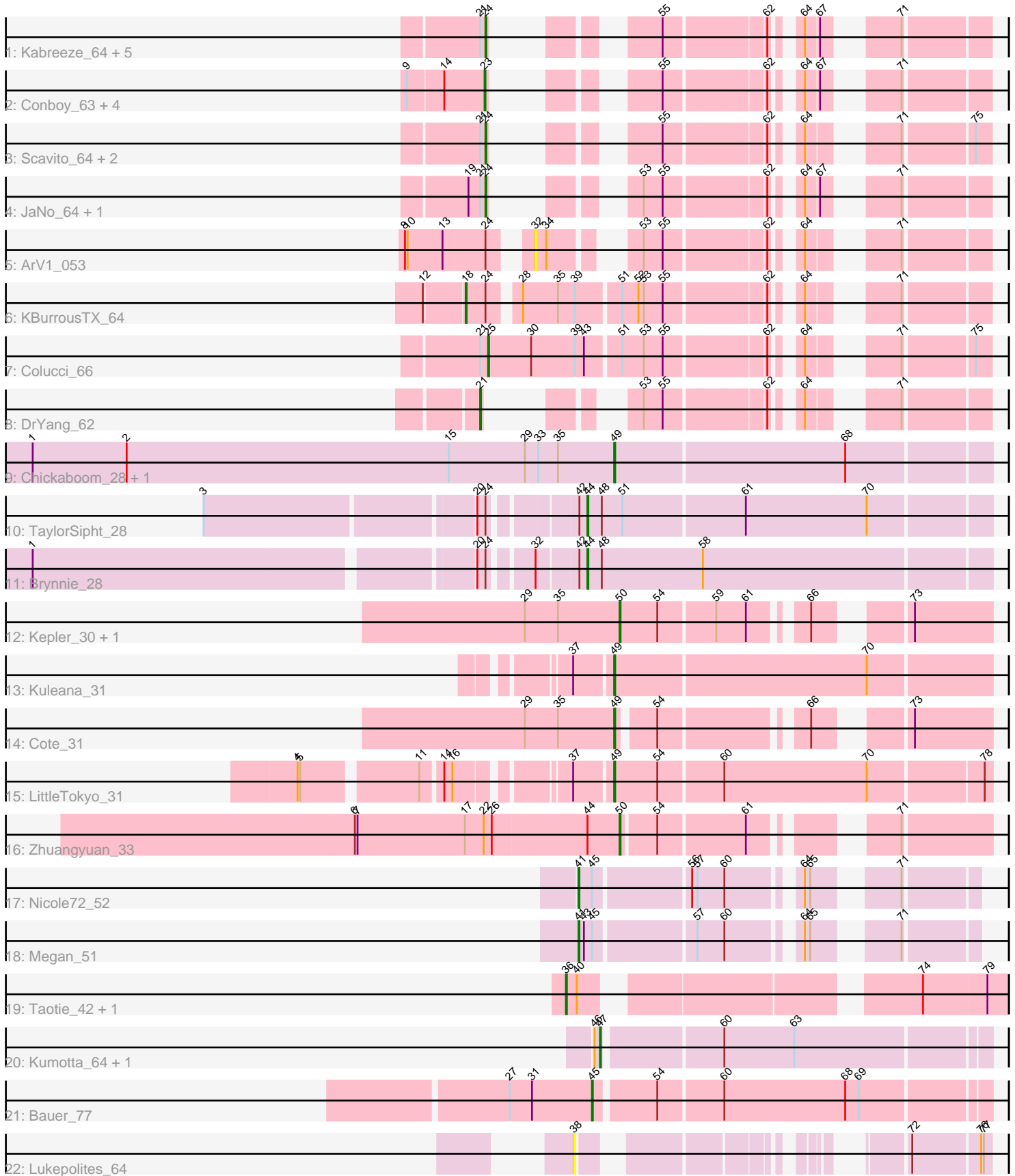


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 311803 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311803 has 38 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Kabreeze\_64, Chocolat\_64, Chubster\_65, MoyaNatalis\_64, HumptyDumpty\_64, Linus\_64
- Track 2 : Conboy\_63, PrincessTrina\_64, Tophat\_64, Chipper1996\_640, EdgarPoe\_63
- Track 3 : Scavito\_64, RosiePosie\_63, JayCookie\_65
- Track 4 : JaNo\_64, Mordred\_64
- Track 5 : ArV1\_053
- Track 6 : KBurrousTX\_64
- Track 7 : Colucci\_66
- Track 8 : DrYang\_62
- Track 9 : Chickaboom\_28, WileyE\_28
- Track 10 : TaylorSipht\_28
- Track 11 : Brynnie\_28
- Track 12 : Kepler\_30, Daob\_31
- Track 13 : Kuleana\_31
- Track 14 : Cote\_31
- Track 15 : LittleTokyo\_31
- Track 16 : Zhuangyuan\_33
- Track 17 : Nicole72\_52
- Track 18 : Megan\_51
- Track 19 : Taotie\_42, PSonyx\_44
- Track 20 : Kumotta\_64, MargaretKali\_60
- Track 21 : Bauer\_77
- Track 22 : Lukepolites\_64

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

The start number called the most often in the published annotations is 24, it was called in 10 of the 34 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Chocolat\_64, Chubster\_65, HumptyDumpty\_64, JaNo\_64, JayCookie\_65, Kabreeze\_64, Linus\_64, Mordred\_64, MoyaNatalis\_64, RosiePosie\_63, Scavito\_64,

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

- ArV1\_053, Brynnie\_28, KBurrousTX\_64, TaylorSipht\_28,

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

- Bauer\_77, Chickaboom\_28, Chipper1996\_640, Colucci\_66, Conboy\_63, Cote\_31, Daob\_31, DrYang\_62, EdgarPoe\_63, Kepler\_30, Kuleana\_31, Kumotta\_64, LittleTokyo\_31, Lukepolites\_64, MargaretKali\_60, Megan\_51, Nicole72\_52, PSonyx\_44, PrincessTrina\_64, Taotie\_42, Tophat\_64, WileyE\_28, Zhuangyuan\_33,

### Summary by start number:

Start 18:

- 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: KBurrousTX\_64 (AR),

Start 21:

- Found in 13 of 38 ( 34.2% ) of genes in pham
- Manual Annotations of this start: 1 of 34
- Called 7.7% of time when present
- Phage (with cluster) where this start called: DrYang\_62 (AR),

Start 23:

- Found in 5 of 38 ( 13.2% ) of genes in pham
- Manual Annotations of this start: 5 of 34
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chipper1996\_640 (AR), Conboy\_63 (AR), EdgarPoe\_63 (AR), PrincessTrina\_64 (AR), Tophat\_64 (AR),

