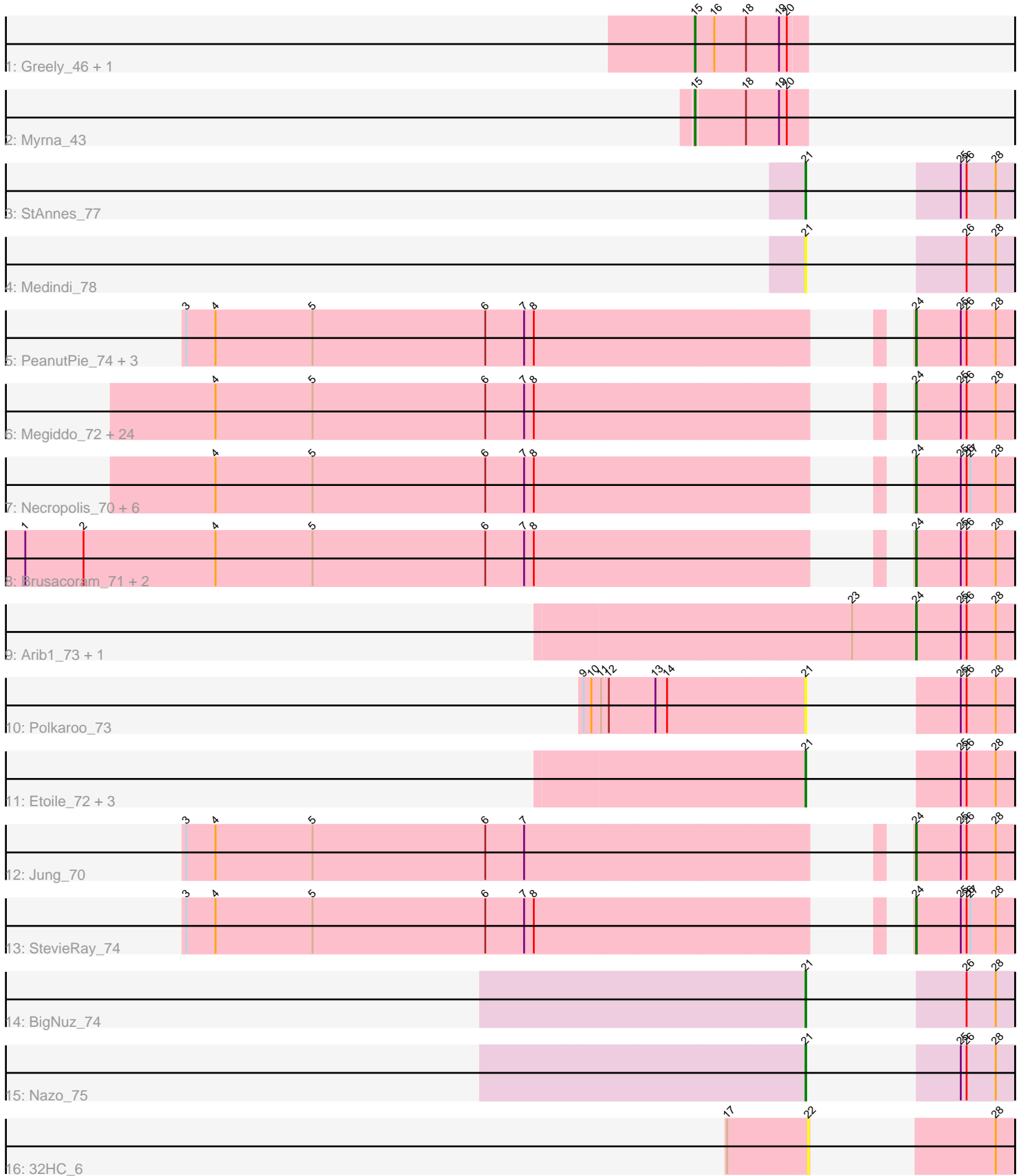


Pham 301421



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 301421 Report

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

Pham number 301421 has 56 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Greely\_46, Phabba\_48
- Track 2 : Myrna\_43
- Track 3 : StAnnes\_77
- Track 4 : Medindi\_78
- Track 5 : PeanutPie\_74, Bhagsy\_75, Ksquared\_73, FirstPlacePfu\_73
- Track 6 : Megiddo\_72, KilKor\_73, Langerak\_71, Fishburne\_71, Jebeks\_70, Donovan\_72, Mangethe\_75, DillTech15\_82, Phalm\_73, Gavriela\_72, Camster\_73, Malithi\_72, Sonah\_73, Techage\_73, Zilizebeth\_77, Majeke\_75, Totinger\_77, Pegasus\_75, Fastidio\_75, Chubbello\_71, StressBall\_72, Glaske\_72, CactusJack\_73, LittleShirley\_81, Willsammy\_74
- Track 7 : Necropolis\_70, Dynamo\_72, Bogie\_75, GreaseLightnin\_74, HUHilltop\_75, Pygmy\_76, Shipwreck\_75
- Track 8 : Brusacoram\_71, Atcoo\_71, Thespis\_71
- Track 9 : Arib1\_73, Vidya\_70
- Track 10 : Polkaroo\_73
- Track 11 : Etoile\_72, Kari\_74, Bartholomew\_70, Venti\_72
- Track 12 : Jung\_70
- Track 13 : StevieRay\_74
- Track 14 : BigNuz\_74
- Track 15 : Nazo\_75
- Track 16 : 32HC\_6

### ***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 40 of the 49 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arib1\_73, Atcoo\_71, Bhagsy\_75, Bogie\_75, Brusacoram\_71, CactusJack\_73, Camster\_73, Chubbello\_71, DillTech15\_82, Donovan\_72, Dynamo\_72, Fastidio\_75, FirstPlacePfu\_73, Fishburne\_71, Gavriela\_72, Glaske\_72, GreaseLightnin\_74, HUHilltop\_75, Jebeks\_70, Jung\_70, KilKor\_73, Ksquared\_73, Langerak\_71, LittleShirley\_81, Majeke\_75, Malithi\_72, Mangethe\_75, Megiddo\_72, Necropolis\_70, PeanutPie\_74, Phalm\_73, Pegasus\_75, Pygmy\_76, Shipwreck\_75, Sonah\_73,

StevieRay\_74, StressBall\_72, Techage\_73, Thespis\_71, Totinger\_77, Vidya\_70, Willsammy\_74, Zilizebeth\_77,

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

- 

