Pham 291209

1: Iota_12 + 15

2: Sebata_17 + 4

3: EmToTheThree_14 + 1

4: Tainan_20 + 14

5: Stubby_11 + 1

6: Blubba_12

7: DTDevon_15

8: Tonenili_16

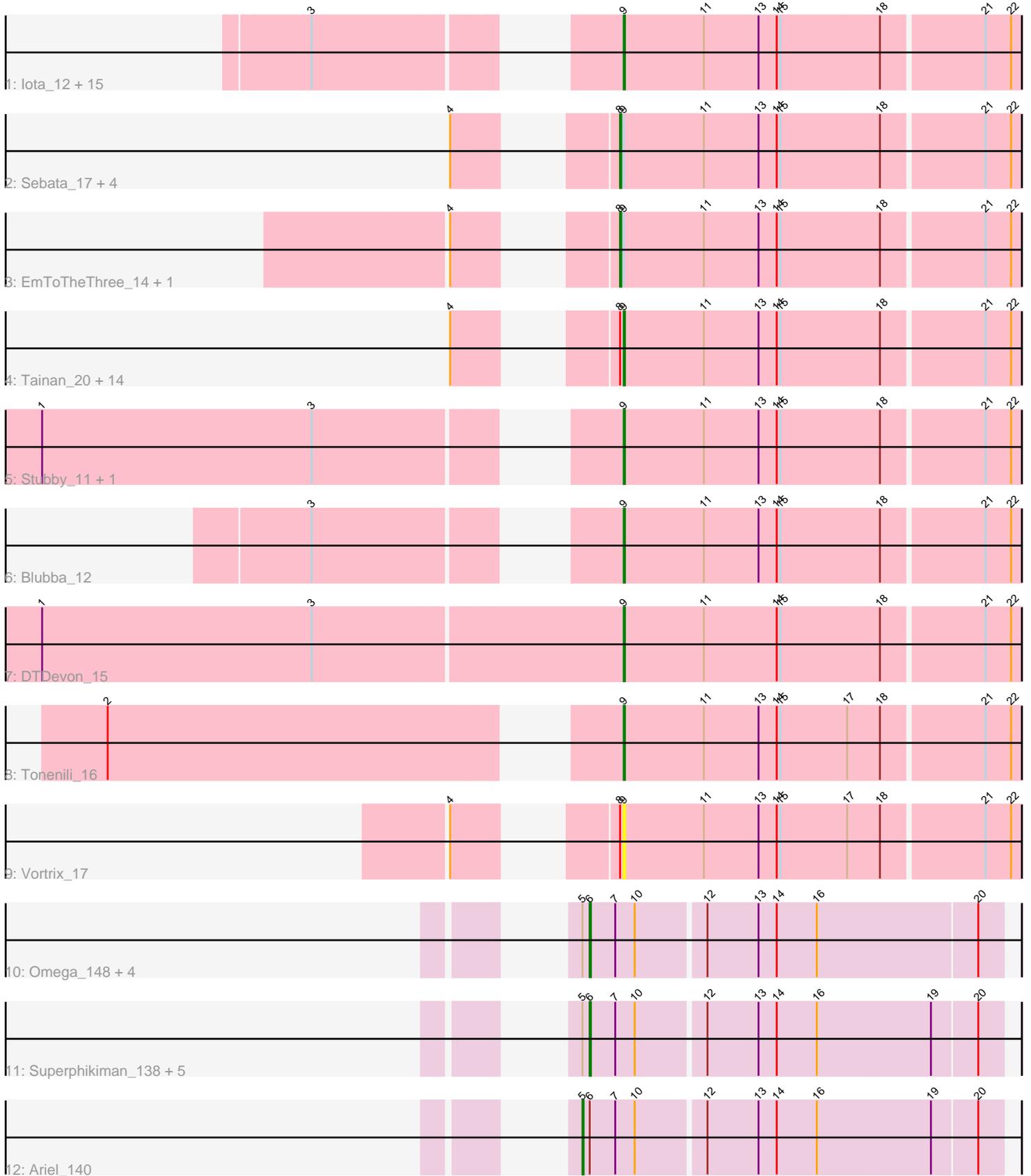9: Vortrix_17

10: Omega_148 + 4

11: Superphikiman_138 + 5

12: Ariel_140

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 291209 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291209 has 56 members, 15 are drafts.

