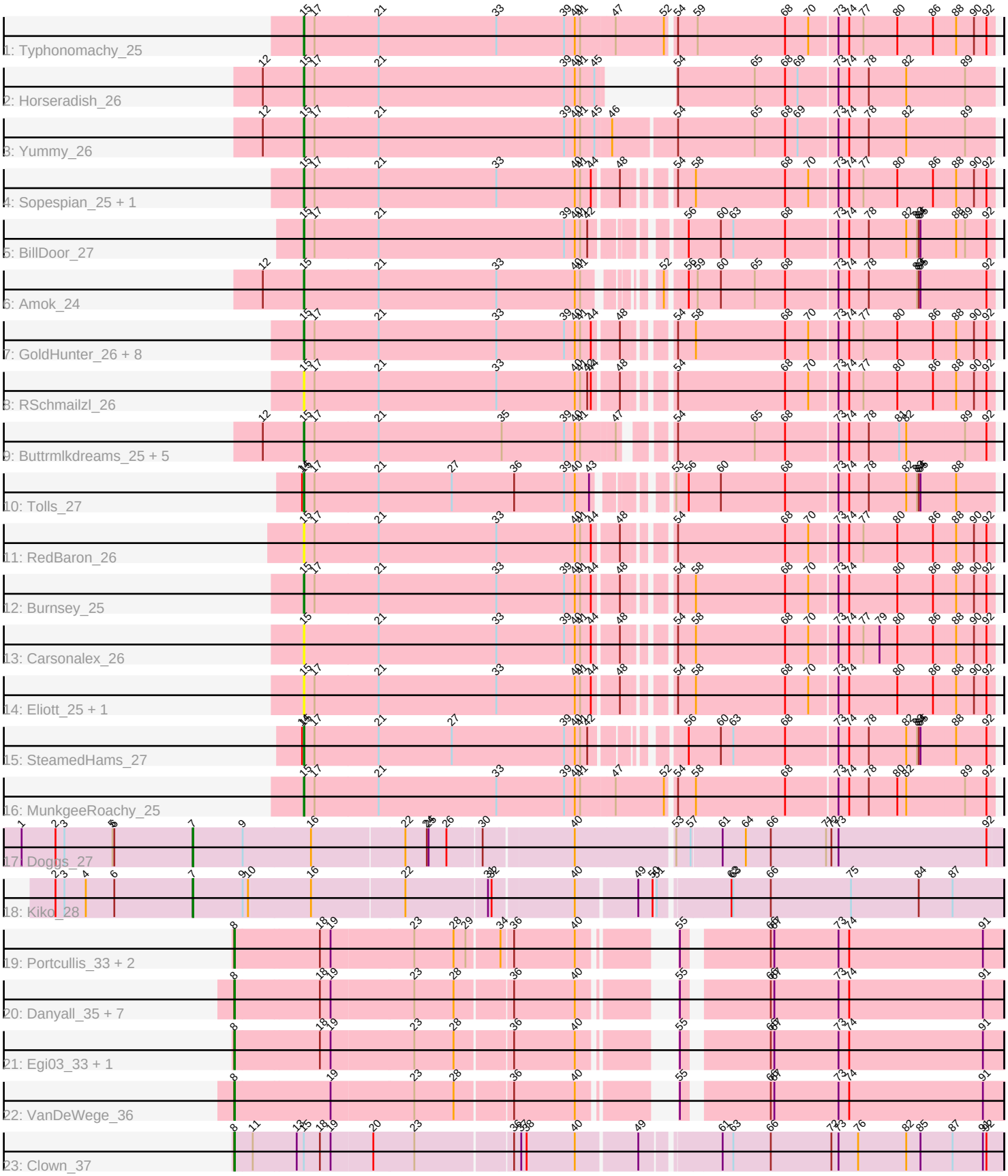
Pham 296674


1: Typhonomachy_25
2: Horseradish_26
3: Yummy_26
4: Sopespian_25 + 1
5: BillDoor_27
6: Amok_24
7: GoldHunter_26 + 8
8: RSchmailzl_26
9: Buttrmlkdreams_25 + 5
10: Tolls_27
11: RedBaron_26
12: Burnsey_25
13: Carsonalex_26
14: Eliott_25 + 1
15: SteamedHams_27
16: MunkgeeRoachy_25
17: Doggs_27
18: Kikol_28
19: Portcullis_33 + 2
20: Danyall_35 + 7
21: Egi03_33 + 1
22: VanDeWege_36
23: Clown_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 296674 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296674 has 48 members, 12 are drafts.

