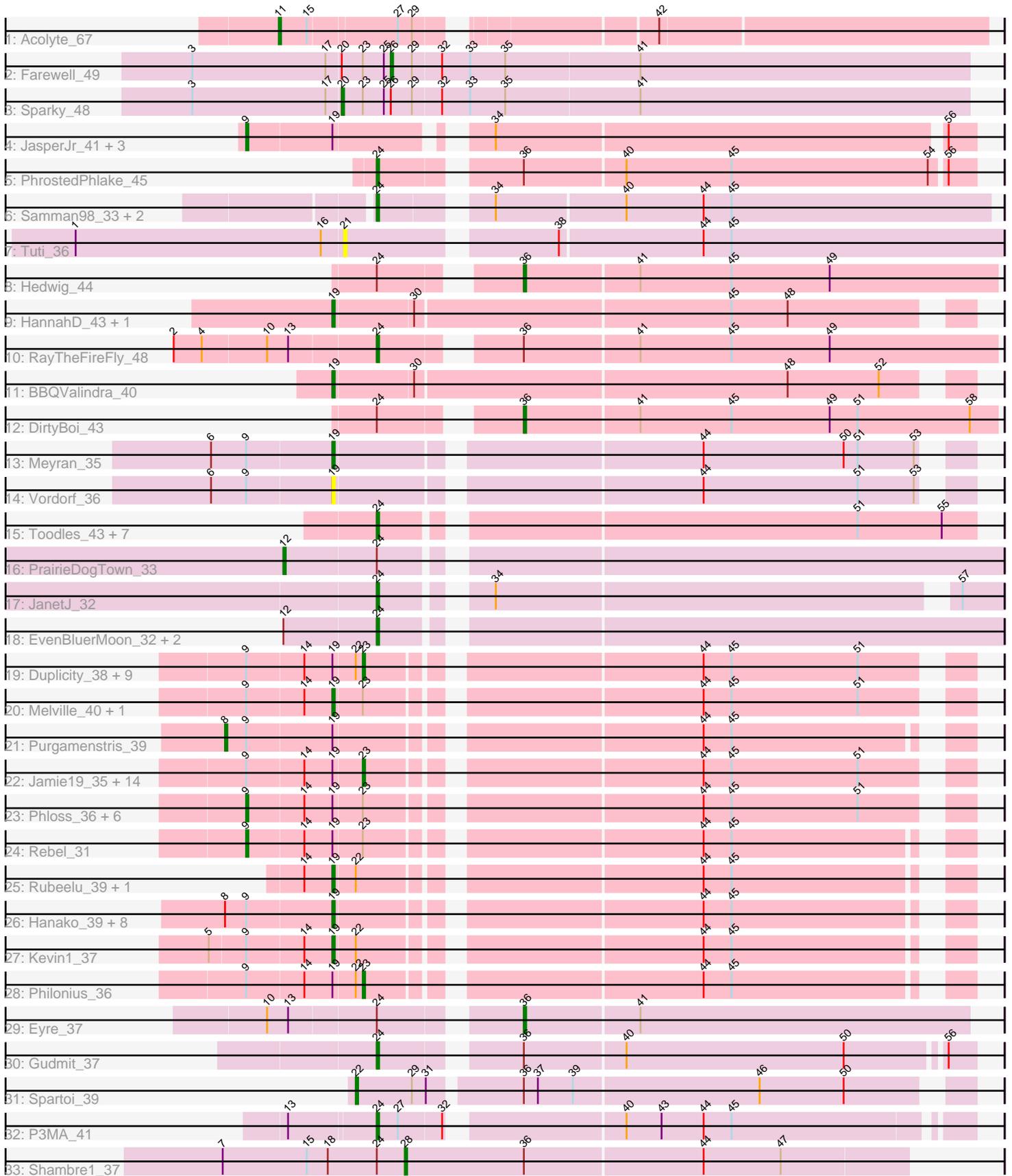# Pham 283703

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 283703 Report

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

Pham number 283703 has 87 members, 11 are drafts.