Phages represented in each track:
• Track 1 : Iota_12, MoMoMixon_16, Delylah_13, Colt_12, Caravan_13, Naval22_16, Pio_17, Lethe_16, Bxz1_16, Mangeria_17, Tyke_16, Shelob_14, Spud_17, Nidhogg_16, Cane17_12, ErnieJ_13
• Track 2 : Sebata_17, Grasshills_19, LinStu_17, LolaVinca_17, InterFolia_20
• Track 3 : EmToTheThree_14, NuevoMundo_18
• Track 4 : Tainan_20, BigCity_19, JayJay_17, Dandelion_19, Nappy_16, FrayBell_20, Specks_18, PharkleMinkus_20, JigglyPuff_15, EggyFarm_19, Bigswole_19, Pupusa_20, LookingGlass_17, QBert_13, LordLeafolot_20
• Track 5 : Stubby_11, Sauce_16
• Track 6 : Blubba_12
• Track 7 : DTDevon_15
• Track 8 : Tonenili_16
• Track 9 : Vortrix_17
• Track 10 : Omega_148, Rearden_138, KashFlow_138, Hannaconda_133, Gonephishing_134
• Track 11 : Superphikiman_138, Courthouse_136, Nibley_136, BronnyJames_137, LittleE_143, Shaboozey_140
• Track 12 : Ariel_140

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

The start number called the most often in the published annotations is 9, it was called in 28 of the 41 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• BigCity_19, Bigswole_19, Blubba_12, Bxz1_16, Cane17_12, Caravan_13, Colt_12, DTDevon_15, Dandelion_19, Delylah_13, EggyFarm_19, ErnieJ_13, FrayBell_20, Iota_12, JayJay_17, JigglyPuff_15, Lethe_16, LookingGlass_17, LordLeafolot_20, Mangeria_17, MoMoMixon_16, Nappy_16, Naval22_16, Nidhogg_16, PharkleMinkus_20, Pio_17, Pupusa_20, QBert_13, Sauce_16, Shelob_14, Specks_18, Spud_17, Stubby_11, Tainan_20, Tonenili_16, Tyke_16, Vortrix_17,

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

• EmToTheThree_14, Grasshills_19, InterFolia_20, LinStu_17, LolaVinca_17, NuevoMundo_18, Sebata_17,

Genes that do not have the "Most Annotated" start:
• Ariel_140, BronnyJames_137, Courthouse_136, Gonephishing_134, Hannaconda_133, KashFlow_138, LittleE_143, Nibley_136, Omega_148, Rearden_138, Shaboozey_140, Superphikiman_138,

Summary by start number:

Start 5:
• Found in 12 of 56 (21.4%) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 8.3% of time when present
• Phage (with cluster) where this start called: Ariel_140 (J),

Start 6:
• Found in 12 of 56 (21.4%) of genes in pham
• Manual Annotations of this start: 6 of 41
• Called 91.7% of time when present
• Phage (with cluster) where this start called: BronnyJames_137 (J), Courthouse_136 (J), Gonephishing_134 (J), Hannaconda_133 (J), KashFlow_138 (J), LittleE_143 (J), Nibley_136 (J), Omega_148 (J), Rearden_138 (J), Shaboozey_140 (J), Superphikiman_138 (J),

Start 8:
• Found in 23 of 56 (41.1%) of genes in pham
• Manual Annotations of this start: 6 of 41
• Called 30.4% of time when present
• Phage (with cluster) where this start called: EmToTheThree_14 (C1), Grasshills_19 (C1), InterFolia_20 (C1), LinStu_17 (C1), LolaVinca_17 (C1), NuevoMundo_18 (C1), Sebata_17 (C1),

