

Pham 311540



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 311540 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311540 has 73 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Seahorse\_32
- Track 2 : DarwinJr\_34
- Track 3 : GumGum\_31, Anekin\_30, Shukran\_31, Hestia\_31, CosmicBrownie\_31, Satrap\_31, Kabloowy\_31
- Track 4 : RadFad\_31, MaterMagnus\_31, MidnightRain\_31, Hillester\_31, Raphaella\_31, MUWow\_30, Lasker\_31, CookieBear\_31, Sakai\_31, Isolde\_31, Richie\_31, BenchScraper\_31, Lawnathon\_31, SonDevVon\_30, YoungHarleezy\_31, Globfish\_31, BlueShadow\_31, Mapleville\_30
- Track 5 : Bhageatrice\_33
- Track 6 : JakeTheSnake\_31
- Track 7 : ThayneTheZag\_31
- Track 8 : Sporco\_32, BasketStar\_31
- Track 9 : Persistence\_30
- Track 10 : Nyilah\_30
- Track 11 : Gorpy\_31
- Track 12 : Bridgette\_29
- Track 13 : Karkharias\_29, ChuckDuck\_30, Constance\_29, LilyBell\_29, KayMoney\_30, PeggyLeg03\_29, SpicyFrank\_31
- Track 14 : GlobiWarming\_30
- Track 15 : Henrique\_30, FosterFrank\_30
- Track 16 : NikkiHotWheels\_30
- Track 17 : Judy\_30
- Track 18 : Gibbzilla\_29
- Track 19 : Donatella\_30, Schism\_31, Kihatsu\_32, Cole\_29, BigSherm\_31, Zaheer\_31, Ichiang\_29, Toodles\_31, Guinevere\_31, Nandita\_31, ToastyOats\_33, Halloweekend\_29, Ryan\_31, QuinnAvery\_31, Saintcarr\_31, Yonex\_31, GoodLuckBabe\_31
- Track 20 : Gusanita\_29
- Track 21 : Dirdigger\_31
- Track 22 : MillySue\_31
- Track 23 : Popper\_29
- Track 24 : Lenoxika\_31
- Track 25 : SunnyJune\_35
- Track 26 : Altostratus\_23

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

The start number called the most often in the published annotations is 7, it was called in 35 of the 55 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anekin\_30, BenchScraper\_31, Bhageatrice\_33, BlueShadow\_31, Bridgette\_29, ChuckDuck\_30, Constance\_29, CookieBear\_31, CosmicBrownie\_31, DarwinJr\_34, Globfish\_31, GlobiWarming\_30, Gorpy\_31, GumGum\_31, Hestia\_31, Hillester\_31, Isolde\_31, JakeTheSnake\_31, Judy\_30, Kabloowy\_31, Karkharias\_29, KayMoney\_30, Lasker\_31, Lawnathon\_31, LilyBell\_29, MUWow\_30, Mapleville\_30, MaterMagnus\_31, MidnightRain\_31, NikkiHotWheels\_30, Nyilah\_30, PeggyLeg03\_29, Persistence\_30, RadFad\_31, Raphaella\_31, Richie\_31, Sakai\_31, Satrap\_31, Seahorse\_32, Shukran\_31, SonDevVon\_30, SpicyFrank\_31, ThayneTheZag\_31, YoungHarleezy\_31,

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

- BasketStar\_31, FosterFrank\_30, Henrique\_30, Sporco\_32,

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

- Altostratus\_23, BigSherm\_31, Cole\_29, Dirdigger\_31, Donatella\_30, Gibbzilla\_29, GoodLuckBabe\_31, Guinevere\_31, Gusanita\_29, Halloweekend\_29, Ichiang\_29, Kihatsu\_32, Lenoxika\_31, MillySue\_31, Nandita\_31, Popper\_29, QuinnAvery\_31, Ryan\_31, Saintcarr\_31, Schism\_31, SunnyJune\_35, ToastyOats\_33, Toodles\_31, Yonex\_31, Zaheer\_31,

### **Summary by start number:**

Start 4:

- Found in 1 of 73 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 55
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altostratus\_23 (FS),

Start 7:

- Found in 48 of 73 ( 65.8% ) of genes in pham
- Manual Annotations of this start: 35 of 55
- Called 91.7% of time when present
- Phage (with cluster) where this start called: Anekin\_30 (AY), BenchScraper\_31 (AY), Bhageatrice\_33 (AY), BlueShadow\_31 (AY), Bridgette\_29 (FA), ChuckDuck\_30 (FA), Constance\_29 (FA), CookieBear\_31 (AY), CosmicBrownie\_31 (AY), DarwinJr\_34 (AY), Globfish\_31 (AY), GlobiWarming\_30 (FA), Gorpy\_31 (AY), GumGum\_31 (AY), Hestia\_31 (AY), Hillester\_31 (AY), Isolde\_31 (AY), JakeTheSnake\_31 (AY), Judy\_30 (FA), Kabloowy\_31 (AY), Karkharias\_29 (FA), KayMoney\_30 (FA), Lasker\_31 (AY), Lawnathon\_31 (AY), LilyBell\_29 (FA), MUWow\_30 (AY), Mapleville\_30 (AY), MaterMagnus\_31 (AY), MidnightRain\_31 (AY), NikkiHotWheels\_30 (FA), Nyilah\_30 (AY), PeggyLeg03\_29 (FA), Persistence\_30 (AY), RadFad\_31 (AY), Raphaella\_31 (AY), Richie\_31 (AY), Sakai\_31 (AY), Satrap\_31 (AY), Seahorse\_32 (AY), Shukran\_31 (AY), SonDevVon\_30 (AY), SpicyFrank\_31 (AY), ThayneTheZag\_31 (AY), YoungHarleezy\_31 (AY),

Start 8:

- Found in 23 of 73 ( 31.5% ) of genes in pham
- Manual Annotations of this start: 18 of 55
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigSherm\_31 (FF), Cole\_29 (FF), Dirdigger\_31 (FF), Donatella\_30 (FF), Gibbzilla\_29 (FB), GoodLuckBabe\_31 (FF), Guinevere\_31 (FF), Gusanita\_29 (FF), Halloweekend\_29 (FF), Ichiang\_29 (FF), Kihatsu\_32 (FF), Lenoxika\_31 (FF), MillySue\_31 (FF), Nandita\_31 (FF), Popper\_29 (FF), QuinnAvery\_31 (FF), Ryan\_31 (FF), Saintcarr\_31 (FF), Schism\_31 (FF), ToastyOats\_33 (FF), Toodles\_31 (FF), Yonex\_31 (FF), Zaheer\_31 (FF),

Start 9:

- Found in 1 of 73 ( 1.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SunnyJune\_35 (FL),

Start 10:

- Found in 30 of 73 ( 41.1% ) of genes in pham
- Manual Annotations of this start: 1 of 55
- Called 13.3% of time when present
- Phage (with cluster) where this start called: BasketStar\_31 (AY), FosterFrank\_30 (FA), Henrique\_30 (FA), Sporco\_32 (AY),

### **Summary by clusters:**

There are 6 clusters represented in this pham: FS, FA, FB, FF, AY, FL,

Info for manual annotations of cluster AY:

- Start number 7 was manually annotated 26 times for cluster AY.

Info for manual annotations of cluster FA:

- Start number 7 was manually annotated 9 times for cluster FA.
- Start number 10 was manually annotated 1 time for cluster FA.

Info for manual annotations of cluster FF:

- Start number 8 was manually annotated 18 times for cluster FF.

Info for manual annotations of cluster FS:

- Start number 4 was manually annotated 1 time for cluster FS.

### **Gene Information:**

Gene: Altostratus\_23 Start: 18535, Stop: 18786, Start Num: 4

Candidate Starts for Altostratus\_23:

(Start: 4 @18535 has 1 MA's),

Gene: Anekin\_30 Start: 21604, Stop: 21816, Start Num: 7

Candidate Starts for Anekin\_30:

(Start: 7 @21604 has 35 MA's), (15, 21733),

Gene: BasketStar\_31 Start: 21500, Stop: 21691, Start Num: 10

Candidate Starts for BasketStar\_31:

(Start: 7 @21479 has 35 MA's), (Start: 10 @21500 has 1 MA's), (12, 21530), (15, 21608),

Gene: BenchScraper\_31 Start: 21440, Stop: 21652, Start Num: 7

Candidate Starts for BenchScraper\_31:

(Start: 7 @21440 has 35 MA's), (Start: 10 @21461 has 1 MA's), (12, 21491), (15, 21569),

Gene: Bhageatrice\_33 Start: 22926, Stop: 23225, Start Num: 7

Candidate Starts for Bhageatrice\_33:

(Start: 7 @22926 has 35 MA's), (16, 23064), (17, 23088), (19, 23100), (21, 23148), (23, 23208),

Gene: BigSherm\_31 Start: 23227, Stop: 23424, Start Num: 8

Candidate Starts for BigSherm\_31:

(Start: 8 @23227 has 18 MA's), (12, 23266), (15, 23341),

Gene: BlueShadow\_31 Start: 21425, Stop: 21637, Start Num: 7

Candidate Starts for BlueShadow\_31:

(Start: 7 @21425 has 35 MA's), (Start: 10 @21446 has 1 MA's), (12, 21476), (15, 21554),

Gene: Bridgette\_29 Start: 21491, Stop: 21703, Start Num: 7

Candidate Starts for Bridgette\_29:

(6, 21476), (Start: 7 @21491 has 35 MA's), (15, 21620),

Gene: ChuckDuck\_30 Start: 21259, Stop: 21471, Start Num: 7

Candidate Starts for ChuckDuck\_30:

(Start: 7 @21259 has 35 MA's), (Start: 10 @21280 has 1 MA's), (15, 21388),

Gene: Cole\_29 Start: 22974, Stop: 23171, Start Num: 8

Candidate Starts for Cole\_29:

(Start: 8 @22974 has 18 MA's), (12, 23013), (15, 23088),

Gene: Constance\_29 Start: 21731, Stop: 21943, Start Num: 7

Candidate Starts for Constance\_29:

(Start: 7 @21731 has 35 MA's), (Start: 10 @21752 has 1 MA's), (15, 21860),

Gene: CookieBear\_31 Start: 21425, Stop: 21637, Start Num: 7

Candidate Starts for CookieBear\_31:

(Start: 7 @21425 has 35 MA's), (Start: 10 @21446 has 1 MA's), (12, 21476), (15, 21554),

Gene: CosmicBrownie\_31 Start: 21244, Stop: 21456, Start Num: 7

Candidate Starts for CosmicBrownie\_31:

(Start: 7 @21244 has 35 MA's), (15, 21373),

Gene: DarwinJr\_34 Start: 22836, Stop: 23048, Start Num: 7

Candidate Starts for DarwinJr\_34:

(Start: 7 @22836 has 35 MA's), (12, 22887), (15, 22965),

Gene: Dirtdigger\_31 Start: 23048, Stop: 23245, Start Num: 8

Candidate Starts for Dirtdigger\_31:

(2, 22883), (Start: 8 @23048 has 18 MA's), (12, 23087), (15, 23162),

Gene: Donatella\_30 Start: 23438, Stop: 23635, Start Num: 8

Candidate Starts for Donatella\_30:

(Start: 8 @23438 has 18 MA's), (12, 23477), (15, 23552),

Gene: FosterFrank\_30 Start: 21354, Stop: 21545, Start Num: 10

Candidate Starts for FosterFrank\_30:

(Start: 7 @21333 has 35 MA's), (Start: 10 @21354 has 1 MA's), (15, 21462),

Gene: Gibbzilla\_29 Start: 19441, Stop: 19644, Start Num: 8

Candidate Starts for Gibbzilla\_29:

(Start: 8 @19441 has 18 MA's), (12, 19480),

Gene: Globfish\_31 Start: 21659, Stop: 21871, Start Num: 7

Candidate Starts for Globfish\_31:

(Start: 7 @21659 has 35 MA's), (Start: 10 @21680 has 1 MA's), (12, 21710), (15, 21788),

Gene: GlobiWarming\_30 Start: 21174, Stop: 21386, Start Num: 7

Candidate Starts for GlobiWarming\_30:

(Start: 7 @21174 has 35 MA's), (12, 21225), (14, 21240), (15, 21303),

Gene: GoodLuckBabe\_31 Start: 23556, Stop: 23753, Start Num: 8

Candidate Starts for GoodLuckBabe\_31:

(Start: 8 @23556 has 18 MA's), (12, 23595), (15, 23670),

Gene: Gorpy\_31 Start: 21368, Stop: 21592, Start Num: 7

Candidate Starts for Gorpy\_31:

(Start: 7 @21368 has 35 MA's), (Start: 10 @21389 has 1 MA's), (12, 21419), (18, 21536), (21, 21578),

Gene: Guinevere\_31 Start: 23146, Stop: 23343, Start Num: 8

Candidate Starts for Guinevere\_31:

(Start: 8 @23146 has 18 MA's), (12, 23185), (15, 23260),

Gene: GumGum\_31 Start: 21588, Stop: 21800, Start Num: 7

Candidate Starts for GumGum\_31:

(Start: 7 @21588 has 35 MA's), (15, 21717),

Gene: Gusanita\_29 Start: 22909, Stop: 23106, Start Num: 8

Candidate Starts for Gusanita\_29:

(3, 22780), (Start: 8 @22909 has 18 MA's), (12, 22948), (15, 23023),

Gene: Halloweekend\_29 Start: 22853, Stop: 23050, Start Num: 8

Candidate Starts for Halloweekend\_29:

(Start: 8 @22853 has 18 MA's), (12, 22892), (15, 22967),

Gene: Henrique\_30 Start: 21223, Stop: 21414, Start Num: 10

Candidate Starts for Henrique\_30:

(Start: 7 @21202 has 35 MA's), (Start: 10 @21223 has 1 MA's), (15, 21331),

Gene: Hestia\_31 Start: 21464, Stop: 21676, Start Num: 7

Candidate Starts for Hestia\_31:

(Start: 7 @21464 has 35 MA's), (15, 21593),

Gene: Hillester\_31 Start: 21425, Stop: 21637, Start Num: 7

Candidate Starts for Hillester\_31:  
(Start: 7 @21425 has 35 MA's), (Start: 10 @21446 has 1 MA's), (12, 21476), (15, 21554),

Gene: Ichiang\_29 Start: 22872, Stop: 23069, Start Num: 8  
Candidate Starts for Ichiang\_29:  
(Start: 8 @22872 has 18 MA's), (12, 22911), (15, 22986),

Gene: Isolde\_31 Start: 21194, Stop: 21406, Start Num: 7  
Candidate Starts for Isolde\_31:  
(Start: 7 @21194 has 35 MA's), (Start: 10 @21215 has 1 MA's), (12, 21245), (15, 21323),

Gene: JakeTheSnake\_31 Start: 21450, Stop: 21764, Start Num: 7  
Candidate Starts for JakeTheSnake\_31:  
(Start: 7 @21450 has 35 MA's), (13, 21507), (14, 21516), (20, 21654), (23, 21747),

Gene: Judy\_30 Start: 21742, Stop: 21954, Start Num: 7  
Candidate Starts for Judy\_30:  
(6, 21727), (Start: 7 @21742 has 35 MA's), (12, 21793), (15, 21871),

Gene: Kabloowy\_31 Start: 21605, Stop: 21817, Start Num: 7  
Candidate Starts for Kabloowy\_31:  
(Start: 7 @21605 has 35 MA's), (15, 21734),

Gene: Karkharias\_29 Start: 21119, Stop: 21331, Start Num: 7  
Candidate Starts for Karkharias\_29:  
(Start: 7 @21119 has 35 MA's), (Start: 10 @21140 has 1 MA's), (15, 21248),

Gene: KayMoney\_30 Start: 21263, Stop: 21475, Start Num: 7  
Candidate Starts for KayMoney\_30:  
(Start: 7 @21263 has 35 MA's), (Start: 10 @21284 has 1 MA's), (15, 21392),

Gene: Kihatsu\_32 Start: 23492, Stop: 23689, Start Num: 8  
Candidate Starts for Kihatsu\_32:  
(Start: 8 @23492 has 18 MA's), (12, 23531), (15, 23606),

Gene: Lasker\_31 Start: 21433, Stop: 21645, Start Num: 7  
Candidate Starts for Lasker\_31:  
(Start: 7 @21433 has 35 MA's), (Start: 10 @21454 has 1 MA's), (12, 21484), (15, 21562),

