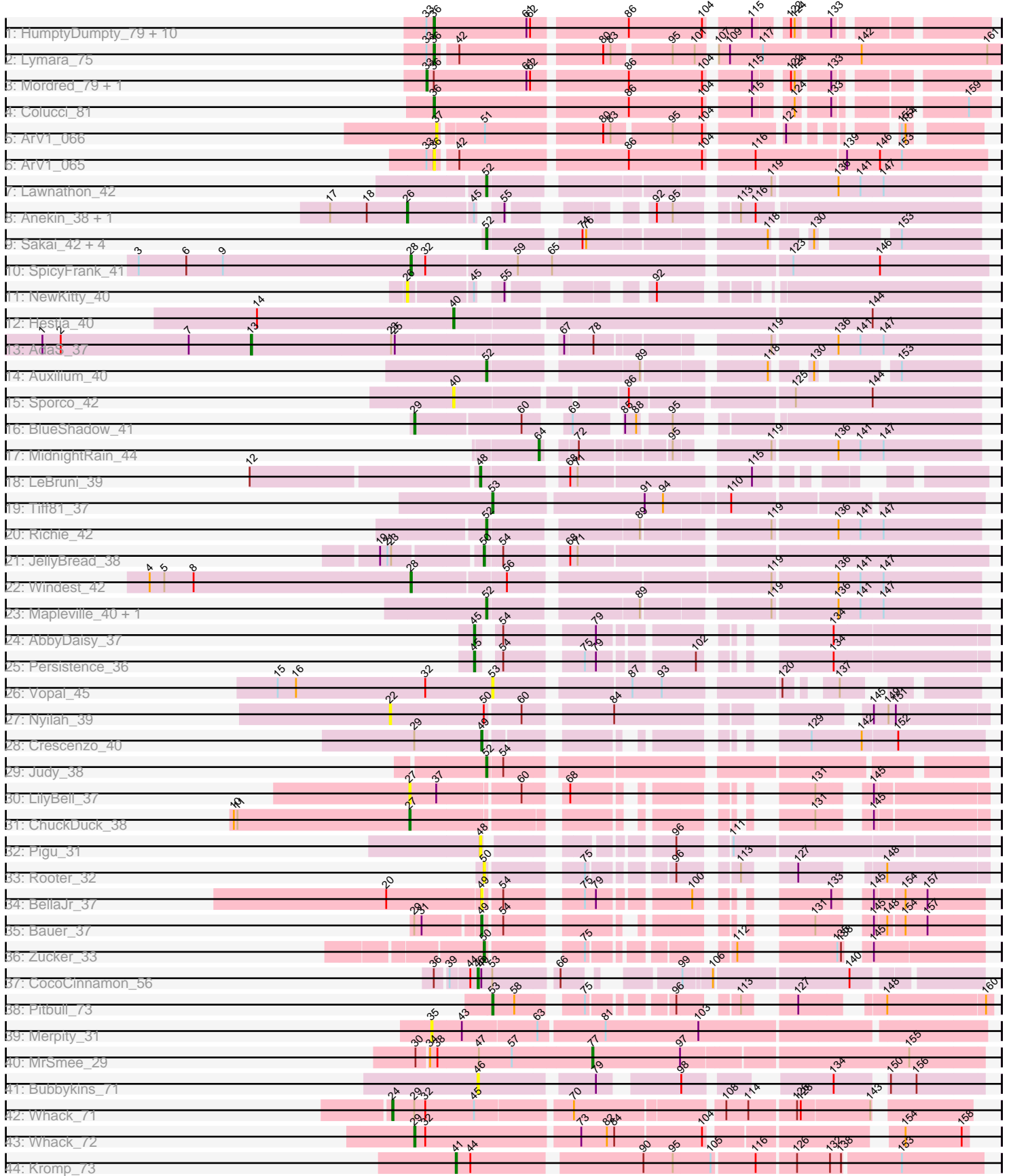


Pham 303380



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 303380 Report

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

Pham number 303380 has 61 members, 13 are drafts.

