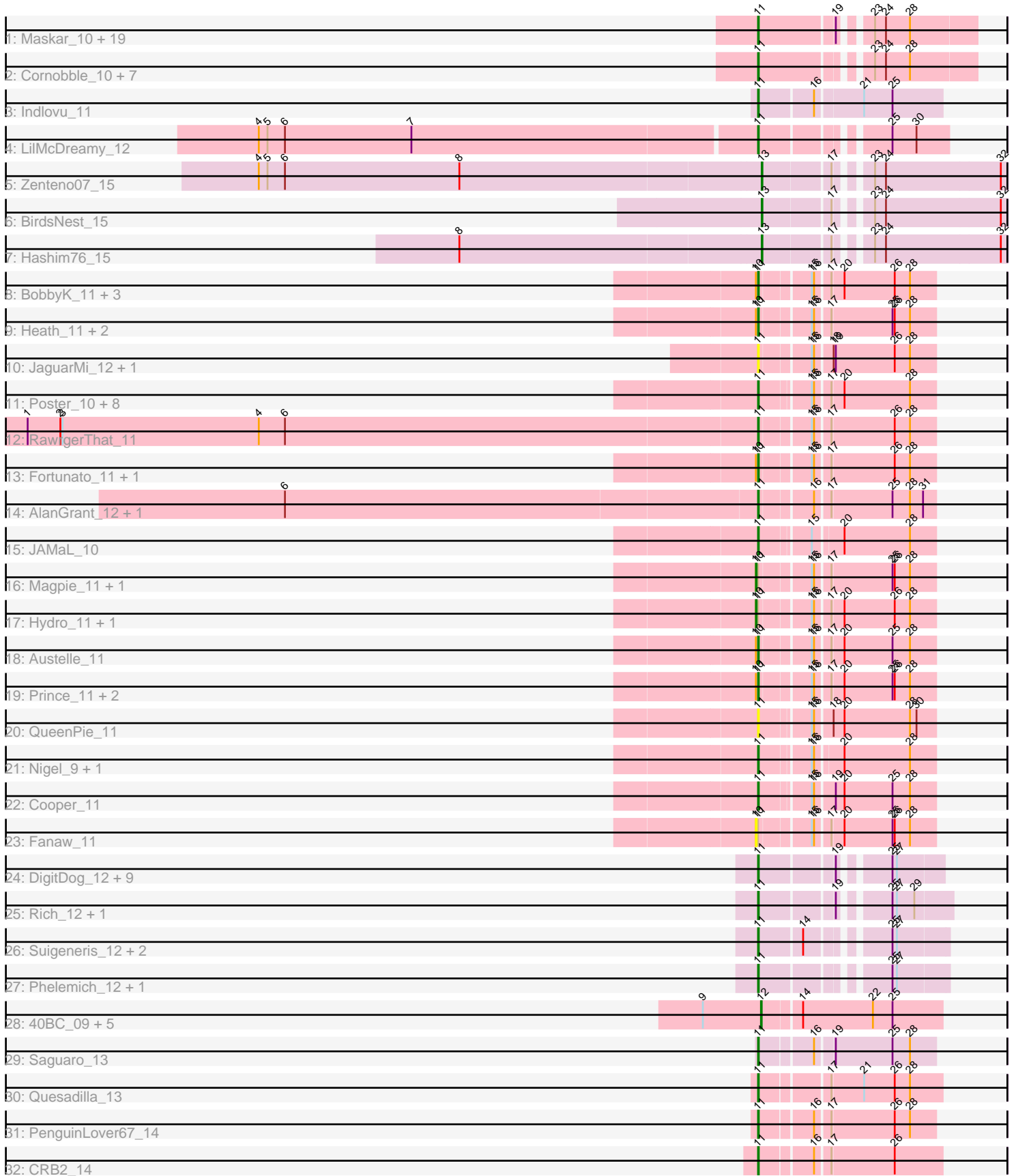


Pham 216044



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 216044 Report

This analysis was run 02/22/25 on database version 588.

Pham number 216044 has 97 members, 25 are drafts.

Phages represented in each track:

- Track 1 : Maskar\_10, Labeouficaum\_10, Phergie\_10, BatteryCK\_10, Struggle\_10, MelsMeow\_10, Pinkman\_10, Oline\_10, DuchessDung\_10, CharlieGBrown\_10, Phleuron\_10, Derpp\_10, Jiminy\_10, Kwksand96\_10, Ashraf\_10, MichaelPhcott\_10, PhenghisKhan\_10, ImtiyazSitla\_10, TyrionL\_10, PhrankReynolds\_10
- Track 2 : Cornobble\_10, Manad\_10, Robyn\_10, Lopsy\_10, Schadenfreude\_10, Antonia\_10, Crownjwl\_11, Aelin\_10
- Track 3 : Indlovu\_11
- Track 4 : LilMcDreamy\_12
- Track 5 : Zenteno07\_15
- Track 6 : BirdsNest\_15
- Track 7 : Hashim76\_15
- Track 8 : BobbyK\_11, Hangman\_11, Waleliano\_11, VioletZ\_11
- Track 9 : Heath\_11, Apex\_10, Lolalove\_11
- Track 10 : JaguarMi\_12, Xincheng\_11
- Track 11 : Poster\_10, Lambano\_10, ChrisnMich\_10, Antihero\_10, Epah\_10, Hally898\_10, GinPorsche\_10, Nanao\_10, Ahwei\_10
- Track 12 : RawrgerThat\_11
- Track 13 : Fortunato\_11, Frederick\_11
- Track 14 : AlanGrant\_12, Vincenzo\_12
- Track 15 : JAMaL\_10
- Track 16 : Magpie\_11, BrownCNA\_12
- Track 17 : Hydro\_11, Zemanar\_12
- Track 18 : Austelle\_11
- Track 19 : Prince\_11, Mudslide\_11, Mithril\_11
- Track 20 : QueenPie\_11
- Track 21 : Nigel\_9, Stinger\_9
- Track 22 : Cooper\_11
- Track 23 : Fanaw\_11
- Track 24 : DigitDog\_12, KarasumaRum\_13, Shenyu\_12, Serendipitous\_12, Mysterious\_12, Rita130\_12, Nehemiah\_11, Nangang\_12, EastView9101\_12, StinkyVeggy\_13
- Track 25 : Rich\_12, Bae\_12
- Track 26 : Suigeneris\_12, Donny\_12, Acadian\_12
- Track 27 : Phelemich\_12, Reprobate\_12
- Track 28 : 40BC\_09, Jolie1\_09, ForDig\_9, 39HC\_09, KayaCho\_9, Hosp\_07
- Track 29 : Saguario\_13
- Track 30 : Quesadilla\_13

- Track 31 : PenguinLover67\_14
- Track 32 : CRB2\_14

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

The start number called the most often in the published annotations is 11, it was called in 64 of the 72 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acadian\_12, Aelin\_10, Ahwei\_10, AlanGrant\_12, Antihero\_10, Antonia\_10, Apex\_10, Ashraf\_10, Austelle\_11, Bae\_12, BatteryCK\_10, BobbyK\_11, CRB2\_14, CharlieGBrown\_10, ChrisnMich\_10, Cooper\_11, Cornobble\_10, Crownjwl\_11, Derpp\_10, DigitDog\_12, Donny\_12, DuchessDung\_10, EastView9101\_12, Epah\_10, Fortunato\_11, Frederick\_11, GinPorsche\_10, Hally898\_10, Hangman\_11, Heath\_11, ImtiyazSitla\_10, Indlovu\_11, JAMaL\_10, JaguarMi\_12, Jiminy\_10, KarasumaRum\_13, Kwksand96\_10, Labeouficaum\_10, Lambano\_10, LilMcDreamy\_12, Lolalove\_11, Lopsy\_10, Manad\_10, Maskar\_10, MelsMeow\_10, MichaelPhcott\_10, Mithril\_11, Mudslide\_11, Mysterious\_12, Nanao\_10, Nangang\_12, Nehemiah\_11, Nigel\_9, Oline\_10, PenguinLover67\_14, Phelemich\_12, PhenghisKhan\_10, Phergie\_10, Phleuron\_10, PhrankReynolds\_10, Pinkman\_10, Poster\_10, Prince\_11, QueenPie\_11, Quesadilla\_13, RawrgerThat\_11, Reprobate\_12, Rich\_12, Rita130\_12, Robyn\_10, Saguaro\_13, Schadenfreude\_10, Serendipitous\_12, Shenyu\_12, Stinger\_9, StinkyVeggy\_13, Struggle\_10, Suigeneris\_12, TyrionL\_10, Vincenzo\_12, VioletZ\_11, Waleliano\_11, Xincheng\_11,

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

- BrownCNA\_12, Fanaw\_11, Hydro\_11, Magpie\_11, Zemanar\_12,

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

- 39HC\_09, 40BC\_09, BirdsNest\_15, ForDig\_9, Hashim76\_15, Hosp\_07, Jolie1\_09, KayaCho\_9, Zenteno07\_15,

**Summary by start number:**

Start 10:

- Found in 18 of 97 ( 18.6% ) of genes in pham
- Manual Annotations of this start: 4 of 72
- Called 27.8% of time when present
- Phage (with cluster) where this start called: BrownCNA\_12 (B4), Fanaw\_11 (B4), Hydro\_11 (B4), Magpie\_11 (B4), Zemanar\_12 (B4),

Start 11:

- Found in 88 of 97 ( 90.7% ) of genes in pham
- Manual Annotations of this start: 64 of 72
- Called 94.3% of time when present
- Phage (with cluster) where this start called: Acadian\_12 (B5), Aelin\_10 (B1), Ahwei\_10 (B4), AlanGrant\_12 (B4), Antihero\_10 (B4), Antonia\_10 (B1), Apex\_10 (B4), Ashraf\_10 (B1), Austelle\_11 (B4), Bae\_12 (B5), BatteryCK\_10 (B1), BobbyK\_11 (B4), CRB2\_14 (B9), CharlieGBrown\_10 (B1), ChrisnMich\_10 (B4), Cooper\_11 (B4), Cornobble\_10 (B1), Crownjwl\_11 (B1), Derpp\_10 (B1), DigitDog\_12