Gene: Lawnathon\_31 Start: 21288, Stop: 21500, Start Num: 7  
Candidate Starts for Lawnathon\_31:  
(Start: 7 @21288 has 35 MA's), (Start: 10 @21309 has 1 MA's), (12, 21339), (15, 21417),

Gene: Lenoxika\_31 Start: 23142, Stop: 23339, Start Num: 8  
Candidate Starts for Lenoxika\_31:  
(1, 22944), (5, 23097), (Start: 8 @23142 has 18 MA's), (12, 23181), (15, 23256),

Gene: LilyBell\_29 Start: 21131, Stop: 21343, Start Num: 7  
Candidate Starts for LilyBell\_29:  
(Start: 7 @21131 has 35 MA's), (Start: 10 @21152 has 1 MA's), (15, 21260),

Gene: MUWow\_30 Start: 21452, Stop: 21664, Start Num: 7  
Candidate Starts for MUWow\_30:

(Start: 7 @21452 has 35 MA's), (Start: 10 @21473 has 1 MA's), (12, 21503), (15, 21581),

Gene: Mapleville\_30 Start: 21358, Stop: 21570, Start Num: 7

Candidate Starts for Mapleville\_30:

(Start: 7 @21358 has 35 MA's), (Start: 10 @21379 has 1 MA's), (12, 21409), (15, 21487),

Gene: MaterMagnus\_31 Start: 21435, Stop: 21647, Start Num: 7

Candidate Starts for MaterMagnus\_31:

(Start: 7 @21435 has 35 MA's), (Start: 10 @21456 has 1 MA's), (12, 21486), (15, 21564),

Gene: MidnightRain\_31 Start: 21424, Stop: 21636, Start Num: 7

Candidate Starts for MidnightRain\_31:

(Start: 7 @21424 has 35 MA's), (Start: 10 @21445 has 1 MA's), (12, 21475), (15, 21553),

Gene: MillySue\_31 Start: 23043, Stop: 23252, Start Num: 8

Candidate Starts for MillySue\_31:

(Start: 8 @23043 has 18 MA's), (11, 23070), (15, 23169),

Gene: Nandita\_31 Start: 23146, Stop: 23343, Start Num: 8

Candidate Starts for Nandita\_31:

(Start: 8 @23146 has 18 MA's), (12, 23185), (15, 23260),

Gene: NikkiHotWheels\_30 Start: 21195, Stop: 21407, Start Num: 7

Candidate Starts for NikkiHotWheels\_30:

(Start: 7 @21195 has 35 MA's), (12, 21246), (13, 21252), (14, 21261), (15, 21324),

Gene: Nyilah\_30 Start: 21273, Stop: 21593, Start Num: 7

Candidate Starts for Nyilah\_30:

(Start: 7 @21273 has 35 MA's), (17, 21438), (21, 21498), (22, 21528),

Gene: PeggyLeg03\_29 Start: 21731, Stop: 21943, Start Num: 7

Candidate Starts for PeggyLeg03\_29:

(Start: 7 @21731 has 35 MA's), (Start: 10 @21752 has 1 MA's), (15, 21860),

Gene: Persistence\_30 Start: 21462, Stop: 21674, Start Num: 7

Candidate Starts for Persistence\_30:

(Start: 7 @21462 has 35 MA's), (12, 21513), (13, 21519), (14, 21528),

Gene: Popper\_29 Start: 23059, Stop: 23256, Start Num: 8

Candidate Starts for Popper\_29:

(1, 22861), (Start: 8 @23059 has 18 MA's), (12, 23098), (15, 23173),

Gene: QuinnAvery\_31 Start: 23236, Stop: 23433, Start Num: 8

Candidate Starts for QuinnAvery\_31:

(Start: 8 @23236 has 18 MA's), (12, 23275), (15, 23350),

Gene: RadFad\_31 Start: 21425, Stop: 21637, Start Num: 7

Candidate Starts for RadFad\_31:

(Start: 7 @21425 has 35 MA's), (Start: 10 @21446 has 1 MA's), (12, 21476), (15, 21554),

Gene: Raphaella\_31 Start: 21359, Stop: 21571, Start Num: 7

Candidate Starts for Raphaella\_31:

(Start: 7 @21359 has 35 MA's), (Start: 10 @21380 has 1 MA's), (12, 21410), (15, 21488),