Phages represented in each track:

- Track 1 : HumptyDumpty\_79, Chocolat\_79, RosiePosie\_79, Linus\_79, EdgarPoe\_78, Scavito\_80, Chipper1996\_800, Chubster\_80, Kabreeze\_79, PrincessTrina\_80, Tophat\_80
- Track 2 : Lymara\_75
- Track 3 : Mordred\_79, JaNo\_78
- Track 4 : Colucci\_81
- Track 5 : ArV1\_066
- Track 6 : ArV1\_065
- Track 7 : Lawnathon\_42
- Track 8 : Anekin\_38, DarwinJr\_44
- Track 9 : Sakai\_42, Gorpy\_43, YoungHarleezy\_42, Aikyam\_39, MaterMagnus\_42
- Track 10 : SpicyFrank\_41
- Track 11 : NewKitty\_40
- Track 12 : Hestia\_40
- Track 13 : AdaS\_37
- Track 14 : Auxilium\_40
- Track 15 : Sporco\_42
- Track 16 : BlueShadow\_41
- Track 17 : MidnightRain\_44
- Track 18 : LeBruni\_39
- Track 19 : Tiff81\_37
- Track 20 : Richie\_42
- Track 21 : JellyBread\_38
- Track 22 : Windest\_42
- Track 23 : Mapleville\_40, Isolde\_43
- Track 24 : AbbyDaisy\_37
- Track 25 : Persistence\_36
- Track 26 : Vopal\_45
- Track 27 : Nyilah\_39
- Track 28 : Crescenzo\_40
- Track 29 : Judy\_38
- Track 30 : LilyBell\_37
- Track 31 : ChuckDuck\_38
- Track 32 : Pigu\_31
- Track 33 : Rooter\_32
- Track 34 : BellaJr\_37
- Track 35 : Bauer\_37

- Track 36 : Zucker\_33
- Track 37 : CocoCinnamon\_56
- Track 38 : Pitbull\_73
- Track 39 : Merpity\_31
- Track 40 : MrSmee\_29
- Track 41 : Bubbykins\_71
- Track 42 : Whack\_71
- Track 43 : Whack\_72
- Track 44 : Kromp\_73

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

The start number called the most often in the published annotations is 36, it was called in 13 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ArV1\_065, Chipper1996\_800, Chocolat\_79, Chubster\_80, Colucci\_81, EdgarPoe\_78, HumptyDumpty\_79, Kabreeze\_79, Linus\_79, Lymara\_75, PrincessTrina\_80, RosiePosie\_79, Scavito\_80, Tophat\_80,

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

- CocoCinnamon\_56, JaNo\_78, Mordred\_79,

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

- AbbyDaisy\_37, AdaS\_37, Aikyam\_39, Anekin\_38, ArV1\_066, Auxilium\_40, Bauer\_37, BellaJr\_37, BlueShadow\_41, Bubbykins\_71, ChuckDuck\_38, Crescenzo\_40, DarwinJr\_44, Gorpy\_43, Hestia\_40, Isolde\_43, JellyBread\_38, Judy\_38, Kromp\_73, Lawnathon\_42, LeBruni\_39, LilyBell\_37, Mapleville\_40, MaterMagnus\_42, Merpity\_31, MidnightRain\_44, MrSmee\_29, NewKitty\_40, Nyilah\_39, Persistence\_36, Pigu\_31, Pitbull\_73, Richie\_42, Rooter\_32, Sakai\_42, SpicyFrank\_41, Sporco\_42, Tiff81\_37, Vopal\_45, Whack\_71, Whack\_72, Windest\_42, YoungHarleezy\_42, Zucker\_33,

**Summary by start number:**

Start 13:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AdaS\_37 (AY),

Start 22:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nyilah\_39 (AY),

Start 24:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 48

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Whack\_71 (singleton),

#### Start 26:

- Found in 3 of 61 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anekin\_38 (AY), DarwinJr\_44 (AY), NewKitty\_40 (AY),

