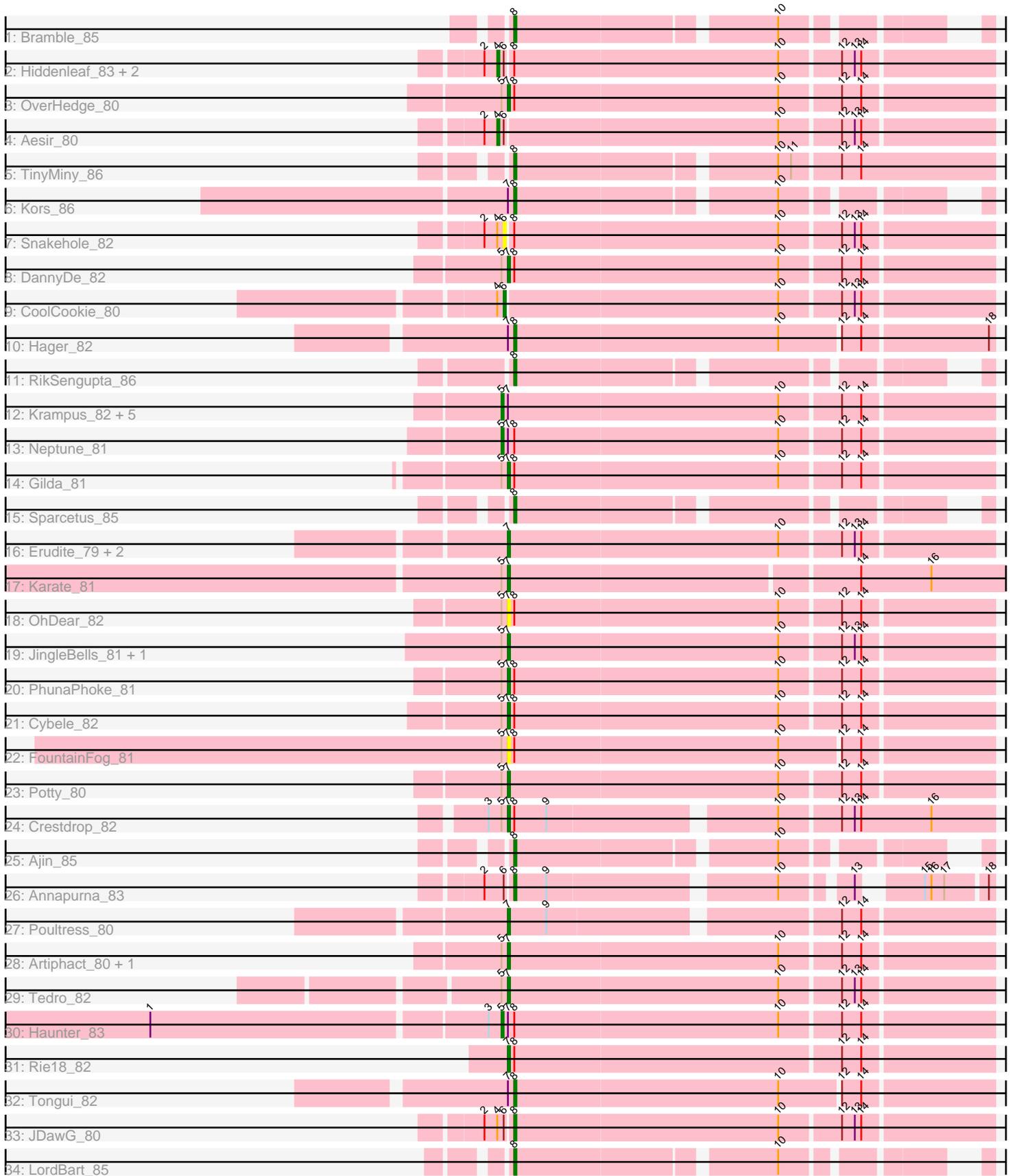


# Zoomed Pham 282292



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 282292 Report

This analysis was run 02/23/26 on database version 636.

