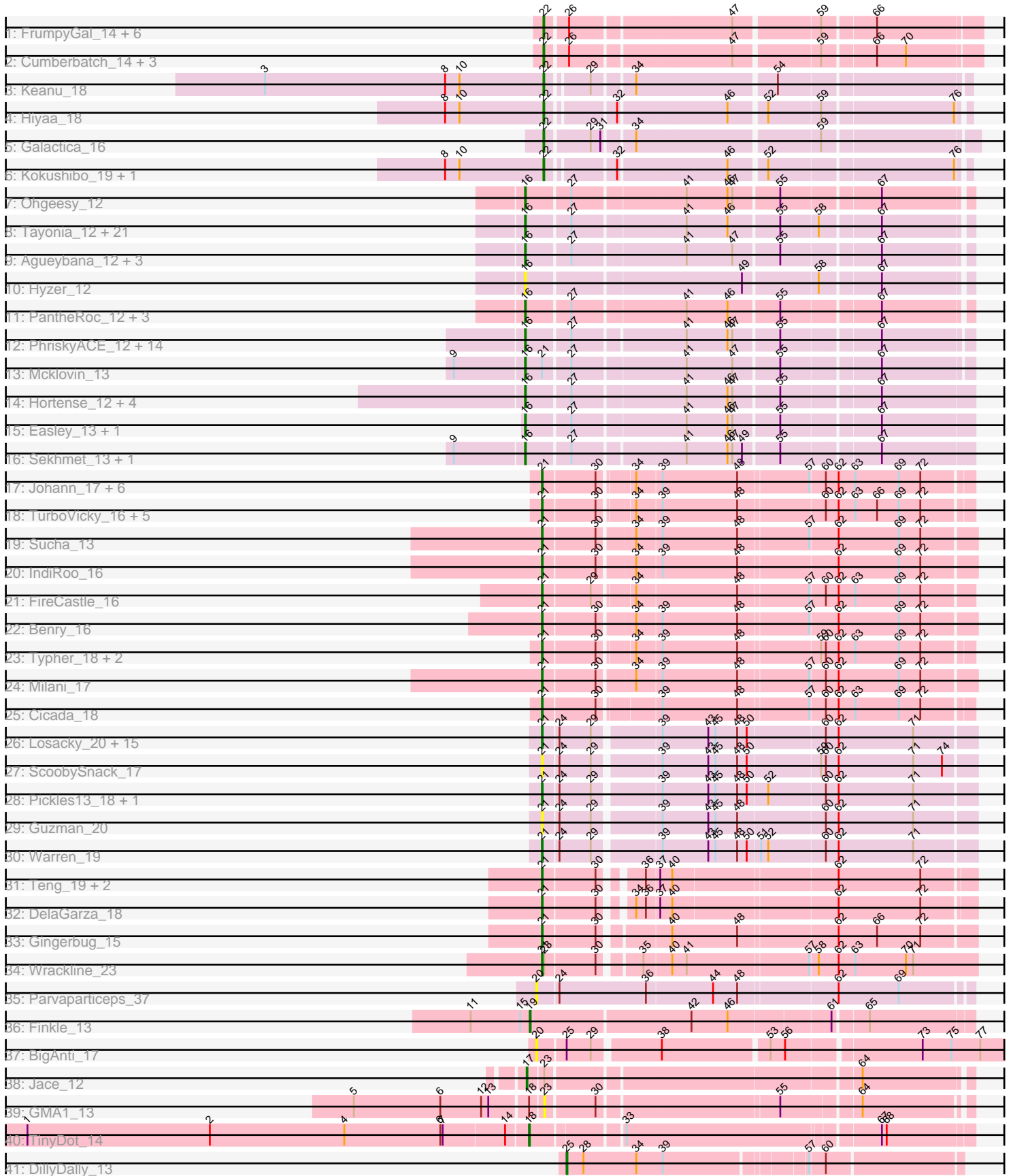


Pham 303193



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 303193 Report

This analysis was run 06/08/26 on database version 649.

Pham number 303193 has 129 members, 23 are drafts.

Phages represented in each track:

- Track 1 : FrumpyGal\_14, HFrancette\_14, Vondra\_14, Eklok\_14, Eastland\_14, AxeJC\_14, Ignacio\_14
- Track 2 : Cumberbatch\_14, Piccadilly\_14, Schlegelian\_14, ArizonaGT\_14
- Track 3 : Keanu\_18
- Track 4 : Hiya\_18
- Track 5 : Galactica\_16
- Track 6 : Kokushibo\_19, Spocter\_18
- Track 7 : Ohgeesy\_12
- Track 8 : Tayonia\_12, BatStarr\_12, SushiChef\_12, Maridalia\_12, Hugley\_12, Zameen\_12, BaxterFox\_12, Kita\_12, Suscepit\_12, TimTam\_12, Bosnia\_12, Neobush\_12, Antonio\_12, AlumE\_12, Herod\_12, Eviarto\_12, Manasvini\_12, Polly\_12, Eudoria\_12, BoyNamedSue\_12, Nymphadora\_12, Trumpet\_12
- Track 9 : Agueybana\_12, Madeline\_12, Madavieve\_12, Sidious\_12
- Track 10 : Hyzer\_12
- Track 11 : PantheRoc\_12, Bialota\_12, Zirinka\_12, Yeezy\_12
- Track 12 : PhriskyACE\_12, Dolores\_13, Clark\_13, MichaelScott\_13, Annalisa\_13, DobbysSock\_12, Tuti\_13, WinkNick\_13, Oregano\_13, Dorito\_12, Beenie\_13, Samman98\_13, Thimann\_13, Suerte\_12, Rizz\_14
- Track 13 : Mcklovin\_13
- Track 14 : Hortense\_12, Twinkle\_12, Howe\_12, Adora\_12, Shlim410\_12
- Track 15 : Easley\_13, Powerball\_12
- Track 16 : Sekhmet\_13, Invectra\_13
- Track 17 : Johann\_17, Htur\_16, Linayshia\_16, PermaG\_17, Goodman\_17, Rasovi\_16, Olympi\_18
- Track 18 : TurboVicky\_16, Jera\_17, SBlackberry\_16, Zanella\_16, Rootkit7\_16, Alove\_16
- Track 19 : Sucha\_13
- Track 20 : IndiRoo\_16
- Track 21 : FireCastle\_16
- Track 22 : Benry\_16
- Track 23 : Typher\_18, Labella\_18, AyoTeo\_18
- Track 24 : Milani\_17
- Track 25 : Cicada\_18
- Track 26 : Losacky\_20, Appa\_18, PhillyJawn\_19, Carrillo\_20, MenE\_19, Antuna\_19, Blett\_19, CookieDog\_19, Bush\_19, Phingu\_21, Violeta\_20, Jakelyne\_21, Winchester007\_34, Mariel\_22, Dropshot\_18, Phoningingi\_18
- Track 27 : ScoobySnack\_17

