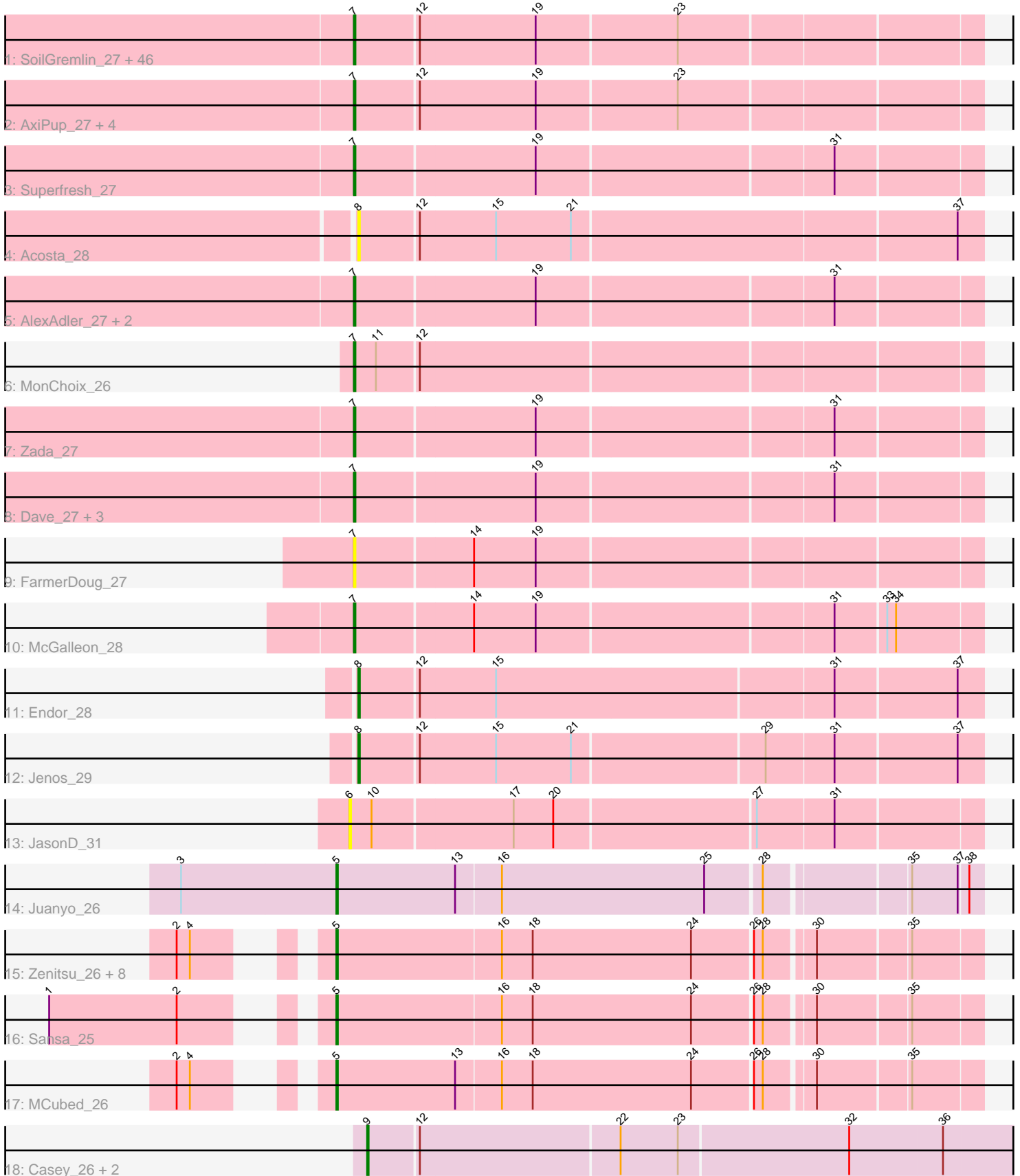


# Pham 161795



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 161795 Report

This analysis was run 04/28/24 on database version 559.

