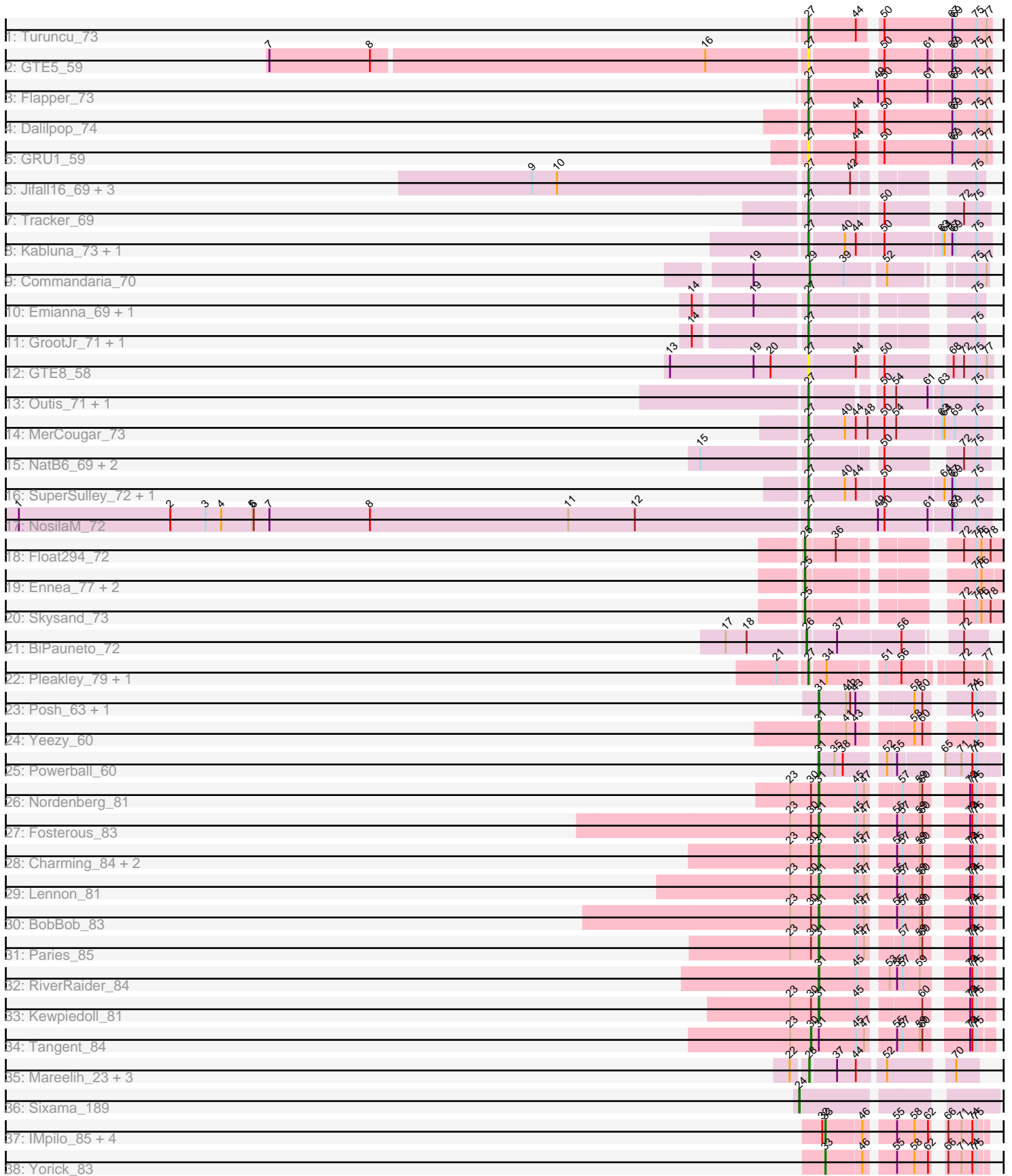


Pham 189767



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 189767 Report

This analysis was run 11/02/24 on database version 579.