Gene: Richie\_31 Start: 21440, Stop: 21652, Start Num: 7  
Candidate Starts for Richie\_31:  
(Start: 7 @21440 has 35 MA's), (Start: 10 @21461 has 1 MA's), (12, 21491), (15, 21569),

Gene: Ryan\_31 Start: 23757, Stop: 23954, Start Num: 8  
Candidate Starts for Ryan\_31:  
(Start: 8 @23757 has 18 MA's), (12, 23796), (15, 23871),

Gene: Saintcarr\_31 Start: 23319, Stop: 23516, Start Num: 8  
Candidate Starts for Saintcarr\_31:  
(Start: 8 @23319 has 18 MA's), (12, 23358), (15, 23433),

Gene: Sakai\_31 Start: 21368, Stop: 21580, Start Num: 7  
Candidate Starts for Sakai\_31:  
(Start: 7 @21368 has 35 MA's), (Start: 10 @21389 has 1 MA's), (12, 21419), (15, 21497),

Gene: Satrap\_31 Start: 21534, Stop: 21746, Start Num: 7  
Candidate Starts for Satrap\_31:  
(Start: 7 @21534 has 35 MA's), (15, 21663),

Gene: Schism\_31 Start: 23146, Stop: 23343, Start Num: 8  
Candidate Starts for Schism\_31:  
(Start: 8 @23146 has 18 MA's), (12, 23185), (15, 23260),

Gene: Seahorse\_32 Start: 22003, Stop: 22323, Start Num: 7  
Candidate Starts for Seahorse\_32:  
(Start: 7 @22003 has 35 MA's), (22, 22258),

Gene: Shukran\_31 Start: 21534, Stop: 21746, Start Num: 7  
Candidate Starts for Shukran\_31:  
(Start: 7 @21534 has 35 MA's), (15, 21663),

Gene: SonDevVon\_30 Start: 21361, Stop: 21573, Start Num: 7  
Candidate Starts for SonDevVon\_30:  
(Start: 7 @21361 has 35 MA's), (Start: 10 @21382 has 1 MA's), (12, 21412), (15, 21490),

Gene: SpicyFrank\_31 Start: 21660, Stop: 21872, Start Num: 7  
Candidate Starts for SpicyFrank\_31:  
(Start: 7 @21660 has 35 MA's), (Start: 10 @21681 has 1 MA's), (15, 21789),

Gene: Sporco\_32 Start: 21437, Stop: 21628, Start Num: 10  
Candidate Starts for Sporco\_32:  
(Start: 7 @21416 has 35 MA's), (Start: 10 @21437 has 1 MA's), (12, 21467), (15, 21545),

Gene: SunnyJune\_35 Start: 26818, Stop: 27111, Start Num: 9  
Candidate Starts for SunnyJune\_35:  
(9, 26818), (21, 27028), (24, 27103),

Gene: ThayneTheZag\_31 Start: 21579, Stop: 21791, Start Num: 7  
Candidate Starts for ThayneTheZag\_31:  
(Start: 7 @21579 has 35 MA's), (15, 21708),

Gene: ToastyOats\_33 Start: 23777, Stop: 23974, Start Num: 8  
Candidate Starts for ToastyOats\_33:  
(Start: 8 @23777 has 18 MA's), (12, 23816), (15, 23891),

Gene: Toodles\_31 Start: 23607, Stop: 23804, Start Num: 8  
Candidate Starts for Toodles\_31:  
(Start: 8 @23607 has 18 MA's), (12, 23646), (15, 23721),

Gene: Yonex\_31 Start: 23757, Stop: 23954, Start Num: 8  
Candidate Starts for Yonex\_31:  
(Start: 8 @23757 has 18 MA's), (12, 23796), (15, 23871),

Gene: YoungHarleezy\_31 Start: 21438, Stop: 21650, Start Num: 7  
Candidate Starts for YoungHarleezy\_31:  
(Start: 7 @21438 has 35 MA's), (Start: 10 @21459 has 1 MA's), (12, 21489), (15, 21567),

Gene: Zaheer\_31 Start: 23846, Stop: 24043, Start Num: 8  
Candidate Starts for Zaheer\_31:  
(Start: 8 @23846 has 18 MA's), (12, 23885), (15, 23960),