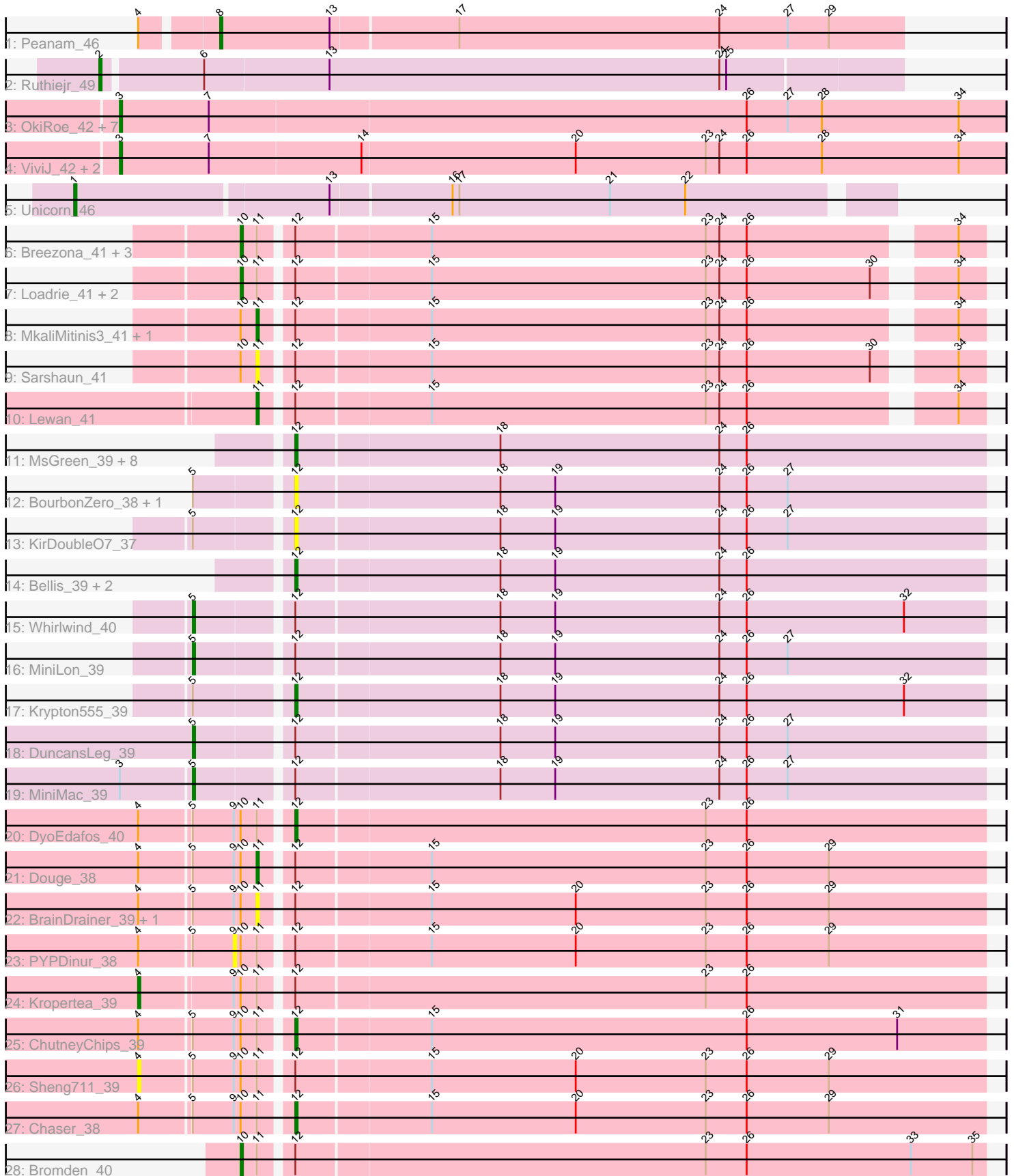


Pham 305054



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 305054 Report

This analysis was run 06/08/26 on database version 649.

