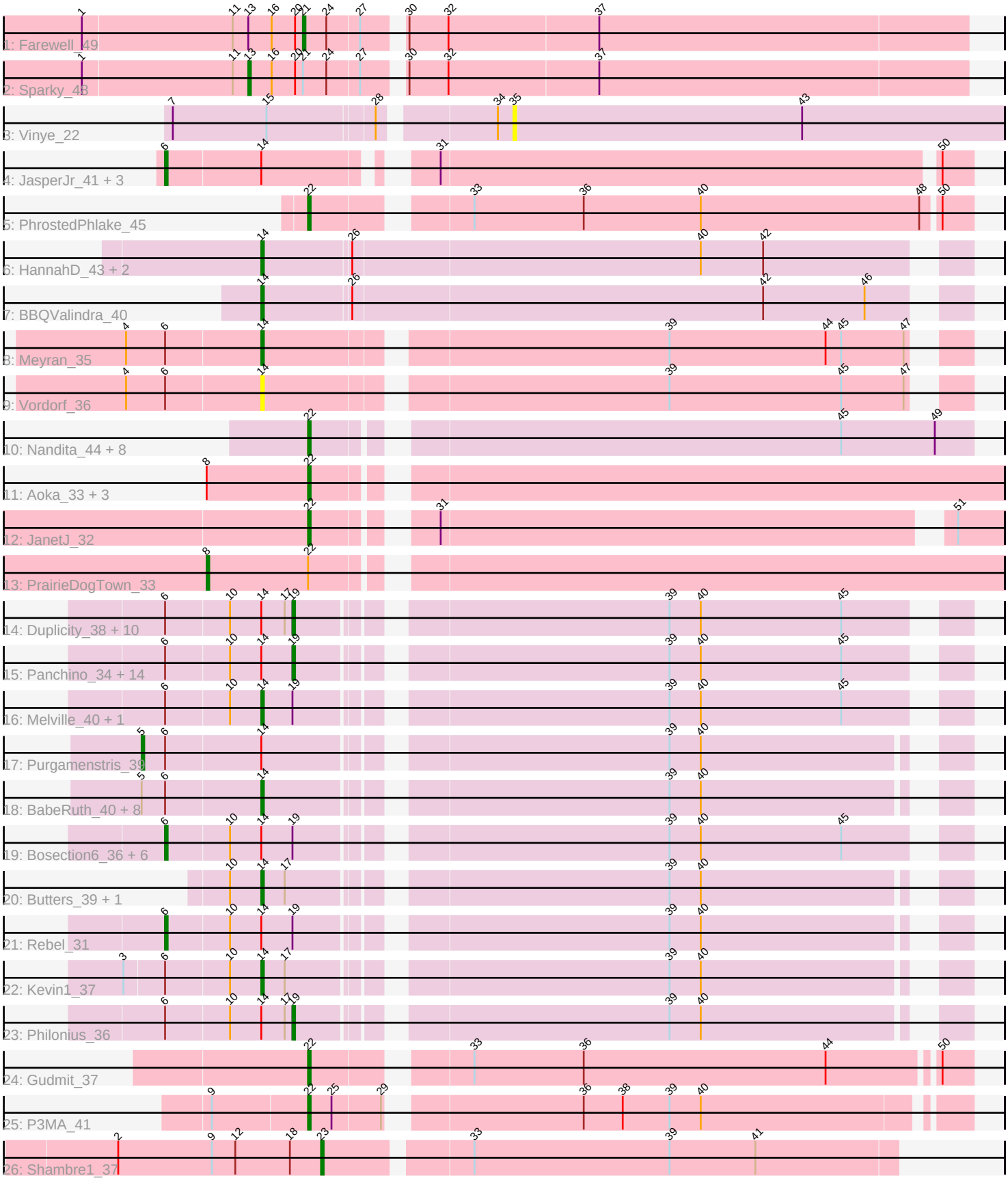
Pham 300024


1: Farewell_49
2: Sparky_48
3: Vinye_22
4: JasperJr_41 + 3
5: PhrostedPhlake_45
6: HannahD_43 + 2
7: BBQValindra_40
8: Meyran_35
9: Vordorf_36
10: Nandita_44 + 8
11: Aoka_33 + 3
12: JanetJ_32
13: PrairieDogTown_33
14: Duplicity_38 + 10
15: Panchino_34 + 14
16: Melville_40 + 1
17: Purgamenstris_39
18: BabeRuth_40 + 8
19: Bosection6_36 + 6
20: Butters_39 + 1
21: Rebel_31
22: Kevin1_37
23: Philonius_36
24: Gudmit_37
25: P3MA_41
26: Shambre1_37

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 300024 Report

This analysis was run 06/08/26 on database version 649.

