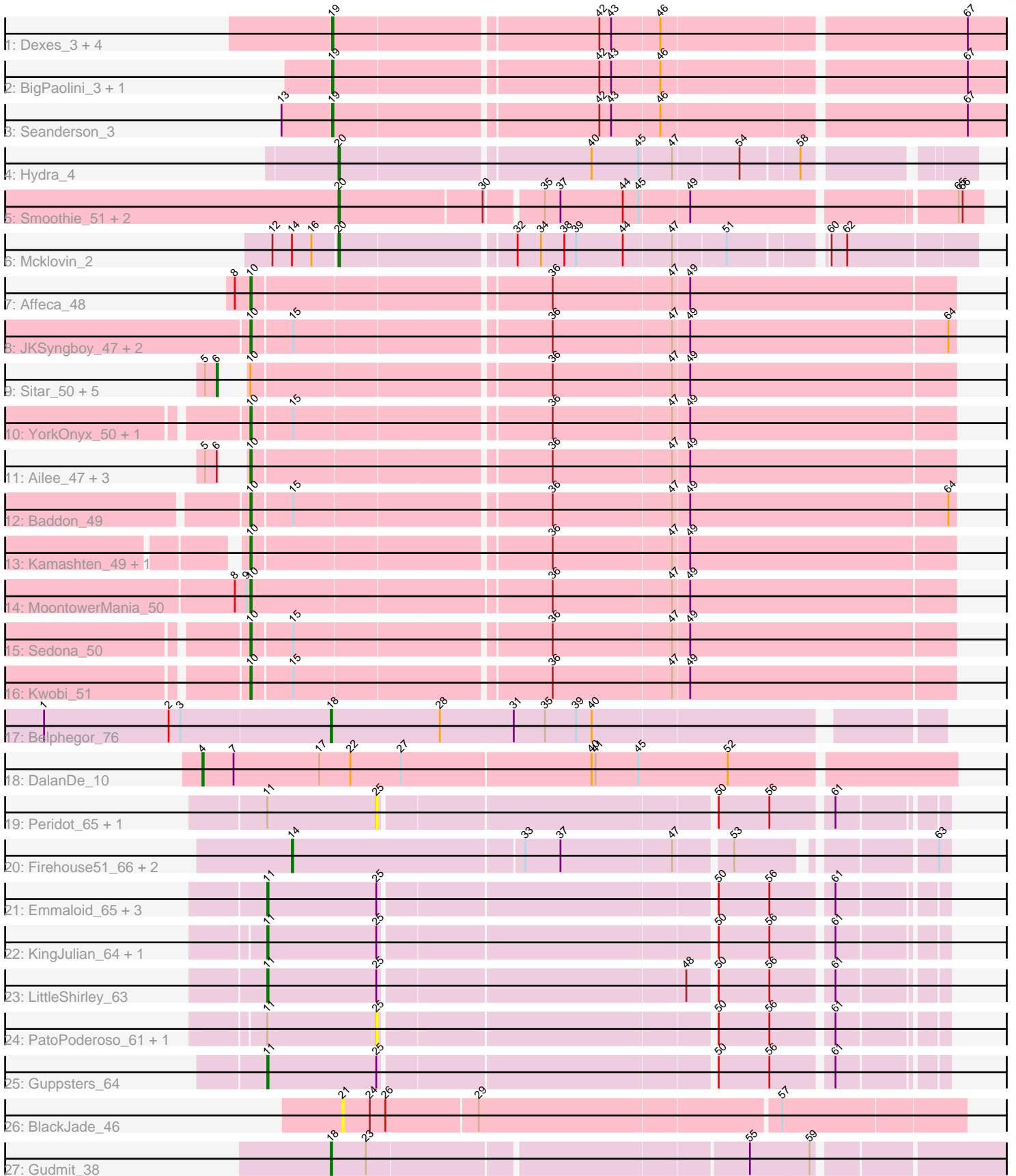


Pham 294786



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 294786 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294786 has 54 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Dexes\_3, Whitspit\_3, Smeagol\_2, Gyzlar\_3, Smairt\_2
- Track 2 : BigPaolini\_3, Licorice\_4
- Track 3 : Seanderson\_3
- Track 4 : Hydra\_4
- Track 5 : Smoothie\_51, Engineer\_51, Lozinak\_50
- Track 6 : Mcklovin\_2
- Track 7 : Affeca\_48
- Track 8 : JKSyngboy\_47, Saronaya\_49, Gustavo\_49
- Track 9 : Sitar\_50, Vivi2\_54, Lennon\_50, McCrothy\_51, Keitabear\_50, Angelicage\_48
- Track 10 : YorkOnyx\_50, Bibwit\_48
- Track 11 : Ailee\_47, Shivanishola\_50, Kewpiedoll\_51, Love\_55
- Track 12 : Baddon\_49
- Track 13 : Kamashten\_49, Thing3\_49
- Track 14 : MoontowerMania\_50
- Track 15 : Sedona\_50
- Track 16 : Kwobi\_51
- Track 17 : Belphegor\_76
- Track 18 : DalanDe\_10
- Track 19 : Peridot\_65, Ms6\_60
- Track 20 : Firehouse51\_66, EleanorGeorge\_65, Mutaforma13\_69
- Track 21 : Emmaloid\_65, Plumbus\_66, Slim\_65, Totinger\_63
- Track 22 : KingJulian\_64, Byougenkin\_63
- Track 23 : LittleShirley\_63
- Track 24 : PatoPoderoso\_61, Corium\_61
- Track 25 : Guppsters\_64
- Track 26 : BlackJade\_46
- Track 27 : Gudmit\_38

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

The start number called the most often in the published annotations is 10, it was called in 16 of the 47 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Affeca\_48, Ailee\_47, Baddon\_49, Bibwit\_48, Gustavo\_49, JKSyngboy\_47, Kamashten\_49, Kewpiedoll\_51, Kwobi\_51, Love\_55, MoontowerMania\_50, Saronaya\_49, Sedona\_50, Shivanishola\_50, Thing3\_49, YorkOnyx\_50,

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

- Angelicage\_48, Keitabear\_50, Lennon\_50, McCrothy\_51, Sitar\_50, Vivi2\_54,

