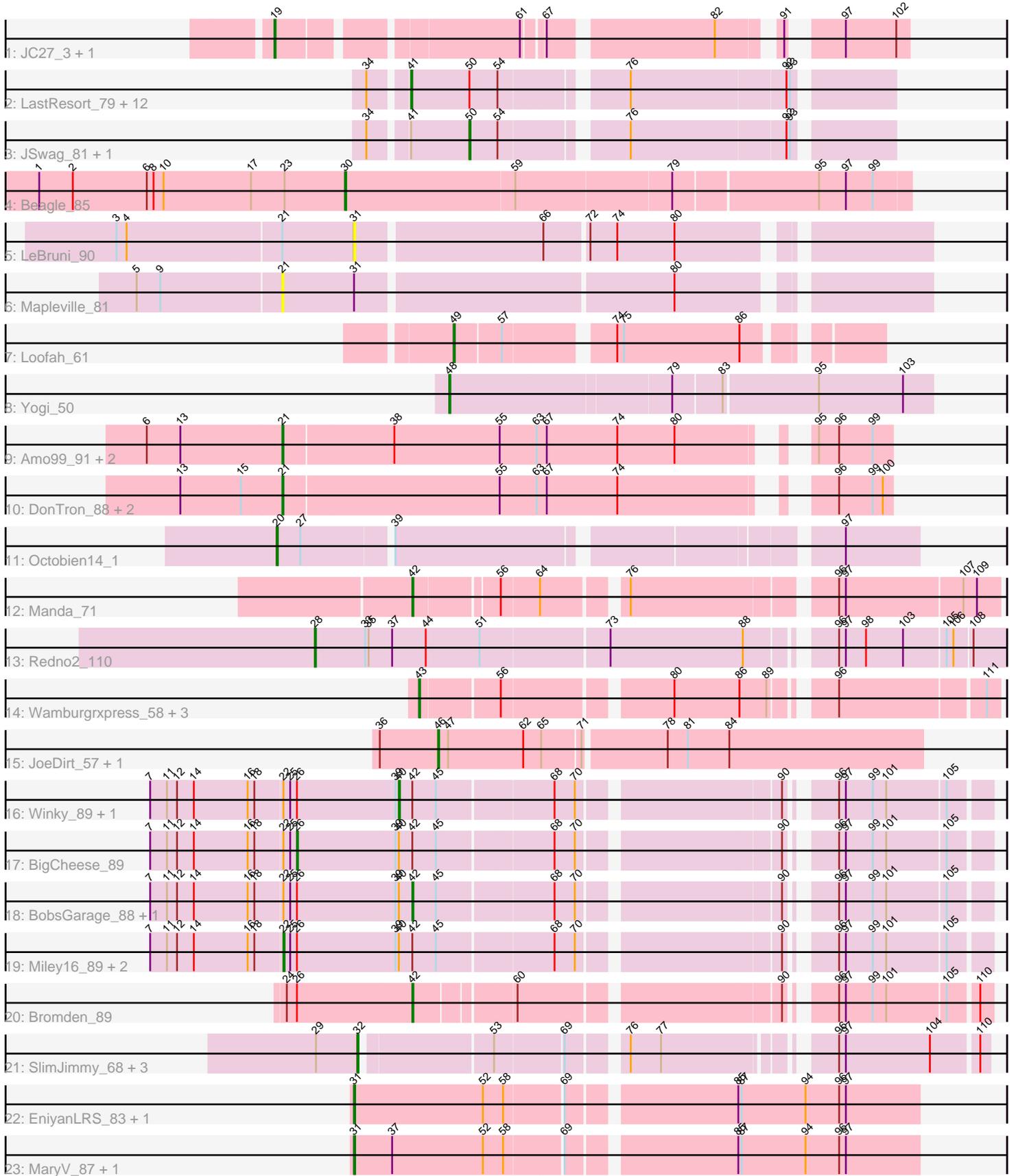# Pham 283875

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 283875 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283875 has 54 members, 6 are drafts.

