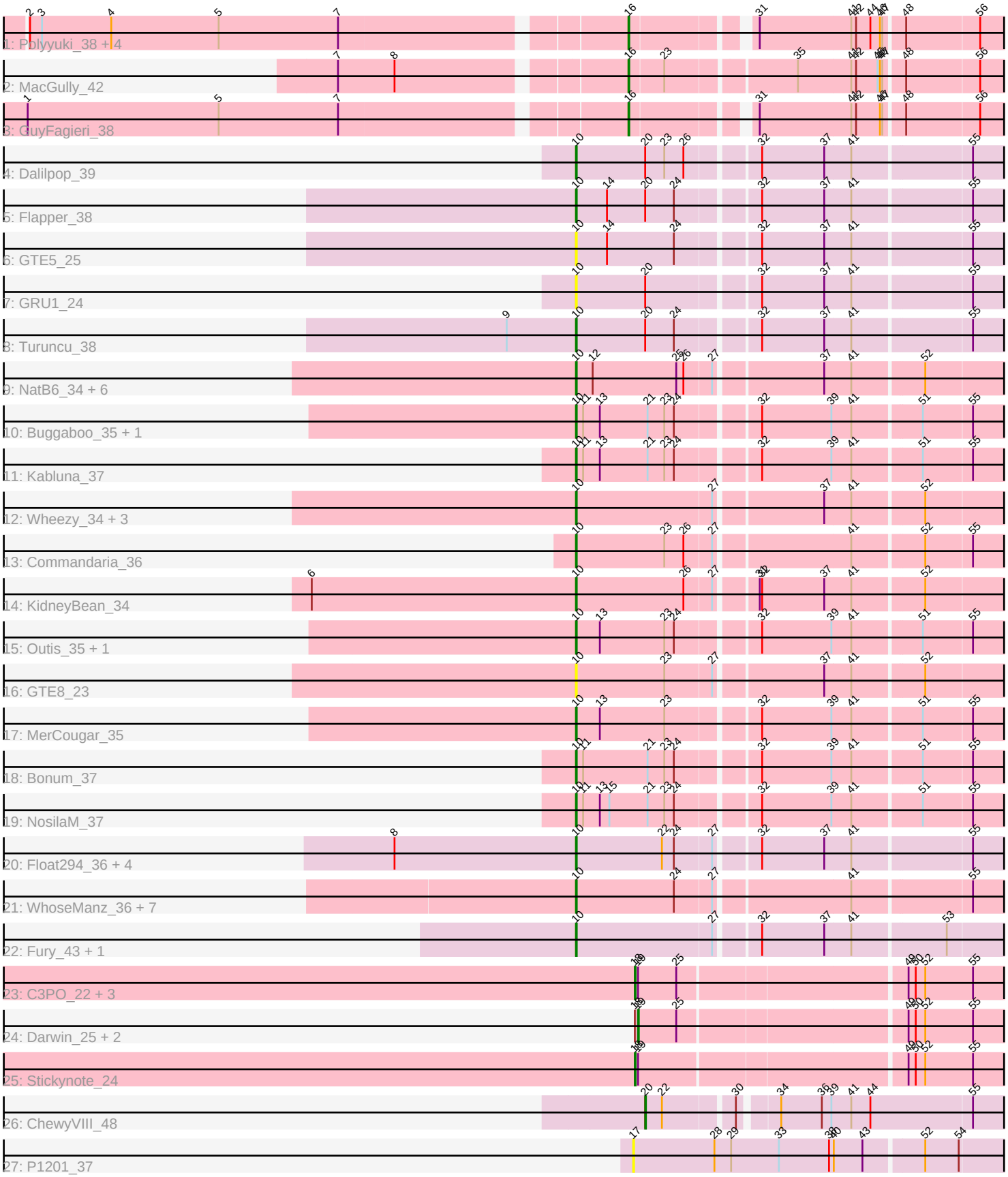
Pham 1712


1: Pblyyuki_38 + 4
2: MacGully_42
3: GuyFagieri_38
4: Dalilpop_39
5: Flapper_38
6: GTE5_25
7: GRU1_24
8: Turuncu_38
9: NatB6_34 + 6
10: Buggaboo_35 + 1
11: Kabluna_37
12: Wheezy_34 + 3
13: Commandaria_36
14: KidneyBean_34
15: Outis_35 + 1
16: GTE8_23
17: MerCougar_35
18: Bonum_37
19: NosilaM_37
20: Float294_36 + 4
21: WhoseManz_36 + 7
22: Fury_43 + 1
23: C3PO_22 + 3
24: Darwin_25 + 2
25: Stickynote_24
26: ChewyVIII_48
27: P1201_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 1712 Report

This analysis was run 04/12/24 on database version 558.