- Track 28 : Pickles13\_18, NCRodriguez\_20
- Track 29 : Guzman\_20
- Track 30 : Warren\_19
- Track 31 : Teng\_19, Sweetums\_19, Lesiram\_18
- Track 32 : DelaGarza\_18
- Track 33 : Gingerbug\_15
- Track 34 : Wrackline\_23
- Track 35 : Parvaparticeps\_37
- Track 36 : Finkle\_13
- Track 37 : BigAnti\_17
- Track 38 : Jace\_12
- Track 39 : GMA1\_13
- Track 40 : TinyDot\_14
- Track 41 : DillyDally\_13

***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 52 of the 106 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adora\_12, Agueybana\_12, AlumE\_12, Annalisa\_13, Antonio\_12, BatStarr\_12, BaxterFox\_12, Beenie\_13, Bialota\_12, Bosnia\_12, BoyNamedSue\_12, Clark\_13, DobbysSock\_12, Dolores\_13, Dorito\_12, Easley\_13, Eudoria\_12, Eviarto\_12, Herod\_12, Hortense\_12, Howe\_12, Hugley\_12, Hyzer\_12, Invecetra\_13, Kita\_12, Madavieve\_12, Madeline\_12, Manasvini\_12, Maridalia\_12, Mcklovin\_13, MichaelScott\_13, Neobush\_12, Nymphadora\_12, Ohgeesy\_12, Oregano\_13, PantheRoc\_12, PhriskyACE\_12, Polly\_12, Powerball\_12, Rizz\_14, Samman98\_13, Sekhmet\_13, Shlim410\_12, Sidious\_12, Suerte\_12, Suscepit\_12, SushiChef\_12, Tayonia\_12, Thimann\_13, TimTam\_12, Trumpet\_12, Tuti\_13, Twinkle\_12, WinkNick\_13, Yeezy\_12, Zameen\_12, Zirinka\_12,

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

- 

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

- Alove\_16, Antuna\_19, Appa\_18, ArizonaGT\_14, AxeJC\_14, AyoTeo\_18, Benry\_16, BigAnti\_17, Blett\_19, Bush\_19, Carrillo\_20, Cicada\_18, CookieDog\_19, Cumberbatch\_14, DelaGarza\_18, DillyDally\_13, Dropshot\_18, Eastland\_14, Eklok\_14, Finkle\_13, FireCastle\_16, FrumpyGal\_14, GMA1\_13, Galactica\_16, Gingerbug\_15, Goodman\_17, Guzman\_20, HFrancette\_14, Hiyaa\_18, Htur\_16, Ignacio\_14, IndiRoo\_16, Jace\_12, Jakelyne\_21, Jera\_17, Johann\_17, Keanu\_18, Kokushibo\_19, Labella\_18, Lesiram\_18, Linayshia\_16, Losacky\_20, Mariel\_22, MenE\_19, Milani\_17, NCRodriguez\_20, Olympi\_18, Parvaparticeps\_37, PermaG\_17, PhillyJawn\_19, Phingu\_21, Phonegingi\_18, Piccadilly\_14, Pickles13\_18, Rasovi\_16, Rootkit7\_16, SBlackberry\_16, Schlegelian\_14, ScoobySnack\_17, Spocter\_18, Sucha\_13, Sweetums\_19, Teng\_19, TinyDot\_14, TurboVicky\_16, Typher\_18, Violeta\_20, Vondra\_14, Warren\_19, Winchester007\_34, Wrackline\_23, Zanella\_16,

**Summary by start number:**

Start 16:

- Found in 57 of 129 ( 44.2% ) of genes in pham
- Manual Annotations of this start: 52 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adora\_12 (CZ4), Agueybana\_12 (CZ1), AlumE\_12 (CZ1), Annalisa\_13 (CZ4), Antonio\_12 (CZ1), BatStarr\_12 (CZ1), BaxterFox\_12 (CZ3), Beenie\_13 (CZ4), Bialota\_12 (CZ1), Bosnia\_12 (CZ1), BoyNamedSue\_12 (CZ1), Clark\_13 (CZ4), DobbysSock\_12 (CZ4), Dolores\_13 (CZ4), Dorito\_12 (CZ4), Easley\_13 (CZ4), Eudoria\_12 (CZ1), Eviarto\_12 (CZ1), Herod\_12 (CZ1), Hortense\_12 (CZ4), Howe\_12 (CZ4), Hugley\_12 (CZ1), Hyzer\_12 (CZ1), Invectra\_13 (CZ4), Kita\_12 (CZ1), Madavieve\_12 (CZ1), Madeline\_12 (CZ1), Manasvini\_12 (CZ1), Maridalia\_12 (CZ1), Mcklovin\_13 (CZ4), MichaelScott\_13 (CZ4), Neobush\_12 (CZ1), Nymphadora\_12 (CZ1), Ohgeesy\_12 (CZ), Oregano\_13 (CZ4), PantheRoc\_12 (CZ3), PhriskyACE\_12 (CZ4), Polly\_12 (CZ1), Powerball\_12 (CZ4), Rizz\_14 (CZ4), Samman98\_13 (CZ4), Sekhmet\_13 (CZ4), Shlim410\_12 (CZ4), Sidious\_12 (CZ7), Suerte\_12 (CZ4), Suscepit\_12 (CZ1), SushiChef\_12 (CZ), Tayonia\_12 (CZ1), Thimann\_13 (CZ4), TimTam\_12 (CZ1), Trumpet\_12 (CZ1), Tuti\_13 (CZ4), Twinkle\_12 (CZ4), WinkNick\_13 (CZ4), Yeezy\_12 (CZ3), Zameen\_12 (CZ1), Zirinka\_12 (CZ1),

Start 17:

- Found in 1 of 129 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jace\_12 (singleton),

Start 18:

- Found in 2 of 129 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 50.0% of time when present
- Phage (with cluster) where this start called: TinyDot\_14 (singleton),

Start 19:

- Found in 1 of 129 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Finkle\_13 (singleton),

Start 20:

- Found in 2 of 129 ( 1.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigAnti\_17 (singleton), Parvarticeps\_37 (UNK),

Start 21:

- Found in 50 of 129 ( 38.8% ) of genes in pham
- Manual Annotations of this start: 35 of 106
- Called 98.0% of time when present
- Phage (with cluster) where this start called: Alove\_16 (EJ), Antuna\_19 (GA), Appa\_18 (GA), AyoTeo\_18 (EJ), Benry\_16 (EJ), Blett\_19 (GA), Bush\_19 (GA), Carrillo\_20 (GA), Cicada\_18 (EJ), CookieDog\_19 (GA), DelaGarza\_18 (GF),

Dropshot\_18 (GA), FireCastle\_16 (EJ), Gingerbug\_15 (GF), Goodman\_17 (EJ), Guzman\_20 (GA), Htur\_16 (EJ), IndiRoo\_16 (EJ), Jakelyne\_21 (GA), Jera\_17 (EJ), Johann\_17 (EJ), Labella\_18 (EJ), Lesiram\_18 (GF), Linayshia\_16 (EJ), Losacky\_20 (GA), Mariel\_22 (GA), MenE\_19 (GA), Milani\_17 (EJ), NCRodriguez\_20 (GA), Olympi\_18 (EJ), PermaG\_17 (EJ), PhillyJawn\_19 (GA), Phingu\_21 (GA), Phonegingi\_18 (GA), Pickles13\_18 (GA), Rasovi\_16 (EJ), Rootkit7\_16 (EJ), SBlackberry\_16 (EJ), ScoobySnack\_17 (GA), Sucha\_13 (EJ), Sweetums\_19 (GF), Teng\_19 (GF), TurboVicky\_16 (EJ), Typher\_18 (EJ), Violeta\_20 (GA), Warren\_19 (GA), Winchester007\_34 (GA), Wrackline\_23 (GF), Zanella\_16 (EJ),

#### Start 22:

- Found in 16 of 129 ( 12.4% ) of genes in pham
- Manual Annotations of this start: 15 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArizonaGT\_14 (BP), AxeJC\_14 (BP), Cumberbatch\_14 (BP), Eastland\_14 (BP), Eklok\_14 (BP), FrumpyGal\_14 (BP), Galactica\_16 (BQ), HFrancette\_14 (BP), Hiyaa\_18 (BQ), Ignacio\_14 (BP), Keanu\_18 (BQ), Kokushibo\_19 (BQ), Piccadilly\_14 (BP), Schlegelian\_14 (BP), Spocter\_18 (BQ), Vondra\_14 (BP),

#### Start 23:

- Found in 3 of 129 ( 2.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: GMA1\_13 (singleton),

#### Start 25:

- Found in 2 of 129 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DillyDally\_13 (singleton),

### Summary by clusters:

There are 12 clusters represented in this pham: singleton, GF, EJ, CZ3, CZ1, CZ7, CZ4, CZ, BP, BQ, GA, UNK,

Info for manual annotations of cluster BP:

- Start number 22 was manually annotated 11 times for cluster BP.

Info for manual annotations of cluster BQ:

- Start number 22 was manually annotated 4 times for cluster BQ.

Info for manual annotations of cluster CZ:

- Start number 16 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 16 was manually annotated 23 times for cluster CZ1.

Info for manual annotations of cluster CZ3:

- Start number 16 was manually annotated 3 times for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 16 was manually annotated 24 times for cluster CZ4.

Info for manual annotations of cluster CZ7:

- Start number 16 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster EJ:

- Start number 21 was manually annotated 19 times for cluster EJ.

Info for manual annotations of cluster GA:

- Start number 21 was manually annotated 11 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 21 was manually annotated 5 times for cluster GF.

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

Gene: Adora\_12 Start: 7820, Stop: 8341, Start Num: 16

Candidate Starts for Adora\_12:

(Start: 16 @7820 has 52 MA's), (27, 7871), (41, 8003), (46, 8054), (47, 8060), (55, 8114), (67, 8228),

Gene: Agueybana\_12 Start: 8479, Stop: 8991, Start Num: 16

Candidate Starts for Agueybana\_12:

(Start: 16 @8479 has 52 MA's), (27, 8530), (41, 8662), (47, 8719), (55, 8773), (67, 8887),

Gene: Alove\_16 Start: 12044, Stop: 12544, Start Num: 21

Candidate Starts for Alove\_16:

(Start: 21 @12044 has 35 MA's), (30, 12107), (34, 12143), (39, 12173), (48, 12266), (60, 12368), (62, 12383), (63, 12404), (66, 12431), (69, 12458), (72, 12485),

Gene: AlumE\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for AlumE\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Annalisa\_13 Start: 8126, Stop: 8638, Start Num: 16

Candidate Starts for Annalisa\_13:

(Start: 16 @8126 has 52 MA's), (27, 8177), (41, 8306), (46, 8357), (47, 8363), (55, 8417), (67, 8531),

Gene: Antonio\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Antonio\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Antuna\_19 Start: 10118, Stop: 10630, Start Num: 21

Candidate Starts for Antuna\_19:

(Start: 21 @10118 has 35 MA's), (24, 10136), (29, 10175), (39, 10250), (43, 10307), (45, 10316), (48, 10343), (50, 10355), (60, 10448), (62, 10463), (71, 10556),

Gene: Appa\_18 Start: 9980, Stop: 10492, Start Num: 21

Candidate Starts for Appa\_18:

(Start: 21 @9980 has 35 MA's), (24, 9998), (29, 10037), (39, 10112), (43, 10169), (45, 10178), (48, 10205), (50, 10217), (60, 10310), (62, 10325), (71, 10418),

Gene: ArizonaGT\_14 Start: 8759, Stop: 9256, Start Num: 22

Candidate Starts for ArizonaGT\_14:

(Start: 22 @8759 has 15 MA's), (26, 8783), (47, 8972), (59, 9071), (66, 9131), (70, 9167),

Gene: AxeJC\_14 Start: 8772, Stop: 9272, Start Num: 22

Candidate Starts for AxeJC\_14:

(Start: 22 @8772 has 15 MA's), (26, 8796), (47, 8985), (59, 9084), (66, 9144),

Gene: AyoTeo\_18 Start: 12175, Stop: 12675, Start Num: 21

Candidate Starts for AyoTeo\_18:

(Start: 21 @12175 has 35 MA's), (30, 12238), (34, 12274), (39, 12304), (48, 12397), (59, 12493), (60, 12499), (62, 12514), (63, 12535), (69, 12589), (72, 12616),

Gene: BatStarr\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for BatStarr\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: BaxterFox\_12 Start: 7826, Stop: 8338, Start Num: 16

Candidate Starts for BaxterFox\_12:

(Start: 16 @7826 has 52 MA's), (27, 7877), (41, 8009), (46, 8060), (55, 8120), (58, 8165), (67, 8234),

Gene: Beenie\_13 Start: 8119, Stop: 8637, Start Num: 16

Candidate Starts for Beenie\_13:

(Start: 16 @8119 has 52 MA's), (27, 8170), (41, 8299), (46, 8350), (47, 8356), (55, 8410), (67, 8524),

Gene: Benry\_16 Start: 10229, Stop: 10741, Start Num: 21

Candidate Starts for Benry\_16:

(Start: 21 @10229 has 35 MA's), (30, 10292), (34, 10334), (39, 10364), (48, 10457), (57, 10541), (62, 10574), (69, 10649), (72, 10676),

Gene: Bialota\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Bialota\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (67, 8886),

Gene: BigAnti\_17 Start: 12741, Stop: 13310, Start Num: 20

Candidate Starts for BigAnti\_17:

(20, 12741), (Start: 25 @12774 has 1 MA's), (29, 12804), (38, 12879), (53, 13005), (56, 13023), (73, 13179), (75, 13215), (77, 13251),

Gene: Blett\_19 Start: 10133, Stop: 10645, Start Num: 21

Candidate Starts for Blett\_19:

(Start: 21 @10133 has 35 MA's), (24, 10151), (29, 10190), (39, 10265), (43, 10322), (45, 10331), (48, 10358), (50, 10370), (60, 10463), (62, 10478), (71, 10571),

Gene: Bosnia\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Bosnia\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: BoyNamedSue\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for BoyNamedSue\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Bush\_19 Start: 10114, Stop: 10626, Start Num: 21

Candidate Starts for Bush\_19:

(Start: 21 @10114 has 35 MA's), (24, 10132), (29, 10171), (39, 10246), (43, 10303), (45, 10312), (48, 10339), (50, 10351), (60, 10444), (62, 10459), (71, 10552),

Gene: Carrillo\_20 Start: 10087, Stop: 10599, Start Num: 21

Candidate Starts for Carrillo\_20:

(Start: 21 @10087 has 35 MA's), (24, 10105), (29, 10144), (39, 10219), (43, 10276), (45, 10285), (48, 10312), (50, 10324), (60, 10417), (62, 10432), (71, 10525),

Gene: Cicada\_18 Start: 12280, Stop: 12780, Start Num: 21

Candidate Starts for Cicada\_18:

(Start: 21 @12280 has 35 MA's), (30, 12343), (39, 12409), (48, 12502), (57, 12586), (60, 12604), (62, 12619), (63, 12640), (69, 12694), (72, 12721),

Gene: Clark\_13 Start: 8126, Stop: 8638, Start Num: 16

Candidate Starts for Clark\_13:

(Start: 16 @8126 has 52 MA's), (27, 8177), (41, 8306), (46, 8357), (47, 8363), (55, 8417), (67, 8531),

Gene: CookieDog\_19 Start: 10114, Stop: 10626, Start Num: 21

Candidate Starts for CookieDog\_19:

(Start: 21 @10114 has 35 MA's), (24, 10132), (29, 10171), (39, 10246), (43, 10303), (45, 10312), (48, 10339), (50, 10351), (60, 10444), (62, 10459), (71, 10552),

Gene: Cumberbatch\_14 Start: 8759, Stop: 9256, Start Num: 22

Candidate Starts for Cumberbatch\_14:

(Start: 22 @8759 has 15 MA's), (26, 8783), (47, 8972), (59, 9071), (66, 9131), (70, 9167),

Gene: DelaGarza\_18 Start: 10753, Stop: 11244, Start Num: 21

Candidate Starts for DelaGarza\_18:

(Start: 21 @10753 has 35 MA's), (30, 10816), (34, 10843), (36, 10855), (37, 10870), (40, 10885), (62, 11080), (72, 11182),

Gene: DillyDally\_13 Start: 8708, Stop: 9166, Start Num: 25

Candidate Starts for DillyDally\_13:

(Start: 25 @8708 has 1 MA's), (28, 8729), (34, 8795), (39, 8828), (57, 8990), (60, 9008),

Gene: DobbysSock\_12 Start: 7618, Stop: 8136, Start Num: 16

Candidate Starts for DobbysSock\_12:

(Start: 16 @7618 has 52 MA's), (27, 7669), (41, 7798), (46, 7849), (47, 7855), (55, 7909), (67, 8023),

Gene: Dolores\_13 Start: 8120, Stop: 8638, Start Num: 16

Candidate Starts for Dolores\_13:

(Start: 16 @8120 has 52 MA's), (27, 8171), (41, 8300), (46, 8351), (47, 8357), (55, 8411), (67, 8525),

Gene: Dorito\_12 Start: 7623, Stop: 8135, Start Num: 16

Candidate Starts for Dorito\_12:

(Start: 16 @7623 has 52 MA's), (27, 7674), (41, 7803), (46, 7854), (47, 7860), (55, 7914), (67, 8028),

Gene: Dropshot\_18 Start: 9980, Stop: 10492, Start Num: 21

Candidate Starts for Dropshot\_18:

(Start: 21 @9980 has 35 MA's), (24, 9998), (29, 10037), (39, 10112), (43, 10169), (45, 10178), (48, 10205), (50, 10217), (60, 10310), (62, 10325), (71, 10418),

Gene: Easley\_13 Start: 8121, Stop: 8642, Start Num: 16  
Candidate Starts for Easley\_13:  
(Start: 16 @8121 has 52 MA's), (27, 8172), (41, 8304), (46, 8355), (47, 8361), (55, 8415), (67, 8529),

Gene: Eastland\_14 Start: 8760, Stop: 9257, Start Num: 22  
Candidate Starts for Eastland\_14:  
(Start: 22 @8760 has 15 MA's), (26, 8784), (47, 8973), (59, 9072), (66, 9132),

Gene: Eklok\_14 Start: 8772, Stop: 9272, Start Num: 22  
Candidate Starts for Eklok\_14:  
(Start: 22 @8772 has 15 MA's), (26, 8796), (47, 8985), (59, 9084), (66, 9144),

