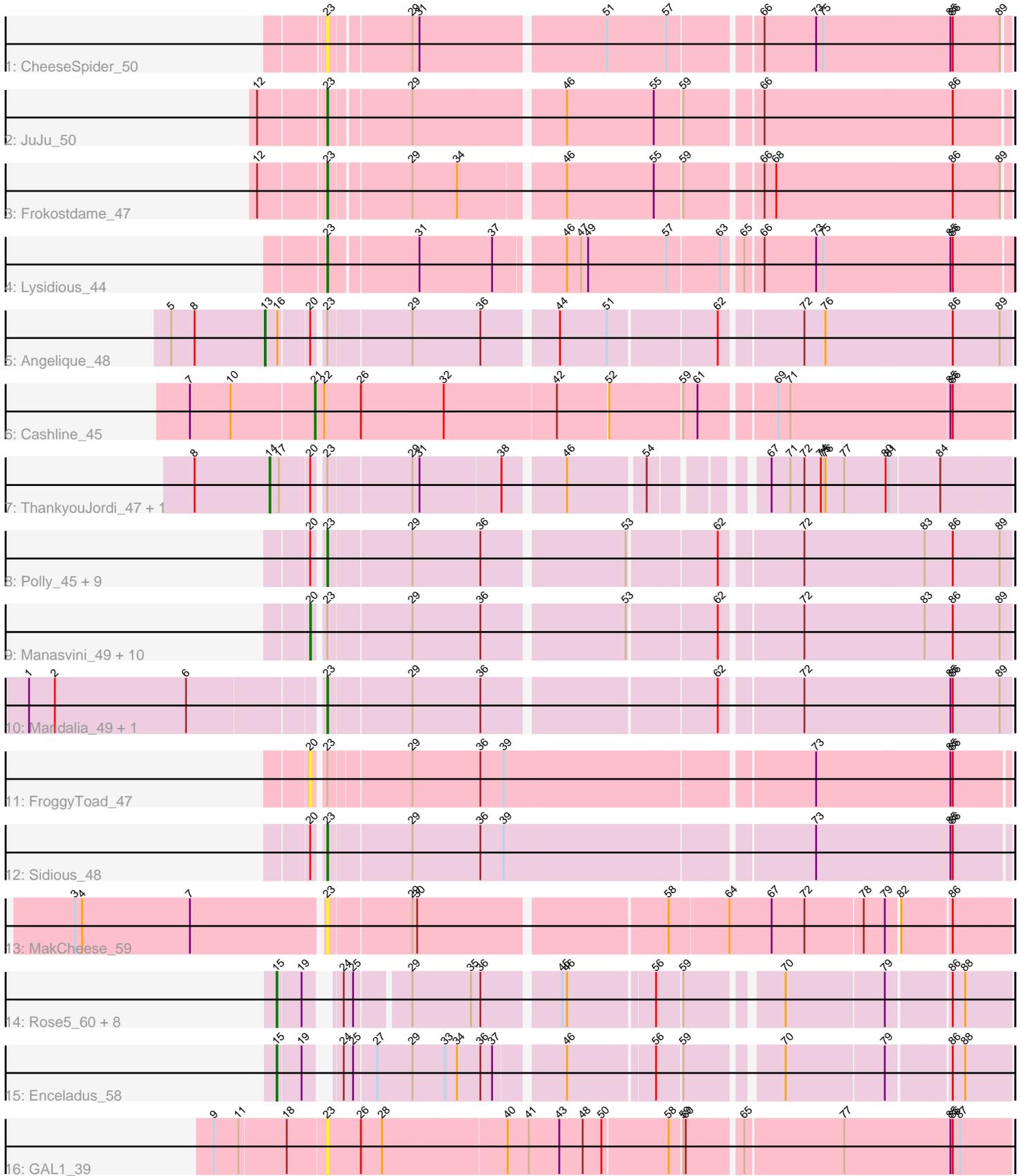


Pham 291293



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 291293 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291293 has 45 members, 5 are drafts.

