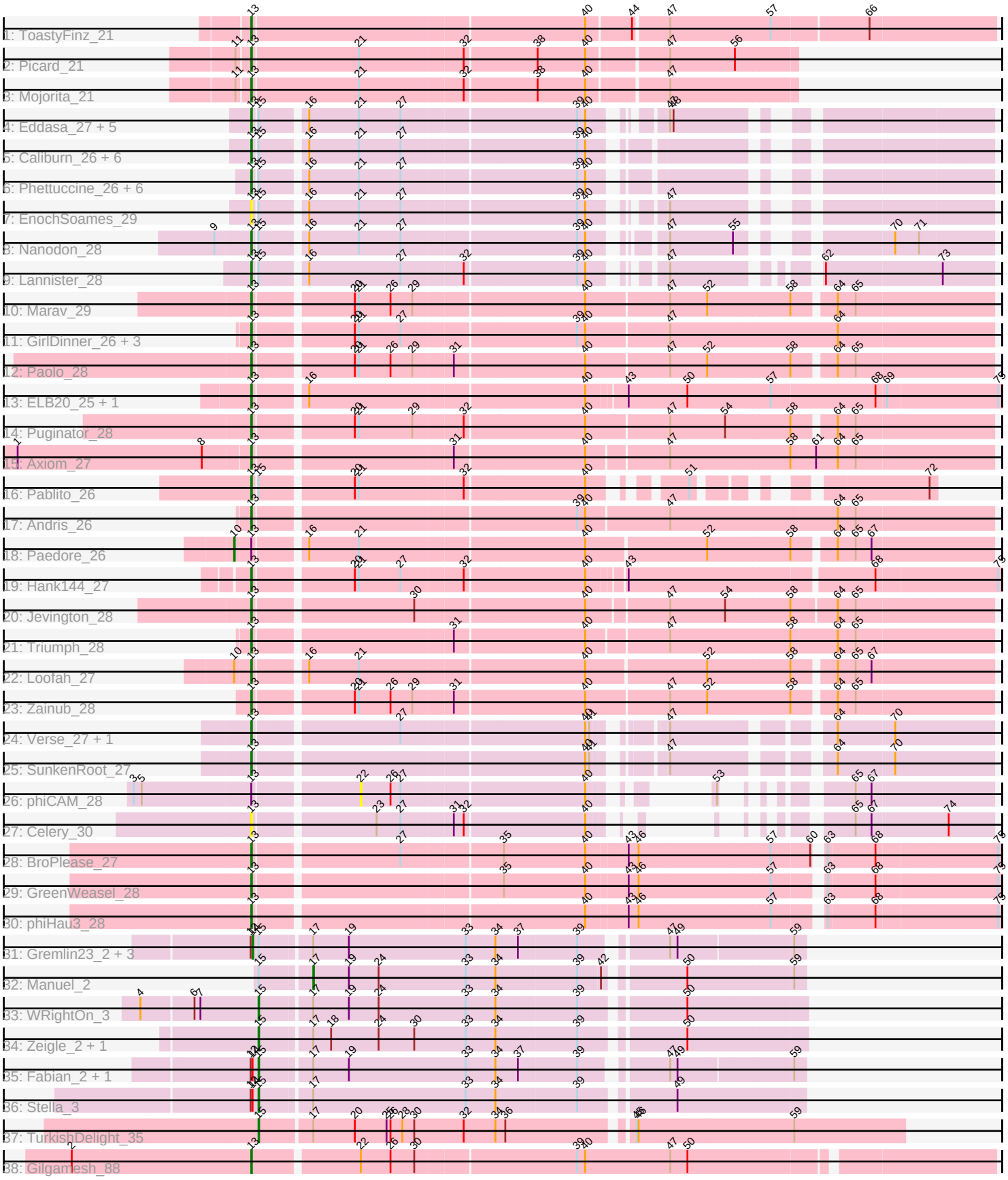
Pham 343988


1: ToastyFinz_21
2: Picard_21
3: Mojorita_21
4: Eddasa_27 + 5
5: Caliburn_26 + 6
6: Phettuccine_26 + 6
7: EnochSoames_29
8: Nanodon_28
9: Lannister_28
10: Marav_29
11: GirlDinner_26 + 3
12: Paolo_28
13: ELB20_25 + 1
14: Puginator_28
15: Axiom_27
16: Pablito_26
17: Andris_26
18: Paedore_26
19: Hank144_27
20: Jevington_28
21: Triumph_28
22: Loofah_27
23: Zainub_28
24: Verse_27 + 1
25: SunkenRoot_27
26: phiCAM_28
27: Celery_30
28: BroPlease_27
29: GreenWeasel_28
30: phiHau3_28
31: Gremlin23_2 + 3
32: Manuel_2
33: WRightOn_3
34: Zeigle_2 + 1
35: Fabian_2 + 1
36: Stella_3
37: TurkishDelight_35
38: Gilgamesh_88

