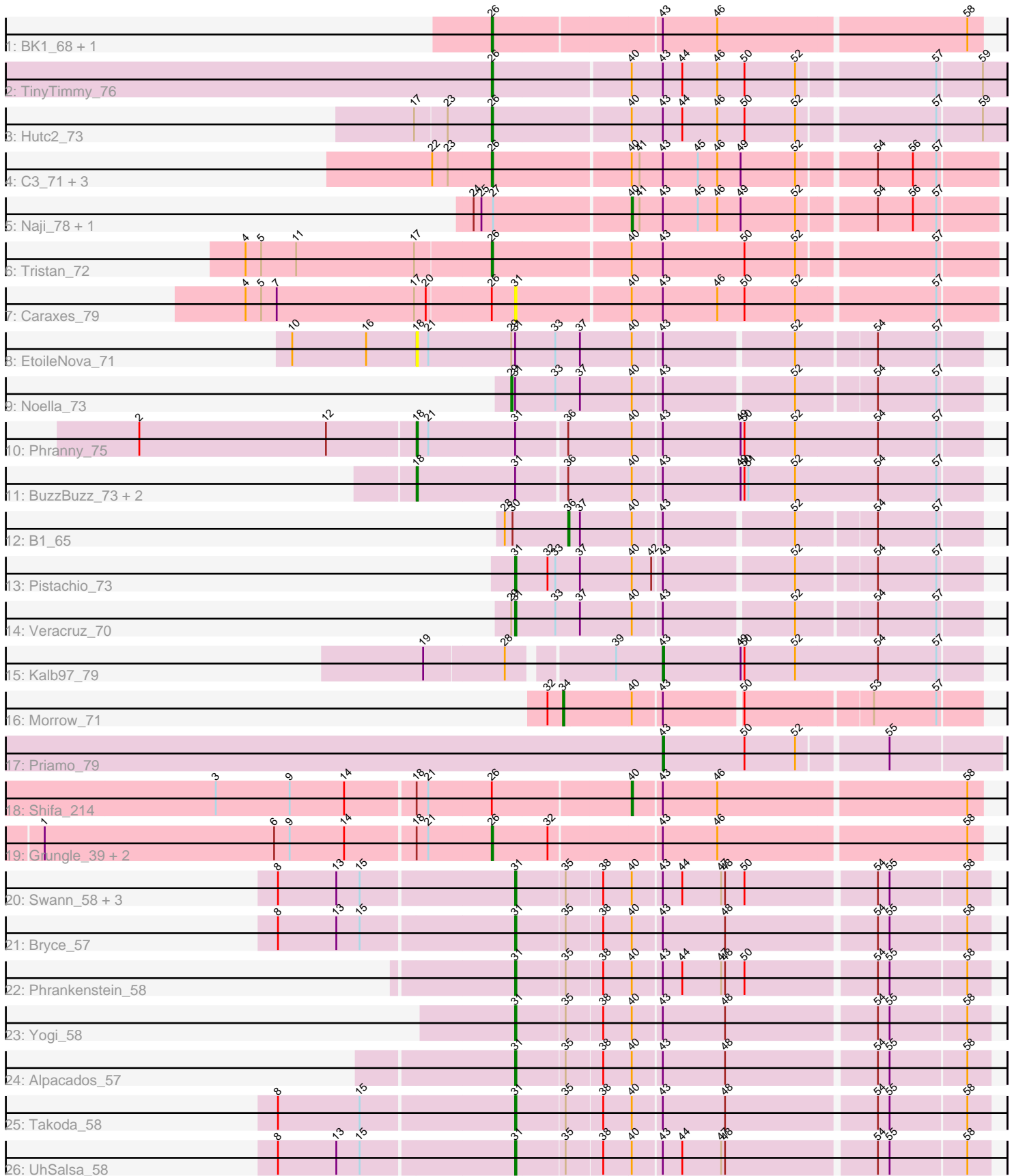


Pham 296741



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 296741 Report

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

Pham number 296741 has 38 members, 4 are drafts.