Pham number 300024 has 82 members, 12 are drafts.

Phages represented in each track:
• Track 1 : Farewell_49
• Track 2 : Sparky_48
• Track 3 : Vinye_22
• Track 4 : JasperJr_41, Guacamole_41, Walrus_42, Hitter_44
• Track 5 : PhrostedPhlake_45
• Track 6 : HannahD_43, NaLuna_42, GEazy_45
• Track 7 : BBQValindra_40
• Track 8 : Meyran_35
• Track 9 : Vordorf_36
• Track 10 : Nandita_44, Ryan_44, Lenoxika_44, Donatella_42, Toodles_43, Saintcarr_43, BigSherm_43, Yonex_44, ToastyOats_45
• Track 11 : Aoka_33, Hereford_33, Morrey_48, EvenBluerMoon_32
• Track 12 : JanetJ_32
• Track 13 : PrairieDogTown_33
• Track 14 : Duplicity_38, Tapioca_39, Cubone_38, Gex_38, Scitech_35, Aggie_36, Silvy_36, Charlie_36, Journey_36, Xeno_35, Tessdabest_39
• Track 15 : Panchino_34, Jamie19_35, SkinnyPete_33, Phrann_39, Pipsqueaks_38, Silvafighter_39, Magsby_38, Xerxes_38, Fulbright_37, Parmesanjohn_38, Smurph_38, Snekmaggedon_35, MichelleMyBell_36, EGUnicorn_36, SpongeBob_35
• Track 16 : Melville_40, Shweta_35
• Track 17 : Purgamenstris_39
• Track 18 : BabeRuth_40, Hanako_39, PhancyPhin_39, Spinach_39, Nenae_39, Raymond7_33, Impisi_41, Redi_39, ShrimpFriedEgg_39
• Track 19 : Bosection6_36, Carcharodon_38, Phloss_36, Andies_35, Chewbacca_39, Tortoise12_36, Schnauzer_38
• Track 20 : Butters_39, Rubeelu_39
• Track 21 : Rebel_31
• Track 22 : Kevin1_37
• Track 23 : Philonius_36
• Track 24 : Gudmit_37
• Track 25 : P3MA_41
• Track 26 : 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 19, it was called in 24 of the 70 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, Tessdabest_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, Melville_40, Phloss_36, Rebel_31, Schnauzer_38, Shweta_35, Tortoise12_36,

Genes that do not have the "Most Annotated" start:
• Aoka_33, BBQValindra_40, BabeRuth_40, BigSherm_43, Butters_39, Donatella_42, EvenBluerMoon_32, Farewell_49, GEazy_45, Guacamole_41, Gudmit_37, Hanako_39, HannahD_43, Hereford_33, Hitter_44, Impisi_41, JanetJ_32, JasperJr_41, Kevin1_37, Lenoxika_44, Meyran_35, Morrey_48, NaLuna_42, Nandita_44, Nenae_39, P3MA_41, PhancyPhin_39, PhrostedPhlake_45, PrairieDogTown_33, Purgamenstris_39, Raymond7_33, Redi_39, Rubeelu_39, Ryan_44, Saintcarr_43, Shambre1_37, ShrimpFriedEgg_39, Sparky_48, Spinach_39, ToastyOats_45, Toodles_43, Vinye_22, Vordorf_36, Walrus_42, Yonex_44,

Summary by start number:

Start 5:
• Found in 10 of 82 (12.2%) of genes in pham
• Manual Annotations of this start: 1 of 70
• Called 10.0% of time when present
• Phage (with cluster) where this start called: Purgamenstris_39 (N),

Start 6:
• Found in 54 of 82 (65.9%) of genes in pham
• Manual Annotations of this start: 12 of 70
• Called 22.2% 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 8:
• Found in 5 of 82 (6.1%) of genes in pham
• Manual Annotations of this start: 1 of 70
• Called 20.0% of time when present
• Phage (with cluster) where this start called: PrairieDogTown_33 (FO),

Start 13:
• Found in 2 of 82 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 70
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Sparky_48 (AF),

Start 14:
• Found in 60 of 82 (73.2%) of genes in pham
• Manual Annotations of this start: 17 of 70
• Called 33.3% 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), NaLuna_42 (DB), 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 19:
• Found in 37 of 82 (45.1%) of genes in pham
• Manual Annotations of this start: 24 of 70
• Called 73.0% 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), Tessdabest_39 (N), Xeno_35 (N), Xerxes_38 (N),