Phages represented in each track:
• Track 1 : Typhonomachy_25
• Track 2 : Horseradish_26
• Track 3 : Yummy_26
• Track 4 : Sopespian_25, Nina_26
• Track 5 : BillDoor_27
• Track 6 : Amok_24
• Track 7 : GoldHunter_26, RADical_26, Bubble_25, Starburst_26, Agatha_25, Quasar_25, Cozz_25, Axym_25, Socotra_26
• Track 8 : RSchmailzl_26
• Track 9 : Buttrmlkdreams_25, MScarn_27, Blondies_26, Biskit_26, SketchMex_24, Troje_25
• Track 10 : Tolls_27
• Track 11 : RedBaron_26
• Track 12 : Burnsey_25
• Track 13 : Carsonalex_26
• Track 14 : Eliott_25, PsychoKiller_25
• Track 15 : SteamedHams_27
• Track 16 : MunkgeeRoachy_25
• Track 17 : Doggs_27
• Track 18 : Kiko_28
• Track 19 : Portcullis_33, Shinji_33, JohnPork_33
• Track 20 : Danyall_35, CoveyB_35, PinkCoffee_35, ClamChowder_35, Twister6_35, Arri_36, Barb_35, Fugax_35
• Track 21 : Egi03_33, RogerDodger_36
• Track 22 : VanDeWege_36
• Track 23 : Clown_37

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

The start number called the most often in the published annotations is 15, it was called in 21 of the 36 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Agatha_25, Amok_24, Axym_25, BillDoor_27, Biskit_26, Blondies_26, Bubble_25, Burnsey_25, Buttrmlkdreams_25, Carsonalex_26, Cozz_25, Eliott_25, GoldHunter_26, Horseradish_26, MScarn_27, MunkgeeRoachy_25, Nina_26, PsychoKiller_25, Quasar_25, RADical_26, RSchmailzl_26, RedBaron_26, SketchMex_24, Socotra_26, Sopespian_25, Starburst_26, SteamedHams_27, Tolls_27, Troje_25, Typhonomachy_25, Yummy_26,

Genes that have the "Most Annotated" start but do not call it:
• Clown_37,

Genes that do not have the "Most Annotated" start:
• Arri_36, Barb_35, ClamChowder_35, CoveyB_35, Danyall_35, Doggs_27, Egi03_33, Fugax_35, JohnPork_33, Kiko_28, PinkCoffee_35, Portcullis_33, RogerDodger_36, Shinji_33, Twister6_35, VanDeWege_36,

Summary by start number:

Start 7:
• Found in 2 of 48 (4.2%) of genes in pham
• Manual Annotations of this start: 2 of 36
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Doggs_27 (DB), Kiko_28 (DB),

Start 8:
• Found in 15 of 48 (31.2%) of genes in pham
• Manual Annotations of this start: 13 of 36
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Arri_36 (DC1), Barb_35 (DC1), ClamChowder_35 (DC1), Clown_37 (DC2), CoveyB_35 (DC1), Danyall_35 (DC1), Egi03_33 (DC1), Fugax_35 (DC1), JohnPork_33 (DC), PinkCoffee_35 (DC1), Portcullis_33 (DC1), RogerDodger_36 (DC1), Shinji_33 (DC1), Twister6_35 (DC1), VanDeWege_36 (DC1),

