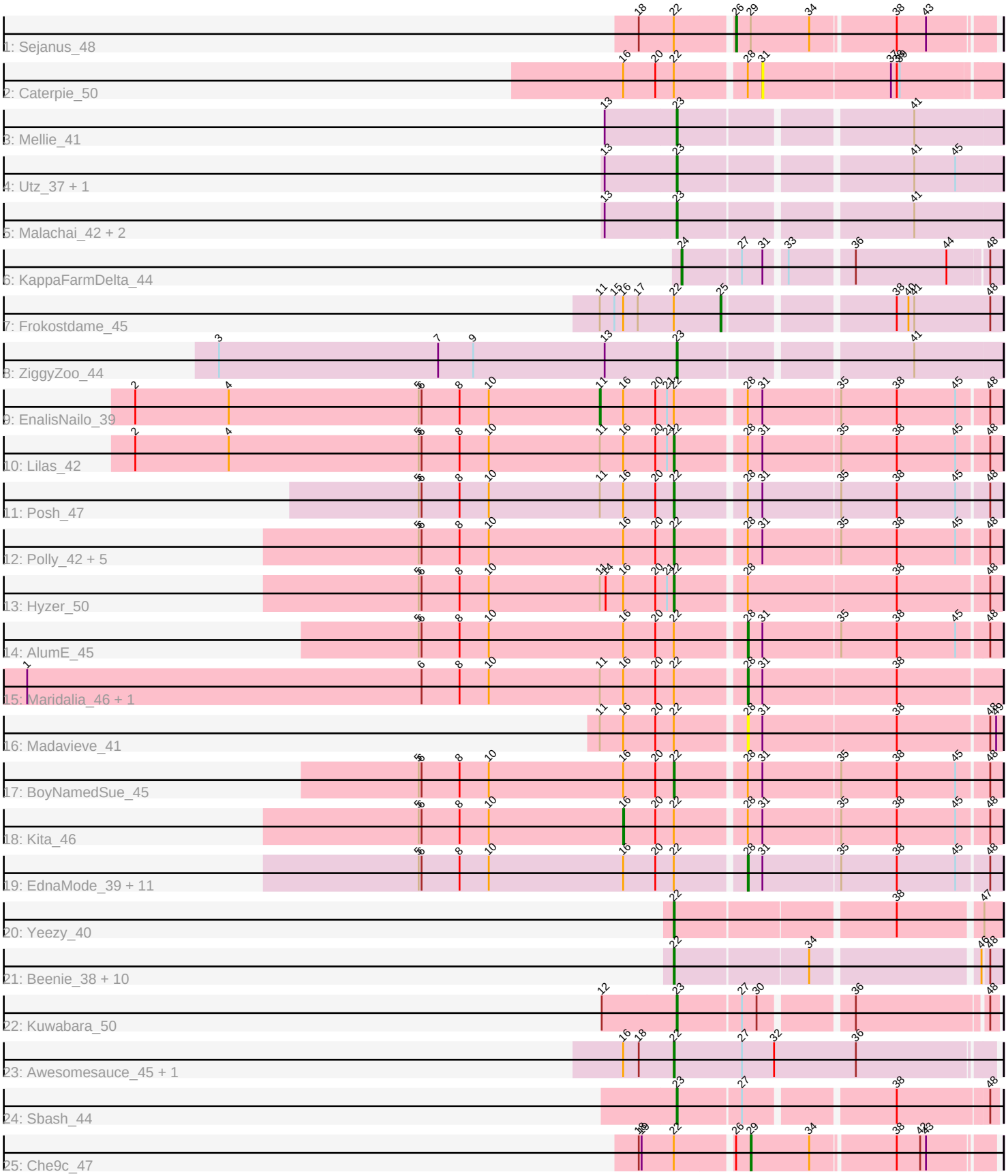
Pham 336807


1: Sejanus_48
2: Caterpie_50
3: Mellie_41
4: Utz_37 + 1
5: Malachai_42 + 2
6: KappaFarmDelta_44
7: Frokostdame_45
8: ZiggyZoo_44
9: EnalisNailo_39
10: Lilas_42
11: Posh_47
12: Polly_42 + 5
13: Hyzer_50
14: AlumE_45
15: Maridalia_46 + 1
16: Madavieve_41
17: BoyNamedSue_45
18: Kita_46
19: EdnaMode_39 + 11
20: Yeezy_40
21: Beenie_38 + 10
22: Kuwabara_50
23: Awesomesauce_45 + 1
24: Sbash_44
25: Che9c_47

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 336807 Report

This analysis was run 11/14/26 on database version 672.