Start 24:

- Found in 15 of 38 ( 39.5% ) of genes in pham
- Manual Annotations of this start: 10 of 34
- Called 73.3% of time when present
- Phage (with cluster) where this start called: Chocolat\_64 (AR), Chubster\_65 (AR), HumptyDumpty\_64 (AR), JaNo\_64 (AR), JayCookie\_65 (AR), Kabreeze\_64 (AR), Linus\_64 (AR), Mordred\_64 (AR), MoyaNatalis\_64 (AR), RosiePosie\_63 (AR), Scavito\_64 (AR),

Start 25:

- 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: Colucci\_66 (AR),

Start 32:

- Found in 2 of 38 ( 5.3% ) 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\_053 (AR),

Start 36:

- Found in 2 of 38 ( 5.3% ) 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: PSonyx\_44 (EQ), Taotie\_42 (EQ),

Start 38:

- Found in 1 of 38 ( 2.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lukepolites\_64 (singleton),

Start 41:

- Found in 2 of 38 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 2 of 34
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Megan\_51 (EC), Nicole72\_52 (EC),

Start 44:

- Found in 3 of 38 ( 7.9% ) of genes in pham
- Manual Annotations of this start: 2 of 34
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Brynnie\_28 (AS1), TaylorSipt\_28 (AS1),

Start 45:

- 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: Bauer\_77 (FN),

Start 47:

- Found in 2 of 38 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 2 of 34
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumotta\_64 (FB), MargaretKali\_60 (FB),

Start 49:

- Found in 5 of 38 ( 13.2% ) of genes in pham
- Manual Annotations of this start: 5 of 34
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chickaboom\_28 (AS1), Cote\_31 (AS2), Kuleana\_31 (AS2), LittleTokyo\_31 (AS2), WileyE\_28 (AS1),

Start 50:

- Found in 3 of 38 ( 7.9% ) of genes in pham
- Manual Annotations of this start: 3 of 34
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Daob\_31 (AS2), Kepler\_30 (AS2), Zhuangyuan\_33 (AS2),

**Summary by clusters:**

There are 8 clusters represented in this pham: AS2, AS1, singleton, EC, FB, AR, EQ, FN,

Info for manual annotations of cluster AR:

- Start number 18 was manually annotated 1 time for cluster AR.
- Start number 21 was manually annotated 1 time for cluster AR.
- Start number 23 was manually annotated 5 times for cluster AR.
- Start number 24 was manually annotated 10 times for cluster AR.
- Start number 25 was manually annotated 1 time for cluster AR.