Pham number 189767 has 61 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Turuncu\_73
- Track 2 : GTE5\_59
- Track 3 : Flapper\_73
- Track 4 : Dalilpop\_74
- Track 5 : GRU1\_59
- Track 6 : Jifall16\_69, KidneyBean\_70, Phomeo\_70, Foxboro\_70
- Track 7 : Tracker\_69
- Track 8 : Kabluna\_73, Bonum\_74
- Track 9 : Commandaria\_70
- Track 10 : Emianna\_69, Kurt\_69
- Track 11 : GrootJr\_71, NovumRegina\_69
- Track 12 : GTE8\_58
- Track 13 : Outis\_71, StarStruck\_71
- Track 14 : MerCougar\_73
- Track 15 : NatB6\_69, Arti\_68, Wheezy\_69
- Track 16 : SuperSulley\_72, Buggaboo\_72
- Track 17 : NosilaM\_72
- Track 18 : Float294\_72
- Track 19 : Ennea\_77, Patio\_72, Lollipop1437\_74
- Track 20 : Skysand\_73
- Track 21 : BiPauneto\_72
- Track 22 : Pleakley\_79, Fury\_79
- Track 23 : Posh\_63, Wrigley\_65
- Track 24 : Yeezy\_60
- Track 25 : Powerball\_60
- Track 26 : Nordenberg\_81
- Track 27 : Fosterous\_83
- Track 28 : Charming\_84, Vivi2\_85, Rofo\_81
- Track 29 : Lennon\_81
- Track 30 : BobBob\_83
- Track 31 : Paries\_85
- Track 32 : RiverRaider\_84
- Track 33 : Kewpiedoll\_81
- Track 34 : Tangent\_84
- Track 35 : Mareelih\_23, Boopy\_25, Forza\_25, BlueNGold\_23
- Track 36 : Sixama\_189
- Track 37 : IMPilo\_85, Phalconet\_89, DaWorst\_90, JalFarm20\_98, Spikelee\_90

- Track 38 : Yorick\_83

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

The start number called the most often in the published annotations is 27, it was called in 24 of the 56 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arti\_68, Bonum\_74, Buggaboo\_72, Dalilpop\_74, Emianna\_69, Flapper\_73, Foxboro\_70, Fury\_79, GRU1\_59, GTE5\_59, GTE8\_58, GrootJr\_71, Jifall16\_69, Kabluna\_73, KidneyBean\_70, Kurt\_69, MerCougar\_73, NatB6\_69, NosilaM\_72, NovumRegina\_69, Outis\_71, Phomeo\_70, Pleakley\_79, StarStruck\_71, SuperSulley\_72, Tracker\_69, Turuncu\_73, Wheezy\_69,

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

- 

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

- BiPauneto\_72, BlueNGold\_23, BobBob\_83, Boopy\_25, Charming\_84, Commandaria\_70, DaWorst\_90, Ennea\_77, Float294\_72, Forza\_25, Fosterous\_83, IMpilo\_85, JalFarm20\_98, Kewpiedoll\_81, Lennon\_81, Lollipop1437\_74, Mareelih\_23, Nordenberg\_81, Paries\_85, Patio\_72, Phalconet\_89, Posh\_63, Powerball\_60, RiverRaider\_84, Rofo\_81, Sixama\_189, Skysand\_73, Spikelee\_90, Tangent\_84, Vivi2\_85, Wrigley\_65, Yeezy\_60, Yorick\_83,

**Summary by start number:**

Start 24:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sixama\_189 (DS),

Start 25:

- Found in 5 of 61 ( 8.2% ) of genes in pham
- Manual Annotations of this start: 5 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ennea\_77 (CR3), Float294\_72 (CR3), Lollipop1437\_74 (CR3), Patio\_72 (CR3), Skysand\_73 (CR3),

Start 26:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BiPauneto\_72 (CR4),

Start 27:

- Found in 28 of 61 ( 45.9% ) of genes in pham
- Manual Annotations of this start: 24 of 56
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Arti\_68 (CR2), Bonum\_74 (CR2), Buggaboo\_72 (CR2), Dalilpop\_74 (CR1), Emianna\_69 (CR2), Flapper\_73 (CR1), Foxboro\_70 (CR2), Fury\_79 (CR5), GRU1\_59 (CR1), GTE5\_59 (CR1), GTE8\_58 (CR2), GrootJr\_71 (CR2), Jifall16\_69 (CR2), Kabluna\_73 (CR2), KidneyBean\_70 (CR2), Kurt\_69 (CR2), MerCougar\_73 (CR2), NatB6\_69 (CR2), NosilaM\_72 (CR2), NovumRegina\_69 (CR2), Outis\_71 (CR2), Phomeo\_70 (CR2), Pleakley\_79 (CR5), StarStruck\_71 (CR2), SuperSulley\_72 (CR2), Tracker\_69 (CR2), Turuncu\_73 (CR1), Wheezy\_69 (CR2),