Pham number 282292 has 45 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Bramble\_85
- Track 2 : Hiddenleaf\_83, Chivey\_83, FreddieHg\_83
- Track 3 : OverHedge\_80
- Track 4 : Aesir\_80
- Track 5 : TinyMiny\_86
- Track 6 : Kors\_86
- Track 7 : Snakehole\_82
- Track 8 : DannyDe\_82
- Track 9 : CoolCookie\_80
- Track 10 : Hager\_82
- Track 11 : RikSengupta\_86
- Track 12 : Krampus\_82, Rachella\_82, Kate\_82, NarutoRun\_81, Anakin\_81, AnnaSerena\_82
- Track 13 : Neptune\_81
- Track 14 : Gilda\_81
- Track 15 : Sparcetus\_85
- Track 16 : Erudite\_79, MortySmith\_78, Dauntless\_79
- Track 17 : Karate\_81
- Track 18 : OhDear\_82
- Track 19 : JingleBells\_81, SilentWarrior\_82
- Track 20 : PhunaPhoke\_81
- Track 21 : Cybele\_82
- Track 22 : FountainFog\_81
- Track 23 : Potty\_80
- Track 24 : Crestdrop\_82
- Track 25 : Ajin\_85
- Track 26 : Annapurna\_83
- Track 27 : Poultruss\_80
- Track 28 : Artiphact\_80, Pharpay\_80
- Track 29 : Tedro\_82
- Track 30 : Haunter\_83
- Track 31 : Rie18\_82
- Track 32 : Tongui\_82
- Track 33 : JDawG\_80
- Track 34 : LordBart\_85

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

The start number called the most often in the published annotations is 7, it was called in 17 of the 41 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Artiphact\_80, Crestdrop\_82, Cybele\_82, DannyDe\_82, Dauntless\_79, Erudite\_79, FountainFog\_81, Gilda\_81, JingleBells\_81, Karate\_81, MortySmith\_78, OhDear\_82, OverHedge\_80, Pharpay\_80, PhunaPhoke\_81, Potty\_80, Poultruss\_80, Rie18\_82, SilentWarrior\_82, Tedro\_82,

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

- Anakin\_81, AnnaSerena\_82, Hager\_82, Haunter\_83, Kate\_82, Kors\_86, Krampus\_82, NarutoRun\_81, Neptune\_81, Rachella\_82, Tongui\_82,

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

- Aesir\_80, Ajin\_85, Annapurna\_83, Bramble\_85, Chivey\_83, CoolCookie\_80, FreddieHg\_83, Hiddenleaf\_83, JDawG\_80, LordBart\_85, RikSengupta\_86, Snakehole\_82, Sparcetus\_85, TinyMiny\_86,

### **Summary by start number:**

Start 4:

- Found in 7 of 45 ( 15.6% ) of genes in pham
- Manual Annotations of this start: 4 of 41
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Aesir\_80 (EF), Chivey\_83 (EF), FreddieHg\_83 (EF), Hiddenleaf\_83 (EF),

Start 5:

- Found in 23 of 45 ( 51.1% ) of genes in pham
- Manual Annotations of this start: 8 of 41
- Called 34.8% of time when present
- Phage (with cluster) where this start called: Anakin\_81 (EF), AnnaSerena\_82 (EF), Haunter\_83 (EF), Kate\_82 (EF), Krampus\_82 (EF), NarutoRun\_81 (EF), Neptune\_81 (EF), Rachella\_82 (EF),

Start 6:

- Found in 8 of 45 ( 17.8% ) of genes in pham
- Manual Annotations of this start: 1 of 41
- Called 25.0% of time when present
- Phage (with cluster) where this start called: CoolCookie\_80 (EF), Snakehole\_82 (EF),

Start 7:

- Found in 31 of 45 ( 68.9% ) of genes in pham
- Manual Annotations of this start: 17 of 41
- Called 64.5% of time when present
- Phage (with cluster) where this start called: Artiphact\_80 (EF), Crestdrop\_82 (EF), Cybele\_82 (EF), DannyDe\_82 (EF), Dauntless\_79 (EF), Erudite\_79 (EF), FountainFog\_81 (EF), Gilda\_81 (EF), JingleBells\_81 (EF), Karate\_81 (EF), MortySmith\_78 (EF), OhDear\_82 (EF), OverHedge\_80 (EF), Pharpay\_80 (EF),

PhunaPhoke\_81 (EF), Potty\_80 (EF), Poultruss\_80 (EF), Rie18\_82 (EF), SilentWarrior\_82 (EF), Tedro\_82 (EF),

Start 8:

- Found in 26 of 45 ( 57.8% ) of genes in pham
- Manual Annotations of this start: 11 of 41
- Called 42.3% of time when present
- Phage (with cluster) where this start called: Ajin\_85 (EF), Annapurna\_83 (EF), Bramble\_85 (EF), Hager\_82 (EF), JDawG\_80 (EF), Kors\_86 (EF), LordBart\_85 (EF), RikSengupta\_86 (EF), Sparcetus\_85 (EF), TinyMiny\_86 (EF), Tongui\_82 (EF),

### **Summary by clusters:**

There is one cluster represented in this pham: EF

Info for manual annotations of cluster EF:

- Start number 4 was manually annotated 4 times for cluster EF.
- Start number 5 was manually annotated 8 times for cluster EF.
- Start number 6 was manually annotated 1 time for cluster EF.
- Start number 7 was manually annotated 17 times for cluster EF.
- Start number 8 was manually annotated 11 times for cluster EF.

### **Gene Information:**

Gene: Aesir\_80 Start: 54421, Stop: 55284, Start Num: 4

Candidate Starts for Aesir\_80:

(2, 54415), (Start: 4 @54421 has 4 MA's), (Start: 6 @54424 has 1 MA's), (10, 54550), (12, 54577), (13, 54583), (14, 54586), (27, 54853), (30, 54892), (31, 54904), (35, 54952), (36, 54970), (37, 55003), (39, 55021), (41, 55039), (52, 55195),

Gene: Ajin\_85 Start: 54988, Stop: 55917, Start Num: 8

Candidate Starts for Ajin\_85:

(Start: 8 @54988 has 11 MA's), (10, 55102), (21, 55177), (23, 55237), (28, 55414), (30, 55432), (32, 55453), (33, 55456), (34, 55468), (40, 55579), (42, 55597), (44, 55660), (47, 55741), (57, 55807), (61, 55834), (62, 55858), (63, 55864),

Gene: Anakin\_81 Start: 54801, Stop: 55664, Start Num: 5

Candidate Starts for Anakin\_81:

(Start: 5 @54801 has 8 MA's), (Start: 7 @54804 has 17 MA's), (10, 54930), (12, 54957), (14, 54966), (30, 55272), (31, 55284), (35, 55332), (36, 55350), (37, 55383), (56, 55596),

Gene: AnnaSerena\_82 Start: 54835, Stop: 55698, Start Num: 5

Candidate Starts for AnnaSerena\_82:

(Start: 5 @54835 has 8 MA's), (Start: 7 @54838 has 17 MA's), (10, 54964), (12, 54991), (14, 55000), (30, 55306), (31, 55318), (35, 55366), (36, 55384), (37, 55417), (56, 55630),

Gene: Annapurna\_83 Start: 54426, Stop: 55247, Start Num: 8

Candidate Starts for Annapurna\_83:

(2, 54414), (Start: 6 @54423 has 1 MA's), (Start: 8 @54426 has 11 MA's), (9, 54441), (10, 54540), (13, 54567), (15, 54588), (16, 54591), (17, 54597), (18, 54615), (27, 54816), (30, 54855), (31, 54867), (35, 54915), (36, 54933), (37, 54966), (39, 54984), (41, 55002), (52, 55158),

Gene: Artiphact\_80 Start: 54828, Stop: 55688, Start Num: 7

Candidate Starts for Artiphact\_80:

(Start: 5 @54825 has 8 MA's), (Start: 7 @54828 has 17 MA's), (10, 54954), (12, 54981), (14, 54990), (27, 55257), (30, 55296), (31, 55308), (35, 55356), (36, 55374), (37, 55407), (56, 55620),

Gene: Bramble\_85 Start: 54955, Stop: 55884, Start Num: 8

Candidate Starts for Bramble\_85:

(Start: 8 @54955 has 11 MA's), (10, 55069), (21, 55144), (23, 55204), (28, 55381), (30, 55399), (32, 55420), (33, 55423), (34, 55435), (40, 55546), (42, 55564), (44, 55627), (47, 55708), (57, 55774), (61, 55801), (62, 55825), (63, 55831),

Gene: Chivey\_83 Start: 54223, Stop: 55083, Start Num: 4

Candidate Starts for Chivey\_83:

(2, 54217), (Start: 4 @54223 has 4 MA's), (Start: 6 @54226 has 1 MA's), (Start: 8 @54229 has 11 MA's), (10, 54352), (12, 54379), (13, 54385), (14, 54388), (27, 54652), (30, 54691), (31, 54703), (35, 54751), (36, 54769), (37, 54802), (39, 54820), (41, 54838), (52, 54994),

Gene: CoolCookie\_80 Start: 54925, Stop: 55782, Start Num: 6

Candidate Starts for CoolCookie\_80:

(Start: 4 @54922 has 4 MA's), (Start: 6 @54925 has 1 MA's), (10, 55051), (12, 55078), (13, 55084), (14, 55087), (27, 55351), (30, 55390), (31, 55402), (35, 55450), (37, 55501), (39, 55519), (41, 55537), (52, 55693),

Gene: Crestdrop\_82 Start: 54745, Stop: 55608, Start Num: 7

Candidate Starts for Crestdrop\_82:

(3, 54736), (Start: 5 @54742 has 8 MA's), (Start: 7 @54745 has 17 MA's), (Start: 8 @54748 has 11 MA's), (9, 54763), (10, 54862), (12, 54889), (13, 54895), (14, 54898), (16, 54931), (22, 55000), (27, 55165), (30, 55204), (31, 55216), (35, 55264), (36, 55282), (37, 55315), (39, 55333), (41, 55351), (46, 55477), (50, 55498), (55, 55531),

Gene: Cybele\_82 Start: 54825, Stop: 55685, Start Num: 7

Candidate Starts for Cybele\_82:

(Start: 5 @54822 has 8 MA's), (Start: 7 @54825 has 17 MA's), (Start: 8 @54828 has 11 MA's), (10, 54951), (12, 54978), (14, 54987), (27, 55254), (30, 55293), (31, 55305), (35, 55353), (36, 55371), (37, 55404), (56, 55617),

Gene: DannyDe\_82 Start: 54249, Stop: 55088, Start Num: 7

Candidate Starts for DannyDe\_82:

(Start: 5 @54246 has 8 MA's), (Start: 7 @54249 has 17 MA's), (Start: 8 @54252 has 11 MA's), (10, 54375), (12, 54402), (14, 54411), (27, 54657), (30, 54696), (31, 54708), (35, 54756), (36, 54774), (37, 54807), (39, 54825), (41, 54843), (54, 55014), (56, 55020), (60, 55047),

Gene: Dauntless\_79 Start: 54128, Stop: 54988, Start Num: 7

Candidate Starts for Dauntless\_79:

(Start: 7 @54128 has 17 MA's), (10, 54254), (12, 54281), (13, 54287), (14, 54290), (27, 54557), (30, 54596), (31, 54608), (35, 54656), (36, 54674), (37, 54707), (39, 54725), (41, 54743), (52, 54899),

Gene: Erudite\_79 Start: 54128, Stop: 54988, Start Num: 7

Candidate Starts for Erudite\_79:

(Start: 7 @54128 has 17 MA's), (10, 54254), (12, 54281), (13, 54287), (14, 54290), (27, 54557), (30, 54596), (31, 54608), (35, 54656), (36, 54674), (37, 54707), (39, 54725), (41, 54743), (52, 54899),

Gene: FountainFog\_81 Start: 54275, Stop: 55156, Start Num: 7

Candidate Starts for FountainFog\_81:

(Start: 5 @54272 has 8 MA's), (Start: 7 @54275 has 17 MA's), (Start: 8 @54278 has 11 MA's), (10, 54401), (12, 54428), (14, 54437), (25, 54656), (27, 54704), (30, 54743), (31, 54755), (35, 54803), (46, 55016), (49, 55028),

Gene: FreddieHg\_83 Start: 54240, Stop: 55100, Start Num: 4

Candidate Starts for FreddieHg\_83:

(2, 54234), (Start: 4 @54240 has 4 MA's), (Start: 6 @54243 has 1 MA's), (Start: 8 @54246 has 11 MA's), (10, 54369), (12, 54396), (13, 54402), (14, 54405), (27, 54669), (30, 54708), (31, 54720), (35, 54768), (36, 54786), (37, 54819), (39, 54837), (41, 54855), (52, 55011),

Gene: Gilda\_81 Start: 54832, Stop: 55692, Start Num: 7

Candidate Starts for Gilda\_81:

(Start: 5 @54829 has 8 MA's), (Start: 7 @54832 has 17 MA's), (Start: 8 @54835 has 11 MA's), (10, 54958), (12, 54985), (14, 54994), (26, 55237), (30, 55300), (31, 55312), (35, 55360), (36, 55378), (37, 55411), (56, 55624),

Gene: Hager\_82 Start: 53963, Stop: 54835, Start Num: 8

Candidate Starts for Hager\_82:

(Start: 7 @53960 has 17 MA's), (Start: 8 @53963 has 11 MA's), (10, 54086), (12, 54113), (14, 54122), (18, 54179), (20, 54182), (27, 54386), (30, 54425), (31, 54437), (35, 54485), (36, 54503), (37, 54536), (38, 54551), (46, 54698), (55, 54752), (58, 54764),

Gene: Haunter\_83 Start: 54202, Stop: 55065, Start Num: 5

Candidate Starts for Haunter\_83:

(1, 54043), (3, 54196), (Start: 5 @54202 has 8 MA's), (Start: 7 @54205 has 17 MA's), (Start: 8 @54208 has 11 MA's), (10, 54331), (12, 54358), (14, 54367), (30, 54673), (31, 54685), (35, 54733), (36, 54751), (37, 54784), (56, 54997),

Gene: Hiddenleaf\_83 Start: 54223, Stop: 55083, Start Num: 4

Candidate Starts for Hiddenleaf\_83:

(2, 54217), (Start: 4 @54223 has 4 MA's), (Start: 6 @54226 has 1 MA's), (Start: 8 @54229 has 11 MA's), (10, 54352), (12, 54379), (13, 54385), (14, 54388), (27, 54652), (30, 54691), (31, 54703), (35, 54751), (36, 54769), (37, 54802), (39, 54820), (41, 54838), (52, 54994),

Gene: JDawG\_80 Start: 54422, Stop: 55276, Start Num: 8

Candidate Starts for JDawG\_80:

(2, 54410), (Start: 4 @54416 has 4 MA's), (Start: 6 @54419 has 1 MA's), (Start: 8 @54422 has 11 MA's), (10, 54545), (12, 54572), (13, 54578), (14, 54581), (27, 54845), (30, 54884), (31, 54896), (35, 54944), (36, 54962), (37, 54995), (39, 55013), (41, 55031), (52, 55187),

Gene: JingleBells\_81 Start: 54352, Stop: 55215, Start Num: 7

Candidate Starts for JingleBells\_81:

(Start: 5 @54349 has 8 MA's), (Start: 7 @54352 has 17 MA's), (10, 54478), (12, 54505), (13, 54511), (14, 54514), (27, 54778), (30, 54817), (31, 54829), (35, 54877), (36, 54895), (37, 54928), (39, 54946), (41, 54964), (50, 55105), (55, 55138),

Gene: Karate\_81 Start: 54532, Stop: 55410, Start Num: 7

Candidate Starts for Karate\_81:

(Start: 5 @54529 has 8 MA's), (Start: 7 @54532 has 17 MA's), (14, 54691), (16, 54724), (19, 54760), (24, 54895), (27, 54979), (29, 55003), (30, 55018), (31, 55030), (35, 55078), (36, 55096), (37, 55129), (39, 55147), (41, 55165), (45, 55252), (51, 55321),

Gene: Kate\_82 Start: 54746, Stop: 55609, Start Num: 5

Candidate Starts for Kate\_82:

(Start: 5 @54746 has 8 MA's), (Start: 7 @54749 has 17 MA's), (10, 54875), (12, 54902), (14, 54911), (30, 55217), (31, 55229), (35, 55277), (36, 55295), (37, 55328), (56, 55541),

Gene: Kors\_86 Start: 55136, Stop: 56110, Start Num: 8

Candidate Starts for Kors\_86:

(Start: 7 @55133 has 17 MA's), (Start: 8 @55136 has 11 MA's), (10, 55250), (21, 55325), (23, 55385), (28, 55562), (30, 55580), (32, 55601), (33, 55604), (34, 55616), (40, 55727), (42, 55745), (44, 55808), (48, 55883), (53, 55931), (57, 55943), (59, 55958), (62, 56006), (63, 56012), (65, 56036), (67, 56045), (68, 56069),

Gene: Krampus\_82 Start: 54836, Stop: 55699, Start Num: 5

Candidate Starts for Krampus\_82:

(Start: 5 @54836 has 8 MA's), (Start: 7 @54839 has 17 MA's), (10, 54965), (12, 54992), (14, 55001), (30, 55307), (31, 55319), (35, 55367), (36, 55385), (37, 55418), (56, 55631),

Gene: LordBart\_85 Start: 54970, Stop: 55899, Start Num: 8

Candidate Starts for LordBart\_85:

(Start: 8 @54970 has 11 MA's), (10, 55084), (21, 55159), (23, 55219), (28, 55396), (30, 55414), (32, 55435), (33, 55438), (34, 55450), (40, 55561), (42, 55579), (44, 55642), (47, 55723), (57, 55789), (61, 55816), (62, 55840), (63, 55846),

Gene: MortySmith\_78 Start: 53602, Stop: 54462, Start Num: 7

Candidate Starts for MortySmith\_78:

(Start: 7 @53602 has 17 MA's), (10, 53728), (12, 53755), (13, 53761), (14, 53764), (27, 54031), (30, 54070), (31, 54082), (35, 54130), (36, 54148), (37, 54181), (39, 54199), (41, 54217), (52, 54373),

Gene: NarutoRun\_81 Start: 54801, Stop: 55664, Start Num: 5

Candidate Starts for NarutoRun\_81:

(Start: 5 @54801 has 8 MA's), (Start: 7 @54804 has 17 MA's), (10, 54930), (12, 54957), (14, 54966), (30, 55272), (31, 55284), (35, 55332), (36, 55350), (37, 55383), (56, 55596),

Gene: Neptune\_81 Start: 54822, Stop: 55685, Start Num: 5

Candidate Starts for Neptune\_81:

(Start: 5 @54822 has 8 MA's), (Start: 7 @54825 has 17 MA's), (Start: 8 @54828 has 11 MA's), (10, 54951), (12, 54978), (14, 54987), (27, 55254), (30, 55293), (31, 55305), (35, 55353), (36, 55371), (37, 55404), (56, 55617),

Gene: OhDear\_82 Start: 54802, Stop: 55662, Start Num: 7

Candidate Starts for OhDear\_82:

(Start: 5 @54799 has 8 MA's), (Start: 7 @54802 has 17 MA's), (Start: 8 @54805 has 11 MA's), (10, 54928), (12, 54955), (14, 54964), (30, 55270), (31, 55282), (35, 55330), (36, 55348), (37, 55381), (56, 55594),

Gene: OverHedge\_80 Start: 54691, Stop: 55551, Start Num: 7

Candidate Starts for OverHedge\_80:

(Start: 5 @54688 has 8 MA's), (Start: 7 @54691 has 17 MA's), (Start: 8 @54694 has 11 MA's), (10, 54817), (12, 54844), (14, 54853), (26, 55096), (30, 55159), (31, 55171), (35, 55219), (36, 55237), (37, 55270), (56, 55483),

Gene: Pharpay\_80 Start: 54849, Stop: 55709, Start Num: 7

Candidate Starts for Pharpay\_80:

(Start: 5 @54846 has 8 MA's), (Start: 7 @54849 has 17 MA's), (10, 54975), (12, 55002), (14, 55011), (27, 55278), (30, 55317), (31, 55329), (35, 55377), (36, 55395), (37, 55428), (56, 55641),

Gene: PhunaPhoke\_81 Start: 54819, Stop: 55679, Start Num: 7

Candidate Starts for PhunaPhoke\_81:

(Start: 5 @54816 has 8 MA's), (Start: 7 @54819 has 17 MA's), (Start: 8 @54822 has 11 MA's), (10, 54945), (12, 54972), (14, 54981), (26, 55224), (30, 55287), (31, 55299), (35, 55347), (36, 55365), (37, 55398), (56, 55611),

Gene: Potty\_80 Start: 54749, Stop: 55609, Start Num: 7

Candidate Starts for Potty\_80:

(Start: 5 @54746 has 8 MA's), (Start: 7 @54749 has 17 MA's), (10, 54875), (12, 54902), (14, 54911), (26, 55154), (30, 55217), (31, 55229), (35, 55277), (36, 55295), (37, 55328), (56, 55541),

Gene: Poultruss\_80 Start: 54704, Stop: 55555, Start Num: 7

Candidate Starts for Poultruss\_80:

(Start: 7 @54704 has 17 MA's), (9, 54722), (12, 54848), (14, 54857), (27, 55124), (30, 55163), (31, 55175), (35, 55223), (36, 55241), (56, 55487),

