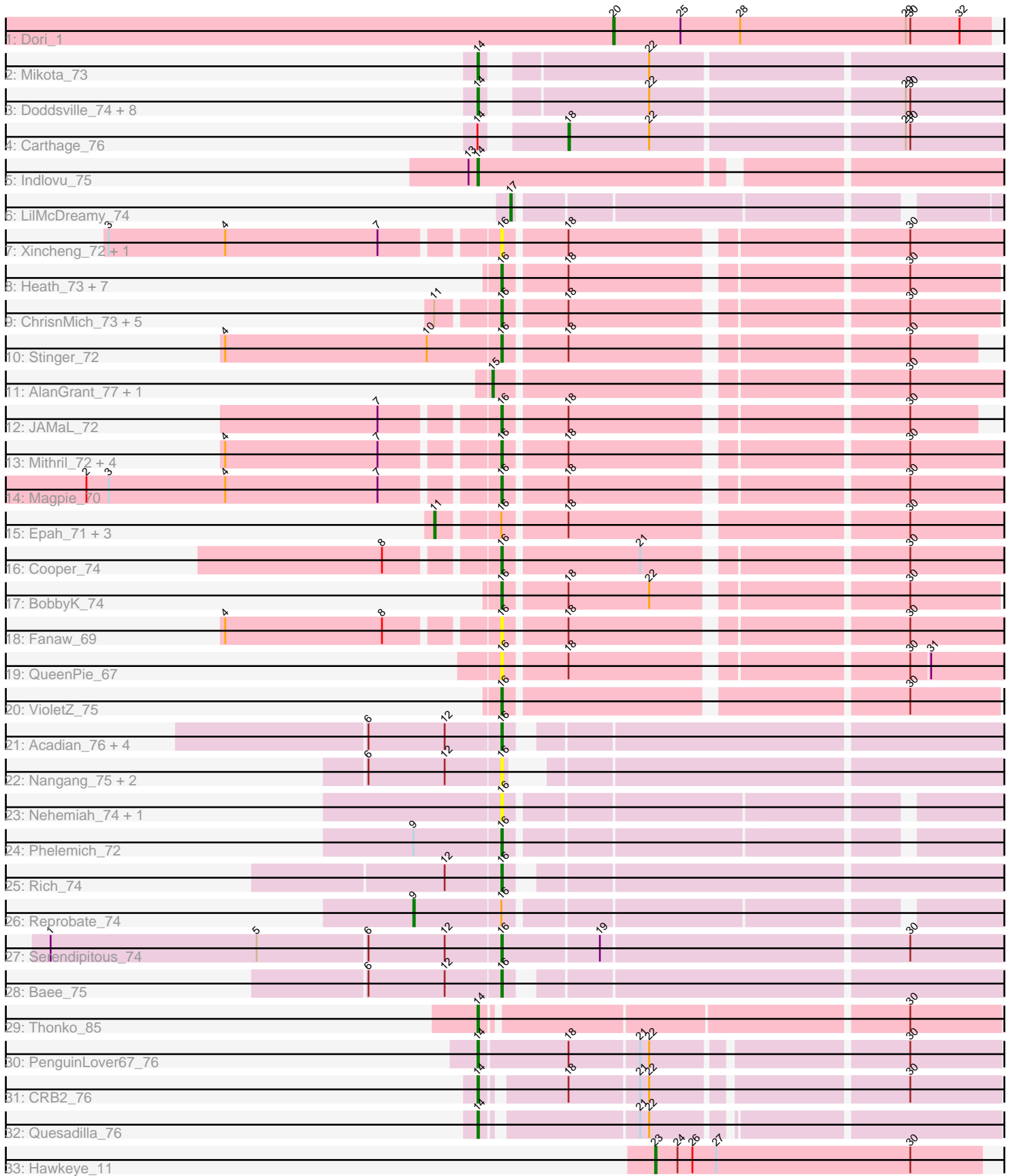


Pham 196516



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 196516 Report

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

Pham number 196516 has 69 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Dori_1
- Track 2 : Mikota_73
- Track 3 : Doddsville_74, Roy17_74, OSmaximus_76, PG1_76, Vortex_75, Lulumae_73, Boehler_75, Oline_75, Orion_76
- Track 4 : Carthage_76
- Track 5 : Indlovu_75
- Track 6 : LilMcDreamy_74
- Track 7 : Xincheng_72, JaguarMi_73
- Track 8 : Heath_73, Apex_74, Hangman_74, Austelle_73, Prince_72, Zemanar_73, Mudslide_73, Hydro_74
- Track 9 : ChrisnMich_73, Hally898_71, GinPorsche_71, Ahwei_71, Poster_71, Lambano_71
- Track 10 : Stinger_72
- Track 11 : AlanGrant_77, Vincenzo_76
- Track 12 : JAMaL_72
- Track 13 : Mithril_72, Waleliano_72, Lolalove_74, BrownCNA_74, RawrgerThat_73
- Track 14 : Magpie_70
- Track 15 : Epah_71, Antihero_71, Frederick_75, Nanao_72
- Track 16 : Cooper_74
- Track 17 : BobbyK_74
- Track 18 : Fanaw_69
- Track 19 : QueenPie_67
- Track 20 : VioletZ_75
- Track 21 : Acadian_76, EastView9101_75, Donny_77, Suigeneris_77, SirJeffery_74
- Track 22 : Nangang_75, DigitDog_76, Shenyu_76
- Track 23 : Nehemiah_74, Mysterious_76
- Track 24 : Phelemich_72
- Track 25 : Rich_74
- Track 26 : Reprobate_74
- Track 27 : Serendipitous_74
- Track 28 : Bae_75
- Track 29 : Thonko_85
- Track 30 : PenguinLover67_76
- Track 31 : CRB2_76
- Track 32 : Quesadilla_76
- Track 33 : Hawkeye_11

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