Start 15:
• Found in 32 of 48 (66.7%) of genes in pham
• Manual Annotations of this start: 21 of 36
• Called 96.9% of time when present
• Phage (with cluster) where this start called: Agatha_25 (CT), Amok_24 (CT), Axym_25 (CT), BillDoor_27 (CT), Biskit_26 (CT), Blondies_26 (CT), Bubble_25 (CT), Burnsey_25 (CT), Buttrmlkdreams_25 (CT), Carsonalex_26 (CT), Cozz_25 (CT), Eliott_25 (CT), GoldHunter_26 (CT), Horseradish_26 (CT), MScarn_27 (CT), MunkgeeRoachy_25 (CT), Nina_26 (CT), PsychoKiller_25 (CT), Quasar_25 (CT), RADical_26 (CT), RSchmailzl_26 (CT), RedBaron_26 (CT), SketchMex_24 (CT), Socotra_26 (CT), Sopespian_25 (CT), Starburst_26 (CT), SteamedHams_27 (CT), Tolls_27 (CT), Troje_25 (CT), Typhonomachy_25 (CT), Yummy_26 (CT),

Summary by clusters:

There are 5 clusters represented in this pham: DC2, CT, DB, DC, DC1,

Info for manual annotations of cluster CT:
•Start number 15 was manually annotated 21 times for cluster CT.

Info for manual annotations of cluster DB:
•Start number 7 was manually annotated 2 times for cluster DB.

Info for manual annotations of cluster DC1:
•Start number 8 was manually annotated 12 times for cluster DC1.

Info for manual annotations of cluster DC2:
•Start number 8 was manually annotated 1 time for cluster DC2.

Gene Information:

Gene: Agatha_25 Start: 20517, Stop: 21614, Start Num: 15
Candidate Starts for Agatha_25:
(Start: 15 @20517 has 21 MA's), (17, 20535), (21, 20640), (33, 20838), (39, 20952), (40, 20970), (41, 20979), (44, 20997), (48, 21033), (54, 21093), (58, 21123), (68, 21273), (70, 21312), (73, 21357), (74, 21375), (77, 21399), (80, 21456), (86, 21516), (88, 21552), (90, 21582), (92, 21603),

Gene: Amok_24 Start: 19775, Stop: 20848, Start Num: 15
Candidate Starts for Amok_24:
(12, 19706), (Start: 15 @19775 has 21 MA's), (21, 19898), (33, 20096), (40, 20228), (41, 20237), (52, 20315), (56, 20345), (59, 20360), (60, 20399), (65, 20456), (68, 20507), (73, 20591), (74, 20609), (78, 20642), (83, 20723), (84, 20726), (85, 20729), (92, 20837),

Gene: Arri_36 Start: 28916, Stop: 30088, Start Num: 8
Candidate Starts for Arri_36:
(Start: 8 @28916 has 13 MA's), (18, 29057), (19, 29075), (23, 29210), (28, 29276), (36, 29363), (40, 29465), (55, 29570), (66, 29696), (67, 29702), (73, 29810), (74, 29828), (91, 30053),

Gene: Axym_25 Start: 20517, Stop: 21614, Start Num: 15
Candidate Starts for Axym_25:
(Start: 15 @20517 has 21 MA's), (17, 20535), (21, 20640), (33, 20838), (39, 20952), (40, 20970), (41, 20979), (44, 20997), (48, 21033), (54, 21093), (58, 21123), (68, 21273), (70, 21312), (73, 21357), (74, 21375), (77, 21399), (80, 21456), (86, 21516), (88, 21552), (90, 21582), (92, 21603),

Gene: Barb_35 Start: 28934, Stop: 30106, Start Num: 8
Candidate Starts for Barb_35:
(Start: 8 @28934 has 13 MA's), (18, 29075), (19, 29093), (23, 29228), (28, 29294), (36, 29381), (40, 29483), (55, 29588), (66, 29714), (67, 29720), (73, 29828), (74, 29846), (91, 30071),

Gene: BillDoor_27 Start: 20148, Stop: 21239, Start Num: 15
Candidate Starts for BillDoor_27:
(Start: 15 @20148 has 21 MA's), (17, 20166), (21, 20271), (39, 20583), (40, 20601), (41, 20610), (42, 20622), (56, 20736), (60, 20790), (63, 20811), (68, 20898), (73, 20982), (74, 21000), (78, 21033), (82, 21096), (83, 21114), (84, 21117), (85, 21120), (88, 21177), (89, 21192), (92, 21228),