Phages represented in each track:

- Track 1 : CheeseSpider\_50
- Track 2 : JuJu\_50
- Track 3 : Frokostdame\_47
- Track 4 : Lysidious\_44
- Track 5 : Angelique\_48
- Track 6 : Cashline\_45
- Track 7 : ThankyouJordi\_47, WelcomeAyanna\_47
- Track 8 : Polly\_45, Eudoria\_48, AlumE\_48, BoyNamedSue\_48, Agueybana\_50, Trumpet\_48, Suscepit\_48, Neobush\_48, Tayonia\_48, Zameen\_48
- Track 9 : Manasvini\_49, Yeet412\_43, Attis\_43, LordFarquaad\_45, EdnaMode\_42, Antonio\_48, Zirinka\_45, Pickett\_41, SoilAssassin\_43, Kita\_49, Bialota\_46
- Track 10 : Maridalia\_49, Bunnybear\_41
- Track 11 : FroggyToad\_47
- Track 12 : Sidious\_48
- Track 13 : MakCheese\_59
- Track 14 : Rose5\_60, Silverleaf\_60, CicholasNage\_59, JoeDirt\_59, Wyatt2\_61, AvadaKedavra\_60, Acquire49\_60, Tyson\_60, Poochiewood\_60
- Track 15 : Enceladus\_58
- Track 16 : GAL1\_39

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

The start number called the most often in the published annotations is 23, it was called in 16 of the 40 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agueybana\_50, AlumE\_48, BoyNamedSue\_48, Bunnybear\_41, CheeseSpider\_50, Eudoria\_48, Frokostdame\_47, GAL1\_39, JuJu\_50, Lysidious\_44, MakCheese\_59, Maridalia\_49, Neobush\_48, Polly\_45, Sidious\_48, Suscepit\_48, Tayonia\_48, Trumpet\_48, Zameen\_48,

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

- Angelique\_48, Antonio\_48, Attis\_43, Bialota\_46, EdnaMode\_42, FroggyToad\_47, Kita\_49, LordFarquaad\_45, Manasvini\_49, Pickett\_41, SoilAssassin\_43,

ThankyouJordi\_47, WelcomeAyanna\_47, Yeet412\_43, Zirinka\_45,

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

• Acquire49\_60, AvadaKedavra\_60, Cashline\_45, CicholasNage\_59, Enceladus\_58, JoeDirt\_59, Poochiewood\_60, Rose5\_60, Silverleaf\_60, Tyson\_60, Wyatt2\_61,

### Summary by start number:

Start 13:

- Found in 1 of 45 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 1 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angelique\_48 (CY1),

Start 14:

- Found in 2 of 45 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 2 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ThankyouJordi\_47 (CZ1), WelcomeAyanna\_47 (CZ1),

Start 15:

- Found in 10 of 45 ( 22.2% ) of genes in pham
- Manual Annotations of this start: 9 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acquire49\_60 (L1), AvadaKedavra\_60 (L1), CicholasNage\_59 (L1), Enceladus\_58 (L1), JoeDirt\_59 (L1), Poochiewood\_60 (L1), Rose5\_60 (L1), Silverleaf\_60 (L1), Tyson\_60 (L1), Wyatt2\_61 (L1),

Start 20:

- Found in 26 of 45 ( 57.8% ) of genes in pham
- Manual Annotations of this start: 11 of 40
- Called 46.2% of time when present
- Phage (with cluster) where this start called: Antonio\_48 (CZ1), Attis\_43 (CZ2), Bialota\_46 (CZ1), EdnaMode\_42 (CZ2), FroggyToad\_47 (CZ2), Kita\_49 (CZ1), LordFarquaad\_45 (CZ2), Manasvini\_49 (CZ1), Pickett\_41 (CZ2), SoilAssassin\_43 (CZ2), Yeet412\_43 (CZ2), Zirinka\_45 (CZ1),

Start 21:

- Found in 1 of 45 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 1 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cashline\_45 (CY6),

Start 23:

- Found in 34 of 45 ( 75.6% ) of genes in pham
- Manual Annotations of this start: 16 of 40
- Called 55.9% of time when present
- Phage (with cluster) where this start called: Agueybana\_50 (CZ1), AlumE\_48 (CZ1), BoyNamedSue\_48 (CZ1), Bunnybear\_41 (CZ), CheeseSpider\_50 (CV), Eudoria\_48 (CZ1), Frokostdame\_47 (CV), GAL1\_39 (singleton), JuJu\_50 (CV), Lysidious\_44 (CV), MakCheese\_59 (DW), Maridalia\_49 (CZ1), Neobush\_48 (CZ1), Polly\_45 (CZ1), Sidious\_48 (CZ7), Suscepit\_48 (CZ1), Tayonia\_48 (CZ1), Trumpet\_48 (CZ1),

Zameen\_48 (CZ1),

### **Summary by clusters:**

There are 10 clusters represented in this pham: CY1, singleton, CY6, CZ2, CZ1, CZ7, CZ, L1, DW, CV,

Info for manual annotations of cluster CV:

- Start number 23 was manually annotated 3 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 13 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CY6:

- Start number 21 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CZ:

- Start number 23 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 14 was manually annotated 2 times for cluster CZ1.
- Start number 20 was manually annotated 5 times for cluster CZ1.
- Start number 23 was manually annotated 11 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 20 was manually annotated 6 times for cluster CZ2.

Info for manual annotations of cluster CZ7:

- Start number 23 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster L1:

- Start number 15 was manually annotated 9 times for cluster L1.

### **Gene Information:**

Gene: Acquire49\_60 Start: 42360, Stop: 43178, Start Num: 15

Candidate Starts for Acquire49\_60:

(Start: 15 @42360 has 9 MA's), (19, 42387), (24, 42414), (25, 42426), (29, 42486), (35, 42561), (36, 42573), (45, 42663), (46, 42669), (56, 42774), (59, 42804), (70, 42909), (79, 43032), (86, 43107), (88, 43122),

Gene: Agueybana\_50 Start: 37589, Stop: 38413, Start Num: 23

Candidate Starts for Agueybana\_50:

(Start: 20 @37577 has 11 MA's), (Start: 23 @37589 has 16 MA's), (29, 37691), (36, 37778), (53, 37949), (62, 38054), (72, 38150), (83, 38303), (86, 38339), (89, 38399),

Gene: AlumE\_48 Start: 36089, Stop: 36913, Start Num: 23

Candidate Starts for AlumE\_48:

(Start: 20 @36077 has 11 MA's), (Start: 23 @36089 has 16 MA's), (29, 36191), (36, 36278), (53, 36449), (62, 36554), (72, 36650), (83, 36803), (86, 36839), (89, 36899),

Gene: Angelique\_48 Start: 37247, Stop: 38128, Start Num: 13

Candidate Starts for Angelique\_48:

(5, 37127), (8, 37157), (Start: 13 @37247 has 1 MA's), (16, 37259), (Start: 20 @37292 has 11 MA's), (Start: 23 @37304 has 16 MA's), (29, 37406), (36, 37493), (44, 37580), (51, 37640), (62, 37769), (72, 37865), (76, 37892), (86, 38054), (89, 38114),

Gene: Antonio\_48 Start: 35350, Stop: 36186, Start Num: 20

Candidate Starts for Antonio\_48:

(Start: 20 @35350 has 11 MA's), (Start: 23 @35362 has 16 MA's), (29, 35464), (36, 35551), (53, 35722), (62, 35827), (72, 35923), (83, 36076), (86, 36112), (89, 36172),

Gene: Attis\_43 Start: 32483, Stop: 33319, Start Num: 20

Candidate Starts for Attis\_43:

(Start: 20 @32483 has 11 MA's), (Start: 23 @32495 has 16 MA's), (29, 32597), (36, 32684), (53, 32855), (62, 32960), (72, 33056), (83, 33209), (86, 33245), (89, 33305),