Pham number 1712 has 59 members, 7 are drafts.

Phages represented in each track:
• Track 1 : Polyyuki_38, Braxoaddie_38, Apiary_38, Maselop_38, CoffeeBean_38
• Track 2 : MacGully_42
• Track 3 : GuyFagieri_38
• Track 4 : Dalilpop_39
• Track 5 : Flapper_38
• Track 6 : GTE5_25
• Track 7 : GRU1_24
• Track 8 : Turuncu_38
• Track 9 : NatB6_34, Kurt_34, Tracker_34, Emianna_34, Jifall16_33, Phomeo_33, Foxboro_35
• Track 10 : Buggaboo_35, SuperSulley_35
• Track 11 : Kabluna_37
• Track 12 : Wheezy_34, NovumRegina_34, GrootJr_36, Arti_34
• Track 13 : Commandaria_36
• Track 14 : KidneyBean_34
• Track 15 : Outis_35, StarStruck_35
• Track 16 : GTE8_23
• Track 17 : MerCougar_35
• Track 18 : Bonum_37
• Track 19 : NosilaM_37
• Track 20 : Float294_36, Skysand_36, Patio_37, Lollipop1437_39, Ennea_40
• Track 21 : WhoseManz_36, NadineRae_34, BiPauneto_37, IDyn_35, Marietta_36, Sukkupi_36, HubbaBubba_33, Yndexa_36
• Track 22 : Fury_43, Pleakley_43
• Track 23 : C3PO_22, PeteyPab_21, Kimchi1738_22, Cruella_22
• Track 24 : Darwin_25, Zion_22, PotatoChip_22
• Track 25 : Stickynote_24
• Track 26 : ChewyVIII_48
• Track 27 : P1201_37

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

The start number called the most often in the published annotations is 10, it was called in 37 of the 52 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Arti_34, BiPauneto_37, Bonum_37, Buggaboo_35, Commandaria_36, Dalilpop_39, Emianna_34, Ennea_40, Flapper_38, Float294_36, Foxboro_35, Fury_43, GRU1_24, GTE5_25, GTE8_23, GrootJr_36, HubbaBubba_33, IDyn_35, Jifall16_33, Kabluna_37, KidneyBean_34, Kurt_34, Lollipop1437_39, Marietta_36, MerCougar_35, NadineRae_34, NatB6_34, NosilaM_37, NovumRegina_34, Outis_35, Patio_37, Phomeo_33, Pleakley_43, Skysand_36, StarStruck_35, Sukkupi_36, SuperSulley_35, Tracker_34, Turuncu_38, Wheezy_34, WhoseManz_36, Yndexa_36,

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

Genes that do not have the "Most Annotated" start:
• Apiary_38, Braxoaddie_38, C3PO_22, ChewyVIII_48, CoffeeBean_38, Cruella_22, Darwin_25, GuyFagieri_38, Kimchi1738_22, MacGully_42, Maselop_38, P1201_37, PeteyPab_21, Polyyuki_38, PotatoChip_22, Stickynote_24, Zion_22,

Summary by start number:

Start 10:
• Found in 42 of 59 (71.2%) of genes in pham
• Manual Annotations of this start: 37 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Arti_34 (CR2), BiPauneto_37 (CR4), Bonum_37 (CR2), Buggaboo_35 (CR2), Commandaria_36 (CR2), Dalilpop_39 (CR1), Emianna_34 (CR2), Ennea_40 (CR3), Flapper_38 (CR1), Float294_36 (CR3), Foxboro_35 (CR2), Fury_43 (CR5), GRU1_24 (CR1), GTE5_25 (CR1), GTE8_23 (CR2), GrootJr_36 (CR2), HubbaBubba_33 (CR4), IDyn_35 (CR4), Jifall16_33 (CR2), Kabluna_37 (CR2), KidneyBean_34 (CR2), Kurt_34 (CR2), Lollipop1437_39 (CR3), Marietta_36 (CR4), MerCougar_35 (CR2), NadineRae_34 (CR4), NatB6_34 (CR2), NosilaM_37 (CR2), NovumRegina_34 (CR2), Outis_35 (CR2), Patio_37 (CR3), Phomeo_33 (CR2), Pleakley_43 (CR5), Skysand_36 (CR3), StarStruck_35 (CR2), Sukkupi_36 (CR4), SuperSulley_35 (CR2), Tracker_34 (CR2), Turuncu_38 (CR1), Wheezy_34 (CR2), WhoseManz_36 (CR4), Yndexa_36 (CR4),

Start 16:
• Found in 7 of 59 (11.9%) of genes in pham
• Manual Annotations of this start: 6 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Apiary_38 (CR), Braxoaddie_38 (CR), CoffeeBean_38 (CR), GuyFagieri_38 (CR), MacGully_42 (CR), Maselop_38 (CR), Polyyuki_38 (CR),

Start 17:
• Found in 1 of 59 (1.7%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: P1201_37 (singleton),

Start 18:
• Found in 8 of 59 (13.6%) of genes in pham

• Manual Annotations of this start: 5 of 52
• Called 62.5% of time when present
• Phage (with cluster) where this start called: C3PO_22 (EN), Cruella_22 (EN), Kimchi1738_22 (EN), PeteyPab_21 (EN), Stickynote_24 (EN),

Start 19:
• Found in 8 of 59 (13.6%) of genes in pham
• Manual Annotations of this start: 3 of 52
• Called 37.5% of time when present
• Phage (with cluster) where this start called: Darwin_25 (EN), PotatoChip_22 (EN), Zion_22 (EN),

Start 20:
• Found in 5 of 59 (8.5%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 20.0% of time when present
• Phage (with cluster) where this start called: ChewyVIII_48 (singleton),

Summary by clusters:

There are 8 clusters represented in this pham: CR2, CR3, singleton, EN, CR4, CR5, CR1, CR,

Info for manual annotations of cluster CR:
•Start number 16 was manually annotated 6 times for cluster CR.

Info for manual annotations of cluster CR1:
•Start number 10 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:
•Start number 10 was manually annotated 20 times for cluster CR2.

Info for manual annotations of cluster CR3:
•Start number 10 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster CR4:
•Start number 10 was manually annotated 7 times for cluster CR4.

Info for manual annotations of cluster CR5:
•Start number 10 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster EN:
•Start number 18 was manually annotated 5 times for cluster EN.
•Start number 19 was manually annotated 3 times for cluster EN.

Gene Information:

Gene: Apiary_38 Start: 22751, Stop: 23185, Start Num: 16
Candidate Starts for Apiary_38:
(2, 22031), (3, 22046), (4, 22133), (5, 22268), (7, 22418), (Start: 16 @22751 has 6 MA's), (31, 22883), (41, 22997), (42, 23003), (44, 23021), (46, 23033), (47, 23036), (48, 23057), (56, 23147),

Gene: Arti_34 Start: 20838, Stop: 21353, Start Num: 10
Candidate Starts for Arti_34:
(Start: 10 @20838 has 37 MA's), (27, 21006), (37, 21132), (41, 21165), (52, 21249),

Gene: BiPauneto_37 Start: 20678, Stop: 21193, Start Num: 10
Candidate Starts for BiPauneto_37:
(Start: 10 @20678 has 37 MA's), (24, 20801), (27, 20846), (41, 21005), (55, 21146),

Gene: Bonum_37 Start: 21154, Stop: 21669, Start Num: 10
Candidate Starts for Bonum_37:
(Start: 10 @21154 has 37 MA's), (11, 21163), (21, 21244), (23, 21265), (24, 21277), (32, 21370), (39, 21457), (41, 21481), (51, 21562), (55, 21622),

Gene: Braxoaddie_38 Start: 22740, Stop: 23174, Start Num: 16
Candidate Starts for Braxoaddie_38:
(2, 22020), (3, 22035), (4, 22122), (5, 22257), (7, 22407), (Start: 16 @22740 has 6 MA's), (31, 22872), (41, 22986), (42, 22992), (44, 23010), (46, 23022), (47, 23025), (48, 23046), (56, 23136),