Phages represented in each track:
• Track 1 : JC27_3, Peterson_2
• Track 2 : LastResort_79, Boohoo_81, KatherineG_81, Looper_80, Nebulosus_78, Switzerland_80, ShayRa_81, Rosalind_79, Battleship_83, Epsocamisio_78, ReMo_79, Anaysia_81, DekHockey33_82
• Track 3 : JSwag_81, MinecraftSteve_81
• Track 4 : Beagle_85
• Track 5 : LeBruni_90
• Track 6 : Mapleville_81
• Track 7 : Loofah_61
• Track 8 : Yogi_50
• Track 9 : Amo99_91, Jollymon_88, ColdSoup_91
• Track 10 : DonTron_88, Soos_84, Sting_87
• Track 11 : Octobien14_1
• Track 12 : Manda_71
• Track 13 : Redno2_110
• Track 14 : Wamburgrxpress_58, Calm_59, Zaria_59, OhShagHennessy_56
• Track 15 : JoeDirt_57, UPIE_58
• Track 16 : Winky_89, Sarshaun_90
• Track 17 : BigCheese_89
• Track 18 : BobsGarage_88, Soap141_89
• Track 19 : Miley16_89, Breezona_89, DrSeegs_88
• Track 20 : Bromden_89
• Track 21 : SlimJimmy_68, Glaske16_70, FreakyGoo_70, Skinny_71
• Track 22 : EniyanLRS_83, Cosmo_87
• Track 23 : MaryV_87, Wildcat_87

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

The start number called the most often in the published annotations is 41, it was called in 13 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Anaysia_81, Battleship_83, Boohoo_81, DekHockey33_82, Epsocamisio_78, KatherineG_81, LastResort_79, Looper_80, Nebulosus_78, ReMo_79, Rosalind_79,

ShayRa_81, Switzerland_80,

Genes that have the "Most Annotated" start but do not call it:
• JSwag_81, MinecraftSteve_81,

Genes that do not have the "Most Annotated" start:
• Amo99_91, Beagle_85, BigCheese_89, BobsGarage_88, Breezona_89, Bromden_89, Calm_59, ColdSoup_91, Cosmo_87, DonTron_88, DrSeegs_88, EniyanLRS_83, FreakyGoo_70, Glaske16_70, JC27_3, JoeDirt_57, Jollymon_88, LeBruni_90, Loofah_61, Manda_71, Mapleville_81, MaryV_87, Miley16_89, Octobien14_1, OhShagHennessy_56, Peterson_2, Redno2_110, Sarshaun_90, Skinny_71, SlimJimmy_68, Soap141_89, Soos_84, Sting_87, UPIE_58, Wamburgrxpress_58, Wildcat_87, Winky_89, Yogi_50, Zaria_59,

Summary by start number:

Start 19:
• Found in 2 of 54 (3.7%) of genes in pham
• Manual Annotations of this start: 2 of 48
• Called 100.0% of time when present
• Phage (with cluster) where this start called: JC27_3 (A1), Peterson_2 (A1),

Start 20:
• Found in 1 of 54 (1.9%) of genes in pham
• Manual Annotations of this start: 1 of 48
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Octobien14_1 (DU1),

Start 21:
• Found in 8 of 54 (14.8%) of genes in pham
• Manual Annotations of this start: 4 of 48
• Called 87.5% of time when present
• Phage (with cluster) where this start called: Amo99_91 (CP), ColdSoup_91 (CP), DonTron_88 (CP), Jollymon_88 (CP), Mapleville_81 (AY), Soos_84 (CP), Sting_87 (CP),

Start 22:
• Found in 8 of 54 (14.8%) of genes in pham
• Manual Annotations of this start: 3 of 48
• Called 37.5% of time when present
• Phage (with cluster) where this start called: Breezona_89 (L2), DrSeegs_88 (L2), Miley16_89 (L2),

Start 26:
• Found in 9 of 54 (16.7%) of genes in pham
• Manual Annotations of this start: 1 of 48
• Called 11.1% of time when present
• Phage (with cluster) where this start called: BigCheese_89 (L2),

