

Pham 304866



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 304866 Report

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

Pham number 304866 has 110 members, 25 are drafts.

Phages represented in each track:

- Track 1 : NapoleonB\_49, BenitoAntonio\_49, Dynamite\_49
- Track 2 : Nason\_49, Arcadia\_49, Elsa\_49
- Track 3 : Circum\_51
- Track 4 : JEGGS\_48
- Track 5 : YoshiYama\_49
- Track 6 : Stardom\_46, KeaneyLin\_48, GoCrazy\_48, Mudcat\_46, Hankly\_48, Heisenberger\_48
- Track 7 : Tribby\_49
- Track 8 : Cheesy\_49, Bowling\_49
- Track 9 : Correa\_47
- Track 10 : Xenomorph\_45
- Track 11 : Benllo\_48
- Track 12 : Mooshroom\_51
- Track 13 : Kardesai\_50
- Track 14 : AreFloNak\_46, Nivinsha\_46, Gordon\_43, Darby\_44, CastorTray\_48, Breylor17\_46
- Track 15 : Tenno\_46, Teacup\_46, Niktson\_45, CapnMurica\_43, Acai\_47, Synopsis\_44, Westerlin\_45, ElephantMan\_45, Tatanka\_44, Issa\_45, Brunswick\_46, LucySwiss\_46, MiniBagel\_45, Dinallo\_45
- Track 16 : DevitoJr\_44, Trustiboi\_45, ScienceWizSam\_46
- Track 17 : Hemma\_43
- Track 18 : Nightmare\_47
- Track 19 : Tokki\_50, Tipton\_49, Chlochlo\_47, Bouchard\_46
- Track 20 : LilHuddy\_47
- Track 21 : Shepard\_49
- Track 22 : Giantsbane\_47
- Track 23 : Phaby\_48
- Track 24 : Loretta\_47, Ingrid\_47
- Track 25 : Anandi\_50
- Track 26 : MediumFry\_43, Caterpillar\_42
- Track 27 : Makai\_45, Truckee\_43
- Track 28 : Uzumaki\_46, Stardrop\_48, Phaila\_50, PoeMe\_48, Altjira\_50, Navi1117\_50, Argan\_47, Tenney120\_49, GantcherGoblin\_47, KevinMinion\_48, Mardi\_48, BlackHoleSun\_50
- Track 29 : Renaldo\_53, Muglass\_50, Kinny\_51, Lewando\_50, Biscute\_48, Barbonzobean\_53
- Track 30 : BarbieDoll\_52

- Track 31 : Zeina\_49
- Track 32 : TrixiePhattel\_49
- Track 33 : Leathea\_48
- Track 34 : Inked\_49, Zippen\_47
- Track 35 : ProfFrink\_45, Boog\_44, Jeremy4pt0\_44
- Track 36 : Sprinkle\_43
- Track 37 : Linda\_45, Djungelskog\_45, Raunak\_48, BronxBay\_45, MrAaronian\_45, Spain\_48
- Track 38 : RustyBoy\_46, Natasha\_46
- Track 39 : Powelldog\_49
- Track 40 : Sporto\_46
- Track 41 : Onestar\_45
- Track 42 : HerbBucket\_45
- Track 43 : Elver\_96, JeNeSaisPas\_91, Gandionco\_93, Kureo\_95, Paella\_97, Qui\_97, Marianna39\_94

***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 42 of the 85 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acai\_47, Anandi\_50, AreFloNak\_46, Bouchard\_46, Breylor17\_46, Brunswick\_46, CapnMurica\_43, CastorTray\_48, Caterpillar\_42, Chlochlo\_47, Circum\_51, Correa\_47, Darby\_44, DevitoJr\_44, Dinallo\_45, ElephantMan\_45, Giantsbane\_47, Gordon\_43, Hemma\_43, Ingrid\_47, Inked\_49, Issa\_45, LilHuddy\_47, Loretta\_47, LucySwiss\_46, Makai\_45, MediumFry\_43, MiniBagel\_45, Natasha\_46, Nightmare\_47, Niktson\_45, Nivinsha\_46, Onestar\_45, Phaby\_48, Powelldog\_49, RustyBoy\_46, ScienceWizSam\_46, Shepard\_49, Sprinkle\_43, Synopsis\_44, Tatanka\_44, Teacup\_46, Tenno\_46, Tipton\_49, Tokki\_50, Tribby\_49, Truckee\_43, Trustiboi\_45, Westerlin\_45, Zippen\_47,

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

- Arcadia\_49, BenitoAntonio\_49, Benllo\_48, Bowling\_49, Cheesy\_49, Dynamite\_49, Elsa\_49, GoCrazy\_48, Hankly\_48, Heisenberger\_48, JEGGS\_48, Kardesai\_50, KeaneyLin\_48, Mooshroom\_51, Mudcat\_46, NapoleonB\_49, Nason\_49, Stardom\_46, Xenomorph\_45, YoshiYama\_49,