Phages represented in each track:

- Track 1 : BK1\_68, A6\_68
- Track 2 : TinyTimmy\_76
- Track 3 : Hutc2\_73
- Track 4 : C3\_71, VC3\_77, AN9\_78, ANI8\_78
- Track 5 : Naji\_78, D32\_77
- Track 6 : Tristan\_72
- Track 7 : Caraxes\_79
- Track 8 : EtoileNova\_71
- Track 9 : Noella\_73
- Track 10 : Phranny\_75
- Track 11 : BuzzBuzz\_73, Louie6\_78, Bxz2\_74
- Track 12 : B1\_65
- Track 13 : Pistachio\_73
- Track 14 : Veracruz\_70
- Track 15 : Kalb97\_79
- Track 16 : Morrow\_71
- Track 17 : Priamo\_79
- Track 18 : Shifa\_214
- Track 19 : Grungle\_39, Blackdragon\_43, Halldule\_42
- Track 20 : Swann\_58, Bradshaw\_58, Erik\_58, Rasputin\_58
- Track 21 : Bryce\_57
- Track 22 : Phrankenstein\_58
- Track 23 : Yogi\_58
- Track 24 : Alpacados\_57
- Track 25 : Takoda\_58
- Track 26 : UhSalsa\_58

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

The start number called the most often in the published annotations is 31, it was called in 12 of the 34 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alpacados\_57, Bradshaw\_58, Bryce\_57, Caraxes\_79, Erik\_58, Phrankenstein\_58, Pistachio\_73, Rasputin\_58, Swann\_58, Takoda\_58, UhSalsa\_58, Veracruz\_70, Yogi\_58,

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

- BuzzBuzz\_73, Bxz2\_74, EtoileNova\_71, Louie6\_78, Noella\_73, Phranny\_75,

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

- A6\_68, AN9\_78, ANI8\_78, B1\_65, BK1\_68, Blackdragon\_43, C3\_71, D32\_77, Grungle\_39, Halldule\_42, Hutc2\_73, Kalb97\_79, Morrow\_71, Naji\_78, Priamo\_79, Shifa\_214, TinyTimmy\_76, Tristan\_72, VC3\_77,

### Summary by start number:

Start 18:

- Found in 9 of 38 ( 23.7% ) of genes in pham
- Manual Annotations of this start: 4 of 34
- Called 55.6% of time when present
- Phage (with cluster) where this start called: BuzzBuzz\_73 (A3), Bxz2\_74 (A3), EtoileNova\_71 (A3), Louie6\_78 (A3), Phranny\_75 (A3),

Start 26:

- Found in 14 of 38 ( 36.8% ) of genes in pham
- Manual Annotations of this start: 10 of 34
- Called 85.7% of time when present
- Phage (with cluster) where this start called: A6\_68 (A1), AN9\_78 (A2), ANI8\_78 (A2), BK1\_68 (A1), Blackdragon\_43 (C1), C3\_71 (A2), Grungle\_39 (C1), Halldule\_42 (C1), Hutc2\_73 (A11), TinyTimmy\_76 (A11), Tristan\_72 (A2), VC3\_77 (A2),

Start 29:

- Found in 3 of 38 ( 7.9% ) of genes in pham
- Manual Annotations of this start: 1 of 34
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Noella\_73 (A3),

Start 31:

- Found in 19 of 38 ( 50.0% ) of genes in pham
- Manual Annotations of this start: 12 of 34
- Called 68.4% of time when present
- Phage (with cluster) where this start called: Alpacados\_57 (CA), Bradshaw\_58 (CA), Bryce\_57 (CA), Caraxes\_79 (A2), Erik\_58 (CA), Phrankenstein\_58 (CA), Pistachio\_73 (A3), Rasputin\_58 (CA), Swann\_58 (CA), Takoda\_58 (CA), UhSalsa\_58 (CA), Veracruz\_70 (A3), Yogi\_58 (CA),

Start 34:

- Found in 1 of 38 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 1 of 34
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Morrow\_71 (A4),

Start 36:

- Found in 5 of 38 ( 13.2% ) of genes in pham
- Manual Annotations of this start: 1 of 34

- Called 20.0% of time when present
- Phage (with cluster) where this start called: B1\_65 (A3),

Start 40:

- Found in 31 of 38 ( 81.6% ) of genes in pham
- Manual Annotations of this start: 3 of 34
- Called 9.7% of time when present
- Phage (with cluster) where this start called: D32\_77 (A2), Naji\_78 (A2), Shifa\_214 (C1),

Start 43:

- Found in 38 of 38 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 2 of 34
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Kalb97\_79 (A3), Priamo\_79 (A6),

### **Summary by clusters:**

There are 8 clusters represented in this pham: A11, CA, A1, A3, A2, A4, A6, C1,

Info for manual annotations of cluster A1:

- Start number 26 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster A11:

- Start number 26 was manually annotated 2 times for cluster A11.