Start 21:
• Found in 2 of 82 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 70
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Farewell_49 (AF),

Start 22:
• Found in 18 of 82 (22.0%) of genes in pham
• Manual Annotations of this start: 12 of 70
• Called 94.4% of time when present
• Phage (with cluster) where this start called: Aoka_33 (FO), BigSherm_43 (FF), Donatella_42 (FF), EvenBluerMoon_32 (FO), Gudmit_37 (singleton), Hereford_33 (FO), JanetJ_32 (FO), Lenoxika_44 (FF), Morrey_48 (FO), Nandita_44 (FF), P3MA_41 (singleton), PhrostedPhlake_45 (CV), Ryan_44 (FF), Saintcarr_43 (FF), ToastyOats_45 (FF), Toodles_43 (FF), Yonex_44 (FF),

Start 23:
• Found in 1 of 82 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 70
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Shambre1_37 (singleton),

Start 35:
• Found in 1 of 82 (1.2%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Vinye_22 (AN),

Summary by clusters:

There are 9 clusters represented in this pham: singleton, AF, DB, AN, FF, DT, N, CV, FO,

Info for manual annotations of cluster AF:
•Start number 13 was manually annotated 1 time for cluster AF.
•Start number 21 was manually annotated 1 time for cluster AF.

Info for manual annotations of cluster CV:
•Start number 6 was manually annotated 4 times for cluster CV.
•Start number 22 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster DB:
•Start number 14 was manually annotated 3 times for cluster DB.

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

Info for manual annotations of cluster FF:
•Start number 22 was manually annotated 5 times for cluster FF.

Info for manual annotations of cluster FO:
•Start number 8 was manually annotated 1 time for cluster FO.
•Start number 22 was manually annotated 4 times for cluster FO.

Info for manual annotations of cluster N:
•Start number 5 was manually annotated 1 time for cluster N.
•Start number 6 was manually annotated 8 times for cluster N.
•Start number 14 was manually annotated 13 times for cluster N.
•Start number 19 was manually annotated 24 times for cluster N.

Gene Information:

Gene: Aggie_36 Start: 27900, Stop: 28133, Start Num: 19
Candidate Starts for Aggie_36:
(Start: 6 @27852 has 12 MA's), (10, 27876), (Start: 14 @27888 has 17 MA's), (17, 27897), (Start: 19 @27900 has 24 MA's), (39, 28029), (40, 28041), (45, 28095),

Gene: Andies_35 Start: 28370, Stop: 28651, Start Num: 6
Candidate Starts for Andies_35:
(Start: 6 @28370 has 12 MA's), (10, 28394), (Start: 14 @28406 has 17 MA's), (Start: 19 @28418 has 24 MA's), (39, 28547), (40, 28559), (45, 28613),

Gene: Aoka_33 Start: 26261, Stop: 26512, Start Num: 22
Candidate Starts for Aoka_33:
(Start: 8 @26222 has 1 MA's), (Start: 22 @26261 has 12 MA's),

Gene: BBQValindra_40 Start: 33028, Stop: 33285, Start Num: 14
Candidate Starts for BBQValindra_40:
(Start: 14 @33028 has 17 MA's), (26, 33061), (42, 33217), (46, 33256),

Gene: BabeRuth_40 Start: 29534, Stop: 29776, Start Num: 14
Candidate Starts for BabeRuth_40:
(Start: 5 @29489 has 1 MA's), (Start: 6 @29498 has 12 MA's), (Start: 14 @29534 has 17 MA's), (39, 29675), (40, 29687),

Gene: BigSherm_43 Start: 29987, Stop: 30226, Start Num: 22
Candidate Starts for BigSherm_43:
(Start: 22 @29987 has 12 MA's), (45, 30176), (49, 30212),

Gene: Bosection6_36 Start: 27873, Stop: 28154, Start Num: 6
Candidate Starts for Bosection6_36:
(Start: 6 @27873 has 12 MA's), (10, 27897), (Start: 14 @27909 has 17 MA's), (Start: 19 @27921 has 24 MA's), (39, 28050), (40, 28062), (45, 28116),

Gene: Butters_39 Start: 29960, Stop: 30202, Start Num: 14
Candidate Starts for Butters_39:
(10, 29948), (Start: 14 @29960 has 17 MA's), (17, 29969), (39, 30101), (40, 30113),