Pham number 305054 has 55 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Peanam\_46
- Track 2 : Ruthiejr\_49
- Track 3 : OkiRoe\_42, Heftyboy\_42, Paola\_42, Guillsminger\_43, Gengar\_42, Waterfoul\_43, SoSeph\_42, Miryou\_44
- Track 4 : ViviJ\_42, Collard\_42, InvictusManeo\_42
- Track 5 : Unicorn\_46
- Track 6 : Breezona\_41, Faith1\_41, Rumpelstiltskin\_41, Winky\_41
- Track 7 : Loadrie\_41, Wigglewiggles\_41, Kahlid\_41
- Track 8 : MkaliMitinis3\_41, LilDestine\_41
- Track 9 : Sarshaun\_41
- Track 10 : Lewan\_41
- Track 11 : MsGreen\_39, Jubie\_39, Nicholas\_39, Kingsolomon\_39, Red305\_39, Clautastrophe\_39, TriFive\_39, Lumos\_39, Snenia\_39
- Track 12 : BourbonZero\_38, Ellson\_39
- Track 13 : KirDoubleO7\_37
- Track 14 : Bellis\_39, Moostard\_39, Finnry\_39
- Track 15 : Whirlwind\_40
- Track 16 : MiniLon\_39
- Track 17 : Krypton555\_39
- Track 18 : DuncansLeg\_39
- Track 19 : MiniMac\_39
- Track 20 : DyoEdafos\_40
- Track 21 : Douge\_38
- Track 22 : BrainDrainer\_39, Douzhi\_38
- Track 23 : PYPDinur\_38
- Track 24 : Kropertea\_39
- Track 25 : ChutneyChips\_39
- Track 26 : Sheng711\_39
- Track 27 : Chaser\_38
- Track 28 : Bromden\_40

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

The start number called the most often in the published annotations is 12, it was called in 15 of the 46 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bellis\_39, BourbonZero\_38, Chaser\_38, ChutneyChips\_39, Clautastrophe\_39, DyoEdafos\_40, Ellson\_39, Finnry\_39, Jubie\_39, Kingsolomon\_39, KirDoubleO7\_37, Krypton555\_39, Lumos\_39, Moostard\_39, MsGreen\_39, Nicholas\_39, Red305\_39, Snenia\_39, TriFive\_39,

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

- BrainDrainer\_39, Breezona\_41, Bromden\_40, Douge\_38, Douzhi\_38, DuncansLeg\_39, Faith1\_41, Kahlid\_41, Kropertea\_39, Lewan\_41, LilDestine\_41, Loadrie\_41, MiniLon\_39, MiniMac\_39, MkaliMitinis3\_41, PYPDinur\_38, Rumpelstiltskin\_41, Sarshaun\_41, Sheng711\_39, Whirlwind\_40, Wigglewiggles\_41, Winky\_41,

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

- Collard\_42, Gengar\_42, Guillsminger\_43, Heftyboy\_42, InvictusManeo\_42, Miryou\_44, OkiRoe\_42, Paola\_42, Peanam\_46, Ruthiejr\_49, SoSeph\_42, Unicorn\_46, ViviJ\_42, Waterfoul\_43,

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

Start 1:

- Found in 1 of 55 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 46
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Unicorn\_46 (K6),

Start 2:

- Found in 1 of 55 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 46
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ruthiejr\_49 (K4),

Start 3:

- Found in 12 of 55 ( 21.8% ) of genes in pham
- Manual Annotations of this start: 11 of 46
- Called 91.7% of time when present
- Phage (with cluster) where this start called: Collard\_42 (K5), Gengar\_42 (K5), Guillsminger\_43 (K5), Heftyboy\_42 (K5), InvictusManeo\_42 (K5), Miryou\_44 (K5), OkiRoe\_42 (K5), Paola\_42 (K5), SoSeph\_42 (K5), ViviJ\_42 (K5), Waterfoul\_43 (K5),

Start 4:

- Found in 10 of 55 ( 18.2% ) of genes in pham
- Manual Annotations of this start: 1 of 46
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Kropertea\_39 (L4), Sheng711\_39 (L4),

Start 5:

- Found in 16 of 55 ( 29.1% ) of genes in pham
- Manual Annotations of this start: 4 of 46
- Called 25.0% of time when present

- Phage (with cluster) where this start called: DuncansLeg\_39 (L3), MiniLon\_39 (L3), MiniMac\_39 (L3), Whirlwind\_40 (L3),