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

- Altjira\_50, Argan\_47, BarbieDoll\_52, Barbonzobean\_53, Biscute\_48, BlackHoleSun\_50, Boog\_44, BronxBay\_45, Djungelskog\_45, Elver\_96, Gandionco\_93, GantcherGoblin\_47, HerbBucket\_45, JeNeSaisPas\_91, Jeremy4pt0\_44, KevinMinion\_48, Kinny\_51, Kureo\_95, Leathea\_48, Lewando\_50, Linda\_45, Mardi\_48, Marianna39\_94, MrAaronian\_45, Muglass\_50, Navi1117\_50, Paella\_97, Phaila\_50, PoeMe\_48, ProfFrink\_45, Qui\_97, Raunak\_48, Renaldo\_53, Spain\_48, Sporto\_46, Stardrop\_48, Tenney120\_49, TrixiePhattel\_49, Uzumaki\_46, Zeina\_49,

**Summary by start number:**

Start 11:

- Found in 21 of 110 ( 19.1% ) of genes in pham
- Manual Annotations of this start: 13 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altjira\_50 (AU6), Argan\_47 (AU6), BarbieDoll\_52 (AU6), Barbonzobean\_53 (AU6), Biscute\_48 (AU6), BlackHoleSun\_50 (AU6), GantcherGoblin\_47 (AU6), KevinMinion\_48 (AU6), Kinny\_51 (AU6), Leathea\_48 (AU6), Lewando\_50 (AU6), Mardi\_48 (AU6), Muglass\_50 (AU6), Navi1117\_50 (AU6), Phaila\_50 (AU6), PoeMe\_48 (AU6), Renaldo\_53 (AU6), Stardrop\_48 (AU6), Tenney120\_49 (AU6), Uzumaki\_46 (AU6), Zeina\_49 (AU6),

Start 12:

- Found in 1 of 110 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sporto\_46 (AW),

Start 13:

- Found in 1 of 110 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TrixiePhattel\_49 (AU6),

Start 14:

- Found in 10 of 110 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 7 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boog\_44 (AW), BronxBay\_45 (AW), Djungelskog\_45 (AW), HerbBucket\_45 (AW), Jeremy4pt0\_44 (AW), Linda\_45 (AW), MrAaronian\_45 (AW), ProfFrink\_45 (AW), Raunak\_48 (AW), Spain\_48 (AW),

Start 15:

- Found in 70 of 110 ( 63.6% ) of genes in pham
- Manual Annotations of this start: 42 of 85
- Called 71.4% of time when present
- Phage (with cluster) where this start called: Acai\_47 (AU1), Anandi\_50 (AU4), AreFloNak\_46 (AU1), Bouchard\_46 (AU2), Breylor17\_46 (AU1), Brunswick\_46 (AU1), CapnMurica\_43 (AU1), CastorTray\_48 (AU1), Caterpillar\_42 (AU4), Chlochlo\_47 (AU2), Circum\_51 (AM), Correa\_47 (AM), Darby\_44 (AU1), DevitoJr\_44 (AU1), Dinallo\_45 (AU1), ElephantMan\_45 (AU1), Giantsbane\_47 (AU2), Gordon\_43 (AU1), Hemma\_43 (AU1), Ingrid\_47 (AU3), Inked\_49 (AU7), Issa\_45 (AU1), LilHuddy\_47 (AU2), Loretta\_47 (AU3), LucySwiss\_46 (AU1), Makai\_45 (AU5), MediumFry\_43 (AU4), MiniBagel\_45 (AU1), Natasha\_46 (AW), Nightmare\_47 (AU1), Niktson\_45 (AU1), Nivinsha\_46 (AU1), Onestar\_45 (AW), Phaby\_48 (AU2), PowellDog\_49 (AW), RustyBoy\_46 (AW), ScienceWizSam\_46 (AU1), Shepard\_49 (AU2), Sprinkle\_43 (AW), Synepsis\_44 (AU1), Tatanka\_44 (AU1), Teacup\_46 (AU1), Tenno\_46 (AU1), Tipton\_49 (AU2), Tokki\_50 (AU2), Tribby\_49 (AM), Truckee\_43 (AU5), Trustiboi\_45 (AU1), Westerlin\_45 (AU1), Zippen\_47 (AU7),

Start 17:

- Found in 7 of 110 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 3 of 85
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Elver\_96 (FK), Gandionco\_93 (FK), JeNeSaisPas\_91 (FK), Kureo\_95 (FK), Marianna39\_94 (FK), Paella\_97 (FK), Qui\_97 (FK),

Start 18:

- Found in 23 of 110 ( 20.9% ) of genes in pham
- Manual Annotations of this start: 18 of 85
- Called 87.0% of time when present
- Phage (with cluster) where this start called: Arcadia\_49 (AM), BenitoAntonio\_49 (AM), Benllo\_48 (AM), Bowling\_49 (AM), Cheesy\_49 (AM), Dynamite\_49 (AM), Elsa\_49 (AM), GoCrazy\_48 (AM), Hankly\_48 (AM), Heisenberger\_48 (AM), JEGGS\_48 (AM), Kardesai\_50 (AM), KeaneyLin\_48 (AM), Mooshroom\_51 (AM), Mudcat\_46 (AM), NapoleonB\_49 (AM), Nason\_49 (AM), Stardom\_46 (AM), Xenomorph\_45 (AM), YoshiYama\_49 (AM),

### Summary by clusters:

There are 10 clusters represented in this pham: AU7, AM, AU1, AU3, AU2, AU5, AU4, AW, AU6, FK,

Info for manual annotations of cluster AM:

- Start number 15 was manually annotated 3 times for cluster AM.
- Start number 18 was manually annotated 18 times for cluster AM.

