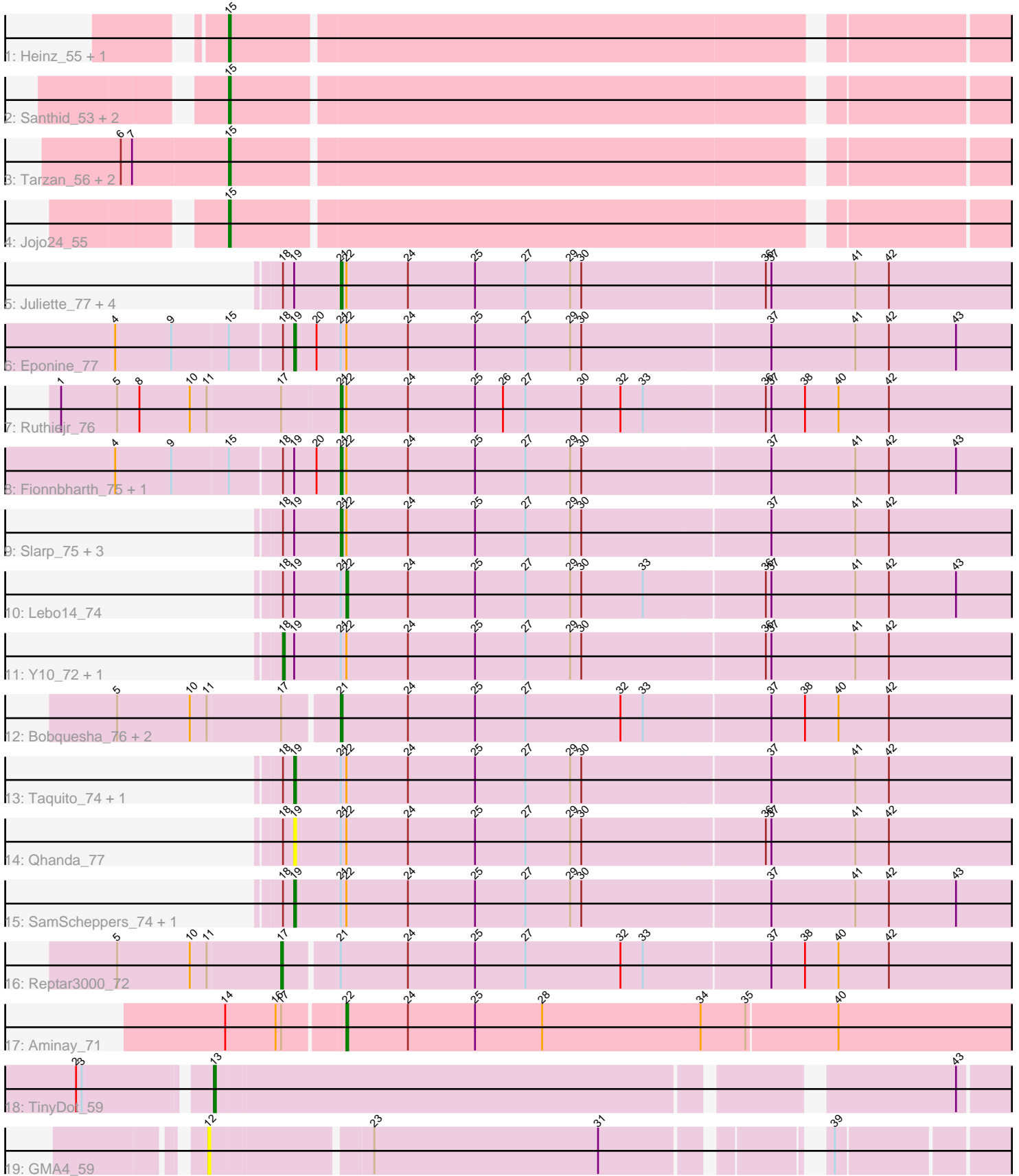


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 296751 Report

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

Pham number 296751 has 37 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Heinz\_55, DearBasketball\_59
- Track 2 : Santhid\_53, DinoNuggs\_57, Reyja\_58
- Track 3 : Tarzan\_56, Hibiscus\_56, DonkeyMan\_56
- Track 4 : Jojo24\_55
- Track 5 : Juliette\_77, Malthus\_76, JF1\_75, Kraw\_75, DanSyl44\_78
- Track 6 : Eponine\_77
- Track 7 : Ruthiejr\_76
- Track 8 : Fionnbharth\_75, Wintermute\_75
- Track 9 : Slarp\_75, YasnayaPolyana\_74, Cheetobro\_75, Mitti\_75
- Track 10 : Lebo14\_74
- Track 11 : Y10\_72, Y2\_72
- Track 12 : Bobquesha\_76, Patt\_71, MissDaisy\_72
- Track 13 : Taquito\_74, OmniCritical\_75
- Track 14 : Qhanda\_77
- Track 15 : SamScheppers\_74, Chancellor\_75
- Track 16 : Reptar3000\_72
- Track 17 : Aminay\_71
- Track 18 : TinyDot\_59
- Track 19 : GMA4\_59

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

The start number called the most often in the published annotations is 21, it was called in 13 of the 31 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bobquesha\_76, Cheetobro\_75, DanSyl44\_78, Fionnbharth\_75, JF1\_75, Juliette\_77, Kraw\_75, Malthus\_76, MissDaisy\_72, Mitti\_75, Patt\_71, Ruthiejr\_76, Slarp\_75, Wintermute\_75, YasnayaPolyana\_74,

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

- Chancellor\_75, Eponine\_77, Lebo14\_74, OmniCritical\_75, Qhanda\_77, Reptar3000\_72, SamScheppers\_74, Taquito\_74, Y10\_72, Y2\_72,

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

• Aminay\_71, DearBasketball\_59, DinoNuggs\_57, DonkeyMan\_56, GMA4\_59, Heinz\_55, Hibiscus\_56, Jojo24\_55, Reyja\_58, Santhid\_53, Tarzan\_56, TinyDot\_59,

### Summary by start number:

Start 12:

- Found in 1 of 37 ( 2.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA4\_59 (singleton),

Start 13:

- Found in 1 of 37 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 1 of 31