Gene: AvadaKedavra\_60 Start: 42433, Stop: 43251, Start Num: 15

Candidate Starts for AvadaKedavra\_60:

(Start: 15 @42433 has 9 MA's), (19, 42460), (24, 42487), (25, 42499), (29, 42559), (35, 42634), (36, 42646), (45, 42736), (46, 42742), (56, 42847), (59, 42877), (70, 42982), (79, 43105), (86, 43180), (88, 43195),

Gene: Bialota\_46 Start: 35982, Stop: 36818, Start Num: 20

Candidate Starts for Bialota\_46:

(Start: 20 @35982 has 11 MA's), (Start: 23 @35994 has 16 MA's), (29, 36096), (36, 36183), (53, 36354), (62, 36459), (72, 36555), (83, 36708), (86, 36744), (89, 36804),

Gene: BoyNamedSue\_48 Start: 36089, Stop: 36913, Start Num: 23

Candidate Starts for BoyNamedSue\_48:

(Start: 20 @36077 has 11 MA's), (Start: 23 @36089 has 16 MA's), (29, 36191), (36, 36278), (53, 36449), (62, 36554), (72, 36650), (83, 36803), (86, 36839), (89, 36899),

Gene: Bunnybear\_41 Start: 33762, Stop: 34586, Start Num: 23

Candidate Starts for Bunnybear\_41:

(1, 33405), (2, 33438), (6, 33606), (Start: 23 @33762 has 16 MA's), (29, 33864), (36, 33951), (62, 34227), (72, 34323), (85, 34509), (86, 34512), (89, 34572),

Gene: Cashline\_45 Start: 35939, Stop: 36781, Start Num: 21

Candidate Starts for Cashline\_45:

(7, 35786), (10, 35837), (Start: 21 @35939 has 1 MA's), (22, 35951), (26, 35996), (32, 36098), (42, 36236), (52, 36299), (59, 36383), (61, 36401), (69, 36488), (71, 36503), (85, 36704), (86, 36707),

Gene: CheeseSpider\_50 Start: 33609, Stop: 34427, Start Num: 23

Candidate Starts for CheeseSpider\_50:

(Start: 23 @33609 has 16 MA's), (29, 33705), (31, 33714), (51, 33939), (57, 34014), (66, 34119), (73, 34185), (75, 34194), (85, 34356), (86, 34359), (89, 34419),

Gene: CicholasNage\_59 Start: 42396, Stop: 43214, Start Num: 15

Candidate Starts for CicholasNage\_59:

(Start: 15 @42396 has 9 MA's), (19, 42423), (24, 42450), (25, 42462), (29, 42522), (35, 42597), (36, 42609), (45, 42699), (46, 42705), (56, 42810), (59, 42840), (70, 42945), (79, 43068), (86, 43143), (88, 43158),

Gene: EdnaMode\_42 Start: 31171, Stop: 32007, Start Num: 20

Candidate Starts for EdnaMode\_42:

(Start: 20 @31171 has 11 MA's), (Start: 23 @31183 has 16 MA's), (29, 31285), (36, 31372), (53, 31543), (62, 31648), (72, 31744), (83, 31897), (86, 31933), (89, 31993),

Gene: Enceladus\_58 Start: 42233, Stop: 43060, Start Num: 15

Candidate Starts for Enceladus\_58:

(Start: 15 @42233 has 9 MA's), (19, 42260), (24, 42287), (25, 42299), (27, 42326), (29, 42371), (33, 42413), (34, 42428), (36, 42458), (37, 42473), (46, 42551), (56, 42656), (59, 42686), (70, 42791), (79, 42914), (86, 42989), (88, 43004),

Gene: Eudoria\_48 Start: 35362, Stop: 36186, Start Num: 23

Candidate Starts for Eudoria\_48:

(Start: 20 @35350 has 11 MA's), (Start: 23 @35362 has 16 MA's), (29, 35464), (36, 35551), (53, 35722), (62, 35827), (72, 35923), (83, 36076), (86, 36112), (89, 36172),

Gene: FroggyToad\_47 Start: 33512, Stop: 34357, Start Num: 20

Candidate Starts for FroggyToad\_47:

(Start: 20 @33512 has 11 MA's), (Start: 23 @33524 has 16 MA's), (29, 33623), (36, 33710), (39, 33740), (73, 34115), (85, 34286), (86, 34289),

Gene: Frokostdame\_47 Start: 34936, Stop: 35751, Start Num: 23

Candidate Starts for Frokostdame\_47:

(12, 34861), (Start: 23 @34936 has 16 MA's), (29, 35032), (34, 35089), (46, 35212), (55, 35323), (59, 35356), (66, 35443), (68, 35458), (86, 35683), (89, 35743),

Gene: GAL1\_39 Start: 32334, Stop: 33173, Start Num: 23

Candidate Starts for GAL1\_39:

(9, 32199), (11, 32229), (18, 32286), (Start: 23 @32334 has 16 MA's), (26, 32376), (28, 32403), (40, 32556), (41, 32583), (43, 32622), (48, 32652), (50, 32676), (58, 32757), (59, 32772), (60, 32775), (65, 32838), (77, 32961), (85, 33096), (86, 33099), (87, 33108),

Gene: JoeDirt\_59 Start: 42675, Stop: 43493, Start Num: 15

Candidate Starts for JoeDirt\_59:

(Start: 15 @42675 has 9 MA's), (19, 42702), (24, 42729), (25, 42741), (29, 42801), (35, 42876), (36, 42888), (45, 42978), (46, 42984), (56, 43089), (59, 43119), (70, 43224), (79, 43347), (86, 43422), (88, 43437),

Gene: JuJu\_50 Start: 36277, Stop: 37092, Start Num: 23

Candidate Starts for JuJu\_50:

(12, 36202), (Start: 23 @36277 has 16 MA's), (29, 36373), (46, 36553), (55, 36664), (59, 36697), (66, 36784), (86, 37024),

Gene: Kita\_49 Start: 35359, Stop: 36195, Start Num: 20

Candidate Starts for Kita\_49:

(Start: 20 @35359 has 11 MA's), (Start: 23 @35371 has 16 MA's), (29, 35473), (36, 35560), (53, 35731), (62, 35836), (72, 35932), (83, 36085), (86, 36121), (89, 36181),

Gene: LordFarquaad\_45 Start: 32464, Stop: 33300, Start Num: 20

Candidate Starts for LordFarquaad\_45:

(Start: 20 @32464 has 11 MA's), (Start: 23 @32476 has 16 MA's), (29, 32578), (36, 32665), (53, 32836), (62, 32941), (72, 33037), (83, 33190), (86, 33226), (89, 33286),

Gene: Lysidious\_44 Start: 34244, Stop: 35065, Start Num: 23

Candidate Starts for Lysidious\_44:

(Start: 23 @34244 has 16 MA's), (31, 34352), (37, 34442), (46, 34520), (47, 34538), (49, 34547), (57, 34646), (63, 34709), (65, 34730), (66, 34751), (73, 34817), (75, 34826), (85, 34988), (86, 34991),

Gene: MakCheese\_59 Start: 40021, Stop: 40845, Start Num: 23

Candidate Starts for MakCheese\_59:

(3, 39715), (4, 39724), (7, 39862), (Start: 23 @40021 has 16 MA's), (29, 40123), (30, 40129), (58, 40429), (64, 40504), (67, 40558), (72, 40600), (78, 40672), (79, 40699), (82, 40714), (86, 40774),

Gene: Manasvini\_49 Start: 35374, Stop: 36210, Start Num: 20

Candidate Starts for Manasvini\_49:

(Start: 20 @35374 has 11 MA's), (Start: 23 @35386 has 16 MA's), (29, 35488), (36, 35575), (53, 35746), (62, 35851), (72, 35947), (83, 36100), (86, 36136), (89, 36196),

