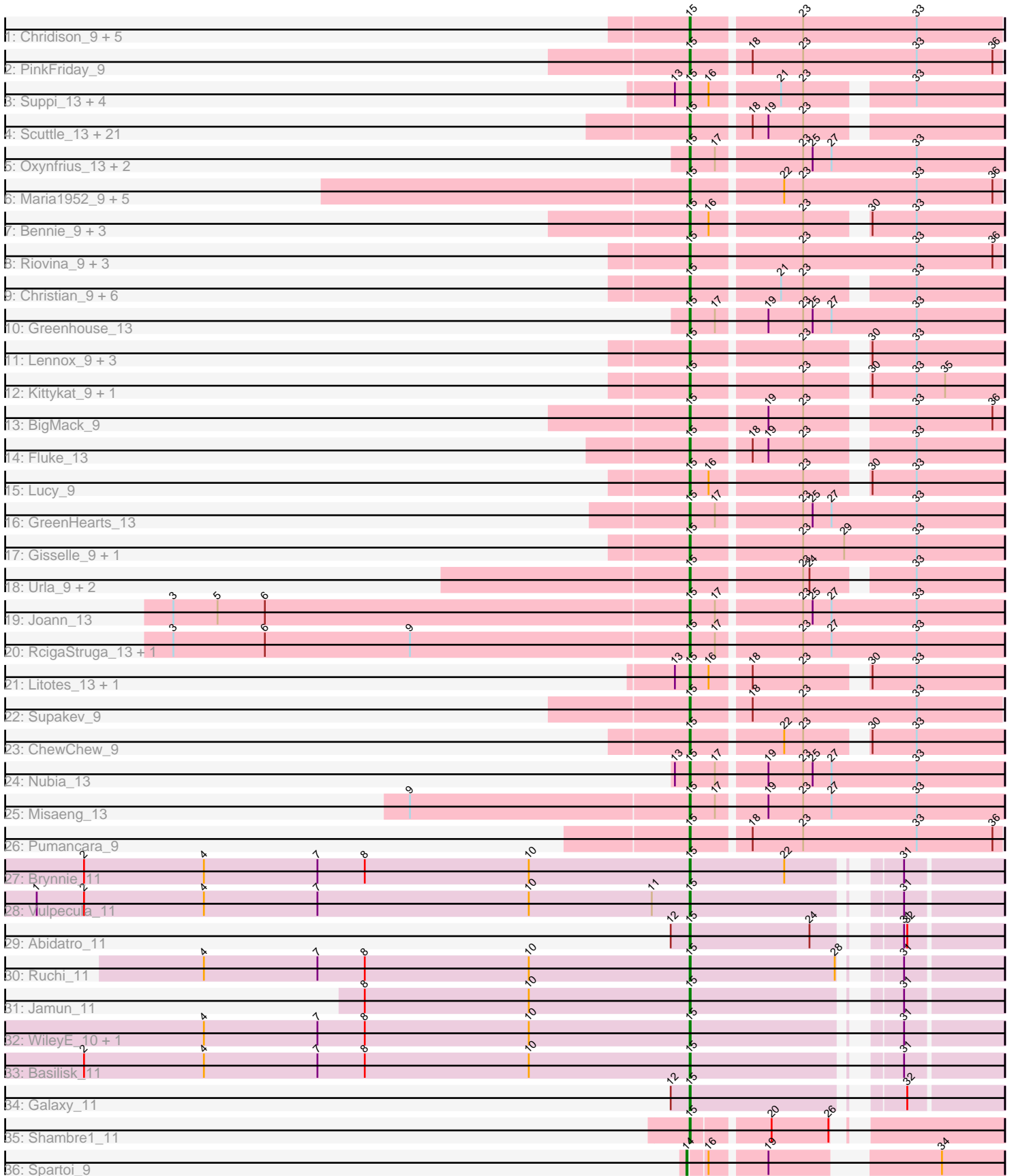


Pham 224472



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 224472 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224472 has 95 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Chridison\_9, DrRobert\_9, Vulture\_9, HunterDalle\_9, WonderBoy\_9, AustinPowers\_9
- Track 2 : PinkFriday\_9
- Track 3 : Suppi\_13, Canowicakte\_13, Wayne\_13, CallieOMalley\_13, AppleCider\_13
- Track 4 : Scuttle\_13, Carpal\_13, RAP15\_13, Wawa\_13, Potatoes\_13, Cholula\_13, Korra\_13, Dino\_13, Glenn\_13, Vallejo\_13, Jumboset\_13, Savage2526\_13, TattModd\_13, Rozby\_13, MrGloopy\_13, Riverdale\_13, Immaculata\_13, MeganNoll\_13, Beethoven\_13, Kalizoi\_13, BrotherBLo\_13, Zorro\_13
- Track 5 : Oxyfrius\_13, Lakshmi\_13, Albanese\_13
- Track 6 : Maria1952\_9, KingBob\_9, Herb\_9, Temper16\_9, Sergei\_9, Daiboju\_9
- Track 7 : Bennie\_9, HeadNerd\_9, Moki\_9, Huckleberry\_9
- Track 8 : Riovina\_9, Eunoia\_9, OMalley\_9, Aledel\_9
- Track 9 : Christian\_9, Nancia\_9, CristinaYang\_9, LilStuart\_9, Lasagna\_9, OurGirlNessie\_9, Bodacious\_9
- Track 10 : Greenhouse\_13
- Track 11 : Lennox\_9, Makoto\_9, PitaDog\_9, Pterodactyl\_9
- Track 12 : Kittykat\_9, Preamble\_9
- Track 13 : BigMack\_9
- Track 14 : Fluke\_13
- Track 15 : Lucy\_9
- Track 16 : GreenHearts\_13
- Track 17 : Gisselle\_9, DreamTeam\_9
- Track 18 : Urla\_9, MamaPearl\_9, EstebanJulior\_9
- Track 19 : Joann\_13
- Track 20 : RcigaStruga\_13, Huntingdon\_13
- Track 21 : Litotes\_13, PartyCup\_13
- Track 22 : Supakev\_9
- Track 23 : ChewChew\_9
- Track 24 : Nubia\_13
- Track 25 : Misaeng\_13
- Track 26 : Pumancara\_9
- Track 27 : Brynnie\_11
- Track 28 : Vulpecula\_11
- Track 29 : Abidatro\_11
- Track 30 : Ruchi\_11
- Track 31 : Jamun\_11
- Track 32 : WileyE\_10, Chickaboom\_10