Pham number 336807 has 56 members, 4 are drafts.

Phages represented in each track:
• Track 1 : Sejanus_48
• Track 2 : Caterpie_50
• Track 3 : Mellie_41
• Track 4 : Utz_37, Samba_42
• Track 5 : Malachai_42, Begonia_42, Wisp_40
• Track 6 : KappaFarmDelta_44
• Track 7 : Frokostdame_45
• Track 8 : ZiggyZoo_44
• Track 9 : EnalisNailo_39
• Track 10 : Lilas_42
• Track 11 : Posh_47
• Track 12 : Polly_42, Manasvini_46, LordFarquaad_42, Attis_40, SoilAssassin_40, Bialota_43
• Track 13 : Hyzer_50
• Track 14 : AlumE_45
• Track 15 : Maridalia_46, Bunnybear_38
• Track 16 : Madavieve_41
• Track 17 : BoyNamedSue_45
• Track 18 : Kita_46
• Track 19 : EdnaMode_39, Suscepit_45, Eudoria_45, Pickett_38, Yeet412_40, Tayonia_45, Dillpickles_49, Trumpet_45, Zirinka_42, Neobush_45, Antonio_45, Zameen_45
• Track 20 : Yeezy_40
• Track 21 : Beenie_38, DobbysSock_37, Tuti_40, Rizz_45, Dorito_40, Thimann_42, Sekhmet_45, Samman98_45, Clark_44, Invectra_46, MichaelScott_45
• Track 22 : Kuwabara_50
• Track 23 : Awesomesauce_45, Piper2020_45
• Track 24 : Sbash_44
• Track 25 : Che9c_47

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

The start number called the most often in the published annotations is 22, it was called in 23 of the 52 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Attis_40, Awesomesauce_45, Beenie_38, Bialota_43, BoyNamedSue_45, Clark_44, DobbysSock_37, Dorito_40, Hyzer_50, Invectra_46, Lilas_42, LordFarquaad_42, Manasvini_46, MichaelScott_45, Piper2020_45, Polly_42, Posh_47, Rizz_45, Samman98_45, Sekhmet_45, SoilAssassin_40, Thimann_42, Tuti_40, Yeezy_40,

Genes that have the "Most Annotated" start but do not call it:
• AlumE_45, Antonio_45, Bunnybear_38, Caterpie_50, Che9c_47, Dillpickles_49, EdnaMode_39, EnalisNailo_39, Eudoria_45, Frokostdame_45, Kita_46, Madavieve_41, Maridalia_46, Neobush_45, Pickett_38, Sejanus_48, Suscepit_45, Tayonia_45, Trumpet_45, Yeet412_40, Zameen_45, Zirinka_42,

Genes that do not have the "Most Annotated" start:
• Begonia_42, KappaFarmDelta_44, Kuwabara_50, Malachai_42, Mellie_41, Samba_42, Sbash_44, Utz_37, Wisp_40, ZiggyZoo_44,

Summary by start number:

Start 11:
• Found in 8 of 56 (14.3%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 12.5% of time when present
• Phage (with cluster) where this start called: EnalisNailo_39 (CY1),

Start 16:
• Found in 32 of 56 (57.1%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 3.1% of time when present
• Phage (with cluster) where this start called: Kita_46 (CZ1),