Phages represented in each track:
• Track 1 : Acolyte_67
• Track 2 : Farewell_49
• Track 3 : Sparky_48
• Track 4 : JasperJr_41, Walrus_42, Hitter_44, Guacamole_41
• Track 5 : PhrostedPhlake_45
• Track 6 : Samman98_33, Dolores_34, WinkNick_35
• Track 7 : Tuti_36
• Track 8 : Hedwig_44
• Track 9 : HannahD_43, GEazy_45
• Track 10 : RayTheFireFly_48
• Track 11 : BBQValindra_40
• Track 12 : DirtyBoi_43
• Track 13 : Meyran_35
• Track 14 : Vordorf_36
• Track 15 : Toodles_43, Nandita_44, Donatella_42, Ryan_44, BigSherm_42, Lenoxika_44, Yonex_44, ToastyOats_46
• Track 16 : PrairieDogTown_33
• Track 17 : JanetJ_32
• Track 18 : EvenBluerMoon_32, Aoka_33, Hereford_48
• Track 19 : Duplicity_38, Tapioca_39, Cubone_38, Silvy_36, Charlie_36, Gex_38, Journey_36, Aggie_36, Scitech_35, Xeno_35
• Track 20 : Melville_40, Shweta_35
• Track 21 : Purgamenstris_39
• Track 22 : Jamie19_35, Phrann_39, Silvafighter_39, Parmesanjohn_38, Panchino_34, Smurph_38, EGUnicorn_36, Magsby_38, SpongeBob_35, MichelleMyBell_36, Pipsqueaks_38, Snekmaggedon_35, SkinnyPete_33, Fulbright_37, Xerxes_38
• Track 23 : Phloss_36, Andies_35, Chewbacca_39, Tortoise12_36, Schnauzer_38, Bosection6_36, Carcharodon_38
• Track 24 : Rebel_31
• Track 25 : Rubeelu_39, Butters_39
• Track 26 : Hanako_39, PhancyPhin_39, BabeRuth_40, Impisi_41, Redi_39, Spinach_39, Nenae_39, Raymond7_33, ShrimpFriedEgg_39
• Track 27 : Kevin1_37
• Track 28 : Philonius_36
• Track 29 : Eyre_37
• Track 30 : Gudmit_37

- Track 31 : Spartoi_39
- Track 32 : P3MA_41
- Track 33 : Shambre1_37

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

The start number called the most often in the published annotations is 23, it was called in 24 of the 76 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Aggie_36, Charlie_36, Cubone_38, Duplicity_38, EGUnicorn_36, Fulbright_37, Gex_38, Jamie19_35, Journey_36, Magsby_38, MichelleMyBell_36, Panchino_34, Parmesanjohn_38, Philonius_36, Phrann_39, Pipsqueaks_38, Scitech_35, Silvafighter_39, Silvy_36, SkinnyPete_33, Smurph_38, Snekmaggedon_35, SpongeBob_35, Tapioca_39, Xeno_35, Xerxes_38,

Genes that have the "Most Annotated" start but do not call it:
- Andies_35, Bosection6_36, Carcharodon_38, Chewbacca_39, Farewell_49, Melville_40, Phloss_36, Rebel_31, Schnauzer_38, Shweta_35, Sparky_48, Tortoise12_36,

Genes that do not have the "Most Annotated" start:
- Acolyte_67, Aoka_33, BBQValindra_40, BabeRuth_40, BigSherm_42, Butters_39, DirtyBoi_43, Dolores_34, Donatella_42, EvenBluerMoon_32, Eyre_37, GEazy_45, Guacamole_41, Gudmit_37, Hanako_39, HannahD_43, Hedwig_44, Hereford_48, Hitter_44, Impisi_41, JanetJ_32, JasperJr_41, Kevin1_37, Lenoxika_44, Meyran_35, Nandita_44, Nenae_39, P3MA_41, PhancyPhin_39, PhrostedPhlake_45, PrairieDogTown_33, Purgamenstris_39, RayTheFireFly_48, Raymond7_33, Redi_39, Rubeelu_39, Ryan_44, Samman98_33, Shambre1_37, ShrimpFriedEgg_39, Spartoi_39, Spinach_39, ToastyOats_46, Toodles_43, Tuti_36, Vordorf_36, Walrus_42, WinkNick_35, Yonex_44,

Summary by start number:

Start 8:
- Found in 10 of 87 (11.5%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Purgamenstris_39 (N),

Start 9:
- Found in 53 of 87 (60.9%) of genes in pham
- Manual Annotations of this start: 12 of 76
- Called 22.6% of time when present
- Phage (with cluster) where this start called: Andies_35 (N), Bosection6_36 (N), Carcharodon_38 (N), Chewbacca_39 (N), Guacamole_41 (CV), Hitter_44 (CV), JasperJr_41 (CV), Phloss_36 (N), Rebel_31 (N), Schnauzer_38 (N), Tortoise12_36 (N), Walrus_42 (CV),

Start 11:

- Found in 1 of 87 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acolyte_67 (A2),

Start 12:
- Found in 4 of 87 (4.6%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 25.0% of time when present
- Phage (with cluster) where this start called: PrairieDogTown_33 (FO),

Start 19:
- Found in 58 of 87 (66.7%) of genes in pham
- Manual Annotations of this start: 17 of 76
- Called 32.8% of time when present
- Phage (with cluster) where this start called: BBQValindra_40 (DB), BabeRuth_40 (N), Butters_39 (N), GEazy_45 (DB), Hanako_39 (N), HannahD_43 (DB), Impisi_41 (N), Kevin1_37 (N), Melville_40 (N), Meyran_35 (DT), Nenae_39 (N), PhancyPhin_39 (N), Raymond7_33 (N), Redi_39 (N), Rubeelu_39 (N), ShrimpFriedEgg_39 (N), Shweta_35 (N), Spinach_39 (N), Vordorf_36 (DT),

Start 20:
- Found in 2 of 87 (2.3%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Sparky_48 (AF),

Start 21:
- Found in 1 of 87 (1.1%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tuti_36 (CZ4),

Start 22:
- Found in 15 of 87 (17.2%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Spartoi_39 (singleton),