Gene: Buggaboo_35 Start: 21639, Stop: 22154, Start Num: 10
Candidate Starts for Buggaboo_35:
(Start: 10 @21639 has 37 MA's), (11, 21648), (13, 21669), (21, 21729), (23, 21750), (24, 21762), (32, 21855), (39, 21942), (41, 21966), (51, 22047), (55, 22107),

Gene: C3PO_22 Start: 15448, Stop: 15894, Start Num: 18
Candidate Starts for C3PO_22:
(Start: 18 @15448 has 5 MA's), (Start: 19 @15451 has 3 MA's), (25, 15499), (49, 15769), (50, 15778), (52, 15790), (55, 15850),

Gene: ChewyVIII_48 Start: 28353, Stop: 28778, Start Num: 20
Candidate Starts for ChewyVIII_48:
(Start: 20 @28353 has 1 MA's), (22, 28374), (30, 28455), (34, 28497), (36, 28548), (39, 28560), (41, 28584), (44, 28608), (55, 28734),

Gene: CoffeeBean_38 Start: 22695, Stop: 23129, Start Num: 16
Candidate Starts for CoffeeBean_38:
(2, 21975), (3, 21990), (4, 22077), (5, 22212), (7, 22362), (Start: 16 @22695 has 6 MA's), (31, 22827), (41, 22941), (42, 22947), (44, 22965), (46, 22977), (47, 22980), (48, 23001), (56, 23091),

Gene: Commandaria_36 Start: 22159, Stop: 22674, Start Num: 10
Candidate Starts for Commandaria_36:
(Start: 10 @22159 has 37 MA's), (23, 22270), (26, 22294), (27, 22327), (41, 22486), (52, 22570), (55, 22627),

Gene: Cruella_22 Start: 15448, Stop: 15894, Start Num: 18
Candidate Starts for Cruella_22:
(Start: 18 @15448 has 5 MA's), (Start: 19 @15451 has 3 MA's), (25, 15499), (49, 15769), (50, 15778), (52, 15790), (55, 15850),

Gene: Dalilpop_39 Start: 23147, Stop: 23662, Start Num: 10
Candidate Starts for Dalilpop_39:
(Start: 10 @23147 has 37 MA's), (Start: 20 @23234 has 1 MA's), (23, 23258), (26, 23282), (32, 23363), (37, 23441), (41, 23474), (55, 23615),

Gene: Darwin_25 Start: 16196, Stop: 16639, Start Num: 19
Candidate Starts for Darwin_25:
(Start: 18 @16193 has 5 MA's), (Start: 19 @16196 has 3 MA's), (25, 16244), (49, 16514), (50, 16523), (52, 16535), (55, 16595),

Gene: Emianna_34 Start: 21875, Stop: 22390, Start Num: 10
Candidate Starts for Emianna_34:
(Start: 10 @21875 has 37 MA's), (12, 21896), (25, 22001), (26, 22010), (27, 22043), (37, 22169), (41, 22202), (52, 22286),

Gene: Ennea_40 Start: 22477, Stop: 22992, Start Num: 10
Candidate Starts for Ennea_40:
(8, 22249), (Start: 10 @22477 has 37 MA's), (22, 22585), (24, 22600), (27, 22645), (32, 22693), (37, 22771), (41, 22804), (55, 22945),

Gene: Flapper_38 Start: 22229, Stop: 22744, Start Num: 10
Candidate Starts for Flapper_38:
(Start: 10 @22229 has 37 MA's), (14, 22268), (Start: 20 @22316 has 1 MA's), (24, 22352), (32, 22445), (37, 22523), (41, 22556), (55, 22697),

Gene: Float294_36 Start: 21916, Stop: 22431, Start Num: 10
Candidate Starts for Float294_36:
(8, 21688), (Start: 10 @21916 has 37 MA's), (22, 22024), (24, 22039), (27, 22084), (32, 22132), (37, 22210), (41, 22243), (55, 22384),