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

• 32HC\_6, Bartholomew\_70, BigNuz\_74, Etoile\_72, Greely\_46, Kari\_74, Medindi\_78, Myrna\_43, Nazo\_75, Phabba\_48, Polkaroo\_73, StAnnes\_77, Venti\_72,

### Summary by start number:

Start 15:

- Found in 3 of 56 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 2 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Greely\_46 (C2), Myrna\_43 (C2), Phabba\_48 (C2),

Start 21:

- Found in 9 of 56 ( 16.1% ) of genes in pham
- Manual Annotations of this start: 7 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bartholomew\_70 (P1), BigNuz\_74 (P4), Etoile\_72 (P1), Kari\_74 (P1), Medindi\_78 (F1), Nazo\_75 (P4), Polkaroo\_73 (P1), StAnnes\_77 (F1), Venti\_72 (P1),

Start 22:

- Found in 1 of 56 ( 1.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC\_6 (Z),

Start 24:

- Found in 43 of 56 ( 76.8% ) of genes in pham
- Manual Annotations of this start: 40 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1\_73 (P1), Atcoo\_71 (P1), Bhagsy\_75 (P1), Bogie\_75 (P1), Brusacoram\_71 (P1), CactusJack\_73 (P1), Camster\_73 (P1), Chubbello\_71 (P1), DillTech15\_82 (F1), Donovan\_72 (P1), Dynamo\_72 (P1), Fastidio\_75 (F1), FirstPlacePfu\_73 (P1), Fishburne\_71 (P1), Gavriela\_72 (P1), Glaske\_72 (P1), GreaseLightnin\_74 (P1), HUHilltop\_75 (P1), Jebeks\_70 (P1), Jung\_70 (P1), KilKor\_73 (P1), Ksquared\_73 (P1), Langerak\_71 (P1), LittleShirley\_81 (F1), Majeke\_75 (P1), Malithi\_72 (P1), Mangethe\_75 (P1), Megiddo\_72 (P1), Necropolis\_70 (P1), PeanutPie\_74 (P1), Phalm\_73 (P1), Phegasus\_75 (P1), Pygmy\_76 (P1), Shipwreck\_75 (P1), Sonah\_73 (P1), StevieRay\_74 (P1), StressBall\_72 (P1), Techage\_73 (P1), Thespis\_71 (P1), Totinger\_77 (F1), Vidya\_70 (P1), Willsammy\_74 (P1), Zilizebeth\_77 (P1),

### Summary by clusters:

There are 5 clusters represented in this pham: F1, Z, P1, P4, C2,

Info for manual annotations of cluster C2:

- Start number 15 was manually annotated 2 times for cluster C2.