Start 28:

- Found in 4 of 61 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 4 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueNGold\_23 (DS), Boopy\_25 (DS), Forza\_25 (DS), Mareelih\_23 (DS),

Start 29:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Commandaria\_70 (CR2),

Start 30:

- Found in 10 of 61 ( 16.4% ) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Tangent\_84 (DE1),

Start 31:

- Found in 15 of 61 ( 24.6% ) of genes in pham
- Manual Annotations of this start: 14 of 56
- Called 93.3% of time when present
- Phage (with cluster) where this start called: BobBob\_83 (DE1), Charming\_84 (DE1), Fosterous\_83 (DE1), Kewpiedoll\_81 (DE1), Lennon\_81 (DE1), Nordenberg\_81 (DE1), Paries\_85 (DE1), Posh\_63 (CY), Powerball\_60 (CZ4), RiverRaider\_84 (DE1), Rofo\_81 (DE1), Vivi2\_85 (DE1), Wrigley\_65 (CY), Yeezy\_60 (CZ3),

Start 33:

- Found in 6 of 61 ( 9.8% ) of genes in pham
- Manual Annotations of this start: 5 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DaWorst\_90 (F1), IMpilo\_85 (F1), JalFarm20\_98 (F1), Phalconet\_89 (F1), Spikelee\_90 (F1), Yorick\_83 (F1),

### **Summary by clusters:**

There are 11 clusters represented in this pham: CR2, F1, CR1, CR4, CR3, DE1, CR5, CZ4, CY, CZ3, DS,

Info for manual annotations of cluster CR1:

- Start number 27 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 27 was manually annotated 19 times for cluster CR2.
- Start number 29 was manually annotated 1 time for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 25 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 26 was manually annotated 1 time for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 27 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CY:

- Start number 31 was manually annotated 2 times for cluster CY.

Info for manual annotations of cluster CZ3:

- Start number 31 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 31 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster DE1:

- Start number 30 was manually annotated 1 time for cluster DE1.
- Start number 31 was manually annotated 10 times for cluster DE1.

Info for manual annotations of cluster DS:

- Start number 24 was manually annotated 1 time for cluster DS.
- Start number 28 was manually annotated 4 times for cluster DS.

Info for manual annotations of cluster F1:

- Start number 33 was manually annotated 5 times for cluster F1.

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

Gene: Arti\_68 Start: 52883, Stop: 52554, Start Num: 27

Candidate Starts for Arti\_68:

(15, 53114), (Start: 27 @52883 has 24 MA's), (50, 52751), (72, 52613), (75, 52586),

Gene: BiPauneto\_72 Start: 52489, Stop: 52160, Start Num: 26

Candidate Starts for BiPauneto\_72:

(17, 52663), (18, 52615), (Start: 26 @52489 has 1 MA's), (37, 52429), (56, 52297), (72, 52213),

Gene: BlueNGold\_23 Start: 8738, Stop: 8418, Start Num: 28

Candidate Starts for BlueNGold\_23:

(22, 8768), (Start: 28 @8738 has 4 MA's), (37, 8684), (44, 8645), (52, 8594), (70, 8468),

Gene: BobBob\_83 Start: 56507, Stop: 56824, Start Num: 31

Candidate Starts for BobBob\_83:

(23, 56441), (Start: 30 @56489 has 1 MA's), (Start: 31 @56507 has 14 MA's), (45, 56585), (47, 56603), (55, 56648), (57, 56660), (59, 56696), (60, 56702), (73, 56777), (74, 56780), (75, 56789),

Gene: Bonum\_74 Start: 54210, Stop: 53830, Start Num: 27

Candidate Starts for Bonum\_74:

(Start: 27 @54210 has 24 MA's), (40, 54141), (44, 54117), (50, 54060), (63, 53937), (64, 53934), (67, 53916), (69, 53910), (75, 53862),