Start 8:

- Found in 1 of 55 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 46
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Peanam\_46 (K1),

Start 9:

- Found in 9 of 55 ( 16.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 11.1% of time when present
- Phage (with cluster) where this start called: PYPDinur\_38 (L4),

Start 10:

- Found in 20 of 55 ( 36.4% ) of genes in pham
- Manual Annotations of this start: 8 of 46
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Breezona\_41 (L2), Bromden\_40 (L4), Faith1\_41 (L2), Kahlid\_41 (L2), Loadrie\_41 (L2), Rumpelstiltskin\_41 (L2), Wigglewiggles\_41 (L2), Winky\_41 (L2),

Start 11:

- Found in 21 of 55 ( 38.2% ) of genes in pham
- Manual Annotations of this start: 4 of 46
- Called 33.3% of time when present
- Phage (with cluster) where this start called: BrainDrainer\_39 (L4), Douge\_38 (L4), Douzhi\_38 (L4), Lewan\_41 (L2), LilDestine\_41 (L2), MkaliMitinis3\_41 (L2), Sarshaun\_41 (L2),

Start 12:

- Found in 41 of 55 ( 74.5% ) of genes in pham
- Manual Annotations of this start: 15 of 46
- Called 46.3% of time when present
- Phage (with cluster) where this start called: Bellis\_39 (L3), BourbonZero\_38 (L3), Chaser\_38 (L4), ChutneyChips\_39 (L4), Clautastrophe\_39 (L3), DyoEdafos\_40 (L4), Ellson\_39 (L3), Finnry\_39 (L3), Jubie\_39 (L3), Kingsolomon\_39 (L3), KirDoubleO7\_37 (L3), Krypton555\_39 (L3), Lumos\_39 (L3), Moostard\_39 (L3), MsGreen\_39 (L3), Nicholas\_39 (L3), Red305\_39 (L3), Snenia\_39 (L3), TriFive\_39 (L3),

### Summary by clusters:

There are 7 clusters represented in this pham: K1, L4, L2, L3, K5, K4, K6,

Info for manual annotations of cluster K1:

- Start number 8 was manually annotated 1 time for cluster K1.

Info for manual annotations of cluster K4:

- Start number 2 was manually annotated 1 time for cluster K4.

Info for manual annotations of cluster K5:

- Start number 3 was manually annotated 11 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 1 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster L2:

- Start number 10 was manually annotated 7 times for cluster L2.
- Start number 11 was manually annotated 3 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 5 was manually annotated 4 times for cluster L3.
- Start number 12 was manually annotated 12 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 4 was manually annotated 1 time for cluster L4.
- Start number 10 was manually annotated 1 time for cluster L4.
- Start number 11 was manually annotated 1 time for cluster L4.
- Start number 12 was manually annotated 3 times for cluster L4.

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

Gene: Bellis\_39 Start: 34657, Stop: 34956, Start Num: 12

Candidate Starts for Bellis\_39:

(Start: 12 @34657 has 15 MA's), (18, 34744), (19, 34768), (24, 34840), (26, 34852),

Gene: BourbonZero\_38 Start: 34636, Stop: 34935, Start Num: 12

Candidate Starts for BourbonZero\_38:

(Start: 5 @34597 has 4 MA's), (Start: 12 @34636 has 15 MA's), (18, 34723), (19, 34747), (24, 34819), (26, 34831), (27, 34849),

Gene: BrainDrainer\_39 Start: 33307, Stop: 33618, Start Num: 11

Candidate Starts for BrainDrainer\_39:

(Start: 4 @33259 has 1 MA's), (Start: 5 @33280 has 4 MA's), (9, 33298), (Start: 10 @33301 has 8 MA's), (Start: 11 @33307 has 4 MA's), (Start: 12 @33319 has 15 MA's), (15, 33376), (20, 33439), (23, 33496), (26, 33514), (29, 33550),

Gene: Breezona\_41 Start: 34392, Stop: 34697, Start Num: 10

Candidate Starts for Breezona\_41:

(Start: 10 @34392 has 8 MA's), (Start: 11 @34398 has 4 MA's), (Start: 12 @34410 has 15 MA's), (15, 34467), (23, 34587), (24, 34593), (26, 34605), (34, 34686),

