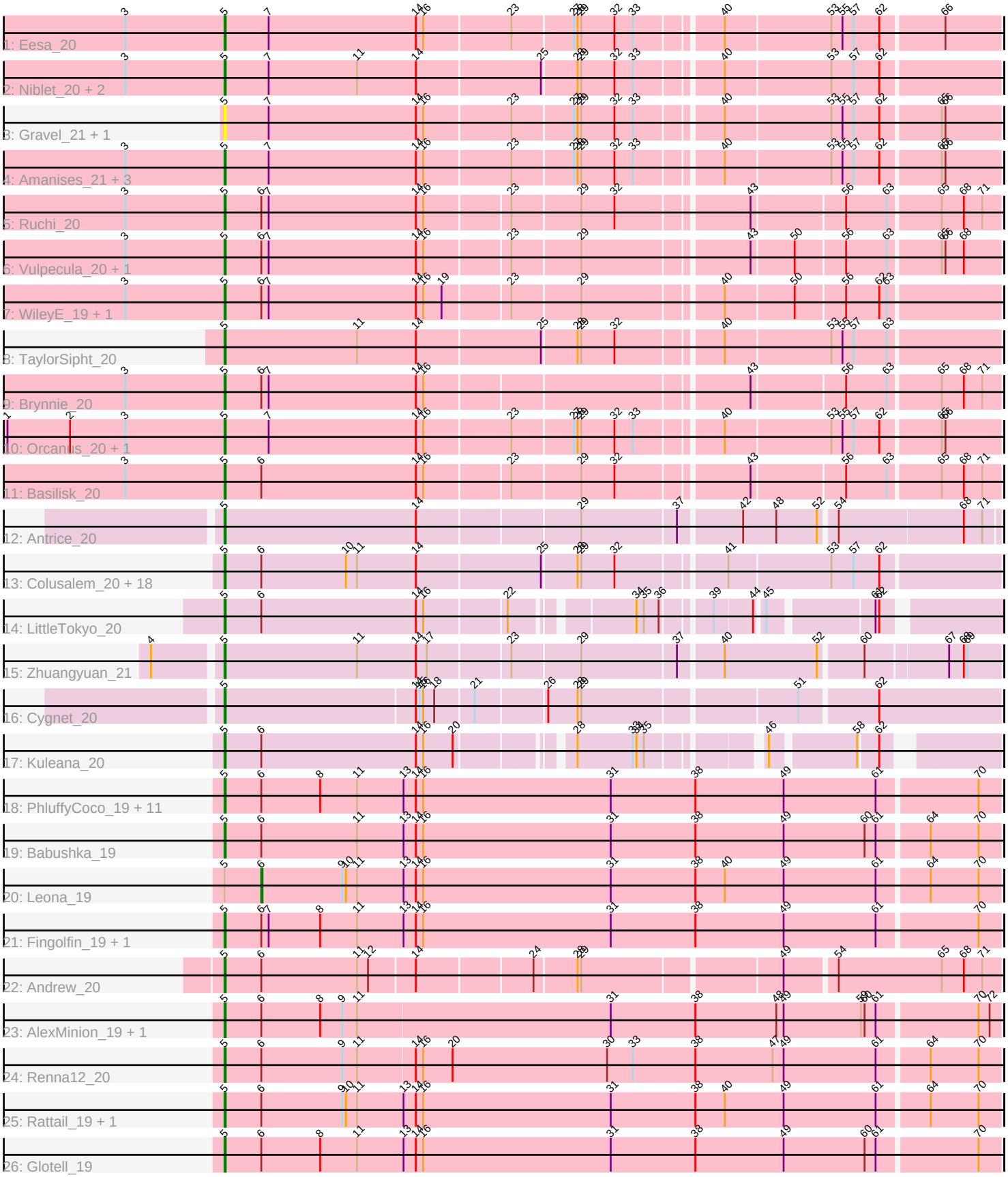
Pham 347591


1: Eesa_20
2: Niblet_20 + 2
3: Gravel_21 + 1
4: Amanises_21 + 3
5: Ruchi_20
6: Vulpecula_20 + 1
7: WileyE_19 + 1
8: TaylorSipht_20
9: Brynnie_20
10: Orcanus_20 + 1
11: Basilisk_20
12: Antrice_20
13: Colusalem_20 + 18
14: LittleTokyo_20
15: Zhuangyuan_21
16: Cygnet_20
17: Kuleana_20
18: PhluffyCoco_19 + 11
19: Babushka_19
20: Leona_19
21: Fingolfin_19 + 1
22: Andrew_20
23: AlexMinion_19 + 1
24: Renna12_20
25: Rattail_19 + 1
26: Glotell_19

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 347591 Report

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

Pham number 347591 has 67 members, 13 are drafts.