Info for manual annotations of cluster F1:

- Start number 21 was manually annotated 1 time for cluster F1.
- Start number 24 was manually annotated 4 times for cluster F1.

Info for manual annotations of cluster P1:

- Start number 21 was manually annotated 4 times for cluster P1.
- Start number 24 was manually annotated 36 times for cluster P1.

Info for manual annotations of cluster P4:

- Start number 21 was manually annotated 2 times for cluster P4.

### **Gene Information:**

Gene: 32HC\_6 Start: 3167, Stop: 2994, Start Num: 22

Candidate Starts for 32HC\_6:

(17, 3284), (22, 3167), (28, 3041),

Gene: Arib1\_73 Start: 44656, Stop: 44829, Start Num: 24

Candidate Starts for Arib1\_73:

(23, 44557), (Start: 24 @44656 has 40 MA's), (25, 44725), (26, 44734), (28, 44779),

Gene: Atcoo\_71 Start: 46684, Stop: 46857, Start Num: 24

Candidate Starts for Atcoo\_71:

(1, 45460), (2, 45550), (4, 45754), (5, 45904), (6, 46171), (7, 46231), (8, 46246), (Start: 24 @46684 has 40 MA's), (25, 46753), (26, 46762), (28, 46807),

Gene: Bartholomew\_70 Start: 43762, Stop: 43935, Start Num: 21

Candidate Starts for Bartholomew\_70:

(Start: 21 @43762 has 7 MA's), (25, 43831), (26, 43840), (28, 43885),

Gene: Bhagsy\_75 Start: 45801, Stop: 45974, Start Num: 24

Candidate Starts for Bhagsy\_75:

(3, 44826), (4, 44871), (5, 45021), (6, 45288), (7, 45348), (8, 45363), (Start: 24 @45801 has 40 MA's), (25, 45870), (26, 45879), (28, 45924),

Gene: BigNuz\_74 Start: 46161, Stop: 46334, Start Num: 21

Candidate Starts for BigNuz\_74:

(Start: 21 @46161 has 7 MA's), (26, 46239), (28, 46284),

Gene: Bogie\_75 Start: 46296, Stop: 46475, Start Num: 24

Candidate Starts for Bogie\_75:

(4, 45366), (5, 45516), (6, 45783), (7, 45843), (8, 45858), (Start: 24 @46296 has 40 MA's), (25, 46365), (26, 46374), (27, 46380), (28, 46419),

Gene: Brusacoram\_71 Start: 45227, Stop: 45400, Start Num: 24

Candidate Starts for Brusacoram\_71:

(1, 44003), (2, 44093), (4, 44297), (5, 44447), (6, 44714), (7, 44774), (8, 44789), (Start: 24 @45227 has 40 MA's), (25, 45296), (26, 45305), (28, 45350),

Gene: CactusJack\_73 Start: 45924, Stop: 46097, Start Num: 24

Candidate Starts for CactusJack\_73:

(4, 44994), (5, 45144), (6, 45411), (7, 45471), (8, 45486), (Start: 24 @45924 has 40 MA's), (25, 45993), (26, 46002), (28, 46047),

Gene: Camster\_73 Start: 44757, Stop: 44930, Start Num: 24

Candidate Starts for Camster\_73:

(4, 43827), (5, 43977), (6, 44244), (7, 44304), (8, 44319), (Start: 24 @44757 has 40 MA's), (25, 44826), (26, 44835), (28, 44880),

Gene: Chubbello\_71 Start: 43946, Stop: 44119, Start Num: 24

Candidate Starts for Chubbello\_71:

(4, 43016), (5, 43166), (6, 43433), (7, 43493), (8, 43508), (Start: 24 @43946 has 40 MA's), (25, 44015), (26, 44024), (28, 44069),

Gene: DillTech15\_82 Start: 47918, Stop: 48091, Start Num: 24

Candidate Starts for DillTech15\_82:

(4, 46988), (5, 47138), (6, 47405), (7, 47465), (8, 47480), (Start: 24 @47918 has 40 MA's), (25, 47987), (26, 47996), (28, 48041),

Gene: Donovan\_72 Start: 44886, Stop: 45059, Start Num: 24

Candidate Starts for Donovan\_72:

(4, 43956), (5, 44106), (6, 44373), (7, 44433), (8, 44448), (Start: 24 @44886 has 40 MA's), (25, 44955), (26, 44964), (28, 45009),