Gene: Bromden\_40 Start: 33855, Stop: 34172, Start Num: 10

Candidate Starts for Bromden\_40:

(Start: 10 @33855 has 8 MA's), (Start: 11 @33861 has 4 MA's), (Start: 12 @33873 has 15 MA's), (23, 34050), (26, 34068), (33, 34140), (35, 34167),

Gene: Chaser\_38 Start: 33136, Stop: 33435, Start Num: 12

Candidate Starts for Chaser\_38:

(Start: 4 @33076 has 1 MA's), (Start: 5 @33097 has 4 MA's), (9, 33115), (Start: 10 @33118 has 8 MA's), (Start: 11 @33124 has 4 MA's), (Start: 12 @33136 has 15 MA's), (15, 33193), (20, 33256), (23, 33313), (26, 33331), (29, 33367),

Gene: ChutneyChips\_39 Start: 33316, Stop: 33615, Start Num: 12

Candidate Starts for ChutneyChips\_39:

(Start: 4 @33256 has 1 MA's), (Start: 5 @33277 has 4 MA's), (9, 33295), (Start: 10 @33298 has 8 MA's), (Start: 11 @33304 has 4 MA's), (Start: 12 @33316 has 15 MA's), (15, 33373), (26, 33511), (31, 33577),

Gene: Clautastrophe\_39 Start: 34655, Stop: 34954, Start Num: 12

Candidate Starts for Clautastrophe\_39:

(Start: 12 @34655 has 15 MA's), (18, 34742), (24, 34838), (26, 34850),

Gene: Collard\_42 Start: 34585, Stop: 34971, Start Num: 3

Candidate Starts for Collard\_42:

(Start: 3 @34585 has 11 MA's), (7, 34624), (14, 34690), (20, 34783), (23, 34840), (24, 34846), (26, 34858), (28, 34891), (34, 34951),

Gene: Douge\_38 Start: 33062, Stop: 33373, Start Num: 11

Candidate Starts for Douge\_38:

(Start: 4 @33014 has 1 MA's), (Start: 5 @33035 has 4 MA's), (9, 33053), (Start: 10 @33056 has 8 MA's), (Start: 11 @33062 has 4 MA's), (Start: 12 @33074 has 15 MA's), (15, 33131), (23, 33251), (26, 33269), (29, 33305),

Gene: Douzhi\_38 Start: 33168, Stop: 33479, Start Num: 11

Candidate Starts for Douzhi\_38:

(Start: 4 @33120 has 1 MA's), (Start: 5 @33141 has 4 MA's), (9, 33159), (Start: 10 @33162 has 8 MA's), (Start: 11 @33168 has 4 MA's), (Start: 12 @33180 has 15 MA's), (15, 33237), (20, 33300), (23, 33357), (26, 33375), (29, 33411),

Gene: DuncansLeg\_39 Start: 34634, Stop: 34972, Start Num: 5

Candidate Starts for DuncansLeg\_39:

(Start: 5 @34634 has 4 MA's), (Start: 12 @34673 has 15 MA's), (18, 34760), (19, 34784), (24, 34856), (26, 34868), (27, 34886),

Gene: DyoEdafos\_40 Start: 33408, Stop: 33707, Start Num: 12

Candidate Starts for DyoEdafos\_40:

(Start: 4 @33348 has 1 MA's), (Start: 5 @33369 has 4 MA's), (9, 33387), (Start: 10 @33390 has 8 MA's), (Start: 11 @33396 has 4 MA's), (Start: 12 @33408 has 15 MA's), (23, 33585), (26, 33603),

Gene: Ellson\_39 Start: 34649, Stop: 34948, Start Num: 12

Candidate Starts for Ellson\_39:

(Start: 5 @34610 has 4 MA's), (Start: 12 @34649 has 15 MA's), (18, 34736), (19, 34760), (24, 34832), (26, 34844), (27, 34862),

Gene: Faith1\_41 Start: 34392, Stop: 34697, Start Num: 10

Candidate Starts for Faith1\_41:

(Start: 10 @34392 has 8 MA's), (Start: 11 @34398 has 4 MA's), (Start: 12 @34410 has 15 MA's), (15, 34467), (23, 34587), (24, 34593), (26, 34605), (34, 34686),

