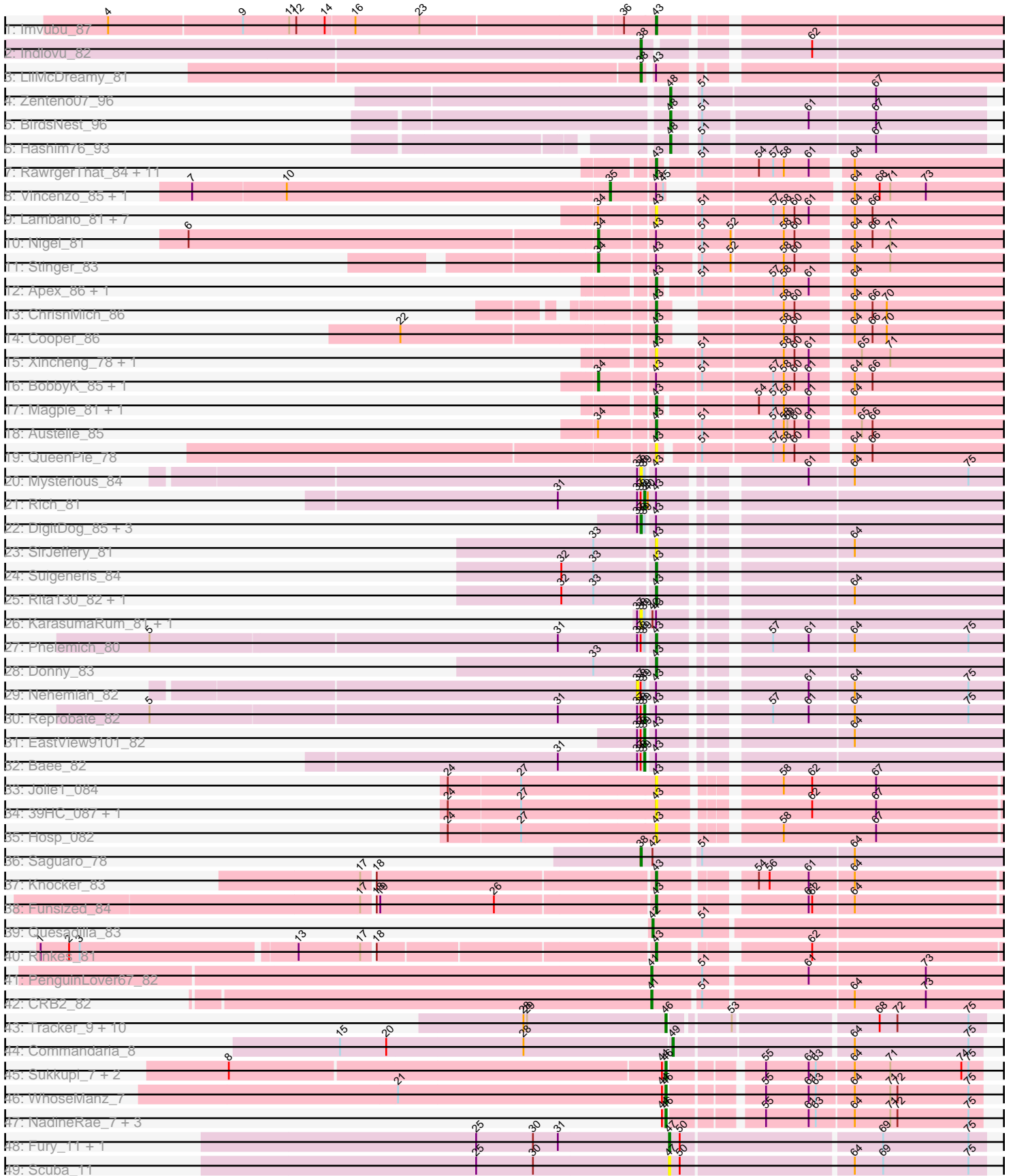


Pham 202843



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 202843 Report

This analysis was run 01/18/25 on database version 583.

Pham number 202843 has 94 members, 27 are drafts.

Phages represented in each track:

- Track 1 : Imvubu_87
- Track 2 : Indlovu_82
- Track 3 : LilMcDreamy_81
- Track 4 : Zenteno07_96
- Track 5 : BirdsNest_96
- Track 6 : Hashim76_93
- Track 7 : RawrgerThat_84, VioletZ_87, Fortunato_83, Hydro_85, Hangman_85, Waleliano_84, Lolalove_86, Zemanar_84, Mudslide_85, Frederick_86, Mithril_84, BrownCNA_86
- Track 8 : Vincenzo_85, AlanGrant_86
- Track 9 : Lambano_81, Nanao_83, Poster_82, Epah_83, GinPorsche_83, Hally898_81, Antihero_83, Ahwei_83
- Track 10 : Nigel_81
- Track 11 : Stinger_83
- Track 12 : Apex_86, Prince_84
- Track 13 : ChrisnMich_86
- Track 14 : Cooper_86
- Track 15 : Xincheng_78, JaguarMi_79
- Track 16 : BobbyK_85, JAMaL_84
- Track 17 : Magpie_81, Fanaw_80
- Track 18 : Austelle_85
- Track 19 : QueenPie_78
- Track 20 : Mysterious_84
- Track 21 : Rich_81
- Track 22 : DigitDog_85, Serendipitous_83, Nangang_84, Shenyu_84
- Track 23 : SirJeffery_81
- Track 24 : Suigeneris_84
- Track 25 : Rita130_82, Acadian_83
- Track 26 : KarasumaRum_81, StinkyVeggy_81
- Track 27 : Phelemich_80
- Track 28 : Donny_83
- Track 29 : Nehemiah_82
- Track 30 : Reprobate_82
- Track 31 : EastView9101_82
- Track 32 : Bae_82
- Track 33 : Jolie1_084
- Track 34 : 39HC_087, 40BC_087