The start number called the most often in the published annotations is 16, it was called in 28 of the 51 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acadian_76, Ahwei_71, Apex_74, Austelle_73, Bae_75, BobbyK_74, BrownCNA_74, ChrisnMich_73, Cooper_74, DigitDog_76, Donny_77, EastView9101_75, Fanaw_69, GinPorsche_71, Hally898_71, Hangman_74, Heath_73, Hydro_74, JAMaL_72, JaguarMi_73, Lambano_71, Lolalove_74, Magpie_70, Mithril_72, Mudslide_73, Mysterious_76, Nangang_75, Nehemiah_74, Phelemich_72, Poster_71, Prince_72, QueenPie_67, RawrgerThat_73, Rich_74, Serendipitous_74, Shenyu_76, SirJeffery_74, Stinger_72, Suigeneris_77, VioletZ_75, Waleliano_72, Xincheng_72, Zemanar_73,

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

- Antihero_71, Epah_71, Frederick_75, Nanao_72, Reprobate_74,

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

- AlanGrant_77, Boehler_75, CRB2_76, Carthage_76, Doddsville_74, Dori_1, Hawkeye_11, Indlovu_75, LilMcDreamy_74, Lulumae_73, Mikota_73, OSmaximus_76, Oline_75, Orion_76, PG1_76, PenguinLover67_76, Quesadilla_76, Roy17_74, Thonko_85, Vincenzo_76, Vortex_75,

Summary by start number:

Start 9:

- Found in 2 of 69 (2.9%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Reprobate_74 (B5),

Start 11:

- Found in 10 of 69 (14.5%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Antihero_71 (B4), Epah_71 (B4), Frederick_75 (B4), Nanao_72 (B4),

Start 14:

- Found in 16 of 69 (23.2%) of genes in pham
- Manual Annotations of this start: 15 of 51
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Boehler_75 (B1), CRB2_76 (B9), Doddsville_74 (B1), Indlovu_75 (B11), Lulumae_73 (B1), Mikota_73 (B1), OSmaximus_76 (B1), Oline_75 (B1), Orion_76 (B1), PG1_76 (B1), PenguinLover67_76 (B9), Quesadilla_76 (B9), Roy17_74 (B1), Thonko_85 (B8), Vortex_75 (B1),

