9 @5763 has 53 MA's), (11, 5775), (17, 5892), (22, 5940), (26, 5994), (27, 6000),

Gene: Doggs_7 Start: 6196, Stop: 6570, Start Num: 9
Candidate Starts for Doggs_7:
(5, 6115), (6, 6127), (Start: 7 @6172 has 1 MA's), (Start: 9 @6196 has 53 MA's), (12, 6220), (17, 6325), (27, 6481), (28, 6505),

Gene: Dolores_8 Start: 6265, Stop: 6585, Start Num: 9
Candidate Starts for Dolores_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (26, 6496), (27, 6502),

Gene: Donovan_7 Start: 6243, Stop: 6590, Start Num: 10
Candidate Starts for Donovan_7:
(2, 5760), (4, 6045), (Start: 7 @6216 has 1 MA's), (Start: 8 @6219 has 1 MA's), (Start: 10 @6243 has 49 MA's), (17, 6372),

Gene: Dorito_7 Start: 5763, Stop: 6089, Start Num: 9
Candidate Starts for Dorito_7:
(3, 5304), (5, 5682), (Start: 8 @5742 has 1 MA's), (Start: 9 @5763 has 53 MA's), (11, 5775), (17, 5892), (26, 6000), (27, 6006),

Gene: Dynamo_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Dynamo_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Easley_8 Start: 6265, Stop: 6585, Start Num: 9
Candidate Starts for Easley_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (27, 6502),

Gene: Ebert_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Ebert_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: EdnaMode_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for EdnaMode_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Etoile_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Etoile_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Eyes_7 Start: 6121, Stop: 6495, Start Num: 9
Candidate Starts for Eyes_7:
(3, 5665), (5, 6040), (6, 6052), (Start: 7 @6097 has 1 MA's), (Start: 9 @6121 has 53 MA's), (11, 6136), (20, 6265),

Gene: Finkle_7 Start: 5910, Stop: 6254, Start Num: 9
Candidate Starts for Finkle_7:

(Start: 9 @5910 has 53 MA's), (13, 5937), (17, 6036),

Gene: FirstPlacePfu_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for FirstPlacePfu_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Fishburne_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Fishburne_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: FroggyToad_7 Start: 5775, Stop: 6122, Start Num: 9
Candidate Starts for FroggyToad_7:
(1, 5148), (3, 5316), (5, 5694), (Start: 9 @5775 has 53 MA's), (11, 5787), (13, 5802), (14, 5805), (15, 5829), (17, 5904), (18, 5907), (19, 5910), (28, 6063), (29, 6087),

Gene: GEazy_7 Start: 6123, Stop: 6497, Start Num: 9
Candidate Starts for GEazy_7:
(5, 6042), (6, 6054), (Start: 7 @6099 has 1 MA's), (Start: 9 @6123 has 53 MA's), (11, 6138),

Gene: GaloreK_7 Start: 6244, Stop: 6591, Start Num: 10
Candidate Starts for GaloreK_7:
(2, 5761), (4, 6046), (Start: 7 @6217 has 1 MA's), (Start: 8 @6220 has 1 MA's), (Start: 10 @6244 has 49 MA's), (17, 6373),

Gene: Gavriela_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for Gavriela_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: GemG_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for GemG_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Gizermo_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Gizermo_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Glaske_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for Glaske_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: GreaseLightnin_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for GreaseLightnin_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: HUHilltop_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for HUHilltop_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Haley23_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Haley23_7:

(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: HannahD_7 Start: 6123, Stop: 6497, Start Num: 9
Candidate Starts for HannahD_7:
(5, 6042), (6, 6054), (Start: 7 @6099 has 1 MA's), (Start: 9 @6123 has 53 MA's), (11, 6138),

Gene: Hedwig_8 Start: 6478, Stop: 6846, Start Num: 9
Candidate Starts for Hedwig_8:
(1, 5854), (3, 6022), (Start: 7 @6454 has 1 MA's), (Start: 9 @6478 has 53 MA's), (11, 6490), (25, 6724), (27, 6757), (28, 6781),

Gene: Invectra_8 Start: 6265, Stop: 6585, Start Num: 9
Candidate Starts for Invectra_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (26, 6496), (27, 6502),

