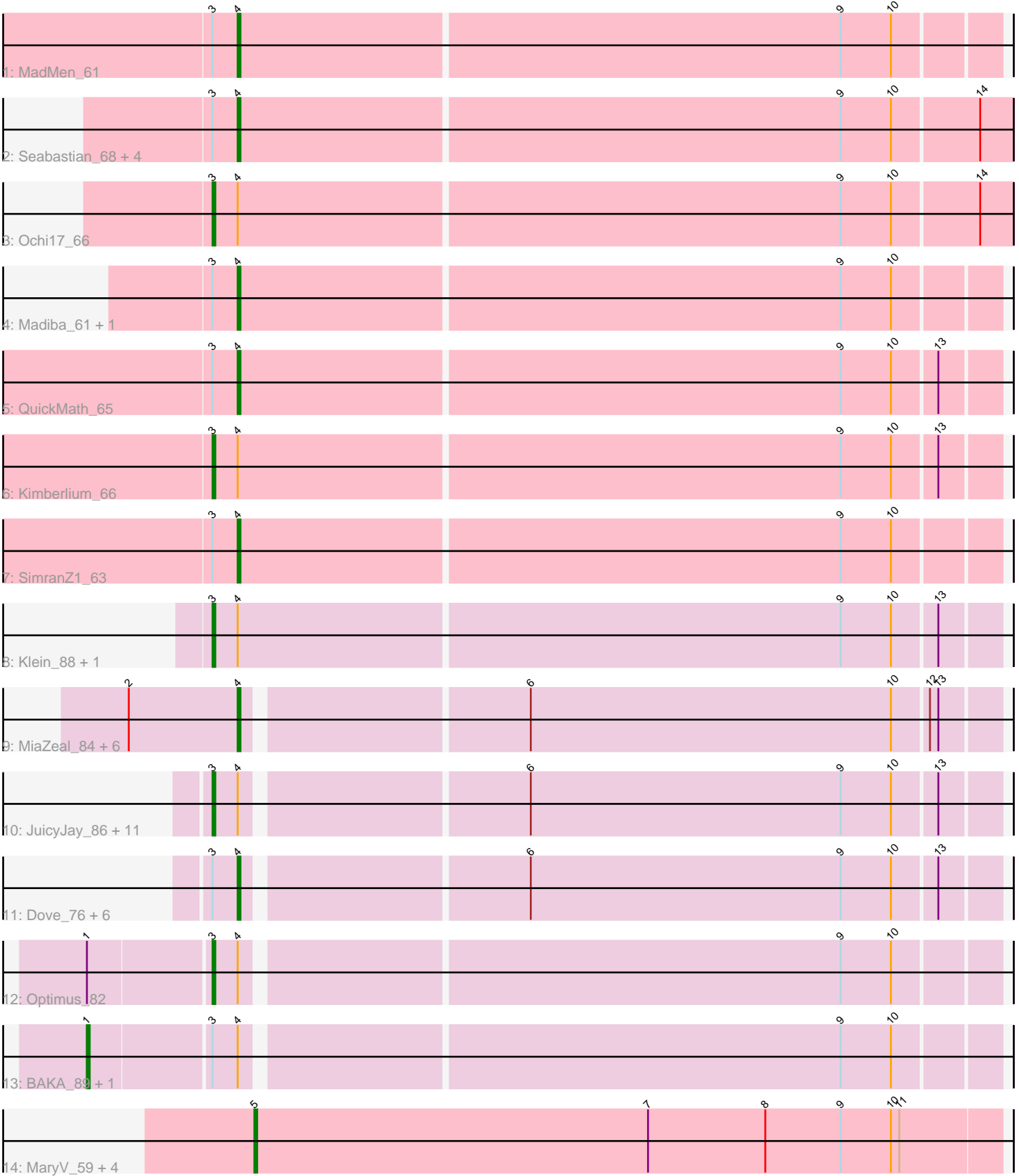


Pham 2070



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 2070 Report

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

Pham number 2070 has 48 members, 4 are drafts.

