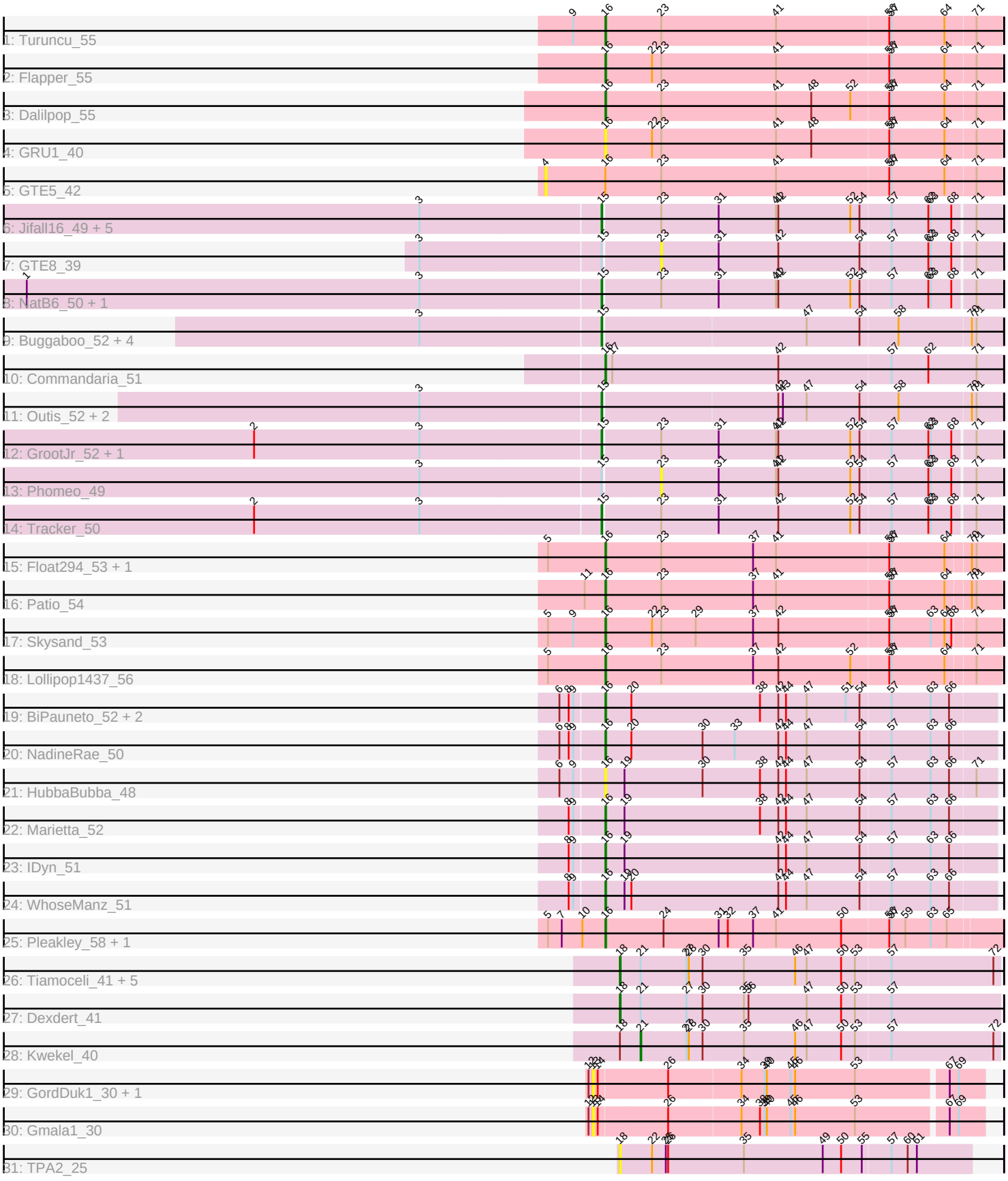
Pham 196587


1: Turuncu_55
2: Flapper_55
3: Dalilpop_55
4: GRU1_40
5: GTE5_42
6: Jifall16_49 + 5
7: GTE8_39
8: NatB6_50 + 1
9: Buggaboo_52 + 4
10: Commandaria_51
11: Outis_52 + 2
12: GrootJr_52 + 1
13: Phomeo_49
14: Tracker_50
15: Float294_53 + 1
16: Patio_54
17: Skysand_53
18: Lollipop1437_56
19: BiPauneto_52 + 2
20: NadineRae_50
21: HubbaBubba_48
22: Marietta_52
23: IDyn_51
24: WhoseManz_51
25: Pleakley_58 + 1
26: Tiamoceli_41 + 5
27: Dexdert_41
28: Kwekel_40
29: GordDuk1_30 + 1
30: Gmala1_30
31: TPA2_25

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 196587 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196587 has 54 members, 10 are drafts.

Phages represented in each track:
- Track 1 : Turuncu_55
- Track 2 : Flapper_55
- Track 3 : Dalilpop_55
- Track 4 : GRU1_40
- Track 5 : GTE5_42
- Track 6 : Jifall16_49, Emianna_50, Kurt_50, KidneyBean_50, Arti_50, Foxboro_51
- Track 7 : GTE8_39
- Track 8 : NatB6_50, Wheezy_50
- Track 9 : Buggaboo_52, Kabluna_54, SuperSulley_52, Bonum_54, NosilaM_54
- Track 10 : Commandaria_51
- Track 11 : Outis_52, MerCougar_52, StarStruck_52
- Track 12 : GrootJr_52, NovumRegina_50
- Track 13 : Phomeo_49
- Track 14 : Tracker_50
- Track 15 : Float294_53, Ennea_57
- Track 16 : Patio_54
- Track 17 : Skysand_53
- Track 18 : Lollipop1437_56