Start 9:
• Found in 44 of 56 (78.6%) of genes in pham
• Manual Annotations of this start: 28 of 41
• Called 84.1% of time when present
• Phage (with cluster) where this start called: BigCity_19 (C1), Bigswole_19 (C1), Blubba_12 (C1), Bxz1_16 (C1), Cane17_12 (C1), Caravan_13 (C1), Colt_12 (C1), DTDevon_15 (C1), Dandelion_19 (C1), Delylah_13 (C1), EggyFarm_19 (C1), ErnieJ_13 (C1), FrayBell_20 (C1), Iota_12 (C1), JayJay_17 (C1), JigglyPuff_15 (C1), Lethe_16 (C1), LookingGlass_17 (C1), LordLeafolot_20 (C1), Mangeria_17 (C1), MoMoMixon_16 (C1), Nappy_16 (C1), Naval22_16 (C1), Nidhogg_16 (C1), PharkleMinkus_20 (C1), Pio_17 (C1), Pupusa_20 (C1), QBert_13 (C1), Sauce_16 (C1), Shelob_14 (C1), Specks_18 (C1), Spud_17 (C1), Stubby_11 (C1), Tainan_20 (C1), Tonenili_16 (C1), Tyke_16 (C1), Vortrix_17 (C1),

Summary by clusters:

There are 2 clusters represented in this pham: C1, J,

Info for manual annotations of cluster C1:
•Start number 8 was manually annotated 6 times for cluster C1.

•Start number 9 was manually annotated 28 times for cluster C1.

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

Gene Information:

Gene: Ariel_140 Start: 72314, Stop: 72649, Start Num: 5
Candidate Starts for Ariel_140:
(Start: 5 @72314 has 1 MA's), (Start: 6 @72320 has 6 MA's), (7, 72341), (10, 72356), (12, 72410), (13, 72452), (14, 72467), (16, 72500), (19, 72593), (20, 72629),

Gene: BigCity_19 Start: 6828, Stop: 7148, Start Num: 9
Candidate Starts for BigCity_19:
(4, 6744), (Start: 8 @6825 has 6 MA's), (Start: 9 @6828 has 28 MA's), (11, 6894), (13, 6939), (14, 6954), (15, 6957), (18, 7038), (21, 7119), (22, 7140),

Gene: Bigswole_19 Start: 6258, Stop: 6578, Start Num: 9
Candidate Starts for Bigswole_19:
(4, 6174), (Start: 8 @6255 has 6 MA's), (Start: 9 @6258 has 28 MA's), (11, 6324), (13, 6369), (14, 6384), (15, 6387), (18, 6468), (21, 6549), (22, 6570),

Gene: Blubba_12 Start: 4998, Stop: 5318, Start Num: 9
Candidate Starts for Blubba_12:
(3, 4809), (Start: 9 @4998 has 28 MA's), (11, 5064), (13, 5109), (14, 5124), (15, 5127), (18, 5208), (21, 5289), (22, 5310),

Gene: BronnyJames_137 Start: 73588, Stop: 73917, Start Num: 6
Candidate Starts for BronnyJames_137:
(Start: 5 @73582 has 1 MA's), (Start: 6 @73588 has 6 MA's), (7, 73609), (10, 73624), (12, 73678), (13, 73720), (14, 73735), (16, 73768), (19, 73861), (20, 73897),

Gene: Bxz1_16 Start: 5407, Stop: 5727, Start Num: 9
Candidate Starts for Bxz1_16:
(3, 5218), (Start: 9 @5407 has 28 MA's), (11, 5473), (13, 5518), (14, 5533), (15, 5536), (18, 5617), (21, 5698), (22, 5719),

Gene: Cane17_12 Start: 4998, Stop: 5318, Start Num: 9
Candidate Starts for Cane17_12:
(3, 4809), (Start: 9 @4998 has 28 MA's), (11, 5064), (13, 5109), (14, 5124), (15, 5127), (18, 5208), (21, 5289), (22, 5310),

Gene: Caravan_13 Start: 4155, Stop: 4475, Start Num: 9
Candidate Starts for Caravan_13:
(3, 3966), (Start: 9 @4155 has 28 MA's), (11, 4221), (13, 4266), (14, 4281), (15, 4284), (18, 4365), (21, 4446), (22, 4467),

Gene: Colt_12 Start: 5004, Stop: 5324, Start Num: 9
Candidate Starts for Colt_12:

(3, 4815), (Start: 9 @5004 has 28 MA's), (11, 5070), (13, 5115), (14, 5130), (15, 5133), (18, 5214), (21, 5295), (22, 5316),

Gene: Courthouse_136 Start: 72178, Stop: 72507, Start Num: 6
Candidate Starts for Courthouse_136:
(Start: 5 @72172 has 1 MA's), (Start: 6 @72178 has 6 MA's), (7, 72199), (10, 72214), (12, 72268), (13, 72310), (14, 72325), (16, 72358), (19, 72451), (20, 72487),

Gene: DTDevon_15 Start: 5028, Stop: 5348, Start Num: 9
Candidate Starts for DTDevon_15:
(1, 4557), (3, 4779), (Start: 9 @5028 has 28 MA's), (11, 5094), (14, 5154), (15, 5157), (18, 5238), (21, 5319), (22, 5340),

Gene: Dandelion_19 Start: 6466, Stop: 6786, Start Num: 9
Candidate Starts for Dandelion_19:
(4, 6382), (Start: 8 @6463 has 6 MA's), (Start: 9 @6466 has 28 MA's), (11, 6532), (13, 6577), (14, 6592), (15, 6595), (18, 6676), (21, 6757), (22, 6778),

Gene: Delylah_13 Start: 4155, Stop: 4475, Start Num: 9
Candidate Starts for Delylah_13:
(3, 3966), (Start: 9 @4155 has 28 MA's), (11, 4221), (13, 4266), (14, 4281), (15, 4284), (18, 4365), (21, 4446), (22, 4467),

Gene: EggyFarm_19 Start: 6828, Stop: 7148, Start Num: 9
Candidate Starts for EggyFarm_19:
(4, 6744), (Start: 8 @6825 has 6 MA's), (Start: 9 @6828 has 28 MA's), (11, 6894), (13, 6939), (14, 6954), (15, 6957), (18, 7038), (21, 7119), (22, 7140),

Gene: EmToTheThree_14 Start: 5539, Stop: 5862, Start Num: 8
Candidate Starts for EmToTheThree_14:
(4, 5458), (Start: 8 @5539 has 6 MA's), (Start: 9 @5542 has 28 MA's), (11, 5608), (13, 5653), (14, 5668), (15, 5671), (18, 5752), (21, 5833), (22, 5854),

Gene: ErnieJ_13 Start: 4219, Stop: 4539, Start Num: 9
Candidate Starts for ErnieJ_13:
(3, 4030), (Start: 9 @4219 has 28 MA's), (11, 4285), (13, 4330), (14, 4345), (15, 4348), (18, 4429), (21, 4510), (22, 4531),

Gene: FrayBell_20 Start: 6515, Stop: 6835, Start Num: 9
Candidate Starts for FrayBell_20:
(4, 6431), (Start: 8 @6512 has 6 MA's), (Start: 9 @6515 has 28 MA's), (11, 6581), (13, 6626), (14, 6641), (15, 6644), (18, 6725), (21, 6806), (22, 6827),

Gene: Gonephishing_134 Start: 72306, Stop: 72635, Start Num: 6
Candidate Starts for Gonephishing_134:
(Start: 5 @72300 has 1 MA's), (Start: 6 @72306 has 6 MA's), (7, 72327), (10, 72342), (12, 72396), (13, 72438), (14, 72453), (16, 72486), (20, 72615),

Gene: Grasshills_19 Start: 6825, Stop: 7148, Start Num: 8
Candidate Starts for Grasshills_19:
(4, 6744), (Start: 8 @6825 has 6 MA's), (Start: 9 @6828 has 28 MA's), (11, 6894), (13, 6939), (14, 6954), (15, 6957), (18, 7038), (21, 7119), (22, 7140),

Gene: Hannaconda_133 Start: 72520, Stop: 72849, Start Num: 6
Candidate Starts for Hannaconda_133:
(Start: 5 @72514 has 1 MA's), (Start: 6 @72520 has 6 MA's), (7, 72541), (10, 72556), (12, 72610), (13, 72652), (14, 72667), (16, 72700), (20, 72829),