Gene: Dynamo\_72 Start: 44330, Stop: 44509, Start Num: 24

Candidate Starts for Dynamo\_72:

(4, 43400), (5, 43550), (6, 43817), (7, 43877), (8, 43892), (Start: 24 @44330 has 40 MA's), (25, 44399), (26, 44408), (27, 44414), (28, 44453),

Gene: Etoile\_72 Start: 45250, Stop: 45423, Start Num: 21

Candidate Starts for Etoile\_72:

(Start: 21 @45250 has 7 MA's), (25, 45319), (26, 45328), (28, 45373),

Gene: Fastidio\_75 Start: 44726, Stop: 44899, Start Num: 24

Candidate Starts for Fastidio\_75:

(4, 43796), (5, 43946), (6, 44213), (7, 44273), (8, 44288), (Start: 24 @44726 has 40 MA's), (25, 44795), (26, 44804), (28, 44849),

Gene: FirstPlacePfu\_73 Start: 43289, Stop: 43462, Start Num: 24

Candidate Starts for FirstPlacePfu\_73:

(3, 42314), (4, 42359), (5, 42509), (6, 42776), (7, 42836), (8, 42851), (Start: 24 @43289 has 40 MA's), (25, 43358), (26, 43367), (28, 43412),

Gene: Fishburne\_71 Start: 44712, Stop: 44885, Start Num: 24

Candidate Starts for Fishburne\_71:

(4, 43782), (5, 43932), (6, 44199), (7, 44259), (8, 44274), (Start: 24 @44712 has 40 MA's), (25, 44781), (26, 44790), (28, 44835),

Gene: Gavriela\_72 Start: 45617, Stop: 45790, Start Num: 24

Candidate Starts for Gavriela\_72:

(4, 44687), (5, 44837), (6, 45104), (7, 45164), (8, 45179), (Start: 24 @45617 has 40 MA's), (25, 45686), (26, 45695), (28, 45740),

Gene: Glaske\_72 Start: 45924, Stop: 46097, Start Num: 24

Candidate Starts for Glaske\_72:

(4, 44994), (5, 45144), (6, 45411), (7, 45471), (8, 45486), (Start: 24 @45924 has 40 MA's), (25, 45993), (26, 46002), (28, 46047),

Gene: GreaseLightnin\_74 Start: 46081, Stop: 46260, Start Num: 24

Candidate Starts for GreaseLightnin\_74:

(4, 45151), (5, 45301), (6, 45568), (7, 45628), (8, 45643), (Start: 24 @46081 has 40 MA's), (25, 46150), (26, 46159), (27, 46165), (28, 46204),

Gene: Greely\_46 Start: 17705, Stop: 17872, Start Num: 15

Candidate Starts for Greely\_46:

(Start: 15 @17705 has 2 MA's), (16, 17732), (18, 17780), (19, 17831), (20, 17843),

Gene: HUHilltop\_75 Start: 44553, Stop: 44732, Start Num: 24

Candidate Starts for HUHilltop\_75:

(4, 43623), (5, 43773), (6, 44040), (7, 44100), (8, 44115), (Start: 24 @44553 has 40 MA's), (25, 44622), (26, 44631), (27, 44637), (28, 44676),

Gene: Jebeks\_70 Start: 43184, Stop: 43357, Start Num: 24

Candidate Starts for Jebeks\_70:

(4, 42254), (5, 42404), (6, 42671), (7, 42731), (8, 42746), (Start: 24 @43184 has 40 MA's), (25, 43253), (26, 43262), (28, 43307),

Gene: Jung\_70 Start: 44205, Stop: 44378, Start Num: 24

Candidate Starts for Jung\_70:

(3, 43230), (4, 43275), (5, 43425), (6, 43692), (7, 43752), (Start: 24 @44205 has 40 MA's), (25, 44274), (26, 44283), (28, 44328),

Gene: Kari\_74 Start: 45246, Stop: 45419, Start Num: 21

Candidate Starts for Kari\_74:

(Start: 21 @45246 has 7 MA's), (25, 45315), (26, 45324), (28, 45369),

Gene: KilKor\_73 Start: 46617, Stop: 46790, Start Num: 24

Candidate Starts for KilKor\_73:

(4, 45687), (5, 45837), (6, 46104), (7, 46164), (8, 46179), (Start: 24 @46617 has 40 MA's), (25, 46686), (26, 46695), (28, 46740),