Gene: Boopy\_25 Start: 8750, Stop: 8430, Start Num: 28

Candidate Starts for Boopy\_25:

(22, 8780), (Start: 28 @8750 has 4 MA's), (37, 8696), (44, 8657), (52, 8606), (70, 8480),

Gene: Buggaboo\_72 Start: 54776, Stop: 54396, Start Num: 27

Candidate Starts for Buggaboo\_72:

(Start: 27 @54776 has 24 MA's), (40, 54707), (44, 54683), (50, 54626), (64, 54500), (67, 54482), (69, 54476), (75, 54428),

Gene: Charming\_84 Start: 55966, Stop: 56283, Start Num: 31

Candidate Starts for Charming\_84:

(23, 55900), (Start: 30 @55948 has 1 MA's), (Start: 31 @55966 has 14 MA's), (45, 56044), (47, 56062), (55, 56107), (57, 56119), (59, 56155), (60, 56161), (73, 56236), (74, 56239), (75, 56248),

Gene: Commandaria\_70 Start: 54164, Stop: 53838, Start Num: 29

Candidate Starts for Commandaria\_70:

(19, 54290), (Start: 29 @54164 has 1 MA's), (39, 54092), (52, 54008), (75, 53867), (77, 53843),

Gene: DaWorst\_90 Start: 50692, Stop: 50985, Start Num: 33

Candidate Starts for DaWorst\_90:

(32, 50686), (Start: 33 @50692 has 5 MA's), (46, 50767), (55, 50821), (58, 50860), (62, 50890), (66, 50902), (71, 50932), (74, 50953), (75, 50962),

Gene: Dalilpop\_74 Start: 55412, Stop: 55041, Start Num: 27

Candidate Starts for Dalilpop\_74:

(Start: 27 @55412 has 24 MA's), (44, 55319), (50, 55280), (67, 55130), (69, 55124), (75, 55076), (77, 55052),

Gene: Emianna\_69 Start: 54094, Stop: 53786, Start Num: 27

Candidate Starts for Emianna\_69:

(14, 54325), (19, 54205), (Start: 27 @54094 has 24 MA's), (75, 53806),

Gene: Ennea\_77 Start: 55526, Stop: 55152, Start Num: 25

Candidate Starts for Ennea\_77:

(Start: 25 @55526 has 5 MA's), (75, 55232), (76, 55220),

Gene: Flapper\_73 Start: 54630, Stop: 54241, Start Num: 27

Candidate Starts for Flapper\_73:

(Start: 27 @54630 has 24 MA's), (49, 54489), (50, 54474), (61, 54378), (67, 54330), (69, 54324), (75, 54276), (77, 54252),

Gene: Float294\_72 Start: 55429, Stop: 55049, Start Num: 25

Candidate Starts for Float294\_72:

(Start: 25 @55429 has 5 MA's), (36, 55369), (72, 55162), (75, 55135), (76, 55123), (78, 55102),

Gene: Forza\_25 Start: 8790, Stop: 8470, Start Num: 28

Candidate Starts for Forza\_25:

(22, 8820), (Start: 28 @8790 has 4 MA's), (37, 8736), (44, 8697), (52, 8646), (70, 8520),

Gene: Fosterous\_83 Start: 56959, Stop: 57276, Start Num: 31

Candidate Starts for Fosterous\_83:

(23, 56893), (Start: 30 @56941 has 1 MA's), (Start: 31 @56959 has 14 MA's), (45, 57037), (47, 57055), (55, 57100), (57, 57112), (59, 57148), (60, 57154), (73, 57229), (74, 57232), (75, 57241),

Gene: Foxboro\_70 Start: 54622, Stop: 54311, Start Num: 27

Candidate Starts for Foxboro\_70:

(9, 55240), (10, 55183), (Start: 27 @54622 has 24 MA's), (42, 54538), (75, 54331),

Gene: Fury\_79 Start: 53744, Stop: 53415, Start Num: 27

Candidate Starts for Fury\_79:

(21, 53798), (Start: 27 @53744 has 24 MA's), (34, 53714), (51, 53612), (56, 53579), (72, 53468), (77, 53426),

Gene: GRU1\_59 Start: 46466, Stop: 46095, Start Num: 27

Candidate Starts for GRU1\_59:

(Start: 27 @46466 has 24 MA's), (44, 46373), (50, 46334), (67, 46184), (69, 46178), (75, 46130), (77, 46106),

Gene: GTE5\_59 Start: 47643, Stop: 47281, Start Num: 27

Candidate Starts for GTE5\_59:

(7, 48852), (8, 48621), (16, 47865), (Start: 27 @47643 has 24 MA's), (50, 47514), (61, 47418), (67, 47370), (69, 47364), (75, 47316), (77, 47292),

Gene: GTE8\_58 Start: 47388, Stop: 47053, Start Num: 27

Candidate Starts for GTE8\_58:

(13, 47703), (19, 47514), (20, 47475), (Start: 27 @47388 has 24 MA's), (44, 47292), (50, 47256), (68, 47142), (72, 47118), (75, 47091), (77, 47067),

Gene: GrootJr\_71 Start: 53488, Stop: 53180, Start Num: 27

Candidate Starts for GrootJr\_71:

(14, 53719), (Start: 27 @53488 has 24 MA's), (75, 53200),

Gene: IMPilo\_85 Start: 49064, Stop: 49357, Start Num: 33

Candidate Starts for IMPilo\_85:

(32, 49058), (Start: 33 @49064 has 5 MA's), (46, 49139), (55, 49193), (58, 49232), (62, 49262), (66, 49274), (71, 49304), (74, 49325), (75, 49334),

Gene: JalFarm20\_98 Start: 52287, Stop: 52580, Start Num: 33

Candidate Starts for JalFarm20\_98:

(32, 52281), (Start: 33 @52287 has 5 MA's), (46, 52362), (55, 52416), (58, 52455), (62, 52485), (66, 52497), (71, 52527), (74, 52548), (75, 52557),

Gene: Jifall16\_69 Start: 54115, Stop: 53807, Start Num: 27

Candidate Starts for Jifall16\_69:

(9, 54733), (10, 54676), (Start: 27 @54115 has 24 MA's), (42, 54031), (75, 53827),

Gene: Kabluna\_73 Start: 53539, Stop: 53159, Start Num: 27

Candidate Starts for Kabluna\_73:

(Start: 27 @53539 has 24 MA's), (40, 53470), (44, 53446), (50, 53389), (63, 53266), (64, 53263), (67, 53245), (69, 53239), (75, 53191),

Gene: Kewpiedoll\_81 Start: 57152, Stop: 57469, Start Num: 31  
Candidate Starts for Kewpiedoll\_81:  
(23, 57086), (Start: 30 @57134 has 1 MA's), (Start: 31 @57152 has 14 MA's), (45, 57230), (60, 57347), (73, 57422), (74, 57425), (75, 57434),

Gene: KidneyBean\_70 Start: 54239, Stop: 53931, Start Num: 27  
Candidate Starts for KidneyBean\_70:  
(9, 54857), (10, 54800), (Start: 27 @54239 has 24 MA's), (42, 54155), (75, 53951),

Gene: Kurt\_69 Start: 54109, Stop: 53801, Start Num: 27  
Candidate Starts for Kurt\_69:  
(14, 54340), (19, 54220), (Start: 27 @54109 has 24 MA's), (75, 53821),

Gene: Lennon\_81 Start: 58019, Stop: 58336, Start Num: 31  
Candidate Starts for Lennon\_81:  
(23, 57953), (Start: 30 @58001 has 1 MA's), (Start: 31 @58019 has 14 MA's), (45, 58097), (47, 58115), (55, 58160), (57, 58172), (59, 58208), (60, 58214), (73, 58289), (74, 58292), (75, 58301),

Gene: Lollipop1437\_74 Start: 55206, Stop: 54832, Start Num: 25  
Candidate Starts for Lollipop1437\_74:  
(Start: 25 @55206 has 5 MA's), (75, 54912), (76, 54900),

Gene: Mareelih\_23 Start: 8195, Stop: 7875, Start Num: 28  
Candidate Starts for Mareelih\_23:  
(22, 8225), (Start: 28 @8195 has 4 MA's), (37, 8141), (44, 8102), (52, 8051), (70, 7925),