Start 22:
• Found in 46 of 56 (82.1%) of genes in pham
• Manual Annotations of this start: 23 of 52
• Called 52.2% of time when present
• Phage (with cluster) where this start called: Attis_40 (CZ2), Awesomesauce_45 (F1), Beenie_38 (CZ4), Bialota_43 (CZ1), BoyNamedSue_45 (CZ1), Clark_44 (CZ4), DobbysSock_37 (CZ4), Dorito_40 (CZ4), Hyzer_50 (CZ1), Invectra_46 (CZ4), Lilas_42 (CY1), LordFarquaad_42 (CZ2), Manasvini_46 (CZ1), MichaelScott_45 (CZ4), Piper2020_45 (F1), Polly_42 (CZ1), Posh_47 (CY4), Rizz_45 (CZ4), Samman98_45 (CZ4), Sekhmet_45 (CZ4), SoilAssassin_40 (CZ2), Thimann_42 (CZ4), Tuti_40 (CZ4), Yeezy_40 (CZ3),

Start 23:
• Found in 9 of 56 (16.1%) of genes in pham
• Manual Annotations of this start: 9 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Begonia_42 (CV), Kuwabara_50 (DN4), Malachai_42 (CV), Mellie_41 (CV), Samba_42 (CV), Sbash_44 (I2), Utz_37 (CV), Wisp_40 (CV), ZiggyZoo_44 (CV),

Start 24:
• Found in 1 of 56 (1.8%) of genes in pham

• Manual Annotations of this start: 1 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: KappaFarmDelta_44 (CV),

Start 25:
• Found in 1 of 56 (1.8%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Frokostdame_45 (CV),

Start 26:
• Found in 2 of 56 (3.6%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Sejanus_48 (AD),

Start 28:
• Found in 29 of 56 (51.8%) of genes in pham
• Manual Annotations of this start: 14 of 52
• Called 55.2% of time when present
• Phage (with cluster) where this start called: AlumE_45 (CZ1), Antonio_45 (CZ1), Bunnybear_38 (CZ), Dillpickles_49 (CZ1), EdnaMode_39 (CZ2), Eudoria_45 (CZ1), Madavieve_41 (CZ1), Maridalia_46 (CZ1), Neobush_45 (CZ1), Pickett_38 (CZ2), Suscepit_45 (CZ1), Tayonia_45 (CZ1), Trumpet_45 (CZ1), Yeet412_40 (CZ2), Zameen_45 (CZ1), Zirinka_42 (CZ1),

Start 29:
• Found in 2 of 56 (3.6%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Che9c_47 (I2),

Start 31:
• Found in 29 of 56 (51.8%) of genes in pham
• No Manual Annotations of this start.
• Called 3.4% of time when present
• Phage (with cluster) where this start called: Caterpie_50 (AD),

Summary by clusters:

There are 12 clusters represented in this pham: F1, CY1, CZ1, AD, CZ, CZ2, CZ3, I2, CZ4, DN4, CY4, CV,

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

Info for manual annotations of cluster CV:
•Start number 23 was manually annotated 7 times for cluster CV.
•Start number 24 was manually annotated 1 time for cluster CV.
•Start number 25 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CY1:
•Start number 11 was manually annotated 1 time for cluster CY1.

•Start number 22 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CY4:
•Start number 22 was manually annotated 1 time for cluster CY4.

Info for manual annotations of cluster CZ:
•Start number 28 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:
•Start number 16 was manually annotated 1 time for cluster CZ1.
•Start number 22 was manually annotated 5 times for cluster CZ1.
•Start number 28 was manually annotated 10 times for cluster CZ1.

Info for manual annotations of cluster CZ2:
•Start number 22 was manually annotated 3 times for cluster CZ2.
•Start number 28 was manually annotated 3 times for cluster CZ2.

Info for manual annotations of cluster CZ3:
•Start number 22 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ4:
•Start number 22 was manually annotated 10 times for cluster CZ4.

Info for manual annotations of cluster DN4:
•Start number 23 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster F1:
•Start number 22 was manually annotated 2 times for cluster F1.

Info for manual annotations of cluster I2:
•Start number 23 was manually annotated 1 time for cluster I2.
•Start number 29 was manually annotated 1 time for cluster I2.