Start 28:
• Found in 1 of 54 (1.9%) of genes in pham
• Manual Annotations of this start: 1 of 48
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Redno2_110 (J),

Start 30:
• Found in 1 of 54 (1.9%) of genes in pham
• Manual Annotations of this start: 1 of 48
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Beagle_85 (AP2),

Start 31:
• Found in 6 of 54 (11.1%) of genes in pham
• Manual Annotations of this start: 4 of 48
• Called 83.3% of time when present
• Phage (with cluster) where this start called: Cosmo_87 (V), EniyanLRS_83 (V), LeBruni_90 (AY), MaryV_87 (V), Wildcat_87 (V),

Start 32:
• Found in 4 of 54 (7.4%) of genes in pham
• Manual Annotations of this start: 4 of 48
• Called 100.0% of time when present
• Phage (with cluster) where this start called: FreakyGoo_70 (M1), Glaske16_70 (M1), Skinny_71 (M1), SlimJimmy_68 (M1),

Start 40:
• Found in 8 of 54 (14.8%) of genes in pham
• Manual Annotations of this start: 1 of 48
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Sarshaun_90 (L2), Winky_89 (L2),

Start 41:
• Found in 15 of 54 (27.8%) of genes in pham
• Manual Annotations of this start: 13 of 48
• Called 86.7% of time when present
• Phage (with cluster) where this start called: Anaysia_81 (A15), Battleship_83 (A15), Boohoo_81 (A15), DekHockey33_82 (A15), Epsocamisio_78 (A15), KatherineG_81 (A15), LastResort_79 (A15), Looper_80 (A15), Nebulosus_78 (A15), ReMo_79 (A15), Rosalind_79 (A15), ShayRa_81 (A15), Switzerland_80 (A15),

Start 42:
• Found in 10 of 54 (18.5%) of genes in pham
• Manual Annotations of this start: 3 of 48
• Called 40.0% of time when present
• Phage (with cluster) where this start called: BobsGarage_88 (L2), Bromden_89 (L4), Manda_71 (E), Soap141_89 (L2),

Start 43:
• Found in 4 of 54 (7.4%) of genes in pham
• Manual Annotations of this start: 4 of 48
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Calm_59 (L1), OhShagHennessy_56 (L1), Wamburgrxpress_58 (L1), Zaria_59 (L1),

Start 46:
• Found in 2 of 54 (3.7%) of genes in pham

- Manual Annotations of this start: 2 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JoeDirt_57 (L1), UPIE_58 (L1),

Start 48:
- Found in 1 of 54 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yogi_50 (CA),

Start 49:
- Found in 1 of 54 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Loofah_61 (BD2),

Start 50:
- Found in 15 of 54 (27.8%) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 13.3% of time when present
- Phage (with cluster) where this start called: JSwag_81 (A15), MinecraftSteve_81 (A15),

Summary by clusters:

There are 15 clusters represented in this pham: A15, J, E, AP2, CA, V, BD2, A1, L4, L2, L1, AY, M1, DU1, CP,

Info for manual annotations of cluster A1:
•Start number 19 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster A15:
•Start number 41 was manually annotated 13 times for cluster A15.
•Start number 50 was manually annotated 2 times for cluster A15.

Info for manual annotations of cluster AP2:
•Start number 30 was manually annotated 1 time for cluster AP2.

Info for manual annotations of cluster BD2:
•Start number 49 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster CA:
•Start number 48 was manually annotated 1 time for cluster CA.

Info for manual annotations of cluster CP:
•Start number 21 was manually annotated 4 times for cluster CP.

Info for manual annotations of cluster DU1:
•Start number 20 was manually annotated 1 time for cluster DU1.

Info for manual annotations of cluster E:
•Start number 42 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster J:
•Start number 28 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster L1:
•Start number 43 was manually annotated 4 times for cluster L1.
•Start number 46 was manually annotated 2 times for cluster L1.