Phages represented in each track:

- Track 1 : MadMen\_61
- Track 2 : Seabastian\_68, Modragons\_66, AlpineSix\_68, Jinglebell\_67, OfUltron\_68
- Track 3 : Ochi17\_66
- Track 4 : Madiba\_61, Mova\_64
- Track 5 : QuickMath\_65
- Track 6 : Kimberlium\_66
- Track 7 : SimranZ1\_63
- Track 8 : Klein\_88, Wanda\_92
- Track 9 : MiaZeal\_84, Lucky2013\_81, Porcelain\_83, Ariel\_83, Superphikiman\_81, Squint\_84, Courthouse\_79
- Track 10 : JuicyJay\_86, HokkenD\_78, Bombitas\_77, Halley\_90, Hughesyang\_89, Kalah2\_83, Bagrid\_88, Constella\_74, ThreeRngTarjay\_86, NihilNomen\_90, Phoebus\_91, Zelink\_86
- Track 11 : Dove\_76, Beem\_89, Dallas\_88, Odette\_87, Yeet\_82, Schatzie\_84, DmpstrDiver\_89
- Track 12 : Optimus\_82
- Track 13 : BAKA\_89, Minerva\_87
- Track 14 : MaryV\_59, Wildcat\_59, EniyanLRS\_56, Azrael100\_58, Cosmo\_59

### ***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 21 of the 44 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AlpineSix\_68, Ariel\_83, Beem\_89, Courthouse\_79, Dallas\_88, DmpstrDiver\_89, Dove\_76, Jinglebell\_67, Lucky2013\_81, MadMen\_61, Madiba\_61, MiaZeal\_84, Modragons\_66, Mova\_64, Odette\_87, OfUltron\_68, Porcelain\_83, QuickMath\_65, Schatzie\_84, Seabastian\_68, SimranZ1\_63, Squint\_84, Superphikiman\_81, Yeet\_82,

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

- BAKA\_89, Bagrid\_88, Bombitas\_77, Constella\_74, Halley\_90, HokkenD\_78, Hughesyang\_89, JuicyJay\_86, Kalah2\_83, Kimberlium\_66, Klein\_88, Minerva\_87, NihilNomen\_90, Ochi17\_66, Optimus\_82, Phoebus\_91, ThreeRngTarjay\_86,

Wanda\_92, Zelink\_86,

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

- Azrael100\_58, Cosmo\_59, EniyanLRS\_56, MaryV\_59, Wildcat\_59,

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

Start 1:

- Found in 3 of 48 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 2 of 44
- Called 66.7% of time when present
- Phage (with cluster) where this start called: BAKA\_89 (J), Minerva\_87 (J),

Start 3:

- Found in 36 of 48 ( 75.0% ) of genes in pham
- Manual Annotations of this start: 16 of 44
- Called 47.2% of time when present
- Phage (with cluster) where this start called: Bagrid\_88 (J), Bombitas\_77 (J), Constella\_74 (J), Halley\_90 (J), HokkenD\_78 (J), Hughesyang\_89 (J), JuicyJay\_86 (J), Kalah2\_83 (J), Kimberlium\_66 (F1), Klein\_88 (J), NihilNomen\_90 (J), Ochi17\_66 (F1), Optimus\_82 (J), Phoebus\_91 (J), ThreeRngTarjay\_86 (J), Wanda\_92 (J), Zelink\_86 (J),

Start 4:

- Found in 43 of 48 ( 89.6% ) of genes in pham
- Manual Annotations of this start: 21 of 44
- Called 55.8% of time when present
- Phage (with cluster) where this start called: AlpineSix\_68 (F1), Ariel\_83 (J), Beem\_89 (J), Courthouse\_79 (J), Dallas\_88 (J), DmpstrDiver\_89 (J), Dove\_76 (J), Jinglebell\_67 (F1), Lucky2013\_81 (J), MadMen\_61 (F1), Madiba\_61 (F1), MiaZeal\_84 (J), Modragons\_66 (F1), Mova\_64 (F1), Odette\_87 (J), OfUltron\_68 (F1), Porcelain\_83 (J), QuickMath\_65 (F1), Schatzie\_84 (J), Seabastian\_68 (F1), SimranZ1\_63 (F1), Squint\_84 (J), Superphikiman\_81 (J), Yeet\_82 (J),

Start 5:

- Found in 5 of 48 ( 10.4% ) of genes in pham
- Manual Annotations of this start: 5 of 44
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azrael100\_58 (V), Cosmo\_59 (V), EniyanLRS\_56 (V), MaryV\_59 (V), Wildcat\_59 (V),

### **Summary by clusters:**

There are 3 clusters represented in this pham: F1, J, V,

Info for manual annotations of cluster F1:

- Start number 3 was manually annotated 2 times for cluster F1.
- Start number 4 was manually annotated 9 times for cluster F1.

Info for manual annotations of cluster J:

- Start number 1 was manually annotated 2 times for cluster J.
- Start number 3 was manually annotated 14 times for cluster J.
- Start number 4 was manually annotated 12 times for cluster J.

Info for manual annotations of cluster V:

- Start number 5 was manually annotated 5 times for cluster V.