(B5), Donny\_12 (B5), DuchessDung\_10 (B1), EastView9101\_12 (B5), Epah\_10 (B4), Fortunato\_11 (B4), Frederick\_11 (B4), GinPorsche\_10 (B4), Hally898\_10 (B4), Hangman\_11 (B4), Heath\_11 (B4), ImtiyazSitla\_10 (B1), Indlovu\_11 (B11), JAMaL\_10 (B4), JaguarMi\_12 (B4), Jiminy\_10 (B1), KarasumaRum\_13 (B5), Kwksand96\_10 (B1), Labeouficaum\_10 (B1), Lambano\_10 (B4), LilMcDreamy\_12 (B12), Lolalove\_11 (B4), Lopsy\_10 (B1), Manad\_10 (B1), Maskar\_10 (B1), MelsMeow\_10 (B1), MichaelPhcott\_10 (B1), Mithril\_11 (B4), Mudslide\_11 (B4), Mysterious\_12 (B5), Nanao\_10 (B4), Nangang\_12 (B5), Nehemiah\_11 (B5), Nigel\_9 (B4), Oline\_10 (B1), PenguinLover67\_14 (B9), Phelemich\_12 (B5), PhenghisKhan\_10 (B1), Phergie\_10 (B1), Phleuron\_10 (B1), PhrankReynolds\_10 (B1), Pinkman\_10 (B1), Poster\_10 (B4), Prince\_11 (B4), QueenPie\_11 (B4), Quesadilla\_13 (B9), RawrgerThat\_11 (B4), Reprobate\_12 (B5), Rich\_12 (B5), Rita130\_12 (B5), Robyn\_10 (B1), Saguaro\_13 (B7), Schadenfreude\_10 (B1), Serendipitous\_12 (B5), Shenyu\_12 (B5), Stinger\_9 (B4), StinkyVeggy\_13 (B5), Struggle\_10 (B1), Suigeneris\_12 (B5), TyrionL\_10 (B1), Vincenzo\_12 (B4), VioletZ\_11 (B4), Waleliano\_11 (B4), Xincheng\_11 (B4),

#### Start 12:

- Found in 6 of 97 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 1 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC\_09 (B6), 40BC\_09 (B6), ForDig\_9 (B6), Hosp\_07 (B6), Jolie1\_09 (B6), KayaCho\_9 (B6),

#### Start 13:

- Found in 3 of 97 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 3 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdsNest\_15 (B13), Hashim76\_15 (B13), Zenteno07\_15 (B13),

### Summary by clusters:

There are 9 clusters represented in this pham: B4, B5, B6, B7, B12, B1, B11, B9, B13,

#### Info for manual annotations of cluster B1:

- Start number 11 was manually annotated 28 times for cluster B1.

#### Info for manual annotations of cluster B11:

- Start number 11 was manually annotated 1 time for cluster B11.

#### Info for manual annotations of cluster B12:

- Start number 11 was manually annotated 1 time for cluster B12.

#### Info for manual annotations of cluster B13:

- Start number 13 was manually annotated 3 times for cluster B13.

#### Info for manual annotations of cluster B4:

- Start number 10 was manually annotated 4 times for cluster B4.
- Start number 11 was manually annotated 21 times for cluster B4.

#### Info for manual annotations of cluster B5:

- Start number 11 was manually annotated 9 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 12 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B7:

- Start number 11 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 11 was manually annotated 3 times for cluster B9.

### ***Gene Information:***

Gene: 39HC\_09 Start: 9546, Stop: 9785, Start Num: 12

Candidate Starts for 39HC\_09:

(9, 9468), (Start: 12 @9546 has 1 MA's), (14, 9594), (22, 9690), (25, 9717),

Gene: 40BC\_09 Start: 9546, Stop: 9785, Start Num: 12

Candidate Starts for 40BC\_09:

(9, 9468), (Start: 12 @9546 has 1 MA's), (14, 9594), (22, 9690), (25, 9717),

Gene: Acadian\_12 Start: 11068, Stop: 11286, Start Num: 11

Candidate Starts for Acadian\_12:

(Start: 11 @11068 has 64 MA's), (14, 11122), (25, 11212), (27, 11218),

Gene: Aelin\_10 Start: 8930, Stop: 9193, Start Num: 11

Candidate Starts for Aelin\_10:

(Start: 11 @8930 has 64 MA's), (23, 9056), (24, 9071), (28, 9104),

Gene: Ahwei\_10 Start: 10039, Stop: 10260, Start Num: 11

Candidate Starts for Ahwei\_10:

(Start: 11 @10039 has 64 MA's), (15, 10099), (16, 10102), (17, 10120), (20, 10135), (28, 10225),

Gene: AlanGrant\_12 Start: 11855, Stop: 12076, Start Num: 11

Candidate Starts for AlanGrant\_12:

(6, 11213), (Start: 11 @11855 has 64 MA's), (16, 11918), (17, 11936), (25, 12017), (28, 12041), (31, 12059),

Gene: Antihero\_10 Start: 10039, Stop: 10260, Start Num: 11

Candidate Starts for Antihero\_10:

(Start: 11 @10039 has 64 MA's), (15, 10099), (16, 10102), (17, 10120), (20, 10135), (28, 10225),

Gene: Antonia\_10 Start: 8930, Stop: 9193, Start Num: 11

Candidate Starts for Antonia\_10:

(Start: 11 @8930 has 64 MA's), (23, 9056), (24, 9071), (28, 9104),

Gene: Apex\_10 Start: 10688, Stop: 10909, Start Num: 11

Candidate Starts for Apex\_10:

(Start: 10 @10685 has 4 MA's), (Start: 11 @10688 has 64 MA's), (15, 10748), (16, 10751), (17, 10769), (25, 10850), (26, 10853), (28, 10874),

Gene: Ashraf\_10 Start: 8927, Stop: 9190, Start Num: 11

Candidate Starts for Ashraf\_10:

(Start: 11 @8927 has 64 MA's), (19, 9023), (23, 9053), (24, 9068), (28, 9101),

Gene: Austelle\_11 Start: 11144, Stop: 11365, Start Num: 11

Candidate Starts for Austelle\_11:

(Start: 10 @11141 has 4 MA's), (Start: 11 @11144 has 64 MA's), (15, 11204), (16, 11207), (17, 11225), (20, 11240), (25, 11306), (28, 11330),

Gene: Bae\_12 Start: 11074, Stop: 11298, Start Num: 11

Candidate Starts for Bae\_12:

(Start: 11 @11074 has 64 MA's), (19, 11164), (25, 11218), (27, 11224), (29, 11248),

Gene: BatteryCK\_10 Start: 8933, Stop: 9196, Start Num: 11

Candidate Starts for BatteryCK\_10:

(Start: 11 @8933 has 64 MA's), (19, 9029), (23, 9059), (24, 9074), (28, 9107),

Gene: BirdsNest\_15 Start: 9740, Stop: 10039, Start Num: 13

Candidate Starts for BirdsNest\_15:

(Start: 13 @9740 has 3 MA's), (17, 9827), (23, 9860), (24, 9875), (32, 10031),

Gene: BobbyK\_11 Start: 11141, Stop: 11362, Start Num: 11

Candidate Starts for BobbyK\_11:

(Start: 10 @11138 has 4 MA's), (Start: 11 @11141 has 64 MA's), (15, 11201), (16, 11204), (17, 11222), (20, 11237), (26, 11306), (28, 11327),

Gene: BrownCNA\_12 Start: 11392, Stop: 11616, Start Num: 10

Candidate Starts for BrownCNA\_12:

(Start: 10 @11392 has 4 MA's), (Start: 11 @11395 has 64 MA's), (15, 11455), (16, 11458), (17, 11476), (25, 11557), (26, 11560), (28, 11581),

Gene: CRB2\_14 Start: 11939, Stop: 12169, Start Num: 11

Candidate Starts for CRB2\_14:

(Start: 11 @11939 has 64 MA's), (16, 12002), (17, 12020), (26, 12104),

Gene: CharlieGBrown\_10 Start: 8951, Stop: 9214, Start Num: 11

Candidate Starts for CharlieGBrown\_10:

(Start: 11 @8951 has 64 MA's), (19, 9047), (23, 9077), (24, 9092), (28, 9125),

Gene: ChrisnMich\_10 Start: 10039, Stop: 10260, Start Num: 11

Candidate Starts for ChrisnMich\_10:

(Start: 11 @10039 has 64 MA's), (15, 10099), (16, 10102), (17, 10120), (20, 10135), (28, 10225),

Gene: Cooper\_11 Start: 10112, Stop: 10336, Start Num: 11

Candidate Starts for Cooper\_11:

(Start: 11 @10112 has 64 MA's), (15, 10172), (16, 10175), (19, 10199), (20, 10211), (25, 10277), (28, 10301),

Gene: Cornobble\_10 Start: 8931, Stop: 9194, Start Num: 11

Candidate Starts for Cornobble\_10:

(Start: 11 @8931 has 64 MA's), (23, 9057), (24, 9072), (28, 9105),

Gene: Crownjwl\_11 Start: 9165, Stop: 9428, Start Num: 11

Candidate Starts for Crownjwl\_11:

(Start: 11 @9165 has 64 MA's), (23, 9291), (24, 9306), (28, 9339),

Gene: Derpp\_10 Start: 8939, Stop: 9202, Start Num: 11

Candidate Starts for Derpp\_10:

(Start: 11 @8939 has 64 MA's), (19, 9035), (23, 9065), (24, 9080), (28, 9113),

Gene: DigitDog\_12 Start: 11071, Stop: 11283, Start Num: 11

Candidate Starts for DigitDog\_12:

(Start: 11 @11071 has 64 MA's), (19, 11161), (25, 11215), (27, 11221),

Gene: Donny\_12 Start: 11070, Stop: 11288, Start Num: 11

Candidate Starts for Donny\_12:

(Start: 11 @11070 has 64 MA's), (14, 11124), (25, 11214), (27, 11220),

Gene: DuchessDung\_10 Start: 8933, Stop: 9196, Start Num: 11

Candidate Starts for DuchessDung\_10:

(Start: 11 @8933 has 64 MA's), (19, 9029), (23, 9059), (24, 9074), (28, 9107),

Gene: EastView9101\_12 Start: 11073, Stop: 11291, Start Num: 11

Candidate Starts for EastView9101\_12:

(Start: 11 @11073 has 64 MA's), (19, 11163), (25, 11217), (27, 11223),

Gene: Epah\_10 Start: 10039, Stop: 10260, Start Num: 11

Candidate Starts for Epah\_10:

(Start: 11 @10039 has 64 MA's), (15, 10099), (16, 10102), (17, 10120), (20, 10135), (28, 10225),

Gene: Fanaw\_11 Start: 11141, Stop: 11365, Start Num: 10

Candidate Starts for Fanaw\_11:

(Start: 10 @11141 has 4 MA's), (Start: 11 @11144 has 64 MA's), (15, 11204), (16, 11207), (17, 11225), (20, 11240), (25, 11306), (26, 11309), (28, 11330),

Gene: ForDig\_9 Start: 9546, Stop: 9785, Start Num: 12

Candidate Starts for ForDig\_9:

(9, 9468), (Start: 12 @9546 has 1 MA's), (14, 9594), (22, 9690), (25, 9717),

Gene: Fortunato\_11 Start: 11135, Stop: 11356, Start Num: 11

Candidate Starts for Fortunato\_11:

(Start: 10 @11132 has 4 MA's), (Start: 11 @11135 has 64 MA's), (15, 11195), (16, 11198), (17, 11216), (26, 11300), (28, 11321),

Gene: Frederick\_11 Start: 11144, Stop: 11365, Start Num: 11

Candidate Starts for Frederick\_11:

(Start: 10 @11141 has 4 MA's), (Start: 11 @11144 has 64 MA's), (15, 11204), (16, 11207), (17, 11225), (26, 11309), (28, 11330),

Gene: GinPorsche\_10 Start: 10039, Stop: 10260, Start Num: 11

Candidate Starts for GinPorsche\_10:

(Start: 11 @10039 has 64 MA's), (15, 10099), (16, 10102), (17, 10120), (20, 10135), (28, 10225),

Gene: Hally898\_10 Start: 10039, Stop: 10260, Start Num: 11

Candidate Starts for Hally898\_10:

(Start: 11 @10039 has 64 MA's), (15, 10099), (16, 10102), (17, 10120), (20, 10135), (28, 10225),

Gene: Hangman\_11 Start: 11144, Stop: 11365, Start Num: 11  
Candidate Starts for Hangman\_11:  
(Start: 10 @11141 has 4 MA's), (Start: 11 @11144 has 64 MA's), (15, 11204), (16, 11207), (17, 11225),  
(20, 11240), (26, 11309), (28, 11330),

Gene: Hashim76\_15 Start: 10023, Stop: 10322, Start Num: 13  
Candidate Starts for Hashim76\_15:  
(8, 9615), (Start: 13 @10023 has 3 MA's), (17, 10110), (23, 10143), (24, 10158), (32, 10314),

Gene: Heath\_11 Start: 11144, Stop: 11365, Start Num: 11  
Candidate Starts for Heath\_11:  
(Start: 10 @11141 has 4 MA's), (Start: 11 @11144 has 64 MA's), (15, 11204), (16, 11207), (17, 11225),  
(25, 11306), (26, 11309), (28, 11330),

Gene: Hosp\_07 Start: 7748, Stop: 7987, Start Num: 12  
Candidate Starts for Hosp\_07:  
(9, 7670), (Start: 12 @7748 has 1 MA's), (14, 7796), (22, 7892), (25, 7919),

Gene: Hydro\_11 Start: 11138, Stop: 11362, Start Num: 10  
Candidate Starts for Hydro\_11:  
(Start: 10 @11138 has 4 MA's), (Start: 11 @11141 has 64 MA's), (15, 11201), (16, 11204), (17, 11222),  
(20, 11237), (26, 11306), (28, 11327),

Gene: ImtiyazSitla\_10 Start: 8927, Stop: 9190, Start Num: 11  
Candidate Starts for ImtiyazSitla\_10:  
(Start: 11 @8927 has 64 MA's), (19, 9023), (23, 9053), (24, 9068), (28, 9101),

Gene: Indlovu\_11 Start: 10773, Stop: 11009, Start Num: 11  
Candidate Starts for Indlovu\_11:  
(Start: 11 @10773 has 64 MA's), (16, 10842), (21, 10902), (25, 10941),

Gene: JAMaL\_10 Start: 10664, Stop: 10885, Start Num: 11  
Candidate Starts for JAMaL\_10:  
(Start: 11 @10664 has 64 MA's), (15, 10724), (20, 10760), (28, 10850),