Pham number 161795 has 83 members, 11 are drafts.

Phages represented in each track:

- Track 1 : SoilGremlin\_27, NickSell\_28, Ludgate\_27, Phriends\_27, MaeLinda\_27, Teagan\_27, Dothraki\_27, MillyPhilly\_27, Convict\_27, Shee\_27, Lovelyunicorn\_27, Riyhil\_27, Byron23\_27, Inventa\_27, Alyxandracam\_27, Gargoyle\_27, Kurt1\_27, Bandik\_27, Oxtober96\_27, Rapheph\_27, Delphidian\_28, Strathdee\_27, Martin\_28, OldNelly\_27, TatarkaPM\_27, Nagem\_27, Greys\_27, Blage\_27, Phireproof\_27, BigRedClifford\_27, Den3\_27, Pherferi\_27, Ioannes\_27, ParleG\_27, BeautPeep30\_27, PhredFlintston\_27, SJay\_27, Knox\_27, WildNOOut\_27, TinSulphur\_27, Velene\_27, Stanktossa\_27, Thompsone\_27, Phiderman\_28, Raptor\_27, MrWorldwide\_27, BonesMcCoy\_27
- Track 2 : AxiPup\_27, PuppyEggo\_27, ShaiHulud\_27, Thorongil\_27, Vispistious\_27
- Track 3 : Superfresh\_27
- Track 4 : Acosta\_28
- Track 5 : AlexAdler\_27, Figueroism\_27, Robinson\_27
- Track 6 : MonChoix\_26
- Track 7 : Zada\_27
- Track 8 : Dave\_27, Renzie\_27, Antoinette\_27, Peep\_27
- Track 9 : FarmerDoug\_27
- Track 10 : McGalleon\_28
- Track 11 : Endor\_28
- Track 12 : Jenos\_29
- Track 13 : JasonD\_31
- Track 14 : Juanyo\_26
- Track 15 : Zenitsu\_26, ChikPic\_26, Andromedas\_26, Finny\_26, Saratos\_26, Glamour\_25, Eleri\_26, ColaCorta\_26, Shamu\_26
- Track 16 : Sansa\_25
- Track 17 : MCubed\_26
- Track 18 : Casey\_26, Pajaza\_26, Pikmin\_26

### ***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 55 of the 72 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AlexAdler\_27, Alyxandracam\_27, Antoinette\_27, AxiPup\_27, Bandik\_27, BeautPeep30\_27, BigRedClifford\_27, Blage\_27, BonesMcCoy\_27, Byron23\_27, Convict\_27, Dave\_27, Delphidian\_28, Den3\_27, Dothraki\_27, FarmerDoug\_27, Figueroism\_27, Gargoyle\_27, Greys\_27, Inventa\_27, Ioannes\_27, Knox\_27, Kurt1\_27, Lovelyunicorn\_27, Ludgate\_27, MaeLinda\_27, Martin\_28, McGalleon\_28, MillyPhilly\_27, MonChoix\_26, MrWorldwide\_27, Nagem\_27, NickSell\_28, OldNelly\_27, Oxtober96\_27, ParleG\_27, Peep\_27, Pherferi\_27, Phiderman\_28, Phireproof\_27, PhredFlintston\_27, Phriends\_27, PuppyEggo\_27, Rappheph\_27, Raptor\_27, Renzie\_27, Riyhil\_27, Robinson\_27, SJay\_27, ShaiHulud\_27, Shee\_27, SoilGremlin\_27, Stanktossa\_27, Strathdee\_27, Superfresh\_27, TatarkaPM\_27, Teagan\_27, Thompsone\_27, Thorongil\_27, TinSulphur\_27, Velene\_27, Vispistious\_27, WildNOut\_27, Zada\_27,