Gene: Foxboro_35 Start: 22381, Stop: 22896, Start Num: 10
Candidate Starts for Foxboro_35:
(Start: 10 @22381 has 37 MA's), (12, 22402), (25, 22507), (26, 22516), (27, 22549), (37, 22675), (41, 22708), (52, 22792),

Gene: Fury_43 Start: 21526, Stop: 22041, Start Num: 10
Candidate Starts for Fury_43:
(Start: 10 @21526 has 37 MA's), (27, 21694), (32, 21742), (37, 21820), (41, 21853), (53, 21964),

Gene: GRU1_24 Start: 14114, Stop: 14629, Start Num: 10
Candidate Starts for GRU1_24:
(Start: 10 @14114 has 37 MA's), (Start: 20 @14201 has 1 MA's), (32, 14330), (37, 14408), (41, 14441), (55, 14582),

Gene: GTE5_25 Start: 15117, Stop: 15632, Start Num: 10
Candidate Starts for GTE5_25:
(Start: 10 @15117 has 37 MA's), (14, 15156), (24, 15240), (32, 15333), (37, 15411), (41, 15444), (55, 15585),

Gene: GTE8_23 Start: 15134, Stop: 15649, Start Num: 10
Candidate Starts for GTE8_23:
(Start: 10 @15134 has 37 MA's), (23, 15245), (27, 15302), (37, 15428), (41, 15461), (52, 15545),

Gene: GrootJr_36 Start: 21233, Stop: 21748, Start Num: 10
Candidate Starts for GrootJr_36:
(Start: 10 @21233 has 37 MA's), (27, 21401), (37, 21527), (41, 21560), (52, 21644),

Gene: GuyFagieri_38 Start: 22576, Stop: 23010, Start Num: 16
Candidate Starts for GuyFagieri_38:
(1, 21853), (5, 22093), (7, 22243), (Start: 16 @22576 has 6 MA's), (31, 22708), (41, 22822), (42, 22828), (46, 22858), (47, 22861), (48, 22882), (56, 22972),

Gene: HubbaBubba_33 Start: 17696, Stop: 18211, Start Num: 10
Candidate Starts for HubbaBubba_33:
(Start: 10 @17696 has 37 MA's), (24, 17819), (27, 17864), (41, 18023), (55, 18164),

Gene: IDyn_35 Start: 19092, Stop: 19607, Start Num: 10
Candidate Starts for IDyn_35:
(Start: 10 @19092 has 37 MA's), (24, 19215), (27, 19260), (41, 19419), (55, 19560),

Gene: Jifall16_33 Start: 21502, Stop: 22017, Start Num: 10
Candidate Starts for Jifall16_33:
(Start: 10 @21502 has 37 MA's), (12, 21523), (25, 21628), (26, 21637), (27, 21670), (37, 21796), (41, 21829), (52, 21913),

Gene: Kabluna_37 Start: 20554, Stop: 21069, Start Num: 10
Candidate Starts for Kabluna_37:
(Start: 10 @20554 has 37 MA's), (11, 20563), (13, 20584), (21, 20644), (23, 20665), (24, 20677), (32, 20770), (39, 20857), (41, 20881), (51, 20962), (55, 21022),

Gene: KidneyBean_34 Start: 21650, Stop: 22165, Start Num: 10
Candidate Starts for KidneyBean_34:
(6, 21320), (Start: 10 @21650 has 37 MA's), (26, 21785), (27, 21818), (31, 21863), (32, 21866), (37, 21944), (41, 21977), (52, 22061),

Gene: Kimchi1738_22 Start: 15046, Stop: 15492, Start Num: 18
Candidate Starts for Kimchi1738_22:
(Start: 18 @15046 has 5 MA's), (Start: 19 @15049 has 3 MA's), (25, 15097), (49, 15367), (50, 15376), (52, 15388), (55, 15448),

Gene: Kurt_34 Start: 21890, Stop: 22405, Start Num: 10
Candidate Starts for Kurt_34:
(Start: 10 @21890 has 37 MA's), (12, 21911), (25, 22016), (26, 22025), (27, 22058), (37, 22184), (41, 22217), (52, 22301),

Gene: Lollipop1437_39 Start: 22465, Stop: 22980, Start Num: 10
Candidate Starts for Lollipop1437_39:
(8, 22237), (Start: 10 @22465 has 37 MA's), (22, 22573), (24, 22588), (27, 22633), (32, 22681), (37, 22759), (41, 22792), (55, 22933),