Gene: JCole_7 Start: 5786, Stop: 6121, Start Num: 11
Candidate Starts for JCole_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Jalleen_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Jalleen_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Jebeks_7 Start: 6243, Stop: 6590, Start Num: 10
Candidate Starts for Jebeks_7:
(2, 5760), (4, 6045), (Start: 7 @6216 has 1 MA's), (Start: 8 @6219 has 1 MA's), (Start: 10 @6243 has 49 MA's), (17, 6372),

Gene: Jung_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for Jung_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: Juniormint_7 Start: 6246, Stop: 6593, Start Num: 10
Candidate Starts for Juniormint_7:
(2, 5763), (4, 6048), (Start: 7 @6219 has 1 MA's), (Start: 8 @6222 has 1 MA's), (Start: 10 @6246 has 49 MA's), (17, 6375),

Gene: Kari_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Kari_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Kiko_8 Start: 6339, Stop: 6689, Start Num: 9
Candidate Starts for Kiko_8:
(5, 6258), (Start: 7 @6315 has 1 MA's), (Start: 9 @6339 has 53 MA's), (11, 6351), (24, 6567), (27, 6600), (28, 6624),

Gene: KilKor_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for KilKor_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: Ksquared_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Ksquared_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Lamberg_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Lamberg_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Langerak_7 Start: 6243, Stop: 6590, Start Num: 10
Candidate Starts for Langerak_7:
(2, 5760), (4, 6045), (Start: 7 @6216 has 1 MA's), (Start: 8 @6219 has 1 MA's), (Start: 10 @6243 has 49 MA's), (17, 6372),

Gene: LordFarquaad_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for LordFarquaad_7:
(3, 5315), (5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Majeke_7 Start: 6243, Stop: 6590, Start Num: 10
Candidate Starts for Majeke_7:
(2, 5760), (4, 6045), (Start: 7 @6216 has 1 MA's), (Start: 8 @6219 has 1 MA's), (Start: 10 @6243 has 49 MA's), (17, 6372),

Gene: Malithi_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Malithi_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Mangethe_7 Start: 6243, Stop: 6590, Start Num: 10
Candidate Starts for Mangethe_7:
(2, 5760), (4, 6045), (Start: 7 @6216 has 1 MA's), (Start: 8 @6219 has 1 MA's), (Start: 10 @6243 has 49 MA's), (17, 6372),

Gene: Matteo_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Matteo_7:
(3, 5315), (5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Megiddo_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for Megiddo_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: MichaelScott_8 Start: 6265, Stop: 6585, Start Num: 9
Candidate Starts for MichaelScott_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (27, 6502),

Gene: Mocha12_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Mocha12_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Moonflower_8 Start: 6504, Stop: 6878, Start Num: 9
Candidate Starts for Moonflower_8:
(Start: 7 @6480 has 1 MA's), (Start: 9 @6504 has 53 MA's), (17, 6633), (27, 6789), (28, 6813),

Gene: Nazo_7 Start: 6216, Stop: 6557, Start Num: 10
Candidate Starts for Nazo_7:
(4, 6018), (Start: 7 @6189 has 1 MA's), (Start: 8 @6192 has 1 MA's), (Start: 10 @6216 has 49 MA's),
(17, 6345),

Gene: Necropolis_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Necropolis_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Nettuno_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Nettuno_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19,
5909), (28, 6062), (29, 6086),

Gene: Oregano_8 Start: 5936, Stop: 6256, Start Num: 9
Candidate Starts for Oregano_8:
(3, 5477), (5, 5855), (Start: 8 @5915 has 1 MA's), (Start: 9 @5936 has 53 MA's), (11, 5948), (17,
6065), (22, 6113), (26, 6167), (27, 6173),

Gene: PeanutPie_7 Start: 6229, Stop: 6579, Start Num: 10
Candidate Starts for PeanutPie_7:
(Start: 7 @6202 has 1 MA's), (Start: 8 @6205 has 1 MA's), (Start: 10 @6229 has 49 MA's), (17, 6358),