Info for manual annotations of cluster AU1:

- Start number 15 was manually annotated 19 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 15 was manually annotated 8 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 15 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 15 was manually annotated 3 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 15 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 11 was manually annotated 13 times for cluster AU6.
- Start number 13 was manually annotated 1 time for cluster AU6.

Info for manual annotations of cluster AU7:

- Start number 15 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:

- Start number 12 was manually annotated 1 time for cluster AW.
- Start number 14 was manually annotated 7 times for cluster AW.
- Start number 15 was manually annotated 3 times for cluster AW.

Info for manual annotations of cluster FK:

- Start number 17 was manually annotated 3 times for cluster FK.

**Gene Information:**

Gene: Acai\_47 Start: 34277, Stop: 34579, Start Num: 15

Candidate Starts for Acai\_47:

(Start: 15 @34277 has 42 MA's), (16, 34283), (20, 34310), (24, 34334), (32, 34448), (35, 34478), (45, 34523),

Gene: Altjira\_50 Start: 34098, Stop: 34439, Start Num: 11

Candidate Starts for Altjira\_50:

(Start: 11 @34098 has 13 MA's), (19, 34140), (40, 34341), (41, 34344), (50, 34374),

Gene: Anandi\_50 Start: 34587, Stop: 34883, Start Num: 15

Candidate Starts for Anandi\_50:

(Start: 15 @34587 has 42 MA's), (24, 34644), (27, 34680), (30, 34713), (32, 34758), (34, 34785), (35, 34788), (38, 34809),

Gene: Arcadia\_49 Start: 32580, Stop: 32888, Start Num: 18

Candidate Starts for Arcadia\_49:

(Start: 15 @32565 has 42 MA's), (Start: 18 @32580 has 18 MA's), (25, 32637), (29, 32685), (31, 32718), (32, 32733), (39, 32793), (42, 32799), (53, 32844),

Gene: AreFloNak\_46 Start: 34044, Stop: 34346, Start Num: 15

Candidate Starts for AreFloNak\_46:

(Start: 15 @34044 has 42 MA's), (20, 34077), (32, 34215), (35, 34245), (45, 34290),

Gene: Argan\_47 Start: 32696, Stop: 33043, Start Num: 11

Candidate Starts for Argan\_47:

(Start: 11 @32696 has 13 MA's), (19, 32738), (40, 32939), (41, 32942), (50, 32972),

Gene: BarbieDoll\_52 Start: 34320, Stop: 34643, Start Num: 11

Candidate Starts for BarbieDoll\_52:

(Start: 11 @34320 has 13 MA's), (40, 34560), (44, 34569),

Gene: Barbonzobean\_53 Start: 34363, Stop: 34683, Start Num: 11

Candidate Starts for Barbonzobean\_53:

(Start: 11 @34363 has 13 MA's), (44, 34612),

Gene: BenitoAntonio\_49 Start: 32116, Stop: 32424, Start Num: 18

Candidate Starts for BenitoAntonio\_49:

(Start: 15 @32101 has 42 MA's), (Start: 18 @32116 has 18 MA's), (25, 32173), (29, 32221), (31, 32254), (32, 32269), (39, 32329), (42, 32335), (53, 32380),

Gene: Benllo\_48 Start: 32800, Stop: 33102, Start Num: 18

Candidate Starts for Benllo\_48:

(Start: 15 @32785 has 42 MA's), (Start: 18 @32800 has 18 MA's), (21, 32821), (25, 32857), (26, 32860), (32, 32953), (36, 32992), (43, 33022),

Gene: Biscute\_48 Start: 33972, Stop: 34295, Start Num: 11

Candidate Starts for Biscute\_48:

(Start: 11 @33972 has 13 MA's), (44, 34221),

Gene: BlackHoleSun\_50 Start: 32827, Stop: 33168, Start Num: 11  
Candidate Starts for BlackHoleSun\_50:  
(Start: 11 @32827 has 13 MA's), (19, 32869), (40, 33070), (41, 33073), (50, 33103),

Gene: Boog\_44 Start: 31539, Stop: 31829, Start Num: 14  
Candidate Starts for Boog\_44:  
(6, 31455), (10, 31512), (Start: 14 @31539 has 7 MA's), (23, 31593), (30, 31665), (37, 31758), (48, 31791),

Gene: Bouchard\_46 Start: 34278, Stop: 34577, Start Num: 15  
Candidate Starts for Bouchard\_46:  
(Start: 15 @34278 has 42 MA's), (24, 34335), (32, 34449), (34, 34476),

Gene: Bowling\_49 Start: 32325, Stop: 32633, Start Num: 18  
Candidate Starts for Bowling\_49:  
(Start: 15 @32310 has 42 MA's), (Start: 18 @32325 has 18 MA's), (21, 32346), (22, 32352), (25, 32382), (32, 32478), (36, 32517), (43, 32547), (46, 32556), (49, 32568), (51, 32580),

Gene: Breylor17\_46 Start: 34842, Stop: 35144, Start Num: 15  
Candidate Starts for Breylor17\_46:  
(Start: 15 @34842 has 42 MA's), (20, 34875), (32, 35013), (35, 35043), (45, 35088),