- Track 19 : BiPauneto_52, Sukkupi_51, Yndexa_51
- Track 20 : NadineRae_50
- Track 21 : HubbaBubba_48
- Track 22 : Marietta_52
- Track 23 : IDyn_51
- Track 24 : WhoseManz_51
- Track 25 : Pleakley_58, Fury_58
- Track 26 : Tiamoceli_41, EdmundFerry_39, Chickadee_40, RoadKill_38, GTE6_40, Twonlo_38
- Track 27 : Dexdert_41
- Track 28 : Kwekel_40
- Track 29 : GordDuk1_30, GordTnk2_30
- Track 30 : Gmala1_30
- Track 31 : TPA2_25

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 19 of the 44 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Arti_50, Bonum_54, Buggaboo_52, Emianna_50, Foxboro_51, GrootJr_52, Jifall16_49, Kabluna_54, KidneyBean_50, Kurt_50, MerCougar_52, NatB6_50, NosilaM_54, NovumRegina_50, Outis_52, StarStruck_52, SuperSulley_52, Tracker_50, Wheezy_50,

Genes that have the "Most Annotated" start but do not call it:
• GTE8_39, Phomeo_49,

Genes that do not have the "Most Annotated" start:
• BiPauneto_52, Chickadee_40, Commandaria_51, Dalilpop_55, Dexdert_41, EdmundFerry_39, Ennea_57, Flapper_55, Float294_53, Fury_58, GRU1_40, GTE5_42, GTE6_40, Gmala1_30, GordDuk1_30, GordTnk2_30, HubbaBubba_48, IDyn_51, Kwekel_40, Lollipop1437_56, Marietta_52, NadineRae_50, Patio_54, Pleakley_58, RoadKill_38, Skysand_53, Sukkupi_51, TPA2_25, Tiamoceli_41, Turuncu_55, Twonlo_38, WhoseManz_51, Yndexa_51,

Summary by start number:

Start 4:
• Found in 1 of 54 (1.9%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: GTE5_42 (CR1),

Start 13:
• Found in 3 of 54 (5.6%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Gmala1_30 (DF1), GordDuk1_30 (DF1), GordTnk2_30 (DF1),

Start 15:
• Found in 21 of 54 (38.9%) of genes in pham
• Manual Annotations of this start: 19 of 44
• Called 90.5% of time when present
• Phage (with cluster) where this start called: Arti_50 (CR2), Bonum_54 (CR2), Buggaboo_52 (CR2), Emianna_50 (CR2), Foxboro_51 (CR2), GrootJr_52 (CR2), Jifall16_49 (CR2), Kabluna_54 (CR2), KidneyBean_50 (CR2), Kurt_50 (CR2), MerCougar_52 (CR2), NatB6_50 (CR2), NosilaM_54 (CR2), NovumRegina_50 (CR2), Outis_52 (CR2), StarStruck_52 (CR2), SuperSulley_52 (CR2), Tracker_50 (CR2), Wheezy_50 (CR2),

Start 16:
• Found in 21 of 54 (38.9%) of genes in pham
• Manual Annotations of this start: 18 of 44
• Called 95.2% of time when present
• Phage (with cluster) where this start called: BiPauneto_52 (CR4), Commandaria_51 (CR2), Dalilpop_55 (CR1), Ennea_57 (CR3), Flapper_55 (CR1), Float294_53 (CR3),

Fury_58 (CR5), GRU1_40 (CR1), HubbaBubba_48 (CR4), IDyn_51 (CR4), Lollipop1437_56 (CR3), Marietta_52 (CR4), NadineRae_50 (CR4), Patio_54 (CR3), Pleakley_58 (CR5), Skysand_53 (CR3), Sukkupi_51 (CR4), Turuncu_55 (CR1), WhoseManz_51 (CR4), Yndexa_51 (CR4),

Start 18:
• Found in 9 of 54 (16.7%) of genes in pham
• Manual Annotations of this start: 6 of 44
• Called 88.9% of time when present
• Phage (with cluster) where this start called: Chickadee_40 (DE3), Dexdert_41 (DE3), EdmundFerry_39 (DE3), GTE6_40 (DE3), RoadKill_38 (DE3), TPA2_25 (singleton), Tiamoceli_41 (DE3), Twonlo_38 (DE3),

Start 21:
• Found in 8 of 54 (14.8%) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 12.5% of time when present
• Phage (with cluster) where this start called: Kwekel_40 (DE3),

Start 23:
• Found in 23 of 54 (42.6%) of genes in pham
• No Manual Annotations of this start.
• Called 8.7% of time when present
• Phage (with cluster) where this start called: GTE8_39 (CR2), Phomeo_49 (CR2),

Summary by clusters:

There are 8 clusters represented in this pham: CR2, CR3, singleton, CR1, CR4, CR5, DE3, DF1,

Info for manual annotations of cluster CR1:
•Start number 16 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:
•Start number 15 was manually annotated 19 times for cluster CR2.
•Start number 16 was manually annotated 1 time for cluster CR2.

Info for manual annotations of cluster CR3:
•Start number 16 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster CR4:
•Start number 16 was manually annotated 7 times for cluster CR4.

Info for manual annotations of cluster CR5:
•Start number 16 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster DE3:
•Start number 18 was manually annotated 6 times for cluster DE3.
•Start number 21 was manually annotated 1 time for cluster DE3.