Gene: Rachella\_82 Start: 54827, Stop: 55690, Start Num: 5

Candidate Starts for Rachella\_82:

(Start: 5 @54827 has 8 MA's), (Start: 7 @54830 has 17 MA's), (10, 54956), (12, 54983), (14, 54992), (30, 55298), (31, 55310), (35, 55358), (36, 55376), (37, 55409), (56, 55622),

Gene: Rie18\_82 Start: 54561, Stop: 55439, Start Num: 7

Candidate Starts for Rie18\_82:

(Start: 7 @54561 has 17 MA's), (Start: 8 @54564 has 11 MA's), (12, 54714), (14, 54723), (27, 54990), (30, 55029), (31, 55041), (35, 55089), (36, 55107), (37, 55140), (38, 55155), (46, 55302), (50, 55323), (55, 55356), (58, 55368),

Gene: RikSengupta\_86 Start: 55182, Stop: 56111, Start Num: 8

Candidate Starts for RikSengupta\_86:

(Start: 8 @55182 has 11 MA's), (21, 55371), (23, 55431), (28, 55608), (30, 55626), (31, 55641), (32, 55647), (33, 55650), (34, 55662), (40, 55773), (42, 55791), (44, 55854), (48, 55929), (53, 55977), (57, 55989), (62, 56052), (63, 56058),

Gene: SilentWarrior\_82 Start: 54213, Stop: 55076, Start Num: 7

Candidate Starts for SilentWarrior\_82:

(Start: 5 @54210 has 8 MA's), (Start: 7 @54213 has 17 MA's), (10, 54339), (12, 54366), (13, 54372), (14, 54375), (27, 54639), (30, 54678), (31, 54690), (35, 54738), (36, 54756), (37, 54789), (39, 54807), (41, 54825), (50, 54966), (55, 54999),

Gene: Snakehole\_82 Start: 54175, Stop: 55032, Start Num: 6

Candidate Starts for Snakehole\_82:

(2, 54166), (Start: 4 @54172 has 4 MA's), (Start: 6 @54175 has 1 MA's), (Start: 8 @54178 has 11 MA's), (10, 54301), (12, 54328), (13, 54334), (14, 54337), (27, 54601), (30, 54640), (31, 54652), (35, 54700), (36, 54718), (37, 54751), (39, 54769), (41, 54787), (52, 54943),

Gene: Sparcetus\_85 Start: 54866, Stop: 55795, Start Num: 8

Candidate Starts for Sparcetus\_85:

(Start: 8 @54866 has 11 MA's), (21, 55055), (23, 55115), (28, 55292), (30, 55310), (31, 55325), (32, 55331), (33, 55334), (34, 55346), (40, 55457), (42, 55475), (44, 55538), (48, 55613), (53, 55661), (57,

55673), (62, 55736), (63, 55742),

Gene: Tedro\_82 Start: 54322, Stop: 55179, Start Num: 7

Candidate Starts for Tedro\_82:

(Start: 5 @54319 has 8 MA's), (Start: 7 @54322 has 17 MA's), (10, 54448), (12, 54475), (13, 54481), (14, 54484), (27, 54748), (30, 54787), (31, 54799), (35, 54847), (36, 54865), (37, 54898), (45, 55021), (51, 55090),

Gene: TinyMiny\_86 Start: 54995, Stop: 55966, Start Num: 8

Candidate Starts for TinyMiny\_86:

(Start: 8 @54995 has 11 MA's), (10, 55109), (11, 55115), (12, 55136), (14, 55145), (23, 55271), (28, 55448), (30, 55466), (32, 55487), (33, 55490), (34, 55502), (40, 55613), (42, 55631), (43, 55658), (44, 55694), (48, 55769), (53, 55817), (57, 55829), (62, 55892), (64, 55901), (66, 55925),

Gene: Tongui\_82 Start: 54346, Stop: 55221, Start Num: 8

Candidate Starts for Tongui\_82:

(Start: 7 @54343 has 17 MA's), (Start: 8 @54346 has 11 MA's), (10, 54469), (12, 54496), (14, 54505), (24, 54688), (27, 54772), (30, 54811), (31, 54823), (35, 54871), (46, 55084), (49, 55096), (50, 55105), (55, 55138), (57, 55147), (58, 55150),