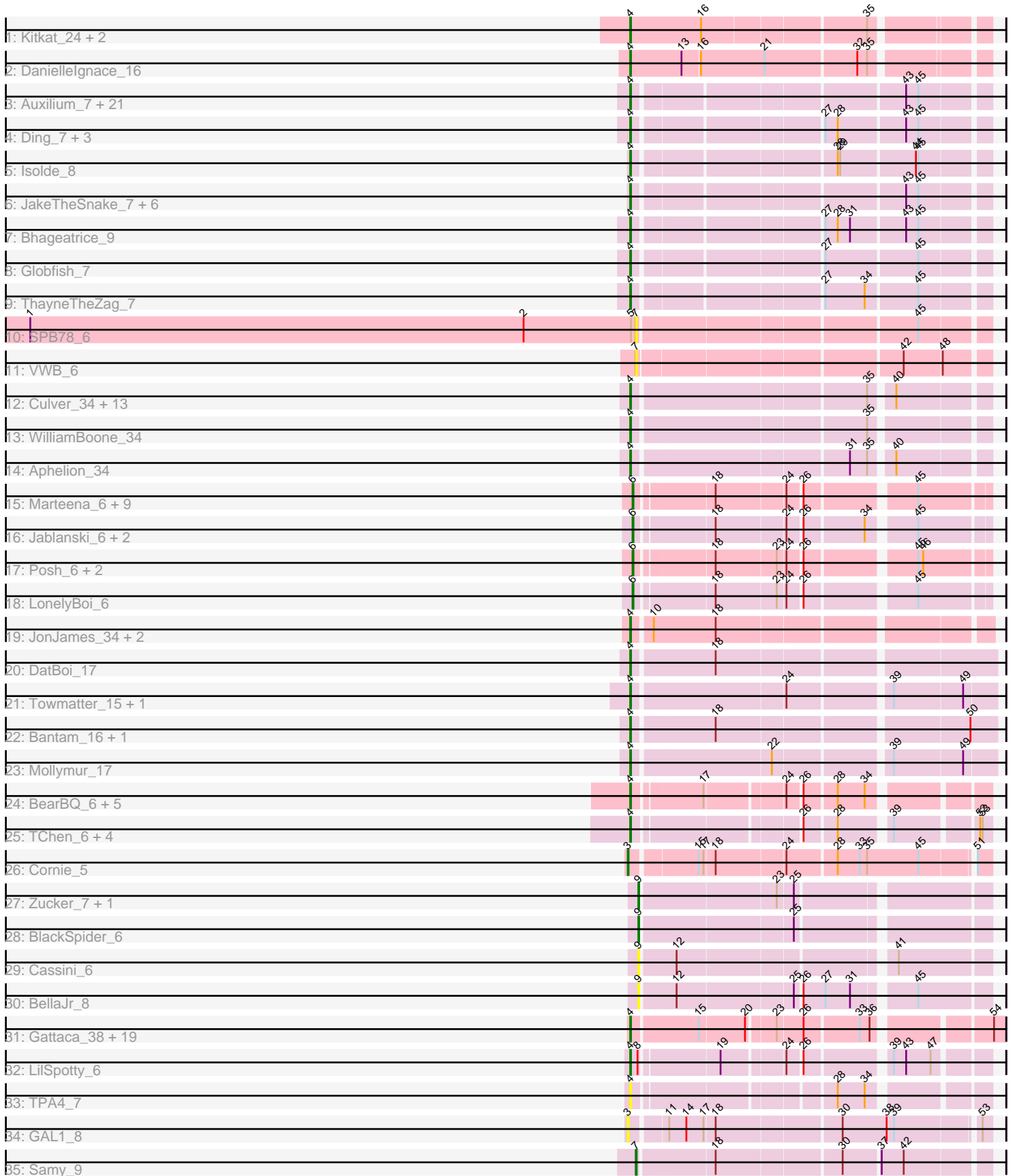


Pham 296356



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 296356 Report

This analysis was run 04/25/26 on database version 644.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 296356 has 126 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Kitkat\_24, BeatusComedenti\_23, KelleEzio\_23
- Track 2 : DanielleIgnace\_16
- Track 3 : Auxilium\_7, BenchScraper\_7, Faja\_7, Raphaella\_7, BasketStar\_7, Sporco\_8, YoungHarleezy\_7, SpicyFrank\_7, MaterMagnus\_7, MUWow\_6, AdaS\_7, BillyTP\_7, SonDevVon\_6, CosmicBrownie\_6, Gorpy\_7, Richie\_7, JellyBread\_7, Sakai\_7, Lasker\_7, NewKitty\_8, Aikyam\_7, CookieBear\_7
- Track 4 : Ding\_7, Nyilah\_6, Hestia\_7, Tiff81\_8
- Track 5 : Isolde\_8
- Track 6 : JakeTheSnake\_7, GumGum\_7, DarwinJr\_10, Crescenzo\_7, Persistence\_6, Vopal\_8, Anekin\_6
- Track 7 : Bhageatrice\_9
- Track 8 : Globfish\_7
- Track 9 : ThayneTheZag\_7
- Track 10 : SPB78\_6
- Track 11 : VWB\_6
- Track 12 : Culver\_34, Miskis\_32, Geeche\_33, Dusty\_33, Lozinak\_34, Abscondus\_33, Bachita\_36, Smoothie\_35, Cucurbita\_36, Engineer\_35, Toniann\_34, PhinkBoden\_34, Norvs\_35, ClubL\_34
- Track 13 : WilliamBoone\_34
- Track 14 : Aphelion\_34
- Track 15 : Marteena\_6, EnalisNailo\_6, Cashline\_6, Angelique\_6, EMSquaredA\_6, Wrigley\_6, Floral\_6, BritBrat\_6, Lilas\_6, Pollux\_6
- Track 16 : Jablanski\_6, Pytheas\_6, Bradissa\_6
- Track 17 : Posh\_6, Confidence\_6, BeeGee\_6
- Track 18 : LonelyBoi\_6
- Track 19 : JonJames\_34, Cardigan\_34, Yvonnetastic\_32
- Track 20 : DatBoi\_17
- Track 21 : Towmatter\_15, Daredevil\_16
- Track 22 : Bantam\_16, SpeedDemon\_170
- Track 23 : Mollymur\_17
- Track 24 : BearBQ\_6, MortyNRick\_6, Kuwabara\_6, Crater\_6, Apricot\_6, Birdsong\_6
- Track 25 : TChen\_6, Toron\_6, LunaStella\_6, ThetaBob\_6, Renaud18\_6
- Track 26 : Cornie\_5