Info for manual annotations of cluster L2:
•Start number 22 was manually annotated 3 times for cluster L2.
•Start number 26 was manually annotated 1 time for cluster L2.
•Start number 40 was manually annotated 1 time for cluster L2.
•Start number 42 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L4:
•Start number 42 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster M1:
•Start number 32 was manually annotated 4 times for cluster M1.

Info for manual annotations of cluster V:
•Start number 31 was manually annotated 4 times for cluster V.

Gene Information:

Gene: Amo99_91 Start: 56649, Stop: 57140, Start Num: 21
Candidate Starts for Amo99_91:
(6, 56529), (13, 56559), (Start: 21 @56649 has 4 MA's), (38, 56745), (55, 56838), (63, 56871), (67, 56880), (74, 56943), (80, 56994), (95, 57075), (96, 57093), (99, 57123),

Gene: Anaysia_81 Start: 44115, Stop: 43726, Start Num: 41
Candidate Starts for Anaysia_81:
(34, 44145), (Start: 41 @44115 has 13 MA's), (Start: 50 @44064 has 2 MA's), (54, 44040), (76, 43944), (92, 43809), (93, 43806),

Gene: Battleship_83 Start: 43988, Stop: 43599, Start Num: 41
Candidate Starts for Battleship_83:
(34, 44018), (Start: 41 @43988 has 13 MA's), (Start: 50 @43937 has 2 MA's), (54, 43913), (76, 43817), (92, 43682), (93, 43679),

Gene: Beagle_85 Start: 50263, Stop: 49775, Start Num: 30
Candidate Starts for Beagle_85:
(1, 50536), (2, 50506), (6, 50440), (8, 50434), (10, 50425), (17, 50347), (23, 50317), (Start: 30 @50263 has 1 MA's), (59, 50113), (79, 49978), (95, 49855), (97, 49831), (99, 49807),

Gene: BigCheese_89 Start: 57485, Stop: 58045, Start Num: 26
Candidate Starts for BigCheese_89:
(7, 57356), (11, 57371), (12, 57380), (14, 57395), (16, 57443), (18, 57449), (Start: 22 @57473 has 3 MA's), (25, 57479), (Start: 26 @57485 has 1 MA's), (39, 57572), (Start: 40 @57575 has 1 MA's), (Start: 42 @57587 has 3 MA's), (45, 57608), (68, 57707), (70, 57725), (90, 57887), (96, 57917), (97, 57923), (99, 57947), (101, 57959), (105, 58010),

Gene: BobsGarage_88 Start: 57587, Stop: 58045, Start Num: 42
Candidate Starts for BobsGarage_88:
(7, 57356), (11, 57371), (12, 57380), (14, 57395), (16, 57443), (18, 57449), (Start: 22 @57473 has 3 MA's), (25, 57479), (Start: 26 @57485 has 1 MA's), (39, 57572), (Start: 40 @57575 has 1 MA's), (Start: 42 @57587 has 3 MA's), (45, 57608), (68, 57707), (70, 57725), (90, 57887), (96, 57917), (97, 57923), (99, 57947), (101, 57959), (105, 58010),

Gene: Boohoo_81 Start: 44115, Stop: 43726, Start Num: 41
Candidate Starts for Boohoo_81:
(34, 44145), (Start: 41 @44115 has 13 MA's), (Start: 50 @44064 has 2 MA's), (54, 44040), (76, 43944), (92, 43809), (93, 43806),

Gene: Breezona_89 Start: 57473, Stop: 58045, Start Num: 22
Candidate Starts for Breezona_89:
(7, 57356), (11, 57371), (12, 57380), (14, 57395), (16, 57443), (18, 57449), (Start: 22 @57473 has 3 MA's), (25, 57479), (Start: 26 @57485 has 1 MA's), (39, 57572), (Start: 40 @57575 has 1 MA's), (Start: 42 @57587 has 3 MA's), (45, 57608), (68, 57707), (70, 57725), (90, 57887), (96, 57917), (97, 57923), (99, 57947), (101, 57959), (105, 58010),

