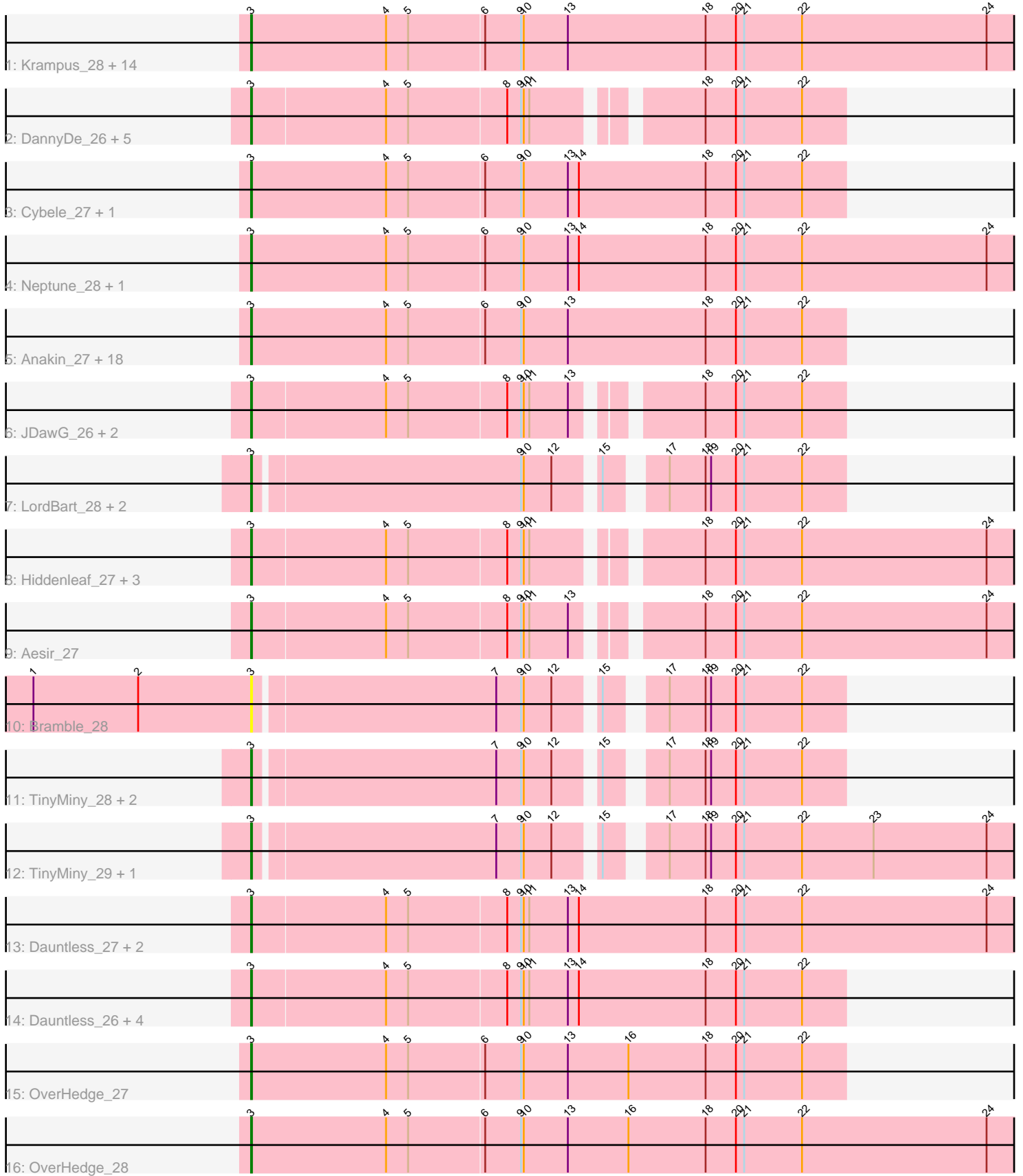


# Pham 224552



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 224552 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224552 has 71 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Krampus\_28, Karate\_27, Anakin\_28, Gilda\_28, Poultruss\_27, Haunter\_28, Tedro\_28, PhunaPhoke\_28, Kate\_28, CoolCookie\_28, AnnaSerena\_28, NarutoRun\_28, Pharpay\_28, Rie18\_28, Potty\_28
- Track 2 : DannyDe\_26, FreddieHg\_26, Hiddenleaf\_26, Chivey\_26, Snakehole\_28, SilentWarrior\_26
- Track 3 : Cybele\_27, Neptune\_27
- Track 4 : Neptune\_28, Cybele\_28
- Track 5 : Anakin\_27, Karate\_26, Rachella\_27, Potty\_27, Haunter\_27, Artiphact\_27, Tedro\_27, Tongui\_27, Krampus\_27, PhunaPhoke\_27, Kate\_27, Poultruss\_26, CoolCookie\_27, AnnaSerena\_27, Rie18\_27, Hager\_28, Gilda\_27, Pharpay\_27, NarutoRun\_27
- Track 6 : JDawG\_26, Aesir\_26, MortySmith\_25
- Track 7 : LordBart\_28, Ajin\_28, Sparcetus\_28
- Track 8 : Hiddenleaf\_27, DannyDe\_27, Chivey\_27, FreddieHg\_27
- Track 9 : Aesir\_27
- Track 10 : Bramble\_28
- Track 11 : TinyMiny\_28, RikSengupta\_28, Kors\_29
- Track 12 : TinyMiny\_29, RikSengupta\_29
- Track 13 : Dauntless\_27, JingleBells\_27, Crestdrop\_27
- Track 14 : Dauntless\_26, JingleBells\_26, Crestdrop\_26, Annapurna\_27, Erudite\_26
- Track 15 : OverHedge\_27
- Track 16 : OverHedge\_28