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 343988 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 343988 has 65 members, 3 are drafts.

Phages represented in each track:
- Track 1 : ToastyFinz_21
- Track 2 : Picard_21
- Track 3 : Mojorita_21
- Track 4 : Eddasa_27, Izzy_27, Jash_27, Oliynyk_27, BryanRecycles_27, Rusticus_27
- Track 5 : Caliburn_26, Aaronocolus_26, Hydra_28, Legacy_26, Unstoppable_26, Ozzie_26, Leviticus_26
- Track 6 : Phettuccine_26, Indigo_25, Esperer_26, Bovely_26, BeardedLady_27, Nerdos_26, SunsetPointe_26
- Track 7 : EnochSoames_29
- Track 8 : Nanodon_28
- Track 9 : Lannister_28
- Track 10 : Marav_29
- Track 11 : GirlDinner_26, Janus_27, Animus_27, SqueakyClean_27
- Track 12 : Paolo_28
- Track 13 : ELB20_25, R4_26
- Track 14 : Puginator_28
- Track 15 : Axiom_27
- Track 16 : Pablito_26
- Track 17 : Andris_26
- Track 18 : Paedore_26
- Track 19 : Hank144_27
- Track 20 : Jevington_28
- Track 21 : Triumph_28
- Track 22 : Loofah_27
- Track 23 : Zainub_28
- Track 24 : Verse_27, Amela_27
- Track 25 : SunkenRoot_27
- Track 26 : phiCAM_28
- Track 27 : Celery_30
- Track 28 : BroPlease_27
- Track 29 : GreenWeasel_28
- Track 30 : phiHau3_28

• Track 31 : Gremlin23_2, FlowerPower_2, Geostin_2, Vrykolakas_2
• Track 32 : Manuel_2
• Track 33 : WRightOn_3
• Track 34 : Zeigle_2, Kumquat_2
• Track 35 : Fabian_2, RetrieverFever_2
• Track 36 : Stella_3
• Track 37 : TurkishDelight_35
• Track 38 : Gilgamesh_88

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

The start number called the most often in the published annotations is 13, it was called in 49 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aaronocolus_26, Amela_27, Andris_26, Animus_27, Axiom_27, BeardedLady_27, Bovely_26, BroPlease_27, BryanRecycles_27, Caliburn_26, Celery_30, ELB20_25, Eddasa_27, EnochSoames_29, Esperer_26, Gilgamesh_88, GirlDinner_26, GreenWeasel_28, Hank144_27, Hydra_28, Indigo_25, Izzy_27, Janus_27, Jash_27, Jevington_28, Lannister_28, Legacy_26, Leviticus_26, Loofah_27, Marav_29, Mojorita_21, Nanodon_28, Nerdos_26, Oliynyk_27, Ozzie_26, Pablito_26, Paolo_28, Phettuccine_26, Picard_21, Puginator_28, R4_26, Rusticus_27, SqueakyClean_27, SunkenRoot_27, SunsetPointe_26, ToastyFinz_21, Triumph_28, Unstoppable_26, Verse_27, Zainub_28, phiHau3_28,

Genes that have the "Most Annotated" start but do not call it:
• Paedore_26, phiCAM_28,

Genes that do not have the "Most Annotated" start:
• Fabian_2, FlowerPower_2, Geostin_2, Gremlin23_2, Kumquat_2, Manuel_2, RetrieverFever_2, Stella_3, TurkishDelight_35, Vrykolakas_2, WRightOn_3, Zeigle_2,

Summary by start number:

Start 10:
• Found in 2 of 65 (3.1%) of genes in pham
• Manual Annotations of this start: 1 of 62
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Paedore_26 (BD2),