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

- Belphegor\_76, BigPaolini\_3, BlackJade\_46, Byougenkin\_63, Corium\_61, DalanDe\_10, Dexes\_3, EleanorGeorge\_65, Emmaloid\_65, Engineer\_51, Firehouse51\_66, Gudmit\_38, Guppsters\_64, Gyzlar\_3, Hydra\_4, KingJulian\_64, Licorice\_4, LittleShirley\_63, Lozinak\_50, Mcklovin\_2, Ms6\_60, Mutaforma13\_69, PatoPoderoso\_61, Peridot\_65, Plumbus\_66, Seanderson\_3, Slim\_65, Smairt\_2, Smeagol\_2, Smoothie\_51, Totinger\_63, Whitspit\_3,

### Summary by start number:

Start 4:

- Found in 1 of 54 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DalanDe\_10 (DQ),

Start 6:

- Found in 10 of 54 ( 18.5% ) of genes in pham
- Manual Annotations of this start: 5 of 47
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Angelicage\_48 (DE1), Keitabear\_50 (DE1), Lennon\_50 (DE1), McCrothy\_51 (DE1), Sitar\_50 (DE1), Vivi2\_54 (DE1),

Start 10:

- Found in 22 of 54 ( 40.7% ) of genes in pham
- Manual Annotations of this start: 16 of 47
- Called 72.7% of time when present
- Phage (with cluster) where this start called: Affeca\_48 (DE1), Ailee\_47 (DE1), Baddon\_49 (DE1), Bibwit\_48 (DE1), Gustavo\_49 (DE1), JKSyngboy\_47 (DE1), Kamashten\_49 (DE1), Kewpiedoll\_51 (DE1), Kwobi\_51 (DE1), Love\_55 (DE1), MoontowerMania\_50 (DE1), Saronaya\_49 (DE1), Sedona\_50 (DE1), Shivanishola\_50 (DE1), Thing3\_49 (DE1), YorkOnyx\_50 (DE1),

Start 11:

- Found in 12 of 54 ( 22.2% ) of genes in pham
- Manual Annotations of this start: 8 of 47
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Byougenkin\_63 (F1), Emmaloid\_65 (F1), Guppsters\_64 (F1), KingJulian\_64 (F1), LittleShirley\_63 (F1), Plumbus\_66 (F1), Slim\_65 (F1), Totinger\_63 (F1),

Start 14:

- Found in 4 of 54 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 3 of 47
- Called 75.0% of time when present