Gene Information:

Gene: AlumE_45 Start: 35077, Stop: 35328, Start Num: 28
Candidate Starts for AlumE_45:
(5, 34750), (6, 34753), (8, 34792), (10, 34822), (Start: 16 @34960 has 1 MA's), (20, 34993), (Start: 22 @35011 has 23 MA's), (Start: 28 @35077 has 14 MA's), (31, 35092), (35, 35170), (38, 35227), (45, 35287), (48, 35317),

Gene: Antonio_45 Start: 34350, Stop: 34601, Start Num: 28
Candidate Starts for Antonio_45:
(5, 34023), (6, 34026), (8, 34065), (10, 34095), (Start: 16 @34233 has 1 MA's), (20, 34266), (Start: 22 @34284 has 23 MA's), (Start: 28 @34350 has 14 MA's), (31, 34365), (35, 34443), (38, 34500), (45, 34560), (48, 34590),

Gene: Attis_40 Start: 31417, Stop: 31734, Start Num: 22
Candidate Starts for Attis_40:
(5, 31156), (6, 31159), (8, 31198), (10, 31228), (Start: 16 @31366 has 1 MA's), (20, 31399), (Start: 22 @31417 has 23 MA's), (Start: 28 @31483 has 14 MA's), (31, 31498), (35, 31576), (38, 31633), (45,

31693), (48, 31723),

Gene: Awesomesauce_45 Start: 33503, Stop: 33823, Start Num: 22
Candidate Starts for Awesomesauce_45:
(Start: 16 @33452 has 1 MA's), (18, 33467), (Start: 22 @33503 has 23 MA's), (27, 33572), (32, 33605), (36, 33689),

Gene: Beenie_38 Start: 32797, Stop: 33105, Start Num: 22
Candidate Starts for Beenie_38:
(Start: 22 @32797 has 23 MA's), (34, 32929), (46, 33088), (48, 33094),

Gene: Begonia_42 Start: 34821, Stop: 35132, Start Num: 23
Candidate Starts for Begonia_42:
(13, 34749), (Start: 23 @34821 has 9 MA's), (41, 35043),

Gene: Bialota_43 Start: 35036, Stop: 35353, Start Num: 22
Candidate Starts for Bialota_43:
(5, 34775), (6, 34778), (8, 34817), (10, 34847), (Start: 16 @34985 has 1 MA's), (20, 35018), (Start: 22 @35036 has 23 MA's), (Start: 28 @35102 has 14 MA's), (31, 35117), (35, 35195), (38, 35252), (45, 35312), (48, 35342),

Gene: BoyNamedSue_45 Start: 35011, Stop: 35328, Start Num: 22
Candidate Starts for BoyNamedSue_45:
(5, 34750), (6, 34753), (8, 34792), (10, 34822), (Start: 16 @34960 has 1 MA's), (20, 34993), (Start: 22 @35011 has 23 MA's), (Start: 28 @35077 has 14 MA's), (31, 35092), (35, 35170), (38, 35227), (45, 35287), (48, 35317),

Gene: Bunnybear_38 Start: 32748, Stop: 32999, Start Num: 28
Candidate Starts for Bunnybear_38:
(1, 32019), (6, 32424), (8, 32463), (10, 32493), (Start: 11 @32607 has 1 MA's), (Start: 16 @32631 has 1 MA's), (20, 32664), (Start: 22 @32682 has 23 MA's), (Start: 28 @32748 has 14 MA's), (31, 32763), (38, 32898),

Gene: Caterpie_50 Start: 43441, Stop: 43674, Start Num: 31
Candidate Starts for Caterpie_50:
(Start: 16 @43309 has 1 MA's), (20, 43342), (Start: 22 @43360 has 23 MA's), (Start: 28 @43426 has 14 MA's), (31, 43441), (37, 43570), (38, 43576), (39, 43579),

Gene: Che9c_47 Start: 38394, Stop: 38627, Start Num: 29
Candidate Starts for Che9c_47:
(18, 38289), (19, 38292), (Start: 22 @38325 has 23 MA's), (Start: 26 @38379 has 1 MA's), (Start: 29 @38394 has 1 MA's), (34, 38454), (38, 38535), (42, 38559), (43, 38565),