Info for manual annotations of cluster AS1:

- Start number 44 was manually annotated 2 times for cluster AS1.
- Start number 49 was manually annotated 2 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 49 was manually annotated 3 times for cluster AS2.
- Start number 50 was manually annotated 3 times for cluster AS2.

Info for manual annotations of cluster EC:

- Start number 41 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster EQ:

- Start number 36 was manually annotated 1 time for cluster EQ.

Info for manual annotations of cluster FB:

- Start number 47 was manually annotated 2 times for cluster FB.

Info for manual annotations of cluster FN:

- Start number 45 was manually annotated 1 time for cluster FN.

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

Gene: ArV1\_053 Start: 43867, Stop: 44235, Start Num: 32

Candidate Starts for ArV1\_053:

(8, 43750), (10, 43753), (13, 43792), (Start: 24 @43837 has 10 MA's), (32, 43867), (34, 43879), (53, 43942), (55, 43963), (62, 44065), (64, 44083), (71, 44146),

Gene: Bauer\_77 Start: 43198, Stop: 43614, Start Num: 45

Candidate Starts for Bauer\_77:

(27, 43108), (31, 43132), (Start: 45 @43198 has 1 MA's), (54, 43261), (60, 43330), (68, 43465), (69, 43480),

Gene: Brynnie\_28 Start: 21585, Stop: 21148, Start Num: 44

Candidate Starts for Brynnie\_28:

(1, 22149), (20, 21684), (Start: 24 @21675 has 10 MA's), (32, 21636), (42, 21594), (Start: 44 @21585 has 2 MA's), (48, 21570), (58, 21459),

Gene: Chickaboom\_28 Start: 20641, Stop: 20237, Start Num: 49

Candidate Starts for Chickaboom\_28:

(1, 21286), (2, 21181), (15, 20824), (29, 20740), (33, 20725), (35, 20704), (Start: 49 @20641 has 5 MA's), (68, 20389),

Gene: Chipper1996\_640 Start: 44938, Stop: 45300, Start Num: 23

Candidate Starts for Chipper1996\_640:

(9, 44857), (14, 44896), (Start: 23 @44938 has 5 MA's), (55, 45028), (62, 45130), (64, 45148), (67, 45160), (71, 45211),

Gene: Chocolat\_64 Start: 44963, Stop: 45325, Start Num: 24

Candidate Starts for Chocolat\_64:

(Start: 21 @44957 has 1 MA's), (Start: 24 @44963 has 10 MA's), (55, 45053), (62, 45155), (64, 45173), (67, 45185), (71, 45236),

Gene: Chubster\_65 Start: 45115, Stop: 45477, Start Num: 24

Candidate Starts for Chubster\_65:

(Start: 21 @45109 has 1 MA's), (Start: 24 @45115 has 10 MA's), (55, 45205), (62, 45307), (64, 45325), (67, 45337), (71, 45388),

Gene: Colucci\_66 Start: 45022, Stop: 45480, Start Num: 25

Candidate Starts for Colucci\_66:

(Start: 21 @45013 has 1 MA's), (Start: 25 @45022 has 1 MA's), (30, 45070), (39, 45118), (43, 45127), (51, 45163), (53, 45187), (55, 45208), (62, 45310), (64, 45328), (71, 45391), (75, 45463),

Gene: Conboy\_63 Start: 44802, Stop: 45164, Start Num: 23

Candidate Starts for Conboy\_63:

(9, 44721), (14, 44760), (Start: 23 @44802 has 5 MA's), (55, 44892), (62, 44994), (64, 45012), (67, 45024), (71, 45075),

Gene: Cote\_31 Start: 21233, Stop: 20895, Start Num: 49

Candidate Starts for Cote\_31:

(29, 21332), (35, 21296), (Start: 49 @21233 has 5 MA's), (54, 21197), (66, 21056), (73, 20981),