#### Start 27:

- Found in 2 of 61 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChuckDuck\_38 (FA), LilyBell\_37 (FA),

#### Start 28:

- Found in 2 of 61 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SpicyFrank\_41 (AY), Windest\_42 (AY),

#### Start 29:

- Found in 5 of 61 ( 8.2% ) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 40.0% of time when present
- Phage (with cluster) where this start called: BlueShadow\_41 (AY), Whack\_72 (singleton),

#### Start 33:

- Found in 15 of 61 ( 24.6% ) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 13.3% of time when present
- Phage (with cluster) where this start called: JaNo\_78 (AR), Mordred\_79 (AR),

#### Start 35:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Merpity\_31 (FQ),

#### Start 36:

- Found in 17 of 61 ( 27.9% ) of genes in pham
- Manual Annotations of this start: 13 of 48
- Called 82.4% of time when present
- Phage (with cluster) where this start called: ArV1\_065 (AR), Chipper1996\_800 (AR), Chocolat\_79 (AR), Chubster\_80 (AR), Colucci\_81 (AR), EdgarPoe\_78 (AR), HumptyDumpty\_79 (AR), Kabreeze\_79 (AR), Linus\_79 (AR), Lymara\_75 (AR), PrincessTrina\_80 (AR), RosiePosie\_79 (AR), Scavito\_80 (AR), Tophat\_80 (AR),

#### Start 37:

- Found in 2 of 61 ( 3.3% ) of genes in pham
- No Manual Annotations of this start.

- Called 50.0% of time when present
- Phage (with cluster) where this start called: ArV1\_066 (AR),

Start 40:

- Found in 2 of 61 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hestia\_40 (AY), Sporco\_42 (AY),

Start 41:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kromp\_73 (singleton),

Start 45:

- Found in 6 of 61 ( 9.8% ) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 33.3% of time when present
- Phage (with cluster) where this start called: AbbyDaisy\_37 (AY), Persistence\_36 (AY),

Start 46:

- Found in 2 of 61 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bubbykins\_71 (UNK), CocoCinnamon\_56 (FO),

Start 48:

- Found in 2 of 61 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LeBruni\_39 (AY), Pigu\_31 (FB),

Start 49:

- Found in 4 of 61 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Bauer\_37 (FN), BellaJr\_37 (FN), Crescenzo\_40 (AY),

Start 50:

- Found in 4 of 61 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 75.0% of time when present
- Phage (with cluster) where this start called: JellyBread\_38 (AY), Rooter\_32 (FB), Zucker\_33 (FN),

Start 52:

- Found in 11 of 61 ( 18.0% ) of genes in pham
- Manual Annotations of this start: 10 of 48
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Aikyam\_39 (AY), Auxilium\_40 (AY), Gorpy\_43 (AY), Isolde\_43 (AY), Judy\_38 (FA), Lawnathon\_42 (AY), Mapleville\_40 (AY), MaterMagnus\_42 (AY), Richie\_42 (AY), Sakai\_42 (AY), YoungHarleezy\_42 (AY),

Start 53:

- Found in 4 of 61 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Pitbull\_73 (FQ), Tiff81\_37 (AY), Vopal\_45 (AY),

Start 64:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MidnightRain\_44 (AY),

Start 77:

- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MrSmee\_29 (FQ),

**Summary by clusters:**

There are 9 clusters represented in this pham: FQ, singleton, FA, FB, AR, AY, UNK, FN, FO,

Info for manual annotations of cluster AR:

- Start number 33 was manually annotated 2 times for cluster AR.
- Start number 36 was manually annotated 13 times for cluster AR.