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TinyDot\_59 (singleton),

Start 15:

- Found in 12 of 37 ( 32.4% ) of genes in pham
- Manual Annotations of this start: 7 of 31
- Called 75.0% of time when present
- Phage (with cluster) where this start called: DearBasketball\_59 (DY), DinoNuggs\_57 (DY), DonkeyMan\_56 (DY), Heinz\_55 (DY), Hibiscus\_56 (DY), Jojo24\_55 (DY), Reyja\_58 (DY), Santhid\_53 (DY), Tarzan\_56 (DY),

Start 17:

- Found in 6 of 37 ( 16.2% ) of genes in pham
- Manual Annotations of this start: 1 of 31
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Reptar3000\_72 (K4),

Start 18:

- Found in 20 of 37 ( 54.1% ) of genes in pham
- Manual Annotations of this start: 2 of 31
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Y10\_72 (K4), Y2\_72 (K4),

Start 19:

- Found in 20 of 37 ( 54.1% ) of genes in pham
- Manual Annotations of this start: 5 of 31
- Called 30.0% of time when present
- Phage (with cluster) where this start called: Chancellor\_75 (K4), Eponine\_77 (K4), OmniCritical\_75 (K4), Qhanda\_77 (K4), SamScheppers\_74 (K4), Taquito\_74 (K4),

Start 21:

- Found in 25 of 37 ( 67.6% ) of genes in pham
- Manual Annotations of this start: 13 of 31
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Bobquesha\_76 (K4), Cheetobro\_75 (K4), DanSyl44\_78 (K4), Fionnbharth\_75 (K4), JF1\_75 (K4), Juliette\_77 (K4), Kraw\_75 (K4), Malthus\_76 (K4), MissDaisy\_72 (K4), Mitti\_75 (K4), Patt\_71 (K4), Ruthiejr\_76 (K4), Slarp\_75 (K4), Wintermute\_75 (K4), YasnayaPolyana\_74 (K4),

Start 22:

- Found in 22 of 37 ( 59.5% ) of genes in pham
- Manual Annotations of this start: 2 of 31
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Aminay\_71 (K7), Lebo14\_74 (K4),

### **Summary by clusters:**

There are 4 clusters represented in this pham: singleton, DY, K7, K4,

Info for manual annotations of cluster DY:

- Start number 15 was manually annotated 7 times for cluster DY.