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

- 

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

- Acosta\_28, Andromedas\_26, Casey\_26, ChikPic\_26, ColaCorta\_26, Eleri\_26, Endor\_28, Finny\_26, Glamour\_25, JasonD\_31, Jenos\_29, Juanyo\_26, MCubed\_26, Pajaza\_26, Pikmin\_26, Sansa\_25, Saratos\_26, Shamu\_26, Zenitsu\_26,

### Summary by start number:

Start 5:

- Found in 12 of 83 ( 14.5% ) of genes in pham
- Manual Annotations of this start: 12 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Andromedas\_26 (EA2), ChikPic\_26 (EA2), ColaCorta\_26 (EA2), Eleri\_26 (EA2), Finny\_26 (EA2), Glamour\_25 (EA2), Juanyo\_26 (EA10), MCubed\_26 (EA2), Sansa\_25 (EA2), Saratos\_26 (EA2), Shamu\_26 (EA2), Zenitsu\_26 (EA2),

Start 6:

- Found in 1 of 83 ( 1.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JasonD\_31 (EA1),

Start 7:

- Found in 64 of 83 ( 77.1% ) of genes in pham
- Manual Annotations of this start: 55 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlexAdler\_27 (EA1), Alyxandracam\_27 (EA1), Antoinette\_27 (EA1), AxiPup\_27 (EA1), Bandik\_27 (EA1), BeautPeep30\_27 (EA1), BigRedClifford\_27 (EA1), Blage\_27 (EA1), BonesMcCoy\_27 (EA1), Byron23\_27 (EA1), Convict\_27 (EA1), Dave\_27 (EA1), Delphidian\_28 (EA1), Den3\_27 (EA1), Dothraki\_27 (EA1), FarmerDoug\_27 (EA1), Figueroism\_27 (EA1), Gargoyle\_27 (EA1), Greys\_27 (EA1), Inventa\_27 (EA1), Ioannes\_27 (EA1), Knox\_27 (EA1), Kurt1\_27 (EA1), Lovelyunicorn\_27 (EA1), Ludgate\_27 (EA1), MaeLinda\_27 (EA1), Martin\_28 (EA1), McGalleon\_28 (EA1), MillyPhilly\_27 (EA1), MonChoix\_26 (EA1), MrWorldwide\_27 (EA1), Nagem\_27 (EA1), NickSell\_28 (EA1), OldNelly\_27 (EA1), Oxtober96\_27 (EA1), ParleG\_27 (EA1), Peep\_27 (EA1), Pherferi\_27 (EA1), Phiderman\_28 (EA1), Phireproof\_27 (EA1), PhredFlintston\_27 (EA1), Phriends\_27

(EA1), PuppyEggo\_27 (EA1), Rapheph\_27 (EA1), Raptor\_27 (EA1), Renzie\_27 (EA1), Riyhil\_27 (EA1), Robinson\_27 (EA1), SJay\_27 (EA1), ShaiHulud\_27 (EA1), Shee\_27 (EA1), SoilGremlin\_27 (EA1), Stanktossa\_27 (EA1), Strathdee\_27 (EA1), Superfresh\_27 (EA1), TatarkaPM\_27 (EA1), Teagan\_27 (EA1), Thompsone\_27 (EA1), Thorongil\_27 (EA1), TinSulphur\_27 (EA1), Velene\_27 (EA1), Vispistious\_27 (EA1), WildNOut\_27 (EA1), Zada\_27 (EA1),

Start 8:

- Found in 3 of 83 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 2 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acosta\_28 (EA1), Endor\_28 (EA1), Jenos\_29 (EA1),

Start 9:

- Found in 3 of 83 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 3 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Casey\_26 (EA3), Pajaza\_26 (EA3), Pikmin\_26 (EA3),

### **Summary by clusters:**

There are 4 clusters represented in this pham: EA1, EA3, EA2, EA10,

Info for manual annotations of cluster EA1:

- Start number 7 was manually annotated 55 times for cluster EA1.
- Start number 8 was manually annotated 2 times for cluster EA1.