Gene: InterFolia_20 Start: 6509, Stop: 6832, Start Num: 8
Candidate Starts for InterFolia_20:
(4, 6428), (Start: 8 @6509 has 6 MA's), (Start: 9 @6512 has 28 MA's), (11, 6578), (13, 6623), (14, 6638), (15, 6641), (18, 6722), (21, 6803), (22, 6824),

Gene: Iota_12 Start: 4943, Stop: 5263, Start Num: 9
Candidate Starts for Iota_12:
(3, 4754), (Start: 9 @4943 has 28 MA's), (11, 5009), (13, 5054), (14, 5069), (15, 5072), (18, 5153), (21, 5234), (22, 5255),

Gene: JayJay_17 Start: 5183, Stop: 5503, Start Num: 9
Candidate Starts for JayJay_17:
(4, 5099), (Start: 8 @5180 has 6 MA's), (Start: 9 @5183 has 28 MA's), (11, 5249), (13, 5294), (14, 5309), (15, 5312), (18, 5393), (21, 5474), (22, 5495),

Gene: JigglyPuff_15 Start: 5028, Stop: 5348, Start Num: 9
Candidate Starts for JigglyPuff_15:
(4, 4944), (Start: 8 @5025 has 6 MA's), (Start: 9 @5028 has 28 MA's), (11, 5094), (13, 5139), (14, 5154), (15, 5157), (18, 5238), (21, 5319), (22, 5340),

Gene: KashFlow_138 Start: 74098, Stop: 74427, Start Num: 6
Candidate Starts for KashFlow_138:
(Start: 5 @74092 has 1 MA's), (Start: 6 @74098 has 6 MA's), (7, 74119), (10, 74134), (12, 74188), (13, 74230), (14, 74245), (16, 74278), (20, 74407),

Gene: Lethe_16 Start: 5303, Stop: 5623, Start Num: 9
Candidate Starts for Lethe_16:
(3, 5114), (Start: 9 @5303 has 28 MA's), (11, 5369), (13, 5414), (14, 5429), (15, 5432), (18, 5513), (21, 5594), (22, 5615),

Gene: LinStu_17 Start: 5951, Stop: 6274, Start Num: 8
Candidate Starts for LinStu_17:
(4, 5870), (Start: 8 @5951 has 6 MA's), (Start: 9 @5954 has 28 MA's), (11, 6020), (13, 6065), (14, 6080), (15, 6083), (18, 6164), (21, 6245), (22, 6266),

Gene: LittleE_143 Start: 75162, Stop: 75491, Start Num: 6
Candidate Starts for LittleE_143:
(Start: 5 @75156 has 1 MA's), (Start: 6 @75162 has 6 MA's), (7, 75183), (10, 75198), (12, 75252), (13, 75294), (14, 75309), (16, 75342), (19, 75435), (20, 75471),

Gene: LolaVinca_17 Start: 5615, Stop: 5938, Start Num: 8
Candidate Starts for LolaVinca_17:
(4, 5534), (Start: 8 @5615 has 6 MA's), (Start: 9 @5618 has 28 MA's), (11, 5684), (13, 5729), (14, 5744), (15, 5747), (18, 5828), (21, 5909), (22, 5930),

Gene: LookingGlass_17 Start: 5493, Stop: 5813, Start Num: 9
Candidate Starts for LookingGlass_17:

(4, 5409), (Start: 8 @5490 has 6 MA's), (Start: 9 @5493 has 28 MA's), (11, 5559), (13, 5604), (14, 5619), (15, 5622), (18, 5703), (21, 5784), (22, 5805),

Gene: LordLeafolot_20 Start: 6514, Stop: 6834, Start Num: 9
Candidate Starts for LordLeafolot_20:
(4, 6430), (Start: 8 @6511 has 6 MA's), (Start: 9 @6514 has 28 MA's), (11, 6580), (13, 6625), (14, 6640), (15, 6643), (18, 6724), (21, 6805), (22, 6826),

Gene: Mangeria_17 Start: 5794, Stop: 6114, Start Num: 9
Candidate Starts for Mangeria_17:
(3, 5605), (Start: 9 @5794 has 28 MA's), (11, 5860), (13, 5905), (14, 5920), (15, 5923), (18, 6004), (21, 6085), (22, 6106),