- Track 35 : Hosp_082
- Track 36 : Saguaro_78
- Track 37 : Knocker_83
- Track 38 : Funsized_84
- Track 39 : Quesadilla_83
- Track 40 : Rinkes_81
- Track 41 : PenguinLover67_82
- Track 42 : CRB2_82
- Track 43 : Tracker_9, KidneyBean_9, Arti_9, GrootJr_11, NovumRegina_9, Wheezy_9, Kurt_9, NatB6_9, Foxboro_9, Emianna_9, Jifall16_8
- Track 44 : Commandaria_8
- Track 45 : Sukkupi_7, BiPauneto_7, Yndexa_7
- Track 46 : WhoseManz_7
- Track 47 : NadineRae_7, HubbaBubba_7, IDyn_8, Marietta_7
- Track 48 : Fury_11, Pleakley_11
- Track 49 : Scuba_11

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

The start number called the most often in the published annotations is 43, it was called in 26 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 39HC_087, 40BC_087, Acadian_83, Ahwei_83, Antihero_83, Apex_86, Austelle_85, BrownCNA_86, ChrisnMich_86, Cooper_86, Donny_83, Epah_83, Fanaw_80, Fortunato_83, Frederick_86, Funsized_84, GinPorsche_83, Hally898_81, Hangman_85, Hosp_082, Hydro_85, Imvubu_87, JaguarMi_79, Jolie1_084, Knocker_83, Lambano_81, Lolalove_86, Magpie_81, Mithril_84, Mudslide_85, Nanao_83, Phelemich_80, Poster_82, Prince_84, QueenPie_78, RawrgerThat_84, Rinkes_81, Rita130_82, SirJeffery_81, Suigeneris_84, VioletZ_87, Waleliano_84, Xincheng_78, Zemanar_84,

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

- AlanGrant_86, Baee_82, BobbyK_85, DigitDog_85, EastView9101_82, JAMaL_84, KarasumaRum_81, LilMcDreamy_81, Mysterious_84, Nangang_84, Nehemiah_82, Nigel_81, Reprobate_82, Rich_81, Serendipitous_83, Shenyu_84, Stinger_83, StinkyVeggy_81, Vincenzo_85,

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

- Arti_9, BiPauneto_7, BirdsNest_96, CRB2_82, Commandaria_8, Emianna_9, Foxboro_9, Fury_11, GrootJr_11, Hashim76_93, HubbaBubba_7, IDyn_8, Indlovu_82, Jifall16_8, KidneyBean_9, Kurt_9, Marietta_7, NadineRae_7, NatB6_9, NovumRegina_9, PenguinLover67_82, Pleakley_11, Quesadilla_83, Saguaro_78, Scuba_11, Sukkupi_7, Tracker_9, Wheezy_9, WhoseManz_7, Yndexa_7, Zenteno07_96,

Summary by start number:

Start 34:

- Found in 13 of 94 (13.8%) of genes in pham

- Manual Annotations of this start: 4 of 67
- Called 30.8% of time when present
- Phage (with cluster) where this start called: BobbyK_85 (B4), JAMaL_84 (B4), Nigel_81 (B4), Stinger_83 (B4),

Start 35:

- Found in 2 of 94 (2.1%) of genes in pham
- Manual Annotations of this start: 2 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlanGrant_86 (B4), Vincenzo_85 (B4),

Start 37:

- Found in 13 of 94 (13.8%) of genes in pham
- No Manual Annotations of this start.
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Nehemiah_82 (B5),

Start 38:

- Found in 16 of 94 (17.0%) of genes in pham
- Manual Annotations of this start: 4 of 67
- Called 62.5% of time when present
- Phage (with cluster) where this start called: DigitDog_85 (B5), Indlovu_82 (B11), KarasumaRum_81 (B5), LilMcDreamy_81 (B12), Mysterious_84 (B5), Nangang_84 (B5), Saguaro_78 (B7), Serendipitous_83 (B5), Shenyu_84 (B5), StinkyVeggy_81 (B5),

Start 39:

- Found in 13 of 94 (13.8%) of genes in pham
- Manual Annotations of this start: 4 of 67
- Called 30.8% of time when present
- Phage (with cluster) where this start called: Bae_82 (B5), EastView9101_82 (B5), Reprobate_82 (B5), Rich_81 (B5),

Start 41:

- Found in 2 of 94 (2.1%) of genes in pham
- Manual Annotations of this start: 2 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CRB2_82 (B9), PenguinLover67_82 (B9),

Start 42:

- Found in 4 of 94 (4.3%) of genes in pham
- Manual Annotations of this start: 1 of 67
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Quesadilla_83 (B9),