Gene: Eudoria\_12 Start: 8478, Stop: 8990, Start Num: 16  
Candidate Starts for Eudoria\_12:  
(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Eviarto\_12 Start: 8478, Stop: 8990, Start Num: 16  
Candidate Starts for Eviarto\_12:  
(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Finkle\_13 Start: 8088, Stop: 8609, Start Num: 19  
Candidate Starts for Finkle\_13:  
(11, 8016), (15, 8076), (Start: 19 @8088 has 1 MA's), (42, 8280), (46, 8325), (61, 8445), (65, 8484),

Gene: FireCastle\_16 Start: 11944, Stop: 12447, Start Num: 21  
Candidate Starts for FireCastle\_16:  
(Start: 21 @11944 has 35 MA's), (29, 12001), (34, 12043), (48, 12166), (57, 12250), (60, 12268), (62, 12283), (63, 12304), (69, 12358), (72, 12385),

Gene: FrumpyGal\_14 Start: 8760, Stop: 9257, Start Num: 22  
Candidate Starts for FrumpyGal\_14:  
(Start: 22 @8760 has 15 MA's), (26, 8784), (47, 8973), (59, 9072), (66, 9132),

Gene: GMA1\_13 Start: 8266, Stop: 8748, Start Num: 23  
Candidate Starts for GMA1\_13:  
(5, 8038), (6, 8146), (12, 8197), (13, 8206), (Start: 18 @8251 has 1 MA's), (23, 8266), (30, 8323), (55, 8533), (64, 8623),

Gene: Galactica\_16 Start: 13620, Stop: 14111, Start Num: 22  
Candidate Starts for Galactica\_16:  
(Start: 22 @13620 has 15 MA's), (29, 13671), (31, 13683), (34, 13716), (59, 13932),

Gene: Gingerbug\_15 Start: 9935, Stop: 10438, Start Num: 21  
Candidate Starts for Gingerbug\_15:  
(Start: 21 @9935 has 35 MA's), (30, 9998), (40, 10073), (48, 10154), (62, 10271), (66, 10319), (72, 10373),

Gene: Goodman\_17 Start: 12192, Stop: 12692, Start Num: 21  
Candidate Starts for Goodman\_17:  
(Start: 21 @12192 has 35 MA's), (30, 12255), (34, 12291), (39, 12321), (48, 12414), (57, 12498), (60, 12516), (62, 12531), (63, 12552), (69, 12606), (72, 12633),

Gene: Guzman\_20 Start: 10395, Stop: 10907, Start Num: 21  
Candidate Starts for Guzman\_20:  
(Start: 21 @10395 has 35 MA's), (24, 10413), (29, 10452), (39, 10527), (43, 10584), (45, 10593), (48, 10620), (60, 10725), (62, 10740), (71, 10833),

Gene: HFrancette\_14 Start: 8771, Stop: 9271, Start Num: 22  
Candidate Starts for HFrancette\_14:  
(Start: 22 @8771 has 15 MA's), (26, 8795), (47, 8984), (59, 9083), (66, 9143),

Gene: Herod\_12 Start: 8478, Stop: 8990, Start Num: 16  
Candidate Starts for Herod\_12:  
(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Hiyaa\_18 Start: 14661, Stop: 15134, Start Num: 22  
Candidate Starts for Hiyaa\_18:  
(8, 14538), (10, 14556), (Start: 22 @14661 has 15 MA's), (32, 14733), (46, 14862), (52, 14904), (59, 14967), (76, 15123),

Gene: Hortense\_12 Start: 7820, Stop: 8341, Start Num: 16  
Candidate Starts for Hortense\_12:  
(Start: 16 @7820 has 52 MA's), (27, 7871), (41, 8003), (46, 8054), (47, 8060), (55, 8114), (67, 8228),

Gene: Howe\_12 Start: 7820, Stop: 8341, Start Num: 16  
Candidate Starts for Howe\_12:  
(Start: 16 @7820 has 52 MA's), (27, 7871), (41, 8003), (46, 8054), (47, 8060), (55, 8114), (67, 8228),

Gene: Htur\_16 Start: 12213, Stop: 12713, Start Num: 21  
Candidate Starts for Htur\_16:  
(Start: 21 @12213 has 35 MA's), (30, 12276), (34, 12312), (39, 12342), (48, 12435), (57, 12519), (60, 12537), (62, 12552), (63, 12573), (69, 12627), (72, 12654),

Gene: Hugley\_12 Start: 8478, Stop: 8990, Start Num: 16  
Candidate Starts for Hugley\_12:  
(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Hyzer\_12 Start: 8479, Stop: 8991, Start Num: 16  
Candidate Starts for Hyzer\_12:  
(Start: 16 @8479 has 52 MA's), (49, 8731), (58, 8818), (67, 8887),

Gene: Ignacio\_14 Start: 8771, Stop: 9271, Start Num: 22  
Candidate Starts for Ignacio\_14:  
(Start: 22 @8771 has 15 MA's), (26, 8795), (47, 8984), (59, 9083), (66, 9143),

Gene: IndiRoo\_16 Start: 10237, Stop: 10749, Start Num: 21  
Candidate Starts for IndiRoo\_16:  
(Start: 21 @10237 has 35 MA's), (30, 10300), (34, 10342), (39, 10372), (48, 10465), (62, 10582), (69, 10657), (72, 10684),

Gene: Invectra\_13 Start: 8119, Stop: 8637, Start Num: 16  
Candidate Starts for Invectra\_13:  
(9, 8035), (Start: 16 @8119 has 52 MA's), (27, 8170), (41, 8299), (46, 8350), (47, 8356), (49, 8368), (55, 8410), (67, 8524),

Gene: Jace\_12 Start: 8389, Stop: 8895, Start Num: 17

Candidate Starts for Jace\_12:

(Start: 17 @8389 has 1 MA's), (23, 8407), (64, 8767),

Gene: Jakelyne\_21 Start: 10136, Stop: 10648, Start Num: 21

Candidate Starts for Jakelyne\_21:

(Start: 21 @10136 has 35 MA's), (24, 10154), (29, 10193), (39, 10268), (43, 10325), (45, 10334), (48, 10361), (50, 10373), (60, 10466), (62, 10481), (71, 10574),

Gene: Jera\_17 Start: 11291, Stop: 11791, Start Num: 21

Candidate Starts for Jera\_17:

(Start: 21 @11291 has 35 MA's), (30, 11354), (34, 11390), (39, 11420), (48, 11513), (60, 11615), (62, 11630), (63, 11651), (66, 11678), (69, 11705), (72, 11732),

Gene: Johann\_17 Start: 12192, Stop: 12692, Start Num: 21

Candidate Starts for Johann\_17:

(Start: 21 @12192 has 35 MA's), (30, 12255), (34, 12291), (39, 12321), (48, 12414), (57, 12498), (60, 12516), (62, 12531), (63, 12552), (69, 12606), (72, 12633),

Gene: Keanu\_18 Start: 14701, Stop: 15177, Start Num: 22

Candidate Starts for Keanu\_18:

(3, 14353), (8, 14578), (10, 14596), (Start: 22 @14701 has 15 MA's), (29, 14746), (34, 14791), (54, 14956),

Gene: Kita\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Kita\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Kokushibo\_19 Start: 14676, Stop: 15149, Start Num: 22

Candidate Starts for Kokushibo\_19:

(8, 14553), (10, 14571), (Start: 22 @14676 has 15 MA's), (32, 14748), (46, 14877), (52, 14919), (76, 15138),

Gene: Labella\_18 Start: 12179, Stop: 12679, Start Num: 21

Candidate Starts for Labella\_18:

(Start: 21 @12179 has 35 MA's), (30, 12242), (34, 12278), (39, 12308), (48, 12401), (59, 12497), (60, 12503), (62, 12518), (63, 12539), (69, 12593), (72, 12620),

Gene: Lesiram\_18 Start: 10729, Stop: 11214, Start Num: 21

Candidate Starts for Lesiram\_18:

(Start: 21 @10729 has 35 MA's), (30, 10792), (36, 10831), (37, 10846), (40, 10861), (62, 11056), (72, 11158),

Gene: Linayshia\_16 Start: 12205, Stop: 12705, Start Num: 21

Candidate Starts for Linayshia\_16:

(Start: 21 @12205 has 35 MA's), (30, 12268), (34, 12304), (39, 12334), (48, 12427), (57, 12511), (60, 12529), (62, 12544), (63, 12565), (69, 12619), (72, 12646),

Gene: Losacky\_20 Start: 10260, Stop: 10772, Start Num: 21

Candidate Starts for Losacky\_20:

(Start: 21 @10260 has 35 MA's), (24, 10278), (29, 10317), (39, 10392), (43, 10449), (45, 10458), (48, 10485), (50, 10497), (60, 10590), (62, 10605), (71, 10698),

Gene: Madavieve\_12 Start: 8479, Stop: 8991, Start Num: 16

Candidate Starts for Madavieve\_12:

(Start: 16 @8479 has 52 MA's), (27, 8530), (41, 8662), (47, 8719), (55, 8773), (67, 8887),

Gene: Madeline\_12 Start: 8479, Stop: 8991, Start Num: 16

Candidate Starts for Madeline\_12:

(Start: 16 @8479 has 52 MA's), (27, 8530), (41, 8662), (47, 8719), (55, 8773), (67, 8887),

Gene: Manasvini\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Manasvini\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Maridalia\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Maridalia\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Mariel\_22 Start: 10291, Stop: 10803, Start Num: 21

Candidate Starts for Mariel\_22:

(Start: 21 @10291 has 35 MA's), (24, 10309), (29, 10348), (39, 10423), (43, 10480), (45, 10489), (48, 10516), (50, 10528), (60, 10621), (62, 10636), (71, 10729),

Gene: Mcklovin\_13 Start: 8936, Stop: 9451, Start Num: 16

Candidate Starts for Mcklovin\_13:

(9, 8852), (Start: 16 @8936 has 52 MA's), (Start: 21 @8957 has 35 MA's), (27, 8987), (41, 9119), (47, 9176), (55, 9230), (67, 9344),

Gene: MenE\_19 Start: 10248, Stop: 10760, Start Num: 21

Candidate Starts for MenE\_19:

(Start: 21 @10248 has 35 MA's), (24, 10266), (29, 10305), (39, 10380), (43, 10437), (45, 10446), (48, 10473), (50, 10485), (60, 10578), (62, 10593), (71, 10686),

Gene: MichaelScott\_13 Start: 8119, Stop: 8637, Start Num: 16

Candidate Starts for MichaelScott\_13:

(Start: 16 @8119 has 52 MA's), (27, 8170), (41, 8299), (46, 8350), (47, 8356), (55, 8410), (67, 8524),

Gene: Milani\_17 Start: 10888, Stop: 11400, Start Num: 21

Candidate Starts for Milani\_17:

(Start: 21 @10888 has 35 MA's), (30, 10951), (34, 10993), (39, 11023), (48, 11116), (57, 11200), (60, 11218), (62, 11233), (69, 11308), (72, 11335),

Gene: NCRodriguez\_20 Start: 10249, Stop: 10761, Start Num: 21

Candidate Starts for NCRodriguez\_20:

(Start: 21 @10249 has 35 MA's), (24, 10267), (29, 10306), (39, 10381), (43, 10438), (45, 10447), (48, 10474), (50, 10486), (52, 10510), (60, 10579), (62, 10594), (71, 10687),

Gene: Neobush\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Neobush\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Nymphadora\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Nymphadora\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Ohgeesy\_12 Start: 7826, Stop: 8338, Start Num: 16  
Candidate Starts for Ohgeesy\_12:  
(Start: 16 @7826 has 52 MA's), (27, 7877), (41, 8009), (46, 8060), (47, 8066), (55, 8120), (67, 8234),

Gene: Olympi\_18 Start: 12183, Stop: 12683, Start Num: 21  
Candidate Starts for Olympi\_18:  
(Start: 21 @12183 has 35 MA's), (30, 12246), (34, 12282), (39, 12312), (48, 12405), (57, 12489), (60, 12507), (62, 12522), (63, 12543), (69, 12597), (72, 12624),

Gene: Oregano\_13 Start: 7790, Stop: 8308, Start Num: 16  
Candidate Starts for Oregano\_13:  
(Start: 16 @7790 has 52 MA's), (27, 7841), (41, 7970), (46, 8021), (47, 8027), (55, 8081), (67, 8195),

Gene: PantheRoc\_12 Start: 7826, Stop: 8338, Start Num: 16  
Candidate Starts for PantheRoc\_12:  
(Start: 16 @7826 has 52 MA's), (27, 7877), (41, 8009), (46, 8060), (55, 8120), (67, 8234),