Phages represented in each track:
• Track 1 : Eesa_20
• Track 2 : Niblet_20, Chicken_20, Zixiang_20
• Track 3 : Gravel_21, Pelletreau_21
• Track 4 : Amanises_21, KendraB23_21, Toad24_21, Shen_21
• Track 5 : Ruchi_20
• Track 6 : Vulpecula_20, Jamun_20
• Track 7 : WileyE_19, Chickaboom_19
• Track 8 : TaylorSipht_20
• Track 9 : Brynnie_20
• Track 10 : Orcanus_20, Westrich_21
• Track 11 : Basilisk_20
• Track 12 : Antrice_20
• Track 13 : Colusalem_20, Bedetta_21, Lunar_21, BadWillHunting_21, Damocles_21, Daob_21, GramZayde_20, Kepler_20, OtsoOtso_20, Bibble12_21, PhirstandPhine_21, Amelia_21, Polka_20, Jerole_21, Pineda_21, HannahPhantana_21, Melons_21, Cote_21, Coral_20
• Track 14 : LittleTokyo_20
• Track 15 : Zhuangyuan_21
• Track 16 : Cygnet_20
• Track 17 : Kuleana_20
• Track 18 : PhluffyCoco_19, Amphitrite_19, AmiCi24_19, AdoptaAdorbs_19, Oppalora_19, Atlantica_19, KHumphrey_19, Laphuphu24k_18, HamCheese_19, DanHam62_19, Camara_19, RedFox_19
• Track 19 : Babushka_19
• Track 20 : Leona_19
• Track 21 : Fingolfin_19, Juno112_19
• Track 22 : Andrew_20
• Track 23 : AlexMinion_19, StuartMinion_19
• Track 24 : Renna12_20
• Track 25 : Rattail_19, Azaz_19
• Track 26 : Glotell_19

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

The start number called the most often in the published annotations is 5, it was called in 53 of the 54 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AdoptaAdorbs_19, AlexMinion_19, Amanises_21, Amelia_21, AmiCi24_19, Amphitrite_19, Andrew_20, Antrice_20, Atlantica_19, Azaz_19, Babushka_19, BadWillHunting_21, Basilisk_20, Bedetta_21, Bibble12_21, Brynnie_20, Camara_19, Chickaboom_19, Chicken_20, Colusalem_20, Coral_20, Cote_21, Cygnet_20, Damocles_21, DanHam62_19, Daob_21, Eesa_20, Fingolfin_19, Glotell_19, GramZayde_20, Gravel_21, HamCheese_19, HannahPhantana_21, Jamun_20, Jerole_21, Juno112_19, KHumphrey_19, KendraB23_21, Kepler_20, Kuleana_20, Laphuphu24k_18, LittleTokyo_20, Lunar_21, Melons_21, Niblet_20, Oppalora_19, Orcanus_20, OtsoOtso_20, Pelletreau_21, PhirstandPhine_21, PhluffyCoco_19, Pineda_21, Polka_20, Rattail_19, RedFox_19, Renna12_20, Ruchi_20, Shen_21, StuartMinion_19, TaylorSipht_20, Toad24_21, Vulpecula_20, Westrich_21, WileyE_19, Zhuangyuan_21, Zixiang_20,

Genes that have the "Most Annotated" start but do not call it:
• Leona_19,

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

Summary by start number:

Start 5:
• Found in 67 of 67 (100.0%) of genes in pham
• Manual Annotations of this start: 53 of 54
• Called 98.5% of time when present
• Phage (with cluster) where this start called: AdoptaAdorbs_19 (AS3), AlexMinion_19 (AS3), Amanises_21 (AS1), Amelia_21 (AS2), AmiCi24_19 (AS3), Amphitrite_19 (AS3), Andrew_20 (AS3), Antrice_20 (AS2), Atlantica_19 (AS3), Azaz_19 (AS3), Babushka_19 (AS3), BadWillHunting_21 (AS2), Basilisk_20 (AS1), Bedetta_21 (AS2), Bibble12_21 (AS2), Brynnie_20 (AS1), Camara_19 (AS3), Chickaboom_19 (AS1), Chicken_20 (AS1), Colusalem_20 (AS2), Coral_20 (AS2), Cote_21 (AS2), Cygnet_20 (AS2), Damocles_21 (AS2), DanHam62_19 (AS3), Daob_21 (AS2), Eesa_20 (AS1), Fingolfin_19 (AS3), Glotell_19 (AS3), GramZayde_20 (AS2), Gravel_21 (AS1), HamCheese_19 (AS3), HannahPhantana_21 (AS2), Jamun_20 (AS1), Jerole_21 (AS2), Juno112_19 (AS3), KHumphrey_19 (AS3), KendraB23_21 (AS1), Kepler_20 (AS2), Kuleana_20 (AS2), Laphuphu24k_18 (AS3), LittleTokyo_20 (AS2), Lunar_21 (AS2), Melons_21 (AS2), Niblet_20 (AS1), Oppalora_19 (AS3), Orcanus_20 (AS1), OtsoOtso_20 (AS2), Pelletreau_21 (AS1), PhirstandPhine_21 (AS2), PhluffyCoco_19 (AS3), Pineda_21 (AS2), Polka_20 (AS2), Rattail_19 (AS3), RedFox_19 (AS3), Renna12_20 (AS3), Ruchi_20 (AS1), Shen_21 (AS1), StuartMinion_19 (AS3), TaylorSipht_20 (AS1), Toad24_21 (AS1), Vulpecula_20 (AS1), Westrich_21 (AS1), WileyE_19 (AS1), Zhuangyuan_21 (AS2), Zixiang_20 (AS1),

Start 6:
• Found in 51 of 67 (76.1%) of genes in pham
• Manual Annotations of this start: 1 of 54
• Called 2.0% of time when present
• Phage (with cluster) where this start called: Leona_19 (AS3),

Summary by clusters:

There are 3 clusters represented in this pham: AS3, AS2, AS1,

Info for manual annotations of cluster AS1:
•Start number 5 was manually annotated 16 times for cluster AS1.

Info for manual annotations of cluster AS2:
•Start number 5 was manually annotated 19 times for cluster AS2.

Info for manual annotations of cluster AS3:
•Start number 5 was manually annotated 18 times for cluster AS3.
•Start number 6 was manually annotated 1 time for cluster AS3.

Gene Information:

Gene: AdoptaAdorbs_19 Start: 15149, Stop: 15772, Start Num: 5
Candidate Starts for AdoptaAdorbs_19:
(Start: 5 @15149 has 53 MA's), (Start: 6 @15179 has 1 MA's), (8, 15227), (11, 15257), (13, 15293), (14, 15302), (16, 15308), (31, 15461), (38, 15530), (49, 15602), (61, 15677), (70, 15755),

Gene: AlexMinion_19 Start: 15193, Stop: 15816, Start Num: 5
Candidate Starts for AlexMinion_19:
(Start: 5 @15193 has 53 MA's), (Start: 6 @15223 has 1 MA's), (8, 15271), (9, 15289), (11, 15301), (31, 15505), (38, 15574), (48, 15640), (49, 15646), (59, 15709), (60, 15712), (61, 15721), (70, 15799), (72, 15808),

Gene: Amanises_21 Start: 16745, Stop: 17350, Start Num: 5
Candidate Starts for Amanises_21:
(3, 16664), (Start: 5 @16745 has 53 MA's), (7, 16781), (14, 16901), (16, 16907), (23, 16976), (27, 17024), (28, 17027), (29, 17030), (32, 17057), (33, 17072), (40, 17135), (53, 17219), (55, 17228), (57, 17237), (62, 17258), (65, 17303), (66, 17306),

Gene: Amelia_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for Amelia_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: AmiCi24_19 Start: 15147, Stop: 15770, Start Num: 5
Candidate Starts for AmiCi24_19:
(Start: 5 @15147 has 53 MA's), (Start: 6 @15177 has 1 MA's), (8, 15225), (11, 15255), (13, 15291), (14, 15300), (16, 15306), (31, 15459), (38, 15528), (49, 15600), (61, 15675), (70, 15753),

Gene: Amphitrite_19 Start: 15147, Stop: 15770, Start Num: 5
Candidate Starts for Amphitrite_19:
(Start: 5 @15147 has 53 MA's), (Start: 6 @15177 has 1 MA's), (8, 15225), (11, 15255), (13, 15291), (14, 15300), (16, 15306), (31, 15459), (38, 15528), (49, 15600), (61, 15675), (70, 15753),

Gene: Andrew_20 Start: 15608, Stop: 16210, Start Num: 5
Candidate Starts for Andrew_20:

(Start: 5 @15608 has 53 MA's), (Start: 6 @15638 has 1 MA's), (11, 15716), (12, 15725), (14, 15761), (24, 15851), (28, 15884), (29, 15887), (49, 16040), (54, 16079), (65, 16163), (68, 16181), (71, 16196),