Gene: JaguarMi\_12 Start: 10965, Stop: 11189, Start Num: 11  
Candidate Starts for JaguarMi\_12:  
(Start: 11 @10965 has 64 MA's), (15, 11025), (16, 11028), (18, 11049), (19, 11052), (26, 11133), (28,  
11154),

Gene: Jiminy\_10 Start: 8935, Stop: 9198, Start Num: 11  
Candidate Starts for Jiminy\_10:  
(Start: 11 @8935 has 64 MA's), (19, 9031), (23, 9061), (24, 9076), (28, 9109),

Gene: Jolie1\_09 Start: 9546, Stop: 9785, Start Num: 12  
Candidate Starts for Jolie1\_09:  
(9, 9468), (Start: 12 @9546 has 1 MA's), (14, 9594), (22, 9690), (25, 9717),

Gene: KarasumaRum\_13 Start: 11235, Stop: 11447, Start Num: 11  
Candidate Starts for KarasumaRum\_13:  
(Start: 11 @11235 has 64 MA's), (19, 11325), (25, 11379), (27, 11385),

Gene: KayaCho\_9 Start: 9549, Stop: 9788, Start Num: 12



Candidate Starts for KayaCho\_9:  
(9, 9471), (Start: 12 @9549 has 1 MA's), (14, 9597), (22, 9693), (25, 9720),

Gene: Kwksand96\_10 Start: 8933, Stop: 9196, Start Num: 11  
Candidate Starts for Kwksand96\_10:  
(Start: 11 @8933 has 64 MA's), (19, 9029), (23, 9059), (24, 9074), (28, 9107),

Gene: Labeouficaum\_10 Start: 8939, Stop: 9202, Start Num: 11  
Candidate Starts for Labeouficaum\_10:  
(Start: 11 @8939 has 64 MA's), (19, 9035), (23, 9065), (24, 9080), (28, 9113),

Gene: Lambano\_10 Start: 10039, Stop: 10260, Start Num: 11  
Candidate Starts for Lambano\_10:  
(Start: 11 @10039 has 64 MA's), (15, 10099), (16, 10102), (17, 10120), (20, 10135), (28, 10225),

Gene: LilMcDreamy\_12 Start: 11806, Stop: 12027, Start Num: 11  
Candidate Starts for LilMcDreamy\_12:  
(4, 11131), (5, 11143), (6, 11167), (7, 11341), (Start: 11 @11806 has 64 MA's), (25, 11950), (30, 11983),

Gene: Lolalove\_11 Start: 11141, Stop: 11362, Start Num: 11  
Candidate Starts for Lolalove\_11:  
(Start: 10 @11138 has 4 MA's), (Start: 11 @11141 has 64 MA's), (15, 11201), (16, 11204), (17, 11222), (25, 11303), (26, 11306), (28, 11327),

Gene: Lopsy\_10 Start: 8930, Stop: 9193, Start Num: 11  
Candidate Starts for Lopsy\_10:  
(Start: 11 @8930 has 64 MA's), (23, 9056), (24, 9071), (28, 9104),

Gene: Magpie\_11 Start: 11296, Stop: 11520, Start Num: 10  
Candidate Starts for Magpie\_11:  
(Start: 10 @11296 has 4 MA's), (Start: 11 @11299 has 64 MA's), (15, 11359), (16, 11362), (17, 11380), (25, 11461), (26, 11464), (28, 11485),

Gene: Manad\_10 Start: 8931, Stop: 9194, Start Num: 11  
Candidate Starts for Manad\_10:  
(Start: 11 @8931 has 64 MA's), (23, 9057), (24, 9072), (28, 9105),

Gene: Maskar\_10 Start: 8927, Stop: 9190, Start Num: 11  
Candidate Starts for Maskar\_10:  
(Start: 11 @8927 has 64 MA's), (19, 9023), (23, 9053), (24, 9068), (28, 9101),

Gene: MelsMeow\_10 Start: 8933, Stop: 9196, Start Num: 11  
Candidate Starts for MelsMeow\_10:  
(Start: 11 @8933 has 64 MA's), (19, 9029), (23, 9059), (24, 9074), (28, 9107),

Gene: MichaelPhcott\_10 Start: 8939, Stop: 9202, Start Num: 11  
Candidate Starts for MichaelPhcott\_10:  
(Start: 11 @8939 has 64 MA's), (19, 9035), (23, 9065), (24, 9080), (28, 9113),

Gene: Mithril\_11 Start: 11144, Stop: 11365, Start Num: 11  
Candidate Starts for Mithril\_11:

(Start: 10 @11141 has 4 MA's), (Start: 11 @11144 has 64 MA's), (15, 11204), (16, 11207), (17, 11225), (20, 11240), (25, 11306), (26, 11309), (28, 11330),

Gene: Mudslide\_11 Start: 11392, Stop: 11613, Start Num: 11

Candidate Starts for Mudslide\_11:

(Start: 10 @11389 has 4 MA's), (Start: 11 @11392 has 64 MA's), (15, 11452), (16, 11455), (17, 11473), (20, 11488), (25, 11554), (26, 11557), (28, 11578),

Gene: Mysterious\_12 Start: 11310, Stop: 11528, Start Num: 11

Candidate Starts for Mysterious\_12:

(Start: 11 @11310 has 64 MA's), (19, 11400), (25, 11454), (27, 11460),

Gene: Nanao\_10 Start: 10039, Stop: 10260, Start Num: 11

Candidate Starts for Nanao\_10:

(Start: 11 @10039 has 64 MA's), (15, 10099), (16, 10102), (17, 10120), (20, 10135), (28, 10225),

Gene: Nangang\_12 Start: 11071, Stop: 11283, Start Num: 11

Candidate Starts for Nangang\_12:

(Start: 11 @11071 has 64 MA's), (19, 11161), (25, 11215), (27, 11221),

Gene: Nehemiah\_11 Start: 11310, Stop: 11528, Start Num: 11

Candidate Starts for Nehemiah\_11:

(Start: 11 @11310 has 64 MA's), (19, 11400), (25, 11454), (27, 11460),

Gene: Nigel\_9 Start: 9942, Stop: 10163, Start Num: 11

Candidate Starts for Nigel\_9:

(Start: 11 @9942 has 64 MA's), (15, 10002), (16, 10005), (20, 10038), (28, 10128),

Gene: Oline\_10 Start: 8939, Stop: 9202, Start Num: 11

Candidate Starts for Oline\_10:

(Start: 11 @8939 has 64 MA's), (19, 9035), (23, 9065), (24, 9080), (28, 9113),

Gene: PenguinLover67\_14 Start: 11948, Stop: 12169, Start Num: 11

Candidate Starts for PenguinLover67\_14:

(Start: 11 @11948 has 64 MA's), (16, 12011), (17, 12029), (26, 12113), (28, 12134),

Gene: Phelemich\_12 Start: 11313, Stop: 11531, Start Num: 11

Candidate Starts for Phelemich\_12:

(Start: 11 @11313 has 64 MA's), (25, 11457), (27, 11463),

Gene: PhenghisKhan\_10 Start: 8939, Stop: 9202, Start Num: 11

Candidate Starts for PhenghisKhan\_10:

(Start: 11 @8939 has 64 MA's), (19, 9035), (23, 9065), (24, 9080), (28, 9113),

Gene: Phergie\_10 Start: 8933, Stop: 9196, Start Num: 11

Candidate Starts for Phergie\_10:

(Start: 11 @8933 has 64 MA's), (19, 9029), (23, 9059), (24, 9074), (28, 9107),

Gene: Phleuron\_10 Start: 8939, Stop: 9202, Start Num: 11

Candidate Starts for Phleuron\_10:

(Start: 11 @8939 has 64 MA's), (19, 9035), (23, 9065), (24, 9080), (28, 9113),

Gene: PhrankReynolds\_10 Start: 8939, Stop: 9202, Start Num: 11

Candidate Starts for PhrankReynolds\_10:

(Start: 11 @8939 has 64 MA's), (19, 9035), (23, 9065), (24, 9080), (28, 9113),

Gene: Pinkman\_10 Start: 8939, Stop: 9202, Start Num: 11

Candidate Starts for Pinkman\_10:

(Start: 11 @8939 has 64 MA's), (19, 9035), (23, 9065), (24, 9080), (28, 9113),

Gene: Poster\_10 Start: 10039, Stop: 10260, Start Num: 11

Candidate Starts for Poster\_10:

(Start: 11 @10039 has 64 MA's), (15, 10099), (16, 10102), (17, 10120), (20, 10135), (28, 10225),

Gene: Prince\_11 Start: 11304, Stop: 11525, Start Num: 11

Candidate Starts for Prince\_11:

(Start: 10 @11301 has 4 MA's), (Start: 11 @11304 has 64 MA's), (15, 11364), (16, 11367), (17, 11385), (20, 11400), (25, 11466), (26, 11469), (28, 11490),

Gene: QueenPie\_11 Start: 10997, Stop: 11221, Start Num: 11

Candidate Starts for QueenPie\_11:

(Start: 11 @10997 has 64 MA's), (15, 11057), (16, 11060), (18, 11081), (20, 11096), (28, 11186), (30, 11195),

Gene: Quesadilla\_13 Start: 11758, Stop: 11988, Start Num: 11

Candidate Starts for Quesadilla\_13:

(Start: 11 @11758 has 64 MA's), (17, 11839), (21, 11881), (26, 11923), (28, 11944),

Gene: RawrgerThat\_11 Start: 11135, Stop: 11356, Start Num: 11

Candidate Starts for RawrgerThat\_11:

(1, 10139), (2, 10184), (3, 10187), (4, 10457), (6, 10493), (Start: 11 @11135 has 64 MA's), (15, 11195), (16, 11198), (17, 11216), (26, 11300), (28, 11321),

Gene: Reprobate\_12 Start: 11310, Stop: 11528, Start Num: 11

Candidate Starts for Reprobate\_12:

(Start: 11 @11310 has 64 MA's), (25, 11454), (27, 11460),

Gene: Rich\_12 Start: 11071, Stop: 11295, Start Num: 11

Candidate Starts for Rich\_12:

(Start: 11 @11071 has 64 MA's), (19, 11161), (25, 11215), (27, 11221), (29, 11245),

Gene: Rita130\_12 Start: 11070, Stop: 11288, Start Num: 11

Candidate Starts for Rita130\_12:

(Start: 11 @11070 has 64 MA's), (19, 11160), (25, 11214), (27, 11220),

Gene: Robyn\_10 Start: 8932, Stop: 9195, Start Num: 11

Candidate Starts for Robyn\_10:

(Start: 11 @8932 has 64 MA's), (23, 9058), (24, 9073), (28, 9106),

Gene: Saguaro\_13 Start: 12000, Stop: 12221, Start Num: 11

Candidate Starts for Saguaro\_13:

(Start: 11 @12000 has 64 MA's), (16, 12063), (19, 12084), (25, 12162), (28, 12186),

Gene: Schadenfreude\_10 Start: 8928, Stop: 9191, Start Num: 11

Candidate Starts for Schadenfreude\_10:

(Start: 11 @8928 has 64 MA's), (23, 9054), (24, 9069), (28, 9102),

Gene: Serendipitous\_12 Start: 11113, Stop: 11331, Start Num: 11  
Candidate Starts for Serendipitous\_12:  
(Start: 11 @11113 has 64 MA's), (19, 11203), (25, 11257), (27, 11263),

Gene: Shenyu\_12 Start: 11071, Stop: 11283, Start Num: 11  
Candidate Starts for Shenyu\_12:  
(Start: 11 @11071 has 64 MA's), (19, 11161), (25, 11215), (27, 11221),

Gene: Stinger\_9 Start: 9575, Stop: 9799, Start Num: 11  
Candidate Starts for Stinger\_9:  
(Start: 11 @9575 has 64 MA's), (15, 9635), (16, 9638), (20, 9674), (28, 9764),

Gene: StinkyVeggy\_13 Start: 11235, Stop: 11447, Start Num: 11  
Candidate Starts for StinkyVeggy\_13:  
(Start: 11 @11235 has 64 MA's), (19, 11325), (25, 11379), (27, 11385),

Gene: Struggle\_10 Start: 8933, Stop: 9196, Start Num: 11  
Candidate Starts for Struggle\_10:  
(Start: 11 @8933 has 64 MA's), (19, 9029), (23, 9059), (24, 9074), (28, 9107),

Gene: Suigeneris\_12 Start: 11070, Stop: 11288, Start Num: 11  
Candidate Starts for Suigeneris\_12:  
(Start: 11 @11070 has 64 MA's), (14, 11124), (25, 11214), (27, 11220),

Gene: TyrionL\_10 Start: 8939, Stop: 9202, Start Num: 11  
Candidate Starts for TyrionL\_10:  
(Start: 11 @8939 has 64 MA's), (19, 9035), (23, 9065), (24, 9080), (28, 9113),

Gene: Vincenzo\_12 Start: 11855, Stop: 12076, Start Num: 11  
Candidate Starts for Vincenzo\_12:  
(6, 11213), (Start: 11 @11855 has 64 MA's), (16, 11918), (17, 11936), (25, 12017), (28, 12041), (31, 12059),

Gene: VioletZ\_11 Start: 11144, Stop: 11365, Start Num: 11  
Candidate Starts for VioletZ\_11:  
(Start: 10 @11141 has 4 MA's), (Start: 11 @11144 has 64 MA's), (15, 11204), (16, 11207), (17, 11225), (20, 11240), (26, 11309), (28, 11330),

Gene: Waleliano\_11 Start: 11144, Stop: 11365, Start Num: 11  
Candidate Starts for Waleliano\_11:  
(Start: 10 @11141 has 4 MA's), (Start: 11 @11144 has 64 MA's), (15, 11204), (16, 11207), (17, 11225), (20, 11240), (26, 11309), (28, 11330),

Gene: Xincheng\_11 Start: 10965, Stop: 11189, Start Num: 11  
Candidate Starts for Xincheng\_11:  
(Start: 11 @10965 has 64 MA's), (15, 11025), (16, 11028), (18, 11049), (19, 11052), (26, 11133), (28, 11154),

Gene: Zemanar\_12 Start: 11141, Stop: 11365, Start Num: 10  
Candidate Starts for Zemanar\_12:  
(Start: 10 @11141 has 4 MA's), (Start: 11 @11144 has 64 MA's), (15, 11204), (16, 11207), (17, 11225), (20, 11240), (26, 11309), (28, 11330),

Gene: Zenteno07\_15 Start: 10050, Stop: 10349, Start Num: 13

Candidate Starts for Zenteno07\_15:

(4, 9366), (5, 9378), (6, 9402), (8, 9642), (Start: 13 @10050 has 3 MA's), (17, 10137), (23, 10170), (24, 10185), (32, 10341),