Start 23:
- Found in 38 of 87 (43.7%) of genes in pham
- Manual Annotations of this start: 24 of 76
- Called 68.4% of time when present
- Phage (with cluster) where this start called: Aggie_36 (N), Charlie_36 (N), Cubone_38 (N), Duplicity_38 (N), EGUnicorn_36 (N), Fulbright_37 (N), Gex_38 (N), Jamie19_35 (N), Journey_36 (N), Magsby_38 (N), MichelleMyBell_36 (N), Panchino_34 (N), Parmesanjohn_38 (N), Philonius_36 (N), Phrann_39 (N), Pipsqueaks_38 (N), Scitech_35 (N), Silvafighter_39 (N), Silvy_36 (N), SkinnyPete_33 (N), Smurph_38 (N), Snekmaggedon_35 (N), SpongeBob_35 (N), Tapioca_39 (N), Xeno_35 (N), Xerxes_38 (N),

Start 24:
- Found in 24 of 87 (27.6%) of genes in pham

• Manual Annotations of this start: 13 of 76
• Called 79.2% of time when present
• Phage (with cluster) where this start called: Aoka_33 (FO), BigSherm_42 (FF), Dolores_34 (CZ4), Donatella_42 (FF), EvenBluerMoon_32 (FO), Gudmit_37 (singleton), Hereford_48 (FO), JanetJ_32 (FO), Lenoxika_44 (FF), Nandita_44 (FF), P3MA_41 (singleton), PhrostedPhlake_45 (CV), RayTheFireFly_48 (DB), Ryan_44 (FF), Samman98_33 (CZ4), ToastyOats_46 (FF), Toodles_43 (FF), WinkNick_35 (CZ4), Yonex_44 (FF),

Start 26:
• Found in 2 of 87 (2.3%) of genes in pham
• Manual Annotations of this start: 1 of 76
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Farewell_49 (AF),

Start 28:
• Found in 1 of 87 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 76
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Shambre1_37 (singleton),

Start 36:
• Found in 8 of 87 (9.2%) of genes in pham
• Manual Annotations of this start: 3 of 76
• Called 37.5% of time when present
• Phage (with cluster) where this start called: DirtyBoi_43 (DB), Eyre_37 (singleton), Hedwig_44 (DB),

Summary by clusters:

There are 10 clusters represented in this pham: singleton, AF, DB, CZ4, N, A2, FF, DT, CV, FO,

Info for manual annotations of cluster A2:
•Start number 11 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster AF:
•Start number 20 was manually annotated 1 time for cluster AF.
•Start number 26 was manually annotated 1 time for cluster AF.

Info for manual annotations of cluster CV:
•Start number 9 was manually annotated 4 times for cluster CV.
•Start number 24 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CZ4:
•Start number 24 was manually annotated 3 times for cluster CZ4.

Info for manual annotations of cluster DB:
•Start number 19 was manually annotated 3 times for cluster DB.
•Start number 24 was manually annotated 1 time for cluster DB.
•Start number 36 was manually annotated 2 times for cluster DB.

Info for manual annotations of cluster DT:

•Start number 19 was manually annotated 1 time for cluster DT.

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

Info for manual annotations of cluster FO:
•Start number 12 was manually annotated 1 time for cluster FO.
•Start number 24 was manually annotated 3 times for cluster FO.

Info for manual annotations of cluster N:
•Start number 8 was manually annotated 1 time for cluster N.
•Start number 9 was manually annotated 8 times for cluster N.
•Start number 19 was manually annotated 13 times for cluster N.
•Start number 23 was manually annotated 24 times for cluster N.

Gene Information:
Gene: Acolyte_67 Start: 43619, Stop: 43897, Start Num: 11
Candidate Starts for Acolyte_67:
(Start: 11 @43619 has 1 MA's), (15, 43631), (27, 43667), (29, 43673), (42, 43760),

Gene: Aggie_36 Start: 27900, Stop: 28133, Start Num: 23
Candidate Starts for Aggie_36:
(Start: 9 @27852 has 12 MA's), (14, 27876), (Start: 19 @27888 has 17 MA's), (Start: 22 @27897 has 1 MA's), (Start: 23 @27900 has 24 MA's), (44, 28029), (45, 28041), (51, 28095),

Gene: Andies_35 Start: 28370, Stop: 28651, Start Num: 9
Candidate Starts for Andies_35:
(Start: 9 @28370 has 12 MA's), (14, 28394), (Start: 19 @28406 has 17 MA's), (Start: 23 @28418 has 24 MA's), (44, 28547), (45, 28559), (51, 28613),

Gene: Aoka_33 Start: 26261, Stop: 26512, Start Num: 24
Candidate Starts for Aoka_33:
(Start: 12 @26222 has 1 MA's), (Start: 24 @26261 has 13 MA's),

Gene: BBQValindra_40 Start: 33028, Stop: 33285, Start Num: 19
Candidate Starts for BBQValindra_40:
(Start: 19 @33028 has 17 MA's), (30, 33061), (48, 33217), (52, 33256),