Gene: Antrice_20 Start: 16134, Stop: 16736, Start Num: 5
Candidate Starts for Antrice_20:
(Start: 5 @16134 has 53 MA's), (14, 16290), (29, 16416), (37, 16491), (42, 16539), (48, 16566), (52, 16599), (54, 16611), (68, 16710), (71, 16725),

Gene: Atlantica_19 Start: 15149, Stop: 15772, Start Num: 5
Candidate Starts for Atlantica_19:
(Start: 5 @15149 has 53 MA's), (Start: 6 @15179 has 1 MA's), (8, 15227), (11, 15257), (13, 15293), (14, 15302), (16, 15308), (31, 15461), (38, 15530), (49, 15602), (61, 15677), (70, 15755),

Gene: Azaz_19 Start: 15209, Stop: 15832, Start Num: 5
Candidate Starts for Azaz_19:
(Start: 5 @15209 has 53 MA's), (Start: 6 @15239 has 1 MA's), (9, 15305), (10, 15308), (11, 15317), (13, 15353), (14, 15362), (16, 15368), (31, 15521), (38, 15590), (40, 15614), (49, 15662), (61, 15737), (64, 15776), (70, 15815),

Gene: Babushka_19 Start: 15208, Stop: 15831, Start Num: 5
Candidate Starts for Babushka_19:
(Start: 5 @15208 has 53 MA's), (Start: 6 @15238 has 1 MA's), (11, 15316), (13, 15352), (14, 15361), (16, 15367), (31, 15520), (38, 15589), (49, 15661), (60, 15727), (61, 15736), (64, 15775), (70, 15814),

Gene: BadWillHunting_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for BadWillHunting_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: Basilisk_20 Start: 16877, Stop: 17476, Start Num: 5
Candidate Starts for Basilisk_20:
(3, 16796), (Start: 5 @16877 has 53 MA's), (Start: 6 @16907 has 1 MA's), (14, 17033), (16, 17039), (23, 17105), (29, 17159), (32, 17186), (43, 17285), (56, 17357), (63, 17390), (65, 17429), (68, 17447), (71, 17462),

Gene: Bedetta_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for Bedetta_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: Bibble12_21 Start: 15599, Stop: 16204, Start Num: 5
Candidate Starts for Bibble12_21:
(Start: 5 @15599 has 53 MA's), (Start: 6 @15629 has 1 MA's), (10, 15698), (11, 15707), (14, 15755), (25, 15854), (28, 15881), (29, 15884), (32, 15911), (41, 15992), (53, 16073), (57, 16091), (62, 16112),

Gene: Brynnie_20 Start: 16689, Stop: 17288, Start Num: 5
Candidate Starts for Brynnie_20:
(3, 16608), (Start: 5 @16689 has 53 MA's), (Start: 6 @16719 has 1 MA's), (7, 16725), (14, 16845), (16, 16851), (43, 17097), (56, 17169), (63, 17202), (65, 17241), (68, 17259), (71, 17274),

Gene: Camara_19 Start: 15150, Stop: 15773, Start Num: 5
Candidate Starts for Camara_19:

(Start: 5 @15150 has 53 MA's), (Start: 6 @15180 has 1 MA's), (8, 15228), (11, 15258), (13, 15294), (14, 15303), (16, 15309), (31, 15462), (38, 15531), (49, 15603), (61, 15678), (70, 15756),

Gene: Chickaboom_19 Start: 15615, Stop: 16214, Start Num: 5
Candidate Starts for Chickaboom_19:
(3, 15534), (Start: 5 @15615 has 53 MA's), (Start: 6 @15645 has 1 MA's), (7, 15651), (14, 15771), (16, 15777), (19, 15792), (23, 15843), (29, 15897), (40, 16002), (50, 16056), (56, 16095), (62, 16122), (63, 16128),

Gene: Chicken_20 Start: 16623, Stop: 17228, Start Num: 5
Candidate Starts for Chicken_20:
(3, 16542), (Start: 5 @16623 has 53 MA's), (7, 16659), (11, 16731), (14, 16779), (25, 16878), (28, 16905), (29, 16908), (32, 16935), (33, 16950), (40, 17013), (53, 17097), (57, 17115), (62, 17136),