Start 15:

- Found in 2 of 69 (2.9%) of genes in pham
- Manual Annotations of this start: 2 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlanGrant_77 (B4), Vincenzo_76 (B4),

Start 16:

- Found in 48 of 69 (69.6%) of genes in pham
- Manual Annotations of this start: 28 of 51
- Called 89.6% of time when present
- Phage (with cluster) where this start called: Acadian_76 (B5), Ahwei_71 (B4), Apex_74 (B4), Austelle_73 (B4), Bae_75 (B5), BobbyK_74 (B4), BrownCNA_74 (B4), ChrisnMich_73 (B4), Cooper_74 (B4), DigitDog_76 (B5), Donny_77 (B5), EastView9101_75 (B5), Fanaw_69 (B4), GinPorsche_71 (B4), Hally898_71 (B4), Hangman_74 (B4), Heath_73 (B4), Hydro_74 (B4), JAMaL_72 (B4), JaguarMi_73 (B4), Lambano_71 (B4), Lolalove_74 (B4), Magpie_70 (B4), Mithril_72 (B4), Mudslide_73 (B4), Mysterious_76 (B5), Nangang_75 (B5), Nehemiah_74 (B5), Phelemich_72 (B5), Poster_71 (B4), Prince_72 (B4), QueenPie_67 (B4), RawrgerThat_73 (B4), Rich_74 (B5), Serendipitous_74 (B5), Shenyu_76 (B5), SirJeffery_74 (B5), Stinger_72 (B4), Suigeneris_77 (B5), VioletZ_75 (B4), Waleliano_72 (B4), Xincheng_72 (B4), Zemanar_73 (B4),

Start 17:

- Found in 1 of 69 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilMcDreamy_74 (B12),

Start 18:

- Found in 34 of 69 (49.3%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 2.9% of time when present
- Phage (with cluster) where this start called: Carthage_76 (B1),

Start 20:

- Found in 1 of 69 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dori_1 (AD),

Start 23:

- Found in 1 of 69 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hawkeye_11 (D2),

Summary by clusters:

There are 9 clusters represented in this pham: AD, D2, B4, B5, B12, B1, B11, B8, B9,

Info for manual annotations of cluster AD:

- Start number 20 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster B1:

- Start number 14 was manually annotated 10 times for cluster B1.
- Start number 18 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B11:

- Start number 14 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 17 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B4:

- Start number 11 was manually annotated 1 time for cluster B4.
- Start number 15 was manually annotated 2 times for cluster B4.
- Start number 16 was manually annotated 20 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 9 was manually annotated 1 time for cluster B5.
- Start number 16 was manually annotated 8 times for cluster B5.

Info for manual annotations of cluster B8:

- Start number 14 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 14 was manually annotated 3 times for cluster B9.

Info for manual annotations of cluster D2:

- Start number 23 was manually annotated 1 time for cluster D2.

Gene Information:

Gene: Acadian_76 Start: 61455, Stop: 61769, Start Num: 16

Candidate Starts for Acadian_76:

(6, 61368), (12, 61419), (Start: 16 @61455 has 28 MA's),

Gene: Ahwei_71 Start: 60893, Stop: 61204, Start Num: 16

Candidate Starts for Ahwei_71:

(Start: 11 @60857 has 1 MA's), (Start: 16 @60893 has 28 MA's), (Start: 18 @60932 has 1 MA's), (30, 61139),

Gene: AlanGrant_77 Start: 63336, Stop: 63656, Start Num: 15

Candidate Starts for AlanGrant_77:

(Start: 15 @63336 has 2 MA's), (30, 63588),

Gene: Antihero_71 Start: 60858, Stop: 61211, Start Num: 11

Candidate Starts for Antihero_71:

(Start: 11 @60858 has 1 MA's), (Start: 16 @60894 has 28 MA's), (Start: 18 @60933 has 1 MA's), (30, 61143),