Start 43:

- Found in 63 of 94 (67.0%) of genes in pham
- Manual Annotations of this start: 26 of 67
- Called 69.8% of time when present
- Phage (with cluster) where this start called: 39HC_087 (B6), 40BC_087 (B6), Acadian_83 (B5), Ahwei_83 (B4), Antihero_83 (B4), Apex_86 (B4), Austelle_85 (B4), BrownCNA_86 (B4), ChrisnMich_86 (B4), Cooper_86 (B4), Donny_83 (B5), Epah_83

(B4), Fanaw_80 (B4), Fortunato_83 (B4), Frederick_86 (B4), Funsized_84 (B9), GinPorsche_83 (B4), Hally898_81 (B4), Hangman_85 (B4), Hosp_082 (B6), Hydro_85 (B4), Imvubu_87 (B10), JaguarMi_79 (B4), Jolie1_084 (B6), Knocker_83 (B9), Lambano_81 (B4), Lolalove_86 (B4), Magpie_81 (B4), Mithril_84 (B4), Mudslide_85 (B4), Nanao_83 (B4), Phelemich_80 (B5), Poster_82 (B4), Prince_84 (B4), QueenPie_78 (B4), RawrgerThat_84 (B4), Rinkes_81 (B9), Rita130_82 (B5), SirJeffery_81 (B5), Suigeneris_84 (B5), VioletZ_87 (B4), Waleliano_84 (B4), Xincheng_78 (B4), Zemanar_84 (B4),

Start 46:

- Found in 19 of 94 (20.2%) of genes in pham
- Manual Annotations of this start: 18 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arti_9 (CR2), BiPauneto_7 (CR4), Emianna_9 (CR2), Foxboro_9 (CR2), GrootJr_11 (CR2), HubbaBubba_7 (CR4), IDyn_8 (CR4), Jifall16_8 (CR2), KidneyBean_9 (CR2), Kurt_9 (CR2), Marietta_7 (CR4), NadineRae_7 (CR4), NatB6_9 (CR2), NovumRegina_9 (CR2), Sukkupi_7 (CR4), Tracker_9 (CR2), Wheezy_9 (CR2), WhoseManz_7 (CR4), Yndexa_7 (CR4),

Start 47:

- Found in 3 of 94 (3.2%) of genes in pham
- Manual Annotations of this start: 2 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fury_11 (CR5), Pleakley_11 (CR5), Scuba_11 (CR5),

Start 48:

- Found in 3 of 94 (3.2%) of genes in pham
- Manual Annotations of this start: 3 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdsNest_96 (B13), Hashim76_93 (B13), Zenteno07_96 (B13),

Start 49:

- Found in 1 of 94 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Commandaria_8 (CR2),

Summary by clusters:

There are 12 clusters represented in this pham: CR2, CR4, CR5, B4, B5, B6, B7, B12, B13, B10, B11, B9,

Info for manual annotations of cluster B10:

- Start number 43 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 38 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 38 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 48 was manually annotated 3 times for cluster B13.

Info for manual annotations of cluster B4:

- Start number 34 was manually annotated 4 times for cluster B4.
- Start number 35 was manually annotated 2 times for cluster B4.
- Start number 43 was manually annotated 18 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 38 was manually annotated 1 time for cluster B5.
- Start number 39 was manually annotated 4 times for cluster B5.
- Start number 43 was manually annotated 4 times for cluster B5.

Info for manual annotations of cluster B7:

- Start number 38 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 41 was manually annotated 2 times for cluster B9.
- Start number 42 was manually annotated 1 time for cluster B9.
- Start number 43 was manually annotated 3 times for cluster B9.

Info for manual annotations of cluster CR2:

- Start number 46 was manually annotated 11 times for cluster CR2.
- Start number 49 was manually annotated 1 time for cluster CR2.

Info for manual annotations of cluster CR4:

- Start number 46 was manually annotated 7 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 47 was manually annotated 2 times for cluster CR5.

Gene Information:

Gene: 39HC_087 Start: 65341, Stop: 65051, Start Num: 43

Candidate Starts for 39HC_087:

(24, 65503), (27, 65443), (Start: 43 @65341 has 26 MA's), (62, 65233), (67, 65179),

Gene: 40BC_087 Start: 65341, Stop: 65051, Start Num: 43

Candidate Starts for 40BC_087:

(24, 65503), (27, 65443), (Start: 43 @65341 has 26 MA's), (62, 65233), (67, 65179),

Gene: Acadian_83 Start: 63798, Stop: 63526, Start Num: 43

Candidate Starts for Acadian_83:

(32, 63873), (33, 63846), (Start: 43 @63798 has 26 MA's), (64, 63657),

Gene: Ahwei_83 Start: 64624, Stop: 64340, Start Num: 43

Candidate Starts for Ahwei_83:

(Start: 34 @64666 has 4 MA's), (Start: 43 @64624 has 26 MA's), (51, 64588), (57, 64531), (58, 64522), (60, 64513), (61, 64501), (64, 64474), (66, 64459),

Gene: AlanGrant_86 Start: 66429, Stop: 66130, Start Num: 35

Candidate Starts for AlanGrant_86:

(7, 66777), (10, 66699), (Start: 35 @66429 has 2 MA's), (Start: 43 @66393 has 26 MA's), (45, 66387), (64, 66264), (68, 66243), (71, 66234), (73, 66204),