Gene: Clark_44 Start: 32614, Stop: 32922, Start Num: 22
Candidate Starts for Clark_44:
(Start: 22 @32614 has 23 MA's), (34, 32746), (46, 32905), (48, 32911),

Gene: Dillpickles_49 Start: 34394, Stop: 34645, Start Num: 28
Candidate Starts for Dillpickles_49:
(5, 34067), (6, 34070), (8, 34109), (10, 34139), (Start: 16 @34277 has 1 MA's), (20, 34310), (Start: 22 @34328 has 23 MA's), (Start: 28 @34394 has 14 MA's), (31, 34409), (35, 34487), (38, 34544), (45, 34604), (48, 34634),

Gene: DobbysSock_37 Start: 31456, Stop: 31764, Start Num: 22
Candidate Starts for DobbysSock_37:
(Start: 22 @31456 has 23 MA's), (34, 31588), (46, 31747), (48, 31753),

Gene: Dorito_40 Start: 31100, Stop: 31408, Start Num: 22
Candidate Starts for Dorito_40:
(Start: 22 @31100 has 23 MA's), (34, 31232), (46, 31391), (48, 31397),

Gene: EdnaMode_39 Start: 30171, Stop: 30422, Start Num: 28
Candidate Starts for EdnaMode_39:
(5, 29844), (6, 29847), (8, 29886), (10, 29916), (Start: 16 @30054 has 1 MA's), (20, 30087), (Start: 22 @30105 has 23 MA's), (Start: 28 @30171 has 14 MA's), (31, 30186), (35, 30264), (38, 30321), (45, 30381), (48, 30411),

Gene: EnalisNailo_39 Start: 33784, Stop: 34176, Start Num: 11
Candidate Starts for EnalisNailo_39:
(2, 33307), (4, 33403), (5, 33598), (6, 33601), (8, 33640), (10, 33670), (Start: 11 @33784 has 1 MA's), (Start: 16 @33808 has 1 MA's), (20, 33841), (21, 33853), (Start: 22 @33859 has 23 MA's), (Start: 28 @33925 has 14 MA's), (31, 33940), (35, 34018), (38, 34075), (45, 34135), (48, 34165),

Gene: Eudoria_45 Start: 34350, Stop: 34601, Start Num: 28
Candidate Starts for Eudoria_45:
(5, 34023), (6, 34026), (8, 34065), (10, 34095), (Start: 16 @34233 has 1 MA's), (20, 34266), (Start: 22 @34284 has 23 MA's), (Start: 28 @34350 has 14 MA's), (31, 34365), (35, 34443), (38, 34500), (45, 34560), (48, 34590),

Gene: Frokostdame_45 Start: 34500, Stop: 34766, Start Num: 25
Candidate Starts for Frokostdame_45:
(Start: 11 @34377 has 1 MA's), (15, 34392), (Start: 16 @34401 has 1 MA's), (17, 34416), (Start: 22 @34452 has 23 MA's), (Start: 25 @34500 has 1 MA's), (38, 34659), (40, 34671), (41, 34677), (48, 34755),

Gene: Hyzer_50 Start: 37283, Stop: 37600, Start Num: 22
Candidate Starts for Hyzer_50:
(5, 37022), (6, 37025), (8, 37064), (10, 37094), (Start: 11 @37208 has 1 MA's), (14, 37214), (Start: 16 @37232 has 1 MA's), (20, 37265), (21, 37277), (Start: 22 @37283 has 23 MA's), (Start: 28 @37349 has 14 MA's), (38, 37499), (48, 37589),

Gene: Invectra_46 Start: 34188, Stop: 34496, Start Num: 22
Candidate Starts for Invectra_46:
(Start: 22 @34188 has 23 MA's), (34, 34320), (46, 34479), (48, 34485),