Start 13:
• Found in 53 of 65 (81.5%) of genes in pham
• Manual Annotations of this start: 49 of 62
• Called 96.2% of time when present
• Phage (with cluster) where this start called: Aaronocolus_26 (BD1), Amela_27 (BD3), Andris_26 (BD2), Animus_27 (BD2), Axiom_27 (BD2), BeardedLady_27 (BD1), Bovely_26 (BD1), BroPlease_27 (BD4), BryanRecycles_27 (BD1), Caliburn_26 (BD1), Celery_30 (BD3), ELB20_25 (BD2), Eddasa_27 (BD1), EnochSoames_29 (BD1), Esperer_26 (BD1), Gilgamesh_88 (singleton), GirlDinner_26 (BD2), GreenWeasel_28 (BD4), Hank144_27 (BD2), Hydra_28 (BD1),

Indigo_25 (BD1), Izzy_27 (BD1), Janus_27 (BD2), Jash_27 (BD1), Jevington_28 (BD2), Lannister_28 (BD1), Legacy_26 (BD1), Leviticus_26 (BD1), Loofah_27 (BD2), Marav_29 (BD2), Mojorita_21 (BC1), Nanodon_28 (BD1), Nerdos_26 (BD1), Oliynyk_27 (BD1), Ozzie_26 (BD1), Pablito_26 (BD2), Paolo_28 (BD2), Phettuccine_26 (BD1), Picard_21 (BC1), Puginator_28 (BD2), R4_26 (BD2), Rusticus_27 (BD1), SqueakyClean_27 (BD2), SunkenRoot_27 (BD3), SunsetPointe_26 (BD1), ToastyFinz_21 (BC1), Triumph_28 (BD2), Unstoppable_26 (BD1), Verse_27 (BD3), Zainub_28 (BD2), phiHau3_28 (BD4),

Start 14:
• Found in 7 of 65 (10.8%) of genes in pham
• Manual Annotations of this start: 4 of 62
• Called 57.1% of time when present
• Phage (with cluster) where this start called: FlowerPower_2 (BF), Geostin_2 (BF), Gremlin23_2 (BF), Vrykolakas_2 (BF),

Start 15:
• Found in 36 of 65 (55.4%) of genes in pham
• Manual Annotations of this start: 7 of 62
• Called 19.4% of time when present
• Phage (with cluster) where this start called: Fabian_2 (BF), Kumquat_2 (BF), RetrieverFever_2 (BF), Stella_3 (BF), TurkishDelight_35 (singleton), WRightOn_3 (BF), Zeigle_2 (BF),

Start 17:
• Found in 12 of 65 (18.5%) of genes in pham
• Manual Annotations of this start: 1 of 62
• Called 8.3% of time when present
• Phage (with cluster) where this start called: Manuel_2 (BF),

Start 22:
• Found in 2 of 65 (3.1%) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: phiCAM_28 (BD3),

Summary by clusters:

There are 7 clusters represented in this pham: BF, singleton, BD4, BD1, BD3, BD2, BC1,

Info for manual annotations of cluster BC1:
•Start number 13 was manually annotated 3 times for cluster BC1.

Info for manual annotations of cluster BD1:
•Start number 13 was manually annotated 22 times for cluster BD1.

Info for manual annotations of cluster BD2:
•Start number 10 was manually annotated 1 time for cluster BD2.
•Start number 13 was manually annotated 17 times for cluster BD2.

Info for manual annotations of cluster BD3:
•Start number 13 was manually annotated 3 times for cluster BD3.

Info for manual annotations of cluster BD4:
•Start number 13 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BF:
•Start number 14 was manually annotated 4 times for cluster BF.
•Start number 15 was manually annotated 6 times for cluster BF.
•Start number 17 was manually annotated 1 time for cluster BF.