Gene: MacGully_42 Start: 22735, Stop: 23181, Start Num: 16
Candidate Starts for MacGully_42:
(7, 22402), (8, 22471), (Start: 16 @22735 has 6 MA's), (23, 22777), (35, 22927), (41, 22993), (42, 22999), (45, 23026), (46, 23029), (47, 23032), (48, 23053), (56, 23143),

Gene: Marietta_36 Start: 19009, Stop: 19524, Start Num: 10
Candidate Starts for Marietta_36:
(Start: 10 @19009 has 37 MA's), (24, 19132), (27, 19177), (41, 19336), (55, 19477),

Gene: Maselop_38 Start: 22771, Stop: 23205, Start Num: 16

Candidate Starts for Maselop_38:
(2, 22051), (3, 22066), (4, 22153), (5, 22288), (7, 22438), (Start: 16 @22771 has 6 MA's), (31, 22903), (41, 23017), (42, 23023), (44, 23041), (46, 23053), (47, 23056), (48, 23077), (56, 23167),

Gene: MerCougar_35 Start: 21761, Stop: 22276, Start Num: 10
Candidate Starts for MerCougar_35:
(Start: 10 @21761 has 37 MA's), (13, 21791), (23, 21872), (32, 21977), (39, 22064), (41, 22088), (51, 22169), (55, 22229),

Gene: NadineRae_34 Start: 18255, Stop: 18770, Start Num: 10
Candidate Starts for NadineRae_34:
(Start: 10 @18255 has 37 MA's), (24, 18378), (27, 18423), (41, 18582), (55, 18723),

Gene: NatB6_34 Start: 20899, Stop: 21414, Start Num: 10
Candidate Starts for NatB6_34:
(Start: 10 @20899 has 37 MA's), (12, 20920), (25, 21025), (26, 21034), (27, 21067), (37, 21193), (41, 21226), (52, 21310),

Gene: NosilaM_37 Start: 21451, Stop: 21966, Start Num: 10
Candidate Starts for NosilaM_37:
(Start: 10 @21451 has 37 MA's), (11, 21460), (13, 21481), (15, 21493), (21, 21541), (23, 21562), (24, 21574), (32, 21667), (39, 21754), (41, 21778), (51, 21859), (55, 21919),

Gene: NovumRegina_34 Start: 21232, Stop: 21747, Start Num: 10
Candidate Starts for NovumRegina_34:
(Start: 10 @21232 has 37 MA's), (27, 21400), (37, 21526), (41, 21559), (52, 21643),

Gene: Outis_35 Start: 21455, Stop: 21970, Start Num: 10
Candidate Starts for Outis_35:
(Start: 10 @21455 has 37 MA's), (13, 21485), (23, 21566), (24, 21578), (32, 21671), (39, 21758), (41, 21782), (51, 21863), (55, 21923),

Gene: P1201_37 Start: 22335, Stop: 22793, Start Num: 17
Candidate Starts for P1201_37:
(17, 22335), (28, 22437), (29, 22458), (33, 22518), (38, 22581), (40, 22587), (43, 22623), (52, 22692), (54, 22734),

Gene: Patio_37 Start: 21701, Stop: 22216, Start Num: 10
Candidate Starts for Patio_37:
(8, 21473), (Start: 10 @21701 has 37 MA's), (22, 21809), (24, 21824), (27, 21869), (32, 21917), (37, 21995), (41, 22028), (55, 22169),

Gene: PeteyPab_21 Start: 15413, Stop: 15859, Start Num: 18
Candidate Starts for PeteyPab_21:
(Start: 18 @15413 has 5 MA's), (Start: 19 @15416 has 3 MA's), (25, 15464), (49, 15734), (50, 15743), (52, 15755), (55, 15815),

Gene: Phomeo_33 Start: 21525, Stop: 22040, Start Num: 10
Candidate Starts for Phomeo_33:
(Start: 10 @21525 has 37 MA's), (12, 21546), (25, 21651), (26, 21660), (27, 21693), (37, 21819), (41, 21852), (52, 21936),