Gene: Bromden_89 Start: 57826, Stop: 58278, Start Num: 42
Candidate Starts for Bromden_89:
(24, 57715), (Start: 26 @57724 has 1 MA's), (Start: 42 @57826 has 3 MA's), (60, 57907), (90, 58120), (96, 58150), (97, 58156), (99, 58180), (101, 58192), (105, 58243), (110, 58267),

Gene: Calm_59 Start: 41416, Stop: 41874, Start Num: 43
Candidate Starts for Calm_59:
(Start: 43 @41416 has 4 MA's), (56, 41482), (80, 41617), (86, 41674), (89, 41698), (96, 41740), (111, 41863),

Gene: ColdSoup_91 Start: 56730, Stop: 57221, Start Num: 21
Candidate Starts for ColdSoup_91:
(6, 56610), (13, 56640), (Start: 21 @56730 has 4 MA's), (38, 56826), (55, 56919), (63, 56952), (67, 56961), (74, 57024), (80, 57075), (95, 57156), (96, 57174), (99, 57204),

Gene: Cosmo_87 Start: 53401, Stop: 53880, Start Num: 31
Candidate Starts for Cosmo_87:
(Start: 31 @53401 has 4 MA's), (52, 53515), (58, 53533), (69, 53581), (85, 53719), (87, 53722), (94, 53779), (96, 53809), (97, 53815),

Gene: DekHockey33_82 Start: 44073, Stop: 43684, Start Num: 41
Candidate Starts for DekHockey33_82:
(34, 44103), (Start: 41 @44073 has 13 MA's), (Start: 50 @44022 has 2 MA's), (54, 43998), (76, 43902), (92, 43767), (93, 43764),

Gene: DonTron_88 Start: 56608, Stop: 57099, Start Num: 21
Candidate Starts for DonTron_88:
(13, 56518), (15, 56572), (Start: 21 @56608 has 4 MA's), (55, 56797), (63, 56830), (67, 56839), (74, 56902), (96, 57052), (99, 57082), (100, 57091),

Gene: DrSeegs_88 Start: 57473, Stop: 58045, Start Num: 22
Candidate Starts for DrSeegs_88:

(7, 57356), (11, 57371), (12, 57380), (14, 57395), (16, 57443), (18, 57449), (Start: 22 @57473 has 3 MA's), (25, 57479), (Start: 26 @57485 has 1 MA's), (39, 57572), (Start: 40 @57575 has 1 MA's), (Start: 42 @57587 has 3 MA's), (45, 57608), (68, 57707), (70, 57725), (90, 57887), (96, 57917), (97, 57923), (99, 57947), (101, 57959), (105, 58010),

Gene: EniyanLRS_83 Start: 53140, Stop: 53619, Start Num: 31
Candidate Starts for EniyanLRS_83:
(Start: 31 @53140 has 4 MA's), (52, 53254), (58, 53272), (69, 53320), (85, 53458), (87, 53461), (94, 53518), (96, 53548), (97, 53554),

Gene: Epsocamisio_78 Start: 43363, Stop: 42974, Start Num: 41
Candidate Starts for Epsocamisio_78:
(34, 43393), (Start: 41 @43363 has 13 MA's), (Start: 50 @43312 has 2 MA's), (54, 43288), (76, 43192), (92, 43057), (93, 43054),

Gene: FreakyGoo_70 Start: 44854, Stop: 45342, Start Num: 32
Candidate Starts for FreakyGoo_70:
(29, 44818), (Start: 32 @44854 has 4 MA's), (53, 44962), (69, 45019), (76, 45061), (77, 45088), (96, 45214), (97, 45220), (104, 45295), (110, 45334),

Gene: Glaske16_70 Start: 44853, Stop: 45341, Start Num: 32
Candidate Starts for Glaske16_70:
(29, 44817), (Start: 32 @44853 has 4 MA's), (53, 44961), (69, 45018), (76, 45060), (77, 45087), (96, 45213), (97, 45219), (104, 45294), (110, 45333),