Gene: Colusalem_20 Start: 15435, Stop: 16040, Start Num: 5
Candidate Starts for Colusalem_20:
(Start: 5 @15435 has 53 MA's), (Start: 6 @15465 has 1 MA's), (10, 15534), (11, 15543), (14, 15591), (25, 15690), (28, 15717), (29, 15720), (32, 15747), (41, 15828), (53, 15909), (57, 15927), (62, 15948),

Gene: Coral_20 Start: 15435, Stop: 16040, Start Num: 5
Candidate Starts for Coral_20:
(Start: 5 @15435 has 53 MA's), (Start: 6 @15465 has 1 MA's), (10, 15534), (11, 15543), (14, 15591), (25, 15690), (28, 15717), (29, 15720), (32, 15747), (41, 15828), (53, 15909), (57, 15927), (62, 15948),

Gene: Cote_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for Cote_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: Cygnet_20 Start: 16244, Stop: 16846, Start Num: 5
Candidate Starts for Cygnet_20:
(Start: 5 @16244 has 53 MA's), (14, 16397), (15, 16400), (16, 16403), (18, 16412), (21, 16442), (26, 16496), (28, 16520), (29, 16523), (51, 16688), (62, 16748),

Gene: Damocles_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for Damocles_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: DanHam62_19 Start: 15149, Stop: 15772, Start Num: 5
Candidate Starts for DanHam62_19:
(Start: 5 @15149 has 53 MA's), (Start: 6 @15179 has 1 MA's), (8, 15227), (11, 15257), (13, 15293), (14, 15302), (16, 15308), (31, 15461), (38, 15530), (49, 15602), (61, 15677), (70, 15755),

Gene: Daob_21 Start: 15599, Stop: 16204, Start Num: 5
Candidate Starts for Daob_21:
(Start: 5 @15599 has 53 MA's), (Start: 6 @15629 has 1 MA's), (10, 15698), (11, 15707), (14, 15755), (25, 15854), (28, 15881), (29, 15884), (32, 15911), (41, 15992), (53, 16073), (57, 16091), (62, 16112),

Gene: Eesa_20 Start: 16837, Stop: 17442, Start Num: 5
Candidate Starts for Eesa_20:
(3, 16756), (Start: 5 @16837 has 53 MA's), (7, 16873), (14, 16993), (16, 16999), (23, 17068), (27, 17116), (28, 17119), (29, 17122), (32, 17149), (33, 17164), (40, 17227), (53, 17311), (55, 17320), (57,

17329), (62, 17350), (66, 17398),

Gene: Fingolfin_19 Start: 15150, Stop: 15773, Start Num: 5
Candidate Starts for Fingolfin_19:
(Start: 5 @15150 has 53 MA's), (Start: 6 @15180 has 1 MA's), (7, 15186), (8, 15228), (11, 15258), (13, 15294), (14, 15303), (16, 15309), (31, 15462), (38, 15531), (49, 15603), (61, 15678), (70, 15756),

Gene: Glotell_19 Start: 15147, Stop: 15770, Start Num: 5
Candidate Starts for Glotell_19:
(Start: 5 @15147 has 53 MA's), (Start: 6 @15177 has 1 MA's), (8, 15225), (11, 15255), (13, 15291), (14, 15300), (16, 15306), (31, 15459), (38, 15528), (49, 15600), (60, 15666), (61, 15675), (70, 15753),

Gene: GramZayde_20 Start: 15435, Stop: 16040, Start Num: 5
Candidate Starts for GramZayde_20:
(Start: 5 @15435 has 53 MA's), (Start: 6 @15465 has 1 MA's), (10, 15534), (11, 15543), (14, 15591), (25, 15690), (28, 15717), (29, 15720), (32, 15747), (41, 15828), (53, 15909), (57, 15927), (62, 15948),

Gene: Gravel_21 Start: 16743, Stop: 17348, Start Num: 5
Candidate Starts for Gravel_21:
(Start: 5 @16743 has 53 MA's), (7, 16779), (14, 16899), (16, 16905), (23, 16974), (27, 17022), (28, 17025), (29, 17028), (32, 17055), (33, 17070), (40, 17133), (53, 17217), (55, 17226), (57, 17235), (62, 17256), (65, 17301), (66, 17304),

Gene: HamCheese_19 Start: 15149, Stop: 15772, Start Num: 5
Candidate Starts for HamCheese_19:
(Start: 5 @15149 has 53 MA's), (Start: 6 @15179 has 1 MA's), (8, 15227), (11, 15257), (13, 15293), (14, 15302), (16, 15308), (31, 15461), (38, 15530), (49, 15602), (61, 15677), (70, 15755),