Gene: MerCougar\_73 Start: 55255, Stop: 54872, Start Num: 27  
Candidate Starts for MerCougar\_73:  
(Start: 27 @55255 has 24 MA's), (40, 55186), (44, 55162), (48, 55138), (50, 55102), (54, 55075), (63, 54979), (64, 54976), (69, 54952), (75, 54904),

Gene: NatB6\_69 Start: 53199, Stop: 52870, Start Num: 27  
Candidate Starts for NatB6\_69:  
(15, 53430), (Start: 27 @53199 has 24 MA's), (50, 53067), (72, 52929), (75, 52902),

Gene: Nordenberg\_81 Start: 55813, Stop: 56130, Start Num: 31  
Candidate Starts for Nordenberg\_81:  
(23, 55747), (Start: 30 @55795 has 1 MA's), (Start: 31 @55813 has 14 MA's), (45, 55891), (47, 55909), (57, 55966), (59, 56002), (60, 56008), (73, 56083), (74, 56086), (75, 56095),

Gene: NosilaM\_72 Start: 54191, Stop: 53805, Start Num: 27  
Candidate Starts for NosilaM\_72:  
(1, 55988), (2, 55640), (3, 55559), (4, 55523), (5, 55451), (6, 55448), (7, 55412), (8, 55181), (11, 54728), (12, 54575), (Start: 27 @54191 has 24 MA's), (49, 54050), (50, 54035), (61, 53939), (67, 53891), (69, 53885), (75, 53837),

Gene: NovumRegina\_69 Start: 53487, Stop: 53179, Start Num: 27  
Candidate Starts for NovumRegina\_69:  
(14, 53718), (Start: 27 @53487 has 24 MA's), (75, 53199),

Gene: Outis\_71 Start: 54347, Stop: 53991, Start Num: 27  
Candidate Starts for Outis\_71:  
(Start: 27 @54347 has 24 MA's), (50, 54221), (54, 54194), (61, 54125), (63, 54098), (75, 54023),



Gene: Paries\_85 Start: 58101, Stop: 58418, Start Num: 31

Candidate Starts for Paries\_85:

(23, 58035), (Start: 30 @58083 has 1 MA's), (Start: 31 @58101 has 14 MA's), (45, 58179), (47, 58197), (57, 58254), (59, 58290), (60, 58296), (73, 58371), (74, 58374), (75, 58383),

Gene: Patio\_72 Start: 54263, Stop: 53889, Start Num: 25

Candidate Starts for Patio\_72:

(Start: 25 @54263 has 5 MA's), (75, 53969), (76, 53957),

Gene: Phalconet\_89 Start: 50694, Stop: 50987, Start Num: 33

Candidate Starts for Phalconet\_89:

(32, 50688), (Start: 33 @50694 has 5 MA's), (46, 50769), (55, 50823), (58, 50862), (62, 50892), (66, 50904), (71, 50934), (74, 50955), (75, 50964),

Gene: Phomeo\_70 Start: 54111, Stop: 53803, Start Num: 27

Candidate Starts for Phomeo\_70:

(9, 54729), (10, 54672), (Start: 27 @54111 has 24 MA's), (42, 54027), (75, 53823),

Gene: Pleakley\_79 Start: 53745, Stop: 53416, Start Num: 27

Candidate Starts for Pleakley\_79:

(21, 53799), (Start: 27 @53745 has 24 MA's), (34, 53715), (51, 53613), (56, 53580), (72, 53469), (77, 53427),

Gene: Posh\_63 Start: 44207, Stop: 44524, Start Num: 31

Candidate Starts for Posh\_63:

(Start: 31 @44207 has 14 MA's), (41, 44267), (42, 44273), (43, 44285), (58, 44384), (60, 44402), (74, 44477), (75, 44486),

Gene: Powerball\_60 Start: 40758, Stop: 41087, Start Num: 31

Candidate Starts for Powerball\_60:

(Start: 31 @40758 has 14 MA's), (35, 40794), (38, 40809), (52, 40881), (55, 40899), (65, 40971), (71, 41007), (74, 41028), (75, 41037),

Gene: RiverRaider\_84 Start: 55160, Stop: 55474, Start Num: 31

Candidate Starts for RiverRaider\_84:

(Start: 31 @55160 has 14 MA's), (45, 55235), (53, 55286), (55, 55298), (57, 55310), (59, 55346), (73, 55427), (74, 55430), (75, 55439),