Gene Information:

Gene: Aaronocolus_26 Start: 20975, Stop: 21928, Start Num: 13
Candidate Starts for Aaronocolus_26:
(Start: 13 @20975 has 49 MA's), (Start: 15 @20981 has 7 MA's), (16, 21041), (21, 21116), (27, 21179), (39, 21434), (40, 21446),

Gene: Amela_27 Start: 23390, Stop: 24361, Start Num: 13
Candidate Starts for Amela_27:
(Start: 13 @23390 has 49 MA's), (27, 23594), (40, 23861), (41, 23867), (47, 23936), (64, 24131), (70, 24212),

Gene: Andris_26 Start: 21446, Stop: 22519, Start Num: 13
Candidate Starts for Andris_26:
(Start: 13 @21446 has 49 MA's), (39, 21905), (40, 21917), (47, 22040), (64, 22286), (65, 22313),

Gene: Animus_27 Start: 21785, Stop: 22861, Start Num: 13
Candidate Starts for Animus_27:
(Start: 13 @21785 has 49 MA's), (20, 21920), (21, 21926), (27, 21989), (39, 22244), (40, 22256), (47, 22379), (64, 22628),

Gene: Axiom_27 Start: 21619, Stop: 22686, Start Num: 13
Candidate Starts for Axiom_27:
(1, 21274), (8, 21553), (Start: 13 @21619 has 49 MA's), (31, 21898), (40, 22090), (47, 22207), (58, 22384), (61, 22420), (64, 22453), (65, 22480),

Gene: BeardedLady_27 Start: 21228, Stop: 22181, Start Num: 13
Candidate Starts for BeardedLady_27:
(Start: 13 @21228 has 49 MA's), (Start: 15 @21234 has 7 MA's), (16, 21294), (21, 21369), (27, 21432), (39, 21687), (40, 21699),

Gene: Bovely_26 Start: 20981, Stop: 21934, Start Num: 13
Candidate Starts for Bovely_26:
(Start: 13 @20981 has 49 MA's), (Start: 15 @20987 has 7 MA's), (16, 21047), (21, 21122), (27, 21185), (39, 21440), (40, 21452),

Gene: BroPlease_27 Start: 21400, Stop: 22452, Start Num: 13
Candidate Starts for BroPlease_27:
(Start: 13 @21400 has 49 MA's), (27, 21604), (35, 21748), (40, 21871), (43, 21931), (46, 21946), (57, 22141), (60, 22195), (63, 22201), (68, 22270), (75, 22447),

Gene: BryanRecycles_27 Start: 21344, Stop: 22285, Start Num: 13

Candidate Starts for BryanRecycles_27:
(Start: 13 @21344 has 49 MA's), (Start: 15 @21350 has 7 MA's), (16, 21410), (21, 21485), (27, 21548), (39, 21803), (40, 21815), (47, 21887), (48, 21890),

Gene: Caliburn_26 Start: 20958, Stop: 21911, Start Num: 13
Candidate Starts for Caliburn_26:
(Start: 13 @20958 has 49 MA's), (Start: 15 @20964 has 7 MA's), (16, 21024), (21, 21099), (27, 21162), (39, 21417), (40, 21429),

Gene: Celery_30 Start: 22672, Stop: 23478, Start Num: 13
Candidate Starts for Celery_30:
(Start: 13 @22672 has 49 MA's), (23, 22840), (27, 22876), (31, 22951), (32, 22966), (40, 23143), (65, 23275), (67, 23299), (74, 23410),

Gene: ELB20_25 Start: 21866, Stop: 22936, Start Num: 13
Candidate Starts for ELB20_25:
(Start: 13 @21866 has 49 MA's), (16, 21932), (40, 22337), (43, 22391), (50, 22478), (57, 22601), (68, 22754), (69, 22769), (75, 22931),

Gene: Eddasa_27 Start: 21344, Stop: 22285, Start Num: 13
Candidate Starts for Eddasa_27:
(Start: 13 @21344 has 49 MA's), (Start: 15 @21350 has 7 MA's), (16, 21410), (21, 21485), (27, 21548), (39, 21803), (40, 21815), (47, 21887), (48, 21890),

Gene: EnochSoames_29 Start: 21339, Stop: 22280, Start Num: 13
Candidate Starts for EnochSoames_29:
(Start: 13 @21339 has 49 MA's), (Start: 15 @21345 has 7 MA's), (16, 21405), (21, 21480), (27, 21543), (39, 21798), (40, 21810), (47, 21882),

Gene: Esperer_26 Start: 20794, Stop: 21747, Start Num: 13
Candidate Starts for Esperer_26:
(Start: 13 @20794 has 49 MA's), (Start: 15 @20800 has 7 MA's), (16, 20860), (21, 20935), (27, 20998), (39, 21253), (40, 21265),