Info for manual annotations of cluster EA10:

- Start number 5 was manually annotated 1 time for cluster EA10.

Info for manual annotations of cluster EA2:

- Start number 5 was manually annotated 11 times for cluster EA2.

Info for manual annotations of cluster EA3:

- Start number 9 was manually annotated 3 times for cluster EA3.

### **Gene Information:**

Gene: Acosta\_28 Start: 20180, Stop: 20593, Start Num: 8

Candidate Starts for Acosta\_28:

(Start: 8 @20180 has 2 MA's), (12, 20219), (15, 20270), (21, 20321), (37, 20576),

Gene: AlexAdler\_27 Start: 19886, Stop: 20296, Start Num: 7

Candidate Starts for AlexAdler\_27:

(Start: 7 @19886 has 55 MA's), (19, 20006), (31, 20201),

Gene: Alyxandracam\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for Alyxandracam\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Andromedas\_26 Start: 19937, Stop: 20356, Start Num: 5

Candidate Starts for Andromedas\_26:

(2, 19874), (4, 19883), (Start: 5 @19937 has 12 MA's), (16, 20048), (18, 20069), (24, 20177), (26, 20216), (28, 20222), (30, 20252), (35, 20312),

Gene: Antoinette\_27 Start: 19883, Stop: 20293, Start Num: 7

Candidate Starts for Antoinette\_27:

(Start: 7 @19883 has 55 MA's), (19, 20003), (31, 20198),

Gene: AxiPup\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for AxiPup\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Bandik\_27 Start: 19891, Stop: 20301, Start Num: 7

Candidate Starts for Bandik\_27:

(Start: 7 @19891 has 55 MA's), (12, 19933), (19, 20011), (23, 20104),

Gene: BeautPeep30\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for BeautPeep30\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: BigRedClifford\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for BigRedClifford\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Blage\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for Blage\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: BonesMcCoy\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for BonesMcCoy\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Byron23\_27 Start: 19900, Stop: 20310, Start Num: 7

Candidate Starts for Byron23\_27:

(Start: 7 @19900 has 55 MA's), (12, 19942), (19, 20020), (23, 20113),

Gene: Casey\_26 Start: 20263, Stop: 20694, Start Num: 9

Candidate Starts for Casey\_26:

(Start: 9 @20263 has 3 MA's), (12, 20296), (22, 20428), (23, 20467), (32, 20581), (36, 20644),

Gene: ChikPic\_26 Start: 19953, Stop: 20372, Start Num: 5

Candidate Starts for ChikPic\_26:

(2, 19890), (4, 19899), (Start: 5 @19953 has 12 MA's), (16, 20064), (18, 20085), (24, 20193), (26, 20232), (28, 20238), (30, 20268), (35, 20328),

Gene: ColaCorta\_26 Start: 19937, Stop: 20356, Start Num: 5

Candidate Starts for ColaCorta\_26:

(2, 19874), (4, 19883), (Start: 5 @19937 has 12 MA's), (16, 20048), (18, 20069), (24, 20177), (26, 20216), (28, 20222), (30, 20252), (35, 20312),

Gene: Convict\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for Convict\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Dave\_27 Start: 19883, Stop: 20293, Start Num: 7

Candidate Starts for Dave\_27:

(Start: 7 @19883 has 55 MA's), (19, 20003), (31, 20198),

Gene: Delphidian\_28 Start: 19894, Stop: 20304, Start Num: 7

Candidate Starts for Delphidian\_28:

(Start: 7 @19894 has 55 MA's), (12, 19936), (19, 20014), (23, 20107),

Gene: Den3\_27 Start: 19899, Stop: 20309, Start Num: 7

Candidate Starts for Den3\_27:

(Start: 7 @19899 has 55 MA's), (12, 19941), (19, 20019), (23, 20112),

Gene: Dothraki\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for Dothraki\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Eleri\_26 Start: 19950, Stop: 20369, Start Num: 5

Candidate Starts for Eleri\_26:

(2, 19887), (4, 19896), (Start: 5 @19950 has 12 MA's), (16, 20061), (18, 20082), (24, 20190), (26, 20229), (28, 20235), (30, 20265), (35, 20325),

Gene: Endor\_28 Start: 20303, Stop: 20716, Start Num: 8

Candidate Starts for Endor\_28:

(Start: 8 @20303 has 2 MA's), (12, 20342), (15, 20393), (31, 20618), (37, 20699),

Gene: FarmerDoug\_27 Start: 19924, Stop: 20334, Start Num: 7

Candidate Starts for FarmerDoug\_27:

(Start: 7 @19924 has 55 MA's), (14, 20002), (19, 20044),

Gene: Figueroism\_27 Start: 19882, Stop: 20292, Start Num: 7

Candidate Starts for Figueroism\_27:

(Start: 7 @19882 has 55 MA's), (19, 20002), (31, 20197),

Gene: Finny\_26 Start: 19936, Stop: 20355, Start Num: 5

Candidate Starts for Finny\_26:

(2, 19873), (4, 19882), (Start: 5 @19936 has 12 MA's), (16, 20047), (18, 20068), (24, 20176), (26, 20215), (28, 20221), (30, 20251), (35, 20311),

Gene: Gargoyle\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for Gargoyle\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Glamour\_25 Start: 19938, Stop: 20357, Start Num: 5

Candidate Starts for Glamour\_25:

(2, 19875), (4, 19884), (Start: 5 @19938 has 12 MA's), (16, 20049), (18, 20070), (24, 20178), (26, 20217), (28, 20223), (30, 20253), (35, 20313),

Gene: Greys\_27 Start: 19892, Stop: 20302, Start Num: 7

Candidate Starts for Greys\_27:

(Start: 7 @19892 has 55 MA's), (12, 19934), (19, 20012), (23, 20105),

Gene: Inventa\_27 Start: 19897, Stop: 20307, Start Num: 7  
Candidate Starts for Inventa\_27:  
(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: loannes\_27 Start: 19895, Stop: 20305, Start Num: 7  
Candidate Starts for loannes\_27:  
(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: JasonD\_31 Start: 20345, Stop: 20758, Start Num: 6  
Candidate Starts for JasonD\_31:  
(6, 20345), (10, 20360), (17, 20453), (20, 20480), (27, 20612), (31, 20663),

Gene: Jenos\_29 Start: 20622, Stop: 21032, Start Num: 8  
Candidate Starts for Jenos\_29:  
(Start: 8 @20622 has 2 MA's), (12, 20661), (15, 20712), (21, 20763), (29, 20889), (31, 20934), (37, 21015),

Gene: Juanyo\_26 Start: 20158, Stop: 20577, Start Num: 5  
Candidate Starts for Juanyo\_26:  
(3, 20053), (Start: 5 @20158 has 12 MA's), (13, 20239), (16, 20269), (25, 20407), (28, 20443), (35, 20533), (37, 20563), (38, 20569),

Gene: Knox\_27 Start: 19895, Stop: 20305, Start Num: 7  
Candidate Starts for Knox\_27:  
(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Kurt1\_27 Start: 19897, Stop: 20307, Start Num: 7  
Candidate Starts for Kurt1\_27:  
(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Lovelyunicorn\_27 Start: 19895, Stop: 20305, Start Num: 7  
Candidate Starts for Lovelyunicorn\_27:  
(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Ludgate\_27 Start: 19891, Stop: 20301, Start Num: 7  
Candidate Starts for Ludgate\_27:  
(Start: 7 @19891 has 55 MA's), (12, 19933), (19, 20011), (23, 20104),