Gene: Rofo\_81 Start: 56542, Stop: 56859, Start Num: 31

Candidate Starts for Rofo\_81:

(23, 56476), (Start: 30 @56524 has 1 MA's), (Start: 31 @56542 has 14 MA's), (45, 56620), (47, 56638), (55, 56683), (57, 56695), (59, 56731), (60, 56737), (73, 56812), (74, 56815), (75, 56824),

Gene: Sixama\_189 Start: 108945, Stop: 108553, Start Num: 24

Candidate Starts for Sixama\_189:

(Start: 24 @108945 has 1 MA's),

Gene: Skysand\_73 Start: 54926, Stop: 54546, Start Num: 25

Candidate Starts for Skysand\_73:

(Start: 25 @54926 has 5 MA's), (72, 54659), (75, 54632), (76, 54620), (78, 54599),

Gene: Spikelee\_90 Start: 52392, Stop: 52685, Start Num: 33

Candidate Starts for Spikelee\_90:

(32, 52386), (Start: 33 @52392 has 5 MA's), (46, 52467), (55, 52521), (58, 52560), (62, 52590), (66, 52602), (71, 52632), (74, 52653), (75, 52662),

Gene: StarStruck\_71 Start: 54347, Stop: 53991, Start Num: 27

Candidate Starts for StarStruck\_71:

(Start: 27 @54347 has 24 MA's), (50, 54221), (54, 54194), (61, 54125), (63, 54098), (75, 54023),

Gene: SuperSulley\_72 Start: 54776, Stop: 54396, Start Num: 27

Candidate Starts for SuperSulley\_72:

(Start: 27 @54776 has 24 MA's), (40, 54707), (44, 54683), (50, 54626), (64, 54500), (67, 54482), (69, 54476), (75, 54428),

Gene: Tangent\_84 Start: 56229, Stop: 56564, Start Num: 30

Candidate Starts for Tangent\_84:

(23, 56181), (Start: 30 @56229 has 1 MA's), (Start: 31 @56247 has 14 MA's), (45, 56325), (47, 56343), (55, 56388), (57, 56400), (59, 56436), (60, 56442), (73, 56517), (74, 56520), (75, 56529),

Gene: Tracker\_69 Start: 52943, Stop: 52614, Start Num: 27

Candidate Starts for Tracker\_69:

(Start: 27 @52943 has 24 MA's), (50, 52811), (72, 52673), (75, 52646),

Gene: Turuncu\_73 Start: 54452, Stop: 54084, Start Num: 27

Candidate Starts for Turuncu\_73:

(Start: 27 @54452 has 24 MA's), (44, 54359), (50, 54326), (67, 54173), (69, 54167), (75, 54119), (77, 54095),

Gene: Vivi2\_85 Start: 57303, Stop: 57620, Start Num: 31

Candidate Starts for Vivi2\_85:

(23, 57237), (Start: 30 @57285 has 1 MA's), (Start: 31 @57303 has 14 MA's), (45, 57381), (47, 57399), (55, 57444), (57, 57456), (59, 57492), (60, 57498), (73, 57573), (74, 57576), (75, 57585),

Gene: Wheezy\_69 Start: 53157, Stop: 52828, Start Num: 27

Candidate Starts for Wheezy\_69:

(15, 53388), (Start: 27 @53157 has 24 MA's), (50, 53025), (72, 52887), (75, 52860),

Gene: Wrigley\_65 Start: 43790, Stop: 44107, Start Num: 31

Candidate Starts for Wrigley\_65:

(Start: 31 @43790 has 14 MA's), (41, 43850), (42, 43856), (43, 43868), (58, 43967), (60, 43985), (74, 44060), (75, 44069),

Gene: Yeezy\_60 Start: 40768, Stop: 41082, Start Num: 31

Candidate Starts for Yeezy\_60:

(Start: 31 @40768 has 14 MA's), (41, 40825), (43, 40843), (58, 40942), (60, 40960), (75, 41044),

Gene: Yorick\_83 Start: 51376, Stop: 51669, Start Num: 33

Candidate Starts for Yorick\_83:

(Start: 33 @51376 has 5 MA's), (46, 51451), (55, 51505), (58, 51544), (62, 51574), (66, 51586), (71, 51616), (74, 51637), (75, 51646),