Gene: JC27_3 Start: 1139, Stop: 1612, Start Num: 19
Candidate Starts for JC27_3:
(Start: 19 @1139 has 2 MA's), (61, 1331), (67, 1346), (82, 1481), (91, 1523), (97, 1556), (102, 1601),

Gene: JSwag_81 Start: 43597, Stop: 43259, Start Num: 50
Candidate Starts for JSwag_81:
(34, 43678), (Start: 41 @43648 has 13 MA's), (Start: 50 @43597 has 2 MA's), (54, 43573), (76, 43477), (92, 43342), (93, 43339),

Gene: JoeDirt_57 Start: 41326, Stop: 41742, Start Num: 46
Candidate Starts for JoeDirt_57:
(36, 41275), (Start: 46 @41326 has 2 MA's), (47, 41335), (62, 41401), (65, 41416), (71, 41449), (78, 41518), (81, 41536), (84, 41572),

Gene: Jollymon_88 Start: 56730, Stop: 57221, Start Num: 21
Candidate Starts for Jollymon_88:
(6, 56610), (13, 56640), (Start: 21 @56730 has 4 MA's), (38, 56826), (55, 56919), (63, 56952), (67, 56961), (74, 57024), (80, 57075), (95, 57156), (96, 57174), (99, 57204),

Gene: KatherineG_81 Start: 43960, Stop: 43571, Start Num: 41
Candidate Starts for KatherineG_81:
(34, 43990), (Start: 41 @43960 has 13 MA's), (Start: 50 @43909 has 2 MA's), (54, 43885), (76, 43789), (92, 43654), (93, 43651),

Gene: LastResort_79 Start: 43891, Stop: 43502, Start Num: 41
Candidate Starts for LastResort_79:
(34, 43921), (Start: 41 @43891 has 13 MA's), (Start: 50 @43840 has 2 MA's), (54, 43816), (76, 43720), (92, 43585), (93, 43582),

Gene: LeBruni_90 Start: 48947, Stop: 49414, Start Num: 31
Candidate Starts for LeBruni_90:
(3, 48740), (4, 48749), (Start: 21 @48884 has 4 MA's), (Start: 31 @48947 has 4 MA's), (66, 49106), (72, 49142), (74, 49166), (80, 49217),

Gene: Loofah_61 Start: 41684, Stop: 41352, Start Num: 49
Candidate Starts for Loofah_61:
(Start: 49 @41684 has 1 MA's), (57, 41645), (74, 41561), (75, 41555), (86, 41453),

Gene: Looper_80 Start: 43803, Stop: 43414, Start Num: 41
Candidate Starts for Looper_80:
(34, 43833), (Start: 41 @43803 has 13 MA's), (Start: 50 @43752 has 2 MA's), (54, 43728), (76, 43632), (92, 43497), (93, 43494),

Gene: Manda_71 Start: 47070, Stop: 47540, Start Num: 42
Candidate Starts for Manda_71:
(Start: 42 @47070 has 3 MA's), (56, 47139), (64, 47172), (76, 47235), (96, 47400), (97, 47406), (107, 47508), (109, 47520),

Gene: Mapleville_81 Start: 47302, Stop: 47832, Start Num: 21
Candidate Starts for Mapleville_81:
(5, 47176), (9, 47197), (Start: 21 @47302 has 4 MA's), (Start: 31 @47365 has 4 MA's), (80, 47635),

Gene: MaryV_87 Start: 53222, Stop: 53701, Start Num: 31
Candidate Starts for MaryV_87:
(Start: 31 @53222 has 4 MA's), (37, 53255), (52, 53336), (58, 53354), (69, 53402), (85, 53540), (87, 53543), (94, 53600), (96, 53630), (97, 53636),

Gene: Miley16_89 Start: 57473, Stop: 58045, Start Num: 22
Candidate Starts for Miley16_89:
(7, 57356), (11, 57371), (12, 57380), (14, 57395), (16, 57443), (18, 57449), (Start: 22 @57473 has 3 MA's), (25, 57479), (Start: 26 @57485 has 1 MA's), (39, 57572), (Start: 40 @57575 has 1 MA's), (Start: 42 @57587 has 3 MA's), (45, 57608), (68, 57707), (70, 57725), (90, 57887), (96, 57917), (97, 57923), (99, 57947), (101, 57959), (105, 58010),