Gene: Maridalia\_49 Start: 35508, Stop: 36332, Start Num: 23

Candidate Starts for Maridalia\_49:

(1, 35151), (2, 35184), (6, 35352), (Start: 23 @35508 has 16 MA's), (29, 35610), (36, 35697), (62, 35973), (72, 36069), (85, 36255), (86, 36258), (89, 36318),

Gene: Neobush\_48 Start: 35356, Stop: 36180, Start Num: 23

Candidate Starts for Neobush\_48:

(Start: 20 @35344 has 11 MA's), (Start: 23 @35356 has 16 MA's), (29, 35458), (36, 35545), (53, 35716), (62, 35821), (72, 35917), (83, 36070), (86, 36106), (89, 36166),

Gene: Pickett\_41 Start: 29647, Stop: 30483, Start Num: 20

Candidate Starts for Pickett\_41:

(Start: 20 @29647 has 11 MA's), (Start: 23 @29659 has 16 MA's), (29, 29761), (36, 29848), (53, 30019), (62, 30124), (72, 30220), (83, 30373), (86, 30409), (89, 30469),

Gene: Polly\_45 Start: 34805, Stop: 35629, Start Num: 23

Candidate Starts for Polly\_45:

(Start: 20 @34793 has 11 MA's), (Start: 23 @34805 has 16 MA's), (29, 34907), (36, 34994), (53, 35165), (62, 35270), (72, 35366), (83, 35519), (86, 35555), (89, 35615),

Gene: Pochiewood\_60 Start: 42683, Stop: 43501, Start Num: 15

Candidate Starts for Pochiewood\_60:

(Start: 15 @42683 has 9 MA's), (19, 42710), (24, 42737), (25, 42749), (29, 42809), (35, 42884), (36, 42896), (45, 42986), (46, 42992), (56, 43097), (59, 43127), (70, 43232), (79, 43355), (86, 43430), (88, 43445),

Gene: Rose5\_60 Start: 42695, Stop: 43513, Start Num: 15

Candidate Starts for Rose5\_60:

(Start: 15 @42695 has 9 MA's), (19, 42722), (24, 42749), (25, 42761), (29, 42821), (35, 42896), (36, 42908), (45, 42998), (46, 43004), (56, 43109), (59, 43139), (70, 43244), (79, 43367), (86, 43442), (88, 43457),

Gene: Sidious\_48 Start: 36674, Stop: 37510, Start Num: 23

Candidate Starts for Sidious\_48:

(Start: 20 @36662 has 11 MA's), (Start: 23 @36674 has 16 MA's), (29, 36776), (36, 36863), (39, 36893), (73, 37268), (85, 37439), (86, 37442),

Gene: Silverleaf\_60 Start: 42430, Stop: 43248, Start Num: 15

Candidate Starts for Silverleaf\_60:

(Start: 15 @42430 has 9 MA's), (19, 42457), (24, 42484), (25, 42496), (29, 42556), (35, 42631), (36, 42643), (45, 42733), (46, 42739), (56, 42844), (59, 42874), (70, 42979), (79, 43102), (86, 43177), (88, 43192),

Gene: SoilAssassin\_43 Start: 32482, Stop: 33318, Start Num: 20

Candidate Starts for SoilAssassin\_43:

(Start: 20 @32482 has 11 MA's), (Start: 23 @32494 has 16 MA's), (29, 32596), (36, 32683), (53, 32854), (62, 32959), (72, 33055), (83, 33208), (86, 33244), (89, 33304),

Gene: Susceptit\_48 Start: 35363, Stop: 36187, Start Num: 23

Candidate Starts for Susceptit\_48:

(Start: 20 @35351 has 11 MA's), (Start: 23 @35363 has 16 MA's), (29, 35465), (36, 35552), (53, 35723), (62, 35828), (72, 35924), (83, 36077), (86, 36113), (89, 36173),