Gene Information:

Gene: Arti_50 Start: 38680, Stop: 39186, Start Num: 15
Candidate Starts for Arti_50:
(3, 38449), (Start: 15 @38680 has 19 MA's), (23, 38752), (31, 38827), (41, 38902), (42, 38905), (52, 38998), (54, 39010), (57, 39049), (62, 39097), (63, 39100), (68, 39127), (71, 39154),

Gene: BiPauneto_52 Start: 38203, Stop: 38706, Start Num: 16
Candidate Starts for BiPauneto_52:
(6, 38149), (8, 38161), (9, 38167), (Start: 16 @38203 has 18 MA's), (20, 38236), (38, 38404), (42, 38428), (44, 38437), (47, 38464), (51, 38515), (54, 38533), (57, 38572), (63, 38623), (66, 38647),

Gene: Bonum_54 Start: 39333, Stop: 39842, Start Num: 15
Candidate Starts for Bonum_54:
(3, 39102), (Start: 15 @39333 has 19 MA's), (47, 39591), (54, 39660), (58, 39708), (70, 39801), (71, 39807),

Gene: Buggaboo_52 Start: 39812, Stop: 40321, Start Num: 15
Candidate Starts for Buggaboo_52:
(3, 39581), (Start: 15 @39812 has 19 MA's), (47, 40070), (54, 40139), (58, 40187), (70, 40280), (71, 40286),

Gene: Chickadee_40 Start: 36048, Stop: 36539, Start Num: 18
Candidate Starts for Chickadee_40:
(Start: 18 @36048 has 6 MA's), (Start: 21 @36075 has 1 MA's), (27, 36135), (28, 36138), (30, 36156), (35, 36210), (46, 36276), (47, 36291), (50, 36336), (53, 36354), (57, 36399), (72, 36531),

Gene: Commandaria_51 Start: 39801, Stop: 40316, Start Num: 16
Candidate Starts for Commandaria_51:
(Start: 16 @39801 has 18 MA's), (17, 39810), (42, 40026), (57, 40170), (62, 40218), (71, 40281),

Gene: Dalilpop_55 Start: 40964, Stop: 41473, Start Num: 16
Candidate Starts for Dalilpop_55:
(Start: 16 @40964 has 18 MA's), (23, 41036), (41, 41186), (48, 41231), (52, 41282), (56, 41330), (57, 41333), (64, 41402), (71, 41441),

Gene: Dexdert_41 Start: 36308, Stop: 36799, Start Num: 18
Candidate Starts for Dexdert_41:
(Start: 18 @36308 has 6 MA's), (Start: 21 @36335 has 1 MA's), (27, 36395), (30, 36416), (35, 36470), (36, 36476), (47, 36551), (50, 36596), (53, 36614), (57, 36659),

Gene: EdmundFerry_39 Start: 36077, Stop: 36568, Start Num: 18
Candidate Starts for EdmundFerry_39:
(Start: 18 @36077 has 6 MA's), (Start: 21 @36104 has 1 MA's), (27, 36164), (28, 36167), (30, 36185), (35, 36239), (46, 36305), (47, 36320), (50, 36365), (53, 36383), (57, 36428), (72, 36560),

Gene: Emianna_50 Start: 39672, Stop: 40178, Start Num: 15
Candidate Starts for Emianna_50:
(3, 39441), (Start: 15 @39672 has 19 MA's), (23, 39744), (31, 39819), (41, 39894), (42, 39897), (52, 39990), (54, 40002), (57, 40041), (62, 40089), (63, 40092), (68, 40119), (71, 40146),

Gene: Ennea_57 Start: 40686, Stop: 41192, Start Num: 16
Candidate Starts for Ennea_57:

(5, 40611), (Start: 16 @40686 has 18 MA's), (23, 40758), (37, 40878), (41, 40908), (56, 41052), (57, 41055), (64, 41124), (70, 41154), (71, 41160),

Gene: Flapper_55 Start: 40395, Stop: 40904, Start Num: 16
Candidate Starts for Flapper_55:
(Start: 16 @40395 has 18 MA's), (22, 40455), (23, 40467), (41, 40617), (56, 40761), (57, 40764), (64, 40833), (71, 40872),