Gene: BabeRuth_40 Start: 29534, Stop: 29776, Start Num: 19
Candidate Starts for BabeRuth_40:
(Start: 8 @29489 has 1 MA's), (Start: 9 @29498 has 12 MA's), (Start: 19 @29534 has 17 MA's), (44, 29675), (45, 29687),

Gene: BigSherm_42 Start: 29987, Stop: 30226, Start Num: 24
Candidate Starts for BigSherm_42:
(Start: 24 @29987 has 13 MA's), (51, 30176), (55, 30212),

Gene: Bosection6_36 Start: 27873, Stop: 28154, Start Num: 9
Candidate Starts for Bosection6_36:

(Start: 9 @27873 has 12 MA's), (14, 27897), (Start: 19 @27909 has 17 MA's), (Start: 23 @27921 has 24 MA's), (44, 28050), (45, 28062), (51, 28116),

Gene: Butters_39 Start: 29960, Stop: 30202, Start Num: 19
Candidate Starts for Butters_39:
(14, 29948), (Start: 19 @29960 has 17 MA's), (Start: 22 @29969 has 1 MA's), (44, 30101), (45, 30113),

Gene: Carcharodon_38 Start: 29181, Stop: 29462, Start Num: 9
Candidate Starts for Carcharodon_38:
(Start: 9 @29181 has 12 MA's), (14, 29205), (Start: 19 @29217 has 17 MA's), (Start: 23 @29229 has 24 MA's), (44, 29358), (45, 29370), (51, 29424),

Gene: Charlie_36 Start: 27920, Stop: 28153, Start Num: 23
Candidate Starts for Charlie_36:
(Start: 9 @27872 has 12 MA's), (14, 27896), (Start: 19 @27908 has 17 MA's), (Start: 22 @27917 has 1 MA's), (Start: 23 @27920 has 24 MA's), (44, 28049), (45, 28061), (51, 28115),

Gene: Chewbacca_39 Start: 29181, Stop: 29462, Start Num: 9
Candidate Starts for Chewbacca_39:
(Start: 9 @29181 has 12 MA's), (14, 29205), (Start: 19 @29217 has 17 MA's), (Start: 23 @29229 has 24 MA's), (44, 29358), (45, 29370), (51, 29424),

Gene: Cubone_38 Start: 27942, Stop: 28175, Start Num: 23
Candidate Starts for Cubone_38:
(Start: 9 @27894 has 12 MA's), (14, 27918), (Start: 19 @27930 has 17 MA's), (Start: 22 @27939 has 1 MA's), (Start: 23 @27942 has 24 MA's), (44, 28071), (45, 28083), (51, 28137),

Gene: DirtyBoi_43 Start: 31965, Stop: 32165, Start Num: 36
Candidate Starts for DirtyBoi_43:
(Start: 24 @31917 has 13 MA's), (Start: 36 @31965 has 3 MA's), (41, 32013), (45, 32052), (49, 32094), (51, 32106), (58, 32154),

Gene: Dolores_34 Start: 27272, Stop: 27024, Start Num: 24
Candidate Starts for Dolores_34:
(Start: 24 @27272 has 13 MA's), (34, 27233), (40, 27179), (44, 27146), (45, 27134),

Gene: Donatella_42 Start: 30460, Stop: 30699, Start Num: 24
Candidate Starts for Donatella_42:
(Start: 24 @30460 has 13 MA's), (51, 30649), (55, 30685),

Gene: Duplicity_38 Start: 29238, Stop: 29471, Start Num: 23
Candidate Starts for Duplicity_38:
(Start: 9 @29190 has 12 MA's), (14, 29214), (Start: 19 @29226 has 17 MA's), (Start: 22 @29235 has 1 MA's), (Start: 23 @29238 has 24 MA's), (44, 29367), (45, 29379), (51, 29433),

Gene: EGUnicorn_36 Start: 27921, Stop: 28154, Start Num: 23
Candidate Starts for EGUnicorn_36:
(Start: 9 @27873 has 12 MA's), (14, 27897), (Start: 19 @27909 has 17 MA's), (Start: 23 @27921 has 24 MA's), (44, 28050), (45, 28062), (51, 28116),

Gene: EvenBluerMoon_32 Start: 26499, Stop: 26750, Start Num: 24
Candidate Starts for EvenBluerMoon_32:
(Start: 12 @26460 has 1 MA's), (Start: 24 @26499 has 13 MA's),

Gene: Eyre_37 Start: 28147, Stop: 28335, Start Num: 36
Candidate Starts for Eyre_37:
(10, 28051), (13, 28060), (Start: 24 @28096 has 13 MA's), (Start: 36 @28147 has 3 MA's), (41, 28195),

Gene: Farewell_49 Start: 36104, Stop: 36349, Start Num: 26
Candidate Starts for Farewell_49:
(3, 36020), (17, 36077), (Start: 20 @36083 has 1 MA's), (Start: 23 @36092 has 24 MA's), (25, 36101),
(Start: 26 @36104 has 1 MA's), (29, 36113), (32, 36125), (33, 36137), (35, 36152), (41, 36209),