- Track 27 : Zucker\_7, Bauer\_8
- Track 28 : BlackSpider\_6
- Track 29 : Cassini\_6
- Track 30 : BellaJr\_8
- Track 31 : Gattaca\_38, RedRaider77\_39, Corazon\_37, GoongGoong\_38, Clarkson\_40, Poise\_39, Tesla\_38, Raela\_39, Lilbit\_38, FeliMaine\_41, Pringar\_39, JoieB\_40, Beelzebub\_43, LittleLaf\_39, Huphlepuuff\_41, Marvin\_37, VasuNzinga\_39, MosMoris\_37, Caprice\_36, Blackbeetle\_39
- Track 32 : LilSpotty\_6
- Track 33 : TPA4\_7
- Track 34 : GAL1\_8
- Track 35 : Samy\_9

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

The start number called the most often in the published annotations is 4, it was called in 80 of the 102 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abscondus\_33, AdaS\_7, Aikyam\_7, Anekin\_6, Aphelion\_34, Apricot\_6, Auxilium\_7, Bachita\_36, Bantam\_16, BasketStar\_7, BearBQ\_6, BeatusComedenti\_23, Beelzebub\_43, BenchScraper\_7, Bhageatrice\_9, BillyTP\_7, Birdsong\_6, Blackbeetle\_39, Caprice\_36, Cardigan\_34, Clarkson\_40, ClubL\_34, CookieBear\_7, Corazon\_37, CosmicBrownie\_6, Crater\_6, Crescenzo\_7, Cucurbita\_36, Culver\_34, DaniellEgnace\_16, Daredevil\_16, DarwinJr\_10, DatBoi\_17, Ding\_7, Dusty\_33, Engineer\_35, Faja\_7, FeliMaine\_41, Gattaca\_38, Geeche\_33, Globfish\_7, GoongGoong\_38, Gorpy\_7, GumGum\_7, Hestia\_7, Huphlepuuff\_41, Isolde\_8, JakeTheSnake\_7, JellyBread\_7, JoieB\_40, JonJames\_34, KellEzio\_23, Kitkat\_24, Kuwabara\_6, Lasker\_7, LilSpotty\_6, Lilbit\_38, LittleLaf\_39, Lozinak\_34, LunaStella\_6, MUWow\_6, Marvin\_37, MaterMagnus\_7, Miskis\_32, Mollymur\_17, MortyNRick\_6, MosMoris\_37, NewKitty\_8, Norvs\_35, Nyilah\_6, Persistence\_6, PhinkBoden\_34, Poise\_39, Pringar\_39, Raela\_39, Raphaella\_7, RedRaider77\_39, Renaud18\_6, Richie\_7, Sakai\_7, Smoothie\_35, SonDevVon\_6, SpeedDemon\_170, SpicyFrank\_7, Sporco\_8, TChen\_6, TPA4\_7, Tesla\_38, ThayneTheZag\_7, ThetaBob\_6, Tiff81\_8, Toniann\_34, Toron\_6, Towmatter\_15, VasuNzinga\_39, Vopal\_8, WilliamBoone\_34, YoungHarleezy\_7, Yvonnestic\_32,

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

- 

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

- Angelique\_6, Bauer\_8, BeeGee\_6, BellaJr\_8, BlackSpider\_6, Bradissa\_6, BritBrat\_6, Cashline\_6, Cassini\_6, Confidence\_6, Cornie\_5, EMSquaredA\_6, EnalisNailo\_6, Floral\_6, GAL1\_8, Jablanski\_6, Lilas\_6, LonelyBoi\_6, Marteenaa\_6, Pollux\_6, Posh\_6, Pytheas\_6, SPB78\_6, Samy\_9, VWB\_6, Wrigley\_6, Zucker\_7,

**Summary by start number:**

Start 3:

- Found in 2 of 126 ( 1.6% ) of genes in pham

- Manual Annotations of this start: 1 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cornie\_5 (F5), GAL1\_8 (singleton),