Gene: HannahPhantana_21 Start: 15599, Stop: 16204, Start Num: 5
Candidate Starts for HannahPhantana_21:
(Start: 5 @15599 has 53 MA's), (Start: 6 @15629 has 1 MA's), (10, 15698), (11, 15707), (14, 15755), (25, 15854), (28, 15881), (29, 15884), (32, 15911), (41, 15992), (53, 16073), (57, 16091), (62, 16112),

Gene: Jamun_20 Start: 16283, Stop: 16882, Start Num: 5
Candidate Starts for Jamun_20:
(3, 16202), (Start: 5 @16283 has 53 MA's), (Start: 6 @16313 has 1 MA's), (7, 16319), (14, 16439), (16, 16445), (23, 16511), (29, 16565), (43, 16691), (50, 16724), (56, 16763), (63, 16796), (65, 16835), (66, 16838), (68, 16853),

Gene: Jerole_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for Jerole_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: Juno112_19 Start: 15150, Stop: 15773, Start Num: 5
Candidate Starts for Juno112_19:
(Start: 5 @15150 has 53 MA's), (Start: 6 @15180 has 1 MA's), (7, 15186), (8, 15228), (11, 15258), (13, 15294), (14, 15303), (16, 15309), (31, 15462), (38, 15531), (49, 15603), (61, 15678), (70, 15756),

Gene: KHumphrey_19 Start: 15147, Stop: 15770, Start Num: 5
Candidate Starts for KHumphrey_19:
(Start: 5 @15147 has 53 MA's), (Start: 6 @15177 has 1 MA's), (8, 15225), (11, 15255), (13, 15291), (14, 15300), (16, 15306), (31, 15459), (38, 15528), (49, 15600), (61, 15675), (70, 15753),

Gene: KendraB23_21 Start: 16744, Stop: 17349, Start Num: 5
Candidate Starts for KendraB23_21:
(3, 16663), (Start: 5 @16744 has 53 MA's), (7, 16780), (14, 16900), (16, 16906), (23, 16975), (27, 17023), (28, 17026), (29, 17029), (32, 17056), (33, 17071), (40, 17134), (53, 17218), (55, 17227), (57, 17236), (62, 17257), (65, 17302), (66, 17305),

Gene: Kepler_20 Start: 15434, Stop: 16039, Start Num: 5
Candidate Starts for Kepler_20:
(Start: 5 @15434 has 53 MA's), (Start: 6 @15464 has 1 MA's), (10, 15533), (11, 15542), (14, 15590), (25, 15689), (28, 15716), (29, 15719), (32, 15746), (41, 15827), (53, 15908), (57, 15926), (62, 15947),

Gene: Kuleana_20 Start: 15599, Stop: 16150, Start Num: 5
Candidate Starts for Kuleana_20:
(Start: 5 @15599 has 53 MA's), (Start: 6 @15629 has 1 MA's), (14, 15755), (16, 15761), (20, 15785), (28, 15863), (33, 15908), (34, 15911), (35, 15917), (46, 15995), (58, 16058), (62, 16073),

Gene: Laphuphu24k_18 Start: 15149, Stop: 15772, Start Num: 5
Candidate Starts for Laphuphu24k_18:
(Start: 5 @15149 has 53 MA's), (Start: 6 @15179 has 1 MA's), (8, 15227), (11, 15257), (13, 15293), (14, 15302), (16, 15308), (31, 15461), (38, 15530), (49, 15602), (61, 15677), (70, 15755),

Gene: Leona_19 Start: 15239, Stop: 15832, Start Num: 6
Candidate Starts for Leona_19:
(Start: 5 @15209 has 53 MA's), (Start: 6 @15239 has 1 MA's), (9, 15305), (10, 15308), (11, 15317), (13, 15353), (14, 15362), (16, 15368), (31, 15521), (38, 15590), (40, 15614), (49, 15662), (61, 15737), (64, 15776), (70, 15815),

Gene: LittleTokyo_20 Start: 15546, Stop: 16109, Start Num: 5
Candidate Starts for LittleTokyo_20:
(Start: 5 @15546 has 53 MA's), (Start: 6 @15576 has 1 MA's), (14, 15702), (16, 15708), (22, 15771), (34, 15855), (35, 15861), (36, 15873), (39, 15906), (44, 15936), (45, 15942), (61, 16020), (62, 16023),

Gene: Lunar_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for Lunar_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: Melons_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for Melons_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: Niblet_20 Start: 16623, Stop: 17228, Start Num: 5
Candidate Starts for Niblet_20:
(3, 16542), (Start: 5 @16623 has 53 MA's), (7, 16659), (11, 16731), (14, 16779), (25, 16878), (28, 16905), (29, 16908), (32, 16935), (33, 16950), (40, 17013), (53, 17097), (57, 17115), (62, 17136),

