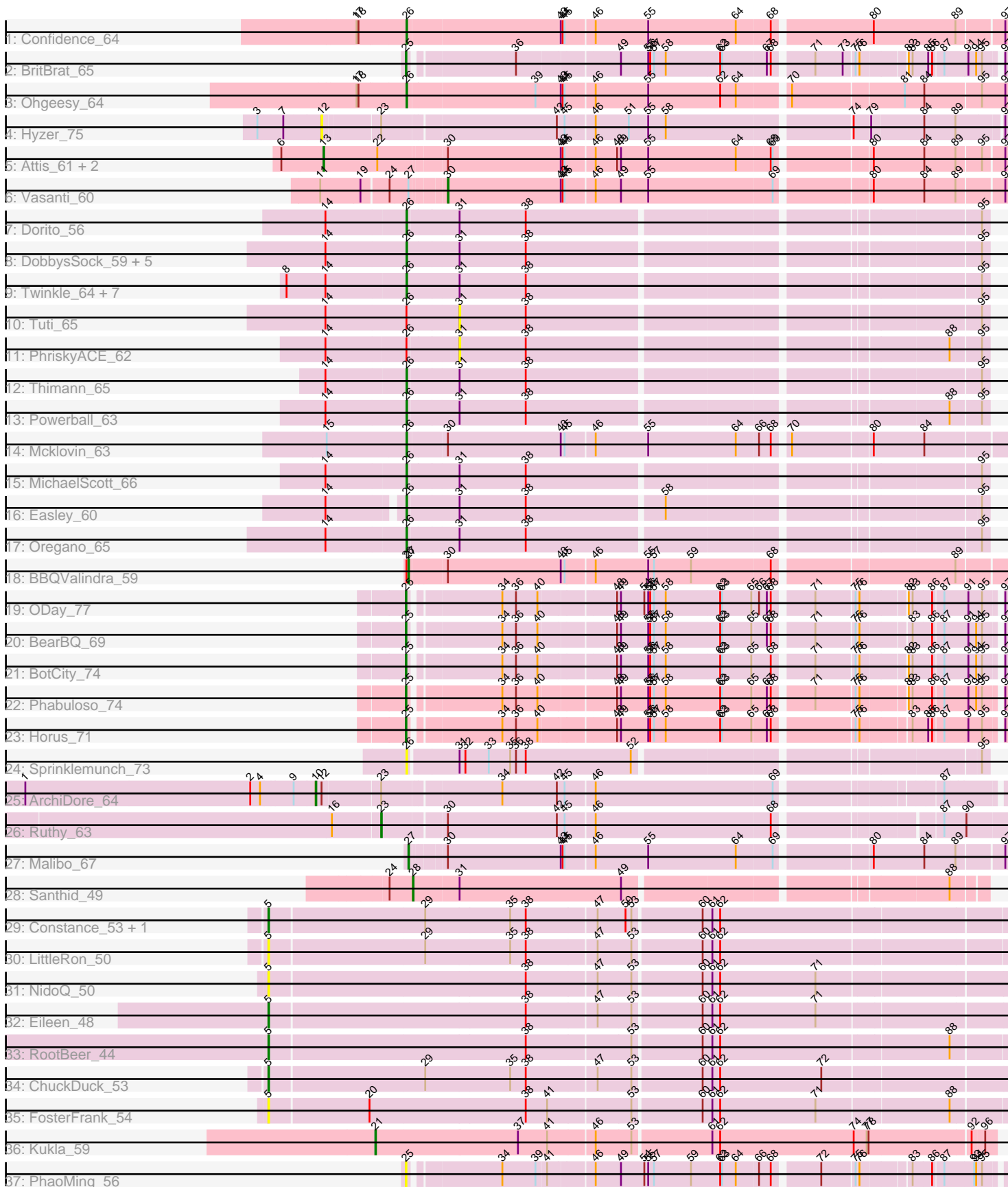


Pham 296645



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 296645 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296645 has 52 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Confidence\_64
- Track 2 : BritBrat\_65
- Track 3 : Ohgeesy\_64
- Track 4 : Hyzer\_75
- Track 5 : Attis\_61, LordFarquaad\_63, SoilAssassin\_61
- Track 6 : Vasanti\_60
- Track 7 : Dorito\_56
- Track 8 : DobbysSock\_59, Beenie\_59, Rizz\_65, Samman98\_65, Invectra\_67, Clark\_64
- Track 9 : Twinkle\_64, Howe\_65, Dolores\_63, Sekhmet\_62, WinkNick\_63, Adora\_62, Hortense\_65, Shlim410\_63
- Track 10 : Tuti\_65
- Track 11 : PhriskyACE\_62
- Track 12 : Thimann\_65
- Track 13 : Powerball\_63
- Track 14 : Mcklovin\_63
- Track 15 : MichaelScott\_66
- Track 16 : Easley\_60
- Track 17 : Oregano\_65
- Track 18 : BBQValindra\_59
- Track 19 : ODay\_77
- Track 20 : BearBQ\_69
- Track 21 : BotCity\_74
- Track 22 : Phabuloso\_74
- Track 23 : Horus\_71
- Track 24 : Sprinklemunch\_73
- Track 25 : ArchiDore\_64
- Track 26 : Ruthy\_63
- Track 27 : Malibo\_67
- Track 28 : Santhid\_49
- Track 29 : Constance\_53, KayMoney\_53
- Track 30 : LittleRon\_50
- Track 31 : NidoQ\_50
- Track 32 : Eileen\_48
- Track 33 : RootBeer\_44
- Track 34 : ChuckDuck\_53
- Track 35 : FosterFrank\_54

- Track 36 : Kukla\_59
- Track 37 : PhaoMing\_56

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

The start number called the most often in the published annotations is 26, it was called in 22 of the 43 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adora\_62, Beenie\_59, Clark\_64, Confidence\_64, DobbysSock\_59, Dolores\_63, Dorito\_56, Easley\_60, Hortense\_65, Howe\_65, Invecetra\_67, Mcklovin\_63, MichaelScott\_66, Ohgeesy\_64, Oregano\_65, Powerball\_63, Rizz\_65, Samman98\_65, Sekhmet\_62, Shlim410\_63, Sprinklemunch\_73, Thimann\_65, Twinkle\_64, WinkNick\_63,