Gene: Antihero_83 Start: 64547, Stop: 64263, Start Num: 43

Candidate Starts for Antihero_83:

(Start: 34 @64589 has 4 MA's), (Start: 43 @64547 has 26 MA's), (51, 64511), (57, 64454), (58, 64445), (60, 64436), (61, 64424), (64, 64397), (66, 64382),

Gene: Apex_86 Start: 65693, Stop: 65415, Start Num: 43

Candidate Starts for Apex_86:

(Start: 43 @65693 has 26 MA's), (51, 65663), (57, 65606), (58, 65597), (61, 65576), (64, 65549),

Gene: Arti_9 Start: 5743, Stop: 5994, Start Num: 46

Candidate Starts for Arti_9:

(28, 5623), (29, 5626), (Start: 46 @5743 has 18 MA's), (53, 5791), (68, 5905), (72, 5920), (75, 5980),

Gene: Austelle_85 Start: 66243, Stop: 65959, Start Num: 43

Candidate Starts for Austelle_85:

(Start: 34 @66285 has 4 MA's), (Start: 43 @66243 has 26 MA's), (51, 66207), (57, 66150), (58, 66141), (59, 66138), (60, 66132), (61, 66120), (65, 66087), (66, 66078),

Gene: Bae_82 Start: 64440, Stop: 64162, Start Num: 39

Candidate Starts for Bae_82:

(31, 64512), (37, 64446), (Start: 38 @64443 has 4 MA's), (Start: 39 @64440 has 4 MA's), (Start: 43 @64434 has 26 MA's),

Gene: BiPauneto_7 Start: 3671, Stop: 3916, Start Num: 46

Candidate Starts for BiPauneto_7:

(8, 3311), (44, 3668), (Start: 46 @3671 has 18 MA's), (55, 3737), (61, 3773), (63, 3779), (64, 3809), (71, 3839), (74, 3899), (75, 3905),

Gene: BirdsNest_96 Start: 67441, Stop: 67193, Start Num: 48

Candidate Starts for BirdsNest_96:

(Start: 48 @67441 has 3 MA's), (51, 67423), (61, 67339), (67, 67285),

Gene: BobbyK_85 Start: 65257, Stop: 64931, Start Num: 34

Candidate Starts for BobbyK_85:

(Start: 34 @65257 has 4 MA's), (Start: 43 @65215 has 26 MA's), (51, 65179), (57, 65122), (58, 65113), (60, 65104), (61, 65092), (64, 65065), (66, 65050),

Gene: BrownCNA_86 Start: 65641, Stop: 65363, Start Num: 43

Candidate Starts for BrownCNA_86:

(Start: 43 @65641 has 26 MA's), (51, 65611), (54, 65566), (57, 65554), (58, 65545), (61, 65524), (64, 65497),

Gene: CRB2_82 Start: 65913, Stop: 65626, Start Num: 41

Candidate Starts for CRB2_82:

(Start: 41 @65913 has 2 MA's), (51, 65877), (64, 65757), (73, 65697),

Gene: ChrisnMich_86 Start: 64491, Stop: 64228, Start Num: 43

Candidate Starts for ChrisnMich_86:

(Start: 43 @64491 has 26 MA's), (58, 64410), (60, 64401), (64, 64362), (66, 64347), (70, 64335),

Gene: Commandaria_8 Start: 4772, Stop: 5020, Start Num: 49

Candidate Starts for Commandaria_8:

(15, 4496), (20, 4535), (28, 4649), (Start: 49 @4772 has 1 MA's), (64, 4913), (75, 5009),

Gene: Cooper_86 Start: 64991, Stop: 64728, Start Num: 43

Candidate Starts for Cooper_86:

(22, 65192), (Start: 43 @64991 has 26 MA's), (58, 64910), (60, 64901), (64, 64862), (66, 64847), (70, 64835),

Gene: DigitDog_85 Start: 64306, Stop: 64025, Start Num: 38

Candidate Starts for DigitDog_85:

(37, 64309), (Start: 38 @64306 has 4 MA's), (Start: 39 @64303 has 4 MA's), (Start: 43 @64297 has 26 MA's),

Gene: Donny_83 Start: 63632, Stop: 63360, Start Num: 43

Candidate Starts for Donny_83:

(33, 63680), (Start: 43 @63632 has 26 MA's),

Gene: EastView9101_82 Start: 63548, Stop: 63270, Start Num: 39

Candidate Starts for EastView9101_82:

(37, 63554), (Start: 38 @63551 has 4 MA's), (Start: 39 @63548 has 4 MA's), (Start: 43 @63542 has 26 MA's), (64, 63401),

Gene: Emianna_9 Start: 5711, Stop: 5956, Start Num: 46

Candidate Starts for Emianna_9:

(28, 5591), (29, 5594), (Start: 46 @5711 has 18 MA's), (53, 5753), (68, 5867), (72, 5882), (75, 5942),

Gene: Epah_83 Start: 64547, Stop: 64263, Start Num: 43

Candidate Starts for Epah_83:

(Start: 34 @64589 has 4 MA's), (Start: 43 @64547 has 26 MA's), (51, 64511), (57, 64454), (58, 64445), (60, 64436), (61, 64424), (64, 64397), (66, 64382),