- Track 33 : Basilisk\_11
- Track 34 : Galaxy\_11
- Track 35 : Shambre1\_11
- Track 36 : Spartoi\_9

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

The start number called the most often in the published annotations is 15, it was called in 92 of the 93 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro\_11, Albanese\_13, Aledel\_9, AppleCider\_13, AustinPowers\_9, Basilisk\_11, Beethoven\_13, Bennie\_9, BigMack\_9, Bodacious\_9, BrotherBLo\_13, Brynnie\_11, CallieOMalley\_13, Canowicakte\_13, Carpal\_13, ChewChew\_9, Chickaboom\_10, Cholula\_13, Chridison\_9, Christian\_9, CristinaYang\_9, Daiboju\_9, Dino\_13, DrRobert\_9, DreamTeam\_9, EstebanJulior\_9, Eunoia\_9, Fluke\_13, Galaxy\_11, Gisselle\_9, Glenn\_13, GreenHearts\_13, Greenhouse\_13, HeadNerd\_9, Herb\_9, Huckleberry\_9, HunterDalle\_9, Huntingdon\_13, Immaculata\_13, Jamun\_11, Joann\_13, Jumboset\_13, Kalizoi\_13, KingBob\_9, Kittykat\_9, Korra\_13, Lakshmi\_13, Lasagna\_9, Lennox\_9, LilStuart\_9, Litotes\_13, Lucy\_9, Makoto\_9, MamaPearl\_9, Maria1952\_9, MeganNoll\_13, Misaeng\_13, Moki\_9, MrGloopy\_13, Nancia\_9, Nubia\_13, OMalley\_9, OurGirlNessie\_9, Oxynfrius\_13, PartyCup\_13, PinkFriday\_9, PitaDog\_9, Potatoes\_13, Preamble\_9, Pterodactyl\_9, Pumancara\_9, RAP15\_13, RcigaStruga\_13, Riovina\_9, Riverdale\_13, Rozby\_13, Ruchi\_11, Savage2526\_13, Scuttle\_13, Sergei\_9, Shambre1\_11, Supakev\_9, Suppi\_13, TattModd\_13, Temper16\_9, Urla\_9, Vallejo\_13, Vulpecula\_11, Vulture\_9, Wawa\_13, Wayne\_13, WileyE\_10, WonderBoy\_9, Zorro\_13,

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

- 

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

- Spartoi\_9,

**Summary by start number:**

Start 14:

- Found in 1 of 95 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spartoi\_9 (singleton),

Start 15:

- Found in 94 of 95 ( 98.9% ) of genes in pham
- Manual Annotations of this start: 92 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro\_11 (AS1), Albanese\_13 (AK), Aledel\_9 (AK), AppleCider\_13 (AK), AustinPowers\_9 (AK), Basilisk\_11 (AS1), Beethoven\_13 (AK), Bennie\_9 (AK), BigMack\_9 (AK), Bodacious\_9 (AK), BrotherBLo\_13 (AK), Brynnie\_11 (AS1), CallieOMalley\_13 (AK), Canowicakte\_13

(AK), Carpal\_13 (AK), ChewChew\_9 (AK), Chickaboom\_10 (AS1), Cholula\_13 (AK), Chridison\_9 (AK), Christian\_9 (AK), CristinaYang\_9 (AK), Daiboju\_9 (AK), Dino\_13 (AK), DrRobert\_9 (AK), DreamTeam\_9 (AK), EstebanJulior\_9 (AK), Eunoia\_9 (AK), Fluke\_13 (AK), Galaxy\_11 (AS1), Gisselle\_9 (AK), Glenn\_13 (AK), GreenHearts\_13 (AK), Greenhouse\_13 (AK), HeadNerd\_9 (AK), Herb\_9 (AK), Huckleberry\_9 (AK), HunterDalle\_9 (AK), Huntingdon\_13 (AK), Immaculata\_13 (AK), Jamun\_11 (AS1), Joann\_13 (AK), Jumboset\_13 (AK), Kalizoi\_13 (AK), KingBob\_9 (AK), Kittykat\_9 (AK), Korra\_13 (AK), Lakshmi\_13 (AK), Lasagna\_9 (AK), Lennox\_9 (AK), LilStuart\_9 (AK), Litotes\_13 (AK), Lucy\_9 (AK), Makoto\_9 (AK), MamaPearl\_9 (AK), Maria1952\_9 (AK), MeganNoll\_13 (AK), Misaeng\_13 (AK), Moki\_9 (AK), MrGloopy\_13 (AK), Nancia\_9 (AK), Nubia\_13 (AK), OMalley\_9 (AK), OurGirlNessie\_9 (AK), Oxynfrius\_13 (AK), PartyCup\_13 (AK), PinkFriday\_9 (AK), PitaDog\_9 (AK), Potatoes\_13 (AK), Preamble\_9 (AK), Pterodactyl\_9 (AK), Pumancara\_9 (AK), RAP15\_13 (AK), RcigaStruga\_13 (AK), Riovina\_9 (AK), Riverdale\_13 (AK), Rozby\_13 (AK), Ruchi\_11 (AS1), Savage2526\_13 (AK), Scuttle\_13 (AK), Sergei\_9 (AK), Shambre1\_11 (singleton), Supakev\_9 (AK), Suppi\_13 (AK), TattModd\_13 (AK), Temper16\_9 (AK), Urla\_9 (AK), Vallejo\_13 (AK), Vulpecula\_11 (AS1), Vulture\_9 (AK), Wawa\_13 (AK), Wayne\_13 (AK), WileyE\_10 (AS1), WonderBoy\_9 (AK), Zorro\_13 (AK),

### **Summary by clusters:**

There are 3 clusters represented in this pham: AK, AS1, singleton,

Info for manual annotations of cluster AK:

- Start number 15 was manually annotated 83 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 15 was manually annotated 8 times for cluster AS1.

### **Gene Information:**

Gene: Abidatro\_11 Start: 8071, Stop: 8328, Start Num: 15

Candidate Starts for Abidatro\_11:

(12, 8053), (Start: 15 @8071 has 92 MA's), (24, 8185), (31, 8239), (32, 8242),

Gene: Albanese\_13 Start: 10184, Stop: 10474, Start Num: 15

Candidate Starts for Albanese\_13:

(Start: 15 @10184 has 92 MA's), (17, 10208), (23, 10283), (25, 10292), (27, 10310), (33, 10391),

Gene: Aledel\_9 Start: 7261, Stop: 7548, Start Num: 15

Candidate Starts for Aledel\_9:

(Start: 15 @7261 has 92 MA's), (23, 7360), (33, 7468), (36, 7540),

Gene: AppleCider\_13 Start: 10140, Stop: 10409, Start Num: 15

Candidate Starts for AppleCider\_13:

(13, 10128), (Start: 15 @10140 has 92 MA's), (16, 10158), (21, 10218), (23, 10239), (33, 10326),

Gene: AustinPowers\_9 Start: 7262, Stop: 7549, Start Num: 15

Candidate Starts for AustinPowers\_9:

(Start: 15 @7262 has 92 MA's), (23, 7361), (33, 7469),

Gene: Basilisk\_11 Start: 8395, Stop: 8652, Start Num: 15  
Candidate Starts for Basilisk\_11:  
(2, 7819), (4, 7933), (7, 8041), (8, 8086), (10, 8242), (Start: 15 @8395 has 92 MA's), (31, 8563),

Gene: Beethoven\_13 Start: 10100, Stop: 10369, Start Num: 15  
Candidate Starts for Beethoven\_13:  
(Start: 15 @10100 has 92 MA's), (18, 10151), (19, 10166), (23, 10199),

Gene: Bennie\_9 Start: 7245, Stop: 7514, Start Num: 15  
Candidate Starts for Bennie\_9:  
(Start: 15 @7245 has 92 MA's), (16, 7263), (23, 7344), (30, 7389), (33, 7431),

Gene: BigMack\_9 Start: 7245, Stop: 7514, Start Num: 15  
Candidate Starts for BigMack\_9:  
(Start: 15 @7245 has 92 MA's), (19, 7311), (23, 7344), (33, 7431), (36, 7503),

Gene: Bodacious\_9 Start: 7243, Stop: 7512, Start Num: 15  
Candidate Starts for Bodacious\_9:  
(Start: 15 @7243 has 92 MA's), (21, 7321), (23, 7342), (33, 7429),

Gene: BrotherBLo\_13 Start: 10107, Stop: 10376, Start Num: 15  
Candidate Starts for BrotherBLo\_13:  
(Start: 15 @10107 has 92 MA's), (18, 10158), (19, 10173), (23, 10206),

Gene: Brynnie\_11 Start: 8207, Stop: 8464, Start Num: 15  
Candidate Starts for Brynnie\_11:  
(2, 7631), (4, 7745), (7, 7853), (8, 7898), (10, 8054), (Start: 15 @8207 has 92 MA's), (22, 8297), (31, 8375),

Gene: CallieOMalley\_13 Start: 10140, Stop: 10409, Start Num: 15  
Candidate Starts for CallieOMalley\_13:  
(13, 10128), (Start: 15 @10140 has 92 MA's), (16, 10158), (21, 10218), (23, 10239), (33, 10326),

Gene: Canowicakte\_13 Start: 10175, Stop: 10444, Start Num: 15  
Candidate Starts for Canowicakte\_13:  
(13, 10163), (Start: 15 @10175 has 92 MA's), (16, 10193), (21, 10253), (23, 10274), (33, 10361),

Gene: Carpal\_13 Start: 10107, Stop: 10376, Start Num: 15  
Candidate Starts for Carpal\_13:  
(Start: 15 @10107 has 92 MA's), (18, 10158), (19, 10173), (23, 10206),

Gene: ChewChew\_9 Start: 7242, Stop: 7511, Start Num: 15  
Candidate Starts for ChewChew\_9:  
(Start: 15 @7242 has 92 MA's), (22, 7323), (23, 7341), (30, 7386), (33, 7428),

Gene: Chickaboom\_10 Start: 7752, Stop: 8009, Start Num: 15  
Candidate Starts for Chickaboom\_10:  
(4, 7290), (7, 7398), (8, 7443), (10, 7599), (Start: 15 @7752 has 92 MA's), (31, 7920),

Gene: Cholula\_13 Start: 10152, Stop: 10421, Start Num: 15  
Candidate Starts for Cholula\_13:  
(Start: 15 @10152 has 92 MA's), (18, 10203), (19, 10218), (23, 10251),

Gene: Chridison\_9 Start: 7262, Stop: 7549, Start Num: 15

Candidate Starts for Chridison\_9:

(Start: 15 @7262 has 92 MA's), (23, 7361), (33, 7469),

Gene: Christian\_9 Start: 7243, Stop: 7512, Start Num: 15

Candidate Starts for Christian\_9:

(Start: 15 @7243 has 92 MA's), (21, 7321), (23, 7342), (33, 7429),

Gene: CristinaYang\_9 Start: 7243, Stop: 7512, Start Num: 15

Candidate Starts for CristinaYang\_9:

(Start: 15 @7243 has 92 MA's), (21, 7321), (23, 7342), (33, 7429),

Gene: Daiboju\_9 Start: 7263, Stop: 7550, Start Num: 15

Candidate Starts for Daiboju\_9:

(Start: 15 @7263 has 92 MA's), (22, 7344), (23, 7362), (33, 7470), (36, 7542),

Gene: Dino\_13 Start: 10106, Stop: 10375, Start Num: 15

Candidate Starts for Dino\_13:

(Start: 15 @10106 has 92 MA's), (18, 10157), (19, 10172), (23, 10205),

Gene: DrRobert\_9 Start: 7243, Stop: 7512, Start Num: 15

Candidate Starts for DrRobert\_9:

(Start: 15 @7243 has 92 MA's), (23, 7342), (33, 7429),

Gene: DreamTeam\_9 Start: 7289, Stop: 7579, Start Num: 15

Candidate Starts for DreamTeam\_9:

(Start: 15 @7289 has 92 MA's), (23, 7388), (29, 7427), (33, 7496),

Gene: EstebanJulior\_9 Start: 7287, Stop: 7556, Start Num: 15

Candidate Starts for EstebanJulior\_9:

(Start: 15 @7287 has 92 MA's), (23, 7386), (24, 7392), (33, 7473),

Gene: Eunoia\_9 Start: 7261, Stop: 7548, Start Num: 15

Candidate Starts for Eunoia\_9:

(Start: 15 @7261 has 92 MA's), (23, 7360), (33, 7468), (36, 7540),

Gene: Fluke\_13 Start: 10148, Stop: 10417, Start Num: 15

Candidate Starts for Fluke\_13:

(Start: 15 @10148 has 92 MA's), (18, 10199), (19, 10214), (23, 10247), (33, 10334),

Gene: Galaxy\_11 Start: 8078, Stop: 8335, Start Num: 15

Candidate Starts for Galaxy\_11:

(12, 8060), (Start: 15 @8078 has 92 MA's), (32, 8249),

Gene: Gisselle\_9 Start: 7289, Stop: 7579, Start Num: 15

Candidate Starts for Gisselle\_9:

(Start: 15 @7289 has 92 MA's), (23, 7388), (29, 7427), (33, 7496),

Gene: Glenn\_13 Start: 10158, Stop: 10427, Start Num: 15

Candidate Starts for Glenn\_13:

(Start: 15 @10158 has 92 MA's), (18, 10209), (19, 10224), (23, 10257),

Gene: GreenHearts\_13 Start: 10230, Stop: 10520, Start Num: 15  
Candidate Starts for GreenHearts\_13:  
(Start: 15 @10230 has 92 MA's), (17, 10254), (23, 10329), (25, 10338), (27, 10356), (33, 10437),

Gene: Greenhouse\_13 Start: 10155, Stop: 10445, Start Num: 15  
Candidate Starts for Greenhouse\_13:  
(Start: 15 @10155 has 92 MA's), (17, 10179), (19, 10221), (23, 10254), (25, 10263), (27, 10281), (33, 10362),

Gene: HeadNerd\_9 Start: 7245, Stop: 7514, Start Num: 15  
Candidate Starts for HeadNerd\_9:  
(Start: 15 @7245 has 92 MA's), (16, 7263), (23, 7344), (30, 7389), (33, 7431),

Gene: Herb\_9 Start: 7263, Stop: 7550, Start Num: 15  
Candidate Starts for Herb\_9:  
(Start: 15 @7263 has 92 MA's), (22, 7344), (23, 7362), (33, 7470), (36, 7542),

Gene: Huckleberry\_9 Start: 7245, Stop: 7514, Start Num: 15  
Candidate Starts for Huckleberry\_9:  
(Start: 15 @7245 has 92 MA's), (16, 7263), (23, 7344), (30, 7389), (33, 7431),

Gene: HunterDalle\_9 Start: 7261, Stop: 7548, Start Num: 15  
Candidate Starts for HunterDalle\_9:  
(Start: 15 @7261 has 92 MA's), (23, 7360), (33, 7468),

Gene: Huntingdon\_13 Start: 10141, Stop: 10431, Start Num: 15  
Candidate Starts for Huntingdon\_13:  
(3, 9655), (6, 9742), (9, 9880), (Start: 15 @10141 has 92 MA's), (17, 10165), (23, 10240), (27, 10267), (33, 10348),

Gene: Immaculata\_13 Start: 10152, Stop: 10421, Start Num: 15  
Candidate Starts for Immaculata\_13:  
(Start: 15 @10152 has 92 MA's), (18, 10203), (19, 10218), (23, 10251),

Gene: Jamun\_11 Start: 8419, Stop: 8676, Start Num: 15  
Candidate Starts for Jamun\_11:  
(8, 8110), (10, 8266), (Start: 15 @8419 has 92 MA's), (31, 8587),

Gene: Joann\_13 Start: 10133, Stop: 10423, Start Num: 15  
Candidate Starts for Joann\_13:  
(3, 9647), (5, 9689), (6, 9734), (Start: 15 @10133 has 92 MA's), (17, 10157), (23, 10232), (25, 10241), (27, 10259), (33, 10340),