Gene: Tayonia\_48 Start: 35362, Stop: 36186, Start Num: 23

Candidate Starts for Tayonia\_48:

(Start: 20 @35350 has 11 MA's), (Start: 23 @35362 has 16 MA's), (29, 35464), (36, 35551), (53, 35722), (62, 35827), (72, 35923), (83, 36076), (86, 36112), (89, 36172),

Gene: ThankyouJordi\_47 Start: 37192, Stop: 38031, Start Num: 14

Candidate Starts for ThankyouJordi\_47:

(8, 37096), (Start: 14 @37192 has 2 MA's), (17, 37204), (Start: 20 @37237 has 11 MA's), (Start: 23 @37249 has 16 MA's), (29, 37351), (31, 37360), (38, 37462), (46, 37531), (54, 37624), (67, 37738), (71, 37762), (72, 37780), (74, 37801), (75, 37804), (76, 37807), (77, 37831), (80, 37882), (81, 37885), (84, 37945),

Gene: Trumpet\_48 Start: 35363, Stop: 36187, Start Num: 23

Candidate Starts for Trumpet\_48:

(Start: 20 @35351 has 11 MA's), (Start: 23 @35363 has 16 MA's), (29, 35465), (36, 35552), (53, 35723), (62, 35828), (72, 35924), (83, 36077), (86, 36113), (89, 36173),

Gene: Tyson\_60 Start: 42697, Stop: 43515, Start Num: 15

Candidate Starts for Tyson\_60:

(Start: 15 @42697 has 9 MA's), (19, 42724), (24, 42751), (25, 42763), (29, 42823), (35, 42898), (36, 42910), (45, 43000), (46, 43006), (56, 43111), (59, 43141), (70, 43246), (79, 43369), (86, 43444), (88, 43459),

Gene: WelcomeAyanna\_47 Start: 37339, Stop: 38178, Start Num: 14

Candidate Starts for WelcomeAyanna\_47:

(8, 37243), (Start: 14 @37339 has 2 MA's), (17, 37351), (Start: 20 @37384 has 11 MA's), (Start: 23 @37396 has 16 MA's), (29, 37498), (31, 37507), (38, 37609), (46, 37678), (54, 37771), (67, 37885), (71, 37909), (72, 37927), (74, 37948), (75, 37951), (76, 37954), (77, 37978), (80, 38029), (81, 38032), (84, 38092),

Gene: Wyatt2\_61 Start: 42695, Stop: 43513, Start Num: 15

Candidate Starts for Wyatt2\_61:

(Start: 15 @42695 has 9 MA's), (19, 42722), (24, 42749), (25, 42761), (29, 42821), (35, 42896), (36, 42908), (45, 42998), (46, 43004), (56, 43109), (59, 43139), (70, 43244), (79, 43367), (86, 43442), (88, 43457),

Gene: Yeet412\_43 Start: 32483, Stop: 33319, Start Num: 20

Candidate Starts for Yeet412\_43:

(Start: 20 @32483 has 11 MA's), (Start: 23 @32495 has 16 MA's), (29, 32597), (36, 32684), (53, 32855), (62, 32960), (72, 33056), (83, 33209), (86, 33245), (89, 33305),

Gene: Zameen\_48 Start: 35362, Stop: 36186, Start Num: 23

Candidate Starts for Zameen\_48:

(Start: 20 @35350 has 11 MA's), (Start: 23 @35362 has 16 MA's), (29, 35464), (36, 35551), (53, 35722), (62, 35827), (72, 35923), (83, 36076), (86, 36112), (89, 36172),

Gene: Zirinka\_45 Start: 35970, Stop: 36806, Start Num: 20

Candidate Starts for Zirinka\_45:

(Start: 20 @35970 has 11 MA's), (Start: 23 @35982 has 16 MA's), (29, 36084), (36, 36171), (53, 36342), (62, 36447), (72, 36543), (83, 36696), (86, 36732), (89, 36792),