Info for manual annotations of cluster A2:

- Start number 26 was manually annotated 5 times for cluster A2.
- Start number 40 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 18 was manually annotated 4 times for cluster A3.
- Start number 29 was manually annotated 1 time for cluster A3.
- Start number 31 was manually annotated 2 times for cluster A3.
- Start number 36 was manually annotated 1 time for cluster A3.
- Start number 43 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A4:

- Start number 34 was manually annotated 1 time for cluster A4.

Info for manual annotations of cluster A6:

- Start number 43 was manually annotated 1 time for cluster A6.

Info for manual annotations of cluster C1:

- Start number 26 was manually annotated 1 time for cluster C1.
- Start number 40 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster CA:

- Start number 31 was manually annotated 10 times for cluster CA.

### **Gene Information:**

Gene: A6\_68 Start: 43794, Stop: 43432, Start Num: 26

Candidate Starts for A6\_68:

(Start: 26 @43794 has 10 MA's), (Start: 43 @43671 has 2 MA's), (46, 43629), (58, 43443),

Gene: AN9\_78 Start: 45224, Stop: 44853, Start Num: 26

Candidate Starts for AN9\_78:

(22, 45269), (23, 45257), (Start: 26 @45224 has 10 MA's), (Start: 40 @45122 has 3 MA's), (41, 45116), (Start: 43 @45098 has 2 MA's), (45, 45071), (46, 45056), (49, 45038), (52, 44996), (54, 44942), (56, 44915), (57, 44897),

Gene: ANI8\_78 Start: 45224, Stop: 44853, Start Num: 26

Candidate Starts for ANI8\_78:

(22, 45269), (23, 45257), (Start: 26 @45224 has 10 MA's), (Start: 40 @45122 has 3 MA's), (41, 45116), (Start: 43 @45098 has 2 MA's), (45, 45071), (46, 45056), (49, 45038), (52, 44996), (54, 44942), (56, 44915), (57, 44897),

Gene: Alpacados\_57 Start: 39918, Stop: 39571, Start Num: 31

Candidate Starts for Alpacados\_57:

(Start: 31 @39918 has 12 MA's), (35, 39882), (38, 39855), (Start: 40 @39834 has 3 MA's), (Start: 43 @39813 has 2 MA's), (48, 39765), (54, 39654), (55, 39645), (58, 39588),

Gene: B1\_65 Start: 42656, Stop: 42357, Start Num: 36

Candidate Starts for B1\_65:

(28, 42704), (30, 42698), (Start: 36 @42656 has 1 MA's), (37, 42647), (Start: 40 @42608 has 3 MA's), (Start: 43 @42587 has 2 MA's), (52, 42491), (54, 42434), (57, 42389),

Gene: BK1\_68 Start: 43794, Stop: 43432, Start Num: 26

Candidate Starts for BK1\_68:

(Start: 26 @43794 has 10 MA's), (Start: 43 @43671 has 2 MA's), (46, 43629), (58, 43443),

Gene: Blackdragon\_43 Start: 14520, Stop: 14882, Start Num: 26

Candidate Starts for Blackdragon\_43:

(1, 14181), (6, 14358), (9, 14370), (14, 14412), (Start: 18 @14463 has 4 MA's), (21, 14472), (Start: 26 @14520 has 10 MA's), (32, 14562), (Start: 43 @14643 has 2 MA's), (46, 14685), (58, 14871),

Gene: Bradshaw\_58 Start: 39958, Stop: 39611, Start Num: 31

Candidate Starts for Bradshaw\_58:

(8, 40135), (13, 40090), (15, 40072), (Start: 31 @39958 has 12 MA's), (35, 39922), (38, 39895), (Start: 40 @39874 has 3 MA's), (Start: 43 @39853 has 2 MA's), (44, 39838), (47, 39808), (48, 39805), (50, 39790), (54, 39694), (55, 39685), (58, 39628),