Gene: MinecraftSteve_81 Start: 43733, Stop: 43395, Start Num: 50
Candidate Starts for MinecraftSteve_81:
(34, 43814), (Start: 41 @43784 has 13 MA's), (Start: 50 @43733 has 2 MA's), (54, 43709), (76, 43613), (92, 43478), (93, 43475),

Gene: Nebulosus_78 Start: 43448, Stop: 43059, Start Num: 41
Candidate Starts for Nebulosus_78:
(34, 43478), (Start: 41 @43448 has 13 MA's), (Start: 50 @43397 has 2 MA's), (54, 43373), (76, 43277), (92, 43142), (93, 43139),

Gene: Octobien14_1 Start: 652, Stop: 131, Start Num: 20
Candidate Starts for Octobien14_1:
(Start: 20 @652 has 1 MA's), (27, 631), (39, 556), (97, 196),

Gene: OhShagHennessy_56 Start: 40304, Stop: 40762, Start Num: 43
Candidate Starts for OhShagHennessy_56:

(Start: 43 @40304 has 4 MA's), (56, 40370), (80, 40505), (86, 40562), (89, 40586), (96, 40628), (111, 40751),

Gene: Peterson_2 Start: 990, Stop: 1463, Start Num: 19
Candidate Starts for Peterson_2:
(Start: 19 @990 has 2 MA's), (61, 1182), (67, 1197), (82, 1332), (91, 1374), (97, 1407), (102, 1452),

Gene: ReMo_79 Start: 43888, Stop: 43499, Start Num: 41
Candidate Starts for ReMo_79:
(34, 43918), (Start: 41 @43888 has 13 MA's), (Start: 50 @43837 has 2 MA's), (54, 43813), (76, 43717), (92, 43582), (93, 43579),

Gene: Redno2_110 Start: 62847, Stop: 63428, Start Num: 28
Candidate Starts for Redno2_110:
(Start: 28 @62847 has 1 MA's), (33, 62892), (35, 62895), (37, 62916), (44, 62946), (51, 62994), (73, 63105), (88, 63222), (96, 63285), (97, 63291), (98, 63309), (103, 63342), (105, 63378), (106, 63384), (108, 63399),

Gene: Rosalind_79 Start: 43712, Stop: 43323, Start Num: 41
Candidate Starts for Rosalind_79:
(34, 43742), (Start: 41 @43712 has 13 MA's), (Start: 50 @43661 has 2 MA's), (54, 43637), (76, 43541), (92, 43406), (93, 43403),

Gene: Sarshaun_90 Start: 57970, Stop: 58440, Start Num: 40
Candidate Starts for Sarshaun_90:
(7, 57751), (11, 57766), (12, 57775), (14, 57790), (16, 57838), (18, 57844), (Start: 22 @57868 has 3 MA's), (25, 57874), (Start: 26 @57880 has 1 MA's), (39, 57967), (Start: 40 @57970 has 1 MA's), (Start: 42 @57982 has 3 MA's), (45, 58003), (68, 58102), (70, 58120), (90, 58282), (96, 58312), (97, 58318), (99, 58342), (101, 58354), (105, 58405),

Gene: ShayRa_81 Start: 43741, Stop: 43352, Start Num: 41
Candidate Starts for ShayRa_81:
(34, 43771), (Start: 41 @43741 has 13 MA's), (Start: 50 @43690 has 2 MA's), (54, 43666), (76, 43570), (92, 43435), (93, 43432),

Gene: Skinny_71 Start: 45287, Stop: 45775, Start Num: 32
Candidate Starts for Skinny_71:
(29, 45251), (Start: 32 @45287 has 4 MA's), (53, 45395), (69, 45452), (76, 45494), (77, 45521), (96, 45647), (97, 45653), (104, 45728), (110, 45767),