Gene: Carcharodon_38 Start: 29181, Stop: 29462, Start Num: 6
Candidate Starts for Carcharodon_38:
(Start: 6 @29181 has 12 MA's), (10, 29205), (Start: 14 @29217 has 17 MA's), (Start: 19 @29229 has 24 MA's), (39, 29358), (40, 29370), (45, 29424),

Gene: Charlie_36 Start: 27920, Stop: 28153, Start Num: 19
Candidate Starts for Charlie_36:
(Start: 6 @27872 has 12 MA's), (10, 27896), (Start: 14 @27908 has 17 MA's), (17, 27917), (Start: 19 @27920 has 24 MA's), (39, 28049), (40, 28061), (45, 28115),

Gene: Chewbacca_39 Start: 29181, Stop: 29462, Start Num: 6
Candidate Starts for Chewbacca_39:
(Start: 6 @29181 has 12 MA's), (10, 29205), (Start: 14 @29217 has 17 MA's), (Start: 19 @29229 has 24 MA's), (39, 29358), (40, 29370), (45, 29424),

Gene: Cubone_38 Start: 27942, Stop: 28175, Start Num: 19
Candidate Starts for Cubone_38:
(Start: 6 @27894 has 12 MA's), (10, 27918), (Start: 14 @27930 has 17 MA's), (17, 27939), (Start: 19 @27942 has 24 MA's), (39, 28071), (40, 28083), (45, 28137),

Gene: Donatella_42 Start: 30460, Stop: 30699, Start Num: 22
Candidate Starts for Donatella_42:
(Start: 22 @30460 has 12 MA's), (45, 30649), (49, 30685),

Gene: Duplicity_38 Start: 29238, Stop: 29471, Start Num: 19
Candidate Starts for Duplicity_38:
(Start: 6 @29190 has 12 MA's), (10, 29214), (Start: 14 @29226 has 17 MA's), (17, 29235), (Start: 19 @29238 has 24 MA's), (39, 29367), (40, 29379), (45, 29433),

Gene: EGUnicorn_36 Start: 27921, Stop: 28154, Start Num: 19
Candidate Starts for EGUnicorn_36:
(Start: 6 @27873 has 12 MA's), (10, 27897), (Start: 14 @27909 has 17 MA's), (Start: 19 @27921 has 24 MA's), (39, 28050), (40, 28062), (45, 28116),

Gene: EvenBluerMoon_32 Start: 26499, Stop: 26750, Start Num: 22

Candidate Starts for EvenBluerMoon_32:
(Start: 8 @26460 has 1 MA's), (Start: 22 @26499 has 12 MA's),

Gene: Farewell_49 Start: 36104, Stop: 36349, Start Num: 21
Candidate Starts for Farewell_49:
(1, 36020), (11, 36077), (Start: 13 @36083 has 1 MA's), (16, 36092), (20, 36101), (Start: 21 @36104 has 1 MA's), (24, 36113), (27, 36125), (30, 36137), (32, 36152), (37, 36209),

Gene: Fulbright_37 Start: 28318, Stop: 28551, Start Num: 19
Candidate Starts for Fulbright_37:
(Start: 6 @28270 has 12 MA's), (10, 28294), (Start: 14 @28306 has 17 MA's), (Start: 19 @28318 has 24 MA's), (39, 28447), (40, 28459), (45, 28513),

Gene: GEazy_45 Start: 32607, Stop: 32864, Start Num: 14
Candidate Starts for GEazy_45:
(Start: 14 @32607 has 17 MA's), (26, 32640), (40, 32772), (42, 32796),

Gene: Gex_38 Start: 29245, Stop: 29478, Start Num: 19
Candidate Starts for Gex_38:
(Start: 6 @29197 has 12 MA's), (10, 29221), (Start: 14 @29233 has 17 MA's), (17, 29242), (Start: 19 @29245 has 24 MA's), (39, 29374), (40, 29386), (45, 29440),

Gene: Guacamole_41 Start: 33011, Stop: 33295, Start Num: 6
Candidate Starts for Guacamole_41:
(Start: 6 @33011 has 12 MA's), (Start: 14 @33047 has 17 MA's), (31, 33098), (50, 33284),

Gene: Gudmit_37 Start: 27130, Stop: 27366, Start Num: 22
Candidate Starts for Gudmit_37:
(Start: 22 @27130 has 12 MA's), (33, 27181), (36, 27223), (44, 27316), (50, 27355),

Gene: Hanako_39 Start: 29533, Stop: 29775, Start Num: 14
Candidate Starts for Hanako_39:
(Start: 5 @29488 has 1 MA's), (Start: 6 @29497 has 12 MA's), (Start: 14 @29533 has 17 MA's), (39, 29674), (40, 29686),