Info for manual annotations of cluster AY:

- Start number 13 was manually annotated 1 time for cluster AY.
- Start number 26 was manually annotated 2 times for cluster AY.
- Start number 28 was manually annotated 2 times for cluster AY.
- Start number 29 was manually annotated 1 time for cluster AY.
- Start number 40 was manually annotated 1 time for cluster AY.
- Start number 45 was manually annotated 2 times for cluster AY.
- Start number 48 was manually annotated 1 time for cluster AY.
- Start number 49 was manually annotated 1 time for cluster AY.
- Start number 50 was manually annotated 1 time for cluster AY.
- Start number 52 was manually annotated 9 times for cluster AY.
- Start number 53 was manually annotated 1 time for cluster AY.
- Start number 64 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster FA:

- Start number 27 was manually annotated 1 time for cluster FA.
- Start number 52 was manually annotated 1 time for cluster FA.

Info for manual annotations of cluster FN:

- Start number 49 was manually annotated 1 time for cluster FN.
- Start number 50 was manually annotated 1 time for cluster FN.

Info for manual annotations of cluster FO:

- Start number 46 was manually annotated 1 time for cluster FO.

Info for manual annotations of cluster FQ:

- Start number 53 was manually annotated 1 time for cluster FQ.
- Start number 77 was manually annotated 1 time for cluster FQ.

### **Gene Information:**

Gene: AbbyDaisy\_37 Start: 27733, Stop: 27410, Start Num: 45

Candidate Starts for AbbyDaisy\_37:

(Start: 45 @27733 has 2 MA's), (54, 27721), (79, 27661), (134, 27529),

Gene: AdaS\_37 Start: 26390, Stop: 25854, Start Num: 13

Candidate Starts for AdaS\_37:

(1, 26561), (2, 26546), (7, 26441), (Start: 13 @26390 has 1 MA's), (23, 26276), (25, 26273), (67, 26153), (78, 26132), (119, 26018), (136, 25967), (141, 25949), (147, 25931),

Gene: Aikyam\_39 Start: 26132, Stop: 25803, Start Num: 52

Candidate Starts for Aikyam\_39:

(Start: 52 @26132 has 10 MA's), (74, 26069), (76, 26066), (118, 25937), (130, 25916), (153, 25865),

Gene: Anekin\_38 Start: 27545, Stop: 27171, Start Num: 26

Candidate Starts for Anekin\_38:

(17, 27608), (18, 27578), (Start: 26 @27545 has 2 MA's), (Start: 45 @27494 has 2 MA's), (55, 27482), (92, 27407), (95, 27395), (113, 27356), (116, 27344),

Gene: ArV1\_066 Start: 50683, Stop: 51042, Start Num: 37

Candidate Starts for ArV1\_066:

(37, 50683), (51, 50716), (80, 50803), (83, 50809), (95, 50854), (104, 50878), (121, 50929), (153, 50989), (154, 50992),

Gene: ArV1\_065 Start: 50268, Stop: 50690, Start Num: 36

Candidate Starts for ArV1\_065:

(Start: 33 @50262 has 2 MA's), (Start: 36 @50268 has 13 MA's), (42, 50283), (86, 50412), (104, 50472), (116, 50505), (139, 50577), (146, 50604), (153, 50622),

Gene: Auxilium\_40 Start: 25834, Stop: 25505, Start Num: 52

Candidate Starts for Auxilium\_40:

(Start: 52 @25834 has 10 MA's), (89, 25726), (118, 25639), (130, 25618), (153, 25567),

Gene: Bauer\_37 Start: 26477, Stop: 26764, Start Num: 49

Candidate Starts for Bauer\_37:

(Start: 29 @26429 has 2 MA's), (31, 26435), (Start: 49 @26477 has 2 MA's), (54, 26489), (131, 26654), (145, 26681), (148, 26690), (154, 26702), (157, 26720),

Gene: BellaJr\_37 Start: 27529, Stop: 27828, Start Num: 49

Candidate Starts for BellaJr\_37:

(20, 27454), (Start: 49 @27529 has 2 MA's), (54, 27541), (75, 27592), (79, 27601), (100, 27664), (133, 27730), (145, 27745), (154, 27766), (157, 27784),

Gene: BlueShadow\_41 Start: 28230, Stop: 27841, Start Num: 29

Candidate Starts for BlueShadow\_41:

(Start: 29 @28230 has 2 MA's), (60, 28146), (69, 28125), (85, 28095), (88, 28086), (95, 28065),

Gene: Bubbykins\_71 Start: 48965, Stop: 49300, Start Num: 46

Candidate Starts for Bubbykins\_71:

(Start: 46 @48965 has 1 MA's), (79, 49049), (98, 49103), (134, 49193), (150, 49226), (156, 49247),

Gene: Chipper1996\_800 Start: 51561, Stop: 51953, Start Num: 36

Candidate Starts for Chipper1996\_800:

(Start: 33 @51555 has 2 MA's), (Start: 36 @51561 has 13 MA's), (61, 51636), (62, 51639), (86, 51711), (104, 51771), (115, 51801), (122, 51822), (124, 51825), (133, 51849),

Gene: Chocolat\_79 Start: 51268, Stop: 51660, Start Num: 36

Candidate Starts for Chocolat\_79:

(Start: 33 @51262 has 2 MA's), (Start: 36 @51268 has 13 MA's), (61, 51343), (62, 51346), (86, 51418), (104, 51478), (115, 51508), (122, 51529), (124, 51532), (133, 51556),

Gene: Chubster\_80 Start: 51962, Stop: 52354, Start Num: 36

Candidate Starts for Chubster\_80:

(Start: 33 @51956 has 2 MA's), (Start: 36 @51962 has 13 MA's), (61, 52037), (62, 52040), (86, 52112), (104, 52172), (115, 52202), (122, 52223), (124, 52226), (133, 52250),

Gene: ChuckDuck\_38 Start: 26145, Stop: 26492, Start Num: 27

Candidate Starts for ChuckDuck\_38:

(10, 26001), (11, 26004), (Start: 27 @26145 has 1 MA's), (131, 26379), (145, 26406),

Gene: CocoCinnamon\_56 Start: 35240, Stop: 35584, Start Num: 46

Candidate Starts for CocoCinnamon\_56:

(Start: 36 @35210 has 13 MA's), (39, 35219), (44, 35234), (Start: 46 @35240 has 1 MA's), (Start: 49 @35243 has 2 MA's), (Start: 53 @35252 has 2 MA's), (66, 35300), (99, 35366), (106, 35387), (140, 35492),

Gene: Colucci\_81 Start: 51910, Stop: 52302, Start Num: 36

Candidate Starts for Colucci\_81:

(Start: 36 @51910 has 13 MA's), (86, 52060), (104, 52120), (115, 52150), (124, 52174), (133, 52198), (159, 52285),

Gene: Crescenzo\_40 Start: 28602, Stop: 28297, Start Num: 49

Candidate Starts for Crescenzo\_40:

(Start: 29 @28656 has 2 MA's), (Start: 49 @28602 has 2 MA's), (129, 28431), (142, 28392), (152, 28365),

Gene: DarwinJr\_44 Start: 29257, Stop: 28883, Start Num: 26

Candidate Starts for DarwinJr\_44:

(17, 29320), (18, 29290), (Start: 26 @29257 has 2 MA's), (Start: 45 @29206 has 2 MA's), (55, 29194), (92, 29119), (95, 29107), (113, 29068), (116, 29056),

Gene: EdgarPoe\_78 Start: 51425, Stop: 51817, Start Num: 36

Candidate Starts for EdgarPoe\_78:

(Start: 33 @51419 has 2 MA's), (Start: 36 @51425 has 13 MA's), (61, 51500), (62, 51503), (86, 51575), (104, 51635), (115, 51665), (122, 51686), (124, 51689), (133, 51713),

Gene: Gorpy\_43 Start: 29526, Stop: 29197, Start Num: 52

Candidate Starts for Gorpy\_43:

(Start: 52 @29526 has 10 MA's), (74, 29463), (76, 29460), (118, 29331), (130, 29310), (153, 29259),

Gene: Hestia\_40 Start: 27726, Stop: 27310, Start Num: 40

Candidate Starts for Hestia\_40:

(14, 27885), (Start: 40 @27726 has 1 MA's), (144, 27396),

Gene: HumptyDumpty\_79 Start: 51228, Stop: 51620, Start Num: 36

Candidate Starts for HumptyDumpty\_79:

(Start: 33 @51222 has 2 MA's), (Start: 36 @51228 has 13 MA's), (61, 51303), (62, 51306), (86, 51378), (104, 51438), (115, 51468), (122, 51489), (124, 51492), (133, 51516),

Gene: Isolde\_43 Start: 28418, Stop: 28056, Start Num: 52

Candidate Starts for Isolde\_43:

(Start: 52 @28418 has 10 MA's), (89, 28310), (119, 28220), (136, 28169), (141, 28151), (147, 28133),

Gene: JaNo\_78 Start: 51193, Stop: 51591, Start Num: 33

Candidate Starts for JaNo\_78:

(Start: 33 @51193 has 2 MA's), (Start: 36 @51199 has 13 MA's), (61, 51274), (62, 51277), (86, 51349), (104, 51409), (115, 51439), (122, 51460), (124, 51463), (133, 51487),

Gene: JellyBread\_38 Start: 26865, Stop: 26491, Start Num: 50

Candidate Starts for JellyBread\_38:

(19, 26937), (21, 26931), (23, 26928), (Start: 50 @26865 has 2 MA's), (54, 26853), (68, 26811), (71, 26805),

Gene: Judy\_38 Start: 26628, Stop: 26987, Start Num: 52

Candidate Starts for Judy\_38:

(Start: 52 @26628 has 10 MA's), (54, 26640),

Gene: Kabreeze\_79 Start: 51285, Stop: 51677, Start Num: 36

Candidate Starts for Kabreeze\_79:

(Start: 33 @51279 has 2 MA's), (Start: 36 @51285 has 13 MA's), (61, 51360), (62, 51363), (86, 51435), (104, 51495), (115, 51525), (122, 51546), (124, 51549), (133, 51573),

Gene: Kromp\_73 Start: 47753, Stop: 47349, Start Num: 41

Candidate Starts for Kromp\_73:

(Start: 41 @47753 has 1 MA's), (44, 47741), (90, 47612), (95, 47588), (105, 47558), (116, 47525), (126, 47495), (132, 47468), (138, 47459), (153, 47414),

Gene: Lawnathon\_42 Start: 28163, Stop: 27801, Start Num: 52

Candidate Starts for Lawnathon\_42:

(Start: 52 @28163 has 10 MA's), (119, 27965), (136, 27914), (141, 27896), (147, 27878),

Gene: LeBruni\_39 Start: 27481, Stop: 27158, Start Num: 48

Candidate Starts for LeBruni\_39:

(12, 27655), (Start: 48 @27481 has 1 MA's), (68, 27424), (71, 27418), (115, 27289),

Gene: LilyBell\_37 Start: 26044, Stop: 26394, Start Num: 27

Candidate Starts for LilyBell\_37:

(Start: 27 @26044 has 1 MA's), (37, 26065), (60, 26128), (68, 26152), (131, 26281), (145, 26308),

Gene: Linus\_79 Start: 51733, Stop: 52125, Start Num: 36

Candidate Starts for Linus\_79:

(Start: 33 @51727 has 2 MA's), (Start: 36 @51733 has 13 MA's), (61, 51808), (62, 51811), (86, 51883), (104, 51943), (115, 51973), (122, 51994), (124, 51997), (133, 52021),

Gene: Lymara\_75 Start: 50005, Stop: 50436, Start Num: 36

Candidate Starts for Lymara\_75:

(Start: 33 @49999 has 2 MA's), (Start: 36 @50005 has 13 MA's), (42, 50020), (80, 50128), (83, 50134), (95, 50179), (101, 50197), (107, 50206), (109, 50215), (117, 50242), (142, 50323), (161, 50425),

Gene: Mapleville\_40 Start: 28242, Stop: 27880, Start Num: 52

Candidate Starts for Mapleville\_40:

(Start: 52 @28242 has 10 MA's), (89, 28134), (119, 28044), (136, 27993), (141, 27975), (147, 27957),

Gene: MaterMagnus\_42 Start: 28304, Stop: 27975, Start Num: 52

Candidate Starts for MaterMagnus\_42:

(Start: 52 @28304 has 10 MA's), (74, 28241), (76, 28238), (118, 28109), (130, 28088), (153, 28037),

Gene: Merpity\_31 Start: 22847, Stop: 22416, Start Num: 35

Candidate Starts for Merpity\_31:

(35, 22847), (43, 22823), (63, 22763), (81, 22712), (103, 22637),

Gene: MidnightRain\_44 Start: 29060, Stop: 28755, Start Num: 64

Candidate Starts for MidnightRain\_44:

(Start: 64 @29060 has 1 MA's), (72, 29042), (95, 28976), (119, 28919), (136, 28868), (141, 28850), (147, 28832),

Gene: Mordred\_79 Start: 51318, Stop: 51716, Start Num: 33

Candidate Starts for Mordred\_79:

(Start: 33 @51318 has 2 MA's), (Start: 36 @51324 has 13 MA's), (61, 51399), (62, 51402), (86, 51474), (104, 51534), (115, 51564), (122, 51585), (124, 51588), (133, 51612),

Gene: MrSmee\_29 Start: 23244, Stop: 22936, Start Num: 77

Candidate Starts for MrSmee\_29:

(30, 23382), (34, 23373), (38, 23367), (47, 23334), (57, 23307), (Start: 77 @23244 has 1 MA's), (97, 23172), (155, 22995),

Gene: NewKitty\_40 Start: 27430, Stop: 27074, Start Num: 26

Candidate Starts for NewKitty\_40:

(Start: 26 @27430 has 2 MA's), (Start: 45 @27382 has 2 MA's), (55, 27370), (92, 27295),

Gene: Nyilah\_39 Start: 26837, Stop: 26430, Start Num: 22

Candidate Starts for Nyilah\_39:

(22, 26837), (Start: 50 @26762 has 2 MA's), (60, 26735), (84, 26675), (145, 26519), (149, 26507), (151, 26501),

Gene: Persistence\_36 Start: 26553, Stop: 26230, Start Num: 45

Candidate Starts for Persistence\_36:

(Start: 45 @26553 has 2 MA's), (54, 26541), (75, 26490), (79, 26481), (102, 26415), (134, 26349),

Gene: Pigu\_31 Start: 22735, Stop: 23076, Start Num: 48

Candidate Starts for Pigu\_31:

(Start: 48 @22735 has 1 MA's), (96, 22849), (111, 22879),

Gene: Pitbull\_73 Start: 38580, Stop: 38888, Start Num: 53

Candidate Starts for Pitbull\_73:

(Start: 53 @38580 has 2 MA's), (58, 38598), (75, 38640), (96, 38694), (113, 38730), (127, 38754),  
(148, 38805), (160, 38883),

Gene: PrincessTrina\_80 Start: 51629, Stop: 52021, Start Num: 36

Candidate Starts for PrincessTrina\_80:

(Start: 33 @51623 has 2 MA's), (Start: 36 @51629 has 13 MA's), (61, 51704), (62, 51707), (86, 51779),  
(104, 51839), (115, 51869), (122, 51890), (124, 51893), (133, 51917),

Gene: Richie\_42 Start: 28324, Stop: 27962, Start Num: 52

Candidate Starts for Richie\_42:

(Start: 52 @28324 has 10 MA's), (89, 28216), (119, 28126), (136, 28075), (141, 28057), (147, 28039),

Gene: Rooter\_32 Start: 24062, Stop: 23754, Start Num: 50

Candidate Starts for Rooter\_32:

(Start: 50 @24062 has 2 MA's), (75, 23999), (96, 23945), (113, 23909), (127, 23885), (148, 23834),

Gene: RosiePosie\_79 Start: 51413, Stop: 51805, Start Num: 36

Candidate Starts for RosiePosie\_79:

(Start: 33 @51407 has 2 MA's), (Start: 36 @51413 has 13 MA's), (61, 51488), (62, 51491), (86, 51563),  
(104, 51623), (115, 51653), (122, 51674), (124, 51677), (133, 51701),

Gene: Sakai\_42 Start: 28237, Stop: 27908, Start Num: 52

Candidate Starts for Sakai\_42:

(Start: 52 @28237 has 10 MA's), (74, 28174), (76, 28171), (118, 28042), (130, 28021), (153, 27970),

Gene: Scavito\_80 Start: 51373, Stop: 51765, Start Num: 36

Candidate Starts for Scavito\_80:

(Start: 33 @51367 has 2 MA's), (Start: 36 @51373 has 13 MA's), (61, 51448), (62, 51451), (86, 51523),  
(104, 51583), (115, 51613), (122, 51634), (124, 51637), (133, 51661),

Gene: SpicyFrank\_41 Start: 28170, Stop: 27721, Start Num: 28

Candidate Starts for SpicyFrank\_41:

(3, 28392), (6, 28353), (9, 28323), (Start: 28 @28170 has 2 MA's), (32, 28158), (59, 28086), (65,  
28059), (123, 27876), (146, 27807),

Gene: Sporco\_42 Start: 28336, Stop: 27938, Start Num: 40

Candidate Starts for Sporco\_42:

(Start: 40 @28336 has 1 MA's), (86, 28210), (125, 28087), (144, 28024),

Gene: Tiff81\_37 Start: 25801, Stop: 25427, Start Num: 53

Candidate Starts for Tiff81\_37:

(Start: 53 @25801 has 2 MA's), (91, 25684), (94, 25669), (110, 25618),

Gene: Tophat\_80 Start: 51562, Stop: 51954, Start Num: 36

Candidate Starts for Tophat\_80:

(Start: 33 @51556 has 2 MA's), (Start: 36 @51562 has 13 MA's), (61, 51637), (62, 51640), (86, 51712), (104, 51772), (115, 51802), (122, 51823), (124, 51826), (133, 51850),

Gene: Vopal\_45 Start: 31144, Stop: 30827, Start Num: 53

Candidate Starts for Vopal\_45:

(15, 31315), (16, 31300), (32, 31195), (Start: 53 @31144 has 2 MA's), (87, 31045), (93, 31021), (120, 30937), (137, 30910),

Gene: Whack\_71 Start: 46738, Stop: 47166, Start Num: 24

Candidate Starts for Whack\_71:

(Start: 24 @46738 has 1 MA's), (Start: 29 @46756 has 2 MA's), (32, 46765), (Start: 45 @46804 has 2 MA's), (70, 46876), (108, 46987), (114, 47005), (126, 47041), (128, 47044), (143, 47098),

Gene: Whack\_72 Start: 47171, Stop: 47581, Start Num: 29

Candidate Starts for Whack\_72:

(Start: 29 @47171 has 2 MA's), (32, 47180), (73, 47300), (82, 47321), (84, 47327), (104, 47396), (154, 47531), (158, 47576),

Gene: Windest\_42 Start: 27278, Stop: 26847, Start Num: 28

Candidate Starts for Windest\_42:

(4, 27491), (5, 27479), (8, 27455), (Start: 28 @27278 has 2 MA's), (56, 27206), (119, 27011), (136, 26960), (141, 26942), (147, 26924),

Gene: YoungHarleezy\_42 Start: 28307, Stop: 27978, Start Num: 52

Candidate Starts for YoungHarleezy\_42:

(Start: 52 @28307 has 10 MA's), (74, 28244), (76, 28241), (118, 28112), (130, 28091), (153, 28040),

Gene: Zucker\_33 Start: 26898, Stop: 26590, Start Num: 50

Candidate Starts for Zucker\_33:

(Start: 50 @26898 has 2 MA's), (75, 26835), (112, 26748), (135, 26688), (138, 26685), (145, 26676),