Gene: MCubed\_26 Start: 19964, Stop: 20383, Start Num: 5  
Candidate Starts for MCubed\_26:  
(2, 19901), (4, 19910), (Start: 5 @19964 has 12 MA's), (13, 20045), (16, 20075), (18, 20096), (24, 20204), (26, 20243), (28, 20249), (30, 20279), (35, 20339),

Gene: MaeLinda\_27 Start: 19897, Stop: 20307, Start Num: 7  
Candidate Starts for MaeLinda\_27:  
(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Martin\_28 Start: 19897, Stop: 20307, Start Num: 7  
Candidate Starts for Martin\_28:  
(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: McGalleon\_28 Start: 20783, Stop: 21193, Start Num: 7

Candidate Starts for McGalleon\_28:

(Start: 7 @20783 has 55 MA's), (14, 20861), (19, 20903), (31, 21098), (33, 21131), (34, 21137),

Gene: MillyPhilly\_27 Start: 19894, Stop: 20304, Start Num: 7

Candidate Starts for MillyPhilly\_27:

(Start: 7 @19894 has 55 MA's), (12, 19936), (19, 20014), (23, 20107),

Gene: MonChoix\_26 Start: 19858, Stop: 20268, Start Num: 7

Candidate Starts for MonChoix\_26:

(Start: 7 @19858 has 55 MA's), (11, 19873), (12, 19900),

Gene: MrWorldwide\_27 Start: 19898, Stop: 20308, Start Num: 7

Candidate Starts for MrWorldwide\_27:

(Start: 7 @19898 has 55 MA's), (12, 19940), (19, 20018), (23, 20111),

Gene: Nagem\_27 Start: 19891, Stop: 20301, Start Num: 7

Candidate Starts for Nagem\_27:

(Start: 7 @19891 has 55 MA's), (12, 19933), (19, 20011), (23, 20104),

Gene: NickSell\_28 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for NickSell\_28:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: OldNelly\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for OldNelly\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Oxtober96\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for Oxtober96\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Pajaza\_26 Start: 20263, Stop: 20694, Start Num: 9

Candidate Starts for Pajaza\_26:

(Start: 9 @20263 has 3 MA's), (12, 20296), (22, 20428), (23, 20467), (32, 20581), (36, 20644),

Gene: ParleG\_27 Start: 19898, Stop: 20308, Start Num: 7

Candidate Starts for ParleG\_27:

(Start: 7 @19898 has 55 MA's), (12, 19940), (19, 20018), (23, 20111),

Gene: Peep\_27 Start: 19883, Stop: 20293, Start Num: 7

Candidate Starts for Peep\_27:

(Start: 7 @19883 has 55 MA's), (19, 20003), (31, 20198),

Gene: Pherferi\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for Pherferi\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Phiderman\_28 Start: 19894, Stop: 20304, Start Num: 7

Candidate Starts for Phiderman\_28:

(Start: 7 @19894 has 55 MA's), (12, 19936), (19, 20014), (23, 20107),

Gene: Phireproof\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for Phireproof\_27:



(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: PhredFlintston\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for PhredFlintston\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Phriends\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for Phriends\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Pikmin\_26 Start: 20263, Stop: 20694, Start Num: 9

Candidate Starts for Pikmin\_26:

(Start: 9 @20263 has 3 MA's), (12, 20296), (22, 20428), (23, 20467), (32, 20581), (36, 20644),

Gene: PuppyEggo\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for PuppyEggo\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Rapheph\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for Rapheph\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Raptor\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for Raptor\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Renzie\_27 Start: 19883, Stop: 20293, Start Num: 7

Candidate Starts for Renzie\_27:

(Start: 7 @19883 has 55 MA's), (19, 20003), (31, 20198),

Gene: Riyhil\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for Riyhil\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Robinson\_27 Start: 19889, Stop: 20299, Start Num: 7