- Phage (with cluster) where this start called: EleanorGeorge\_65 (F1), Firehouse51\_66 (F1), Mutaforma13\_69 (F1),

Start 18:

- Found in 2 of 54 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 2 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Belphegor\_76 (DE2), Gudmit\_38 (singleton),

Start 19:

- Found in 8 of 54 ( 14.8% ) of genes in pham
- Manual Annotations of this start: 7 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigPaolini\_3 (A1), Dexes\_3 (A1), Gyzlar\_3 (A1), Licorice\_4 (A1), Seanderson\_3 (A1), Smairt\_2 (A1), Smeagol\_2 (A1), Whitspit\_3 (A1),

Start 20:

- Found in 5 of 54 ( 9.3% ) of genes in pham
- Manual Annotations of this start: 5 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Engineer\_51 (CQ1), Hydra\_4 (BD1), Lozinak\_50 (CQ1), Mcklovin\_2 (CZ4), Smoothie\_51 (CQ1),

Start 21:

- Found in 1 of 54 ( 1.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlackJade\_46 (FL),

Start 25:

- Found in 12 of 54 ( 22.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Corium\_61 (F1), Ms6\_60 (F1), PatoPoderoso\_61 (F1), Peridot\_65 (F1),

### **Summary by clusters:**

There are 10 clusters represented in this pham: F1, singleton, DE1, DE2, CZ4, A1, BD1, CQ1, FL, DQ,

Info for manual annotations of cluster A1:

- Start number 19 was manually annotated 7 times for cluster A1.

Info for manual annotations of cluster BD1:

- Start number 20 was manually annotated 1 time for cluster BD1.

Info for manual annotations of cluster CQ1:

- Start number 20 was manually annotated 3 times for cluster CQ1.

Info for manual annotations of cluster CZ4:

- Start number 20 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster DE1:

- Start number 6 was manually annotated 5 times for cluster DE1.
- Start number 10 was manually annotated 16 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 18 was manually annotated 1 time for cluster DE2.

Info for manual annotations of cluster DQ:

- Start number 4 was manually annotated 1 time for cluster DQ.

Info for manual annotations of cluster F1:

- Start number 11 was manually annotated 8 times for cluster F1.
- Start number 14 was manually annotated 3 times for cluster F1.

### **Gene Information:**

Gene: Affeca\_48 Start: 42397, Stop: 42915, Start Num: 10

Candidate Starts for Affeca\_48:

(8, 42385), (Start: 10 @42397 has 16 MA's), (36, 42613), (47, 42703), (49, 42715),

Gene: Ailee\_47 Start: 42002, Stop: 42520, Start Num: 10

Candidate Starts for Ailee\_47:

(5, 41990), (Start: 6 @41999 has 5 MA's), (Start: 10 @42002 has 16 MA's), (36, 42218), (47, 42308), (49, 42320),

Gene: Angelicage\_48 Start: 42812, Stop: 43333, Start Num: 6

Candidate Starts for Angelicage\_48:

(5, 42803), (Start: 6 @42812 has 5 MA's), (Start: 10 @42815 has 16 MA's), (36, 43031), (47, 43121), (49, 43133),

Gene: Baddon\_49 Start: 43084, Stop: 43602, Start Num: 10

Candidate Starts for Baddon\_49:

(Start: 10 @43084 has 16 MA's), (15, 43114), (36, 43300), (47, 43390), (49, 43402), (64, 43597),

Gene: Belphegor\_76 Start: 56290, Stop: 56739, Start Num: 18

Candidate Starts for Belphegor\_76:

(1, 56071), (2, 56167), (3, 56176), (Start: 18 @56290 has 2 MA's), (28, 56374), (31, 56431), (35, 56455), (39, 56479), (40, 56491),

Gene: Bibwit\_48 Start: 41643, Stop: 42161, Start Num: 10

Candidate Starts for Bibwit\_48:

(Start: 10 @41643 has 16 MA's), (15, 41673), (36, 41859), (47, 41949), (49, 41961),

Gene: BigPaolini\_3 Start: 1128, Stop: 1637, Start Num: 19

Candidate Starts for BigPaolini\_3:

(Start: 19 @1128 has 7 MA's), (42, 1323), (43, 1332), (46, 1368), (67, 1590),

Gene: BlackJade\_46 Start: 31841, Stop: 32305, Start Num: 21

Candidate Starts for BlackJade\_46:  
(21, 31841), (24, 31862), (26, 31874), (29, 31943), (57, 32168),