Gene: BronxBay\_45 Start: 31837, Stop: 32127, Start Num: 14  
Candidate Starts for BronxBay\_45:  
(5, 31747), (6, 31753), (10, 31810), (Start: 14 @31837 has 7 MA's), (23, 31891), (30, 31963), (37, 32056), (48, 32089),

Gene: Brunswick\_46 Start: 33924, Stop: 34226, Start Num: 15  
Candidate Starts for Brunswick\_46:  
(Start: 15 @33924 has 42 MA's), (16, 33930), (20, 33957), (24, 33981), (32, 34095), (35, 34125), (45, 34170),

Gene: CapnMurica\_43 Start: 34822, Stop: 35124, Start Num: 15  
Candidate Starts for CapnMurica\_43:  
(Start: 15 @34822 has 42 MA's), (16, 34828), (20, 34855), (24, 34879), (32, 34993), (35, 35023), (45, 35068),

Gene: CastorTray\_48 Start: 34652, Stop: 34954, Start Num: 15  
Candidate Starts for CastorTray\_48:  
(Start: 15 @34652 has 42 MA's), (20, 34685), (32, 34823), (35, 34853), (45, 34898),

Gene: Caterpillar\_42 Start: 33123, Stop: 33425, Start Num: 15  
Candidate Starts for Caterpillar\_42:  
(Start: 15 @33123 has 42 MA's), (24, 33180), (33, 33297), (34, 33321),

Gene: Cheesy\_49 Start: 32301, Stop: 32609, Start Num: 18  
Candidate Starts for Cheesy\_49:  
(Start: 15 @32286 has 42 MA's), (Start: 18 @32301 has 18 MA's), (21, 32322), (22, 32328), (25, 32358), (32, 32454), (36, 32493), (43, 32523), (46, 32532), (49, 32544), (51, 32556),

Gene: Chlochlo\_47 Start: 34022, Stop: 34321, Start Num: 15  
Candidate Starts for Chlochlo\_47:

(Start: 15 @34022 has 42 MA's), (24, 34079), (32, 34193), (34, 34220),

Gene: Circum\_51 Start: 32976, Stop: 33293, Start Num: 15

Candidate Starts for Circum\_51:

(Start: 15 @32976 has 42 MA's), (Start: 18 @32991 has 18 MA's), (21, 33012), (25, 33048), (26, 33051), (32, 33144), (36, 33183), (43, 33213),

Gene: Correa\_47 Start: 31432, Stop: 31755, Start Num: 15

Candidate Starts for Correa\_47:

(Start: 15 @31432 has 42 MA's), (Start: 18 @31447 has 18 MA's), (21, 31468), (22, 31474), (25, 31504), (32, 31600), (36, 31639), (43, 31669), (46, 31678), (49, 31690), (51, 31702),

Gene: Darby\_44 Start: 33824, Stop: 34126, Start Num: 15

Candidate Starts for Darby\_44:

(Start: 15 @33824 has 42 MA's), (20, 33857), (32, 33995), (35, 34025), (45, 34070),

Gene: DevitoJr\_44 Start: 34012, Stop: 34314, Start Num: 15

Candidate Starts for DevitoJr\_44:

(Start: 15 @34012 has 42 MA's), (16, 34018), (32, 34183), (35, 34213), (45, 34258),

Gene: Dinallo\_45 Start: 35131, Stop: 35433, Start Num: 15

Candidate Starts for Dinallo\_45:

(Start: 15 @35131 has 42 MA's), (16, 35137), (20, 35164), (24, 35188), (32, 35302), (35, 35332), (45, 35377),

Gene: Djungelskog\_45 Start: 31836, Stop: 32126, Start Num: 14

Candidate Starts for Djungelskog\_45:

(5, 31746), (6, 31752), (10, 31809), (Start: 14 @31836 has 7 MA's), (23, 31890), (30, 31962), (37, 32055), (48, 32088),

Gene: Dynamite\_49 Start: 32516, Stop: 32824, Start Num: 18

Candidate Starts for Dynamite\_49:

(Start: 15 @32501 has 42 MA's), (Start: 18 @32516 has 18 MA's), (25, 32573), (29, 32621), (31, 32654), (32, 32669), (39, 32729), (42, 32735), (53, 32780),

Gene: ElephantMan\_45 Start: 34497, Stop: 34799, Start Num: 15

Candidate Starts for ElephantMan\_45:

(Start: 15 @34497 has 42 MA's), (16, 34503), (20, 34530), (24, 34554), (32, 34668), (35, 34698), (45, 34743),

Gene: Elsa\_49 Start: 32580, Stop: 32888, Start Num: 18

Candidate Starts for Elsa\_49:

(Start: 15 @32565 has 42 MA's), (Start: 18 @32580 has 18 MA's), (25, 32637), (29, 32685), (31, 32718), (32, 32733), (39, 32793), (42, 32799), (53, 32844),

Gene: Elver\_96 Start: 54012, Stop: 54290, Start Num: 17

Candidate Starts for Elver\_96:

(Start: 17 @54012 has 3 MA's), (32, 54168),

Gene: Gandionco\_93 Start: 52868, Stop: 53146, Start Num: 17

Candidate Starts for Gandionco\_93:

(Start: 17 @52868 has 3 MA's), (32, 53024),

Gene: GantcherGoblin\_47 Start: 32895, Stop: 33227, Start Num: 11  
Candidate Starts for GantcherGoblin\_47:  
(Start: 11 @32895 has 13 MA's), (19, 32937), (40, 33138), (41, 33141), (50, 33171),

Gene: Giantsbane\_47 Start: 33208, Stop: 33504, Start Num: 15  
Candidate Starts for Giantsbane\_47:  
(Start: 15 @33208 has 42 MA's), (32, 33379), (35, 33409), (38, 33430),

Gene: GoCrazy\_48 Start: 32456, Stop: 32758, Start Num: 18  
Candidate Starts for GoCrazy\_48:  
(Start: 15 @32441 has 42 MA's), (Start: 18 @32456 has 18 MA's), (21, 32477), (25, 32513), (26, 32516), (32, 32609), (36, 32648), (43, 32678),

Gene: Gordon\_43 Start: 34647, Stop: 34946, Start Num: 15  
Candidate Starts for Gordon\_43:  
(Start: 15 @34647 has 42 MA's), (20, 34680), (32, 34818), (35, 34848), (45, 34893),

Gene: Hankly\_48 Start: 31730, Stop: 32032, Start Num: 18  
Candidate Starts for Hankly\_48:  
(Start: 15 @31715 has 42 MA's), (Start: 18 @31730 has 18 MA's), (21, 31751), (25, 31787), (26, 31790), (32, 31883), (36, 31922), (43, 31952),

Gene: Heisenberger\_48 Start: 32020, Stop: 32313, Start Num: 18  
Candidate Starts for Heisenberger\_48:  
(Start: 15 @32005 has 42 MA's), (Start: 18 @32020 has 18 MA's), (21, 32041), (25, 32077), (26, 32080), (32, 32173), (36, 32212), (43, 32242),

Gene: Hemma\_43 Start: 31081, Stop: 31365, Start Num: 15  
Candidate Starts for Hemma\_43:  
(Start: 15 @31081 has 42 MA's), (31, 31231), (33, 31249), (35, 31276), (38, 31297),

Gene: HerbBucket\_45 Start: 31539, Stop: 31826, Start Num: 14  
Candidate Starts for HerbBucket\_45:  
(4, 31449), (6, 31455), (10, 31512), (Start: 14 @31539 has 7 MA's), (23, 31590), (30, 31662), (37, 31755), (48, 31788),

Gene: Ingrid\_47 Start: 33951, Stop: 34253, Start Num: 15  
Candidate Starts for Ingrid\_47:  
(Start: 15 @33951 has 42 MA's), (24, 34008), (32, 34122), (34, 34149), (38, 34173), (39, 34182),

Gene: Inked\_49 Start: 35083, Stop: 35382, Start Num: 15  
Candidate Starts for Inked\_49:  
(Start: 15 @35083 has 42 MA's), (32, 35254), (34, 35281), (35, 35284),

Gene: Issa\_45 Start: 34116, Stop: 34418, Start Num: 15  
Candidate Starts for Issa\_45:  
(Start: 15 @34116 has 42 MA's), (16, 34122), (20, 34149), (24, 34173), (32, 34287), (35, 34317), (45, 34362),

Gene: JEGGS\_48 Start: 32075, Stop: 32368, Start Num: 18  
Candidate Starts for JEGGS\_48:  
(Start: 15 @32060 has 42 MA's), (Start: 18 @32075 has 18 MA's), (21, 32096), (25, 32132), (26, 32135), (32, 32228), (36, 32267), (43, 32297),

Gene: JeNeSaisPas\_91 Start: 53442, Stop: 53720, Start Num: 17

Candidate Starts for JeNeSaisPas\_91:

(Start: 17 @53442 has 3 MA's), (32, 53598),

Gene: Jeremy4pt0\_44 Start: 31536, Stop: 31826, Start Num: 14

Candidate Starts for Jeremy4pt0\_44:

(6, 31452), (10, 31509), (Start: 14 @31536 has 7 MA's), (23, 31590), (30, 31662), (37, 31755), (48, 31788),

Gene: Kardesai\_50 Start: 32700, Stop: 33002, Start Num: 18

Candidate Starts for Kardesai\_50:

(Start: 15 @32685 has 42 MA's), (Start: 18 @32700 has 18 MA's), (25, 32757), (29, 32805), (31, 32838), (32, 32853), (36, 32892), (43, 32922),

Gene: KeaneyLin\_48 Start: 32456, Stop: 32758, Start Num: 18

Candidate Starts for KeaneyLin\_48:

(Start: 15 @32441 has 42 MA's), (Start: 18 @32456 has 18 MA's), (21, 32477), (25, 32513), (26, 32516), (32, 32609), (36, 32648), (43, 32678),

Gene: KevinMinion\_48 Start: 33653, Stop: 33994, Start Num: 11

Candidate Starts for KevinMinion\_48:

(Start: 11 @33653 has 13 MA's), (19, 33695), (40, 33896), (41, 33899), (50, 33929),

Gene: Kinny\_51 Start: 34815, Stop: 35138, Start Num: 11

Candidate Starts for Kinny\_51:

(Start: 11 @34815 has 13 MA's), (44, 35064),

Gene: Kureo\_95 Start: 53022, Stop: 53300, Start Num: 17

Candidate Starts for Kureo\_95:

(Start: 17 @53022 has 3 MA's), (32, 53178),

Gene: Leathea\_48 Start: 32547, Stop: 32861, Start Num: 11

Candidate Starts for Leathea\_48:

(Start: 11 @32547 has 13 MA's), (19, 32586), (40, 32787),

Gene: Lewando\_50 Start: 34105, Stop: 34425, Start Num: 11

Candidate Starts for Lewando\_50:

(Start: 11 @34105 has 13 MA's), (44, 34354),

Gene: LilHuddy\_47 Start: 34159, Stop: 34458, Start Num: 15

Candidate Starts for LilHuddy\_47:

(2, 34012), (3, 34051), (7, 34075), (8, 34093), (Start: 15 @34159 has 42 MA's), (24, 34216), (32, 34330), (34, 34357), (38, 34381), (39, 34390), (52, 34435),

Gene: Linda\_45 Start: 31834, Stop: 32124, Start Num: 14

Candidate Starts for Linda\_45:

(5, 31744), (6, 31750), (10, 31807), (Start: 14 @31834 has 7 MA's), (23, 31888), (30, 31960), (37, 32053), (48, 32086),

Gene: Loretta\_47 Start: 33951, Stop: 34253, Start Num: 15

Candidate Starts for Loretta\_47:

(Start: 15 @33951 has 42 MA's), (24, 34008), (32, 34122), (34, 34149), (38, 34173), (39, 34182),

Gene: LucySwiss\_46 Start: 33918, Stop: 34220, Start Num: 15

Candidate Starts for LucySwiss\_46:

(Start: 15 @33918 has 42 MA's), (16, 33924), (20, 33951), (24, 33975), (32, 34089), (35, 34119), (45, 34164),

Gene: Makai\_45 Start: 34138, Stop: 34437, Start Num: 15

Candidate Starts for Makai\_45:

(Start: 15 @34138 has 42 MA's), (24, 34195), (32, 34309), (34, 34336), (38, 34360), (43, 34378),

Gene: Mardi\_48 Start: 32986, Stop: 33327, Start Num: 11

Candidate Starts for Mardi\_48:

(Start: 11 @32986 has 13 MA's), (19, 33028), (40, 33229), (41, 33232), (50, 33262),

Gene: Marianna39\_94 Start: 53437, Stop: 53715, Start Num: 17

Candidate Starts for Marianna39\_94:

(Start: 17 @53437 has 3 MA's), (32, 53593),

Gene: MediumFry\_43 Start: 33426, Stop: 33728, Start Num: 15

Candidate Starts for MediumFry\_43:

(Start: 15 @33426 has 42 MA's), (24, 33483), (33, 33600), (34, 33624),

Gene: MiniBagel\_45 Start: 34804, Stop: 35106, Start Num: 15

Candidate Starts for MiniBagel\_45:

(Start: 15 @34804 has 42 MA's), (16, 34810), (20, 34837), (24, 34861), (32, 34975), (35, 35005), (45, 35050),

Gene: Mooshroom\_51 Start: 32700, Stop: 33002, Start Num: 18

Candidate Starts for Mooshroom\_51:

(Start: 15 @32685 has 42 MA's), (Start: 18 @32700 has 18 MA's), (25, 32757), (29, 32805), (32, 32853), (36, 32892), (43, 32922),

Gene: MrAaronian\_45 Start: 31836, Stop: 32126, Start Num: 14

Candidate Starts for MrAaronian\_45:

(5, 31746), (6, 31752), (10, 31809), (Start: 14 @31836 has 7 MA's), (23, 31890), (30, 31962), (37, 32055), (48, 32088),

Gene: Mudcat\_46 Start: 33433, Stop: 33726, Start Num: 18

Candidate Starts for Mudcat\_46:

(Start: 15 @33418 has 42 MA's), (Start: 18 @33433 has 18 MA's), (21, 33454), (25, 33490), (26, 33493), (32, 33586), (36, 33625), (43, 33655),

Gene: Muglass\_50 Start: 33876, Stop: 34199, Start Num: 11

Candidate Starts for Muglass\_50:

(Start: 11 @33876 has 13 MA's), (44, 34125),

Gene: NapoleonB\_49 Start: 32516, Stop: 32824, Start Num: 18

Candidate Starts for NapoleonB\_49:

(Start: 15 @32501 has 42 MA's), (Start: 18 @32516 has 18 MA's), (25, 32573), (29, 32621), (31, 32654), (32, 32669), (39, 32729), (42, 32735), (53, 32780),

Gene: Nason\_49 Start: 32580, Stop: 32888, Start Num: 18

Candidate Starts for Nason\_49:

(Start: 15 @32565 has 42 MA's), (Start: 18 @32580 has 18 MA's), (25, 32637), (29, 32685), (31, 32718), (32, 32733), (39, 32793), (42, 32799), (53, 32844),

Gene: Natasha\_46 Start: 31568, Stop: 31843, Start Num: 15  
Candidate Starts for Natasha\_46:  
(Start: 15 @31568 has 42 MA's), (23, 31613),