Gene: Parvaparticeps\_37 Start: 28010, Stop: 27492, Start Num: 20  
Candidate Starts for Parvaparticeps\_37:  
(20, 28010), (24, 27986), (36, 27878), (44, 27797), (48, 27767), (62, 27650), (69, 27575),

Gene: PermaG\_17 Start: 12255, Stop: 12755, Start Num: 21  
Candidate Starts for PermaG\_17:  
(Start: 21 @12255 has 35 MA's), (30, 12318), (34, 12354), (39, 12384), (48, 12477), (57, 12561), (60, 12579), (62, 12594), (63, 12615), (69, 12669), (72, 12696),

Gene: PhillyJawn\_19 Start: 9980, Stop: 10492, Start Num: 21  
Candidate Starts for PhillyJawn\_19:  
(Start: 21 @9980 has 35 MA's), (24, 9998), (29, 10037), (39, 10112), (43, 10169), (45, 10178), (48, 10205), (50, 10217), (60, 10310), (62, 10325), (71, 10418),

Gene: Phingu\_21 Start: 10139, Stop: 10651, Start Num: 21  
Candidate Starts for Phingu\_21:  
(Start: 21 @10139 has 35 MA's), (24, 10157), (29, 10196), (39, 10271), (43, 10328), (45, 10337), (48, 10364), (50, 10376), (60, 10469), (62, 10484), (71, 10577),

Gene: Phonegingi\_18 Start: 9980, Stop: 10492, Start Num: 21  
Candidate Starts for Phonegingi\_18:  
(Start: 21 @9980 has 35 MA's), (24, 9998), (29, 10037), (39, 10112), (43, 10169), (45, 10178), (48, 10205), (50, 10217), (60, 10310), (62, 10325), (71, 10418),

Gene: PhriskyACE\_12 Start: 7623, Stop: 8135, Start Num: 16  
Candidate Starts for PhriskyACE\_12:  
(Start: 16 @7623 has 52 MA's), (27, 7674), (41, 7803), (46, 7854), (47, 7860), (55, 7914), (67, 8028),

Gene: Piccadilly\_14 Start: 8759, Stop: 9256, Start Num: 22  
Candidate Starts for Piccadilly\_14:  
(Start: 22 @8759 has 15 MA's), (26, 8783), (47, 8972), (59, 9071), (66, 9131), (70, 9167),

Gene: Pickles13\_18 Start: 10150, Stop: 10662, Start Num: 21  
Candidate Starts for Pickles13\_18:  
(Start: 21 @10150 has 35 MA's), (24, 10168), (29, 10207), (39, 10282), (43, 10339), (45, 10348), (48, 10375), (50, 10387), (52, 10411), (60, 10480), (62, 10495), (71, 10588),

Gene: Polly\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Polly\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Powerball\_12 Start: 7626, Stop: 8144, Start Num: 16

Candidate Starts for Powerball\_12:

(Start: 16 @7626 has 52 MA's), (27, 7677), (41, 7812), (46, 7863), (47, 7869), (55, 7923), (67, 8037),

Gene: Rasovi\_16 Start: 12213, Stop: 12713, Start Num: 21

Candidate Starts for Rasovi\_16:

(Start: 21 @12213 has 35 MA's), (30, 12276), (34, 12312), (39, 12342), (48, 12435), (57, 12519), (60, 12537), (62, 12552), (63, 12573), (69, 12627), (72, 12654),

Gene: Rizz\_14 Start: 8119, Stop: 8637, Start Num: 16

Candidate Starts for Rizz\_14:

(Start: 16 @8119 has 52 MA's), (27, 8170), (41, 8299), (46, 8350), (47, 8356), (55, 8410), (67, 8524),

Gene: Rootkit7\_16 Start: 12044, Stop: 12544, Start Num: 21

Candidate Starts for Rootkit7\_16:

(Start: 21 @12044 has 35 MA's), (30, 12107), (34, 12143), (39, 12173), (48, 12266), (60, 12368), (62, 12383), (63, 12404), (66, 12431), (69, 12458), (72, 12485),

Gene: SBlackberry\_16 Start: 12050, Stop: 12550, Start Num: 21

Candidate Starts for SBlackberry\_16:

(Start: 21 @12050 has 35 MA's), (30, 12113), (34, 12149), (39, 12179), (48, 12272), (60, 12374), (62, 12389), (63, 12410), (66, 12437), (69, 12464), (72, 12491),

Gene: Samman98\_13 Start: 8120, Stop: 8638, Start Num: 16

Candidate Starts for Samman98\_13:

(Start: 16 @8120 has 52 MA's), (27, 8171), (41, 8300), (46, 8351), (47, 8357), (55, 8411), (67, 8525),

Gene: Schlegelian\_14 Start: 8759, Stop: 9256, Start Num: 22

Candidate Starts for Schlegelian\_14:

(Start: 22 @8759 has 15 MA's), (26, 8783), (47, 8972), (59, 9071), (66, 9131), (70, 9167),

Gene: ScoobySnack\_17 Start: 9849, Stop: 10361, Start Num: 21

Candidate Starts for ScoobySnack\_17:

(Start: 21 @9849 has 35 MA's), (24, 9867), (29, 9906), (39, 9981), (43, 10038), (45, 10047), (48, 10074), (50, 10086), (59, 10173), (60, 10179), (62, 10194), (71, 10287), (74, 10323),

Gene: Sekhmet\_13 Start: 8119, Stop: 8637, Start Num: 16

Candidate Starts for Sekhmet\_13:

(9, 8035), (Start: 16 @8119 has 52 MA's), (27, 8170), (41, 8299), (46, 8350), (47, 8356), (49, 8368), (55, 8410), (67, 8524),

Gene: Shlim410\_12 Start: 7820, Stop: 8341, Start Num: 16

Candidate Starts for Shlim410\_12:

(Start: 16 @7820 has 52 MA's), (27, 7871), (41, 8003), (46, 8054), (47, 8060), (55, 8114), (67, 8228),

Gene: Sidious\_12 Start: 7821, Stop: 8336, Start Num: 16

Candidate Starts for Sidious\_12:

(Start: 16 @7821 has 52 MA's), (27, 7872), (41, 8004), (47, 8061), (55, 8115), (67, 8229),

Gene: Spocter\_18 Start: 14649, Stop: 15122, Start Num: 22

Candidate Starts for Spocter\_18:

(8, 14526), (10, 14544), (Start: 22 @14649 has 15 MA's), (32, 14721), (46, 14850), (52, 14892), (76, 15111),

Gene: Sucha\_13 Start: 9226, Stop: 9738, Start Num: 21

Candidate Starts for Sucha\_13:

(Start: 21 @9226 has 35 MA's), (30, 9289), (34, 9331), (39, 9361), (48, 9454), (57, 9538), (62, 9571), (69, 9646), (72, 9673),

Gene: Suerte\_12 Start: 7618, Stop: 8136, Start Num: 16

Candidate Starts for Suerte\_12:

(Start: 16 @7618 has 52 MA's), (27, 7669), (41, 7798), (46, 7849), (47, 7855), (55, 7909), (67, 8023),

Gene: Suscepit\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Suscepit\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: SushiChef\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for SushiChef\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Sweetums\_19 Start: 10827, Stop: 11318, Start Num: 21

Candidate Starts for Sweetums\_19:

(Start: 21 @10827 has 35 MA's), (30, 10890), (36, 10929), (37, 10944), (40, 10959), (62, 11154), (72, 11256),

Gene: Tayonia\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Tayonia\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Teng\_19 Start: 10750, Stop: 11241, Start Num: 21

Candidate Starts for Teng\_19:

(Start: 21 @10750 has 35 MA's), (30, 10813), (36, 10852), (37, 10867), (40, 10882), (62, 11077), (72, 11179),

Gene: Thimann\_13 Start: 8120, Stop: 8638, Start Num: 16

Candidate Starts for Thimann\_13:

(Start: 16 @8120 has 52 MA's), (27, 8171), (41, 8300), (46, 8351), (47, 8357), (55, 8411), (67, 8525),

Gene: TimTam\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for TimTam\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: TinyDot\_14 Start: 8749, Stop: 9258, Start Num: 18

Candidate Starts for TinyDot\_14:

(1, 8131), (2, 8359), (4, 8527), (6, 8647), (7, 8650), (14, 8725), (Start: 18 @8749 has 1 MA's), (33, 8851), (67, 9148), (68, 9154),

Gene: Trumpet\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Trumpet\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: TurboVicky\_16 Start: 12044, Stop: 12544, Start Num: 21

Candidate Starts for TurboVicky\_16:

(Start: 21 @12044 has 35 MA's), (30, 12107), (34, 12143), (39, 12173), (48, 12266), (60, 12368), (62, 12383), (63, 12404), (66, 12431), (69, 12458), (72, 12485),

Gene: Tuti\_13 Start: 8119, Stop: 8640, Start Num: 16

Candidate Starts for Tuti\_13:

(Start: 16 @8119 has 52 MA's), (27, 8167), (41, 8302), (46, 8353), (47, 8359), (55, 8413), (67, 8527),

Gene: Twinkle\_12 Start: 7820, Stop: 8341, Start Num: 16

Candidate Starts for Twinkle\_12:

(Start: 16 @7820 has 52 MA's), (27, 7871), (41, 8003), (46, 8054), (47, 8060), (55, 8114), (67, 8228),

Gene: Typher\_18 Start: 12178, Stop: 12678, Start Num: 21

Candidate Starts for Typher\_18:

(Start: 21 @12178 has 35 MA's), (30, 12241), (34, 12277), (39, 12307), (48, 12400), (59, 12496), (60, 12502), (62, 12517), (63, 12538), (69, 12592), (72, 12619),

Gene: Violeta\_20 Start: 10078, Stop: 10590, Start Num: 21

Candidate Starts for Violeta\_20:

(Start: 21 @10078 has 35 MA's), (24, 10096), (29, 10135), (39, 10210), (43, 10267), (45, 10276), (48, 10303), (50, 10315), (60, 10408), (62, 10423), (71, 10516),

Gene: Vondra\_14 Start: 8768, Stop: 9268, Start Num: 22

Candidate Starts for Vondra\_14:

(Start: 22 @8768 has 15 MA's), (26, 8792), (47, 8981), (59, 9080), (66, 9140),

Gene: Warren\_19 Start: 10177, Stop: 10689, Start Num: 21

Candidate Starts for Warren\_19:

(Start: 21 @10177 has 35 MA's), (24, 10195), (29, 10234), (39, 10309), (43, 10366), (45, 10375), (48, 10402), (50, 10414), (51, 10429), (52, 10438), (60, 10507), (62, 10522), (71, 10615),

Gene: Winchester007\_34 Start: 16097, Stop: 16609, Start Num: 21

Candidate Starts for Winchester007\_34:

(Start: 21 @16097 has 35 MA's), (24, 16115), (29, 16154), (39, 16229), (43, 16286), (45, 16295), (48, 16322), (50, 16334), (60, 16427), (62, 16442), (71, 16535),

Gene: WinkNick\_13 Start: 8120, Stop: 8638, Start Num: 16

Candidate Starts for WinkNick\_13:

(Start: 16 @8120 has 52 MA's), (27, 8171), (41, 8300), (46, 8351), (47, 8357), (55, 8411), (67, 8525),

Gene: Wrackline\_23 Start: 11409, Stop: 11918, Start Num: 21

Candidate Starts for Wrackline\_23:

(Start: 21 @11409 has 35 MA's), (23, 11412), (30, 11472), (35, 11514), (40, 11547), (41, 11565), (57, 11712), (58, 11721), (62, 11745), (63, 11766), (70, 11829), (71, 11838),

Gene: Yeezy\_12 Start: 7823, Stop: 8335, Start Num: 16

Candidate Starts for Yeezy\_12:

(Start: 16 @7823 has 52 MA's), (27, 7874), (41, 8006), (46, 8057), (55, 8117), (67, 8231),

Gene: Zameen\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Zameen\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (58, 8817), (67, 8886),

Gene: Zanella\_16 Start: 12047, Stop: 12547, Start Num: 21

Candidate Starts for Zanella\_16:

(Start: 21 @12047 has 35 MA's), (30, 12110), (34, 12146), (39, 12176), (48, 12269), (60, 12371), (62, 12386), (63, 12407), (66, 12434), (69, 12461), (72, 12488),

Gene: Zirinka\_12 Start: 8478, Stop: 8990, Start Num: 16

Candidate Starts for Zirinka\_12:

(Start: 16 @8478 has 52 MA's), (27, 8529), (41, 8661), (46, 8712), (55, 8772), (67, 8886),