Gene: Jumboset\_13 Start: 10101, Stop: 10370, Start Num: 15  
Candidate Starts for Jumboset\_13:  
(Start: 15 @10101 has 92 MA's), (18, 10152), (19, 10167), (23, 10200),

Gene: Kalizoi\_13 Start: 10100, Stop: 10369, Start Num: 15  
Candidate Starts for Kalizoi\_13:  
(Start: 15 @10100 has 92 MA's), (18, 10151), (19, 10166), (23, 10199),

Gene: KingBob\_9 Start: 7263, Stop: 7550, Start Num: 15  
Candidate Starts for KingBob\_9:

(Start: 15 @7263 has 92 MA's), (22, 7344), (23, 7362), (33, 7470), (36, 7542),

Gene: Kittykat\_9 Start: 7286, Stop: 7555, Start Num: 15

Candidate Starts for Kittykat\_9:

(Start: 15 @7286 has 92 MA's), (23, 7385), (30, 7430), (33, 7472), (35, 7499),

Gene: Korra\_13 Start: 10106, Stop: 10375, Start Num: 15

Candidate Starts for Korra\_13:

(Start: 15 @10106 has 92 MA's), (18, 10157), (19, 10172), (23, 10205),

Gene: Lakshmi\_13 Start: 10160, Stop: 10450, Start Num: 15

Candidate Starts for Lakshmi\_13:

(Start: 15 @10160 has 92 MA's), (17, 10184), (23, 10259), (25, 10268), (27, 10286), (33, 10367),

Gene: Lasagna\_9 Start: 7243, Stop: 7512, Start Num: 15

Candidate Starts for Lasagna\_9:

(Start: 15 @7243 has 92 MA's), (21, 7321), (23, 7342), (33, 7429),

Gene: Lennox\_9 Start: 7243, Stop: 7512, Start Num: 15

Candidate Starts for Lennox\_9:

(Start: 15 @7243 has 92 MA's), (23, 7342), (30, 7387), (33, 7429),

Gene: LilStuart\_9 Start: 7243, Stop: 7512, Start Num: 15

Candidate Starts for LilStuart\_9:

(Start: 15 @7243 has 92 MA's), (21, 7321), (23, 7342), (33, 7429),

Gene: Litotes\_13 Start: 10128, Stop: 10397, Start Num: 15

Candidate Starts for Litotes\_13:

(13, 10116), (Start: 15 @10128 has 92 MA's), (16, 10146), (18, 10179), (23, 10227), (30, 10272), (33, 10314),

Gene: Lucy\_9 Start: 7234, Stop: 7503, Start Num: 15

Candidate Starts for Lucy\_9:

(Start: 15 @7234 has 92 MA's), (16, 7252), (23, 7333), (30, 7378), (33, 7420),

Gene: Makoto\_9 Start: 7243, Stop: 7512, Start Num: 15

Candidate Starts for Makoto\_9:

(Start: 15 @7243 has 92 MA's), (23, 7342), (30, 7387), (33, 7429),

Gene: MamaPearl\_9 Start: 7287, Stop: 7556, Start Num: 15

Candidate Starts for MamaPearl\_9:

(Start: 15 @7287 has 92 MA's), (23, 7386), (24, 7392), (33, 7473),

Gene: Maria1952\_9 Start: 7263, Stop: 7550, Start Num: 15

Candidate Starts for Maria1952\_9:

(Start: 15 @7263 has 92 MA's), (22, 7344), (23, 7362), (33, 7470), (36, 7542),

Gene: MeganNoll\_13 Start: 10158, Stop: 10427, Start Num: 15

Candidate Starts for MeganNoll\_13:

(Start: 15 @10158 has 92 MA's), (18, 10209), (19, 10224), (23, 10257),

Gene: Misaeng\_13 Start: 10206, Stop: 10496, Start Num: 15

Candidate Starts for Misaeng\_13:



(9, 9945), (Start: 15 @10206 has 92 MA's), (17, 10230), (19, 10272), (23, 10305), (27, 10332), (33, 10413),

Gene: Moki\_9 Start: 7245, Stop: 7514, Start Num: 15

Candidate Starts for Moki\_9:

(Start: 15 @7245 has 92 MA's), (16, 7263), (23, 7344), (30, 7389), (33, 7431),

Gene: MrGloopy\_13 Start: 10091, Stop: 10360, Start Num: 15

Candidate Starts for MrGloopy\_13:

(Start: 15 @10091 has 92 MA's), (18, 10142), (19, 10157), (23, 10190),

Gene: Nancia\_9 Start: 7243, Stop: 7512, Start Num: 15

Candidate Starts for Nancia\_9:

(Start: 15 @7243 has 92 MA's), (21, 7321), (23, 7342), (33, 7429),

Gene: Nubia\_13 Start: 10120, Stop: 10410, Start Num: 15

Candidate Starts for Nubia\_13:

(13, 10108), (Start: 15 @10120 has 92 MA's), (17, 10144), (19, 10186), (23, 10219), (25, 10228), (27, 10246), (33, 10327),

Gene: OMalley\_9 Start: 7261, Stop: 7548, Start Num: 15

Candidate Starts for OMalley\_9:

(Start: 15 @7261 has 92 MA's), (23, 7360), (33, 7468), (36, 7540),

Gene: OurGirlNessie\_9 Start: 7234, Stop: 7503, Start Num: 15

Candidate Starts for OurGirlNessie\_9:

(Start: 15 @7234 has 92 MA's), (21, 7312), (23, 7333), (33, 7420),

Gene: Oxynfrius\_13 Start: 10133, Stop: 10423, Start Num: 15

Candidate Starts for Oxynfrius\_13:

(Start: 15 @10133 has 92 MA's), (17, 10157), (23, 10232), (25, 10241), (27, 10259), (33, 10340),

Gene: PartyCup\_13 Start: 10175, Stop: 10444, Start Num: 15

Candidate Starts for PartyCup\_13:

(13, 10163), (Start: 15 @10175 has 92 MA's), (16, 10193), (18, 10226), (23, 10274), (30, 10319), (33, 10361),

Gene: PinkFriday\_9 Start: 7264, Stop: 7551, Start Num: 15

Candidate Starts for PinkFriday\_9:

(Start: 15 @7264 has 92 MA's), (18, 7315), (23, 7363), (33, 7471), (36, 7543),

Gene: PitaDog\_9 Start: 7234, Stop: 7503, Start Num: 15

Candidate Starts for PitaDog\_9:

(Start: 15 @7234 has 92 MA's), (23, 7333), (30, 7378), (33, 7420),

Gene: Potatoes\_13 Start: 10152, Stop: 10421, Start Num: 15

Candidate Starts for Potatoes\_13:

(Start: 15 @10152 has 92 MA's), (18, 10203), (19, 10218), (23, 10251),

Gene: Preamble\_9 Start: 7244, Stop: 7513, Start Num: 15

Candidate Starts for Preamble\_9:

(Start: 15 @7244 has 92 MA's), (23, 7343), (30, 7388), (33, 7430), (35, 7457),

Gene: Pterodactyl\_9 Start: 7235, Stop: 7504, Start Num: 15  
Candidate Starts for Pterodactyl\_9:  
(Start: 15 @7235 has 92 MA's), (23, 7334), (30, 7379), (33, 7421),

Gene: Pumancara\_9 Start: 7263, Stop: 7550, Start Num: 15  
Candidate Starts for Pumancara\_9:  
(Start: 15 @7263 has 92 MA's), (18, 7314), (23, 7362), (33, 7470), (36, 7542),

Gene: RAP15\_13 Start: 10158, Stop: 10427, Start Num: 15  
Candidate Starts for RAP15\_13:  
(Start: 15 @10158 has 92 MA's), (18, 10209), (19, 10224), (23, 10257),

Gene: RcigaStruga\_13 Start: 10141, Stop: 10431, Start Num: 15  
Candidate Starts for RcigaStruga\_13:  
(3, 9655), (6, 9742), (9, 9880), (Start: 15 @10141 has 92 MA's), (17, 10165), (23, 10240), (27, 10267),  
(33, 10348),

Gene: Riovina\_9 Start: 7261, Stop: 7548, Start Num: 15  
Candidate Starts for Riovina\_9:  
(Start: 15 @7261 has 92 MA's), (23, 7360), (33, 7468), (36, 7540),

Gene: Riverdale\_13 Start: 10089, Stop: 10358, Start Num: 15  
Candidate Starts for Riverdale\_13:  
(Start: 15 @10089 has 92 MA's), (18, 10140), (19, 10155), (23, 10188),

Gene: Rozby\_13 Start: 10089, Stop: 10358, Start Num: 15  
Candidate Starts for Rozby\_13:  
(Start: 15 @10089 has 92 MA's), (18, 10140), (19, 10155), (23, 10188),

Gene: Ruchi\_11 Start: 8341, Stop: 8598, Start Num: 15  
Candidate Starts for Ruchi\_11:  
(4, 7879), (7, 7987), (8, 8032), (10, 8188), (Start: 15 @8341 has 92 MA's), (28, 8479), (31, 8509),