Gene: Biskit_26 Start: 20168, Stop: 21265, Start Num: 15
Candidate Starts for Biskit_26:
(12, 20099), (Start: 15 @20168 has 21 MA's), (17, 20186), (21, 20291), (35, 20498), (39, 20603), (40, 20621), (41, 20630), (47, 20684), (54, 20744), (65, 20873), (68, 20924), (73, 21008), (74, 21026), (78, 21059), (81, 21110), (82, 21122), (89, 21218), (92, 21254),

Gene: Blondies_26 Start: 20151, Stop: 21248, Start Num: 15
Candidate Starts for Blondies_26:
(12, 20082), (Start: 15 @20151 has 21 MA's), (17, 20169), (21, 20274), (35, 20481), (39, 20586), (40, 20604), (41, 20613), (47, 20667), (54, 20727), (65, 20856), (68, 20907), (73, 20991), (74, 21009), (78, 21042), (81, 21093), (82, 21105), (89, 21201), (92, 21237),

Gene: Bubble_25 Start: 20517, Stop: 21614, Start Num: 15
Candidate Starts for Bubble_25:
(Start: 15 @20517 has 21 MA's), (17, 20535), (21, 20640), (33, 20838), (39, 20952), (40, 20970), (41, 20979), (44, 20997), (48, 21033), (54, 21093), (58, 21123), (68, 21273), (70, 21312), (73, 21357), (74, 21375), (77, 21399), (80, 21456), (86, 21516), (88, 21552), (90, 21582), (92, 21603),

Gene: Burnsey_25 Start: 20518, Stop: 21615, Start Num: 15
Candidate Starts for Burnsey_25:
(Start: 15 @20518 has 21 MA's), (17, 20536), (21, 20641), (33, 20839), (39, 20953), (40, 20971), (41, 20980), (44, 20998), (48, 21034), (54, 21094), (58, 21124), (68, 21274), (70, 21313), (73, 21358), (74, 21376), (80, 21457), (86, 21517), (88, 21553), (90, 21583), (92, 21604),

Gene: Buttrmlkdreams_25 Start: 20150, Stop: 21247, Start Num: 15
Candidate Starts for Buttrmlkdreams_25:
(12, 20081), (Start: 15 @20150 has 21 MA's), (17, 20168), (21, 20273), (35, 20480), (39, 20585), (40, 20603), (41, 20612), (47, 20666), (54, 20726), (65, 20855), (68, 20906), (73, 20990), (74, 21008), (78, 21041), (81, 21092), (82, 21104), (89, 21200), (92, 21236),

Gene: Carsonalex_26 Start: 20575, Stop: 21672, Start Num: 15
Candidate Starts for Carsonalex_26:
(Start: 15 @20575 has 21 MA's), (21, 20698), (33, 20896), (39, 21010), (40, 21028), (41, 21037), (44, 21055), (48, 21091), (54, 21151), (58, 21181), (68, 21331), (70, 21370), (73, 21415), (74, 21433), (77, 21457), (79, 21484), (80, 21514), (86, 21574), (88, 21610), (90, 21640), (92, 21661),

Gene: ClamChowder_35 Start: 28934, Stop: 30106, Start Num: 8
Candidate Starts for ClamChowder_35:
(Start: 8 @28934 has 13 MA's), (18, 29075), (19, 29093), (23, 29228), (28, 29294), (36, 29381), (40, 29483), (55, 29588), (66, 29714), (67, 29720), (73, 29828), (74, 29846), (91, 30071),

Gene: Clown_37 Start: 30957, Stop: 32189, Start Num: 8
Candidate Starts for Clown_37:
(Start: 8 @30957 has 13 MA's), (11, 30987), (13, 31059), (Start: 15 @31071 has 21 MA's), (18, 31098), (19, 31116), (20, 31185), (23, 31251), (36, 31404), (37, 31416), (38, 31425), (40, 31506), (49, 31602), (61, 31719), (63, 31737), (66, 31800), (72, 31902), (73, 31914), (76, 31947), (82, 32028), (85, 32052), (87, 32106), (91, 32157), (92, 32163),