Gene: Fabian_2 Start: 2609, Stop: 3376, Start Num: 15
Candidate Starts for Fabian_2:
(12, 2600), (Start: 14 @2603 has 4 MA's), (Start: 15 @2609 has 7 MA's), (Start: 17 @2681 has 1 MA's), (19, 2735), (33, 2912), (34, 2957), (37, 2990), (39, 3077), (47, 3185), (49, 3194), (59, 3359),

Gene: FlowerPower_2 Start: 2603, Stop: 3376, Start Num: 14
Candidate Starts for FlowerPower_2:
(12, 2600), (Start: 14 @2603 has 4 MA's), (Start: 15 @2609 has 7 MA's), (Start: 17 @2681 has 1 MA's), (19, 2735), (33, 2912), (34, 2957), (37, 2990), (39, 3077), (47, 3185), (49, 3194), (59, 3359),

Gene: Geostin_2 Start: 2603, Stop: 3376, Start Num: 14
Candidate Starts for Geostin_2:
(12, 2600), (Start: 14 @2603 has 4 MA's), (Start: 15 @2609 has 7 MA's), (Start: 17 @2681 has 1 MA's), (19, 2735), (33, 2912), (34, 2957), (37, 2990), (39, 3077), (47, 3185), (49, 3194), (59, 3359),

Gene: Gilgamesh_88 Start: 82382, Stop: 83437, Start Num: 13
Candidate Starts for Gilgamesh_88:
(2, 82112), (Start: 13 @82382 has 49 MA's), (22, 82529), (26, 82574), (30, 82610), (39, 82844), (40, 82856), (47, 82985), (50, 83009),

Gene: GirlDinner_26 Start: 21447, Stop: 22523, Start Num: 13
Candidate Starts for GirlDinner_26:
(Start: 13 @21447 has 49 MA's), (20, 21582), (21, 21588), (27, 21651), (39, 21906), (40, 21918), (47, 22041), (64, 22290),

Gene: GreenWeasel_28 Start: 21409, Stop: 22461, Start Num: 13
Candidate Starts for GreenWeasel_28:
(Start: 13 @21409 has 49 MA's), (35, 21757), (40, 21880), (43, 21940), (46, 21955), (57, 22150), (63, 22210), (68, 22279), (75, 22456),

Gene: Gremlin23_2 Start: 2603, Stop: 3376, Start Num: 14
Candidate Starts for Gremlin23_2:
(12, 2600), (Start: 14 @2603 has 4 MA's), (Start: 15 @2609 has 7 MA's), (Start: 17 @2681 has 1 MA's), (19, 2735), (33, 2912), (34, 2957), (37, 2990), (39, 3077), (47, 3185), (49, 3194), (59, 3359),

Gene: Hank144_27 Start: 21897, Stop: 22949, Start Num: 13
Candidate Starts for Hank144_27:
(Start: 13 @21897 has 49 MA's), (20, 22032), (21, 22038), (27, 22101), (32, 22191), (40, 22368), (43, 22416), (68, 22767), (75, 22944),

Gene: Hydra_28 Start: 21506, Stop: 22459, Start Num: 13
Candidate Starts for Hydra_28:
(Start: 13 @21506 has 49 MA's), (Start: 15 @21512 has 7 MA's), (16, 21572), (21, 21647), (27, 21710), (39, 21965), (40, 21977),

Gene: Indigo_25 Start: 20974, Stop: 21927, Start Num: 13
Candidate Starts for Indigo_25:
(Start: 13 @20974 has 49 MA's), (Start: 15 @20980 has 7 MA's), (16, 21040), (21, 21115), (27, 21178), (39, 21433), (40, 21445),

Gene: Izzy_27 Start: 21391, Stop: 22332, Start Num: 13
Candidate Starts for Izzy_27:
(Start: 13 @21391 has 49 MA's), (Start: 15 @21397 has 7 MA's), (16, 21457), (21, 21532), (27, 21595), (39, 21850), (40, 21862), (47, 21934), (48, 21937),

Gene: Janus_27 Start: 21785, Stop: 22861, Start Num: 13
Candidate Starts for Janus_27:
(Start: 13 @21785 has 49 MA's), (20, 21920), (21, 21926), (27, 21989), (39, 22244), (40, 22256), (47, 22379), (64, 22628),