Gene: Savage2526\_13 Start: 10152, Stop: 10421, Start Num: 15  
Candidate Starts for Savage2526\_13:  
(Start: 15 @10152 has 92 MA's), (18, 10203), (19, 10218), (23, 10251),

Gene: Scuttle\_13 Start: 10158, Stop: 10427, Start Num: 15  
Candidate Starts for Scuttle\_13:  
(Start: 15 @10158 has 92 MA's), (18, 10209), (19, 10224), (23, 10257),

Gene: Sergei\_9 Start: 7263, Stop: 7550, Start Num: 15  
Candidate Starts for Sergei\_9:  
(Start: 15 @7263 has 92 MA's), (22, 7344), (23, 7362), (33, 7470), (36, 7542),

Gene: Shambre1\_11 Start: 8534, Stop: 8782, Start Num: 15  
Candidate Starts for Shambre1\_11:  
(Start: 15 @8534 has 92 MA's), (20, 8600), (26, 8654),

Gene: Spartoi\_9 Start: 6351, Stop: 6599, Start Num: 14  
Candidate Starts for Spartoi\_9:  
(Start: 14 @6351 has 1 MA's), (16, 6366), (19, 6414), (34, 6540),

Gene: Supakev\_9 Start: 7263, Stop: 7550, Start Num: 15  
Candidate Starts for Supakev\_9:  
(Start: 15 @7263 has 92 MA's), (18, 7314), (23, 7362), (33, 7470),

Gene: Suppi\_13 Start: 10175, Stop: 10444, Start Num: 15  
Candidate Starts for Suppi\_13:  
(13, 10163), (Start: 15 @10175 has 92 MA's), (16, 10193), (21, 10253), (23, 10274), (33, 10361),

Gene: TattModd\_13 Start: 10152, Stop: 10421, Start Num: 15  
Candidate Starts for TattModd\_13:  
(Start: 15 @10152 has 92 MA's), (18, 10203), (19, 10218), (23, 10251),

Gene: Temper16\_9 Start: 7263, Stop: 7550, Start Num: 15  
Candidate Starts for Temper16\_9:  
(Start: 15 @7263 has 92 MA's), (22, 7344), (23, 7362), (33, 7470), (36, 7542),

Gene: Urla\_9 Start: 7290, Stop: 7559, Start Num: 15  
Candidate Starts for Urla\_9:  
(Start: 15 @7290 has 92 MA's), (23, 7389), (24, 7395), (33, 7476),

Gene: Vallejo\_13 Start: 10090, Stop: 10359, Start Num: 15  
Candidate Starts for Vallejo\_13:  
(Start: 15 @10090 has 92 MA's), (18, 10141), (19, 10156), (23, 10189),

Gene: Vulpecula\_11 Start: 8417, Stop: 8674, Start Num: 15  
Candidate Starts for Vulpecula\_11:  
(1, 7796), (2, 7841), (4, 7955), (7, 8063), (10, 8264), (11, 8381), (Start: 15 @8417 has 92 MA's), (31, 8585),

Gene: Vulture\_9 Start: 7261, Stop: 7548, Start Num: 15  
Candidate Starts for Vulture\_9:  
(Start: 15 @7261 has 92 MA's), (23, 7360), (33, 7468),

Gene: Wawa\_13 Start: 10127, Stop: 10396, Start Num: 15  
Candidate Starts for Wawa\_13:  
(Start: 15 @10127 has 92 MA's), (18, 10178), (19, 10193), (23, 10226),

Gene: Wayne\_13 Start: 10221, Stop: 10490, Start Num: 15  
Candidate Starts for Wayne\_13:  
(13, 10209), (Start: 15 @10221 has 92 MA's), (16, 10239), (21, 10299), (23, 10320), (33, 10407),

Gene: WileyE\_10 Start: 7752, Stop: 8009, Start Num: 15  
Candidate Starts for WileyE\_10:  
(4, 7290), (7, 7398), (8, 7443), (10, 7599), (Start: 15 @7752 has 92 MA's), (31, 7920),

Gene: WonderBoy\_9 Start: 7243, Stop: 7512, Start Num: 15  
Candidate Starts for WonderBoy\_9:  
(Start: 15 @7243 has 92 MA's), (23, 7342), (33, 7429),

Gene: Zorro\_13 Start: 10106, Stop: 10375, Start Num: 15  
Candidate Starts for Zorro\_13:  
(Start: 15 @10106 has 92 MA's), (18, 10157), (19, 10172), (23, 10205),