Gene: Apex_74 Start: 61991, Stop: 62302, Start Num: 16

Candidate Starts for Apex_74:

(Start: 16 @61991 has 28 MA's), (Start: 18 @62030 has 1 MA's), (30, 62237),

Gene: Austelle_73 Start: 62508, Stop: 62819, Start Num: 16
Candidate Starts for Austelle_73:
(Start: 16 @62508 has 28 MA's), (Start: 18 @62547 has 1 MA's), (30, 62754),

Gene: Bae_75 Start: 62154, Stop: 62468, Start Num: 16
Candidate Starts for Bae_75:
(6, 62067), (12, 62118), (Start: 16 @62154 has 28 MA's),

Gene: BobbyK_74 Start: 61762, Stop: 62073, Start Num: 16
Candidate Starts for BobbyK_74:
(Start: 16 @61762 has 28 MA's), (Start: 18 @61801 has 1 MA's), (22, 61855), (30, 62008),

Gene: Boehler_75 Start: 60324, Stop: 60653, Start Num: 14
Candidate Starts for Boehler_75:
(Start: 14 @60324 has 15 MA's), (22, 60417), (29, 60576), (30, 60579),

Gene: BrownCNA_74 Start: 61930, Stop: 62244, Start Num: 16
Candidate Starts for BrownCNA_74:
(4, 61759), (7, 61861), (Start: 16 @61930 has 28 MA's), (Start: 18 @61969 has 1 MA's), (30, 62176),

Gene: CRB2_76 Start: 64139, Stop: 64459, Start Num: 14
Candidate Starts for CRB2_76:
(Start: 14 @64139 has 15 MA's), (Start: 18 @64187 has 1 MA's), (21, 64232), (22, 64238), (30, 64394),

Gene: Carthage_76 Start: 60068, Stop: 60358, Start Num: 18
Candidate Starts for Carthage_76:
(Start: 14 @60026 has 15 MA's), (Start: 18 @60068 has 1 MA's), (22, 60122), (29, 60281), (30, 60284),

Gene: ChrisnMich_73 Start: 60878, Stop: 61189, Start Num: 16
Candidate Starts for ChrisnMich_73:
(Start: 11 @60842 has 1 MA's), (Start: 16 @60878 has 28 MA's), (Start: 18 @60917 has 1 MA's), (30, 61124),

Gene: Cooper_74 Start: 61332, Stop: 61646, Start Num: 16
Candidate Starts for Cooper_74:
(8, 61266), (Start: 16 @61332 has 28 MA's), (21, 61419), (30, 61578),

Gene: DigitDog_76 Start: 61556, Stop: 61867, Start Num: 16
Candidate Starts for DigitDog_76:
(6, 61469), (12, 61520), (Start: 16 @61556 has 28 MA's),

Gene: Doddsville_74 Start: 60184, Stop: 60513, Start Num: 14
Candidate Starts for Doddsville_74:
(Start: 14 @60184 has 15 MA's), (22, 60277), (29, 60436), (30, 60439),

Gene: Donny_77 Start: 61495, Stop: 61809, Start Num: 16
Candidate Starts for Donny_77:
(6, 61408), (12, 61459), (Start: 16 @61495 has 28 MA's),

Gene: Dori_1 Start: 1, Stop: 252, Start Num: 20
Candidate Starts for Dori_1:

(Start: 20 @1 has 1 MA's), (25, 46), (28, 85), (29, 196), (30, 199), (32, 232),

Gene: EastView9101_75 Start: 61199, Stop: 61513, Start Num: 16

Candidate Starts for EastView9101_75:

(6, 61112), (12, 61163), (Start: 16 @61199 has 28 MA's),

Gene: Epah_71 Start: 60858, Stop: 61211, Start Num: 11

Candidate Starts for Epah_71:

(Start: 11 @60858 has 1 MA's), (Start: 16 @60894 has 28 MA's), (Start: 18 @60933 has 1 MA's), (30, 61143),