**Gene Information:**

Gene: AlpineSix\_68 Start: 43671, Stop: 43943, Start Num: 4

Candidate Starts for AlpineSix\_68:

(Start: 3 @43662 has 16 MA's), (Start: 4 @43671 has 21 MA's), (9, 43884), (10, 43902), (14, 43932),

Gene: Ariel\_83 Start: 49506, Stop: 49246, Start Num: 4

Candidate Starts for Ariel\_83:

(2, 49545), (Start: 4 @49506 has 21 MA's), (6, 49410), (10, 49281), (12, 49269), (13, 49266),

Gene: Azrael100\_58 Start: 41776, Stop: 41510, Start Num: 5

Candidate Starts for Azrael100\_58:

(Start: 5 @41776 has 5 MA's), (7, 41635), (8, 41593), (9, 41566), (10, 41548), (11, 41545),

Gene: BAKA\_89 Start: 56373, Stop: 56684, Start Num: 1

Candidate Starts for BAKA\_89:

(Start: 1 @56373 has 2 MA's), (Start: 3 @56415 has 16 MA's), (Start: 4 @56424 has 21 MA's), (9, 56631), (10, 56649),

Gene: Bagrid\_88 Start: 55508, Stop: 55777, Start Num: 3

Candidate Starts for Bagrid\_88:

(Start: 3 @55508 has 16 MA's), (Start: 4 @55517 has 21 MA's), (6, 55613), (9, 55724), (10, 55742), (13, 55757),

Gene: Beem\_89 Start: 56378, Stop: 56638, Start Num: 4

Candidate Starts for Beem\_89:

(Start: 3 @56369 has 16 MA's), (Start: 4 @56378 has 21 MA's), (6, 56474), (9, 56585), (10, 56603), (13, 56618),

Gene: Bombitas\_77 Start: 53532, Stop: 53801, Start Num: 3

Candidate Starts for Bombitas\_77:

(Start: 3 @53532 has 16 MA's), (Start: 4 @53541 has 21 MA's), (6, 53637), (9, 53748), (10, 53766), (13, 53781),

Gene: Constella\_74 Start: 50506, Stop: 50775, Start Num: 3

Candidate Starts for Constella\_74:

(Start: 3 @50506 has 16 MA's), (Start: 4 @50515 has 21 MA's), (6, 50611), (9, 50722), (10, 50740), (13, 50755),

Gene: Cosmo\_59 Start: 41777, Stop: 41511, Start Num: 5

Candidate Starts for Cosmo\_59:

(Start: 5 @41777 has 5 MA's), (7, 41636), (8, 41594), (9, 41567), (10, 41549), (11, 41546),

Gene: Courthouse\_79 Start: 49106, Stop: 48846, Start Num: 4

Candidate Starts for Courthouse\_79:

(2, 49145), (Start: 4 @49106 has 21 MA's), (6, 49010), (10, 48881), (12, 48869), (13, 48866),

Gene: Dallas\_88 Start: 55299, Stop: 55559, Start Num: 4

Candidate Starts for Dallas\_88:

(Start: 3 @55290 has 16 MA's), (Start: 4 @55299 has 21 MA's), (6, 55395), (9, 55506), (10, 55524), (13, 55539),

Gene: DmpstrDiver\_89 Start: 55713, Stop: 55973, Start Num: 4

Candidate Starts for DmpstrDiver\_89:

(Start: 3 @55704 has 16 MA's), (Start: 4 @55713 has 21 MA's), (6, 55809), (9, 55920), (10, 55938), (13, 55953),

Gene: Dove\_76 Start: 51807, Stop: 52067, Start Num: 4

Candidate Starts for Dove\_76:

(Start: 3 @51798 has 16 MA's), (Start: 4 @51807 has 21 MA's), (6, 51903), (9, 52014), (10, 52032), (13, 52047),

Gene: EniyanLRS\_56 Start: 41475, Stop: 41209, Start Num: 5

Candidate Starts for EniyanLRS\_56:

(Start: 5 @41475 has 5 MA's), (7, 41334), (8, 41292), (9, 41265), (10, 41247), (11, 41244),

Gene: Halley\_90 Start: 56369, Stop: 56638, Start Num: 3

Candidate Starts for Halley\_90:

(Start: 3 @56369 has 16 MA's), (Start: 4 @56378 has 21 MA's), (6, 56474), (9, 56585), (10, 56603), (13, 56618),

Gene: HokkenD\_78 Start: 54638, Stop: 54907, Start Num: 3

Candidate Starts for HokkenD\_78:

(Start: 3 @54638 has 16 MA's), (Start: 4 @54647 has 21 MA's), (6, 54743), (9, 54854), (10, 54872), (13, 54887),