Gene: Float294_53 Start: 40128, Stop: 40634, Start Num: 16
Candidate Starts for Float294_53:
(5, 40053), (Start: 16 @40128 has 18 MA's), (23, 40200), (37, 40320), (41, 40350), (56, 40494), (57, 40497), (64, 40566), (70, 40596), (71, 40602),

Gene: Foxboro_51 Start: 40178, Stop: 40684, Start Num: 15
Candidate Starts for Foxboro_51:
(3, 39947), (Start: 15 @40178 has 19 MA's), (23, 40250), (31, 40325), (41, 40400), (42, 40403), (52, 40496), (54, 40508), (57, 40547), (62, 40595), (63, 40598), (68, 40625), (71, 40652),

Gene: Fury_58 Start: 38850, Stop: 39359, Start Num: 16
Candidate Starts for Fury_58:
(5, 38775), (7, 38793), (10, 38820), (Start: 16 @38850 has 18 MA's), (24, 38925), (31, 38997), (32, 39009), (37, 39042), (41, 39072), (50, 39156), (56, 39216), (57, 39219), (59, 39237), (63, 39270), (65, 39291),

Gene: GRU1_40 Start: 31942, Stop: 32451, Start Num: 16
Candidate Starts for GRU1_40:
(Start: 16 @31942 has 18 MA's), (22, 32002), (23, 32014), (41, 32164), (48, 32209), (56, 32308), (57, 32311), (64, 32380), (71, 32419),

Gene: GTE5_42 Start: 33174, Stop: 33761, Start Num: 4
Candidate Starts for GTE5_42:
(4, 33174), (Start: 16 @33252 has 18 MA's), (23, 33324), (41, 33474), (56, 33618), (57, 33621), (64, 33690), (71, 33729),

Gene: GTE6_40 Start: 36569, Stop: 37060, Start Num: 18
Candidate Starts for GTE6_40:
(Start: 18 @36569 has 6 MA's), (Start: 21 @36596 has 1 MA's), (27, 36656), (28, 36659), (30, 36677), (35, 36731), (46, 36797), (47, 36812), (50, 36857), (53, 36875), (57, 36920), (72, 37052),

Gene: GTE8_39 Start: 33002, Stop: 33436, Start Num: 23
Candidate Starts for GTE8_39:
(3, 32699), (Start: 15 @32930 has 19 MA's), (23, 33002), (31, 33077), (42, 33155), (54, 33260), (57, 33299), (62, 33347), (63, 33350), (68, 33377), (71, 33404),

Gene: Gmala1_30 Start: 35962, Stop: 36453, Start Num: 13
Candidate Starts for Gmala1_30:
(12, 35956), (13, 35962), (14, 35968), (26, 36055), (34, 36148), (38, 36172), (39, 36178), (40, 36181), (45, 36211), (46, 36217), (53, 36295), (67, 36409), (69, 36421),

Gene: GordDuk1_30 Start: 35900, Stop: 36391, Start Num: 13
Candidate Starts for GordDuk1_30:
(12, 35894), (13, 35900), (14, 35906), (26, 35993), (34, 36086), (39, 36116), (40, 36119), (45, 36149), (46, 36155), (53, 36233), (67, 36347), (69, 36359),

Gene: GordTnk2_30 Start: 35869, Stop: 36360, Start Num: 13
Candidate Starts for GordTnk2_30:
(12, 35863), (13, 35869), (14, 35875), (26, 35962), (34, 36055), (39, 36085), (40, 36088), (45, 36118), (46, 36124), (53, 36202), (67, 36316), (69, 36328),

Gene: GrootJr_52 Start: 39054, Stop: 39560, Start Num: 15
Candidate Starts for GrootJr_52:
(2, 38607), (3, 38823), (Start: 15 @39054 has 19 MA's), (23, 39126), (31, 39201), (41, 39276), (42, 39279), (52, 39372), (54, 39384), (57, 39423), (62, 39471), (63, 39474), (68, 39501), (71, 39528),