Gene: HannahD_43 Start: 31974, Stop: 32231, Start Num: 14
Candidate Starts for HannahD_43:
(Start: 14 @31974 has 17 MA's), (26, 32007), (40, 32139), (42, 32163),

Gene: Hereford_33 Start: 26333, Stop: 26584, Start Num: 22
Candidate Starts for Hereford_33:
(Start: 8 @26294 has 1 MA's), (Start: 22 @26333 has 12 MA's),

Gene: Hitter_44 Start: 32655, Stop: 32939, Start Num: 6
Candidate Starts for Hitter_44:
(Start: 6 @32655 has 12 MA's), (Start: 14 @32691 has 17 MA's), (31, 32742), (50, 32928),

Gene: Impisi_41 Start: 30089, Stop: 30331, Start Num: 14
Candidate Starts for Impisi_41:
(Start: 5 @30044 has 1 MA's), (Start: 6 @30053 has 12 MA's), (Start: 14 @30089 has 17 MA's), (39, 30230), (40, 30242),

Gene: Jamie19_35 Start: 28299, Stop: 28532, Start Num: 19

Candidate Starts for Jamie19_35:
(Start: 6 @28251 has 12 MA's), (10, 28275), (Start: 14 @28287 has 17 MA's), (Start: 19 @28299 has 24 MA's), (39, 28428), (40, 28440), (45, 28494),

Gene: JanetJ_32 Start: 26887, Stop: 27126, Start Num: 22
Candidate Starts for JanetJ_32:
(Start: 22 @26887 has 12 MA's), (31, 26923), (51, 27109),

Gene: JasperJr_41 Start: 33011, Stop: 33295, Start Num: 6
Candidate Starts for JasperJr_41:
(Start: 6 @33011 has 12 MA's), (Start: 14 @33047 has 17 MA's), (31, 33098), (50, 33284),

Gene: Journey_36 Start: 27920, Stop: 28153, Start Num: 19
Candidate Starts for Journey_36:
(Start: 6 @27872 has 12 MA's), (10, 27896), (Start: 14 @27908 has 17 MA's), (17, 27917), (Start: 19 @27920 has 24 MA's), (39, 28049), (40, 28061), (45, 28115),

Gene: Kevin1_37 Start: 29139, Stop: 29381, Start Num: 14
Candidate Starts for Kevin1_37:
(3, 29088), (Start: 6 @29103 has 12 MA's), (10, 29127), (Start: 14 @29139 has 17 MA's), (17, 29148), (39, 29280), (40, 29292),

Gene: Lenoxika_44 Start: 30350, Stop: 30589, Start Num: 22
Candidate Starts for Lenoxika_44:
(Start: 22 @30350 has 12 MA's), (45, 30539), (49, 30575),

Gene: Magsby_38 Start: 29246, Stop: 29479, Start Num: 19
Candidate Starts for Magsby_38:
(Start: 6 @29198 has 12 MA's), (10, 29222), (Start: 14 @29234 has 17 MA's), (Start: 19 @29246 has 24 MA's), (39, 29375), (40, 29387), (45, 29441),

Gene: Melville_40 Start: 29218, Stop: 29463, Start Num: 14
Candidate Starts for Melville_40:
(Start: 6 @29182 has 12 MA's), (10, 29206), (Start: 14 @29218 has 17 MA's), (Start: 19 @29230 has 24 MA's), (39, 29359), (40, 29371), (45, 29425),

Gene: Meyran_35 Start: 31028, Stop: 31276, Start Num: 14
Candidate Starts for Meyran_35:
(4, 30977), (Start: 6 @30992 has 12 MA's), (Start: 14 @31028 has 17 MA's), (39, 31172), (44, 31232), (45, 31238), (47, 31262),

Gene: MichelleMyBell_36 Start: 28237, Stop: 28470, Start Num: 19
Candidate Starts for MichelleMyBell_36:
(Start: 6 @28189 has 12 MA's), (10, 28213), (Start: 14 @28225 has 17 MA's), (Start: 19 @28237 has 24 MA's), (39, 28366), (40, 28378), (45, 28432),

Gene: Morrey_48 Start: 26501, Stop: 26752, Start Num: 22
Candidate Starts for Morrey_48:
(Start: 8 @26462 has 1 MA's), (Start: 22 @26501 has 12 MA's),