Gene: Navi1117\_50 Start: 33598, Stop: 33939, Start Num: 11  
Candidate Starts for Navi1117\_50:  
(Start: 11 @33598 has 13 MA's), (19, 33640), (40, 33841), (41, 33844), (50, 33874),

Gene: Nightmare\_47 Start: 35063, Stop: 35362, Start Num: 15  
Candidate Starts for Nightmare\_47:  
(Start: 15 @35063 has 42 MA's), (20, 35096), (32, 35234), (35, 35264), (45, 35309),

Gene: Niktson\_45 Start: 34497, Stop: 34799, Start Num: 15  
Candidate Starts for Niktson\_45:  
(Start: 15 @34497 has 42 MA's), (16, 34503), (20, 34530), (24, 34554), (32, 34668), (35, 34698), (45, 34743),

Gene: Nivinsha\_46 Start: 34044, Stop: 34346, Start Num: 15  
Candidate Starts for Nivinsha\_46:  
(Start: 15 @34044 has 42 MA's), (20, 34077), (32, 34215), (35, 34245), (45, 34290),

Gene: Onestar\_45 Start: 31560, Stop: 31850, Start Num: 15  
Candidate Starts for Onestar\_45:  
(Start: 15 @31560 has 42 MA's), (23, 31611), (30, 31683),

Gene: Paella\_97 Start: 54602, Stop: 54880, Start Num: 17  
Candidate Starts for Paella\_97:  
(Start: 17 @54602 has 3 MA's), (32, 54758),

Gene: Phaby\_48 Start: 34705, Stop: 35004, Start Num: 15  
Candidate Starts for Phaby\_48:  
(7, 34621), (8, 34639), (Start: 15 @34705 has 42 MA's), (24, 34762), (32, 34876), (34, 34903), (38, 34927), (39, 34936), (52, 34981),

Gene: Phaila\_50 Start: 32979, Stop: 33320, Start Num: 11  
Candidate Starts for Phaila\_50:  
(Start: 11 @32979 has 13 MA's), (19, 33021), (40, 33222), (41, 33225), (50, 33255),

Gene: PoeMe\_48 Start: 33153, Stop: 33494, Start Num: 11  
Candidate Starts for PoeMe\_48:  
(Start: 11 @33153 has 13 MA's), (19, 33195), (40, 33396), (41, 33399), (50, 33429),

Gene: Powelldog\_49 Start: 32567, Stop: 32842, Start Num: 15  
Candidate Starts for Powelldog\_49:  
(Start: 15 @32567 has 42 MA's), (28, 32657),

Gene: ProfFrink\_45 Start: 31837, Stop: 32127, Start Num: 14  
Candidate Starts for ProfFrink\_45:  
(6, 31753), (10, 31810), (Start: 14 @31837 has 7 MA's), (23, 31891), (30, 31963), (37, 32056), (48, 32089),

Gene: Qui\_97 Start: 54602, Stop: 54880, Start Num: 17

Candidate Starts for Qui\_97:

(Start: 17 @54602 has 3 MA's), (32, 54758),

Gene: Raunak\_48 Start: 31534, Stop: 31824, Start Num: 14

Candidate Starts for Raunak\_48:

(5, 31444), (6, 31450), (10, 31507), (Start: 14 @31534 has 7 MA's), (23, 31588), (30, 31660), (37, 31753), (48, 31786),

Gene: Renaldo\_53 Start: 34414, Stop: 34734, Start Num: 11

Candidate Starts for Renaldo\_53:

(Start: 11 @34414 has 13 MA's), (44, 34663),

Gene: RustyBoy\_46 Start: 31549, Stop: 31824, Start Num: 15

Candidate Starts for RustyBoy\_46:

(Start: 15 @31549 has 42 MA's), (23, 31594),

Gene: ScienceWizSam\_46 Start: 34154, Stop: 34456, Start Num: 15

Candidate Starts for ScienceWizSam\_46:

(Start: 15 @34154 has 42 MA's), (16, 34160), (32, 34325), (35, 34355), (45, 34400),

Gene: Shepard\_49 Start: 34232, Stop: 34531, Start Num: 15

Candidate Starts for Shepard\_49:

(Start: 15 @34232 has 42 MA's), (24, 34289), (32, 34403), (34, 34430), (38, 34454), (39, 34463), (52, 34508),

Gene: Spain\_48 Start: 31836, Stop: 32126, Start Num: 14

Candidate Starts for Spain\_48:

(5, 31746), (6, 31752), (10, 31809), (Start: 14 @31836 has 7 MA's), (23, 31890), (30, 31962), (37, 32055), (48, 32088),

Gene: Sporto\_46 Start: 33334, Stop: 33609, Start Num: 12

Candidate Starts for Sporto\_46:

(Start: 12 @33334 has 1 MA's), (23, 33379), (38, 33547),

Gene: Sprinkle\_43 Start: 31683, Stop: 31958, Start Num: 15

Candidate Starts for Sprinkle\_43:

(9, 31653), (Start: 15 @31683 has 42 MA's), (54, 31950),

Gene: Stardom\_46 Start: 31192, Stop: 31494, Start Num: 18

Candidate Starts for Stardom\_46:

(Start: 15 @31177 has 42 MA's), (Start: 18 @31192 has 18 MA's), (21, 31213), (25, 31249), (26, 31252), (32, 31345), (36, 31384), (43, 31414),

Gene: Stardrop\_48 Start: 33346, Stop: 33693, Start Num: 11

Candidate Starts for Stardrop\_48:

(Start: 11 @33346 has 13 MA's), (19, 33388), (40, 33589), (41, 33592), (50, 33622),

Gene: Synopsis\_44 Start: 34166, Stop: 34468, Start Num: 15

Candidate Starts for Synopsis\_44:

(Start: 15 @34166 has 42 MA's), (16, 34172), (20, 34199), (24, 34223), (32, 34337), (35, 34367), (45, 34412),

Gene: Tatanka\_44 Start: 34336, Stop: 34638, Start Num: 15

Candidate Starts for Tatanka\_44:

(Start: 15 @34336 has 42 MA's), (16, 34342), (20, 34369), (24, 34393), (32, 34507), (35, 34537), (45, 34582),

Gene: Teacup\_46 Start: 34526, Stop: 34828, Start Num: 15

Candidate Starts for Teacup\_46:

(Start: 15 @34526 has 42 MA's), (16, 34532), (20, 34559), (24, 34583), (32, 34697), (35, 34727), (45, 34772),

Gene: Tenney120\_49 Start: 33195, Stop: 33536, Start Num: 11

Candidate Starts for Tenney120\_49:

(Start: 11 @33195 has 13 MA's), (19, 33237), (40, 33438), (41, 33441), (50, 33471),

Gene: Tenno\_46 Start: 34812, Stop: 35114, Start Num: 15

Candidate Starts for Tenno\_46:

(Start: 15 @34812 has 42 MA's), (16, 34818), (20, 34845), (24, 34869), (32, 34983), (35, 35013), (45, 35058),

Gene: Tipton\_49 Start: 34681, Stop: 34980, Start Num: 15

Candidate Starts for Tipton\_49:

(Start: 15 @34681 has 42 MA's), (24, 34738), (32, 34852), (34, 34879),

Gene: Tokki\_50 Start: 34333, Stop: 34632, Start Num: 15

Candidate Starts for Tokki\_50:

(Start: 15 @34333 has 42 MA's), (24, 34390), (32, 34504), (34, 34531),

Gene: Tribby\_49 Start: 32243, Stop: 32566, Start Num: 15

Candidate Starts for Tribby\_49:

(Start: 15 @32243 has 42 MA's), (Start: 18 @32258 has 18 MA's), (21, 32279), (25, 32315), (32, 32411), (36, 32450), (43, 32480), (46, 32489), (49, 32501), (51, 32513),

Gene: TrixiePhattel\_49 Start: 32839, Stop: 33141, Start Num: 13

Candidate Starts for TrixiePhattel\_49:

(Start: 13 @32839 has 1 MA's), (47, 33088),

Gene: Truckee\_43 Start: 33926, Stop: 34225, Start Num: 15

Candidate Starts for Truckee\_43:

(Start: 15 @33926 has 42 MA's), (24, 33983), (32, 34097), (34, 34124), (38, 34148), (43, 34166),

Gene: Trustiboi\_45 Start: 34372, Stop: 34674, Start Num: 15

Candidate Starts for Trustiboi\_45:

(Start: 15 @34372 has 42 MA's), (16, 34378), (32, 34543), (35, 34573), (45, 34618),

Gene: Uzumaki\_46 Start: 32889, Stop: 33236, Start Num: 11

Candidate Starts for Uzumaki\_46:

(Start: 11 @32889 has 13 MA's), (19, 32931), (40, 33132), (41, 33135), (50, 33165),

Gene: Westerlin\_45 Start: 35634, Stop: 35936, Start Num: 15

Candidate Starts for Westerlin\_45:

(Start: 15 @35634 has 42 MA's), (16, 35640), (20, 35667), (24, 35691), (32, 35805), (35, 35835), (45, 35880),

Gene: Xenomorph\_45 Start: 31991, Stop: 32299, Start Num: 18

Candidate Starts for Xenomorph\_45:

(1, 31826), (Start: 15 @31976 has 42 MA's), (Start: 18 @31991 has 18 MA's), (21, 32012), (25, 32048), (32, 32144), (36, 32183), (43, 32213), (46, 32222), (49, 32234), (51, 32246),

Gene: YoshiYama\_49 Start: 32575, Stop: 32883, Start Num: 18

Candidate Starts for YoshiYama\_49:

(Start: 15 @32560 has 42 MA's), (Start: 18 @32575 has 18 MA's), (21, 32596), (25, 32632), (32, 32728), (36, 32767), (43, 32797), (46, 32806), (49, 32818), (51, 32830),

Gene: Zeina\_49 Start: 33207, Stop: 33545, Start Num: 11

Candidate Starts for Zeina\_49:

(Start: 11 @33207 has 13 MA's), (19, 33249), (40, 33450), (41, 33453),

Gene: Zippen\_47 Start: 34782, Stop: 35081, Start Num: 15

Candidate Starts for Zippen\_47:

(Start: 15 @34782 has 42 MA's), (32, 34953), (34, 34980), (35, 34983),