#### Start 4:

- Found in 99 of 126 ( 78.6% ) of genes in pham
- Manual Annotations of this start: 80 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus\_33 (CQ1), AdaS\_7 (AY), Aikyam\_7 (AY), Anekin\_6 (AY), Aphelion\_34 (CQ1), Apricot\_6 (DN3), Auxilium\_7 (AY), Bachita\_36 (CQ1), Bantam\_16 (DL), BasketStar\_7 (AY), BearBQ\_6 (DN), BeatusComedenti\_23 (AT), Beelzebub\_43 (S), BenchScraper\_7 (AY), Bhageatrice\_9 (AY), BillyTP\_7 (AY), Birdsong\_6 (DN), Blackbeetle\_39 (S), Caprice\_36 (S), Cardigan\_34 (DD), Clarkson\_40 (S), ClubL\_34 (CQ1), CookieBear\_7 (AY), Corazon\_37 (S), CosmicBrownie\_6 (AY), Crater\_6 (DN3), Crescenzo\_7 (AY), Cucurbita\_36 (CQ1), Culver\_34 (CQ1), DanielleIgnace\_16 (AT), Daredevil\_16 (DL), DarwinJr\_10 (AY), DatBoi\_17 (DL), Ding\_7 (AY), Dusty\_33 (CQ1), Engineer\_35 (CQ1), Faja\_7 (AY), FeliMaine\_41 (S), Gattaca\_38 (S), Geeche\_33 (CQ1), Globfish\_7 (AY), GoongGoong\_38 (S), Gorpy\_7 (AY), GumGum\_7 (AY), Hestia\_7 (AY), Huphlepuuff\_41 (S), Isolde\_8 (AY), JakeTheSnake\_7 (AY), JellyBread\_7 (AY), JoieB\_40 (S), JonJames\_34 (DD), KellEzio\_23 (AT), Kitkat\_24 (AT), Kuwabara\_6 (DN4), Lasker\_7 (AY), LilSpotty\_6 (singleton), Lilbit\_38 (S), LittleLaf\_39 (S), Lozinak\_34 (CQ1), LunaStella\_6 (F4), MUWow\_6 (AY), Marvin\_37 (S), MaterMagnus\_7 (AY), Miskis\_32 (CQ1), Mollymur\_17 (DL), MortyNRick\_6 (DN), MosMoris\_37 (S), NewKitty\_8 (AY), Norvs\_35 (CQ1), Nyilah\_6 (AY), Persistence\_6 (AY), PhinkBoden\_34 (CQ1), Poise\_39 (S), Pringar\_39 (S), Raela\_39 (S), Raphaella\_7 (AY), RedRaider77\_39 (S), Renaud18\_6 (F4), Richie\_7 (AY), Sakai\_7 (AY), Smoothie\_35 (CQ1), SonDevVon\_6 (AY), SpeedDemon\_170 (DL), SpicyFrank\_7 (AY), Sporco\_8 (AY), TChen\_6 (F4), TPA4\_7 (singleton), Tesla\_38 (S), ThayneTheZag\_7 (AY), ThetaBob\_6 (F4), Tiff81\_8 (AY), Toniann\_34 (CQ1), Toron\_6 (F6), Towmatter\_15 (DL), VasuNzinga\_39 (S), Vopal\_8 (AY), WilliamBoone\_34 (CQ1), YoungHarleezy\_7 (AY), Yvonnestic\_32 (DD),

#### Start 6:

- Found in 17 of 126 ( 13.5% ) of genes in pham
- Manual Annotations of this start: 17 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angelique\_6 (CY1), BeeGee\_6 (CY5), Bradissa\_6 (CY1), BritBrat\_6 (CY2), Cashline\_6 (CY6), Confidence\_6 (CY1), EMSquaredA\_6 (CY1), EnalisNailo\_6 (CY1), Floral\_6 (CY1), Jablanski\_6 (CY3), Lilas\_6 (CY1), LonelyBoi\_6 (CY7), Marteena\_6 (CY1), Pollux\_6 (CY1), Posh\_6 (CY4), Pytheas\_6 (CY3), Wrigley\_6 (CY4),

#### Start 7:

- Found in 3 of 126 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SPB78\_6 (BA), Samy\_9 (singleton), VWB\_6 (BA),

#### Start 9:

- Found in 5 of 126 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 3 of 102

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bauer\_8 (FN), BellaJr\_8 (FN), BlackSpider\_6 (FN), Cassini\_6 (FN), Zucker\_7 (FN),

### **Summary by clusters:**

There are 22 clusters represented in this pham: DN, DL, BA, DD, singleton, FN, DN4, DN3, CQ1, CY3, CY2, CY1, CY7, CY6, CY5, CY4, S, AT, AY, F4, F5, F6,

Info for manual annotations of cluster AT:

- Start number 4 was manually annotated 4 times for cluster AT.

Info for manual annotations of cluster AY:

- Start number 4 was manually annotated 23 times for cluster AY.

Info for manual annotations of cluster CQ1:

- Start number 4 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CY1:

- Start number 6 was manually annotated 9 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 6 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CY3:

- Start number 6 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CY4:

- Start number 6 was manually annotated 2 times for cluster CY4.

Info for manual annotations of cluster CY5:

- Start number 6 was manually annotated 1 time for cluster CY5.

Info for manual annotations of cluster CY6:

- Start number 6 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CY7:

- Start number 6 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster DD:

- Start number 4 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DL:

- Start number 4 was manually annotated 6 times for cluster DL.

Info for manual annotations of cluster DN:

- Start number 4 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN3:

- Start number 4 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 4 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster F4:

- Start number 4 was manually annotated 4 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 3 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster FN:

- Start number 9 was manually annotated 3 times for cluster FN.

Info for manual annotations of cluster S:

- Start number 4 was manually annotated 19 times for cluster S.

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

Gene: Abscondus\_33 Start: 13642, Stop: 14040, Start Num: 4

Candidate Starts for Abscondus\_33:

(Start: 4 @13642 has 80 MA's), (35, 13912), (40, 13936),

Gene: AdaS\_7 Start: 5490, Stop: 5885, Start Num: 4

Candidate Starts for AdaS\_7:

(Start: 4 @5490 has 80 MA's), (43, 5793), (45, 5808),

Gene: Aikyam\_7 Start: 5476, Stop: 5871, Start Num: 4

Candidate Starts for Aikyam\_7:

(Start: 4 @5476 has 80 MA's), (43, 5779), (45, 5794),

Gene: Anekin\_6 Start: 5629, Stop: 6024, Start Num: 4

Candidate Starts for Anekin\_6:

(Start: 4 @5629 has 80 MA's), (43, 5932), (45, 5947),

Gene: Angelique\_6 Start: 5300, Stop: 5683, Start Num: 6

Candidate Starts for Angelique\_6:

(Start: 6 @5300 has 17 MA's), (18, 5387), (24, 5468), (26, 5483), (45, 5603),

Gene: Aphelion\_34 Start: 13889, Stop: 14287, Start Num: 4

Candidate Starts for Aphelion\_34:

(Start: 4 @13889 has 80 MA's), (31, 14138), (35, 14159), (40, 14183),

Gene: Apricot\_6 Start: 4848, Stop: 5222, Start Num: 4

Candidate Starts for Apricot\_6:

(Start: 4 @4848 has 80 MA's), (17, 4926), (24, 5013), (26, 5028), (28, 5064), (34, 5097),