Gene: Hughesyang\_89 Start: 56327, Stop: 56596, Start Num: 3

Candidate Starts for Hughesyang\_89:

(Start: 3 @56327 has 16 MA's), (Start: 4 @56336 has 21 MA's), (6, 56432), (9, 56543), (10, 56561), (13, 56576),

Gene: Jinglebell\_67 Start: 43670, Stop: 43942, Start Num: 4

Candidate Starts for Jinglebell\_67:

(Start: 3 @43661 has 16 MA's), (Start: 4 @43670 has 21 MA's), (9, 43883), (10, 43901), (14, 43931),

Gene: JuicyJay\_86 Start: 57503, Stop: 57772, Start Num: 3

Candidate Starts for JuicyJay\_86:

(Start: 3 @57503 has 16 MA's), (Start: 4 @57512 has 21 MA's), (6, 57608), (9, 57719), (10, 57737), (13, 57752),

Gene: Kalah2\_83 Start: 55662, Stop: 55931, Start Num: 3

Candidate Starts for Kalah2\_83:

(Start: 3 @55662 has 16 MA's), (Start: 4 @55671 has 21 MA's), (6, 55767), (9, 55878), (10, 55896), (13, 55911),

Gene: Kimberlium\_66 Start: 42827, Stop: 43102, Start Num: 3

Candidate Starts for Kimberlium\_66:

(Start: 3 @42827 has 16 MA's), (Start: 4 @42836 has 21 MA's), (9, 43049), (10, 43067), (13, 43082),

Gene: Klein\_88 Start: 55088, Stop: 55363, Start Num: 3

Candidate Starts for Klein\_88:

(Start: 3 @55088 has 16 MA's), (Start: 4 @55097 has 21 MA's), (9, 55310), (10, 55328), (13, 55343),

Gene: Lucky2013\_81 Start: 49522, Stop: 49262, Start Num: 4

Candidate Starts for Lucky2013\_81:

(2, 49561), (Start: 4 @49522 has 21 MA's), (6, 49426), (10, 49297), (12, 49285), (13, 49282),

Gene: MadMen\_61 Start: 40785, Stop: 41051, Start Num: 4

Candidate Starts for MadMen\_61:

(Start: 3 @40776 has 16 MA's), (Start: 4 @40785 has 21 MA's), (9, 40998), (10, 41016),

Gene: Madiba\_61 Start: 40034, Stop: 40300, Start Num: 4

Candidate Starts for Madiba\_61:

(Start: 3 @40025 has 16 MA's), (Start: 4 @40034 has 21 MA's), (9, 40247), (10, 40265),

Gene: MaryV\_59 Start: 41762, Stop: 41496, Start Num: 5

Candidate Starts for MaryV\_59:

(Start: 5 @41762 has 5 MA's), (7, 41621), (8, 41579), (9, 41552), (10, 41534), (11, 41531),

Gene: MiaZeal\_84 Start: 50178, Stop: 49918, Start Num: 4

Candidate Starts for MiaZeal\_84:

(2, 50217), (Start: 4 @50178 has 21 MA's), (6, 50082), (10, 49953), (12, 49941), (13, 49938),

Gene: Minerva\_87 Start: 56018, Stop: 56329, Start Num: 1

Candidate Starts for Minerva\_87:

(Start: 1 @56018 has 2 MA's), (Start: 3 @56060 has 16 MA's), (Start: 4 @56069 has 21 MA's), (9, 56276), (10, 56294),

Gene: Modragons\_66 Start: 43514, Stop: 43786, Start Num: 4

Candidate Starts for Modragons\_66:

(Start: 3 @43505 has 16 MA's), (Start: 4 @43514 has 21 MA's), (9, 43727), (10, 43745), (14, 43775),

Gene: Mova\_64 Start: 40538, Stop: 40804, Start Num: 4

Candidate Starts for Mova\_64:

(Start: 3 @40529 has 16 MA's), (Start: 4 @40538 has 21 MA's), (9, 40751), (10, 40769),

Gene: NihilNomen\_90 Start: 56456, Stop: 56725, Start Num: 3

Candidate Starts for NihilNomen\_90:

(Start: 3 @56456 has 16 MA's), (Start: 4 @56465 has 21 MA's), (6, 56561), (9, 56672), (10, 56690), (13, 56705),

Gene: Ochi17\_66 Start: 43112, Stop: 43393, Start Num: 3

Candidate Starts for Ochi17\_66:

(Start: 3 @43112 has 16 MA's), (Start: 4 @43121 has 21 MA's), (9, 43334), (10, 43352), (14, 43382),