Gene: Fanaw_69 Start: 61712, Stop: 62023, Start Num: 16

Candidate Starts for Fanaw_69:

(4, 61541), (8, 61646), (Start: 16 @61712 has 28 MA's), (Start: 18 @61751 has 1 MA's), (30, 61958),

Gene: Frederick_75 Start: 61979, Stop: 62326, Start Num: 11

Candidate Starts for Frederick_75:

(Start: 11 @61979 has 1 MA's), (Start: 16 @62015 has 28 MA's), (Start: 18 @62054 has 1 MA's), (30, 62261),

Gene: GinPorsche_71 Start: 60891, Stop: 61208, Start Num: 16

Candidate Starts for GinPorsche_71:

(Start: 11 @60855 has 1 MA's), (Start: 16 @60891 has 28 MA's), (Start: 18 @60930 has 1 MA's), (30, 61140),

Gene: Hally898_71 Start: 60906, Stop: 61217, Start Num: 16

Candidate Starts for Hally898_71:

(Start: 11 @60870 has 1 MA's), (Start: 16 @60906 has 28 MA's), (Start: 18 @60945 has 1 MA's), (30, 61152),

Gene: Hangman_74 Start: 62206, Stop: 62517, Start Num: 16

Candidate Starts for Hangman_74:

(Start: 16 @62206 has 28 MA's), (Start: 18 @62245 has 1 MA's), (30, 62452),

Gene: Hawkeye_11 Start: 7815, Stop: 8030, Start Num: 23

Candidate Starts for Hawkeye_11:

(Start: 23 @7815 has 1 MA's), (24, 7830), (26, 7839), (27, 7854), (30, 7983),

Gene: Heath_73 Start: 61833, Stop: 62144, Start Num: 16

Candidate Starts for Heath_73:

(Start: 16 @61833 has 28 MA's), (Start: 18 @61872 has 1 MA's), (30, 62079),

Gene: Hydro_74 Start: 62144, Stop: 62455, Start Num: 16

Candidate Starts for Hydro_74:

(Start: 16 @62144 has 28 MA's), (Start: 18 @62183 has 1 MA's), (30, 62390),

Gene: Indlovu_75 Start: 62474, Stop: 62809, Start Num: 14

Candidate Starts for Indlovu_75:

(13, 62468), (Start: 14 @62474 has 15 MA's),

Gene: JAMaL_72 Start: 61620, Stop: 61910, Start Num: 16

Candidate Starts for JAMaL_72:

(7, 61551), (Start: 16 @61620 has 28 MA's), (Start: 18 @61659 has 1 MA's), (30, 61866),

Gene: JaguarMi_73 Start: 62960, Stop: 63271, Start Num: 16
Candidate Starts for JaguarMi_73:
(3, 62711), (4, 62789), (7, 62891), (Start: 16 @62960 has 28 MA's), (Start: 18 @62999 has 1 MA's),
(30, 63206),

Gene: Lambano_71 Start: 60906, Stop: 61217, Start Num: 16
Candidate Starts for Lambano_71:
(Start: 11 @60870 has 1 MA's), (Start: 16 @60906 has 28 MA's), (Start: 18 @60945 has 1 MA's), (30,
61152),

Gene: LilMcDreamy_74 Start: 61526, Stop: 61819, Start Num: 17
Candidate Starts for LilMcDreamy_74:
(Start: 17 @61526 has 1 MA's),

Gene: Lolalove_74 Start: 61861, Stop: 62175, Start Num: 16
Candidate Starts for Lolalove_74:
(4, 61690), (7, 61792), (Start: 16 @61861 has 28 MA's), (Start: 18 @61900 has 1 MA's), (30, 62107),

Gene: Lulumae_73 Start: 59863, Stop: 60192, Start Num: 14
Candidate Starts for Lulumae_73:
(Start: 14 @59863 has 15 MA's), (22, 59956), (29, 60115), (30, 60118),