Gene: NaLuna_42 Start: 31974, Stop: 32231, Start Num: 14
Candidate Starts for NaLuna_42:
(Start: 14 @31974 has 17 MA's), (26, 32007), (40, 32139), (42, 32163),

Gene: Nandita_44 Start: 30213, Stop: 30452, Start Num: 22
Candidate Starts for Nandita_44:
(Start: 22 @30213 has 12 MA's), (45, 30402), (49, 30438),

Gene: Nenae_39 Start: 29536, Stop: 29778, Start Num: 14
Candidate Starts for Nenae_39:
(Start: 5 @29491 has 1 MA's), (Start: 6 @29500 has 12 MA's), (Start: 14 @29536 has 17 MA's), (39, 29677), (40, 29689),

Gene: P3MA_41 Start: 31039, Stop: 31272, Start Num: 22
Candidate Starts for P3MA_41:
(9, 31003), (Start: 22 @31039 has 12 MA's), (25, 31048), (29, 31066), (36, 31132), (38, 31147), (39, 31165), (40, 31177),

Gene: Panchino_34 Start: 29645, Stop: 29878, Start Num: 19
Candidate Starts for Panchino_34:
(Start: 6 @29597 has 12 MA's), (10, 29621), (Start: 14 @29633 has 17 MA's), (Start: 19 @29645 has 24 MA's), (39, 29774), (40, 29786), (45, 29840),

Gene: Parmesanjohn_38 Start: 29249, Stop: 29482, Start Num: 19
Candidate Starts for Parmesanjohn_38:
(Start: 6 @29201 has 12 MA's), (10, 29225), (Start: 14 @29237 has 17 MA's), (Start: 19 @29249 has 24 MA's), (39, 29378), (40, 29390), (45, 29444),

Gene: PhancyPhin_39 Start: 29530, Stop: 29772, Start Num: 14
Candidate Starts for PhancyPhin_39:
(Start: 5 @29485 has 1 MA's), (Start: 6 @29494 has 12 MA's), (Start: 14 @29530 has 17 MA's), (39, 29671), (40, 29683),

Gene: Philonius_36 Start: 27911, Stop: 28141, Start Num: 19
Candidate Starts for Philonius_36:
(Start: 6 @27863 has 12 MA's), (10, 27887), (Start: 14 @27899 has 17 MA's), (17, 27908), (Start: 19 @27911 has 24 MA's), (39, 28040), (40, 28052),

Gene: Phloss_36 Start: 28608, Stop: 28889, Start Num: 6
Candidate Starts for Phloss_36:
(Start: 6 @28608 has 12 MA's), (10, 28632), (Start: 14 @28644 has 17 MA's), (Start: 19 @28656 has 24 MA's), (39, 28785), (40, 28797), (45, 28851),

Gene: Phrann_39 Start: 30325, Stop: 30558, Start Num: 19
Candidate Starts for Phrann_39:
(Start: 6 @30277 has 12 MA's), (10, 30301), (Start: 14 @30313 has 17 MA's), (Start: 19 @30325 has 24 MA's), (39, 30454), (40, 30466), (45, 30520),

Gene: PhrostedPhlake_45 Start: 32973, Stop: 33212, Start Num: 22
Candidate Starts for PhrostedPhlake_45:
(Start: 22 @32973 has 12 MA's), (33, 33024), (36, 33066), (40, 33111), (48, 33195), (50, 33201),

Gene: Pipsqueaks_38 Start: 29226, Stop: 29459, Start Num: 19
Candidate Starts for Pipsqueaks_38:
(Start: 6 @29178 has 12 MA's), (10, 29202), (Start: 14 @29214 has 17 MA's), (Start: 19 @29226 has 24 MA's), (39, 29355), (40, 29367), (45, 29421),

Gene: PrairieDogTown_33 Start: 26462, Stop: 26752, Start Num: 8
Candidate Starts for PrairieDogTown_33:
(Start: 8 @26462 has 1 MA's), (Start: 22 @26501 has 12 MA's),

Gene: Purgamenstris_39 Start: 29489, Stop: 29776, Start Num: 5
Candidate Starts for Purgamenstris_39:
(Start: 5 @29489 has 1 MA's), (Start: 6 @29498 has 12 MA's), (Start: 14 @29534 has 17 MA's), (39, 29675), (40, 29687),

Gene: Raymond7_33 Start: 29346, Stop: 29588, Start Num: 14
Candidate Starts for Raymond7_33:
(Start: 5 @29301 has 1 MA's), (Start: 6 @29310 has 12 MA's), (Start: 14 @29346 has 17 MA's), (39, 29487), (40, 29499),