Gene: Phalm_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for Phalm_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: Phayonce_7 Start: 6224, Stop: 6577, Start Num: 10
Candidate Starts for Phayonce_7:
(5, 6140), (Start: 8 @6200 has 1 MA's), (Start: 10 @6224 has 49 MA's), (11, 6239), (17, 6356),

Gene: Phegasus_7 Start: 6243, Stop: 6590, Start Num: 10
Candidate Starts for Phegasus_7:
(2, 5760), (4, 6045), (Start: 7 @6216 has 1 MA's), (Start: 8 @6219 has 1 MA's), (Start: 10 @6243 has
49 MA's), (17, 6372),

Gene: Phineas_7 Start: 6199, Stop: 6576, Start Num: 7
Candidate Starts for Phineas_7:
(Start: 7 @6199 has 1 MA's), (Start: 8 @6202 has 1 MA's), (Start: 10 @6226 has 49 MA's), (17, 6355),

Gene: PhriskyACE_7 Start: 5763, Stop: 6089, Start Num: 9
Candidate Starts for PhriskyACE_7:
(3, 5304), (5, 5682), (Start: 8 @5742 has 1 MA's), (Start: 9 @5763 has 53 MA's), (11, 5775), (17,
5892), (26, 6000), (27, 6006),

Gene: Pickett_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Pickett_7:
(3, 5315), (5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18,
5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Polkaroo_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Polkaroo_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Powerball_7 Start: 5763, Stop: 6089, Start Num: 9
Candidate Starts for Powerball_7:
(5, 5682), (Start: 7 @5739 has 1 MA's), (Start: 9 @5763 has 53 MA's), (11, 5775), (16, 5844), (17, 5892), (26, 6000), (27, 6006),

Gene: Purky_7 Start: 6215, Stop: 6592, Start Num: 10
Candidate Starts for Purky_7:
(5, 6131), (Start: 8 @6191 has 1 MA's), (Start: 10 @6215 has 49 MA's), (17, 6344), (25, 6476), (27, 6509),

Gene: Pygmy_7 Start: 6226, Stop: 6576, Start Num: 10
Candidate Starts for Pygmy_7:
(Start: 7 @6199 has 1 MA's), (Start: 8 @6202 has 1 MA's), (Start: 10 @6226 has 49 MA's), (17, 6355),

Gene: RayTheFireFly_8 Start: 6505, Stop: 6879, Start Num: 9
Candidate Starts for RayTheFireFly_8:
(5, 6424), (6, 6436), (Start: 7 @6481 has 1 MA's), (Start: 9 @6505 has 53 MA's), (27, 6790), (28, 6814),

Gene: Sahara_7 Start: 5765, Stop: 6136, Start Num: 9
Candidate Starts for Sahara_7:
(3, 5306), (5, 5684), (Start: 9 @5765 has 53 MA's), (11, 5777), (13, 5792), (14, 5795), (17, 5894), (18, 5897), (19, 5900),

Gene: Samman98_8 Start: 6265, Stop: 6585, Start Num: 9
Candidate Starts for Samman98_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (26, 6496), (27, 6502),

Gene: Savage_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Savage_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Sekhmet_8 Start: 6265, Stop: 6585, Start Num: 9
Candidate Starts for Sekhmet_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (26, 6496), (27, 6502),

Gene: Shipwreck_7 Start: 6226, Stop: 6576, Start Num: 10
Candidate Starts for Shipwreck_7:
(Start: 7 @6199 has 1 MA's), (Start: 8 @6202 has 1 MA's), (Start: 10 @6226 has 49 MA's), (17, 6355),

Gene: SoilAssassin_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for SoilAssassin_7:
(3, 5315), (5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Sonah_7 Start: 6243, Stop: 6590, Start Num: 10
Candidate Starts for Sonah_7:
(2, 5760), (4, 6045), (Start: 7 @6216 has 1 MA's), (Start: 8 @6219 has 1 MA's), (Start: 10 @6243 has 49 MA's), (17, 6372),

Gene: Sproutie_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Sproutie_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: StevieRay_7 Start: 6229, Stop: 6579, Start Num: 10
Candidate Starts for StevieRay_7:
(Start: 7 @6202 has 1 MA's), (Start: 8 @6205 has 1 MA's), (Start: 10 @6229 has 49 MA's), (17, 6358),