Gene: Finnry\_39 Start: 34658, Stop: 34957, Start Num: 12

Candidate Starts for Finnry\_39:

(Start: 12 @34658 has 15 MA's), (18, 34745), (19, 34769), (24, 34841), (26, 34853),

Gene: Gengar\_42 Start: 34445, Stop: 34831, Start Num: 3

Candidate Starts for Gengar\_42:

(Start: 3 @34445 has 11 MA's), (7, 34484), (26, 34718), (27, 34736), (28, 34751), (34, 34811),

Gene: Guillsminger\_43 Start: 34416, Stop: 34802, Start Num: 3

Candidate Starts for Guillsminger\_43:

(Start: 3 @34416 has 11 MA's), (7, 34455), (26, 34689), (27, 34707), (28, 34722), (34, 34782),

Gene: Heftyboy\_42 Start: 34566, Stop: 34952, Start Num: 3

Candidate Starts for Heftyboy\_42:

(Start: 3 @34566 has 11 MA's), (7, 34605), (26, 34839), (27, 34857), (28, 34872), (34, 34932),

Gene: InvictusManeo\_42 Start: 34628, Stop: 35014, Start Num: 3

Candidate Starts for InvictusManeo\_42:

(Start: 3 @34628 has 11 MA's), (7, 34667), (14, 34733), (20, 34826), (23, 34883), (24, 34889), (26, 34901), (28, 34934), (34, 34994),

Gene: Jubie\_39 Start: 34656, Stop: 34955, Start Num: 12

Candidate Starts for Jubie\_39:

(Start: 12 @34656 has 15 MA's), (18, 34743), (24, 34839), (26, 34851),

Gene: Kahlid\_41 Start: 34398, Stop: 34703, Start Num: 10

Candidate Starts for Kahlid\_41:

(Start: 10 @34398 has 8 MA's), (Start: 11 @34404 has 4 MA's), (Start: 12 @34416 has 15 MA's), (15, 34473), (23, 34593), (24, 34599), (26, 34611), (30, 34665), (34, 34692),

Gene: Kingsolomon\_39 Start: 34655, Stop: 34954, Start Num: 12

Candidate Starts for Kingsolomon\_39:

(Start: 12 @34655 has 15 MA's), (18, 34742), (24, 34838), (26, 34850),

Gene: KirDoubleO7\_37 Start: 34677, Stop: 34976, Start Num: 12

Candidate Starts for KirDoubleO7\_37:

(Start: 5 @34638 has 4 MA's), (Start: 12 @34677 has 15 MA's), (18, 34764), (19, 34788), (24, 34860), (26, 34872), (27, 34890),

Gene: Kropertea\_39 Start: 33171, Stop: 33530, Start Num: 4

Candidate Starts for Kropertea\_39:

(Start: 4 @33171 has 1 MA's), (9, 33210), (Start: 10 @33213 has 8 MA's), (Start: 11 @33219 has 4 MA's), (Start: 12 @33231 has 15 MA's), (23, 33408), (26, 33426),

Gene: Krypton555\_39 Start: 34572, Stop: 34871, Start Num: 12

Candidate Starts for Krypton555\_39:

(Start: 5 @34533 has 4 MA's), (Start: 12 @34572 has 15 MA's), (18, 34659), (19, 34683), (24, 34755), (26, 34767), (32, 34836),

Gene: Lewan\_41 Start: 34391, Stop: 34690, Start Num: 11

Candidate Starts for Lewan\_41:

(Start: 11 @34391 has 4 MA's), (Start: 12 @34403 has 15 MA's), (15, 34460), (23, 34580), (24, 34586), (26, 34598), (34, 34679),

Gene: LilDestine\_41 Start: 34396, Stop: 34695, Start Num: 11

Candidate Starts for LilDestine\_41:

(Start: 10 @34390 has 8 MA's), (Start: 11 @34396 has 4 MA's), (Start: 12 @34408 has 15 MA's), (15, 34465), (23, 34585), (24, 34591), (26, 34603), (34, 34684),

Gene: Loadrie\_41 Start: 34424, Stop: 34729, Start Num: 10

Candidate Starts for Loadrie\_41:

(Start: 10 @34424 has 8 MA's), (Start: 11 @34430 has 4 MA's), (Start: 12 @34442 has 15 MA's), (15, 34499), (23, 34619), (24, 34625), (26, 34637), (30, 34691), (34, 34718),

Gene: Lumos\_39 Start: 34652, Stop: 34951, Start Num: 12

Candidate Starts for Lumos\_39:

(Start: 12 @34652 has 15 MA's), (18, 34739), (24, 34835), (26, 34847),

Gene: MiniLon\_39 Start: 34425, Stop: 34763, Start Num: 5

Candidate Starts for MiniLon\_39:

(Start: 5 @34425 has 4 MA's), (Start: 12 @34464 has 15 MA's), (18, 34551), (19, 34575), (24, 34647), (26, 34659), (27, 34677),

Gene: MiniMac\_39 Start: 34422, Stop: 34760, Start Num: 5

Candidate Starts for MiniMac\_39:

(Start: 3 @34392 has 11 MA's), (Start: 5 @34422 has 4 MA's), (Start: 12 @34461 has 15 MA's), (18, 34548), (19, 34572), (24, 34644), (26, 34656), (27, 34674),

Gene: Miryou\_44 Start: 36748, Stop: 37134, Start Num: 3

Candidate Starts for Miryou\_44:

(Start: 3 @36748 has 11 MA's), (7, 36787), (26, 37021), (27, 37039), (28, 37054), (34, 37114),

Gene: MkaliMitinis3\_41 Start: 34400, Stop: 34699, Start Num: 11

Candidate Starts for MkaliMitinis3\_41:

(Start: 10 @34394 has 8 MA's), (Start: 11 @34400 has 4 MA's), (Start: 12 @34412 has 15 MA's), (15, 34469), (23, 34589), (24, 34595), (26, 34607), (34, 34688),

Gene: Moostard\_39 Start: 34657, Stop: 34956, Start Num: 12

Candidate Starts for Moostard\_39:

(Start: 12 @34657 has 15 MA's), (18, 34744), (19, 34768), (24, 34840), (26, 34852),

Gene: MsGreen\_39 Start: 34655, Stop: 34954, Start Num: 12

Candidate Starts for MsGreen\_39:

(Start: 12 @34655 has 15 MA's), (18, 34742), (24, 34838), (26, 34850),

Gene: Nicholas\_39 Start: 34655, Stop: 34954, Start Num: 12

Candidate Starts for Nicholas\_39:

(Start: 12 @34655 has 15 MA's), (18, 34742), (24, 34838), (26, 34850),

Gene: OkiRoe\_42 Start: 34418, Stop: 34804, Start Num: 3

Candidate Starts for OkiRoe\_42:

(Start: 3 @34418 has 11 MA's), (7, 34457), (26, 34691), (27, 34709), (28, 34724), (34, 34784),

Gene: PYPDinur\_38 Start: 33159, Stop: 33479, Start Num: 9

Candidate Starts for PYPDinur\_38:

(Start: 4 @33120 has 1 MA's), (Start: 5 @33141 has 4 MA's), (9, 33159), (Start: 10 @33162 has 8 MA's), (Start: 11 @33168 has 4 MA's), (Start: 12 @33180 has 15 MA's), (15, 33237), (20, 33300), (23, 33357), (26, 33375), (29, 33411),

Gene: Paola\_42 Start: 34416, Stop: 34802, Start Num: 3

Candidate Starts for Paola\_42:

(Start: 3 @34416 has 11 MA's), (7, 34455), (26, 34689), (27, 34707), (28, 34722), (34, 34782),

Gene: Peanam\_46 Start: 35828, Stop: 36124, Start Num: 8

Candidate Starts for Peanam\_46:

(Start: 4 @35798 has 1 MA's), (Start: 8 @35828 has 1 MA's), (13, 35876), (17, 35930), (24, 36044), (27, 36074), (29, 36092),

Gene: Red305\_39 Start: 34655, Stop: 34954, Start Num: 12

Candidate Starts for Red305\_39:

(Start: 12 @34655 has 15 MA's), (18, 34742), (24, 34838), (26, 34850),

Gene: Rumpelstiltskin\_41 Start: 34659, Stop: 34964, Start Num: 10

Candidate Starts for Rumpelstiltskin\_41:

(Start: 10 @34659 has 8 MA's), (Start: 11 @34665 has 4 MA's), (Start: 12 @34677 has 15 MA's), (15, 34734), (23, 34854), (24, 34860), (26, 34872), (34, 34953),

Gene: Ruthiejr\_49 Start: 36035, Stop: 36379, Start Num: 2

Candidate Starts for Ruthiejr\_49:

(Start: 2 @36035 has 1 MA's), (6, 36077), (13, 36131), (24, 36302), (25, 36305),

Gene: Sarshaun\_41 Start: 34432, Stop: 34731, Start Num: 11

Candidate Starts for Sarshaun\_41:

(Start: 10 @34426 has 8 MA's), (Start: 11 @34432 has 4 MA's), (Start: 12 @34444 has 15 MA's), (15, 34501), (23, 34621), (24, 34627), (26, 34639), (30, 34693), (34, 34720),

Gene: Sheng711\_39 Start: 33120, Stop: 33479, Start Num: 4

Candidate Starts for Sheng711\_39:

(Start: 4 @33120 has 1 MA's), (Start: 5 @33141 has 4 MA's), (9, 33159), (Start: 10 @33162 has 8 MA's), (Start: 11 @33168 has 4 MA's), (Start: 12 @33180 has 15 MA's), (15, 33237), (20, 33300), (23, 33357), (26, 33375), (29, 33411),

Gene: Snenia\_39 Start: 34656, Stop: 34955, Start Num: 12

Candidate Starts for Snenia\_39:

(Start: 12 @34656 has 15 MA's), (18, 34743), (24, 34839), (26, 34851),

Gene: SoSeph\_42 Start: 34566, Stop: 34952, Start Num: 3

Candidate Starts for SoSeph\_42:

(Start: 3 @34566 has 11 MA's), (7, 34605), (26, 34839), (27, 34857), (28, 34872), (34, 34932),

Gene: TriFive\_39 Start: 34655, Stop: 34954, Start Num: 12

Candidate Starts for TriFive\_39:

(Start: 12 @34655 has 15 MA's), (18, 34742), (24, 34838), (26, 34850),

Gene: Unicorn\_46 Start: 35029, Stop: 35373, Start Num: 1

Candidate Starts for Unicorn\_46:

(Start: 1 @35029 has 1 MA's), (13, 35137), (16, 35188), (17, 35191), (21, 35257), (22, 35290),

Gene: ViviJ\_42 Start: 34385, Stop: 34771, Start Num: 3

Candidate Starts for ViviJ\_42:

(Start: 3 @34385 has 11 MA's), (7, 34424), (14, 34490), (20, 34583), (23, 34640), (24, 34646), (26, 34658), (28, 34691), (34, 34751),

Gene: Waterfoul\_43 Start: 34659, Stop: 35045, Start Num: 3

Candidate Starts for Waterfoul\_43:

(Start: 3 @34659 has 11 MA's), (7, 34698), (26, 34932), (27, 34950), (28, 34965), (34, 35025),

Gene: Whirlwind\_40 Start: 34375, Stop: 34713, Start Num: 5

Candidate Starts for Whirlwind\_40:

(Start: 5 @34375 has 4 MA's), (Start: 12 @34414 has 15 MA's), (18, 34501), (19, 34525), (24, 34597), (26, 34609), (32, 34678),

Gene: Wigglewobble\_41 Start: 34425, Stop: 34730, Start Num: 10

Candidate Starts for Wigglewobble\_41:

(Start: 10 @34425 has 8 MA's), (Start: 11 @34431 has 4 MA's), (Start: 12 @34443 has 15 MA's), (15, 34500), (23, 34620), (24, 34626), (26, 34638), (30, 34692), (34, 34719),

Gene: Winky\_41 Start: 34392, Stop: 34697, Start Num: 10

Candidate Starts for Winky\_41:

(Start: 10 @34392 has 8 MA's), (Start: 11 @34398 has 4 MA's), (Start: 12 @34410 has 15 MA's), (15, 34467), (23, 34587), (24, 34593), (26, 34605), (34, 34686),