Gene: Auxilium\_7 Start: 5490, Stop: 5885, Start Num: 4

Candidate Starts for Auxilium\_7:

(Start: 4 @5490 has 80 MA's), (43, 5793), (45, 5808),

Gene: Bachita\_36 Start: 14322, Stop: 14720, Start Num: 4

Candidate Starts for Bachita\_36:

(Start: 4 @14322 has 80 MA's), (35, 14592), (40, 14616),

Gene: Bantam\_16 Start: 11161, Stop: 11574, Start Num: 4

Candidate Starts for Bantam\_16:

(Start: 4 @11161 has 80 MA's), (18, 11257), (50, 11542),

Gene: BasketStar\_7 Start: 5529, Stop: 5924, Start Num: 4

Candidate Starts for BasketStar\_7:

(Start: 4 @5529 has 80 MA's), (43, 5832), (45, 5847),

Gene: Bauer\_8 Start: 5911, Stop: 6297, Start Num: 9

Candidate Starts for Bauer\_8:

(Start: 9 @5911 has 3 MA's), (23, 6067), (25, 6085),

Gene: BearBQ\_6 Start: 4848, Stop: 5222, Start Num: 4

Candidate Starts for BearBQ\_6:

(Start: 4 @4848 has 80 MA's), (17, 4926), (24, 5013), (26, 5028), (28, 5064), (34, 5097),

Gene: BeatusComedenti\_23 Start: 12436, Stop: 12837, Start Num: 4

Candidate Starts for BeatusComedenti\_23:

(Start: 4 @12436 has 80 MA's), (16, 12523), (35, 12712),

Gene: BeeGee\_6 Start: 5303, Stop: 5686, Start Num: 6

Candidate Starts for BeeGee\_6:

(Start: 6 @5303 has 17 MA's), (18, 5390), (23, 5462), (24, 5471), (26, 5486), (45, 5606), (46, 5612),

Gene: Beelzebub\_43 Start: 16130, Stop: 16534, Start Num: 4

Candidate Starts for Beelzebub\_43:

(Start: 4 @16130 has 80 MA's), (15, 16208), (20, 16262), (23, 16292), (26, 16322), (33, 16385), (36, 16397), (54, 16520),

Gene: BellaJr\_8 Start: 5974, Stop: 6360, Start Num: 9

Candidate Starts for BellaJr\_8:

(Start: 9 @5974 has 3 MA's), (12, 6013), (25, 6148), (26, 6154), (27, 6181), (31, 6211), (45, 6277),

Gene: BenchScraper\_7 Start: 5490, Stop: 5885, Start Num: 4

Candidate Starts for BenchScraper\_7:

(Start: 4 @5490 has 80 MA's), (43, 5793), (45, 5808),

Gene: Bhageatrice\_9 Start: 6685, Stop: 7080, Start Num: 4

Candidate Starts for Bhageatrice\_9:

(Start: 4 @6685 has 80 MA's), (27, 6895), (28, 6910), (31, 6925), (43, 6988), (45, 7003),

Gene: BillyTP\_7 Start: 5484, Stop: 5879, Start Num: 4

Candidate Starts for BillyTP\_7:

(Start: 4 @5484 has 80 MA's), (43, 5787), (45, 5802),

Gene: Birdsong\_6 Start: 4848, Stop: 5222, Start Num: 4

Candidate Starts for Birdsong\_6:

(Start: 4 @4848 has 80 MA's), (17, 4926), (24, 5013), (26, 5028), (28, 5064), (34, 5097),

Gene: BlackSpider\_6 Start: 4970, Stop: 5356, Start Num: 9

Candidate Starts for BlackSpider\_6:

(Start: 9 @4970 has 3 MA's), (25, 5144),

Gene: Blackbeetle\_39 Start: 15149, Stop: 15553, Start Num: 4

Candidate Starts for Blackbeetle\_39:

(Start: 4 @15149 has 80 MA's), (15, 15227), (20, 15281), (23, 15311), (26, 15341), (33, 15404), (36, 15416), (54, 15539),

Gene: Bradissa\_6 Start: 5307, Stop: 5690, Start Num: 6

Candidate Starts for Bradissa\_6:

(Start: 6 @5307 has 17 MA's), (18, 5394), (24, 5475), (26, 5490), (34, 5559), (45, 5610),

Gene: BritBrat\_6 Start: 5309, Stop: 5692, Start Num: 6

Candidate Starts for BritBrat\_6:

(Start: 6 @5309 has 17 MA's), (18, 5396), (24, 5477), (26, 5492), (45, 5612),

Gene: Caprice\_36 Start: 15219, Stop: 15623, Start Num: 4

Candidate Starts for Caprice\_36:

(Start: 4 @15219 has 80 MA's), (15, 15297), (20, 15351), (23, 15381), (26, 15411), (33, 15474), (36, 15486), (54, 15609),

Gene: Cardigan\_34 Start: 15847, Stop: 16248, Start Num: 4

Candidate Starts for Cardigan\_34:

(Start: 4 @15847 has 80 MA's), (10, 15868), (18, 15943),

Gene: Cashline\_6 Start: 5156, Stop: 5539, Start Num: 6

Candidate Starts for Cashline\_6:

(Start: 6 @5156 has 17 MA's), (18, 5243), (24, 5324), (26, 5339), (45, 5459),

Gene: Cassini\_6 Start: 4944, Stop: 5330, Start Num: 9

Candidate Starts for Cassini\_6:

(Start: 9 @4944 has 3 MA's), (12, 4983), (41, 5223),

Gene: Clarkson\_40 Start: 15831, Stop: 16235, Start Num: 4

Candidate Starts for Clarkson\_40:

(Start: 4 @15831 has 80 MA's), (15, 15909), (20, 15963), (23, 15993), (26, 16023), (33, 16086), (36, 16098), (54, 16221),

Gene: ClubL\_34 Start: 13823, Stop: 14221, Start Num: 4

Candidate Starts for ClubL\_34:

(Start: 4 @13823 has 80 MA's), (35, 14093), (40, 14117),

Gene: Confidence\_6 Start: 5303, Stop: 5686, Start Num: 6

Candidate Starts for Confidence\_6:

(Start: 6 @5303 has 17 MA's), (18, 5390), (23, 5462), (24, 5471), (26, 5486), (45, 5606), (46, 5612),

Gene: CookieBear\_7 Start: 5490, Stop: 5885, Start Num: 4

Candidate Starts for CookieBear\_7:

(Start: 4 @5490 has 80 MA's), (43, 5793), (45, 5808),

Gene: Corazon\_37 Start: 15784, Stop: 16188, Start Num: 4

Candidate Starts for Corazon\_37:

(Start: 4 @15784 has 80 MA's), (15, 15862), (20, 15916), (23, 15946), (26, 15976), (33, 16039), (36, 16051), (54, 16174),

Gene: Cornie\_5 Start: 4459, Stop: 4863, Start Num: 3

Candidate Starts for Cornie\_5:

(Start: 3 @4459 has 1 MA's), (15, 4534), (17, 4540), (18, 4552), (24, 4633), (28, 4690), (33, 4717), (35, 4726), (45, 4789), (51, 4846),

Gene: CosmicBrownie\_6 Start: 5607, Stop: 6002, Start Num: 4

Candidate Starts for CosmicBrownie\_6:

(Start: 4 @5607 has 80 MA's), (43, 5910), (45, 5925),

Gene: Crater\_6 Start: 4848, Stop: 5222, Start Num: 4

Candidate Starts for Crater\_6:

(Start: 4 @4848 has 80 MA's), (17, 4926), (24, 5013), (26, 5028), (28, 5064), (34, 5097),

Gene: Crescenzo\_7 Start: 5557, Stop: 5952, Start Num: 4

Candidate Starts for Crescenzo\_7:

(Start: 4 @5557 has 80 MA's), (43, 5860), (45, 5875),

Gene: Cucurbita\_36 Start: 15181, Stop: 15579, Start Num: 4

Candidate Starts for Cucurbita\_36:

(Start: 4 @15181 has 80 MA's), (35, 15451), (40, 15475),

Gene: Culver\_34 Start: 13642, Stop: 14040, Start Num: 4

Candidate Starts for Culver\_34:

(Start: 4 @13642 has 80 MA's), (35, 13912), (40, 13936),

Gene: DanielleIgnace\_16 Start: 11672, Stop: 12079, Start Num: 4

Candidate Starts for DanielleIgnace\_16:

(Start: 4 @11672 has 80 MA's), (13, 11735), (16, 11756), (21, 11834), (32, 11942), (35, 11954),

Gene: Daredevil\_16 Start: 10047, Stop: 10457, Start Num: 4

Candidate Starts for Daredevil\_16:

(Start: 4 @10047 has 80 MA's), (24, 10224), (39, 10338), (49, 10419),

Gene: DarwinJr\_10 Start: 6860, Stop: 7255, Start Num: 4

Candidate Starts for DarwinJr\_10:

(Start: 4 @6860 has 80 MA's), (43, 7163), (45, 7178),

Gene: DatBoi\_17 Start: 11997, Stop: 12410, Start Num: 4

Candidate Starts for DatBoi\_17:

(Start: 4 @11997 has 80 MA's), (18, 12093),

Gene: Ding\_7 Start: 5501, Stop: 5896, Start Num: 4

Candidate Starts for Ding\_7:

(Start: 4 @5501 has 80 MA's), (27, 5711), (28, 5726), (43, 5804), (45, 5819),

Gene: Dusty\_33 Start: 13642, Stop: 14040, Start Num: 4

Candidate Starts for Dusty\_33:

(Start: 4 @13642 has 80 MA's), (35, 13912), (40, 13936),

Gene: EMsquaredA\_6 Start: 5309, Stop: 5692, Start Num: 6

Candidate Starts for EMsquaredA\_6:

(Start: 6 @5309 has 17 MA's), (18, 5396), (24, 5477), (26, 5492), (45, 5612),

Gene: EnalisNailo\_6 Start: 5309, Stop: 5692, Start Num: 6  
Candidate Starts for EnalisNailo\_6:  
(Start: 6 @5309 has 17 MA's), (18, 5396), (24, 5477), (26, 5492), (45, 5612),

Gene: Engineer\_35 Start: 13837, Stop: 14235, Start Num: 4  
Candidate Starts for Engineer\_35:  
(Start: 4 @13837 has 80 MA's), (35, 14107), (40, 14131),

Gene: Faja\_7 Start: 5476, Stop: 5871, Start Num: 4  
Candidate Starts for Faja\_7:  
(Start: 4 @5476 has 80 MA's), (43, 5779), (45, 5794),

Gene: FeliMaine\_41 Start: 15832, Stop: 16236, Start Num: 4  
Candidate Starts for FeliMaine\_41:  
(Start: 4 @15832 has 80 MA's), (15, 15910), (20, 15964), (23, 15994), (26, 16024), (33, 16087), (36, 16099), (54, 16222),

Gene: Floral\_6 Start: 5309, Stop: 5692, Start Num: 6  
Candidate Starts for Floral\_6:  
(Start: 6 @5309 has 17 MA's), (18, 5396), (24, 5477), (26, 5492), (45, 5612),

Gene: GAL1\_8 Start: 6396, Stop: 6800, Start Num: 3  
Candidate Starts for GAL1\_8:  
(Start: 3 @6396 has 1 MA's), (11, 6435), (14, 6456), (17, 6477), (18, 6489), (30, 6633), (38, 6687), (39, 6696), (53, 6789),

Gene: Gattaca\_38 Start: 15011, Stop: 15415, Start Num: 4  
Candidate Starts for Gattaca\_38:  
(Start: 4 @15011 has 80 MA's), (15, 15089), (20, 15143), (23, 15173), (26, 15203), (33, 15266), (36, 15278), (54, 15401),

Gene: Geeche\_33 Start: 13711, Stop: 14109, Start Num: 4  
Candidate Starts for Geeche\_33:  
(Start: 4 @13711 has 80 MA's), (35, 13981), (40, 14005),