Gene: Oppalora_19 Start: 15147, Stop: 15770, Start Num: 5
Candidate Starts for Oppalora_19:
(Start: 5 @15147 has 53 MA's), (Start: 6 @15177 has 1 MA's), (8, 15225), (11, 15255), (13, 15291), (14, 15300), (16, 15306), (31, 15459), (38, 15528), (49, 15600), (61, 15675), (70, 15753),

Gene: Orcanus_20 Start: 16537, Stop: 17142, Start Num: 5
Candidate Starts for Orcanus_20:
(1, 16360), (2, 16411), (3, 16456), (Start: 5 @16537 has 53 MA's), (7, 16573), (14, 16693), (16, 16699), (23, 16768), (27, 16816), (28, 16819), (29, 16822), (32, 16849), (33, 16864), (40, 16927), (53, 17011), (55, 17020), (57, 17029), (62, 17050), (65, 17095), (66, 17098),

Gene: OtsoOtso_20 Start: 15438, Stop: 16043, Start Num: 5
Candidate Starts for OtsoOtso_20:
(Start: 5 @15438 has 53 MA's), (Start: 6 @15468 has 1 MA's), (10, 15537), (11, 15546), (14, 15594), (25, 15693), (28, 15720), (29, 15723), (32, 15750), (41, 15831), (53, 15912), (57, 15930), (62, 15951),

Gene: Pelletreau_21 Start: 16743, Stop: 17348, Start Num: 5
Candidate Starts for Pelletreau_21:
(Start: 5 @16743 has 53 MA's), (7, 16779), (14, 16899), (16, 16905), (23, 16974), (27, 17022), (28, 17025), (29, 17028), (32, 17055), (33, 17070), (40, 17133), (53, 17217), (55, 17226), (57, 17235), (62, 17256), (65, 17301), (66, 17304),

Gene: PhirstandPhine_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for PhirstandPhine_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: PhluffyCoco_19 Start: 15149, Stop: 15772, Start Num: 5
Candidate Starts for PhluffyCoco_19:
(Start: 5 @15149 has 53 MA's), (Start: 6 @15179 has 1 MA's), (8, 15227), (11, 15257), (13, 15293), (14, 15302), (16, 15308), (31, 15461), (38, 15530), (49, 15602), (61, 15677), (70, 15755),

Gene: Pineda_21 Start: 15596, Stop: 16201, Start Num: 5
Candidate Starts for Pineda_21:
(Start: 5 @15596 has 53 MA's), (Start: 6 @15626 has 1 MA's), (10, 15695), (11, 15704), (14, 15752), (25, 15851), (28, 15878), (29, 15881), (32, 15908), (41, 15989), (53, 16070), (57, 16088), (62, 16109),

Gene: Polka_20 Start: 15438, Stop: 16043, Start Num: 5
Candidate Starts for Polka_20:
(Start: 5 @15438 has 53 MA's), (Start: 6 @15468 has 1 MA's), (10, 15537), (11, 15546), (14, 15594), (25, 15693), (28, 15720), (29, 15723), (32, 15750), (41, 15831), (53, 15912), (57, 15930), (62, 15951),

Gene: Rattail_19 Start: 15209, Stop: 15832, Start Num: 5
Candidate Starts for Rattail_19:
(Start: 5 @15209 has 53 MA's), (Start: 6 @15239 has 1 MA's), (9, 15305), (10, 15308), (11, 15317), (13, 15353), (14, 15362), (16, 15368), (31, 15521), (38, 15590), (40, 15614), (49, 15662), (61, 15737), (64, 15776), (70, 15815),

Gene: RedFox_19 Start: 15149, Stop: 15772, Start Num: 5
Candidate Starts for RedFox_19:
(Start: 5 @15149 has 53 MA's), (Start: 6 @15179 has 1 MA's), (8, 15227), (11, 15257), (13, 15293), (14, 15302), (16, 15308), (31, 15461), (38, 15530), (49, 15602), (61, 15677), (70, 15755),

Gene: Renna12_20 Start: 15499, Stop: 16122, Start Num: 5
Candidate Starts for Renna12_20:
(Start: 5 @15499 has 53 MA's), (Start: 6 @15529 has 1 MA's), (9, 15595), (11, 15607), (14, 15652), (16, 15658), (20, 15682), (30, 15808), (33, 15829), (38, 15880), (47, 15943), (49, 15952), (61, 16027), (64, 16066), (70, 16105),