Gene: Daob\_31 Start: 21245, Stop: 20901, Start Num: 50

Candidate Starts for Daob\_31:

(29, 21350), (35, 21314), (Start: 50 @21245 has 3 MA's), (54, 21203), (59, 21143), (61, 21110), (66, 21062), (73, 20987),

Gene: DrYang\_62 Start: 46373, Stop: 46732, Start Num: 21

Candidate Starts for DrYang\_62:

(Start: 21 @46373 has 1 MA's), (53, 46439), (55, 46460), (62, 46562), (64, 46580), (71, 46643),

Gene: EdgarPoe\_63 Start: 44802, Stop: 45164, Start Num: 23

Candidate Starts for EdgarPoe\_63:

(9, 44721), (14, 44760), (Start: 23 @44802 has 5 MA's), (55, 44892), (62, 44994), (64, 45012), (67, 45024), (71, 45075),

Gene: HumptyDumpty\_64 Start: 44902, Stop: 45264, Start Num: 24

Candidate Starts for HumptyDumpty\_64:

(Start: 21 @44896 has 1 MA's), (Start: 24 @44902 has 10 MA's), (55, 44992), (62, 45094), (64, 45112), (67, 45124), (71, 45175),

Gene: JaNo\_64 Start: 45024, Stop: 45386, Start Num: 24

Candidate Starts for JaNo\_64:

(19, 45006), (Start: 21 @45018 has 1 MA's), (Start: 24 @45024 has 10 MA's), (53, 45093), (55, 45114), (62, 45216), (64, 45234), (67, 45246), (71, 45297),

Gene: JayCookie\_65 Start: 45374, Stop: 45736, Start Num: 24

Candidate Starts for JayCookie\_65:

(Start: 21 @45368 has 1 MA's), (Start: 24 @45374 has 10 MA's), (55, 45464), (62, 45566), (64, 45584), (71, 45647), (75, 45719),

Gene: KBurrousTX\_64 Start: 46336, Stop: 46803, Start Num: 18

Candidate Starts for KBurrousTX\_64:

(12, 46294), (Start: 18 @46336 has 1 MA's), (Start: 24 @46357 has 10 MA's), (28, 46384), (35, 46423), (39, 46441), (51, 46486), (52, 46504), (53, 46510), (55, 46531), (62, 46633), (64, 46651), (71, 46714),

Gene: Kabreeze\_64 Start: 44981, Stop: 45343, Start Num: 24

Candidate Starts for Kabreeze\_64:

(Start: 21 @44975 has 1 MA's), (Start: 24 @44981 has 10 MA's), (55, 45071), (62, 45173), (64, 45191), (67, 45203), (71, 45254),

Gene: Kepler\_30 Start: 21194, Stop: 20850, Start Num: 50

Candidate Starts for Kepler\_30:

(29, 21299), (35, 21263), (Start: 50 @21194 has 3 MA's), (54, 21152), (59, 21092), (61, 21059), (66, 21011), (73, 20936),

Gene: Kuleana\_31 Start: 21163, Stop: 20753, Start Num: 49

Candidate Starts for Kuleana\_31:

(37, 21199), (Start: 49 @21163 has 5 MA's), (70, 20887),

Gene: Kumotta\_64 Start: 35474, Stop: 35881, Start Num: 47

Candidate Starts for Kumotta\_64:

(46, 35468), (Start: 47 @35474 has 2 MA's), (60, 35597), (63, 35675),

Gene: Linus\_64 Start: 45104, Stop: 45466, Start Num: 24

Candidate Starts for Linus\_64:

(Start: 21 @45098 has 1 MA's), (Start: 24 @45104 has 10 MA's), (55, 45194), (62, 45296), (64, 45314), (67, 45326), (71, 45377),

Gene: LittleTokyo\_31 Start: 21283, Stop: 20879, Start Num: 49

Candidate Starts for LittleTokyo\_31:

(4, 21571), (5, 21568), (11, 21451), (14, 21430), (16, 21421), (37, 21319), (Start: 49 @21283 has 5 MA's), (54, 21235), (60, 21166), (70, 21007), (78, 20887),

Gene: Lukepolites\_64 Start: 42768, Stop: 42448, Start Num: 38

Candidate Starts for Lukepolites\_64:

(38, 42768), (72, 42531), (76, 42459), (77, 42456),

Gene: MargaretKali\_60 Start: 34092, Stop: 34499, Start Num: 47

Candidate Starts for MargaretKali\_60:

(46, 34086), (Start: 47 @34092 has 2 MA's), (60, 34215), (63, 34293),

Gene: Megan\_51 Start: 38900, Stop: 39268, Start Num: 41

Candidate Starts for Megan\_51:

(Start: 41 @38900 has 2 MA's), (43, 38906), (Start: 45 @38915 has 1 MA's), (57, 39020), (60, 39050), (64, 39116), (65, 39122), (71, 39191),

Gene: Mordred\_64 Start: 45018, Stop: 45380, Start Num: 24

Candidate Starts for Mordred\_64:

(19, 45000), (Start: 21 @45012 has 1 MA's), (Start: 24 @45018 has 10 MA's), (53, 45087), (55, 45108), (62, 45210), (64, 45228), (67, 45240), (71, 45291),

Gene: MoyaNatalis\_64 Start: 44950, Stop: 45312, Start Num: 24

Candidate Starts for MoyaNatalis\_64:

(Start: 21 @44944 has 1 MA's), (Start: 24 @44950 has 10 MA's), (55, 45040), (62, 45142), (64, 45160), (67, 45172), (71, 45223),

Gene: Nicole72\_52 Start: 39527, Stop: 39895, Start Num: 41

Candidate Starts for Nicole72\_52:

(Start: 41 @39527 has 2 MA's), (Start: 45 @39542 has 1 MA's), (56, 39641), (57, 39647), (60, 39677), (64, 39743), (65, 39749), (71, 39818),

Gene: PSonyx\_44 Start: 33480, Stop: 33061, Start Num: 36

Candidate Starts for PSonyx\_44:

(Start: 36 @33480 has 1 MA's), (40, 33468), (74, 33153), (79, 33084),

Gene: PrincessTrina\_64 Start: 45006, Stop: 45368, Start Num: 23

Candidate Starts for PrincessTrina\_64:

(9, 44925), (14, 44964), (Start: 23 @45006 has 5 MA's), (55, 45096), (62, 45198), (64, 45216), (67, 45228), (71, 45279),

Gene: RosiePosie\_63 Start: 44640, Stop: 45002, Start Num: 24

Candidate Starts for RosiePosie\_63:

(Start: 21 @44634 has 1 MA's), (Start: 24 @44640 has 10 MA's), (55, 44730), (62, 44832), (64, 44850), (71, 44913), (75, 44985),

Gene: Scavito\_64 Start: 44915, Stop: 45277, Start Num: 24

Candidate Starts for Scavito\_64:

(Start: 21 @44909 has 1 MA's), (Start: 24 @44915 has 10 MA's), (55, 45005), (62, 45107), (64, 45125), (71, 45188), (75, 45260),

Gene: Taotie\_42 Start: 31071, Stop: 30652, Start Num: 36

Candidate Starts for Taotie\_42:

(Start: 36 @31071 has 1 MA's), (40, 31059), (74, 30744), (79, 30675),

Gene: TaylorSipht\_28 Start: 20580, Stop: 20149, Start Num: 44

Candidate Starts for TaylorSipht\_28:

(3, 20964), (20, 20679), (Start: 24 @20670 has 10 MA's), (42, 20589), (Start: 44 @20580 has 2 MA's), (48, 20565), (51, 20544), (61, 20412), (70, 20277),

Gene: Tophat\_64 Start: 44939, Stop: 45301, Start Num: 23

Candidate Starts for Tophat\_64:

(9, 44858), (14, 44897), (Start: 23 @44939 has 5 MA's), (55, 45029), (62, 45131), (64, 45149), (67, 45161), (71, 45212),

Gene: WileyE\_28 Start: 20641, Stop: 20237, Start Num: 49

Candidate Starts for WileyE\_28:

(1, 21286), (2, 21181), (15, 20824), (29, 20740), (33, 20725), (35, 20704), (Start: 49 @20641 has 5 MA's), (68, 20389),

Gene: Zhuangyuan\_33 Start: 22227, Stop: 21889, Start Num: 50

Candidate Starts for Zhuangyuan\_33:

(6, 22515), (7, 22512), (17, 22395), (22, 22374), (26, 22365), (Start: 44 @22263 has 2 MA's), (Start: 50 @22227 has 3 MA's), (54, 22191), (61, 22098), (71, 21984),