Gene: HubbaBubba_48 Start: 35218, Stop: 35721, Start Num: 16
Candidate Starts for HubbaBubba_48:
(6, 35164), (9, 35182), (Start: 16 @35218 has 18 MA's), (19, 35242), (30, 35344), (38, 35419), (42, 35443), (44, 35452), (47, 35479), (54, 35548), (57, 35587), (63, 35638), (66, 35662), (71, 35695),

Gene: IDyn_51 Start: 36647, Stop: 37150, Start Num: 16
Candidate Starts for IDyn_51:
(8, 36605), (9, 36611), (Start: 16 @36647 has 18 MA's), (19, 36671), (42, 36872), (44, 36881), (47, 36908), (54, 36977), (57, 37016), (63, 37067), (66, 37091),

Gene: Jifall16_49 Start: 39326, Stop: 39832, Start Num: 15
Candidate Starts for Jifall16_49:
(3, 39095), (Start: 15 @39326 has 19 MA's), (23, 39398), (31, 39473), (41, 39548), (42, 39551), (52, 39644), (54, 39656), (57, 39695), (62, 39743), (63, 39746), (68, 39773), (71, 39800),

Gene: Kabluna_54 Start: 38748, Stop: 39257, Start Num: 15
Candidate Starts for Kabluna_54:
(3, 38517), (Start: 15 @38748 has 19 MA's), (47, 39006), (54, 39075), (58, 39123), (70, 39216), (71, 39222),

Gene: KidneyBean_50 Start: 39450, Stop: 39956, Start Num: 15
Candidate Starts for KidneyBean_50:
(3, 39219), (Start: 15 @39450 has 19 MA's), (23, 39522), (31, 39597), (41, 39672), (42, 39675), (52, 39768), (54, 39780), (57, 39819), (62, 39867), (63, 39870), (68, 39897), (71, 39924),

Gene: Kurt_50 Start: 39687, Stop: 40193, Start Num: 15
Candidate Starts for Kurt_50:
(3, 39456), (Start: 15 @39687 has 19 MA's), (23, 39759), (31, 39834), (41, 39909), (42, 39912), (52, 40005), (54, 40017), (57, 40056), (62, 40104), (63, 40107), (68, 40134), (71, 40161),

Gene: Kwekel_40 Start: 36036, Stop: 36500, Start Num: 21
Candidate Starts for Kwekel_40:
(Start: 18 @36009 has 6 MA's), (Start: 21 @36036 has 1 MA's), (27, 36096), (28, 36099), (30, 36117), (35, 36171), (46, 36237), (47, 36252), (50, 36297), (53, 36315), (57, 36360), (72, 36492),

Gene: Lollipop1437_56 Start: 40674, Stop: 41180, Start Num: 16
Candidate Starts for Lollipop1437_56:
(5, 40599), (Start: 16 @40674 has 18 MA's), (23, 40746), (37, 40866), (42, 40899), (52, 40992), (56, 41040), (57, 41043), (64, 41112), (71, 41148),

Gene: Marietta_52 Start: 36541, Stop: 37044, Start Num: 16
Candidate Starts for Marietta_52:

(8, 36499), (9, 36505), (Start: 16 @36541 has 18 MA's), (19, 36565), (38, 36742), (42, 36766), (44, 36775), (47, 36802), (54, 36871), (57, 36910), (63, 36961), (66, 36985),

Gene: MerCougar_52 Start: 39950, Stop: 40459, Start Num: 15
Candidate Starts for MerCougar_52:
(3, 39719), (Start: 15 @39950 has 19 MA's), (42, 40172), (43, 40178), (47, 40208), (54, 40277), (58, 40325), (70, 40418), (71, 40424),