Gene: Magpie_70 Start: 61485, Stop: 61796, Start Num: 16
Candidate Starts for Magpie_70:
(2, 61221), (3, 61236), (4, 61314), (7, 61416), (Start: 16 @61485 has 28 MA's), (Start: 18 @61524 has
1 MA's), (30, 61731),

Gene: Mikota_73 Start: 59676, Stop: 60005, Start Num: 14
Candidate Starts for Mikota_73:
(Start: 14 @59676 has 15 MA's), (22, 59769),

Gene: Mithril_72 Start: 61860, Stop: 62174, Start Num: 16
Candidate Starts for Mithril_72:
(4, 61689), (7, 61791), (Start: 16 @61860 has 28 MA's), (Start: 18 @61899 has 1 MA's), (30, 62106),

Gene: Mudslide_73 Start: 62093, Stop: 62404, Start Num: 16
Candidate Starts for Mudslide_73:
(Start: 16 @62093 has 28 MA's), (Start: 18 @62132 has 1 MA's), (30, 62339),

Gene: Mysterious_76 Start: 61457, Stop: 61762, Start Num: 16
Candidate Starts for Mysterious_76:
(Start: 16 @61457 has 28 MA's),

Gene: Nanao_72 Start: 60860, Stop: 61207, Start Num: 11
Candidate Starts for Nanao_72:
(Start: 11 @60860 has 1 MA's), (Start: 16 @60896 has 28 MA's), (Start: 18 @60935 has 1 MA's), (30,
61142),

Gene: Nangang_75 Start: 61582, Stop: 61881, Start Num: 16
Candidate Starts for Nangang_75:
(6, 61495), (12, 61546), (Start: 16 @61582 has 28 MA's),

Gene: Nehemiah_74 Start: 61260, Stop: 61565, Start Num: 16

Candidate Starts for Nehemiah_74:

(Start: 16 @61260 has 28 MA's),

Gene: OSmaximus_76 Start: 61108, Stop: 61437, Start Num: 14

Candidate Starts for OSmaximus_76:

(Start: 14 @61108 has 15 MA's), (22, 61201), (29, 61360), (30, 61363),

Gene: Oline_75 Start: 60304, Stop: 60633, Start Num: 14

Candidate Starts for Oline_75:

(Start: 14 @60304 has 15 MA's), (22, 60397), (29, 60556), (30, 60559),

Gene: Orion_76 Start: 60252, Stop: 60581, Start Num: 14

Candidate Starts for Orion_76:

(Start: 14 @60252 has 15 MA's), (22, 60345), (29, 60504), (30, 60507),

Gene: PG1_76 Start: 60823, Stop: 61152, Start Num: 14

Candidate Starts for PG1_76:

(Start: 14 @60823 has 15 MA's), (22, 60916), (29, 61075), (30, 61078),

Gene: PenguinLover67_76 Start: 61882, Stop: 62211, Start Num: 14

Candidate Starts for PenguinLover67_76:

(Start: 14 @61882 has 15 MA's), (Start: 18 @61939 has 1 MA's), (21, 61984), (22, 61990), (30, 62146),

Gene: Phelemich_72 Start: 61326, Stop: 61631, Start Num: 16

Candidate Starts for Phelemich_72:

(Start: 9 @61269 has 1 MA's), (Start: 16 @61326 has 28 MA's),

Gene: Poster_71 Start: 60897, Stop: 61208, Start Num: 16

Candidate Starts for Poster_71:

(Start: 11 @60861 has 1 MA's), (Start: 16 @60897 has 28 MA's), (Start: 18 @60936 has 1 MA's), (30, 61143),

Gene: Prince_72 Start: 61991, Stop: 62302, Start Num: 16

Candidate Starts for Prince_72:

(Start: 16 @61991 has 28 MA's), (Start: 18 @62030 has 1 MA's), (30, 62234),

Gene: QueenPie_67 Start: 60754, Stop: 61062, Start Num: 16

Candidate Starts for QueenPie_67:

(Start: 16 @60754 has 28 MA's), (Start: 18 @60793 has 1 MA's), (30, 61000), (31, 61012),