Gene: KappaFarmDelta_44 Start: 32674, Stop: 32973, Start Num: 24
Candidate Starts for KappaFarmDelta_44:
(Start: 24 @32674 has 1 MA's), (27, 32731), (31, 32752), (33, 32770), (36, 32830), (44, 32923), (48, 32962),

Gene: Kita_46 Start: 34242, Stop: 34610, Start Num: 16
Candidate Starts for Kita_46:
(5, 34032), (6, 34035), (8, 34074), (10, 34104), (Start: 16 @34242 has 1 MA's), (20, 34275), (Start: 22 @34293 has 23 MA's), (Start: 28 @34359 has 14 MA's), (31, 34374), (35, 34452), (38, 34509), (45, 34569), (48, 34599),

Gene: Kuwabara_50 Start: 35934, Stop: 36233, Start Num: 23
Candidate Starts for Kuwabara_50:
(12, 35859), (Start: 23 @35934 has 9 MA's), (27, 35997), (30, 36012), (36, 36096), (48, 36225),

Gene: Lilas_42 Start: 35570, Stop: 35887, Start Num: 22
Candidate Starts for Lilas_42:
(2, 35018), (4, 35114), (5, 35309), (6, 35312), (8, 35351), (10, 35381), (Start: 11 @35495 has 1 MA's), (Start: 16 @35519 has 1 MA's), (20, 35552), (21, 35564), (Start: 22 @35570 has 23 MA's), (Start: 28 @35636 has 14 MA's), (31, 35651), (35, 35729), (38, 35786), (45, 35846), (48, 35876),

Gene: LordFarquaad_42 Start: 31398, Stop: 31715, Start Num: 22
Candidate Starts for LordFarquaad_42:
(5, 31137), (6, 31140), (8, 31179), (10, 31209), (Start: 16 @31347 has 1 MA's), (20, 31380), (Start: 22 @31398 has 23 MA's), (Start: 28 @31464 has 14 MA's), (31, 31479), (35, 31557), (38, 31614), (45, 31674), (48, 31704),

Gene: Madavieve_41 Start: 34159, Stop: 34410, Start Num: 28
Candidate Starts for Madavieve_41:
(Start: 11 @34018 has 1 MA's), (Start: 16 @34042 has 1 MA's), (20, 34075), (Start: 22 @34093 has 23 MA's), (Start: 28 @34159 has 14 MA's), (31, 34174), (38, 34309), (48, 34399), (49, 34405),

Gene: Malachai_42 Start: 34821, Stop: 35132, Start Num: 23
Candidate Starts for Malachai_42:
(13, 34749), (Start: 23 @34821 has 9 MA's), (41, 35043),

Gene: Manasvini_46 Start: 34299, Stop: 34625, Start Num: 22
Candidate Starts for Manasvini_46:
(5, 34038), (6, 34041), (8, 34080), (10, 34110), (Start: 16 @34248 has 1 MA's), (20, 34281), (Start: 22 @34299 has 23 MA's), (Start: 28 @34374 has 14 MA's), (31, 34389), (35, 34467), (38, 34524), (45, 34584), (48, 34614),

Gene: Maridalia_46 Start: 34494, Stop: 34745, Start Num: 28
Candidate Starts for Maridalia_46:
(1, 33765), (6, 34170), (8, 34209), (10, 34239), (Start: 11 @34353 has 1 MA's), (Start: 16 @34377 has 1 MA's), (20, 34410), (Start: 22 @34428 has 23 MA's), (Start: 28 @34494 has 14 MA's), (31, 34509), (38, 34644),

Gene: Mellie_41 Start: 32540, Stop: 32851, Start Num: 23
Candidate Starts for Mellie_41:
(13, 32468), (Start: 23 @32540 has 9 MA's), (41, 32762),

Gene: MichaelScott_45 Start: 34090, Stop: 34398, Start Num: 22
Candidate Starts for MichaelScott_45:
(Start: 22 @34090 has 23 MA's), (34, 34222), (46, 34381), (48, 34387),