Info for manual annotations of cluster K4:

- Start number 17 was manually annotated 1 time for cluster K4.
- Start number 18 was manually annotated 2 times for cluster K4.
- Start number 19 was manually annotated 5 times for cluster K4.
- Start number 21 was manually annotated 13 times for cluster K4.
- Start number 22 was manually annotated 1 time for cluster K4.

Info for manual annotations of cluster K7:

- Start number 22 was manually annotated 1 time for cluster K7.

### **Gene Information:**

Gene: Aminay\_71 Start: 46904, Stop: 47275, Start Num: 22

Candidate Starts for Aminay\_71:

(14, 46844), (16, 46871), (Start: 17 @46874 has 1 MA's), (Start: 22 @46904 has 2 MA's), (24, 46937), (25, 46973), (28, 47009), (34, 47093), (35, 47117), (40, 47165),

Gene: Bobquesha\_76 Start: 46876, Stop: 47250, Start Num: 21

Candidate Starts for Bobquesha\_76:

(5, 46762), (10, 46801), (11, 46810), (Start: 17 @46849 has 1 MA's), (Start: 21 @46876 has 13 MA's), (24, 46912), (25, 46948), (27, 46975), (32, 47026), (33, 47038), (37, 47104), (38, 47122), (40, 47140), (42, 47167),

Gene: Chancellor\_75 Start: 47966, Stop: 48364, Start Num: 19

Candidate Starts for Chancellor\_75:

(Start: 18 @47960 has 2 MA's), (Start: 19 @47966 has 5 MA's), (Start: 21 @47990 has 13 MA's), (Start: 22 @47993 has 2 MA's), (24, 48026), (25, 48062), (27, 48089), (29, 48113), (30, 48119), (37, 48218), (41, 48263), (42, 48281), (43, 48317),

Gene: Cheetobro\_75 Start: 47987, Stop: 48361, Start Num: 21

Candidate Starts for Cheetobro\_75:

(Start: 18 @47957 has 2 MA's), (Start: 19 @47963 has 5 MA's), (Start: 21 @47987 has 13 MA's), (Start: 22 @47990 has 2 MA's), (24, 48023), (25, 48059), (27, 48086), (29, 48110), (30, 48116), (37, 48215), (41, 48260), (42, 48278),

Gene: DanSyl44\_78 Start: 49181, Stop: 49555, Start Num: 21

Candidate Starts for DanSyl44\_78:

(Start: 18 @49151 has 2 MA's), (Start: 19 @49157 has 5 MA's), (Start: 21 @49181 has 13 MA's), (Start: 22 @49184 has 2 MA's), (24, 49217), (25, 49253), (27, 49280), (29, 49304), (30, 49310), (36, 49406), (37, 49409), (41, 49454), (42, 49472),

Gene: DearBasketball\_59 Start: 38448, Stop: 38861, Start Num: 15  
Candidate Starts for DearBasketball\_59:  
(Start: 15 @38448 has 7 MA's),

Gene: DinoNuggs\_57 Start: 38090, Stop: 38503, Start Num: 15  
Candidate Starts for DinoNuggs\_57:  
(Start: 15 @38090 has 7 MA's),

Gene: DonkeyMan\_56 Start: 37547, Stop: 37960, Start Num: 15  
Candidate Starts for DonkeyMan\_56:  
(6, 37490), (7, 37496), (Start: 15 @37547 has 7 MA's),