Gene: Quesadilla_76 Start: 62243, Stop: 62560, Start Num: 14

Candidate Starts for Quesadilla_76:

(Start: 14 @62243 has 15 MA's), (21, 62336), (22, 62342),

Gene: RawrgerThat_73 Start: 61689, Stop: 62000, Start Num: 16

Candidate Starts for RawrgerThat_73:

(4, 61518), (7, 61620), (Start: 16 @61689 has 28 MA's), (Start: 18 @61728 has 1 MA's), (30, 61935),

Gene: Reprobate_74 Start: 61274, Stop: 61636, Start Num: 9

Candidate Starts for Reprobate_74:

(Start: 9 @61274 has 1 MA's), (Start: 16 @61331 has 28 MA's),

Gene: Rich_74 Start: 62199, Stop: 62513, Start Num: 16

Candidate Starts for Rich_74:

(12, 62163), (Start: 16 @62199 has 28 MA's),

Gene: Roy17_74 Start: 59863, Stop: 60192, Start Num: 14

Candidate Starts for Roy17_74:

(Start: 14 @59863 has 15 MA's), (22, 59956), (29, 60115), (30, 60118),

Gene: Serendipitous_74 Start: 60885, Stop: 61214, Start Num: 16

Candidate Starts for Serendipitous_74:

(1, 60588), (5, 60726), (6, 60798), (12, 60849), (Start: 16 @60885 has 28 MA's), (19, 60948), (30, 61146),

Gene: Shenyu_76 Start: 61921, Stop: 62232, Start Num: 16

Candidate Starts for Shenyu_76:

(6, 61834), (12, 61885), (Start: 16 @61921 has 28 MA's),

Gene: SirJeffery_74 Start: 61239, Stop: 61553, Start Num: 16

Candidate Starts for SirJeffery_74:

(6, 61152), (12, 61203), (Start: 16 @61239 has 28 MA's),

Gene: Stinger_72 Start: 60638, Stop: 60928, Start Num: 16

Candidate Starts for Stinger_72:

(4, 60455), (10, 60590), (Start: 16 @60638 has 28 MA's), (Start: 18 @60677 has 1 MA's), (30, 60884),

Gene: Suigeneris_77 Start: 61677, Stop: 61991, Start Num: 16

Candidate Starts for Suigeneris_77:

(6, 61590), (12, 61641), (Start: 16 @61677 has 28 MA's),

Gene: Thonko_85 Start: 62711, Stop: 62379, Start Num: 14

Candidate Starts for Thonko_85:

(Start: 14 @62711 has 15 MA's), (30, 62444),

Gene: Vincenzo_76 Start: 63366, Stop: 63686, Start Num: 15

Candidate Starts for Vincenzo_76:

(Start: 15 @63366 has 2 MA's), (30, 63618),

Gene: VioletZ_75 Start: 61985, Stop: 62299, Start Num: 16

Candidate Starts for VioletZ_75:

(Start: 16 @61985 has 28 MA's), (30, 62234),

Gene: Vortex_75 Start: 60408, Stop: 60737, Start Num: 14

Candidate Starts for Vortex_75:

(Start: 14 @60408 has 15 MA's), (22, 60501), (29, 60660), (30, 60663),

Gene: Waleliano_72 Start: 61683, Stop: 61997, Start Num: 16

Candidate Starts for Waleliano_72:

(4, 61512), (7, 61614), (Start: 16 @61683 has 28 MA's), (Start: 18 @61722 has 1 MA's), (30, 61929),

Gene: Xincheng_72 Start: 62911, Stop: 63222, Start Num: 16

Candidate Starts for Xincheng_72:

(3, 62662), (4, 62740), (7, 62842), (Start: 16 @62911 has 28 MA's), (Start: 18 @62950 has 1 MA's),
(30, 63157),

Gene: Zemanar_73 Start: 61935, Stop: 62246, Start Num: 16

Candidate Starts for Zemanar_73:

(Start: 16 @61935 has 28 MA's), (Start: 18 @61974 has 1 MA's), (30, 62181),