Gene: Neobush_45 Start: 34344, Stop: 34595, Start Num: 28
Candidate Starts for Neobush_45:
(5, 34017), (6, 34020), (8, 34059), (10, 34089), (Start: 16 @34227 has 1 MA's), (20, 34260), (Start: 22 @34278 has 23 MA's), (Start: 28 @34344 has 14 MA's), (31, 34359), (35, 34437), (38, 34494), (45, 34554), (48, 34584),

Gene: Pickett_38 Start: 28647, Stop: 28898, Start Num: 28
Candidate Starts for Pickett_38:

(5, 28320), (6, 28323), (8, 28362), (10, 28392), (Start: 16 @28530 has 1 MA's), (20, 28563), (Start: 22 @28581 has 23 MA's), (Start: 28 @28647 has 14 MA's), (31, 28662), (35, 28740), (38, 28797), (45, 28857), (48, 28887),

Gene: Piper2020_45 Start: 34224, Stop: 34544, Start Num: 22
Candidate Starts for Piper2020_45:
(Start: 16 @34173 has 1 MA's), (18, 34188), (Start: 22 @34224 has 23 MA's), (27, 34293), (32, 34326), (36, 34410),

Gene: Polly_42 Start: 33727, Stop: 34044, Start Num: 22
Candidate Starts for Polly_42:
(5, 33466), (6, 33469), (8, 33508), (10, 33538), (Start: 16 @33676 has 1 MA's), (20, 33709), (Start: 22 @33727 has 23 MA's), (Start: 28 @33793 has 14 MA's), (31, 33808), (35, 33886), (38, 33943), (45, 34003), (48, 34033),

Gene: Posh_47 Start: 35970, Stop: 36287, Start Num: 22
Candidate Starts for Posh_47:
(5, 35709), (6, 35712), (8, 35751), (10, 35781), (Start: 11 @35895 has 1 MA's), (Start: 16 @35919 has 1 MA's), (20, 35952), (Start: 22 @35970 has 23 MA's), (Start: 28 @36036 has 14 MA's), (31, 36051), (35, 36129), (38, 36186), (45, 36246), (48, 36276),

Gene: Rizz_45 Start: 33400, Stop: 33708, Start Num: 22
Candidate Starts for Rizz_45:
(Start: 22 @33400 has 23 MA's), (34, 33532), (46, 33691), (48, 33697),

Gene: Samba_42 Start: 34930, Stop: 35241, Start Num: 23
Candidate Starts for Samba_42:
(13, 34858), (Start: 23 @34930 has 9 MA's), (41, 35152), (45, 35194),

Gene: Samman98_45 Start: 32717, Stop: 33025, Start Num: 22
Candidate Starts for Samman98_45:
(Start: 22 @32717 has 23 MA's), (34, 32849), (46, 33008), (48, 33014),

Gene: Sbash_44 Start: 36077, Stop: 36379, Start Num: 23
Candidate Starts for Sbash_44:
(Start: 23 @36077 has 9 MA's), (27, 36140), (38, 36281), (48, 36371),

Gene: Sejanus_48 Start: 44290, Stop: 44538, Start Num: 26
Candidate Starts for Sejanus_48:
(18, 44200), (Start: 22 @44236 has 23 MA's), (Start: 26 @44290 has 1 MA's), (Start: 29 @44305 has 1 MA's), (34, 44365), (38, 44446), (43, 44476),

Gene: Sekhmet_45 Start: 33617, Stop: 33925, Start Num: 22
Candidate Starts for Sekhmet_45:
(Start: 22 @33617 has 23 MA's), (34, 33749), (46, 33908), (48, 33914),

Gene: SoilAssassin_40 Start: 31416, Stop: 31733, Start Num: 22
Candidate Starts for SoilAssassin_40:
(5, 31155), (6, 31158), (8, 31197), (10, 31227), (Start: 16 @31365 has 1 MA's), (20, 31398), (Start: 22 @31416 has 23 MA's), (Start: 28 @31482 has 14 MA's), (31, 31497), (35, 31575), (38, 31632), (45, 31692), (48, 31722),