Gene: SlimJimmy_68 Start: 44842, Stop: 45330, Start Num: 32
Candidate Starts for SlimJimmy_68:
(29, 44806), (Start: 32 @44842 has 4 MA's), (53, 44950), (69, 45007), (76, 45049), (77, 45076), (96, 45202), (97, 45208), (104, 45283), (110, 45322),

Gene: Soap141_89 Start: 57982, Stop: 58440, Start Num: 42
Candidate Starts for Soap141_89:
(7, 57751), (11, 57766), (12, 57775), (14, 57790), (16, 57838), (18, 57844), (Start: 22 @57868 has 3 MA's), (25, 57874), (Start: 26 @57880 has 1 MA's), (39, 57967), (Start: 40 @57970 has 1 MA's), (Start: 42 @57982 has 3 MA's), (45, 58003), (68, 58102), (70, 58120), (90, 58282), (96, 58312), (97, 58318), (99, 58342), (101, 58354), (105, 58405),

Gene: Soos_84 Start: 55934, Stop: 56425, Start Num: 21

Candidate Starts for Soos_84:
(13, 55844), (15, 55898), (Start: 21 @55934 has 4 MA's), (55, 56123), (63, 56156), (67, 56165), (74, 56228), (96, 56378), (99, 56408), (100, 56417),

Gene: Sting_87 Start: 56373, Stop: 56864, Start Num: 21
Candidate Starts for Sting_87:
(13, 56283), (15, 56337), (Start: 21 @56373 has 4 MA's), (55, 56562), (63, 56595), (67, 56604), (74, 56667), (96, 56817), (99, 56847), (100, 56856),

Gene: Switzerland_80 Start: 43880, Stop: 43491, Start Num: 41
Candidate Starts for Switzerland_80:
(34, 43910), (Start: 41 @43880 has 13 MA's), (Start: 50 @43829 has 2 MA's), (54, 43805), (76, 43709), (92, 43574), (93, 43571),

Gene: UPIE_58 Start: 41340, Stop: 41756, Start Num: 46
Candidate Starts for UPIE_58:
(36, 41289), (Start: 46 @41340 has 2 MA's), (47, 41349), (62, 41415), (65, 41430), (71, 41463), (78, 41532), (81, 41550), (84, 41586),

Gene: Wamburgrxpress_58 Start: 41304, Stop: 41762, Start Num: 43
Candidate Starts for Wamburgrxpress_58:
(Start: 43 @41304 has 4 MA's), (56, 41370), (80, 41505), (86, 41562), (89, 41586), (96, 41628), (111, 41751),

Gene: Wildcat_87 Start: 53232, Stop: 53711, Start Num: 31
Candidate Starts for Wildcat_87:
(Start: 31 @53232 has 4 MA's), (37, 53265), (52, 53346), (58, 53364), (69, 53412), (85, 53550), (87, 53553), (94, 53610), (96, 53640), (97, 53646),

Gene: Winky_89 Start: 57575, Stop: 58045, Start Num: 40
Candidate Starts for Winky_89:
(7, 57356), (11, 57371), (12, 57380), (14, 57395), (16, 57443), (18, 57449), (Start: 22 @57473 has 3 MA's), (25, 57479), (Start: 26 @57485 has 1 MA's), (39, 57572), (Start: 40 @57575 has 1 MA's), (Start: 42 @57587 has 3 MA's), (45, 57608), (68, 57707), (70, 57725), (90, 57887), (96, 57917), (97, 57923), (99, 57947), (101, 57959), (105, 58010),

Gene: Yogi_50 Start: 36746, Stop: 36330, Start Num: 48
Candidate Starts for Yogi_50:
(Start: 48 @36746 has 1 MA's), (79, 36554), (83, 36512), (95, 36431), (103, 36356),

Gene: Zaria_59 Start: 41416, Stop: 41874, Start Num: 43
Candidate Starts for Zaria_59:
(Start: 43 @41416 has 4 MA's), (56, 41482), (80, 41617), (86, 41674), (89, 41698), (96, 41740), (111, 41863),