Gene: Rebel_31 Start: 25628, Stop: 25906, Start Num: 6
Candidate Starts for Rebel_31:
(Start: 6 @25628 has 12 MA's), (10, 25652), (Start: 14 @25664 has 17 MA's), (Start: 19 @25676 has 24 MA's), (39, 25805), (40, 25817),

Gene: Redi_39 Start: 29533, Stop: 29775, Start Num: 14
Candidate Starts for Redi_39:
(Start: 5 @29488 has 1 MA's), (Start: 6 @29497 has 12 MA's), (Start: 14 @29533 has 17 MA's), (39, 29674), (40, 29686),

Gene: Rubeelu_39 Start: 29960, Stop: 30202, Start Num: 14
Candidate Starts for Rubeelu_39:
(10, 29948), (Start: 14 @29960 has 17 MA's), (17, 29969), (39, 30101), (40, 30113),

Gene: Ryan_44 Start: 30762, Stop: 31001, Start Num: 22
Candidate Starts for Ryan_44:
(Start: 22 @30762 has 12 MA's), (45, 30951), (49, 30987),

Gene: Saintcarr_43 Start: 30533, Stop: 30772, Start Num: 22
Candidate Starts for Saintcarr_43:
(Start: 22 @30533 has 12 MA's), (45, 30722), (49, 30758),

Gene: Schnauzer_38 Start: 29201, Stop: 29482, Start Num: 6
Candidate Starts for Schnauzer_38:
(Start: 6 @29201 has 12 MA's), (10, 29225), (Start: 14 @29237 has 17 MA's), (Start: 19 @29249 has 24 MA's), (39, 29378), (40, 29390), (45, 29444),

Gene: Scitech_35 Start: 27097, Stop: 27330, Start Num: 19
Candidate Starts for Scitech_35:
(Start: 6 @27049 has 12 MA's), (10, 27073), (Start: 14 @27085 has 17 MA's), (17, 27094), (Start: 19 @27097 has 24 MA's), (39, 27226), (40, 27238), (45, 27292),

Gene: Shambre1_37 Start: 25536, Stop: 25748, Start Num: 23
Candidate Starts for Shambre1_37:
(2, 25458), (9, 25494), (12, 25503), (18, 25524), (Start: 23 @25536 has 1 MA's), (33, 25587), (39, 25662), (41, 25695),

Gene: ShrimpFriedEgg_39 Start: 29533, Stop: 29775, Start Num: 14

Candidate Starts for ShrimpFriedEgg_39:
(Start: 5 @29488 has 1 MA's), (Start: 6 @29497 has 12 MA's), (Start: 14 @29533 has 17 MA's), (39, 29674), (40, 29686),

Gene: Shweta_35 Start: 28417, Stop: 28662, Start Num: 14
Candidate Starts for Shweta_35:
(Start: 6 @28381 has 12 MA's), (10, 28405), (Start: 14 @28417 has 17 MA's), (Start: 19 @28429 has 24 MA's), (39, 28558), (40, 28570), (45, 28624),

Gene: Silvafighter_39 Start: 29222, Stop: 29455, Start Num: 19
Candidate Starts for Silvafighter_39:
(Start: 6 @29174 has 12 MA's), (10, 29198), (Start: 14 @29210 has 17 MA's), (Start: 19 @29222 has 24 MA's), (39, 29351), (40, 29363), (45, 29417),

Gene: Silvy_36 Start: 27900, Stop: 28133, Start Num: 19
Candidate Starts for Silvy_36:
(Start: 6 @27852 has 12 MA's), (10, 27876), (Start: 14 @27888 has 17 MA's), (17, 27897), (Start: 19 @27900 has 24 MA's), (39, 28029), (40, 28041), (45, 28095),

Gene: SkinnyPete_33 Start: 26960, Stop: 27193, Start Num: 19
Candidate Starts for SkinnyPete_33:
(Start: 6 @26912 has 12 MA's), (10, 26936), (Start: 14 @26948 has 17 MA's), (Start: 19 @26960 has 24 MA's), (39, 27089), (40, 27101), (45, 27155),

Gene: Smurph_38 Start: 29249, Stop: 29482, Start Num: 19
Candidate Starts for Smurph_38:
(Start: 6 @29201 has 12 MA's), (10, 29225), (Start: 14 @29237 has 17 MA's), (Start: 19 @29249 has 24 MA's), (39, 29378), (40, 29390), (45, 29444),