Gene: Globfish\_7 Start: 5535, Stop: 5930, Start Num: 4  
Candidate Starts for Globfish\_7:  
(Start: 4 @5535 has 80 MA's), (27, 5745), (45, 5853),

Gene: GoongGoong\_38 Start: 15051, Stop: 15455, Start Num: 4  
Candidate Starts for GoongGoong\_38:  
(Start: 4 @15051 has 80 MA's), (15, 15129), (20, 15183), (23, 15213), (26, 15243), (33, 15306), (36, 15318), (54, 15441),

Gene: Gorpy\_7 Start: 5484, Stop: 5879, Start Num: 4  
Candidate Starts for Gorpy\_7:  
(Start: 4 @5484 has 80 MA's), (43, 5787), (45, 5802),

Gene: GumGum\_7 Start: 5561, Stop: 5956, Start Num: 4  
Candidate Starts for GumGum\_7:  
(Start: 4 @5561 has 80 MA's), (43, 5864), (45, 5879),

Gene: Hestia\_7 Start: 5623, Stop: 6018, Start Num: 4  
Candidate Starts for Hestia\_7:  
(Start: 4 @5623 has 80 MA's), (27, 5833), (28, 5848), (43, 5926), (45, 5941),

Gene: Huphlepuuff\_41 Start: 15636, Stop: 16040, Start Num: 4  
Candidate Starts for Huphlepuuff\_41:  
(Start: 4 @15636 has 80 MA's), (15, 15714), (20, 15768), (23, 15798), (26, 15828), (33, 15891), (36, 15903), (54, 16026),

Gene: Isolde\_8 Start: 5547, Stop: 5942, Start Num: 4  
Candidate Starts for Isolde\_8:  
(Start: 4 @5547 has 80 MA's), (28, 5772), (29, 5775), (44, 5862), (45, 5865),

Gene: Jablanski\_6 Start: 5156, Stop: 5539, Start Num: 6  
Candidate Starts for Jablanski\_6:  
(Start: 6 @5156 has 17 MA's), (18, 5243), (24, 5324), (26, 5339), (34, 5408), (45, 5459),

Gene: JakeTheSnake\_7 Start: 5516, Stop: 5911, Start Num: 4  
Candidate Starts for JakeTheSnake\_7:  
(Start: 4 @5516 has 80 MA's), (43, 5819), (45, 5834),

Gene: JellyBread\_7 Start: 5483, Stop: 5878, Start Num: 4  
Candidate Starts for JellyBread\_7:  
(Start: 4 @5483 has 80 MA's), (43, 5786), (45, 5801),

Gene: JoieB\_40 Start: 15855, Stop: 16259, Start Num: 4  
Candidate Starts for JoieB\_40:  
(Start: 4 @15855 has 80 MA's), (15, 15933), (20, 15987), (23, 16017), (26, 16047), (33, 16110), (36, 16122), (54, 16245),

Gene: JonJames\_34 Start: 18062, Stop: 18463, Start Num: 4  
Candidate Starts for JonJames\_34:  
(Start: 4 @18062 has 80 MA's), (10, 18083), (18, 18158),

Gene: KellEzio\_23 Start: 12438, Stop: 12839, Start Num: 4  
Candidate Starts for KellEzio\_23:  
(Start: 4 @12438 has 80 MA's), (16, 12525), (35, 12714),

Gene: Kitkat\_24 Start: 12556, Stop: 12957, Start Num: 4  
Candidate Starts for Kitkat\_24:  
(Start: 4 @12556 has 80 MA's), (16, 12643), (35, 12832),

Gene: Kuwabara\_6 Start: 4848, Stop: 5222, Start Num: 4  
Candidate Starts for Kuwabara\_6:  
(Start: 4 @4848 has 80 MA's), (17, 4926), (24, 5013), (26, 5028), (28, 5064), (34, 5097),

Gene: Lasker\_7 Start: 5483, Stop: 5878, Start Num: 4  
Candidate Starts for Lasker\_7:  
(Start: 4 @5483 has 80 MA's), (43, 5786), (45, 5801),

Gene: LilSpotty\_6 Start: 4547, Stop: 4921, Start Num: 4  
Candidate Starts for LilSpotty\_6:

(Start: 4 @4547 has 80 MA's), (8, 4556), (19, 4643), (24, 4712), (26, 4727), (39, 4817), (43, 4832), (47, 4862),

Gene: Lilas\_6 Start: 5309, Stop: 5692, Start Num: 6

Candidate Starts for Lilas\_6:

(Start: 6 @5309 has 17 MA's), (18, 5396), (24, 5477), (26, 5492), (45, 5612),

Gene: Lilbit\_38 Start: 15832, Stop: 16236, Start Num: 4

Candidate Starts for Lilbit\_38:

(Start: 4 @15832 has 80 MA's), (15, 15910), (20, 15964), (23, 15994), (26, 16024), (33, 16087), (36, 16099), (54, 16222),

Gene: LittleLaf\_39 Start: 15561, Stop: 15965, Start Num: 4

Candidate Starts for LittleLaf\_39:

(Start: 4 @15561 has 80 MA's), (15, 15639), (20, 15693), (23, 15723), (26, 15753), (33, 15816), (36, 15828), (54, 15951),

Gene: LonelyBoi\_6 Start: 5156, Stop: 5539, Start Num: 6

Candidate Starts for LonelyBoi\_6:

(Start: 6 @5156 has 17 MA's), (18, 5243), (23, 5315), (24, 5324), (26, 5339), (45, 5459),

Gene: Lozinak\_34 Start: 13892, Stop: 14290, Start Num: 4

Candidate Starts for Lozinak\_34:

(Start: 4 @13892 has 80 MA's), (35, 14162), (40, 14186),

Gene: LunaStella\_6 Start: 5099, Stop: 5473, Start Num: 4

Candidate Starts for LunaStella\_6:

(Start: 4 @5099 has 80 MA's), (26, 5279), (28, 5315), (39, 5369), (52, 5459), (53, 5462),