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

- BBQValindra\_59, PhriskyACE\_62, Tuti\_65,

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

- ArchiDore\_64, Attis\_61, BearBQ\_69, BotCity\_74, BritBrat\_65, ChuckDuck\_53, Constance\_53, Eileen\_48, FosterFrank\_54, Horus\_71, Hyzer\_75, KayMoney\_53, Kukla\_59, LittleRon\_50, LordFarquaad\_63, Malibo\_67, NidoQ\_50, ODay\_77, Phabuloso\_74, PhaoMing\_56, RootBeer\_44, Ruthy\_63, Santhid\_49, SoilAssassin\_61, Vasanti\_60,

**Summary by start number:**

Start 5:

- Found in 8 of 52 ( 15.4% ) of genes in pham
- Manual Annotations of this start: 5 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChuckDuck\_53 (FA), Constance\_53 (FA), Eileen\_48 (FA), FosterFrank\_54 (FA), KayMoney\_53 (FA), LittleRon\_50 (FA), NidoQ\_50 (FA), RootBeer\_44 (FA),

Start 10:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArchiDore\_64 (DW),

Start 12:

- Found in 2 of 52 ( 3.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Hyzer\_75 (CZ1),

Start 13:

- Found in 3 of 52 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 3 of 43

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attis\_61 (CZ2), LordFarquaad\_63 (CZ2), SoilAssassin\_61 (CZ2),

#### Start 21:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kukla\_59 (FJ),

#### Start 23:

- Found in 3 of 52 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Ruthy\_63 (DW),

#### Start 25:

- Found in 7 of 52 ( 13.5% ) of genes in pham
- Manual Annotations of this start: 6 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BearBQ\_69 (DN), BotCity\_74 (DN), BritBrat\_65 (CY2), Horus\_71 (DN1), ODay\_77 (DN), Phabuloso\_74 (DN1), PhaoMing\_56 (UNK),