Gene: Odette\_87 Start: 55507, Stop: 55767, Start Num: 4

Candidate Starts for Odette\_87:

(Start: 3 @55498 has 16 MA's), (Start: 4 @55507 has 21 MA's), (6, 55603), (9, 55714), (10, 55732), (13, 55747),

Gene: OfUltron\_68 Start: 43670, Stop: 43942, Start Num: 4

Candidate Starts for OfUltron\_68:

(Start: 3 @43661 has 16 MA's), (Start: 4 @43670 has 21 MA's), (9, 43883), (10, 43901), (14, 43931),

Gene: Optimus\_82 Start: 54764, Stop: 55033, Start Num: 3

Candidate Starts for Optimus\_82:

(Start: 1 @54722 has 2 MA's), (Start: 3 @54764 has 16 MA's), (Start: 4 @54773 has 21 MA's), (9, 54980), (10, 54998),

Gene: Phoebus\_91 Start: 57638, Stop: 57907, Start Num: 3

Candidate Starts for Phoebus\_91:

(Start: 3 @57638 has 16 MA's), (Start: 4 @57647 has 21 MA's), (6, 57743), (9, 57854), (10, 57872), (13, 57887),

Gene: Porcelain\_83 Start: 50178, Stop: 49918, Start Num: 4

Candidate Starts for Porcelain\_83:

(2, 50217), (Start: 4 @50178 has 21 MA's), (6, 50082), (10, 49953), (12, 49941), (13, 49938),

Gene: QuickMath\_65 Start: 43059, Stop: 43325, Start Num: 4

Candidate Starts for QuickMath\_65:

(Start: 3 @43050 has 16 MA's), (Start: 4 @43059 has 21 MA's), (9, 43272), (10, 43290), (13, 43305),

Gene: Schatzie\_84 Start: 55254, Stop: 55514, Start Num: 4

Candidate Starts for Schatzie\_84:

(Start: 3 @55245 has 16 MA's), (Start: 4 @55254 has 21 MA's), (6, 55350), (9, 55461), (10, 55479), (13, 55494),

Gene: Seabastian\_68 Start: 43671, Stop: 43943, Start Num: 4

Candidate Starts for Seabastian\_68:

(Start: 3 @43662 has 16 MA's), (Start: 4 @43671 has 21 MA's), (9, 43884), (10, 43902), (14, 43932),

Gene: SimranZ1\_63 Start: 41144, Stop: 41410, Start Num: 4

Candidate Starts for SimranZ1\_63:

(Start: 3 @41135 has 16 MA's), (Start: 4 @41144 has 21 MA's), (9, 41357), (10, 41375),

Gene: Squint\_84 Start: 50297, Stop: 50037, Start Num: 4

Candidate Starts for Squint\_84:

(2, 50336), (Start: 4 @50297 has 21 MA's), (6, 50201), (10, 50072), (12, 50060), (13, 50057),

Gene: Superphikiman\_81 Start: 49388, Stop: 49128, Start Num: 4

Candidate Starts for Superphikiman\_81:

(2, 49427), (Start: 4 @49388 has 21 MA's), (6, 49292), (10, 49163), (12, 49151), (13, 49148),

Gene: ThreeRngTarjay\_86 Start: 56530, Stop: 56799, Start Num: 3

Candidate Starts for ThreeRngTarjay\_86:

(Start: 3 @56530 has 16 MA's), (Start: 4 @56539 has 21 MA's), (6, 56635), (9, 56746), (10, 56764), (13, 56779),

Gene: Wanda\_92 Start: 55397, Stop: 55672, Start Num: 3

Candidate Starts for Wanda\_92:

(Start: 3 @55397 has 16 MA's), (Start: 4 @55406 has 21 MA's), (9, 55619), (10, 55637), (13, 55652),

Gene: Wildcat\_59 Start: 41772, Stop: 41506, Start Num: 5

Candidate Starts for Wildcat\_59:

(Start: 5 @41772 has 5 MA's), (7, 41631), (8, 41589), (9, 41562), (10, 41544), (11, 41541),

Gene: Yeet\_82 Start: 54756, Stop: 55016, Start Num: 4

Candidate Starts for Yeet\_82:

(Start: 3 @54747 has 16 MA's), (Start: 4 @54756 has 21 MA's), (6, 54852), (9, 54963), (10, 54981), (13, 54996),

Gene: Zelink\_86 Start: 56842, Stop: 57111, Start Num: 3

Candidate Starts for Zelink\_86:

(Start: 3 @56842 has 16 MA's), (Start: 4 @56851 has 21 MA's), (6, 56947), (9, 57058), (10, 57076), (13, 57091),