Gene: Fulbright_37 Start: 28318, Stop: 28551, Start Num: 23
Candidate Starts for Fulbright_37:
(Start: 9 @28270 has 12 MA's), (14, 28294), (Start: 19 @28306 has 17 MA's), (Start: 23 @28318 has
24 MA's), (44, 28447), (45, 28459), (51, 28513),

Gene: GEazy_45 Start: 32607, Stop: 32864, Start Num: 19
Candidate Starts for GEazy_45:
(Start: 19 @32607 has 17 MA's), (30, 32640), (45, 32772), (48, 32796),

Gene: Gex_38 Start: 29245, Stop: 29478, Start Num: 23
Candidate Starts for Gex_38:
(Start: 9 @29197 has 12 MA's), (14, 29221), (Start: 19 @29233 has 17 MA's), (Start: 22 @29242 has 1
MA's), (Start: 23 @29245 has 24 MA's), (44, 29374), (45, 29386), (51, 29440),

Gene: Guacamole_41 Start: 33011, Stop: 33295, Start Num: 9
Candidate Starts for Guacamole_41:
(Start: 9 @33011 has 12 MA's), (Start: 19 @33047 has 17 MA's), (34, 33098), (56, 33284),

Gene: Gudmit_37 Start: 27130, Stop: 27366, Start Num: 24
Candidate Starts for Gudmit_37:
(Start: 24 @27130 has 13 MA's), (Start: 36 @27181 has 3 MA's), (40, 27223), (50, 27316), (56, 27355),

Gene: Hanako_39 Start: 29533, Stop: 29775, Start Num: 19
Candidate Starts for Hanako_39:
(Start: 8 @29488 has 1 MA's), (Start: 9 @29497 has 12 MA's), (Start: 19 @29533 has 17 MA's), (44,
29674), (45, 29686),

Gene: HannahD_43 Start: 31974, Stop: 32231, Start Num: 19
Candidate Starts for HannahD_43:
(Start: 19 @31974 has 17 MA's), (30, 32007), (45, 32139), (48, 32163),

Gene: Hedwig_44 Start: 32388, Stop: 32588, Start Num: 36
Candidate Starts for Hedwig_44:
(Start: 24 @32340 has 13 MA's), (Start: 36 @32388 has 3 MA's), (41, 32436), (45, 32475), (49, 32517),

Gene: Hereford_48 Start: 26333, Stop: 26584, Start Num: 24
Candidate Starts for Hereford_48:
(Start: 12 @26294 has 1 MA's), (Start: 24 @26333 has 13 MA's),

Gene: Hitter_44 Start: 32655, Stop: 32939, Start Num: 9
Candidate Starts for Hitter_44:
(Start: 9 @32655 has 12 MA's), (Start: 19 @32691 has 17 MA's), (34, 32742), (56, 32928),

Gene: Impisi_41 Start: 30089, Stop: 30331, Start Num: 19
Candidate Starts for Impisi_41:
(Start: 8 @30044 has 1 MA's), (Start: 9 @30053 has 12 MA's), (Start: 19 @30089 has 17 MA's), (44, 30230), (45, 30242),

Gene: Jamie19_35 Start: 28299, Stop: 28532, Start Num: 23
Candidate Starts for Jamie19_35:
(Start: 9 @28251 has 12 MA's), (14, 28275), (Start: 19 @28287 has 17 MA's), (Start: 23 @28299 has 24 MA's), (44, 28428), (45, 28440), (51, 28494),

Gene: JanetJ_32 Start: 26887, Stop: 27126, Start Num: 24
Candidate Starts for JanetJ_32:
(Start: 24 @26887 has 13 MA's), (34, 26923), (57, 27109),

Gene: JasperJr_41 Start: 33011, Stop: 33295, Start Num: 9
Candidate Starts for JasperJr_41:
(Start: 9 @33011 has 12 MA's), (Start: 19 @33047 has 17 MA's), (34, 33098), (56, 33284),

Gene: Journey_36 Start: 27920, Stop: 28153, Start Num: 23
Candidate Starts for Journey_36:
(Start: 9 @27872 has 12 MA's), (14, 27896), (Start: 19 @27908 has 17 MA's), (Start: 22 @27917 has 1 MA's), (Start: 23 @27920 has 24 MA's), (44, 28049), (45, 28061), (51, 28115),

Gene: Kevin1_37 Start: 29139, Stop: 29381, Start Num: 19
Candidate Starts for Kevin1_37:
(5, 29088), (Start: 9 @29103 has 12 MA's), (14, 29127), (Start: 19 @29139 has 17 MA's), (Start: 22 @29148 has 1 MA's), (44, 29280), (45, 29292),

Gene: Lenoxika_44 Start: 30350, Stop: 30589, Start Num: 24
Candidate Starts for Lenoxika_44:
(Start: 24 @30350 has 13 MA's), (51, 30539), (55, 30575),

Gene: Magsby_38 Start: 29246, Stop: 29479, Start Num: 23
Candidate Starts for Magsby_38:
(Start: 9 @29198 has 12 MA's), (14, 29222), (Start: 19 @29234 has 17 MA's), (Start: 23 @29246 has 24 MA's), (44, 29375), (45, 29387), (51, 29441),