Gene: Eponine\_77 Start: 48810, Stop: 49208, Start Num: 19  
Candidate Starts for Eponine\_77:  
(4, 48717), (9, 48747), (Start: 15 @48777 has 7 MA's), (Start: 18 @48804 has 2 MA's), (Start: 19 @48810 has 5 MA's), (20, 48822), (Start: 21 @48834 has 13 MA's), (Start: 22 @48837 has 2 MA's), (24, 48870), (25, 48906), (27, 48933), (29, 48957), (30, 48963), (37, 49062), (41, 49107), (42, 49125), (43, 49161),

Gene: Fionnbharth\_75 Start: 48232, Stop: 48606, Start Num: 21  
Candidate Starts for Fionnbharth\_75:  
(4, 48115), (9, 48145), (Start: 15 @48175 has 7 MA's), (Start: 18 @48202 has 2 MA's), (Start: 19 @48208 has 5 MA's), (20, 48220), (Start: 21 @48232 has 13 MA's), (Start: 22 @48235 has 2 MA's), (24, 48268), (25, 48304), (27, 48331), (29, 48355), (30, 48361), (37, 48460), (41, 48505), (42, 48523), (43, 48559),

Gene: GMA4\_59 Start: 39801, Stop: 40205, Start Num: 12  
Candidate Starts for GMA4\_59:  
(12, 39801), (23, 39882), (31, 40002), (39, 40101),

Gene: Heinz\_55 Start: 36477, Stop: 36890, Start Num: 15  
Candidate Starts for Heinz\_55:  
(Start: 15 @36477 has 7 MA's),

Gene: Hibiscus\_56 Start: 36444, Stop: 36857, Start Num: 15  
Candidate Starts for Hibiscus\_56:  
(6, 36387), (7, 36393), (Start: 15 @36444 has 7 MA's),

Gene: JF1\_75 Start: 48197, Stop: 48571, Start Num: 21  
Candidate Starts for JF1\_75:  
(Start: 18 @48167 has 2 MA's), (Start: 19 @48173 has 5 MA's), (Start: 21 @48197 has 13 MA's), (Start: 22 @48200 has 2 MA's), (24, 48233), (25, 48269), (27, 48296), (29, 48320), (30, 48326), (36, 48422), (37, 48425), (41, 48470), (42, 48488),

Gene: Jojo24\_55 Start: 36792, Stop: 37205, Start Num: 15  
Candidate Starts for Jojo24\_55:  
(Start: 15 @36792 has 7 MA's),

Gene: Juliette\_77 Start: 48295, Stop: 48669, Start Num: 21

Candidate Starts for Juliette\_77:

(Start: 18 @48265 has 2 MA's), (Start: 19 @48271 has 5 MA's), (Start: 21 @48295 has 13 MA's),  
(Start: 22 @48298 has 2 MA's), (24, 48331), (25, 48367), (27, 48394), (29, 48418), (30, 48424), (36,  
48520), (37, 48523), (41, 48568), (42, 48586),

Gene: Kraw\_75 Start: 47983, Stop: 48357, Start Num: 21

Candidate Starts for Kraw\_75:

(Start: 18 @47953 has 2 MA's), (Start: 19 @47959 has 5 MA's), (Start: 21 @47983 has 13 MA's),  
(Start: 22 @47986 has 2 MA's), (24, 48019), (25, 48055), (27, 48082), (29, 48106), (30, 48112), (36,  
48208), (37, 48211), (41, 48256), (42, 48274),

Gene: Lebo14\_74 Start: 48331, Stop: 48702, Start Num: 22

Candidate Starts for Lebo14\_74:

(Start: 18 @48298 has 2 MA's), (Start: 19 @48304 has 5 MA's), (Start: 21 @48328 has 13 MA's),  
(Start: 22 @48331 has 2 MA's), (24, 48364), (25, 48400), (27, 48427), (29, 48451), (30, 48457), (33,  
48490), (36, 48553), (37, 48556), (41, 48601), (42, 48619), (43, 48655),

Gene: Malthus\_76 Start: 47983, Stop: 48357, Start Num: 21

Candidate Starts for Malthus\_76:

(Start: 18 @47953 has 2 MA's), (Start: 19 @47959 has 5 MA's), (Start: 21 @47983 has 13 MA's),  
(Start: 22 @47986 has 2 MA's), (24, 48019), (25, 48055), (27, 48082), (29, 48106), (30, 48112), (36,  
48208), (37, 48211), (41, 48256), (42, 48274),

Gene: MissDaisy\_72 Start: 46894, Stop: 47268, Start Num: 21

Candidate Starts for MissDaisy\_72:

(5, 46780), (10, 46819), (11, 46828), (Start: 17 @46867 has 1 MA's), (Start: 21 @46894 has 13 MA's),  
(24, 46930), (25, 46966), (27, 46993), (32, 47044), (33, 47056), (37, 47122), (38, 47140), (40, 47158),  
(42, 47185),

Gene: Mitti\_75 Start: 48138, Stop: 48512, Start Num: 21

Candidate Starts for Mitti\_75:

(Start: 18 @48108 has 2 MA's), (Start: 19 @48114 has 5 MA's), (Start: 21 @48138 has 13 MA's),  
(Start: 22 @48141 has 2 MA's), (24, 48174), (25, 48210), (27, 48237), (29, 48261), (30, 48267), (37,  
48366), (41, 48411), (42, 48429),

Gene: OmniCritical\_75 Start: 48047, Stop: 48445, Start Num: 19

Candidate Starts for OmniCritical\_75:

(Start: 18 @48041 has 2 MA's), (Start: 19 @48047 has 5 MA's), (Start: 21 @48071 has 13 MA's),  
(Start: 22 @48074 has 2 MA's), (24, 48107), (25, 48143), (27, 48170), (29, 48194), (30, 48200), (37,  
48299), (41, 48344), (42, 48362),

Gene: Patt\_71 Start: 46615, Stop: 46989, Start Num: 21

Candidate Starts for Patt\_71:

(5, 46501), (10, 46540), (11, 46549), (Start: 17 @46588 has 1 MA's), (Start: 21 @46615 has 13 MA's),  
(24, 46651), (25, 46687), (27, 46714), (32, 46765), (33, 46777), (37, 46843), (38, 46861), (40, 46879),  
(42, 46906),

Gene: Qhanda\_77 Start: 47975, Stop: 48373, Start Num: 19

Candidate Starts for Qhanda\_77:

(Start: 18 @47969 has 2 MA's), (Start: 19 @47975 has 5 MA's), (Start: 21 @47999 has 13 MA's),  
(Start: 22 @48002 has 2 MA's), (24, 48035), (25, 48071), (27, 48098), (29, 48122), (30, 48128), (36,  
48224), (37, 48227), (41, 48272), (42, 48290),

Gene: Reptar3000\_72 Start: 46577, Stop: 46978, Start Num: 17

Candidate Starts for Reptar3000\_72:

(5, 46490), (10, 46529), (11, 46538), (Start: 17 @46577 has 1 MA's), (Start: 21 @46604 has 13 MA's), (24, 46640), (25, 46676), (27, 46703), (32, 46754), (33, 46766), (37, 46832), (38, 46850), (40, 46868), (42, 46895),

Gene: Reyja\_58 Start: 38090, Stop: 38503, Start Num: 15

Candidate Starts for Reyja\_58:

(Start: 15 @38090 has 7 MA's),

Gene: Ruthiejr\_76 Start: 48082, Stop: 48456, Start Num: 21

Candidate Starts for Ruthiejr\_76:

(1, 47935), (5, 47965), (8, 47977), (10, 48004), (11, 48013), (Start: 17 @48052 has 1 MA's), (Start: 21 @48082 has 13 MA's), (Start: 22 @48085 has 2 MA's), (24, 48118), (25, 48154), (26, 48169), (27, 48181), (30, 48211), (32, 48232), (33, 48244), (36, 48307), (37, 48310), (38, 48328), (40, 48346), (42, 48373),

Gene: SamScheppers\_74 Start: 48438, Stop: 48836, Start Num: 19

Candidate Starts for SamScheppers\_74:

(Start: 18 @48432 has 2 MA's), (Start: 19 @48438 has 5 MA's), (Start: 21 @48462 has 13 MA's), (Start: 22 @48465 has 2 MA's), (24, 48498), (25, 48534), (27, 48561), (29, 48585), (30, 48591), (37, 48690), (41, 48735), (42, 48753), (43, 48789),

Gene: Santhid\_53 Start: 35574, Stop: 35987, Start Num: 15

Candidate Starts for Santhid\_53:

(Start: 15 @35574 has 7 MA's),

Gene: Slarp\_75 Start: 47990, Stop: 48364, Start Num: 21

Candidate Starts for Slarp\_75:

(Start: 18 @47960 has 2 MA's), (Start: 19 @47966 has 5 MA's), (Start: 21 @47990 has 13 MA's), (Start: 22 @47993 has 2 MA's), (24, 48026), (25, 48062), (27, 48089), (29, 48113), (30, 48119), (37, 48218), (41, 48263), (42, 48281),

Gene: Taquito\_74 Start: 48171, Stop: 48569, Start Num: 19

Candidate Starts for Taquito\_74:

(Start: 18 @48165 has 2 MA's), (Start: 19 @48171 has 5 MA's), (Start: 21 @48195 has 13 MA's), (Start: 22 @48198 has 2 MA's), (24, 48231), (25, 48267), (27, 48294), (29, 48318), (30, 48324), (37, 48423), (41, 48468), (42, 48486),

Gene: Tarzan\_56 Start: 36802, Stop: 37215, Start Num: 15

Candidate Starts for Tarzan\_56:

(6, 36745), (7, 36751), (Start: 15 @36802 has 7 MA's),

Gene: TinyDot\_59 Start: 37583, Stop: 37999, Start Num: 13

Candidate Starts for TinyDot\_59:

(2, 37517), (3, 37520), (Start: 13 @37583 has 1 MA's), (43, 37955),

Gene: Wintermute\_75 Start: 48221, Stop: 48595, Start Num: 21

Candidate Starts for Wintermute\_75:

(4, 48104), (9, 48134), (Start: 15 @48164 has 7 MA's), (Start: 18 @48191 has 2 MA's), (Start: 19 @48197 has 5 MA's), (20, 48209), (Start: 21 @48221 has 13 MA's), (Start: 22 @48224 has 2 MA's), (24, 48257), (25, 48293), (27, 48320), (29, 48344), (30, 48350), (37, 48449), (41, 48494), (42, 48512), (43, 48548),

Gene: Y10\_72 Start: 48167, Stop: 48571, Start Num: 18

Candidate Starts for Y10\_72:

(Start: 18 @48167 has 2 MA's), (Start: 19 @48173 has 5 MA's), (Start: 21 @48197 has 13 MA's),  
(Start: 22 @48200 has 2 MA's), (24, 48233), (25, 48269), (27, 48296), (29, 48320), (30, 48326), (36,  
48422), (37, 48425), (41, 48470), (42, 48488),

Gene: Y2\_72 Start: 48167, Stop: 48571, Start Num: 18

Candidate Starts for Y2\_72:

(Start: 18 @48167 has 2 MA's), (Start: 19 @48173 has 5 MA's), (Start: 21 @48197 has 13 MA's),  
(Start: 22 @48200 has 2 MA's), (24, 48233), (25, 48269), (27, 48296), (29, 48320), (30, 48326), (36,  
48422), (37, 48425), (41, 48470), (42, 48488),

Gene: YasnayaPolyana\_74 Start: 48046, Stop: 48420, Start Num: 21

Candidate Starts for YasnayaPolyana\_74:

(Start: 18 @48016 has 2 MA's), (Start: 19 @48022 has 5 MA's), (Start: 21 @48046 has 13 MA's),  
(Start: 22 @48049 has 2 MA's), (24, 48082), (25, 48118), (27, 48145), (29, 48169), (30, 48175), (37,  
48274), (41, 48319), (42, 48337),