#### Start 26:

- Found in 27 of 52 ( 51.9% ) of genes in pham
- Manual Annotations of this start: 22 of 43
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Adora\_62 (CZ4), Beenie\_59 (CZ4), Clark\_64 (CZ4), Confidence\_64 (CY1), DobbysSock\_59 (CZ4), Dolores\_63 (CZ4), Dorito\_56 (CZ4), Easley\_60 (CZ4), Hortense\_65 (CZ4), Howe\_65 (CZ4), Invectra\_67 (CZ4), Mcklovin\_63 (CZ4), MichaelScott\_66 (CZ4), Ohgeesy\_64 (CZ), Oregano\_65 (CZ4), Powerball\_63 (CZ4), Rizz\_65 (CZ4), Samman98\_65 (CZ4), Sekhmet\_62 (CZ4), Shlim410\_63 (CZ4), Sprinklemunch\_73 (DW), Thimann\_65 (CZ4), Twinkle\_64 (CZ4), WinkNick\_63 (CZ4),

#### Start 27:

- Found in 3 of 52 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 2 of 43
- Called 66.7% of time when present
- Phage (with cluster) where this start called: BBQValindra\_59 (DB), Malibo\_67 (DW),

#### Start 28:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Santhid\_49 (DY),

#### Start 30:

- Found in 8 of 52 ( 15.4% ) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Vasanti\_60 (CZ2),

Start 31:

- Found in 24 of 52 ( 46.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: PhriskyACE\_62 (CZ4), Tuti\_65 (CZ4),

### **Summary by clusters:**

There are 14 clusters represented in this pham: DN, CY2, CY1, CZ, CZ2, CZ1, DB, CZ4, FA, DN1, DY, DW, FJ, UNK,

Info for manual annotations of cluster CY1:

- Start number 26 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 25 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ:

- Start number 26 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ2:

- Start number 13 was manually annotated 3 times for cluster CZ2.
- Start number 30 was manually annotated 1 time for cluster CZ2.

Info for manual annotations of cluster CZ4:

- Start number 26 was manually annotated 20 times for cluster CZ4.

Info for manual annotations of cluster DB:

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

Info for manual annotations of cluster DN:

- Start number 25 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 25 was manually annotated 2 times for cluster DN1.

Info for manual annotations of cluster DW:

- Start number 10 was manually annotated 1 time for cluster DW.
- Start number 23 was manually annotated 1 time for cluster DW.
- Start number 27 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster DY:

- Start number 28 was manually annotated 1 time for cluster DY.

Info for manual annotations of cluster FA:

- Start number 5 was manually annotated 5 times for cluster FA.

Info for manual annotations of cluster FJ:

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

**Gene Information:**

Gene: Adora\_62 Start: 43256, Stop: 44095, Start Num: 26

Candidate Starts for Adora\_62:

(8, 43076), (14, 43136), (Start: 26 @43256 has 22 MA's), (31, 43334), (38, 43436), (95, 44084),

Gene: ArchiDore\_64 Start: 45624, Stop: 46604, Start Num: 10

Candidate Starts for ArchiDore\_64:

(1, 45183), (2, 45528), (4, 45543), (9, 45591), (Start: 10 @45624 has 1 MA's), (12, 45633), (Start: 23 @45717 has 1 MA's), (34, 45888), (42, 45972), (45, 45984), (46, 46026), (69, 46296), (87, 46518),

Gene: Attis\_61 Start: 41335, Stop: 42336, Start Num: 13

Candidate Starts for Attis\_61:

(6, 41272), (Start: 13 @41335 has 3 MA's), (22, 41413), (Start: 30 @41509 has 1 MA's), (43, 41683), (44, 41686), (45, 41689), (46, 41731), (48, 41764), (49, 41770), (55, 41812), (64, 41947), (68, 41998), (69, 42001), (80, 42133), (84, 42211), (89, 42259), (95, 42295), (97, 42325),

Gene: BBQValindra\_59 Start: 41751, Stop: 42629, Start Num: 27

Candidate Starts for BBQValindra\_59:

(Start: 26 @41748 has 22 MA's), (Start: 27 @41751 has 2 MA's), (Start: 30 @41802 has 1 MA's), (43, 41976), (45, 41982), (46, 42024), (55, 42105), (57, 42114), (59, 42171), (68, 42291), (89, 42552),

Gene: BearBQ\_69 Start: 43538, Stop: 44368, Start Num: 25

Candidate Starts for BearBQ\_69:

(Start: 25 @43538 has 6 MA's), (34, 43664), (36, 43685), (40, 43718), (48, 43826), (49, 43832), (55, 43874), (56, 43877), (57, 43883), (58, 43901), (62, 43982), (63, 43985), (65, 44030), (67, 44051), (68, 44057), (71, 44111), (75, 44168), (76, 44171), (83, 44240), (86, 44267), (87, 44282), (91, 44315), (94, 44327), (95, 44336), (97, 44357),

Gene: Beenie\_59 Start: 41304, Stop: 42143, Start Num: 26

Candidate Starts for Beenie\_59:

(14, 41181), (Start: 26 @41304 has 22 MA's), (31, 41382), (38, 41484), (95, 42132),

Gene: BotCity\_74 Start: 43774, Stop: 44604, Start Num: 25

Candidate Starts for BotCity\_74:

(Start: 25 @43774 has 6 MA's), (34, 43900), (36, 43921), (40, 43954), (48, 44062), (49, 44068), (55, 44110), (56, 44113), (57, 44119), (58, 44137), (62, 44218), (63, 44221), (65, 44266), (68, 44293), (71, 44347), (75, 44404), (76, 44407), (82, 44470), (83, 44476), (86, 44503), (87, 44518), (91, 44551), (94, 44563), (95, 44572), (97, 44593),

Gene: BritBrat\_65 Start: 43022, Stop: 43852, Start Num: 25

Candidate Starts for BritBrat\_65:

(Start: 25 @43022 has 6 MA's), (36, 43169), (49, 43316), (55, 43358), (56, 43361), (57, 43367), (58, 43385), (62, 43466), (63, 43469), (67, 43535), (68, 43541), (71, 43595), (73, 43637), (75, 43652), (76, 43655), (82, 43718), (83, 43724), (85, 43745), (86, 43751), (87, 43766), (91, 43799), (94, 43811), (95, 43820), (97, 43841),

Gene: ChuckDuck\_53 Start: 34124, Stop: 35224, Start Num: 5

Candidate Starts for ChuckDuck\_53:

(Start: 5 @34124 has 5 MA's), (29, 34358), (35, 34487), (38, 34511), (47, 34616), (53, 34667), (60, 34769), (61, 34784), (62, 34796), (72, 34952),

Gene: Clark\_64 Start: 41067, Stop: 41906, Start Num: 26

Candidate Starts for Clark\_64:

(14, 40944), (Start: 26 @41067 has 22 MA's), (31, 41145), (38, 41247), (95, 41895),

Gene: Confidence\_64 Start: 42274, Stop: 43167, Start Num: 26

Candidate Starts for Confidence\_64:

(17, 42202), (18, 42205), (Start: 26 @42274 has 22 MA's), (43, 42505), (44, 42508), (45, 42511), (46, 42553), (55, 42634), (64, 42769), (68, 42820), (80, 42964), (89, 43090), (97, 43156),

Gene: Constance\_53 Start: 34710, Stop: 35807, Start Num: 5

Candidate Starts for Constance\_53:

(Start: 5 @34710 has 5 MA's), (29, 34944), (35, 35073), (38, 35097), (47, 35202), (50, 35244), (53, 35253), (60, 35355), (61, 35370), (62, 35382),

Gene: DobbysSock\_59 Start: 40715, Stop: 41554, Start Num: 26

Candidate Starts for DobbysSock\_59:

(14, 40592), (Start: 26 @40715 has 22 MA's), (31, 40793), (38, 40895), (95, 41543),

Gene: Dolores\_63 Start: 40400, Stop: 41236, Start Num: 26

Candidate Starts for Dolores\_63:

(8, 40220), (14, 40280), (Start: 26 @40400 has 22 MA's), (31, 40478), (38, 40580), (95, 41225),

Gene: Dorito\_56 Start: 38217, Stop: 39053, Start Num: 26

Candidate Starts for Dorito\_56:

(14, 38097), (Start: 26 @38217 has 22 MA's), (31, 38292), (38, 38394), (95, 39042),

Gene: Easley\_60 Start: 39896, Stop: 40729, Start Num: 26

Candidate Starts for Easley\_60:

(14, 39791), (Start: 26 @39896 has 22 MA's), (31, 39971), (38, 40073), (58, 40277), (95, 40718),

Gene: Eileen\_48 Start: 31825, Stop: 32925, Start Num: 5

Candidate Starts for Eileen\_48:

(Start: 5 @31825 has 5 MA's), (38, 32212), (47, 32317), (53, 32368), (60, 32470), (61, 32485), (62, 32497), (71, 32644),

Gene: FosterFrank\_54 Start: 33446, Stop: 34543, Start Num: 5

Candidate Starts for FosterFrank\_54:

(Start: 5 @33446 has 5 MA's), (20, 33596), (38, 33833), (41, 33866), (53, 33989), (60, 34091), (61, 34106), (62, 34118), (71, 34265), (88, 34460),

Gene: Hortense\_65 Start: 44611, Stop: 45450, Start Num: 26

Candidate Starts for Hortense\_65:

(8, 44431), (14, 44491), (Start: 26 @44611 has 22 MA's), (31, 44689), (38, 44791), (95, 45439),

Gene: Horus\_71 Start: 43494, Stop: 44324, Start Num: 25

Candidate Starts for Horus\_71:

(Start: 25 @43494 has 6 MA's), (34, 43620), (36, 43641), (40, 43674), (48, 43782), (49, 43788), (55, 43830), (56, 43833), (57, 43839), (58, 43857), (62, 43938), (63, 43941), (65, 43986), (67, 44007), (68, 44013), (75, 44124), (76, 44127), (83, 44196), (85, 44217), (86, 44223), (87, 44238), (91, 44271), (95, 44292), (97, 44313),

Gene: Howe\_65 Start: 44611, Stop: 45450, Start Num: 26

Candidate Starts for Howe\_65:

(8, 44431), (14, 44491), (Start: 26 @44611 has 22 MA's), (31, 44689), (38, 44791), (95, 45439),

Gene: Hyzer\_75 Start: 50006, Stop: 50998, Start Num: 12

Candidate Starts for Hyzer\_75:

(3, 49919), (7, 49952), (12, 50006), (Start: 23 @50087 has 1 MA's), (42, 50342), (45, 50354), (46, 50396), (51, 50447), (55, 50477), (58, 50504), (74, 50771), (79, 50795), (84, 50873), (89, 50921), (97, 50987),

Gene: Invectra\_67 Start: 42640, Stop: 43479, Start Num: 26

Candidate Starts for Invectra\_67:

(14, 42517), (Start: 26 @42640 has 22 MA's), (31, 42718), (38, 42820), (95, 43468),

Gene: KayMoney\_53 Start: 34053, Stop: 35150, Start Num: 5

Candidate Starts for KayMoney\_53:

(Start: 5 @34053 has 5 MA's), (29, 34287), (35, 34416), (38, 34440), (47, 34545), (50, 34587), (53, 34596), (60, 34698), (61, 34713), (62, 34725),

Gene: Kukla\_59 Start: 36053, Stop: 36976, Start Num: 21

Candidate Starts for Kukla\_59:

(Start: 21 @36053 has 1 MA's), (37, 36269), (41, 36314), (46, 36383), (53, 36437), (61, 36554), (62, 36566), (74, 36770), (77, 36788), (78, 36791), (92, 36941), (96, 36959),

Gene: LittleRon\_50 Start: 33651, Stop: 34748, Start Num: 5

Candidate Starts for LittleRon\_50:

(Start: 5 @33651 has 5 MA's), (29, 33885), (35, 34014), (38, 34038), (47, 34143), (53, 34194), (60, 34296), (61, 34311), (62, 34323),

Gene: LordFarquaad\_63 Start: 41316, Stop: 42317, Start Num: 13

Candidate Starts for LordFarquaad\_63:

(6, 41253), (Start: 13 @41316 has 3 MA's), (22, 41394), (Start: 30 @41490 has 1 MA's), (43, 41664), (44, 41667), (45, 41670), (46, 41712), (48, 41745), (49, 41751), (55, 41793), (64, 41928), (68, 41979), (69, 41982), (80, 42114), (84, 42192), (89, 42240), (95, 42276), (97, 42306),

Gene: Malibo\_67 Start: 44890, Stop: 45759, Start Num: 27

Candidate Starts for Malibo\_67:

(Start: 27 @44890 has 2 MA's), (Start: 30 @44935 has 1 MA's), (43, 45109), (44, 45112), (45, 45115), (46, 45157), (55, 45238), (64, 45373), (69, 45427), (80, 45556), (84, 45634), (89, 45682), (97, 45748),