Gene: Jash_27 Start: 21344, Stop: 22285, Start Num: 13
Candidate Starts for Jash_27:
(Start: 13 @21344 has 49 MA's), (Start: 15 @21350 has 7 MA's), (16, 21410), (21, 21485), (27, 21548), (39, 21803), (40, 21815), (47, 21887), (48, 21890),

Gene: Jevington_28 Start: 22132, Stop: 23196, Start Num: 13
Candidate Starts for Jevington_28:
(Start: 13 @22132 has 49 MA's), (30, 22357), (40, 22603), (47, 22720), (54, 22801), (58, 22897), (64, 22963), (65, 22990),

Gene: Kumquat_2 Start: 2632, Stop: 3411, Start Num: 15
Candidate Starts for Kumquat_2:

(Start: 15 @2632 has 7 MA's), (Start: 17 @2704 has 1 MA's), (18, 2731), (24, 2803), (30, 2857), (33, 2935), (34, 2980), (39, 3100), (50, 3238),

Gene: Lannister_28 Start: 22046, Stop: 22999, Start Num: 13
Candidate Starts for Lannister_28:
(Start: 13 @22046 has 49 MA's), (Start: 15 @22052 has 7 MA's), (16, 22112), (27, 22250), (32, 22340), (39, 22505), (40, 22517), (47, 22586), (62, 22751), (73, 22925),

Gene: Legacy_26 Start: 20949, Stop: 21902, Start Num: 13
Candidate Starts for Legacy_26:
(Start: 13 @20949 has 49 MA's), (Start: 15 @20955 has 7 MA's), (16, 21015), (21, 21090), (27, 21153), (39, 21408), (40, 21420),

Gene: Leviticus_26 Start: 20978, Stop: 21931, Start Num: 13
Candidate Starts for Leviticus_26:
(Start: 13 @20978 has 49 MA's), (Start: 15 @20984 has 7 MA's), (16, 21044), (21, 21119), (27, 21182), (39, 21437), (40, 21449),

Gene: Loofah_27 Start: 21786, Stop: 22841, Start Num: 13
Candidate Starts for Loofah_27:
(Start: 10 @21765 has 1 MA's), (Start: 13 @21786 has 49 MA's), (16, 21852), (21, 21927), (40, 22257), (52, 22428), (58, 22551), (64, 22608), (65, 22635), (67, 22659),

Gene: Manuel_2 Start: 2715, Stop: 3416, Start Num: 17
Candidate Starts for Manuel_2:
(Start: 15 @2643 has 7 MA's), (Start: 17 @2715 has 1 MA's), (19, 2769), (24, 2814), (33, 2946), (34, 2991), (39, 3111), (42, 3144), (50, 3246), (59, 3399),

Gene: Marav_29 Start: 22471, Stop: 23532, Start Num: 13
Candidate Starts for Marav_29:
(Start: 13 @22471 has 49 MA's), (20, 22606), (21, 22612), (26, 22660), (29, 22693), (40, 22942), (47, 23065), (52, 23119), (58, 23242), (64, 23299), (65, 23326),

Gene: Mojorita_21 Start: 16303, Stop: 17085, Start Num: 13
Candidate Starts for Mojorita_21:
(11, 16285), (Start: 13 @16303 has 49 MA's), (21, 16459), (32, 16612), (38, 16717), (40, 16789), (47, 16900),

Gene: Nanodon_28 Start: 21617, Stop: 22561, Start Num: 13
Candidate Starts for Nanodon_28:
(9, 21566), (Start: 13 @21617 has 49 MA's), (Start: 15 @21623 has 7 MA's), (16, 21683), (21, 21758), (27, 21821), (39, 22076), (40, 22088), (47, 22163), (55, 22256), (70, 22418), (71, 22454),

Gene: Nerdos_26 Start: 20972, Stop: 21925, Start Num: 13
Candidate Starts for Nerdos_26:
(Start: 13 @20972 has 49 MA's), (Start: 15 @20978 has 7 MA's), (16, 21038), (21, 21113), (27, 21176), (39, 21431), (40, 21443),

Gene: Oliynyk_27 Start: 21344, Stop: 22285, Start Num: 13
Candidate Starts for Oliynyk_27:
(Start: 13 @21344 has 49 MA's), (Start: 15 @21350 has 7 MA's), (16, 21410), (21, 21485), (27, 21548), (39, 21803), (40, 21815), (47, 21887), (48, 21890),