Gene: Ksquared\_73 Start: 46305, Stop: 46478, Start Num: 24

Candidate Starts for Ksquared\_73:

(3, 45330), (4, 45375), (5, 45525), (6, 45792), (7, 45852), (8, 45867), (Start: 24 @46305 has 40 MA's), (25, 46374), (26, 46383), (28, 46428),

Gene: Langerak\_71 Start: 44690, Stop: 44863, Start Num: 24

Candidate Starts for Langerak\_71:

(4, 43760), (5, 43910), (6, 44177), (7, 44237), (8, 44252), (Start: 24 @44690 has 40 MA's), (25, 44759), (26, 44768), (28, 44813),

Gene: LittleShirley\_81 Start: 48399, Stop: 48572, Start Num: 24

Candidate Starts for LittleShirley\_81:

(4, 47469), (5, 47619), (6, 47886), (7, 47946), (8, 47961), (Start: 24 @48399 has 40 MA's), (25, 48468), (26, 48477), (28, 48522),

Gene: Majeke\_75 Start: 45335, Stop: 45508, Start Num: 24

Candidate Starts for Majeke\_75:

(4, 44405), (5, 44555), (6, 44822), (7, 44882), (8, 44897), (Start: 24 @45335 has 40 MA's), (25, 45404), (26, 45413), (28, 45458),

Gene: Malithi\_72 Start: 44479, Stop: 44652, Start Num: 24

Candidate Starts for Malithi\_72:

(4, 43549), (5, 43699), (6, 43966), (7, 44026), (8, 44041), (Start: 24 @44479 has 40 MA's), (25, 44548), (26, 44557), (28, 44602),

Gene: Mangethe\_75 Start: 45335, Stop: 45508, Start Num: 24

Candidate Starts for Mangethe\_75:

(4, 44405), (5, 44555), (6, 44822), (7, 44882), (8, 44897), (Start: 24 @45335 has 40 MA's), (25, 45404), (26, 45413), (28, 45458),

Gene: Medindi\_78 Start: 48173, Stop: 48346, Start Num: 21

Candidate Starts for Medindi\_78:

(Start: 21 @48173 has 7 MA's), (26, 48251), (28, 48296),

Gene: Megiddo\_72 Start: 46485, Stop: 46658, Start Num: 24

Candidate Starts for Megiddo\_72:

(4, 45555), (5, 45705), (6, 45972), (7, 46032), (8, 46047), (Start: 24 @46485 has 40 MA's), (25, 46554), (26, 46563), (28, 46608),

Gene: Myrna\_43 Start: 18142, Stop: 18309, Start Num: 15

Candidate Starts for Myrna\_43:

(Start: 15 @18142 has 2 MA's), (18, 18214), (19, 18265), (20, 18277),

Gene: Nazo\_75 Start: 46047, Stop: 46220, Start Num: 21

Candidate Starts for Nazo\_75:

(Start: 21 @46047 has 7 MA's), (25, 46116), (26, 46125), (28, 46170),

Gene: Necropolis\_70 Start: 43920, Stop: 44099, Start Num: 24

Candidate Starts for Necropolis\_70:

(4, 42990), (5, 43140), (6, 43407), (7, 43467), (8, 43482), (Start: 24 @43920 has 40 MA's), (25, 43989), (26, 43998), (27, 44004), (28, 44043),

Gene: PeanutPie\_74 Start: 45804, Stop: 45977, Start Num: 24

Candidate Starts for PeanutPie\_74:

(3, 44829), (4, 44874), (5, 45024), (6, 45291), (7, 45351), (8, 45366), (Start: 24 @45804 has 40 MA's), (25, 45873), (26, 45882), (28, 45927),

Gene: Phabba\_48 Start: 17733, Stop: 17900, Start Num: 15

Candidate Starts for Phabba\_48:

(Start: 15 @17733 has 2 MA's), (16, 17760), (18, 17808), (19, 17859), (20, 17871),

Gene: Phalm\_73 Start: 45915, Stop: 46088, Start Num: 24

Candidate Starts for Phalm\_73:

(4, 44985), (5, 45135), (6, 45402), (7, 45462), (8, 45477), (Start: 24 @45915 has 40 MA's), (25, 45984), (26, 45993), (28, 46038),

Gene: Phegasus\_75 Start: 45302, Stop: 45475, Start Num: 24

Candidate Starts for Phegasus\_75:

(4, 44372), (5, 44522), (6, 44789), (7, 44849), (8, 44864), (Start: 24 @45302 has 40 MA's), (25, 45371), (26, 45380), (28, 45425),