Gene: StressBall_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for StressBall_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: Suerte_7 Start: 5763, Stop: 6083, Start Num: 9
Candidate Starts for Suerte_7:
(3, 5304), (5, 5682), (Start: 8 @5742 has 1 MA's), (Start: 9 @5763 has 53 MA's), (11, 5775), (17, 5892), (22, 5940), (26, 5994), (27, 6000),

Gene: Techage_7 Start: 6246, Stop: 6593, Start Num: 10
Candidate Starts for Techage_7:
(2, 5763), (4, 6048), (Start: 7 @6219 has 1 MA's), (Start: 8 @6222 has 1 MA's), (Start: 10 @6246 has 49 MA's), (17, 6375),

Gene: Thespis_7 Start: 6225, Stop: 6575, Start Num: 10
Candidate Starts for Thespis_7:
(Start: 7 @6198 has 1 MA's), (Start: 8 @6201 has 1 MA's), (Start: 10 @6225 has 49 MA's), (17, 6354),

Gene: Thimann_8 Start: 6265, Stop: 6585, Start Num: 9
Candidate Starts for Thimann_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (26, 6496), (27, 6502),

Gene: ThulaThula_7 Start: 6269, Stop: 6622, Start Num: 10
Candidate Starts for ThulaThula_7:
(5, 6185), (Start: 8 @6245 has 1 MA's), (Start: 10 @6269 has 49 MA's), (11, 6284), (17, 6401),

Gene: Tortellini_7 Start: 6196, Stop: 6534, Start Num: 10
Candidate Starts for Tortellini_7:
(5, 6112), (Start: 8 @6172 has 1 MA's), (Start: 10 @6196 has 49 MA's), (17, 6325), (21, 6367), (25, 6418), (27, 6451),

Gene: TuertoX_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for TuertoX_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Tuti_9 Start: 6265, Stop: 6585, Start Num: 9
Candidate Starts for Tuti_9:

(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (27, 6502),

Gene: Vasanti_7 Start: 5775, Stop: 6125, Start Num: 9
Candidate Starts for Vasanti_7:
(1, 5148), (3, 5316), (5, 5694), (Start: 9 @5775 has 53 MA's), (11, 5787), (13, 5802), (14, 5805), (17, 5904), (18, 5907), (19, 5910), (23, 5985), (28, 6066), (29, 6090),

Gene: Venti_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Venti_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Vidya_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Vidya_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),

Gene: Whiteclaw_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Whiteclaw_7:
(5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Willsammy_7 Start: 6228, Stop: 6578, Start Num: 10
Candidate Starts for Willsammy_7:
(Start: 7 @6201 has 1 MA's), (Start: 8 @6204 has 1 MA's), (Start: 10 @6228 has 49 MA's), (17, 6357),

Gene: WinkNick_8 Start: 6265, Stop: 6585, Start Num: 9
Candidate Starts for WinkNick_8:
(3, 5806), (5, 6184), (Start: 8 @6244 has 1 MA's), (Start: 9 @6265 has 53 MA's), (11, 6277), (17, 6394), (22, 6442), (26, 6496), (27, 6502),

Gene: Xavia_7 Start: 6240, Stop: 6590, Start Num: 10
Candidate Starts for Xavia_7:
(Start: 7 @6213 has 1 MA's), (Start: 8 @6216 has 1 MA's), (Start: 10 @6240 has 49 MA's), (17, 6369),

Gene: Yeet412_7 Start: 5774, Stop: 6121, Start Num: 9
Candidate Starts for Yeet412_7:
(3, 5315), (5, 5693), (Start: 9 @5774 has 53 MA's), (11, 5786), (13, 5801), (14, 5804), (17, 5903), (18, 5906), (19, 5909), (28, 6062), (29, 6086),

Gene: Zilizebeth_7 Start: 6238, Stop: 6588, Start Num: 10
Candidate Starts for Zilizebeth_7:
(Start: 7 @6211 has 1 MA's), (Start: 8 @6214 has 1 MA's), (Start: 10 @6238 has 49 MA's), (17, 6367),