Candidate Starts for Robinson\_27:

(Start: 7 @19889 has 55 MA's), (19, 20009), (31, 20204),

Gene: SJay\_27 Start: 19892, Stop: 20302, Start Num: 7

Candidate Starts for SJay\_27:

(Start: 7 @19892 has 55 MA's), (12, 19934), (19, 20012), (23, 20105),

Gene: Sansa\_25 Start: 19960, Stop: 20379, Start Num: 5

Candidate Starts for Sansa\_25:

(1, 19810), (2, 19897), (Start: 5 @19960 has 12 MA's), (16, 20071), (18, 20092), (24, 20200), (26, 20239), (28, 20245), (30, 20275), (35, 20335),

Gene: Saratos\_26 Start: 19938, Stop: 20357, Start Num: 5

Candidate Starts for Saratos\_26:

(2, 19875), (4, 19884), (Start: 5 @19938 has 12 MA's), (16, 20049), (18, 20070), (24, 20178), (26, 20217), (28, 20223), (30, 20253), (35, 20313),

Gene: ShaiHulud\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for ShaiHulud\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Shamu\_26 Start: 19950, Stop: 20369, Start Num: 5

Candidate Starts for Shamu\_26:

(2, 19887), (4, 19896), (Start: 5 @19950 has 12 MA's), (16, 20061), (18, 20082), (24, 20190), (26, 20229), (28, 20235), (30, 20265), (35, 20325),

Gene: Shee\_27 Start: 19894, Stop: 20304, Start Num: 7

Candidate Starts for Shee\_27:

(Start: 7 @19894 has 55 MA's), (12, 19936), (19, 20014), (23, 20107),

Gene: SoilGremlin\_27 Start: 19894, Stop: 20304, Start Num: 7

Candidate Starts for SoilGremlin\_27:

(Start: 7 @19894 has 55 MA's), (12, 19936), (19, 20014), (23, 20107),

Gene: Stanktossa\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for Stanktossa\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Strathdee\_27 Start: 19896, Stop: 20306, Start Num: 7

Candidate Starts for Strathdee\_27:

(Start: 7 @19896 has 55 MA's), (12, 19938), (19, 20016), (23, 20109),

Gene: Superfresh\_27 Start: 19883, Stop: 20293, Start Num: 7

Candidate Starts for Superfresh\_27:

(Start: 7 @19883 has 55 MA's), (19, 20003), (31, 20198),

Gene: TatarkaPM\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for TatarkaPM\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Teagan\_27 Start: 19891, Stop: 20301, Start Num: 7

Candidate Starts for Teagan\_27:

(Start: 7 @19891 has 55 MA's), (12, 19933), (19, 20011), (23, 20104),

Gene: Thompsone\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for Thompsone\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Thorongil\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for Thorongil\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: TinSulphur\_27 Start: 19897, Stop: 20307, Start Num: 7

Candidate Starts for TinSulphur\_27:

(Start: 7 @19897 has 55 MA's), (12, 19939), (19, 20017), (23, 20110),

Gene: Velene\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for Velene\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Vispistious\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for Vispistious\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: WildNOut\_27 Start: 19895, Stop: 20305, Start Num: 7

Candidate Starts for WildNOut\_27:

(Start: 7 @19895 has 55 MA's), (12, 19937), (19, 20015), (23, 20108),

Gene: Zada\_27 Start: 19876, Stop: 20286, Start Num: 7

Candidate Starts for Zada\_27:

(Start: 7 @19876 has 55 MA's), (19, 19996), (31, 20191),

Gene: Zenitsu\_26 Start: 19965, Stop: 20384, Start Num: 5

Candidate Starts for Zenitsu\_26:

(2, 19902), (4, 19911), (Start: 5 @19965 has 12 MA's), (16, 20076), (18, 20097), (24, 20205), (26, 20244), (28, 20250), (30, 20280), (35, 20340),