Gene: Snekmaggedon_35 Start: 28299, Stop: 28532, Start Num: 19
Candidate Starts for Snekmaggedon_35:
(Start: 6 @28251 has 12 MA's), (10, 28275), (Start: 14 @28287 has 17 MA's), (Start: 19 @28299 has 24 MA's), (39, 28428), (40, 28440), (45, 28494),

Gene: Sparky_48 Start: 36514, Stop: 36780, Start Num: 13
Candidate Starts for Sparky_48:
(1, 36451), (11, 36508), (Start: 13 @36514 has 1 MA's), (16, 36523), (20, 36532), (Start: 21 @36535 has 1 MA's), (24, 36544), (27, 36556), (30, 36568), (32, 36583), (37, 36640),

Gene: Spinach_39 Start: 29533, Stop: 29775, Start Num: 14
Candidate Starts for Spinach_39:
(Start: 5 @29488 has 1 MA's), (Start: 6 @29497 has 12 MA's), (Start: 14 @29533 has 17 MA's), (39, 29674), (40, 29686),

Gene: SpongeBob_35 Start: 28299, Stop: 28532, Start Num: 19
Candidate Starts for SpongeBob_35:
(Start: 6 @28251 has 12 MA's), (10, 28275), (Start: 14 @28287 has 17 MA's), (Start: 19 @28299 has 24 MA's), (39, 28428), (40, 28440), (45, 28494),

Gene: Tapioca_39 Start: 29215, Stop: 29448, Start Num: 19
Candidate Starts for Tapioca_39:
(Start: 6 @29167 has 12 MA's), (10, 29191), (Start: 14 @29203 has 17 MA's), (17, 29212), (Start: 19 @29215 has 24 MA's), (39, 29344), (40, 29356), (45, 29410),

Gene: Tessdabest_39 Start: 29246, Stop: 29479, Start Num: 19
Candidate Starts for Tessdabest_39:
(Start: 6 @29198 has 12 MA's), (10, 29222), (Start: 14 @29234 has 17 MA's), (17, 29243), (Start: 19 @29246 has 24 MA's), (39, 29375), (40, 29387), (45, 29441),

Gene: ToastyOats_45 Start: 30537, Stop: 30776, Start Num: 22
Candidate Starts for ToastyOats_45:
(Start: 22 @30537 has 12 MA's), (45, 30726), (49, 30762),

Gene: Toodles_43 Start: 31153, Stop: 31392, Start Num: 22
Candidate Starts for Toodles_43:
(Start: 22 @31153 has 12 MA's), (45, 31342), (49, 31378),

Gene: Tortoise12_36 Start: 27884, Stop: 28165, Start Num: 6
Candidate Starts for Tortoise12_36:
(Start: 6 @27884 has 12 MA's), (10, 27908), (Start: 14 @27920 has 17 MA's), (Start: 19 @27932 has 24 MA's), (39, 28061), (40, 28073), (45, 28127),

Gene: Vinye_22 Start: 14180, Stop: 13992, Start Num: 35
Candidate Starts for Vinye_22:
(7, 14300), (15, 14264), (28, 14225), (34, 14186), (35, 14180), (43, 14069),

Gene: Vordorf_36 Start: 30303, Stop: 30551, Start Num: 14
Candidate Starts for Vordorf_36:
(4, 30252), (Start: 6 @30267 has 12 MA's), (Start: 14 @30303 has 17 MA's), (39, 30447), (45, 30513), (47, 30537),

Gene: Walrus_42 Start: 32790, Stop: 33074, Start Num: 6
Candidate Starts for Walrus_42:
(Start: 6 @32790 has 12 MA's), (Start: 14 @32826 has 17 MA's), (31, 32877), (50, 33063),

Gene: Xeno_35 Start: 27686, Stop: 27919, Start Num: 19
Candidate Starts for Xeno_35:
(Start: 6 @27638 has 12 MA's), (10, 27662), (Start: 14 @27674 has 17 MA's), (17, 27683), (Start: 19 @27686 has 24 MA's), (39, 27815), (40, 27827), (45, 27881),

Gene: Xerxes_38 Start: 29246, Stop: 29479, Start Num: 19
Candidate Starts for Xerxes_38:
(Start: 6 @29198 has 12 MA's), (10, 29222), (Start: 14 @29234 has 17 MA's), (Start: 19 @29246 has 24 MA's), (39, 29375), (40, 29387), (45, 29441),

Gene: Yonex_44 Start: 30762, Stop: 31001, Start Num: 22
Candidate Starts for Yonex_44:
(Start: 22 @30762 has 12 MA's), (45, 30951), (49, 30987),