Gene: Suscepit_45 Start: 34351, Stop: 34602, Start Num: 28

Candidate Starts for Suscepit_45:
(5, 34024), (6, 34027), (8, 34066), (10, 34096), (Start: 16 @34234 has 1 MA's), (20, 34267), (Start: 22 @34285 has 23 MA's), (Start: 28 @34351 has 14 MA's), (31, 34366), (35, 34444), (38, 34501), (45, 34561), (48, 34591),

Gene: Tayonia_45 Start: 34350, Stop: 34601, Start Num: 28
Candidate Starts for Tayonia_45:
(5, 34023), (6, 34026), (8, 34065), (10, 34095), (Start: 16 @34233 has 1 MA's), (20, 34266), (Start: 22 @34284 has 23 MA's), (Start: 28 @34350 has 14 MA's), (31, 34365), (35, 34443), (38, 34500), (45, 34560), (48, 34590),

Gene: Thimann_42 Start: 31982, Stop: 32290, Start Num: 22
Candidate Starts for Thimann_42:
(Start: 22 @31982 has 23 MA's), (34, 32114), (46, 32273), (48, 32279),

Gene: Trumpet_45 Start: 34351, Stop: 34602, Start Num: 28
Candidate Starts for Trumpet_45:
(5, 34024), (6, 34027), (8, 34066), (10, 34096), (Start: 16 @34234 has 1 MA's), (20, 34267), (Start: 22 @34285 has 23 MA's), (Start: 28 @34351 has 14 MA's), (31, 34366), (35, 34444), (38, 34501), (45, 34561), (48, 34591),

Gene: Tuti_40 Start: 33432, Stop: 33740, Start Num: 22
Candidate Starts for Tuti_40:
(Start: 22 @33432 has 23 MA's), (34, 33564), (46, 33723), (48, 33729),

Gene: Utz_37 Start: 33620, Stop: 33931, Start Num: 23
Candidate Starts for Utz_37:
(13, 33548), (Start: 23 @33620 has 9 MA's), (41, 33842), (45, 33884),

Gene: Wisp_40 Start: 33671, Stop: 33982, Start Num: 23
Candidate Starts for Wisp_40:
(13, 33599), (Start: 23 @33671 has 9 MA's), (41, 33893),

Gene: Yeet412_40 Start: 31483, Stop: 31734, Start Num: 28
Candidate Starts for Yeet412_40:
(5, 31156), (6, 31159), (8, 31198), (10, 31228), (Start: 16 @31366 has 1 MA's), (20, 31399), (Start: 22 @31417 has 23 MA's), (Start: 28 @31483 has 14 MA's), (31, 31498), (35, 31576), (38, 31633), (45, 31693), (48, 31723),

Gene: Yeezy_40 Start: 31945, Stop: 32256, Start Num: 22
Candidate Starts for Yeezy_40:
(Start: 22 @31945 has 23 MA's), (38, 32158), (47, 32239),

Gene: Zameen_45 Start: 34350, Stop: 34601, Start Num: 28
Candidate Starts for Zameen_45:
(5, 34023), (6, 34026), (8, 34065), (10, 34095), (Start: 16 @34233 has 1 MA's), (20, 34266), (Start: 22 @34284 has 23 MA's), (Start: 28 @34350 has 14 MA's), (31, 34365), (35, 34443), (38, 34500), (45, 34560), (48, 34590),

Gene: ZiggyZoo_44 Start: 34891, Stop: 35202, Start Num: 23
Candidate Starts for ZiggyZoo_44:
(3, 34423), (7, 34648), (9, 34684), (13, 34819), (Start: 23 @34891 has 9 MA's), (41, 35113),

Gene: Zirinka_42 Start: 35090, Stop: 35341, Start Num: 28
Candidate Starts for Zirinka_42:
(5, 34763), (6, 34766), (8, 34805), (10, 34835), (Start: 16 @34973 has 1 MA's), (20, 35006), (Start: 22 @35024 has 23 MA's), (Start: 28 @35090 has 14 MA's), (31, 35105), (35, 35183), (38, 35240), (45, 35300), (48, 35330),