Gene: Fanaw_80 Start: 65228, Stop: 64950, Start Num: 43

Candidate Starts for Fanaw_80:

(Start: 43 @65228 has 26 MA's), (54, 65153), (57, 65141), (58, 65132), (61, 65111), (64, 65084),

Gene: Fortunato_83 Start: 65020, Stop: 64742, Start Num: 43

Candidate Starts for Fortunato_83:

(Start: 43 @65020 has 26 MA's), (51, 64990), (54, 64945), (57, 64933), (58, 64924), (61, 64903), (64, 64876),

Gene: Foxboro_9 Start: 5722, Stop: 5967, Start Num: 46

Candidate Starts for Foxboro_9:

(28, 5602), (29, 5605), (Start: 46 @5722 has 18 MA's), (53, 5764), (68, 5878), (72, 5893), (75, 5953),

Gene: Frederick_86 Start: 65507, Stop: 65229, Start Num: 43

Candidate Starts for Frederick_86:

(Start: 43 @65507 has 26 MA's), (51, 65477), (54, 65432), (57, 65420), (58, 65411), (61, 65390), (64, 65363),

Gene: Funsized_84 Start: 66820, Stop: 66524, Start Num: 43

Candidate Starts for Funsized_84:

(17, 67057), (18, 67048), (19, 67045), (26, 66949), (Start: 43 @66820 has 26 MA's), (61, 66712), (62, 66709), (64, 66676),

Gene: Fury_11 Start: 5184, Stop: 5441, Start Num: 47

Candidate Starts for Fury_11:

(25, 5022), (30, 5070), (31, 5091), (Start: 47 @5184 has 2 MA's), (50, 5193), (69, 5355), (75, 5427),

Gene: GinPorsche_83 Start: 64544, Stop: 64260, Start Num: 43

Candidate Starts for GinPorsche_83:

(Start: 34 @64586 has 4 MA's), (Start: 43 @64544 has 26 MA's), (51, 64508), (57, 64451), (58, 64442), (60, 64433), (61, 64421), (64, 64394), (66, 64379),

Gene: GrootJr_11 Start: 6138, Stop: 6389, Start Num: 46

Candidate Starts for GrootJr_11:

(28, 6018), (29, 6021), (Start: 46 @6138 has 18 MA's), (53, 6186), (68, 6300), (72, 6315), (75, 6375),

Gene: Hally898_81 Start: 64384, Stop: 64100, Start Num: 43

Candidate Starts for Hally898_81:

(Start: 34 @64426 has 4 MA's), (Start: 43 @64384 has 26 MA's), (51, 64348), (57, 64291), (58, 64282), (60, 64273), (61, 64261), (64, 64234), (66, 64219),

Gene: Hangman_85 Start: 65719, Stop: 65441, Start Num: 43

Candidate Starts for Hangman_85:

(Start: 43 @65719 has 26 MA's), (51, 65689), (54, 65644), (57, 65632), (58, 65623), (61, 65602), (64, 65575),

Gene: Hashim76_93 Start: 66930, Stop: 66682, Start Num: 48

Candidate Starts for Hashim76_93:

(Start: 48 @66930 has 3 MA's), (51, 66912), (67, 66774),

Gene: Hosp_082 Start: 62629, Stop: 62333, Start Num: 43

Candidate Starts for Hosp_082:

(24, 62791), (27, 62731), (Start: 43 @62629 has 26 MA's), (58, 62545), (67, 62467),

Gene: HubbaBubba_7 Start: 3528, Stop: 3773, Start Num: 46

Candidate Starts for HubbaBubba_7:

(44, 3525), (Start: 46 @3528 has 18 MA's), (55, 3594), (61, 3630), (63, 3636), (64, 3666), (71, 3696), (72, 3702), (75, 3762),

Gene: Hydro_85 Start: 65594, Stop: 65316, Start Num: 43

Candidate Starts for Hydro_85:

(Start: 43 @65594 has 26 MA's), (51, 65564), (54, 65519), (57, 65507), (58, 65498), (61, 65477), (64, 65450),

Gene: IDyn_8 Start: 4449, Stop: 4694, Start Num: 46

Candidate Starts for IDyn_8:

(44, 4446), (Start: 46 @4449 has 18 MA's), (55, 4515), (61, 4551), (63, 4557), (64, 4587), (71, 4617), (72, 4623), (75, 4683),

Gene: Imvubu_87 Start: 64765, Stop: 64490, Start Num: 43

Candidate Starts for Imvubu_87:

(4, 65203), (9, 65092), (11, 65053), (12, 65047), (14, 65023), (16, 64999), (23, 64945), (36, 64783),
(Start: 43 @64765 has 26 MA's),

Gene: Indlovu_82 Start: 65227, Stop: 64946, Start Num: 38
Candidate Starts for Indlovu_82:
(Start: 38 @65227 has 4 MA's), (62, 65110),

Gene: JAMaL_84 Start: 65126, Stop: 64800, Start Num: 34
Candidate Starts for JAMaL_84:
(Start: 34 @65126 has 4 MA's), (Start: 43 @65084 has 26 MA's), (51, 65048), (57, 64991), (58, 64982),
(60, 64973), (61, 64961), (64, 64934), (66, 64919),