Gene: MoMoMixon_16 Start: 5636, Stop: 5956, Start Num: 9
Candidate Starts for MoMoMixon_16:
(3, 5447), (Start: 9 @5636 has 28 MA's), (11, 5702), (13, 5747), (14, 5762), (15, 5765), (18, 5846), (21, 5927), (22, 5948),

Gene: Nappy_16 Start: 5341, Stop: 5661, Start Num: 9
Candidate Starts for Nappy_16:
(4, 5257), (Start: 8 @5338 has 6 MA's), (Start: 9 @5341 has 28 MA's), (11, 5407), (13, 5452), (14, 5467), (15, 5470), (18, 5551), (21, 5632), (22, 5653),

Gene: Naval22_16 Start: 5636, Stop: 5956, Start Num: 9
Candidate Starts for Naval22_16:
(3, 5447), (Start: 9 @5636 has 28 MA's), (11, 5702), (13, 5747), (14, 5762), (15, 5765), (18, 5846), (21, 5927), (22, 5948),

Gene: Nibley_136 Start: 73165, Stop: 73494, Start Num: 6
Candidate Starts for Nibley_136:
(Start: 5 @73159 has 1 MA's), (Start: 6 @73165 has 6 MA's), (7, 73186), (10, 73201), (12, 73255), (13, 73297), (14, 73312), (16, 73345), (19, 73438), (20, 73474),

Gene: Nidhogg_16 Start: 5636, Stop: 5956, Start Num: 9
Candidate Starts for Nidhogg_16:
(3, 5447), (Start: 9 @5636 has 28 MA's), (11, 5702), (13, 5747), (14, 5762), (15, 5765), (18, 5846), (21, 5927), (22, 5948),

Gene: NuevoMundo_18 Start: 6296, Stop: 6619, Start Num: 8
Candidate Starts for NuevoMundo_18:
(4, 6215), (Start: 8 @6296 has 6 MA's), (Start: 9 @6299 has 28 MA's), (11, 6365), (13, 6410), (14, 6425), (15, 6428), (18, 6509), (21, 6590), (22, 6611),

Gene: Omega_148 Start: 76647, Stop: 76976, Start Num: 6
Candidate Starts for Omega_148:
(Start: 5 @76641 has 1 MA's), (Start: 6 @76647 has 6 MA's), (7, 76668), (10, 76683), (12, 76737), (13, 76779), (14, 76794), (16, 76827), (20, 76956),

Gene: PharkleMinkus_20 Start: 6515, Stop: 6835, Start Num: 9
Candidate Starts for PharkleMinkus_20:
(4, 6431), (Start: 8 @6512 has 6 MA's), (Start: 9 @6515 has 28 MA's), (11, 6581), (13, 6626), (14, 6641), (15, 6644), (18, 6725), (21, 6806), (22, 6827),

Gene: Pio_17 Start: 5796, Stop: 6116, Start Num: 9
Candidate Starts for Pio_17:
(3, 5607), (Start: 9 @5796 has 28 MA's), (11, 5862), (13, 5907), (14, 5922), (15, 5925), (18, 6006), (21, 6087), (22, 6108),

Gene: Pupusa_20 Start: 6514, Stop: 6834, Start Num: 9
Candidate Starts for Pupusa_20:
(4, 6430), (Start: 8 @6511 has 6 MA's), (Start: 9 @6514 has 28 MA's), (11, 6580), (13, 6625), (14, 6640), (15, 6643), (18, 6724), (21, 6805), (22, 6826),

Gene: QBert_13 Start: 5382, Stop: 5702, Start Num: 9
Candidate Starts for QBert_13:
(4, 5298), (Start: 8 @5379 has 6 MA's), (Start: 9 @5382 has 28 MA's), (11, 5448), (13, 5493), (14, 5508), (15, 5511), (18, 5592), (21, 5673), (22, 5694),

Gene: Rearden_138 Start: 73864, Stop: 74193, Start Num: 6
Candidate Starts for Rearden_138:
(Start: 5 @73858 has 1 MA's), (Start: 6 @73864 has 6 MA's), (7, 73885), (10, 73900), (12, 73954), (13, 73996), (14, 74011), (16, 74044), (20, 74173),