Gene: Mcklovin\_63 Start: 46941, Stop: 47825, Start Num: 26

Candidate Starts for Mcklovin\_63:

(15, 46821), (Start: 26 @46941 has 22 MA's), (Start: 30 @46998 has 1 MA's), (43, 47172), (45, 47178), (46, 47220), (55, 47301), (64, 47436), (66, 47469), (68, 47487), (70, 47505), (80, 47622), (84, 47700),

Gene: MichaelScott\_66 Start: 42331, Stop: 43167, Start Num: 26

Candidate Starts for MichaelScott\_66:

(14, 42211), (Start: 26 @42331 has 22 MA's), (31, 42406), (38, 42508), (95, 43156),

Gene: NidoQ\_50 Start: 34199, Stop: 35299, Start Num: 5

Candidate Starts for NidoQ\_50:

(Start: 5 @34199 has 5 MA's), (38, 34586), (47, 34691), (53, 34742), (60, 34844), (61, 34859), (62, 34871), (71, 35018),

Gene: ODay\_77 Start: 44730, Stop: 45560, Start Num: 25

Candidate Starts for ODay\_77:

(Start: 25 @44730 has 6 MA's), (34, 44856), (36, 44877), (40, 44910), (48, 45018), (49, 45024), (54, 45060), (55, 45066), (56, 45069), (57, 45075), (58, 45093), (62, 45174), (63, 45177), (65, 45222), (66, 45231), (67, 45243), (68, 45249), (71, 45303), (75, 45360), (76, 45363), (82, 45426), (83, 45432), (86, 45459), (87, 45474), (91, 45507), (95, 45528), (97, 45549),

Gene: Ohgeesy\_64 Start: 43662, Stop: 44552, Start Num: 26

Candidate Starts for Ohgeesy\_64:

(17, 43590), (18, 43593), (Start: 26 @43662 has 22 MA's), (39, 43854), (43, 43893), (44, 43896), (45, 43899), (46, 43941), (55, 44022), (62, 44133), (64, 44157), (70, 44226), (81, 44391), (84, 44421), (95, 44505), (97, 44541),

Gene: Oregano\_65 Start: 41205, Stop: 42041, Start Num: 26

Candidate Starts for Oregano\_65:

(14, 41085), (Start: 26 @41205 has 22 MA's), (31, 41280), (38, 41382), (95, 42030),

Gene: Phabuloso\_74 Start: 42992, Stop: 43822, Start Num: 25

Candidate Starts for Phabuloso\_74:

(Start: 25 @42992 has 6 MA's), (34, 43118), (36, 43139), (40, 43172), (48, 43280), (49, 43286), (55, 43328), (56, 43331), (57, 43337), (58, 43355), (62, 43436), (63, 43439), (65, 43484), (67, 43505), (68, 43511), (71, 43565), (75, 43622), (76, 43625), (82, 43688), (83, 43694), (86, 43721), (87, 43736), (91, 43769), (94, 43781), (95, 43790), (97, 43811),

Gene: PhaoMing\_56 Start: 38766, Stop: 39596, Start Num: 25

Candidate Starts for PhaoMing\_56:

(Start: 25 @38766 has 6 MA's), (34, 38892), (39, 38943), (41, 38958), (46, 39021), (49, 39060), (54, 39096), (55, 39102), (57, 39111), (59, 39168), (62, 39210), (63, 39213), (64, 39234), (66, 39267), (68, 39285), (72, 39348), (75, 39396), (76, 39399), (83, 39468), (86, 39495), (87, 39510), (93, 39552), (94, 39555), (95, 39564),

Gene: PhriskyACE\_62 Start: 41297, Stop: 42058, Start Num: 31

Candidate Starts for PhriskyACE\_62:

(14, 41102), (Start: 26 @41222 has 22 MA's), (31, 41297), (38, 41399), (88, 42002), (95, 42047),

Gene: Powerball\_63 Start: 41331, Stop: 42167, Start Num: 26

Candidate Starts for Powerball\_63:

(14, 41208), (Start: 26 @41331 has 22 MA's), (31, 41406), (38, 41508), (88, 42111), (95, 42156),

Gene: Rizz\_65 Start: 41856, Stop: 42695, Start Num: 26

Candidate Starts for Rizz\_65:

(14, 41733), (Start: 26 @41856 has 22 MA's), (31, 41934), (38, 42036), (95, 42684),

Gene: RootBeer\_44 Start: 30900, Stop: 31997, Start Num: 5

Candidate Starts for RootBeer\_44:

(Start: 5 @30900 has 5 MA's), (38, 31287), (53, 31443), (60, 31545), (61, 31560), (62, 31572), (88, 31914),

Gene: Ruthy\_63 Start: 45360, Stop: 46259, Start Num: 23

Candidate Starts for Ruthy\_63:

(16, 45288), (Start: 23 @45360 has 1 MA's), (Start: 30 @45447 has 1 MA's), (42, 45615), (45, 45627), (46, 45669), (68, 45936), (87, 46161), (90, 46191),

Gene: Samman98\_65 Start: 41170, Stop: 42009, Start Num: 26  
Candidate Starts for Samman98\_65:  
(14, 41047), (Start: 26 @41170 has 22 MA's), (31, 41248), (38, 41350), (95, 41998),

Gene: Santhid\_49 Start: 31927, Stop: 32751, Start Num: 28  
Candidate Starts for Santhid\_49:  
(24, 31891), (Start: 28 @31927 has 1 MA's), (31, 31996), (49, 32245), (88, 32701),

Gene: Sekhmet\_62 Start: 40799, Stop: 41635, Start Num: 26  
Candidate Starts for Sekhmet\_62:  
(8, 40619), (14, 40679), (Start: 26 @40799 has 22 MA's), (31, 40877), (38, 40979), (95, 41624),

Gene: Shlim410\_63 Start: 44611, Stop: 45450, Start Num: 26  
Candidate Starts for Shlim410\_63:  
(8, 44431), (14, 44491), (Start: 26 @44611 has 22 MA's), (31, 44689), (38, 44791), (95, 45439),

Gene: SoilAssassin\_61 Start: 41334, Stop: 42335, Start Num: 13  
Candidate Starts for SoilAssassin\_61:  
(6, 41271), (Start: 13 @41334 has 3 MA's), (22, 41412), (Start: 30 @41508 has 1 MA's), (43, 41682),  
(44, 41685), (45, 41688), (46, 41730), (48, 41763), (49, 41769), (55, 41811), (64, 41946), (68, 41997),  
(69, 42000), (80, 42132), (84, 42210), (89, 42258), (95, 42294), (97, 42324),

Gene: Sprinklemunch\_73 Start: 47017, Stop: 47847, Start Num: 26  
Candidate Starts for Sprinklemunch\_73:  
(Start: 26 @47017 has 22 MA's), (31, 47089), (32, 47098), (33, 47134), (35, 47167), (36, 47176), (38, 47191), (52, 47353), (95, 47836),

Gene: Thimann\_65 Start: 41439, Stop: 42275, Start Num: 26  
Candidate Starts for Thimann\_65:  
(14, 41319), (Start: 26 @41439 has 22 MA's), (31, 41514), (38, 41616), (95, 42264),

Gene: Tuti\_65 Start: 42264, Stop: 43025, Start Num: 31  
Candidate Starts for Tuti\_65:  
(14, 42063), (Start: 26 @42186 has 22 MA's), (31, 42264), (38, 42366), (95, 43014),

Gene: Twinkle\_64 Start: 45670, Stop: 46509, Start Num: 26  
Candidate Starts for Twinkle\_64:  
(8, 45490), (14, 45550), (Start: 26 @45670 has 22 MA's), (31, 45748), (38, 45850), (95, 46498),

Gene: Vasanti\_60 Start: 40525, Stop: 41349, Start Num: 30  
Candidate Starts for Vasanti\_60:  
(11, 40357), (19, 40414), (24, 40453), (Start: 27 @40480 has 2 MA's), (Start: 30 @40525 has 1 MA's),  
(43, 40699), (44, 40702), (45, 40705), (46, 40747), (49, 40786), (55, 40828), (69, 41017), (80, 41146),  
(84, 41224), (89, 41272), (97, 41338),

Gene: WinkNick\_63 Start: 40323, Stop: 41159, Start Num: 26  
Candidate Starts for WinkNick\_63:  
(8, 40143), (14, 40203), (Start: 26 @40323 has 22 MA's), (31, 40401), (38, 40503), (95, 41148),