Gene: JaguarMi_79 Start: 65587, Stop: 65303, Start Num: 43
Candidate Starts for JaguarMi_79:
(Start: 43 @65587 has 26 MA's), (51, 65551), (58, 65485), (60, 65476), (61, 65464), (65, 65431), (71,
65407),

Gene: Jifall16_8 Start: 5183, Stop: 5428, Start Num: 46
Candidate Starts for Jifall16_8:
(28, 5063), (29, 5066), (Start: 46 @5183 has 18 MA's), (53, 5225), (68, 5339), (72, 5354), (75, 5414),

Gene: Jolie1_084 Start: 64656, Stop: 64360, Start Num: 43
Candidate Starts for Jolie1_084:
(24, 64818), (27, 64758), (Start: 43 @64656 has 26 MA's), (58, 64572), (62, 64548), (67, 64494),

Gene: KarasumaRum_81 Start: 63704, Stop: 63423, Start Num: 38
Candidate Starts for KarasumaRum_81:
(37, 63707), (Start: 38 @63704 has 4 MA's), (Start: 39 @63701 has 4 MA's), (Start: 42 @63698 has 1
MA's), (Start: 43 @63695 has 26 MA's),

Gene: KidneyBean_9 Start: 5528, Stop: 5773, Start Num: 46
Candidate Starts for KidneyBean_9:
(28, 5408), (29, 5411), (Start: 46 @5528 has 18 MA's), (53, 5570), (68, 5684), (72, 5699), (75, 5759),

Gene: Knocker_83 Start: 65702, Stop: 65406, Start Num: 43
Candidate Starts for Knocker_83:
(17, 65939), (18, 65930), (Start: 43 @65702 has 26 MA's), (54, 65636), (56, 65627), (61, 65594), (64,
65558),

Gene: Kurt_9 Start: 5711, Stop: 5956, Start Num: 46
Candidate Starts for Kurt_9:
(28, 5591), (29, 5594), (Start: 46 @5711 has 18 MA's), (53, 5753), (68, 5867), (72, 5882), (75, 5942),

Gene: Lambano_81 Start: 64384, Stop: 64100, Start Num: 43
Candidate Starts for Lambano_81:
(Start: 34 @64426 has 4 MA's), (Start: 43 @64384 has 26 MA's), (51, 64348), (57, 64291), (58, 64282),
(60, 64273), (61, 64261), (64, 64234), (66, 64219),

Gene: LilMcDreamy_81 Start: 63946, Stop: 63668, Start Num: 38
Candidate Starts for LilMcDreamy_81:
(Start: 38 @63946 has 4 MA's), (Start: 43 @63940 has 26 MA's),

Gene: Lolalove_86 Start: 65538, Stop: 65260, Start Num: 43

Candidate Starts for Lolalove_86:

(Start: 43 @65538 has 26 MA's), (51, 65508), (54, 65463), (57, 65451), (58, 65442), (61, 65421), (64, 65394),

Gene: Magpie_81 Start: 65221, Stop: 64943, Start Num: 43

Candidate Starts for Magpie_81:

(Start: 43 @65221 has 26 MA's), (54, 65146), (57, 65134), (58, 65125), (61, 65104), (64, 65077),

Gene: Marietta_7 Start: 3861, Stop: 4106, Start Num: 46

Candidate Starts for Marietta_7:

(44, 3858), (Start: 46 @3861 has 18 MA's), (55, 3927), (61, 3963), (63, 3969), (64, 3999), (71, 4029), (72, 4035), (75, 4095),

Gene: Mithril_84 Start: 65378, Stop: 65100, Start Num: 43

Candidate Starts for Mithril_84:

(Start: 43 @65378 has 26 MA's), (51, 65348), (54, 65303), (57, 65291), (58, 65282), (61, 65261), (64, 65234),

Gene: Mudslide_85 Start: 65768, Stop: 65490, Start Num: 43

Candidate Starts for Mudslide_85:

(Start: 43 @65768 has 26 MA's), (51, 65738), (54, 65693), (57, 65681), (58, 65672), (61, 65651), (64, 65624),

Gene: Mysterious_84 Start: 63891, Stop: 63610, Start Num: 38

Candidate Starts for Mysterious_84:

(37, 63894), (Start: 38 @63891 has 4 MA's), (Start: 39 @63888 has 4 MA's), (Start: 43 @63882 has 26 MA's), (61, 63777), (64, 63741), (75, 63645),

Gene: NadineRae_7 Start: 3565, Stop: 3810, Start Num: 46

Candidate Starts for NadineRae_7:

(44, 3562), (Start: 46 @3565 has 18 MA's), (55, 3631), (61, 3667), (63, 3673), (64, 3703), (71, 3733), (72, 3739), (75, 3799),

Gene: Nanao_83 Start: 64397, Stop: 64113, Start Num: 43

Candidate Starts for Nanao_83:

(Start: 34 @64439 has 4 MA's), (Start: 43 @64397 has 26 MA's), (51, 64361), (57, 64304), (58, 64295), (60, 64286), (61, 64274), (64, 64247), (66, 64232),

Gene: Nangang_84 Start: 64289, Stop: 64008, Start Num: 38

Candidate Starts for Nangang_84:

(37, 64292), (Start: 38 @64289 has 4 MA's), (Start: 39 @64286 has 4 MA's), (Start: 43 @64280 has 26 MA's),

Gene: NatB6_9 Start: 5790, Stop: 6035, Start Num: 46

Candidate Starts for NatB6_9:

(28, 5670), (29, 5673), (Start: 46 @5790 has 18 MA's), (53, 5832), (68, 5946), (72, 5961), (75, 6021),

Gene: Nehemiah_82 Start: 63774, Stop: 63490, Start Num: 37

Candidate Starts for Nehemiah_82:

(37, 63774), (Start: 38 @63771 has 4 MA's), (Start: 39 @63768 has 4 MA's), (Start: 43 @63762 has 26 MA's), (61, 63657), (64, 63621), (75, 63525),

Gene: Nigel_81 Start: 63962, Stop: 63636, Start Num: 34

Candidate Starts for Nigel_81:

(6, 64301), (Start: 34 @63962 has 4 MA's), (Start: 43 @63920 has 26 MA's), (51, 63884), (52, 63860), (58, 63818), (60, 63809), (64, 63770), (66, 63755), (71, 63740),

Gene: NovumRegina_9 Start: 6137, Stop: 6388, Start Num: 46

Candidate Starts for NovumRegina_9:

(28, 6017), (29, 6020), (Start: 46 @6137 has 18 MA's), (53, 6185), (68, 6299), (72, 6314), (75, 6374),

Gene: PenguinLover67_82 Start: 63644, Stop: 63351, Start Num: 41

Candidate Starts for PenguinLover67_82:

(Start: 41 @63644 has 2 MA's), (51, 63602), (61, 63518), (73, 63422),

Gene: Phelemich_80 Start: 63840, Stop: 63568, Start Num: 43

Candidate Starts for Phelemich_80:

(5, 64257), (31, 63918), (37, 63852), (Start: 38 @63849 has 4 MA's), (Start: 39 @63846 has 4 MA's), (Start: 43 @63840 has 26 MA's), (57, 63765), (61, 63735), (64, 63699), (75, 63603),

Gene: Pleakley_11 Start: 5184, Stop: 5441, Start Num: 47

Candidate Starts for Pleakley_11:

(25, 5022), (30, 5070), (31, 5091), (Start: 47 @5184 has 2 MA's), (50, 5193), (69, 5355), (75, 5427),

Gene: Poster_82 Start: 64398, Stop: 64114, Start Num: 43

Candidate Starts for Poster_82:

(Start: 34 @64440 has 4 MA's), (Start: 43 @64398 has 26 MA's), (51, 64362), (57, 64305), (58, 64296), (60, 64287), (61, 64275), (64, 64248), (66, 64233),

Gene: Prince_84 Start: 65635, Stop: 65357, Start Num: 43

Candidate Starts for Prince_84:

(Start: 43 @65635 has 26 MA's), (51, 65605), (57, 65548), (58, 65539), (61, 65518), (64, 65491),

Gene: QueenPie_78 Start: 64138, Stop: 63863, Start Num: 43

Candidate Starts for QueenPie_78:

(Start: 43 @64138 has 26 MA's), (51, 64111), (57, 64054), (58, 64045), (60, 64036), (64, 63997), (66, 63982),

Gene: Quesadilla_83 Start: 64272, Stop: 63979, Start Num: 42

Candidate Starts for Quesadilla_83:

(Start: 42 @64272 has 1 MA's), (51, 64230),

Gene: RawrgerThat_84 Start: 65226, Stop: 64948, Start Num: 43

Candidate Starts for RawrgerThat_84:

(Start: 43 @65226 has 26 MA's), (51, 65196), (54, 65151), (57, 65139), (58, 65130), (61, 65109), (64, 65082),

Gene: Reprobate_82 Start: 63851, Stop: 63573, Start Num: 39

Candidate Starts for Reprobate_82:

(5, 64262), (31, 63923), (37, 63857), (Start: 38 @63854 has 4 MA's), (Start: 39 @63851 has 4 MA's), (Start: 43 @63845 has 26 MA's), (57, 63770), (61, 63740), (64, 63704), (75, 63608),

Gene: Rich_81 Start: 64507, Stop: 64226, Start Num: 39

Candidate Starts for Rich_81:

(31, 64579), (37, 64513), (Start: 38 @64510 has 4 MA's), (Start: 39 @64507 has 4 MA's), (40, 64504), (Start: 43 @64498 has 26 MA's),

Gene: Rinkes_81 Start: 64713, Stop: 64441, Start Num: 43

Candidate Starts for Rinkes_81:

(1, 65202), (2, 65178), (3, 65169), (13, 64995), (17, 64944), (18, 64935), (Start: 43 @64713 has 26 MA's), (62, 64602),

Gene: Rita130_82 Start: 63772, Stop: 63500, Start Num: 43

Candidate Starts for Rita130_82:

(32, 63847), (33, 63820), (Start: 43 @63772 has 26 MA's), (64, 63631),

Gene: Saguaro_78 Start: 62799, Stop: 62497, Start Num: 38

Candidate Starts for Saguaro_78:

(Start: 38 @62799 has 4 MA's), (Start: 42 @62790 has 1 MA's), (51, 62754), (64, 62628),