Gene: CoveyB_35 Start: 28734, Stop: 29906, Start Num: 8
Candidate Starts for CoveyB_35:
(Start: 8 @28734 has 13 MA's), (18, 28875), (19, 28893), (23, 29028), (28, 29094), (36, 29181), (40, 29283), (55, 29388), (66, 29514), (67, 29520), (73, 29628), (74, 29646), (91, 29871),

Gene: Cozz_25 Start: 20518, Stop: 21615, Start Num: 15
Candidate Starts for Cozz_25:
(Start: 15 @20518 has 21 MA's), (17, 20536), (21, 20641), (33, 20839), (39, 20953), (40, 20971), (41, 20980), (44, 20998), (48, 21034), (54, 21094), (58, 21124), (68, 21274), (70, 21313), (73, 21358), (74, 21376), (77, 21400), (80, 21457), (86, 21517), (88, 21553), (90, 21583), (92, 21604),

Gene: Danyall_35 Start: 28734, Stop: 29906, Start Num: 8
Candidate Starts for Danyall_35:
(Start: 8 @28734 has 13 MA's), (18, 28875), (19, 28893), (23, 29028), (28, 29094), (36, 29181), (40, 29283), (55, 29388), (66, 29514), (67, 29520), (73, 29628), (74, 29646), (91, 29871),

Gene: Doggs_27 Start: 22931, Stop: 24244, Start Num: 7
Candidate Starts for Doggs_27:
(1, 22643), (2, 22700), (3, 22715), (5, 22796), (6, 22799), (Start: 7 @22931 has 2 MA's), (9, 23015), (16, 23129), (22, 23282), (24, 23318), (25, 23321), (26, 23351), (30, 23405), (40, 23549), (53, 23705), (57, 23729), (61, 23777), (64, 23816), (66, 23858), (71, 23951), (72, 23960), (73, 23972), (92, 24221),

Gene: Egi03_33 Start: 28412, Stop: 29584, Start Num: 8
Candidate Starts for Egi03_33:
(Start: 8 @28412 has 13 MA's), (18, 28553), (19, 28571), (23, 28706), (28, 28772), (36, 28859), (40, 28961), (55, 29066), (66, 29192), (67, 29198), (73, 29306), (74, 29324), (91, 29549),

Gene: Eliott_25 Start: 20517, Stop: 21614, Start Num: 15
Candidate Starts for Eliott_25:
(Start: 15 @20517 has 21 MA's), (17, 20535), (21, 20640), (33, 20838), (40, 20970), (41, 20979), (44, 20997), (48, 21033), (54, 21093), (58, 21123), (68, 21273), (70, 21312), (73, 21357), (74, 21375), (80, 21456), (86, 21516), (88, 21552), (90, 21582), (92, 21603),

Gene: Fugax_35 Start: 28934, Stop: 30106, Start Num: 8
Candidate Starts for Fugax_35:
(Start: 8 @28934 has 13 MA's), (18, 29075), (19, 29093), (23, 29228), (28, 29294), (36, 29381), (40, 29483), (55, 29588), (66, 29714), (67, 29720), (73, 29828), (74, 29846), (91, 30071),

Gene: GoldHunter_26 Start: 20518, Stop: 21615, Start Num: 15
Candidate Starts for GoldHunter_26:
(Start: 15 @20518 has 21 MA's), (17, 20536), (21, 20641), (33, 20839), (39, 20953), (40, 20971), (41, 20980), (44, 20998), (48, 21034), (54, 21094), (58, 21124), (68, 21274), (70, 21313), (73, 21358), (74, 21376), (77, 21400), (80, 21457), (86, 21517), (88, 21553), (90, 21583), (92, 21604),

Gene: Horseradish_26 Start: 20064, Stop: 21086, Start Num: 15
Candidate Starts for Horseradish_26:
(12, 19995), (Start: 15 @20064 has 21 MA's), (17, 20082), (21, 20187), (39, 20499), (40, 20517), (41, 20526), (45, 20550), (54, 20565), (65, 20694), (68, 20745), (69, 20766), (73, 20829), (74, 20847), (78, 20880), (82, 20943), (89, 21039),