Gene: Polkaroo\_73 Start: 46361, Stop: 46534, Start Num: 21

Candidate Starts for Polkaroo\_73:

(9, 46028), (10, 46040), (11, 46052), (12, 46064), (13, 46136), (14, 46154), (Start: 21 @46361 has 7 MA's), (25, 46430), (26, 46439), (28, 46484),

Gene: Pygmy\_76 Start: 46269, Stop: 46448, Start Num: 24

Candidate Starts for Pygmy\_76:

(4, 45339), (5, 45489), (6, 45756), (7, 45816), (8, 45831), (Start: 24 @46269 has 40 MA's), (25, 46338), (26, 46347), (27, 46353), (28, 46392),

Gene: Shipwreck\_75 Start: 46327, Stop: 46506, Start Num: 24

Candidate Starts for Shipwreck\_75:

(4, 45397), (5, 45547), (6, 45814), (7, 45874), (8, 45889), (Start: 24 @46327 has 40 MA's), (25, 46396), (26, 46405), (27, 46411), (28, 46450),

Gene: Sonah\_73 Start: 44024, Stop: 44197, Start Num: 24

Candidate Starts for Sonah\_73:

(4, 43094), (5, 43244), (6, 43511), (7, 43571), (8, 43586), (Start: 24 @44024 has 40 MA's), (25, 44093), (26, 44102), (28, 44147),

Gene: StAnnes\_77 Start: 48907, Stop: 49080, Start Num: 21

Candidate Starts for StAnnes\_77:

(Start: 21 @48907 has 7 MA's), (25, 48976), (26, 48985), (28, 49030),

Gene: StevieRay\_74 Start: 46461, Stop: 46634, Start Num: 24

Candidate Starts for StevieRay\_74:

(3, 45486), (4, 45531), (5, 45681), (6, 45948), (7, 46008), (8, 46023), (Start: 24 @46461 has 40 MA's), (25, 46530), (26, 46539), (27, 46545), (28, 46584),

Gene: StressBall\_72 Start: 45617, Stop: 45790, Start Num: 24

Candidate Starts for StressBall\_72:

(4, 44687), (5, 44837), (6, 45104), (7, 45164), (8, 45179), (Start: 24 @45617 has 40 MA's), (25, 45686), (26, 45695), (28, 45740),

Gene: Techage\_73 Start: 44818, Stop: 44991, Start Num: 24

Candidate Starts for Techage\_73:

(4, 43888), (5, 44038), (6, 44305), (7, 44365), (8, 44380), (Start: 24 @44818 has 40 MA's), (25, 44887), (26, 44896), (28, 44941),

Gene: Thespis\_71 Start: 45227, Stop: 45400, Start Num: 24

Candidate Starts for Thespis\_71:

(1, 44003), (2, 44093), (4, 44297), (5, 44447), (6, 44714), (7, 44774), (8, 44789), (Start: 24 @45227 has 40 MA's), (25, 45296), (26, 45305), (28, 45350),

Gene: Totinger\_77 Start: 47476, Stop: 47649, Start Num: 24

Candidate Starts for Totinger\_77:

(4, 46546), (5, 46696), (6, 46963), (7, 47023), (8, 47038), (Start: 24 @47476 has 40 MA's), (25, 47545), (26, 47554), (28, 47599),

Gene: Venti\_72 Start: 43762, Stop: 43935, Start Num: 21

Candidate Starts for Venti\_72:

(Start: 21 @43762 has 7 MA's), (25, 43831), (26, 43840), (28, 43885),

Gene: Vidya\_70 Start: 44225, Stop: 44398, Start Num: 24

Candidate Starts for Vidya\_70:

(23, 44126), (Start: 24 @44225 has 40 MA's), (25, 44294), (26, 44303), (28, 44348),

Gene: Willsammy\_74 Start: 46101, Stop: 46274, Start Num: 24

Candidate Starts for Willsammy\_74:

(4, 45171), (5, 45321), (6, 45588), (7, 45648), (8, 45663), (Start: 24 @46101 has 40 MA's), (25, 46170), (26, 46179), (28, 46224),

Gene: Zilizebeth\_77 Start: 45659, Stop: 45832, Start Num: 24

Candidate Starts for Zilizebeth\_77:

(4, 44729), (5, 44879), (6, 45146), (7, 45206), (8, 45221), (Start: 24 @45659 has 40 MA's), (25, 45728), (26, 45737), (28, 45782),