Gene: Ozzie_26 Start: 20958, Stop: 21911, Start Num: 13
Candidate Starts for Ozzie_26:
(Start: 13 @20958 has 49 MA's), (Start: 15 @20964 has 7 MA's), (16, 21024), (21, 21099), (27, 21162), (39, 21417), (40, 21429),

Gene: Pablito_26 Start: 21573, Stop: 22406, Start Num: 13
Candidate Starts for Pablito_26:
(Start: 13 @21573 has 49 MA's), (Start: 15 @21579 has 7 MA's), (20, 21708), (21, 21714), (32, 21867), (40, 22044), (51, 22140), (72, 22395),

Gene: Paedore_26 Start: 21765, Stop: 22841, Start Num: 10
Candidate Starts for Paedore_26:
(Start: 10 @21765 has 1 MA's), (Start: 13 @21786 has 49 MA's), (16, 21852), (21, 21927), (40, 22257), (52, 22428), (58, 22551), (64, 22608), (65, 22635), (67, 22659),

Gene: Paolo_28 Start: 22134, Stop: 23195, Start Num: 13
Candidate Starts for Paolo_28:
(Start: 13 @22134 has 49 MA's), (20, 22269), (21, 22275), (26, 22323), (29, 22356), (31, 22413), (40, 22605), (47, 22728), (52, 22782), (58, 22905), (64, 22962), (65, 22989),

Gene: Phettuccine_26 Start: 20974, Stop: 21927, Start Num: 13
Candidate Starts for Phettuccine_26:
(Start: 13 @20974 has 49 MA's), (Start: 15 @20980 has 7 MA's), (16, 21040), (21, 21115), (27, 21178), (39, 21433), (40, 21445),

Gene: Picard_21 Start: 16297, Stop: 17079, Start Num: 13
Candidate Starts for Picard_21:
(11, 16279), (Start: 13 @16297 has 49 MA's), (21, 16453), (32, 16606), (38, 16711), (40, 16783), (47, 16894), (56, 16990),

Gene: Puginator_28 Start: 22149, Stop: 23210, Start Num: 13
Candidate Starts for Puginator_28:
(Start: 13 @22149 has 49 MA's), (20, 22284), (21, 22290), (29, 22371), (32, 22443), (40, 22620), (47, 22743), (54, 22824), (58, 22920), (64, 22977), (65, 23004),

Gene: R4_26 Start: 21877, Stop: 22947, Start Num: 13
Candidate Starts for R4_26:
(Start: 13 @21877 has 49 MA's), (16, 21943), (40, 22348), (43, 22402), (50, 22489), (57, 22612), (68, 22765), (69, 22780), (75, 22942),

Gene: RetrieverFever_2 Start: 2609, Stop: 3376, Start Num: 15
Candidate Starts for RetrieverFever_2:
(12, 2600), (Start: 14 @2603 has 4 MA's), (Start: 15 @2609 has 7 MA's), (Start: 17 @2681 has 1 MA's), (19, 2735), (33, 2912), (34, 2957), (37, 2990), (39, 3077), (47, 3185), (49, 3194), (59, 3359),

Gene: Rusticus_27 Start: 21344, Stop: 22285, Start Num: 13
Candidate Starts for Rusticus_27:
(Start: 13 @21344 has 49 MA's), (Start: 15 @21350 has 7 MA's), (16, 21410), (21, 21485), (27, 21548), (39, 21803), (40, 21815), (47, 21887), (48, 21890),

Gene: SqueakyClean_27 Start: 21711, Stop: 22787, Start Num: 13
Candidate Starts for SqueakyClean_27:

(Start: 13 @21711 has 49 MA's), (20, 21846), (21, 21852), (27, 21915), (39, 22170), (40, 22182), (47, 22305), (64, 22554),

Gene: Stella_3 Start: 2613, Stop: 3389, Start Num: 15
Candidate Starts for Stella_3:
(12, 2601), (Start: 14 @2604 has 4 MA's), (Start: 15 @2613 has 7 MA's), (Start: 17 @2685 has 1 MA's), (33, 2916), (34, 2961), (39, 3081), (49, 3204),