Gene: MUWow\_6 Start: 5562, Stop: 5957, Start Num: 4

Candidate Starts for MUWow\_6:

(Start: 4 @5562 has 80 MA's), (43, 5865), (45, 5880),

Gene: Marteena\_6 Start: 5309, Stop: 5692, Start Num: 6

Candidate Starts for Marteena\_6:

(Start: 6 @5309 has 17 MA's), (18, 5396), (24, 5477), (26, 5492), (45, 5612),

Gene: Marvin\_37 Start: 15831, Stop: 16235, Start Num: 4

Candidate Starts for Marvin\_37:

(Start: 4 @15831 has 80 MA's), (15, 15909), (20, 15963), (23, 15993), (26, 16023), (33, 16086), (36, 16098), (54, 16221),

Gene: MaterMagnus\_7 Start: 5476, Stop: 5871, Start Num: 4

Candidate Starts for MaterMagnus\_7:

(Start: 4 @5476 has 80 MA's), (43, 5779), (45, 5794),

Gene: Miskis\_32 Start: 13667, Stop: 14065, Start Num: 4

Candidate Starts for Miskis\_32:

(Start: 4 @13667 has 80 MA's), (35, 13937), (40, 13961),

Gene: Mollymur\_17 Start: 12082, Stop: 12492, Start Num: 4

Candidate Starts for Mollymur\_17:

(Start: 4 @12082 has 80 MA's), (22, 12244), (39, 12373), (49, 12454),

Gene: MortyNRick\_6 Start: 4848, Stop: 5222, Start Num: 4

Candidate Starts for MortyNRick\_6:

(Start: 4 @4848 has 80 MA's), (17, 4926), (24, 5013), (26, 5028), (28, 5064), (34, 5097),

Gene: MosMoris\_37 Start: 15011, Stop: 15415, Start Num: 4

Candidate Starts for MosMoris\_37:

(Start: 4 @15011 has 80 MA's), (15, 15089), (20, 15143), (23, 15173), (26, 15203), (33, 15266), (36, 15278), (54, 15401),

Gene: NewKitty\_8 Start: 5705, Stop: 6100, Start Num: 4

Candidate Starts for NewKitty\_8:

(Start: 4 @5705 has 80 MA's), (43, 6008), (45, 6023),

Gene: Norvs\_35 Start: 13894, Stop: 14292, Start Num: 4

Candidate Starts for Norvs\_35:

(Start: 4 @13894 has 80 MA's), (35, 14164), (40, 14188),

Gene: Nyilah\_6 Start: 5559, Stop: 5954, Start Num: 4

Candidate Starts for Nyilah\_6:

(Start: 4 @5559 has 80 MA's), (27, 5769), (28, 5784), (43, 5862), (45, 5877),

Gene: Persistence\_6 Start: 5584, Stop: 5979, Start Num: 4

Candidate Starts for Persistence\_6:

(Start: 4 @5584 has 80 MA's), (43, 5887), (45, 5902),

Gene: PhinkBoden\_34 Start: 14275, Stop: 14673, Start Num: 4

Candidate Starts for PhinkBoden\_34:

(Start: 4 @14275 has 80 MA's), (35, 14545), (40, 14569),

Gene: Poise\_39 Start: 15149, Stop: 15553, Start Num: 4

Candidate Starts for Poise\_39:

(Start: 4 @15149 has 80 MA's), (15, 15227), (20, 15281), (23, 15311), (26, 15341), (33, 15404), (36, 15416), (54, 15539),

Gene: Pollux\_6 Start: 5309, Stop: 5692, Start Num: 6

Candidate Starts for Pollux\_6:

(Start: 6 @5309 has 17 MA's), (18, 5396), (24, 5477), (26, 5492), (45, 5612),

Gene: Posh\_6 Start: 5303, Stop: 5686, Start Num: 6

Candidate Starts for Posh\_6:

(Start: 6 @5303 has 17 MA's), (18, 5390), (23, 5462), (24, 5471), (26, 5486), (45, 5606), (46, 5612),

Gene: Pringar\_39 Start: 15461, Stop: 15865, Start Num: 4

Candidate Starts for Pringar\_39:

(Start: 4 @15461 has 80 MA's), (15, 15539), (20, 15593), (23, 15623), (26, 15653), (33, 15716), (36, 15728), (54, 15851),

Gene: Pytheas\_6 Start: 5156, Stop: 5539, Start Num: 6

Candidate Starts for Pytheas\_6:

(Start: 6 @5156 has 17 MA's), (18, 5243), (24, 5324), (26, 5339), (34, 5408), (45, 5459),

Gene: Raela\_39 Start: 15704, Stop: 16108, Start Num: 4

Candidate Starts for Raela\_39:

(Start: 4 @15704 has 80 MA's), (15, 15782), (20, 15836), (23, 15866), (26, 15896), (33, 15959), (36, 15971), (54, 16094),

Gene: Raphaella\_7 Start: 5490, Stop: 5885, Start Num: 4

Candidate Starts for Raphaella\_7:

(Start: 4 @5490 has 80 MA's), (43, 5793), (45, 5808),

Gene: RedRaider77\_39 Start: 15605, Stop: 16009, Start Num: 4

Candidate Starts for RedRaider77\_39:

(Start: 4 @15605 has 80 MA's), (15, 15683), (20, 15737), (23, 15767), (26, 15797), (33, 15860), (36, 15872), (54, 15995),

Gene: Renaud18\_6 Start: 4979, Stop: 5353, Start Num: 4

Candidate Starts for Renaud18\_6:

(Start: 4 @4979 has 80 MA's), (26, 5159), (28, 5195), (39, 5249), (52, 5339), (53, 5342),

Gene: Richie\_7 Start: 5490, Stop: 5885, Start Num: 4

Candidate Starts for Richie\_7:

(Start: 4 @5490 has 80 MA's), (43, 5793), (45, 5808),

Gene: SPB78\_6 Start: 5176, Stop: 5565, Start Num: 7

Candidate Starts for SPB78\_6:

(1, 4432), (2, 5038), (5, 5170), (Start: 7 @5176 has 1 MA's), (45, 5488),

Gene: Sakai\_7 Start: 5484, Stop: 5879, Start Num: 4

Candidate Starts for Sakai\_7:

(Start: 4 @5484 has 80 MA's), (43, 5787), (45, 5802),

Gene: Samy\_9 Start: 6526, Stop: 6921, Start Num: 7

Candidate Starts for Samy\_9:

(Start: 7 @6526 has 1 MA's), (18, 6613), (30, 6757), (37, 6799), (42, 6826),

Gene: Smoothie\_35 Start: 13892, Stop: 14290, Start Num: 4

Candidate Starts for Smoothie\_35:

(Start: 4 @13892 has 80 MA's), (35, 14162), (40, 14186),

Gene: SonDevVon\_6 Start: 5477, Stop: 5872, Start Num: 4

Candidate Starts for SonDevVon\_6:

(Start: 4 @5477 has 80 MA's), (43, 5780), (45, 5795),

Gene: SpeedDemon\_170 Start: 11467, Stop: 11880, Start Num: 4

Candidate Starts for SpeedDemon\_170:

(Start: 4 @11467 has 80 MA's), (18, 11563), (50, 11848),

Gene: SpicyFrank\_7 Start: 5538, Stop: 5933, Start Num: 4

Candidate Starts for SpicyFrank\_7:

(Start: 4 @5538 has 80 MA's), (43, 5841), (45, 5856),

Gene: Sporco\_8 Start: 5535, Stop: 5930, Start Num: 4

Candidate Starts for Sporco\_8:

(Start: 4 @5535 has 80 MA's), (43, 5838), (45, 5853),

Gene: TChen\_6 Start: 5099, Stop: 5473, Start Num: 4  
Candidate Starts for TChen\_6:  
(Start: 4 @5099 has 80 MA's), (26, 5279), (28, 5315), (39, 5369), (52, 5459), (53, 5462),

Gene: TPA4\_7 Start: 5997, Stop: 6371, Start Num: 4  
Candidate Starts for TPA4\_7:  
(Start: 4 @5997 has 80 MA's), (28, 6213), (34, 6246),

Gene: Tesla\_38 Start: 15454, Stop: 15858, Start Num: 4  
Candidate Starts for Tesla\_38:  
(Start: 4 @15454 has 80 MA's), (15, 15532), (20, 15586), (23, 15616), (26, 15646), (33, 15709), (36, 15721), (54, 15844),

Gene: ThayneTheZag\_7 Start: 5512, Stop: 5907, Start Num: 4  
Candidate Starts for ThayneTheZag\_7:  
(Start: 4 @5512 has 80 MA's), (27, 5722), (34, 5770), (45, 5830),

Gene: ThetaBob\_6 Start: 4979, Stop: 5353, Start Num: 4  
Candidate Starts for ThetaBob\_6:  
(Start: 4 @4979 has 80 MA's), (26, 5159), (28, 5195), (39, 5249), (52, 5339), (53, 5342),

Gene: Tiff81\_8 Start: 5647, Stop: 6042, Start Num: 4  
Candidate Starts for Tiff81\_8:  
(Start: 4 @5647 has 80 MA's), (27, 5857), (28, 5872), (43, 5950), (45, 5965),

Gene: Toniann\_34 Start: 13837, Stop: 14235, Start Num: 4  
Candidate Starts for Toniann\_34:  
(Start: 4 @13837 has 80 MA's), (35, 14107), (40, 14131),

Gene: Toron\_6 Start: 5099, Stop: 5473, Start Num: 4  
Candidate Starts for Toron\_6:  
(Start: 4 @5099 has 80 MA's), (26, 5279), (28, 5315), (39, 5369), (52, 5459), (53, 5462),

Gene: Towmatter\_15 Start: 9869, Stop: 10279, Start Num: 4  
Candidate Starts for Towmatter\_15:  
(Start: 4 @9869 has 80 MA's), (24, 10046), (39, 10160), (49, 10241),

Gene: VWB\_6 Start: 5231, Stop: 5620, Start Num: 7  
Candidate Starts for VWB\_6:  
(Start: 7 @5231 has 1 MA's), (42, 5525), (48, 5570),

Gene: VasuNzinga\_39 Start: 15038, Stop: 15442, Start Num: 4  
Candidate Starts for VasuNzinga\_39:  
(Start: 4 @15038 has 80 MA's), (15, 15116), (20, 15170), (23, 15200), (26, 15230), (33, 15293), (36, 15305), (54, 15428),

Gene: Vopal\_8 Start: 5547, Stop: 5942, Start Num: 4  
Candidate Starts for Vopal\_8:  
(Start: 4 @5547 has 80 MA's), (43, 5850), (45, 5865),

Gene: WilliamBoone\_34 Start: 13226, Stop: 13624, Start Num: 4  
Candidate Starts for WilliamBoone\_34:  
(Start: 4 @13226 has 80 MA's), (35, 13496),

Gene: Wrigley\_6 Start: 5153, Stop: 5536, Start Num: 6  
Candidate Starts for Wrigley\_6:  
(Start: 6 @5153 has 17 MA's), (18, 5240), (24, 5321), (26, 5336), (45, 5456),

Gene: YoungHarleezy\_7 Start: 5488, Stop: 5883, Start Num: 4  
Candidate Starts for YoungHarleezy\_7:  
(Start: 4 @5488 has 80 MA's), (43, 5791), (45, 5806),

Gene: Yvonnetastic\_32 Start: 15611, Stop: 16012, Start Num: 4  
Candidate Starts for Yvonnetastic\_32:  
(Start: 4 @15611 has 80 MA's), (10, 15632), (18, 15707),

Gene: Zucker\_7 Start: 5223, Stop: 5609, Start Num: 9  
Candidate Starts for Zucker\_7:  
(Start: 9 @5223 has 3 MA's), (23, 5379), (25, 5397),