Gene: JohnPork_33 Start: 28253, Stop: 29425, Start Num: 8
Candidate Starts for JohnPork_33:
(Start: 8 @28253 has 13 MA's), (18, 28394), (19, 28412), (23, 28547), (28, 28613), (29, 28631), (34, 28682), (36, 28700), (40, 28802), (55, 28907), (66, 29033), (67, 29039), (73, 29147), (74, 29165), (91, 29390),

Gene: Kiko_28 Start: 22114, Stop: 23412, Start Num: 7
Candidate Starts for Kiko_28:
(2, 21883), (3, 21898), (4, 21934), (6, 21982), (Start: 7 @22114 has 2 MA's), (9, 22198), (10, 22207), (16, 22309), (22, 22462), (31, 22594), (32, 22600), (40, 22729), (49, 22825), (50, 22849), (51, 22852), (62, 22957), (63, 22960), (66, 23023), (75, 23158), (84, 23272), (87, 23329),

Gene: MScarn_27 Start: 20153, Stop: 21250, Start Num: 15

Candidate Starts for MScarn_27:
(12, 20084), (Start: 15 @20153 has 21 MA's), (17, 20171), (21, 20276), (35, 20483), (39, 20588), (40, 20606), (41, 20615), (47, 20669), (54, 20729), (65, 20858), (68, 20909), (73, 20993), (74, 21011), (78, 21044), (81, 21095), (82, 21107), (89, 21203), (92, 21239),

Gene: MunkgeeRoachy_25 Start: 20565, Stop: 21695, Start Num: 15
Candidate Starts for MunkgeeRoachy_25:
(Start: 15 @20565 has 21 MA's), (17, 20583), (21, 20688), (33, 20886), (39, 21000), (40, 21018), (41, 21027), (47, 21081), (52, 21162), (54, 21174), (58, 21204), (68, 21354), (73, 21438), (74, 21456), (78, 21489), (80, 21537), (82, 21552), (89, 21648), (92, 21684),

Gene: Nina_26 Start: 21560, Stop: 22657, Start Num: 15
Candidate Starts for Nina_26:
(Start: 15 @21560 has 21 MA's), (17, 21578), (21, 21683), (33, 21881), (40, 22013), (41, 22022), (44, 22040), (48, 22076), (54, 22136), (58, 22166), (68, 22316), (70, 22355), (73, 22400), (74, 22418), (77, 22442), (80, 22499), (86, 22559), (88, 22595), (90, 22625), (92, 22646),

Gene: PinkCoffee_35 Start: 28943, Stop: 30115, Start Num: 8
Candidate Starts for PinkCoffee_35:
(Start: 8 @28943 has 13 MA's), (18, 29084), (19, 29102), (23, 29237), (28, 29303), (36, 29390), (40, 29492), (55, 29597), (66, 29723), (67, 29729), (73, 29837), (74, 29855), (91, 30080),

Gene: Portcullis_33 Start: 28253, Stop: 29425, Start Num: 8
Candidate Starts for Portcullis_33:
(Start: 8 @28253 has 13 MA's), (18, 28394), (19, 28412), (23, 28547), (28, 28613), (29, 28631), (34, 28682), (36, 28700), (40, 28802), (55, 28907), (66, 29033), (67, 29039), (73, 29147), (74, 29165), (91, 29390),

Gene: PsychoKiller_25 Start: 20517, Stop: 21614, Start Num: 15
Candidate Starts for PsychoKiller_25:
(Start: 15 @20517 has 21 MA's), (17, 20535), (21, 20640), (33, 20838), (40, 20970), (41, 20979), (44, 20997), (48, 21033), (54, 21093), (58, 21123), (68, 21273), (70, 21312), (73, 21357), (74, 21375), (80, 21456), (86, 21516), (88, 21552), (90, 21582), (92, 21603),