Gene: Melville_40 Start: 29218, Stop: 29463, Start Num: 19
Candidate Starts for Melville_40:
(Start: 9 @29182 has 12 MA's), (14, 29206), (Start: 19 @29218 has 17 MA's), (Start: 23 @29230 has 24 MA's), (44, 29359), (45, 29371), (51, 29425),

Gene: Meyran_35 Start: 31028, Stop: 31276, Start Num: 19
Candidate Starts for Meyran_35:
(6, 30977), (Start: 9 @30992 has 12 MA's), (Start: 19 @31028 has 17 MA's), (44, 31172), (50, 31232), (51, 31238), (53, 31262),

Gene: MichelleMyBell_36 Start: 28237, Stop: 28470, Start Num: 23
Candidate Starts for MichelleMyBell_36:
(Start: 9 @28189 has 12 MA's), (14, 28213), (Start: 19 @28225 has 17 MA's), (Start: 23 @28237 has 24 MA's), (44, 28366), (45, 28378), (51, 28432),

Gene: Nandita_44 Start: 30213, Stop: 30452, Start Num: 24

Candidate Starts for Nandita_44:
(Start: 24 @30213 has 13 MA's), (51, 30402), (55, 30438),

Gene: Nenae_39 Start: 29536, Stop: 29778, Start Num: 19
Candidate Starts for Nenae_39:
(Start: 8 @29491 has 1 MA's), (Start: 9 @29500 has 12 MA's), (Start: 19 @29536 has 17 MA's), (44, 29677), (45, 29689),

Gene: P3MA_41 Start: 31039, Stop: 31272, Start Num: 24
Candidate Starts for P3MA_41:
(13, 31003), (Start: 24 @31039 has 13 MA's), (27, 31048), (32, 31066), (40, 31132), (43, 31147), (44, 31165), (45, 31177),

Gene: Panchino_34 Start: 29645, Stop: 29878, Start Num: 23
Candidate Starts for Panchino_34:
(Start: 9 @29597 has 12 MA's), (14, 29621), (Start: 19 @29633 has 17 MA's), (Start: 23 @29645 has 24 MA's), (44, 29774), (45, 29786), (51, 29840),

Gene: Parmesanjohn_38 Start: 29249, Stop: 29482, Start Num: 23
Candidate Starts for Parmesanjohn_38:
(Start: 9 @29201 has 12 MA's), (14, 29225), (Start: 19 @29237 has 17 MA's), (Start: 23 @29249 has 24 MA's), (44, 29378), (45, 29390), (51, 29444),

Gene: PhancyPhin_39 Start: 29530, Stop: 29772, Start Num: 19
Candidate Starts for PhancyPhin_39:
(Start: 8 @29485 has 1 MA's), (Start: 9 @29494 has 12 MA's), (Start: 19 @29530 has 17 MA's), (44, 29671), (45, 29683),

Gene: Philonius_36 Start: 27911, Stop: 28141, Start Num: 23
Candidate Starts for Philonius_36:
(Start: 9 @27863 has 12 MA's), (14, 27887), (Start: 19 @27899 has 17 MA's), (Start: 22 @27908 has 1 MA's), (Start: 23 @27911 has 24 MA's), (44, 28040), (45, 28052),

Gene: Phloss_36 Start: 28608, Stop: 28889, Start Num: 9
Candidate Starts for Phloss_36:
(Start: 9 @28608 has 12 MA's), (14, 28632), (Start: 19 @28644 has 17 MA's), (Start: 23 @28656 has 24 MA's), (44, 28785), (45, 28797), (51, 28851),

Gene: Phrann_39 Start: 30325, Stop: 30558, Start Num: 23
Candidate Starts for Phrann_39:
(Start: 9 @30277 has 12 MA's), (14, 30301), (Start: 19 @30313 has 17 MA's), (Start: 23 @30325 has 24 MA's), (44, 30454), (45, 30466), (51, 30520),

Gene: PhrostedPhlake_45 Start: 32973, Stop: 33212, Start Num: 24
Candidate Starts for PhrostedPhlake_45:
(Start: 24 @32973 has 13 MA's), (Start: 36 @33024 has 3 MA's), (40, 33066), (45, 33111), (54, 33195), (56, 33201),

Gene: Pipsqueaks_38 Start: 29226, Stop: 29459, Start Num: 23
Candidate Starts for Pipsqueaks_38:
(Start: 9 @29178 has 12 MA's), (14, 29202), (Start: 19 @29214 has 17 MA's), (Start: 23 @29226 has 24 MA's), (44, 29355), (45, 29367), (51, 29421),

Gene: PrairieDogTown_33 Start: 26462, Stop: 26752, Start Num: 12
Candidate Starts for PrairieDogTown_33:
(Start: 12 @26462 has 1 MA's), (Start: 24 @26501 has 13 MA's),

Gene: Purgamenstris_39 Start: 29489, Stop: 29776, Start Num: 8
Candidate Starts for Purgamenstris_39:
(Start: 8 @29489 has 1 MA's), (Start: 9 @29498 has 12 MA's), (Start: 19 @29534 has 17 MA's), (44, 29675), (45, 29687),