Gene: Bryce\_57 Start: 39703, Stop: 39356, Start Num: 31

Candidate Starts for Bryce\_57:

(8, 39880), (13, 39835), (15, 39817), (Start: 31 @39703 has 12 MA's), (35, 39667), (38, 39640), (Start: 40 @39619 has 3 MA's), (Start: 43 @39598 has 2 MA's), (48, 39550), (54, 39439), (55, 39430), (58, 39373),

Gene: BuzzBuzz\_73 Start: 44946, Stop: 44524, Start Num: 18

Candidate Starts for BuzzBuzz\_73:

(Start: 18 @44946 has 4 MA's), (Start: 31 @44871 has 12 MA's), (Start: 36 @44835 has 1 MA's), (Start: 40 @44787 has 3 MA's), (Start: 43 @44766 has 2 MA's), (49, 44706), (50, 44703), (51, 44700), (52, 44664), (54, 44601), (57, 44556),

Gene: Bxz2\_74 Start: 44953, Stop: 44531, Start Num: 18

Candidate Starts for Bxz2\_74:

(Start: 18 @44953 has 4 MA's), (Start: 31 @44878 has 12 MA's), (Start: 36 @44842 has 1 MA's), (Start: 40 @44794 has 3 MA's), (Start: 43 @44773 has 2 MA's), (49, 44713), (50, 44710), (51, 44707), (52, 44671), (54, 44608), (57, 44563),

Gene: C3\_71 Start: 45224, Stop: 44853, Start Num: 26

Candidate Starts for C3\_71:

(22, 45269), (23, 45257), (Start: 26 @45224 has 10 MA's), (Start: 40 @45122 has 3 MA's), (41, 45116), (Start: 43 @45098 has 2 MA's), (45, 45071), (46, 45056), (49, 45038), (52, 44996), (54, 44942), (56, 44915), (57, 44897),

Gene: Caraxes\_79 Start: 44850, Stop: 44494, Start Num: 31

Candidate Starts for Caraxes\_79:

(4, 45054), (5, 45042), (7, 45030), (17, 44925), (20, 44916), (Start: 26 @44868 has 10 MA's), (Start: 31 @44850 has 12 MA's), (Start: 40 @44766 has 3 MA's), (Start: 43 @44742 has 2 MA's), (46, 44700), (50, 44679), (52, 44640), (57, 44538),

Gene: D32\_77 Start: 45602, Stop: 45333, Start Num: 40

Candidate Starts for D32\_77:

(24, 45719), (25, 45713), (27, 45704), (Start: 40 @45602 has 3 MA's), (41, 45596), (Start: 43 @45578 has 2 MA's), (45, 45551), (46, 45536), (49, 45518), (52, 45476), (54, 45422), (56, 45395), (57, 45377),

Gene: Erik\_58 Start: 39881, Stop: 39534, Start Num: 31

Candidate Starts for Erik\_58:

(8, 40058), (13, 40013), (15, 39995), (Start: 31 @39881 has 12 MA's), (35, 39845), (38, 39818), (Start: 40 @39797 has 3 MA's), (Start: 43 @39776 has 2 MA's), (44, 39761), (47, 39731), (48, 39728), (50, 39713), (54, 39617), (55, 39608), (58, 39551),

Gene: EtoileNova\_71 Start: 44555, Stop: 44142, Start Num: 18

Candidate Starts for EtoileNova\_71:

(10, 44651), (16, 44594), (Start: 18 @44555 has 4 MA's), (21, 44546), (Start: 29 @44483 has 1 MA's), (Start: 31 @44480 has 12 MA's), (33, 44450), (37, 44432), (Start: 40 @44393 has 3 MA's), (Start: 43 @44372 has 2 MA's), (52, 44276), (54, 44219), (57, 44174),

Gene: Grungle\_39 Start: 13010, Stop: 13372, Start Num: 26

Candidate Starts for Grungle\_39:

(1, 12671), (6, 12848), (9, 12860), (14, 12902), (Start: 18 @12953 has 4 MA's), (21, 12962), (Start: 26 @13010 has 10 MA's), (32, 13052), (Start: 43 @13133 has 2 MA's), (46, 13175), (58, 13361),

Gene: Halldule\_42 Start: 13459, Stop: 13821, Start Num: 26

Candidate Starts for Halldule\_42:

(1, 13120), (6, 13297), (9, 13309), (14, 13351), (Start: 18 @13402 has 4 MA's), (21, 13411), (Start: 26 @13459 has 10 MA's), (32, 13501), (Start: 43 @13582 has 2 MA's), (46, 13624), (58, 13810),

Gene: Hutc2\_73 Start: 43599, Stop: 43222, Start Num: 26

Candidate Starts for Hutc2\_73:

(17, 43656), (23, 43632), (Start: 26 @43599 has 10 MA's), (Start: 40 @43497 has 3 MA's), (Start: 43 @43473 has 2 MA's), (44, 43458), (46, 43431), (50, 43410), (52, 43371), (57, 43272), (59, 43239),

Gene: Kalb97\_79 Start: 44548, Stop: 44306, Start Num: 43

Candidate Starts for Kalb97\_79:

(19, 44716), (28, 44656), (39, 44584), (Start: 43 @44548 has 2 MA's), (49, 44488), (50, 44485), (52, 44446), (54, 44383), (57, 44338),

Gene: Louie6\_78 Start: 44948, Stop: 44526, Start Num: 18

Candidate Starts for Louie6\_78:

(Start: 18 @44948 has 4 MA's), (Start: 31 @44873 has 12 MA's), (Start: 36 @44837 has 1 MA's), (Start: 40 @44789 has 3 MA's), (Start: 43 @44768 has 2 MA's), (49, 44708), (50, 44705), (51, 44702), (52, 44666), (54, 44603), (57, 44558),

Gene: Morrow\_71 Start: 44003, Stop: 43701, Start Num: 34

Candidate Starts for Morrow\_71:

(32, 44015), (Start: 34 @44003 has 1 MA's), (Start: 40 @43952 has 3 MA's), (Start: 43 @43931 has 2 MA's), (50, 43874), (53, 43781), (57, 43733),

Gene: Naji\_78 Start: 45602, Stop: 45333, Start Num: 40

Candidate Starts for Naji\_78:

(24, 45719), (25, 45713), (27, 45704), (Start: 40 @45602 has 3 MA's), (41, 45596), (Start: 43 @45578 has 2 MA's), (45, 45551), (46, 45536), (49, 45518), (52, 45476), (54, 45422), (56, 45395), (57, 45377),

Gene: Noella\_73 Start: 44480, Stop: 44139, Start Num: 29

Candidate Starts for Noella\_73:

(Start: 29 @44480 has 1 MA's), (Start: 31 @44477 has 12 MA's), (33, 44447), (37, 44429), (Start: 40 @44390 has 3 MA's), (Start: 43 @44369 has 2 MA's), (52, 44273), (54, 44216), (57, 44171),

Gene: Phrankenstein\_58 Start: 39895, Stop: 39548, Start Num: 31

Candidate Starts for Phrankenstein\_58:

(Start: 31 @39895 has 12 MA's), (35, 39859), (38, 39832), (Start: 40 @39811 has 3 MA's), (Start: 43 @39790 has 2 MA's), (44, 39775), (47, 39745), (48, 39742), (50, 39727), (54, 39631), (55, 39622), (58, 39565),

Gene: Phranny\_75 Start: 43896, Stop: 43474, Start Num: 18

Candidate Starts for Phranny\_75:

(2, 44106), (12, 43962), (Start: 18 @43896 has 4 MA's), (21, 43887), (Start: 31 @43821 has 12 MA's), (Start: 36 @43785 has 1 MA's), (Start: 40 @43737 has 3 MA's), (Start: 43 @43716 has 2 MA's), (49, 43656), (50, 43653), (52, 43614), (54, 43551), (57, 43506),

Gene: Pistachio\_73 Start: 44065, Stop: 43727, Start Num: 31

Candidate Starts for Pistachio\_73:

(Start: 31 @44065 has 12 MA's), (32, 44041), (33, 44035), (37, 44017), (Start: 40 @43978 has 3 MA's), (42, 43963), (Start: 43 @43957 has 2 MA's), (52, 43861), (54, 43804), (57, 43759),

Gene: Priamo\_79 Start: 44200, Stop: 43952, Start Num: 43

Candidate Starts for Priamo\_79:

(Start: 43 @44200 has 2 MA's), (50, 44137), (52, 44098), (55, 44035),

Gene: Rasputin\_58 Start: 39919, Stop: 39572, Start Num: 31

Candidate Starts for Rasputin\_58:

(8, 40096), (13, 40051), (15, 40033), (Start: 31 @39919 has 12 MA's), (35, 39883), (38, 39856), (Start: 40 @39835 has 3 MA's), (Start: 43 @39814 has 2 MA's), (44, 39799), (47, 39769), (48, 39766), (50, 39751), (54, 39655), (55, 39646), (58, 39589),

Gene: Shifa\_214 Start: 131617, Stop: 131877, Start Num: 40

Candidate Starts for Shifa\_214:

(3, 131308), (9, 131365), (14, 131407), (Start: 18 @131458 has 4 MA's), (21, 131467), (Start: 26 @131515 has 10 MA's), (Start: 40 @131617 has 3 MA's), (Start: 43 @131638 has 2 MA's), (46, 131680), (58, 131866),

Gene: Swann\_58 Start: 39947, Stop: 39600, Start Num: 31

Candidate Starts for Swann\_58:

(8, 40124), (13, 40079), (15, 40061), (Start: 31 @39947 has 12 MA's), (35, 39911), (38, 39884), (Start: 40 @39863 has 3 MA's), (Start: 43 @39842 has 2 MA's), (44, 39827), (47, 39797), (48, 39794), (50, 39779), (54, 39683), (55, 39674), (58, 39617),

Gene: Takoda\_58 Start: 40134, Stop: 39787, Start Num: 31

Candidate Starts for Takoda\_58:

(8, 40311), (15, 40248), (Start: 31 @40134 has 12 MA's), (35, 40098), (38, 40071), (Start: 40 @40050 has 3 MA's), (Start: 43 @40029 has 2 MA's), (48, 39981), (54, 39870), (55, 39861), (58, 39804),

Gene: TinyTimmy\_76 Start: 44421, Stop: 44044, Start Num: 26

Candidate Starts for TinyTimmy\_76:

(Start: 26 @44421 has 10 MA's), (Start: 40 @44319 has 3 MA's), (Start: 43 @44295 has 2 MA's), (44, 44280), (46, 44253), (50, 44232), (52, 44193), (57, 44094), (59, 44061),

Gene: Tristan\_72 Start: 46243, Stop: 45872, Start Num: 26

Candidate Starts for Tristan\_72:

(4, 46429), (5, 46417), (11, 46390), (17, 46300), (Start: 26 @46243 has 10 MA's), (Start: 40 @46141 has 3 MA's), (Start: 43 @46117 has 2 MA's), (50, 46054), (52, 46015), (57, 45916),

Gene: UhSalsa\_58 Start: 39888, Stop: 39541, Start Num: 31

Candidate Starts for UhSalsa\_58:

(8, 40065), (13, 40020), (15, 40002), (Start: 31 @39888 has 12 MA's), (35, 39852), (38, 39825), (Start: 40 @39804 has 3 MA's), (Start: 43 @39783 has 2 MA's), (44, 39768), (47, 39738), (48, 39735), (54, 39624), (55, 39615), (58, 39558),

Gene: VC3\_77 Start: 45224, Stop: 44853, Start Num: 26

Candidate Starts for VC3\_77:

(22, 45269), (23, 45257), (Start: 26 @45224 has 10 MA's), (Start: 40 @45122 has 3 MA's), (41, 45116), (Start: 43 @45098 has 2 MA's), (45, 45071), (46, 45056), (49, 45038), (52, 44996), (54, 44942), (56, 44915), (57, 44897),

Gene: Veracruz\_70 Start: 44476, Stop: 44138, Start Num: 31

Candidate Starts for Veracruz\_70:

(Start: 29 @44479 has 1 MA's), (Start: 31 @44476 has 12 MA's), (33, 44446), (37, 44428), (Start: 40 @44389 has 3 MA's), (Start: 43 @44368 has 2 MA's), (52, 44272), (54, 44215), (57, 44170),

Gene: Yogi\_58 Start: 40300, Stop: 39953, Start Num: 31

Candidate Starts for Yogi\_58:

(Start: 31 @40300 has 12 MA's), (35, 40264), (38, 40237), (Start: 40 @40216 has 3 MA's), (Start: 43 @40195 has 2 MA's), (48, 40147), (54, 40036), (55, 40027), (58, 39970),