Gene: NadineRae_50 Start: 35788, Stop: 36291, Start Num: 16
Candidate Starts for NadineRae_50:
(6, 35734), (8, 35746), (9, 35752), (Start: 16 @35788 has 18 MA's), (20, 35821), (30, 35914), (33, 35956), (42, 36013), (44, 36022), (47, 36049), (54, 36118), (57, 36157), (63, 36208), (66, 36232),

Gene: NatB6_50 Start: 38744, Stop: 39250, Start Num: 15
Candidate Starts for NatB6_50:
(1, 38000), (3, 38513), (Start: 15 @38744 has 19 MA's), (23, 38816), (31, 38891), (41, 38966), (42, 38969), (52, 39062), (54, 39074), (57, 39113), (62, 39161), (63, 39164), (68, 39191), (71, 39218),

Gene: NosilaM_54 Start: 39645, Stop: 40154, Start Num: 15
Candidate Starts for NosilaM_54:
(3, 39414), (Start: 15 @39645 has 19 MA's), (47, 39903), (54, 39972), (58, 40020), (70, 40113), (71, 40119),

Gene: NovumRegina_50 Start: 39053, Stop: 39559, Start Num: 15
Candidate Starts for NovumRegina_50:
(2, 38606), (3, 38822), (Start: 15 @39053 has 19 MA's), (23, 39125), (31, 39200), (41, 39275), (42, 39278), (52, 39371), (54, 39383), (57, 39422), (62, 39470), (63, 39473), (68, 39500), (71, 39527),

Gene: Outis_52 Start: 39644, Stop: 40153, Start Num: 15
Candidate Starts for Outis_52:
(3, 39413), (Start: 15 @39644 has 19 MA's), (42, 39866), (43, 39872), (47, 39902), (54, 39971), (58, 40019), (70, 40112), (71, 40118),

Gene: Patio_54 Start: 39910, Stop: 40416, Start Num: 16
Candidate Starts for Patio_54:
(11, 39883), (Start: 16 @39910 has 18 MA's), (23, 39982), (37, 40102), (41, 40132), (56, 40276), (57, 40279), (64, 40348), (70, 40378), (71, 40384),

Gene: Phomeo_49 Start: 39394, Stop: 39828, Start Num: 23
Candidate Starts for Phomeo_49:
(3, 39091), (Start: 15 @39322 has 19 MA's), (23, 39394), (31, 39469), (41, 39544), (42, 39547), (52, 39640), (54, 39652), (57, 39691), (62, 39739), (63, 39742), (68, 39769), (71, 39796),

Gene: Pleakley_58 Start: 38851, Stop: 39360, Start Num: 16
Candidate Starts for Pleakley_58:
(5, 38776), (7, 38794), (10, 38821), (Start: 16 @38851 has 18 MA's), (24, 38926), (31, 38998), (32, 39010), (37, 39043), (41, 39073), (50, 39157), (56, 39217), (57, 39220), (59, 39238), (63, 39271), (65, 39292),

Gene: RoadKill_38 Start: 35572, Stop: 36063, Start Num: 18
Candidate Starts for RoadKill_38:
(Start: 18 @35572 has 6 MA's), (Start: 21 @35599 has 1 MA's), (27, 35659), (28, 35662), (30, 35680), (35, 35734), (46, 35800), (47, 35815), (50, 35860), (53, 35878), (57, 35923), (72, 36055),

Gene: Skysand_53 Start: 40130, Stop: 40636, Start Num: 16
Candidate Starts for Skysand_53:
(5, 40055), (9, 40088), (Start: 16 @40130 has 18 MA's), (22, 40190), (23, 40202), (29, 40247), (37, 40322), (42, 40355), (56, 40496), (57, 40499), (63, 40550), (64, 40568), (68, 40577), (71, 40604),

Gene: StarStruck_52 Start: 39644, Stop: 40153, Start Num: 15
Candidate Starts for StarStruck_52:
(3, 39413), (Start: 15 @39644 has 19 MA's), (42, 39866), (43, 39872), (47, 39902), (54, 39971), (58, 40019), (70, 40112), (71, 40118),