Gene: RayTheFireFly_48 Start: 33514, Stop: 33762, Start Num: 24
Candidate Starts for RayTheFireFly_48:
(2, 33430), (4, 33442), (10, 33469), (13, 33478), (Start: 24 @33514 has 13 MA's), (Start: 36 @33562 has 3 MA's), (41, 33610), (45, 33649), (49, 33691),

Gene: Raymond7_33 Start: 29346, Stop: 29588, Start Num: 19
Candidate Starts for Raymond7_33:
(Start: 8 @29301 has 1 MA's), (Start: 9 @29310 has 12 MA's), (Start: 19 @29346 has 17 MA's), (44, 29487), (45, 29499),

Gene: Rebel_31 Start: 25628, Stop: 25906, Start Num: 9
Candidate Starts for Rebel_31:
(Start: 9 @25628 has 12 MA's), (14, 25652), (Start: 19 @25664 has 17 MA's), (Start: 23 @25676 has 24 MA's), (44, 25805), (45, 25817),

Gene: Redi_39 Start: 29533, Stop: 29775, Start Num: 19
Candidate Starts for Redi_39:
(Start: 8 @29488 has 1 MA's), (Start: 9 @29497 has 12 MA's), (Start: 19 @29533 has 17 MA's), (44, 29674), (45, 29686),

Gene: Rubeelu_39 Start: 29960, Stop: 30202, Start Num: 19
Candidate Starts for Rubeelu_39:
(14, 29948), (Start: 19 @29960 has 17 MA's), (Start: 22 @29969 has 1 MA's), (44, 30101), (45, 30113),

Gene: Ryan_44 Start: 30762, Stop: 31001, Start Num: 24
Candidate Starts for Ryan_44:
(Start: 24 @30762 has 13 MA's), (51, 30951), (55, 30987),

Gene: Samman98_33 Start: 26503, Stop: 26255, Start Num: 24
Candidate Starts for Samman98_33:
(Start: 24 @26503 has 13 MA's), (34, 26464), (40, 26410), (44, 26377), (45, 26365),

Gene: Schnauzer_38 Start: 29201, Stop: 29482, Start Num: 9
Candidate Starts for Schnauzer_38:
(Start: 9 @29201 has 12 MA's), (14, 29225), (Start: 19 @29237 has 17 MA's), (Start: 23 @29249 has 24 MA's), (44, 29378), (45, 29390), (51, 29444),

Gene: Scitech_35 Start: 27097, Stop: 27330, Start Num: 23
Candidate Starts for Scitech_35:
(Start: 9 @27049 has 12 MA's), (14, 27073), (Start: 19 @27085 has 17 MA's), (Start: 22 @27094 has 1 MA's), (Start: 23 @27097 has 24 MA's), (44, 27226), (45, 27238), (51, 27292),

Gene: Shambre1_37 Start: 25536, Stop: 25748, Start Num: 28
Candidate Starts for Shambre1_37:

(7, 25458), (15, 25494), (18, 25503), (Start: 24 @25524 has 13 MA's), (Start: 28 @25536 has 1 MA's), (Start: 36 @25587 has 3 MA's), (44, 25662), (47, 25695),

Gene: ShrimpFriedEgg_39 Start: 29533, Stop: 29775, Start Num: 19
Candidate Starts for ShrimpFriedEgg_39:
(Start: 8 @29488 has 1 MA's), (Start: 9 @29497 has 12 MA's), (Start: 19 @29533 has 17 MA's), (44, 29674), (45, 29686),

Gene: Shweta_35 Start: 28417, Stop: 28662, Start Num: 19
Candidate Starts for Shweta_35:
(Start: 9 @28381 has 12 MA's), (14, 28405), (Start: 19 @28417 has 17 MA's), (Start: 23 @28429 has 24 MA's), (44, 28558), (45, 28570), (51, 28624),

Gene: Silvafighter_39 Start: 29222, Stop: 29455, Start Num: 23
Candidate Starts for Silvafighter_39:
(Start: 9 @29174 has 12 MA's), (14, 29198), (Start: 19 @29210 has 17 MA's), (Start: 23 @29222 has 24 MA's), (44, 29351), (45, 29363), (51, 29417),

Gene: Silvy_36 Start: 27900, Stop: 28133, Start Num: 23
Candidate Starts for Silvy_36:
(Start: 9 @27852 has 12 MA's), (14, 27876), (Start: 19 @27888 has 17 MA's), (Start: 22 @27897 has 1 MA's), (Start: 23 @27900 has 24 MA's), (44, 28029), (45, 28041), (51, 28095),

Gene: SkinnyPete_33 Start: 26960, Stop: 27193, Start Num: 23
Candidate Starts for SkinnyPete_33:
(Start: 9 @26912 has 12 MA's), (14, 26936), (Start: 19 @26948 has 17 MA's), (Start: 23 @26960 has 24 MA's), (44, 27089), (45, 27101), (51, 27155),