Gene: Byougenkin\_63 Start: 41134, Stop: 41616, Start Num: 11  
Candidate Starts for Byougenkin\_63:  
(Start: 11 @41134 has 8 MA's), (25, 41218), (50, 41461), (56, 41500), (61, 41542),

Gene: Corium\_61 Start: 40510, Stop: 40908, Start Num: 25  
Candidate Starts for Corium\_61:  
(Start: 11 @40426 has 8 MA's), (25, 40510), (50, 40753), (56, 40792), (61, 40834),

Gene: DalanDe\_10 Start: 6059, Stop: 6628, Start Num: 4  
Candidate Starts for DalanDe\_10:  
(Start: 4 @6059 has 1 MA's), (7, 6083), (17, 6149), (22, 6173), (27, 6212), (40, 6356), (41, 6359), (45, 6392), (52, 6461),

Gene: Dexes\_3 Start: 1113, Stop: 1622, Start Num: 19  
Candidate Starts for Dexes\_3:  
(Start: 19 @1113 has 7 MA's), (42, 1308), (43, 1317), (46, 1353), (67, 1575),

Gene: EleanorGeorge\_65 Start: 42284, Stop: 42745, Start Num: 14  
Candidate Starts for EleanorGeorge\_65:  
(Start: 14 @42284 has 3 MA's), (33, 42458), (37, 42485), (47, 42569), (53, 42608), (63, 42737),

Gene: Emmaloid\_65 Start: 42008, Stop: 42490, Start Num: 11  
Candidate Starts for Emmaloid\_65:  
(Start: 11 @42008 has 8 MA's), (25, 42092), (50, 42335), (56, 42374), (61, 42416),

Gene: Engineer\_51 Start: 31923, Stop: 32384, Start Num: 20  
Candidate Starts for Engineer\_51:  
(Start: 20 @31923 has 5 MA's), (30, 32031), (35, 32070), (37, 32082), (44, 32130), (45, 32142), (49, 32178), (65, 32367), (66, 32370),

Gene: Firehouse51\_66 Start: 45330, Stop: 45791, Start Num: 14  
Candidate Starts for Firehouse51\_66:  
(Start: 14 @45330 has 3 MA's), (33, 45504), (37, 45531), (47, 45615), (53, 45654), (63, 45783),

Gene: Gudmit\_38 Start: 27363, Stop: 27896, Start Num: 18  
Candidate Starts for Gudmit\_38:  
(Start: 18 @27363 has 2 MA's), (23, 27390), (55, 27666), (59, 27711),

Gene: Guppsters\_64 Start: 40923, Stop: 41405, Start Num: 11  
Candidate Starts for Guppsters\_64:  
(Start: 11 @40923 has 8 MA's), (25, 41007), (50, 41250), (56, 41289), (61, 41331),

Gene: Gustavo\_49 Start: 42016, Stop: 42534, Start Num: 10  
Candidate Starts for Gustavo\_49:  
(Start: 10 @42016 has 16 MA's), (15, 42046), (36, 42232), (47, 42322), (49, 42334), (64, 42529),

Gene: Gyzlar\_3 Start: 1073, Stop: 1582, Start Num: 19  
Candidate Starts for Gyzlar\_3:  
(Start: 19 @1073 has 7 MA's), (42, 1268), (43, 1277), (46, 1313), (67, 1535),

Gene: Hydra\_4 Start: 1342, Stop: 1785, Start Num: 20

Candidate Starts for Hydra\_4:

(Start: 20 @1342 has 5 MA's), (40, 1525), (45, 1561), (47, 1585), (54, 1630), (58, 1672),

Gene: JKSyngboy\_47 Start: 42615, Stop: 43133, Start Num: 10

Candidate Starts for JKSyngboy\_47:

(Start: 10 @42615 has 16 MA's), (15, 42645), (36, 42831), (47, 42921), (49, 42933), (64, 43128),

Gene: Kamashten\_49 Start: 42108, Stop: 42626, Start Num: 10

Candidate Starts for Kamashten\_49:

(Start: 10 @42108 has 16 MA's), (36, 42324), (47, 42414), (49, 42426),

Gene: Keitabear\_50 Start: 43627, Stop: 44148, Start Num: 6

Candidate Starts for Keitabear\_50:

(5, 43618), (Start: 6 @43627 has 5 MA's), (Start: 10 @43630 has 16 MA's), (36, 43846), (47, 43936), (49, 43948),

Gene: Kewpiedoll\_51 Start: 43059, Stop: 43577, Start Num: 10

Candidate Starts for Kewpiedoll\_51:

(5, 43047), (Start: 6 @43056 has 5 MA's), (Start: 10 @43059 has 16 MA's), (36, 43275), (47, 43365), (49, 43377),

Gene: KingJulian\_64 Start: 40426, Stop: 40908, Start Num: 11

Candidate Starts for KingJulian\_64:

(Start: 11 @40426 has 8 MA's), (25, 40510), (50, 40753), (56, 40792), (61, 40834),

Gene: Kwobi\_51 Start: 42725, Stop: 43243, Start Num: 10

Candidate Starts for Kwobi\_51:

(Start: 10 @42725 has 16 MA's), (15, 42755), (36, 42941), (47, 43031), (49, 43043),

Gene: Lennon\_50 Start: 43707, Stop: 44228, Start Num: 6

Candidate Starts for Lennon\_50:

(5, 43698), (Start: 6 @43707 has 5 MA's), (Start: 10 @43710 has 16 MA's), (36, 43926), (47, 44016), (49, 44028),

Gene: Licorice\_4 Start: 1283, Stop: 1792, Start Num: 19

Candidate Starts for Licorice\_4:

(Start: 19 @1283 has 7 MA's), (42, 1478), (43, 1487), (46, 1523), (67, 1745),

Gene: LittleShirley\_63 Start: 41739, Stop: 42221, Start Num: 11

Candidate Starts for LittleShirley\_63:

(Start: 11 @41739 has 8 MA's), (25, 41823), (48, 42048), (50, 42066), (56, 42105), (61, 42147),

Gene: Love\_55 Start: 44334, Stop: 44852, Start Num: 10

Candidate Starts for Love\_55:

(5, 44322), (Start: 6 @44331 has 5 MA's), (Start: 10 @44334 has 16 MA's), (36, 44550), (47, 44640), (49, 44652),

Gene: Lozinak\_50 Start: 31978, Stop: 32439, Start Num: 20

Candidate Starts for Lozinak\_50:

(Start: 20 @31978 has 5 MA's), (30, 32086), (35, 32125), (37, 32137), (44, 32185), (45, 32197), (49, 32233), (65, 32422), (66, 32425),

Gene: McCrothy\_51 Start: 43461, Stop: 43982, Start Num: 6  
Candidate Starts for McCrothy\_51:  
(5, 43452), (Start: 6 @43461 has 5 MA's), (Start: 10 @43464 has 16 MA's), (36, 43680), (47, 43770),  
(49, 43782),

Gene: Mcklovin\_2 Start: 532, Stop: 981, Start Num: 20  
Candidate Starts for Mcklovin\_2:  
(12, 484), (Start: 14 @499 has 3 MA's), (16, 514), (Start: 20 @532 has 5 MA's), (32, 658), (34, 676),  
(38, 694), (39, 703), (44, 739), (47, 775), (51, 811), (60, 874), (62, 886),

Gene: MoontowerMania\_50 Start: 43336, Stop: 43860, Start Num: 10  
Candidate Starts for MoontowerMania\_50:  
(8, 43324), (9, 43333), (Start: 10 @43336 has 16 MA's), (36, 43558), (47, 43648), (49, 43660),

Gene: Ms6\_60 Start: 36767, Stop: 37165, Start Num: 25  
Candidate Starts for Ms6\_60:  
(Start: 11 @36683 has 8 MA's), (25, 36767), (50, 37010), (56, 37049), (61, 37091),

Gene: Mutaforma13\_69 Start: 44640, Stop: 45101, Start Num: 14  
Candidate Starts for Mutaforma13\_69:  
(Start: 14 @44640 has 3 MA's), (33, 44814), (37, 44841), (47, 44925), (53, 44964), (63, 45093),

Gene: PatoPoderoso\_61 Start: 40510, Stop: 40908, Start Num: 25  
Candidate Starts for PatoPoderoso\_61:  
(Start: 11 @40426 has 8 MA's), (25, 40510), (50, 40753), (56, 40792), (61, 40834),