Gene: SunkenRoot_27 Start: 23184, Stop: 24158, Start Num: 13
Candidate Starts for SunkenRoot_27:
(Start: 13 @23184 has 49 MA's), (40, 23655), (41, 23661), (47, 23733), (64, 23928), (70, 24009),

Gene: SunsetPointe_26 Start: 20965, Stop: 21918, Start Num: 13
Candidate Starts for SunsetPointe_26:
(Start: 13 @20965 has 49 MA's), (Start: 15 @20971 has 7 MA's), (16, 21031), (21, 21106), (27, 21169), (39, 21424), (40, 21436),

Gene: ToastyFinz_21 Start: 17938, Stop: 19005, Start Num: 13
Candidate Starts for ToastyFinz_21:
(Start: 13 @17938 has 49 MA's), (40, 18424), (44, 18487), (47, 18535), (57, 18682), (66, 18820),

Gene: Triumph_28 Start: 21635, Stop: 22702, Start Num: 13
Candidate Starts for Triumph_28:
(Start: 13 @21635 has 49 MA's), (31, 21914), (40, 22106), (47, 22223), (58, 22400), (64, 22469), (65, 22496),

Gene: TurkishDelight_35 Start: 33300, Stop: 34241, Start Num: 15
Candidate Starts for TurkishDelight_35:
(Start: 15 @33300 has 7 MA's), (Start: 17 @33375 has 1 MA's), (20, 33438), (25, 33486), (26, 33492), (28, 33510), (30, 33528), (32, 33603), (34, 33651), (36, 33666), (45, 33837), (46, 33840), (59, 34074),

Gene: Unstoppable_26 Start: 20969, Stop: 21922, Start Num: 13
Candidate Starts for Unstoppable_26:
(Start: 13 @20969 has 49 MA's), (Start: 15 @20975 has 7 MA's), (16, 21035), (21, 21110), (27, 21173), (39, 21428), (40, 21440),

Gene: Verse_27 Start: 23384, Stop: 24355, Start Num: 13
Candidate Starts for Verse_27:
(Start: 13 @23384 has 49 MA's), (27, 23588), (40, 23855), (41, 23861), (47, 23930), (64, 24125), (70, 24206),

Gene: Vrykolakas_2 Start: 2602, Stop: 3375, Start Num: 14
Candidate Starts for Vrykolakas_2:
(12, 2599), (Start: 14 @2602 has 4 MA's), (Start: 15 @2608 has 7 MA's), (Start: 17 @2680 has 1 MA's), (19, 2734), (33, 2911), (34, 2956), (37, 2989), (39, 3076), (47, 3184), (49, 3193), (59, 3358),

Gene: WRightOn_3 Start: 2976, Stop: 3755, Start Num: 15
Candidate Starts for WRightOn_3:
(4, 2811), (6, 2886), (7, 2895), (Start: 15 @2976 has 7 MA's), (Start: 17 @3048 has 1 MA's), (19, 3102), (24, 3147), (33, 3279), (34, 3324), (39, 3444), (50, 3582),

Gene: Zainub_28 Start: 22098, Stop: 23159, Start Num: 13
Candidate Starts for Zainub_28:

(Start: 13 @22098 has 49 MA's), (20, 22233), (21, 22239), (26, 22287), (29, 22320), (31, 22377), (40, 22569), (47, 22692), (52, 22746), (58, 22869), (64, 22926), (65, 22953),

Gene: Zeigle_2 Start: 2632, Stop: 3411, Start Num: 15
Candidate Starts for Zeigle_2:
(Start: 15 @2632 has 7 MA's), (Start: 17 @2704 has 1 MA's), (18, 2731), (24, 2803), (30, 2857), (33, 2935), (34, 2980), (39, 3100), (50, 3238),

Gene: phiCAM_28 Start: 24820, Stop: 25500, Start Num: 22
Candidate Starts for phiCAM_28:
(3, 24505), (5, 24517), (Start: 13 @24676 has 49 MA's), (22, 24820), (26, 24865), (27, 24880), (40, 25147), (53, 25204), (65, 25297), (67, 25321),

Gene: phiHau3_28 Start: 21373, Stop: 22425, Start Num: 13
Candidate Starts for phiHau3_28:
(Start: 13 @21373 has 49 MA's), (40, 21844), (43, 21904), (46, 21919), (57, 22114), (63, 22174), (68, 22243), (75, 22420),