Gene: Sauce_16 Start: 5342, Stop: 5662, Start Num: 9
Candidate Starts for Sauce_16:
(1, 4931), (3, 5153), (Start: 9 @5342 has 28 MA's), (11, 5408), (13, 5453), (14, 5468), (15, 5471), (18, 5552), (21, 5633), (22, 5654),

Gene: Sebata_17 Start: 5951, Stop: 6274, Start Num: 8
Candidate Starts for Sebata_17:
(4, 5870), (Start: 8 @5951 has 6 MA's), (Start: 9 @5954 has 28 MA's), (11, 6020), (13, 6065), (14, 6080), (15, 6083), (18, 6164), (21, 6245), (22, 6266),

Gene: Shaboozey_140 Start: 73609, Stop: 73938, Start Num: 6
Candidate Starts for Shaboozey_140:
(Start: 5 @73603 has 1 MA's), (Start: 6 @73609 has 6 MA's), (7, 73630), (10, 73645), (12, 73699), (13, 73741), (14, 73756), (16, 73789), (19, 73882), (20, 73918),

Gene: Shelob_14 Start: 5302, Stop: 5622, Start Num: 9
Candidate Starts for Shelob_14:
(3, 5113), (Start: 9 @5302 has 28 MA's), (11, 5368), (13, 5413), (14, 5428), (15, 5431), (18, 5512), (21, 5593), (22, 5614),

Gene: Specks_18 Start: 5695, Stop: 6015, Start Num: 9
Candidate Starts for Specks_18:
(4, 5611), (Start: 8 @5692 has 6 MA's), (Start: 9 @5695 has 28 MA's), (11, 5761), (13, 5806), (14, 5821), (15, 5824), (18, 5905), (21, 5986), (22, 6007),

Gene: Spud_17 Start: 5796, Stop: 6116, Start Num: 9
Candidate Starts for Spud_17:
(3, 5607), (Start: 9 @5796 has 28 MA's), (11, 5862), (13, 5907), (14, 5922), (15, 5925), (18, 6006), (21, 6087), (22, 6108),

Gene: Stubby_11 Start: 4534, Stop: 4854, Start Num: 9
Candidate Starts for Stubby_11:

(1, 4123), (3, 4345), (Start: 9 @4534 has 28 MA's), (11, 4600), (13, 4645), (14, 4660), (15, 4663), (18, 4744), (21, 4825), (22, 4846),

Gene: Superphikiman_138 Start: 72460, Stop: 72789, Start Num: 6
Candidate Starts for Superphikiman_138:
(Start: 5 @72454 has 1 MA's), (Start: 6 @72460 has 6 MA's), (7, 72481), (10, 72496), (12, 72550), (13, 72592), (14, 72607), (16, 72640), (19, 72733), (20, 72769),

Gene: Tainan_20 Start: 6514, Stop: 6834, Start Num: 9
Candidate Starts for Tainan_20:
(4, 6430), (Start: 8 @6511 has 6 MA's), (Start: 9 @6514 has 28 MA's), (11, 6580), (13, 6625), (14, 6640), (15, 6643), (18, 6724), (21, 6805), (22, 6826),

Gene: Tonenili_16 Start: 4962, Stop: 5282, Start Num: 9
Candidate Starts for Tonenili_16:
(2, 4599), (Start: 9 @4962 has 28 MA's), (11, 5028), (13, 5073), (14, 5088), (15, 5091), (17, 5145), (18, 5172), (21, 5253), (22, 5274),

Gene: Tyke_16 Start: 5272, Stop: 5592, Start Num: 9
Candidate Starts for Tyke_16:
(3, 5083), (Start: 9 @5272 has 28 MA's), (11, 5338), (13, 5383), (14, 5398), (15, 5401), (18, 5482), (21, 5563), (22, 5584),

Gene: Vortrix_17 Start: 5232, Stop: 5552, Start Num: 9
Candidate Starts for Vortrix_17:
(4, 5148), (Start: 8 @5229 has 6 MA's), (Start: 9 @5232 has 28 MA's), (11, 5298), (13, 5343), (14, 5358), (15, 5361), (17, 5415), (18, 5442), (21, 5523), (22, 5544),