Gene: Quasar_25 Start: 21126, Stop: 22223, Start Num: 15
Candidate Starts for Quasar_25:
(Start: 15 @21126 has 21 MA's), (17, 21144), (21, 21249), (33, 21447), (39, 21561), (40, 21579), (41, 21588), (44, 21606), (48, 21642), (54, 21702), (58, 21732), (68, 21882), (70, 21921), (73, 21966), (74, 21984), (77, 22008), (80, 22065), (86, 22125), (88, 22161), (90, 22191), (92, 22212),

Gene: RADical_26 Start: 20518, Stop: 21615, Start Num: 15
Candidate Starts for RADical_26:
(Start: 15 @20518 has 21 MA's), (17, 20536), (21, 20641), (33, 20839), (39, 20953), (40, 20971), (41, 20980), (44, 20998), (48, 21034), (54, 21094), (58, 21124), (68, 21274), (70, 21313), (73, 21358), (74, 21376), (77, 21400), (80, 21457), (86, 21517), (88, 21553), (90, 21583), (92, 21604),

Gene: RSchmailzl_26 Start: 20661, Stop: 21758, Start Num: 15
Candidate Starts for RSchmailzl_26:
(Start: 15 @20661 has 21 MA's), (17, 20679), (21, 20784), (33, 20982), (40, 21114), (41, 21123), (42, 21135), (44, 21141), (48, 21177), (54, 21237), (68, 21417), (70, 21456), (73, 21501), (74, 21519), (77, 21543), (80, 21600), (86, 21660), (88, 21696), (90, 21726), (92, 21747),

Gene: RedBaron_26 Start: 20561, Stop: 21658, Start Num: 15

Candidate Starts for RedBaron_26:
(Start: 15 @20561 has 21 MA's), (17, 20579), (21, 20684), (33, 20882), (40, 21014), (41, 21023), (44, 21041), (48, 21077), (54, 21137), (68, 21317), (70, 21356), (73, 21401), (74, 21419), (77, 21443), (80, 21500), (86, 21560), (88, 21596), (90, 21626), (92, 21647),

Gene: RogerDodger_36 Start: 29082, Stop: 30254, Start Num: 8
Candidate Starts for RogerDodger_36:
(Start: 8 @29082 has 13 MA's), (18, 29223), (19, 29241), (23, 29376), (28, 29442), (36, 29529), (40, 29631), (55, 29736), (66, 29862), (67, 29868), (73, 29976), (74, 29994), (91, 30219),

Gene: Shinji_33 Start: 28194, Stop: 29366, Start Num: 8
Candidate Starts for Shinji_33:
(Start: 8 @28194 has 13 MA's), (18, 28335), (19, 28353), (23, 28488), (28, 28554), (29, 28572), (34, 28623), (36, 28641), (40, 28743), (55, 28848), (66, 28974), (67, 28980), (73, 29088), (74, 29106), (91, 29331),

Gene: SketchMex_24 Start: 20168, Stop: 21265, Start Num: 15
Candidate Starts for SketchMex_24:
(12, 20099), (Start: 15 @20168 has 21 MA's), (17, 20186), (21, 20291), (35, 20498), (39, 20603), (40, 20621), (41, 20630), (47, 20684), (54, 20744), (65, 20873), (68, 20924), (73, 21008), (74, 21026), (78, 21059), (81, 21110), (82, 21122), (89, 21218), (92, 21254),

Gene: Socotra_26 Start: 20517, Stop: 21614, Start Num: 15
Candidate Starts for Socotra_26:
(Start: 15 @20517 has 21 MA's), (17, 20535), (21, 20640), (33, 20838), (39, 20952), (40, 20970), (41, 20979), (44, 20997), (48, 21033), (54, 21093), (58, 21123), (68, 21273), (70, 21312), (73, 21357), (74, 21375), (77, 21399), (80, 21456), (86, 21516), (88, 21552), (90, 21582), (92, 21603),

Gene: Sopespian_25 Start: 20518, Stop: 21615, Start Num: 15
Candidate Starts for Sopespian_25:
(Start: 15 @20518 has 21 MA's), (17, 20536), (21, 20641), (33, 20839), (40, 20971), (41, 20980), (44, 20998), (48, 21034), (54, 21094), (58, 21124), (68, 21274), (70, 21313), (73, 21358), (74, 21376), (77, 21400), (80, 21457), (86, 21517), (88, 21553), (90, 21583), (92, 21604),