Gene: Ruchi_20 Start: 16823, Stop: 17422, Start Num: 5
Candidate Starts for Ruchi_20:
(3, 16742), (Start: 5 @16823 has 53 MA's), (Start: 6 @16853 has 1 MA's), (7, 16859), (14, 16979), (16, 16985), (23, 17051), (29, 17105), (32, 17132), (43, 17231), (56, 17303), (63, 17336), (65, 17375), (68, 17393), (71, 17408),

Gene: Shen_21 Start: 16744, Stop: 17349, Start Num: 5
Candidate Starts for Shen_21:
(3, 16663), (Start: 5 @16744 has 53 MA's), (7, 16780), (14, 16900), (16, 16906), (23, 16975), (27, 17023), (28, 17026), (29, 17029), (32, 17056), (33, 17071), (40, 17134), (53, 17218), (55, 17227), (57, 17236), (62, 17257), (65, 17302), (66, 17305),

Gene: StuartMinion_19 Start: 15193, Stop: 15816, Start Num: 5
Candidate Starts for StuartMinion_19:
(Start: 5 @15193 has 53 MA's), (Start: 6 @15223 has 1 MA's), (8, 15271), (9, 15289), (11, 15301), (31, 15505), (38, 15574), (48, 15640), (49, 15646), (59, 15709), (60, 15712), (61, 15721), (70, 15799), (72, 15808),

Gene: TaylorSipht_20 Start: 15556, Stop: 16161, Start Num: 5
Candidate Starts for TaylorSipht_20:
(Start: 5 @15556 has 53 MA's), (11, 15664), (14, 15712), (25, 15811), (28, 15838), (29, 15841), (32, 15868), (40, 15946), (53, 16030), (55, 16039), (57, 16048), (63, 16075),

Gene: Toad24_21 Start: 16744, Stop: 17349, Start Num: 5
Candidate Starts for Toad24_21:
(3, 16663), (Start: 5 @16744 has 53 MA's), (7, 16780), (14, 16900), (16, 16906), (23, 16975), (27, 17023), (28, 17026), (29, 17029), (32, 17056), (33, 17071), (40, 17134), (53, 17218), (55, 17227), (57, 17236), (62, 17257), (65, 17302), (66, 17305),

Gene: Vulpecula_20 Start: 16281, Stop: 16880, Start Num: 5
Candidate Starts for Vulpecula_20:
(3, 16200), (Start: 5 @16281 has 53 MA's), (Start: 6 @16311 has 1 MA's), (7, 16317), (14, 16437), (16, 16443), (23, 16509), (29, 16563), (43, 16689), (50, 16722), (56, 16761), (63, 16794), (65, 16833), (66, 16836), (68, 16851),

Gene: Westrich_21 Start: 16733, Stop: 17338, Start Num: 5
Candidate Starts for Westrich_21:
(1, 16556), (2, 16607), (3, 16652), (Start: 5 @16733 has 53 MA's), (7, 16769), (14, 16889), (16, 16895), (23, 16964), (27, 17012), (28, 17015), (29, 17018), (32, 17045), (33, 17060), (40, 17123), (53, 17207), (55, 17216), (57, 17225), (62, 17246), (65, 17291), (66, 17294),

Gene: WileyE_19 Start: 15615, Stop: 16214, Start Num: 5
Candidate Starts for WileyE_19:
(3, 15534), (Start: 5 @15615 has 53 MA's), (Start: 6 @15645 has 1 MA's), (7, 15651), (14, 15771), (16, 15777), (19, 15792), (23, 15843), (29, 15897), (40, 16002), (50, 16056), (56, 16095), (62, 16122), (63, 16128),

Gene: Zhuangyuan_21 Start: 15984, Stop: 16586, Start Num: 5
Candidate Starts for Zhuangyuan_21:
(4, 15933), (Start: 5 @15984 has 53 MA's), (11, 16092), (14, 16140), (17, 16149), (23, 16212), (29, 16266), (37, 16341), (40, 16374), (52, 16449), (60, 16482), (67, 16545), (68, 16557), (69, 16560),

Gene: Zixiang_20 Start: 16624, Stop: 17229, Start Num: 5
Candidate Starts for Zixiang_20:
(3, 16543), (Start: 5 @16624 has 53 MA's), (7, 16660), (11, 16732), (14, 16780), (25, 16879), (28, 16906), (29, 16909), (32, 16936), (33, 16951), (40, 17014), (53, 17098), (57, 17116), (62, 17137),