Gene: Peridot\_65 Start: 40742, Stop: 41140, Start Num: 25  
Candidate Starts for Peridot\_65:  
(Start: 11 @40658 has 8 MA's), (25, 40742), (50, 40985), (56, 41024), (61, 41066),

Gene: Plumbus\_66 Start: 41519, Stop: 42001, Start Num: 11  
Candidate Starts for Plumbus\_66:  
(Start: 11 @41519 has 8 MA's), (25, 41603), (50, 41846), (56, 41885), (61, 41927),

Gene: Saronaya\_49 Start: 42016, Stop: 42534, Start Num: 10  
Candidate Starts for Saronaya\_49:  
(Start: 10 @42016 has 16 MA's), (15, 42046), (36, 42232), (47, 42322), (49, 42334), (64, 42529),

Gene: Seanderson\_3 Start: 1096, Stop: 1605, Start Num: 19  
Candidate Starts for Seanderson\_3:  
(13, 1057), (Start: 19 @1096 has 7 MA's), (42, 1291), (43, 1300), (46, 1336), (67, 1558),

Gene: Sedona\_50 Start: 43310, Stop: 43828, Start Num: 10  
Candidate Starts for Sedona\_50:  
(Start: 10 @43310 has 16 MA's), (15, 43340), (36, 43526), (47, 43616), (49, 43628),

Gene: Shivanishola\_50 Start: 42031, Stop: 42549, Start Num: 10  
Candidate Starts for Shivanishola\_50:  
(5, 42019), (Start: 6 @42028 has 5 MA's), (Start: 10 @42031 has 16 MA's), (36, 42247), (47, 42337),  
(49, 42349),

Gene: Sitar\_50 Start: 43707, Stop: 44228, Start Num: 6  
Candidate Starts for Sitar\_50:

(5, 43698), (Start: 6 @43707 has 5 MA's), (Start: 10 @43710 has 16 MA's), (36, 43926), (47, 44016), (49, 44028),

Gene: Slim\_65 Start: 41999, Stop: 42481, Start Num: 11

Candidate Starts for Slim\_65:

(Start: 11 @41999 has 8 MA's), (25, 42083), (50, 42326), (56, 42365), (61, 42407),

Gene: Smairt\_2 Start: 926, Stop: 1435, Start Num: 19

Candidate Starts for Smairt\_2:

(Start: 19 @926 has 7 MA's), (42, 1121), (43, 1130), (46, 1166), (67, 1388),

Gene: Smeagol\_2 Start: 927, Stop: 1436, Start Num: 19

Candidate Starts for Smeagol\_2:

(Start: 19 @927 has 7 MA's), (42, 1122), (43, 1131), (46, 1167), (67, 1389),

Gene: Smoothie\_51 Start: 31978, Stop: 32439, Start Num: 20

Candidate Starts for Smoothie\_51:

(Start: 20 @31978 has 5 MA's), (30, 32086), (35, 32125), (37, 32137), (44, 32185), (45, 32197), (49, 32233), (65, 32422), (66, 32425),

Gene: Thing3\_49 Start: 42108, Stop: 42626, Start Num: 10

Candidate Starts for Thing3\_49:

(Start: 10 @42108 has 16 MA's), (36, 42324), (47, 42414), (49, 42426),

Gene: Totinger\_63 Start: 40465, Stop: 40947, Start Num: 11

Candidate Starts for Totinger\_63:

(Start: 11 @40465 has 8 MA's), (25, 40549), (50, 40792), (56, 40831), (61, 40873),

Gene: Vivi2\_54 Start: 43935, Stop: 44456, Start Num: 6

Candidate Starts for Vivi2\_54:

(5, 43926), (Start: 6 @43935 has 5 MA's), (Start: 10 @43938 has 16 MA's), (36, 44154), (47, 44244), (49, 44256),

Gene: Whitspit\_3 Start: 1078, Stop: 1587, Start Num: 19

Candidate Starts for Whitspit\_3:

(Start: 19 @1078 has 7 MA's), (42, 1273), (43, 1282), (46, 1318), (67, 1540),

Gene: YorkOnyx\_50 Start: 42214, Stop: 42732, Start Num: 10

Candidate Starts for YorkOnyx\_50:

(Start: 10 @42214 has 16 MA's), (15, 42244), (36, 42430), (47, 42520), (49, 42532),