Gene: Smurph_38 Start: 29249, Stop: 29482, Start Num: 23
Candidate Starts for Smurph_38:
(Start: 9 @29201 has 12 MA's), (14, 29225), (Start: 19 @29237 has 17 MA's), (Start: 23 @29249 has 24 MA's), (44, 29378), (45, 29390), (51, 29444),

Gene: Snekmaggedon_35 Start: 28299, Stop: 28532, Start Num: 23
Candidate Starts for Snekmaggedon_35:
(Start: 9 @28251 has 12 MA's), (14, 28275), (Start: 19 @28287 has 17 MA's), (Start: 23 @28299 has 24 MA's), (44, 28428), (45, 28440), (51, 28494),

Gene: Sparky_48 Start: 36514, Stop: 36780, Start Num: 20
Candidate Starts for Sparky_48:
(3, 36451), (17, 36508), (Start: 20 @36514 has 1 MA's), (Start: 23 @36523 has 24 MA's), (25, 36532), (Start: 26 @36535 has 1 MA's), (29, 36544), (32, 36556), (33, 36568), (35, 36583), (41, 36640),

Gene: Spartoi_39 Start: 26733, Stop: 26978, Start Num: 22
Candidate Starts for Spartoi_39:
(Start: 22 @26733 has 1 MA's), (29, 26757), (31, 26763), (Start: 36 @26799 has 3 MA's), (37, 26805), (39, 26820), (46, 26898), (50, 26934),

Gene: Spinach_39 Start: 29533, Stop: 29775, Start Num: 19
Candidate Starts for Spinach_39:
(Start: 8 @29488 has 1 MA's), (Start: 9 @29497 has 12 MA's), (Start: 19 @29533 has 17 MA's), (44, 29674), (45, 29686),

Gene: SpongeBob_35 Start: 28299, Stop: 28532, Start Num: 23
Candidate Starts for SpongeBob_35:
(Start: 9 @28251 has 12 MA's), (14, 28275), (Start: 19 @28287 has 17 MA's), (Start: 23 @28299 has 24 MA's), (44, 28428), (45, 28440), (51, 28494),

Gene: Tapioca_39 Start: 29215, Stop: 29448, Start Num: 23
Candidate Starts for Tapioca_39:
(Start: 9 @29167 has 12 MA's), (14, 29191), (Start: 19 @29203 has 17 MA's), (Start: 22 @29212 has 1 MA's), (Start: 23 @29215 has 24 MA's), (44, 29344), (45, 29356), (51, 29410),

Gene: ToastyOats_46 Start: 30537, Stop: 30776, Start Num: 24
Candidate Starts for ToastyOats_46:
(Start: 24 @30537 has 13 MA's), (51, 30726), (55, 30762),

Gene: Toodles_43 Start: 31153, Stop: 31392, Start Num: 24
Candidate Starts for Toodles_43:
(Start: 24 @31153 has 13 MA's), (51, 31342), (55, 31378),

Gene: Tortoise12_36 Start: 27884, Stop: 28165, Start Num: 9
Candidate Starts for Tortoise12_36:
(Start: 9 @27884 has 12 MA's), (14, 27908), (Start: 19 @27920 has 17 MA's), (Start: 23 @27932 has 24 MA's), (44, 28061), (45, 28073), (51, 28127),

Gene: Tuti_36 Start: 27865, Stop: 27596, Start Num: 21
Candidate Starts for Tuti_36:
(1, 27979), (16, 27874), (21, 27865), (38, 27784), (44, 27724), (45, 27712),

Gene: Vordorf_36 Start: 30303, Stop: 30551, Start Num: 19
Candidate Starts for Vordorf_36:
(6, 30252), (Start: 9 @30267 has 12 MA's), (Start: 19 @30303 has 17 MA's), (44, 30447), (51, 30513), (53, 30537),

Gene: Walrus_42 Start: 32790, Stop: 33074, Start Num: 9
Candidate Starts for Walrus_42:
(Start: 9 @32790 has 12 MA's), (Start: 19 @32826 has 17 MA's), (34, 32877), (56, 33063),

Gene: WinkNick_35 Start: 27195, Stop: 26947, Start Num: 24
Candidate Starts for WinkNick_35:
(Start: 24 @27195 has 13 MA's), (34, 27156), (40, 27102), (44, 27069), (45, 27057),

Gene: Xeno_35 Start: 27686, Stop: 27919, Start Num: 23
Candidate Starts for Xeno_35:
(Start: 9 @27638 has 12 MA's), (14, 27662), (Start: 19 @27674 has 17 MA's), (Start: 22 @27683 has 1 MA's), (Start: 23 @27686 has 24 MA's), (44, 27815), (45, 27827), (51, 27881),

Gene: Xerxes_38 Start: 29246, Stop: 29479, Start Num: 23
Candidate Starts for Xerxes_38:
(Start: 9 @29198 has 12 MA's), (14, 29222), (Start: 19 @29234 has 17 MA's), (Start: 23 @29246 has 24 MA's), (44, 29375), (45, 29387), (51, 29441),

Gene: Yonex_44 Start: 30762, Stop: 31001, Start Num: 24
Candidate Starts for Yonex_44:
(Start: 24 @30762 has 13 MA's), (51, 30951), (55, 30987),