Gene: Pleakley_43 Start: 21527, Stop: 22042, Start Num: 10

Candidate Starts for Pleakley_43:
(Start: 10 @21527 has 37 MA's), (27, 21695), (32, 21743), (37, 21821), (41, 21854), (53, 21965),

Gene: Polyyuki_38 Start: 22763, Stop: 23197, Start Num: 16
Candidate Starts for Polyyuki_38:
(2, 22043), (3, 22058), (4, 22145), (5, 22280), (7, 22430), (Start: 16 @22763 has 6 MA's), (31, 22895), (41, 23009), (42, 23015), (44, 23033), (46, 23045), (47, 23048), (48, 23069), (56, 23159),

Gene: PotatoChip_22 Start: 15418, Stop: 15861, Start Num: 19
Candidate Starts for PotatoChip_22:
(Start: 18 @15415 has 5 MA's), (Start: 19 @15418 has 3 MA's), (25, 15466), (49, 15736), (50, 15745), (52, 15757), (55, 15817),

Gene: Skysand_36 Start: 21918, Stop: 22433, Start Num: 10
Candidate Starts for Skysand_36:
(8, 21690), (Start: 10 @21918 has 37 MA's), (22, 22026), (24, 22041), (27, 22086), (32, 22134), (37, 22212), (41, 22245), (55, 22386),

Gene: StarStruck_35 Start: 21455, Stop: 21970, Start Num: 10
Candidate Starts for StarStruck_35:
(Start: 10 @21455 has 37 MA's), (13, 21485), (23, 21566), (24, 21578), (32, 21671), (39, 21758), (41, 21782), (51, 21863), (55, 21923),

Gene: Stickynote_24 Start: 16225, Stop: 16671, Start Num: 18
Candidate Starts for Stickynote_24:
(Start: 18 @16225 has 5 MA's), (Start: 19 @16228 has 3 MA's), (49, 16546), (50, 16555), (52, 16567), (55, 16627),

Gene: Sukkupi_36 Start: 20569, Stop: 21084, Start Num: 10
Candidate Starts for Sukkupi_36:
(Start: 10 @20569 has 37 MA's), (24, 20692), (27, 20737), (41, 20896), (55, 21037),

Gene: SuperSulley_35 Start: 21639, Stop: 22154, Start Num: 10
Candidate Starts for SuperSulley_35:
(Start: 10 @21639 has 37 MA's), (11, 21648), (13, 21669), (21, 21729), (23, 21750), (24, 21762), (32, 21855), (39, 21942), (41, 21966), (51, 22047), (55, 22107),

Gene: Tracker_34 Start: 20653, Stop: 21168, Start Num: 10
Candidate Starts for Tracker_34:
(Start: 10 @20653 has 37 MA's), (12, 20674), (25, 20779), (26, 20788), (27, 20821), (37, 20947), (41, 20980), (52, 21064),

Gene: Turuncu_38 Start: 21922, Stop: 22437, Start Num: 10
Candidate Starts for Turuncu_38:
(9, 21835), (Start: 10 @21922 has 37 MA's), (Start: 20 @22009 has 1 MA's), (24, 22045), (32, 22138), (37, 22216), (41, 22249), (55, 22390),

Gene: Wheezy_34 Start: 20858, Stop: 21373, Start Num: 10
Candidate Starts for Wheezy_34:
(Start: 10 @20858 has 37 MA's), (27, 21026), (37, 21152), (41, 21185), (52, 21269),

Gene: WhoseManz_36 Start: 18621, Stop: 19136, Start Num: 10
Candidate Starts for WhoseManz_36:

(Start: 10 @18621 has 37 MA's), (24, 18744), (27, 18789), (41, 18948), (55, 19089),

Gene: Yndexa_36 Start: 20569, Stop: 21084, Start Num: 10
Candidate Starts for Yndexa_36:
(Start: 10 @20569 has 37 MA's), (24, 20692), (27, 20737), (41, 20896), (55, 21037),

Gene: Zion_22 Start: 15416, Stop: 15859, Start Num: 19
Candidate Starts for Zion_22:
(Start: 18 @15413 has 5 MA's), (Start: 19 @15416 has 3 MA's), (25, 15464), (49, 15734), (50, 15743), (52, 15755), (55, 15815),