Gene: Sukkupi_51 Start: 38094, Stop: 38597, Start Num: 16
Candidate Starts for Sukkupi_51:
(6, 38040), (8, 38052), (9, 38058), (Start: 16 @38094 has 18 MA's), (20, 38127), (38, 38295), (42, 38319), (44, 38328), (47, 38355), (51, 38406), (54, 38424), (57, 38463), (63, 38514), (66, 38538),

Gene: SuperSulley_52 Start: 39812, Stop: 40321, Start Num: 15
Candidate Starts for SuperSulley_52:
(3, 39581), (Start: 15 @39812 has 19 MA's), (47, 40070), (54, 40139), (58, 40187), (70, 40280), (71, 40286),

Gene: TPA2_25 Start: 16114, Stop: 16566, Start Num: 18
Candidate Starts for TPA2_25:
(Start: 18 @16114 has 6 MA's), (22, 16156), (25, 16174), (26, 16177), (35, 16276), (49, 16378), (50, 16402), (55, 16429), (57, 16465), (60, 16486), (61, 16498),

Gene: Tiamoceli_41 Start: 36905, Stop: 37396, Start Num: 18
Candidate Starts for Tiamoceli_41:
(Start: 18 @36905 has 6 MA's), (Start: 21 @36932 has 1 MA's), (27, 36992), (28, 36995), (30, 37013), (35, 37067), (46, 37133), (47, 37148), (50, 37193), (53, 37211), (57, 37256), (72, 37388),

Gene: Tracker_50 Start: 38471, Stop: 38977, Start Num: 15
Candidate Starts for Tracker_50:
(2, 38024), (3, 38240), (Start: 15 @38471 has 19 MA's), (23, 38543), (31, 38618), (42, 38696), (52, 38789), (54, 38801), (57, 38840), (62, 38888), (63, 38891), (68, 38918), (71, 38945),

Gene: Turuncu_55 Start: 40057, Stop: 40566, Start Num: 16
Candidate Starts for Turuncu_55:
(9, 40015), (Start: 16 @40057 has 18 MA's), (23, 40129), (41, 40279), (56, 40423), (57, 40426), (64, 40495), (71, 40534),

Gene: Twonlo_38 Start: 35523, Stop: 36014, Start Num: 18
Candidate Starts for Twonlo_38:
(Start: 18 @35523 has 6 MA's), (Start: 21 @35550 has 1 MA's), (27, 35610), (28, 35613), (30, 35631), (35, 35685), (46, 35751), (47, 35766), (50, 35811), (53, 35829), (57, 35874), (72, 36006),

Gene: Wheezy_50 Start: 38676, Stop: 39182, Start Num: 15
Candidate Starts for Wheezy_50:
(1, 37932), (3, 38445), (Start: 15 @38676 has 19 MA's), (23, 38748), (31, 38823), (41, 38898), (42, 38901), (52, 38994), (54, 39006), (57, 39045), (62, 39093), (63, 39096), (68, 39123), (71, 39150),

Gene: WhoseManz_51 Start: 36154, Stop: 36657, Start Num: 16
Candidate Starts for WhoseManz_51:

(8, 36112), (9, 36118), (Start: 16 @36154 has 18 MA's), (19, 36178), (20, 36187), (42, 36379), (44, 36388), (47, 36415), (54, 36484), (57, 36523), (63, 36574), (66, 36598),

Gene: Yndexa_51 Start: 38094, Stop: 38597, Start Num: 16
Candidate Starts for Yndexa_51:
(6, 38040), (8, 38052), (9, 38058), (Start: 16 @38094 has 18 MA's), (20, 38127), (38, 38295), (42, 38319), (44, 38328), (47, 38355), (51, 38406), (54, 38424), (57, 38463), (63, 38514), (66, 38538),