Gene: Starburst_26 Start: 20518, Stop: 21615, Start Num: 15
Candidate Starts for Starburst_26:
(Start: 15 @20518 has 21 MA's), (17, 20536), (21, 20641), (33, 20839), (39, 20953), (40, 20971), (41, 20980), (44, 20998), (48, 21034), (54, 21094), (58, 21124), (68, 21274), (70, 21313), (73, 21358), (74, 21376), (77, 21400), (80, 21457), (86, 21517), (88, 21553), (90, 21583), (92, 21604),

Gene: SteamedHams_27 Start: 20181, Stop: 21269, Start Num: 15
Candidate Starts for SteamedHams_27:
(14, 20178), (Start: 15 @20181 has 21 MA's), (17, 20199), (21, 20304), (27, 20427), (39, 20616), (40, 20634), (41, 20643), (42, 20655), (56, 20766), (60, 20820), (63, 20841), (68, 20928), (73, 21012), (74, 21030), (78, 21063), (82, 21126), (83, 21144), (84, 21147), (85, 21150), (88, 21207), (92, 21258),

Gene: Tolls_27 Start: 20184, Stop: 21263, Start Num: 15
Candidate Starts for Tolls_27:
(14, 20181), (Start: 15 @20184 has 21 MA's), (17, 20202), (21, 20307), (27, 20430), (36, 20535), (39, 20619), (40, 20637), (43, 20661), (53, 20742), (56, 20760), (60, 20814), (68, 20922), (73, 21006), (74, 21024), (78, 21057), (82, 21120), (83, 21138), (84, 21141), (85, 21144), (88, 21201),

Gene: Troje_25 Start: 20150, Stop: 21247, Start Num: 15

Candidate Starts for Troje_25:
(12, 20081), (Start: 15 @20150 has 21 MA's), (17, 20168), (21, 20273), (35, 20480), (39, 20585), (40, 20603), (41, 20612), (47, 20666), (54, 20726), (65, 20855), (68, 20906), (73, 20990), (74, 21008), (78, 21041), (81, 21092), (82, 21104), (89, 21200), (92, 21236),

Gene: Twister6_35 Start: 28645, Stop: 29817, Start Num: 8
Candidate Starts for Twister6_35:
(Start: 8 @28645 has 13 MA's), (18, 28786), (19, 28804), (23, 28939), (28, 29005), (36, 29092), (40, 29194), (55, 29299), (66, 29425), (67, 29431), (73, 29539), (74, 29557), (91, 29782),

Gene: Typhonomachy_25 Start: 20517, Stop: 21647, Start Num: 15
Candidate Starts for Typhonomachy_25:
(Start: 15 @20517 has 21 MA's), (17, 20535), (21, 20640), (33, 20838), (39, 20952), (40, 20970), (41, 20979), (47, 21033), (52, 21114), (54, 21126), (59, 21159), (68, 21306), (70, 21345), (73, 21390), (74, 21408), (77, 21432), (80, 21489), (86, 21549), (88, 21585), (90, 21615), (92, 21636),

Gene: VanDeWege_36 Start: 28981, Stop: 30153, Start Num: 8
Candidate Starts for VanDeWege_36:
(Start: 8 @28981 has 13 MA's), (19, 29140), (23, 29275), (28, 29341), (36, 29428), (40, 29530), (55, 29635), (66, 29761), (67, 29767), (73, 29875), (74, 29893), (91, 30118),

Gene: Yummy_26 Start: 20064, Stop: 21200, Start Num: 15
Candidate Starts for Yummy_26:
(12, 19995), (Start: 15 @20064 has 21 MA's), (17, 20082), (21, 20187), (39, 20499), (40, 20517), (41, 20526), (45, 20550), (46, 20577), (54, 20679), (65, 20808), (68, 20859), (69, 20880), (73, 20943), (74, 20961), (78, 20994), (82, 21057), (89, 21153),