Gene: Scuba_11 Start: 5282, Stop: 5539, Start Num: 47

Candidate Starts for Scuba_11:

(25, 5120), (30, 5168), (Start: 47 @5282 has 2 MA's), (50, 5291), (64, 5429), (69, 5453), (75, 5525),

Gene: Serendipitous_83 Start: 63637, Stop: 63356, Start Num: 38

Candidate Starts for Serendipitous_83:

(37, 63640), (Start: 38 @63637 has 4 MA's), (Start: 39 @63634 has 4 MA's), (Start: 43 @63628 has 26 MA's),

Gene: Shenyu_84 Start: 64305, Stop: 64024, Start Num: 38

Candidate Starts for Shenyu_84:

(37, 64308), (Start: 38 @64305 has 4 MA's), (Start: 39 @64302 has 4 MA's), (Start: 43 @64296 has 26 MA's),

Gene: SirJeffery_81 Start: 63582, Stop: 63310, Start Num: 43

Candidate Starts for SirJeffery_81:

(33, 63630), (Start: 43 @63582 has 26 MA's), (64, 63441),

Gene: Stinger_83 Start: 64081, Stop: 63758, Start Num: 34

Candidate Starts for Stinger_83:

(Start: 34 @64081 has 4 MA's), (Start: 43 @64039 has 26 MA's), (51, 64006), (52, 63982), (58, 63940), (60, 63931), (64, 63892), (71, 63862),

Gene: StinkyVeggy_81 Start: 63704, Stop: 63423, Start Num: 38

Candidate Starts for StinkyVeggy_81:

(37, 63707), (Start: 38 @63704 has 4 MA's), (Start: 39 @63701 has 4 MA's), (Start: 42 @63698 has 1 MA's), (Start: 43 @63695 has 26 MA's),

Gene: Suigeneris_84 Start: 64020, Stop: 63748, Start Num: 43

Candidate Starts for Suigeneris_84:

(32, 64095), (33, 64068), (Start: 43 @64020 has 26 MA's),

Gene: Sukkupi_7 Start: 3562, Stop: 3807, Start Num: 46

Candidate Starts for Sukkupi_7:

(8, 3202), (44, 3559), (Start: 46 @3562 has 18 MA's), (55, 3628), (61, 3664), (63, 3670), (64, 3700), (71, 3730), (74, 3790), (75, 3796),

Gene: Tracker_9 Start: 5503, Stop: 5748, Start Num: 46

Candidate Starts for Tracker_9:

(28, 5383), (29, 5386), (Start: 46 @5503 has 18 MA's), (53, 5545), (68, 5659), (72, 5674), (75, 5734),

Gene: Vincenzo_85 Start: 66459, Stop: 66160, Start Num: 35

Candidate Starts for Vincenzo_85:

(7, 66807), (10, 66729), (Start: 35 @66459 has 2 MA's), (Start: 43 @66423 has 26 MA's), (45, 66417), (64, 66294), (68, 66273), (71, 66264), (73, 66234),

Gene: VioletZ_87 Start: 65725, Stop: 65447, Start Num: 43

Candidate Starts for VioletZ_87:

(Start: 43 @65725 has 26 MA's), (51, 65695), (54, 65650), (57, 65638), (58, 65629), (61, 65608), (64, 65581),

Gene: Waleliano_84 Start: 65393, Stop: 65115, Start Num: 43

Candidate Starts for Waleliano_84:

(Start: 43 @65393 has 26 MA's), (51, 65363), (54, 65318), (57, 65306), (58, 65297), (61, 65276), (64, 65249),

Gene: Wheezy_9 Start: 5755, Stop: 6006, Start Num: 46

Candidate Starts for Wheezy_9:

(28, 5635), (29, 5638), (Start: 46 @5755 has 18 MA's), (53, 5803), (68, 5917), (72, 5932), (75, 5992),

Gene: WhoseManz_7 Start: 3472, Stop: 3717, Start Num: 46

Candidate Starts for WhoseManz_7:

(21, 3247), (44, 3469), (Start: 46 @3472 has 18 MA's), (55, 3538), (61, 3574), (63, 3580), (64, 3610), (71, 3640), (72, 3646), (75, 3706),

Gene: Xincheng_78 Start: 65538, Stop: 65254, Start Num: 43

Candidate Starts for Xincheng_78:

(Start: 43 @65538 has 26 MA's), (51, 65502), (58, 65436), (60, 65427), (61, 65415), (65, 65382), (71, 65358),

Gene: Yndexa_7 Start: 3562, Stop: 3807, Start Num: 46

Candidate Starts for Yndexa_7:

(8, 3202), (44, 3559), (Start: 46 @3562 has 18 MA's), (55, 3628), (61, 3664), (63, 3670), (64, 3700), (71, 3730), (74, 3790), (75, 3796),

Gene: Zemanar_84 Start: 65406, Stop: 65128, Start Num: 43

Candidate Starts for Zemanar_84:

(Start: 43 @65406 has 26 MA's), (51, 65376), (54, 65331), (57, 65319), (58, 65310), (61, 65289), (64, 65262),

Gene: Zenteno07_96 Start: 67053, Stop: 66802, Start Num: 48

Candidate Starts for Zenteno07_96:

(Start: 48 @67053 has 3 MA's), (51, 67035), (67, 66894),