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

The start number called the most often in the published annotations is 3, it was called in 63 of the 63 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aesir\_26, Aesir\_27, Ajin\_28, Anakin\_27, Anakin\_28, AnnaSerena\_27, AnnaSerena\_28, Annapurna\_27, Artiphact\_27, Bramble\_28, Chivey\_26, Chivey\_27, CoolCookie\_27, CoolCookie\_28, Crestdrop\_26, Crestdrop\_27, Cybele\_27, Cybele\_28, DannyDe\_26, DannyDe\_27, Dauntless\_26, Dauntless\_27, Erudite\_26, FreddieHg\_26, FreddieHg\_27, Gilda\_27, Gilda\_28, Hager\_28, Haunter\_27,

Haunter\_28, Hiddenleaf\_26, Hiddenleaf\_27, JDawG\_26, JingleBells\_26, JingleBells\_27, Karate\_26, Karate\_27, Kate\_27, Kate\_28, Kors\_29, Krampus\_27, Krampus\_28, LordBart\_28, MortySmith\_25, NarutoRun\_27, NarutoRun\_28, Neptune\_27, Neptune\_28, OverHedge\_27, OverHedge\_28, Pharpay\_27, Pharpay\_28, PhunaPhoke\_27, PhunaPhoke\_28, Potty\_27, Potty\_28, Poultruss\_26, Poultruss\_27, Rachella\_27, Rie18\_27, Rie18\_28, RikSengupta\_28, RikSengupta\_29, SilentWarrior\_26, Snakehole\_28, Sparcetus\_28, Tedro\_27, Tedro\_28, TinyMiny\_28, TinyMiny\_29, Tongui\_27,

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

- 

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

- 

### Summary by start number:

Start 3:

- Found in 71 of 71 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 63 of 63
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aesir\_26 (EF), Aesir\_27 (EF), Ajin\_28 (EF), Anakin\_27 (EF), Anakin\_28 (EF), AnnaSerena\_27 (EF), AnnaSerena\_28 (EF), Annapurna\_27 (EF), Artiphact\_27 (EF), Bramble\_28 (EF), Chivey\_26 (EF), Chivey\_27 (EF), CoolCookie\_27 (EF), CoolCookie\_28 (EF), Crestdrop\_26 (EF), Crestdrop\_27 (EF), Cybele\_27 (EF), Cybele\_28 (EF), DannyDe\_26 (EF), DannyDe\_27 (EF), Dauntless\_26 (EF), Dauntless\_27 (EF), Erudite\_26 (EF), FreddieHg\_26 (EF), FreddieHg\_27 (EF), Gilda\_27 (EF), Gilda\_28 (EF), Hager\_28 (EF), Haunter\_27 (EF), Haunter\_28 (EF), Hiddenleaf\_26 (EF), Hiddenleaf\_27 (EF), JDawG\_26 (EF), JingleBells\_26 (EF), JingleBells\_27 (EF), Karate\_26 (EF), Karate\_27 (EF), Kate\_27 (EF), Kate\_28 (EF), Kors\_29 (EF), Krampus\_27 (EF), Krampus\_28 (EF), LordBart\_28 (EF), MortySmith\_25 (EF), NarutoRun\_27 (EF), NarutoRun\_28 (EF), Neptune\_27 (EF), Neptune\_28 (EF), OverHedge\_27 (EF), OverHedge\_28 (EF), Pharpay\_27 (EF), Pharpay\_28 (EF), PhunaPhoke\_27 (EF), PhunaPhoke\_28 (EF), Potty\_27 (EF), Potty\_28 (EF), Poultruss\_26 (EF), Poultruss\_27 (EF), Rachella\_27 (EF), Rie18\_27 (EF), Rie18\_28 (EF), RikSengupta\_28 (EF), RikSengupta\_29 (EF), SilentWarrior\_26 (EF), Snakehole\_28 (EF), Sparcetus\_28 (EF), Tedro\_27 (EF), Tedro\_28 (EF), TinyMiny\_28 (EF), TinyMiny\_29 (EF), Tongui\_27 (EF),

### Summary by clusters:

There is one cluster represented in this pham: EF

Info for manual annotations of cluster EF:

- Start number 3 was manually annotated 63 times for cluster EF.

### Gene Information:

Gene: Aesir\_26 Start: 13825, Stop: 14427, Start Num: 3

Candidate Starts for Aesir\_26:

(Start: 3 @13825 has 63 MA's), (4, 13969), (5, 13993), (8, 14098), (9, 14113), (10, 14116), (11, 14122), (13, 14164), (18, 14275), (20, 14308), (21, 14317), (22, 14380),

Gene: Aesir\_27 Start: 13825, Stop: 14653, Start Num: 3

Candidate Starts for Aesir\_27:

(Start: 3 @13825 has 63 MA's), (4, 13969), (5, 13993), (8, 14098), (9, 14113), (10, 14116), (11, 14122), (13, 14164), (18, 14275), (20, 14308), (21, 14317), (22, 14380), (24, 14581),

Gene: Ajin\_28 Start: 13971, Stop: 14564, Start Num: 3

Candidate Starts for Ajin\_28:

(Start: 3 @13971 has 63 MA's), (9, 14253), (10, 14256), (12, 14286), (15, 14325), (17, 14373), (18, 14412), (19, 14418), (20, 14445), (21, 14454), (22, 14517),

Gene: Anakin\_27 Start: 14035, Stop: 14679, Start Num: 3

Candidate Starts for Anakin\_27:

(Start: 3 @14035 has 63 MA's), (4, 14182), (5, 14206), (6, 14287), (9, 14326), (10, 14329), (13, 14377), (18, 14527), (20, 14560), (21, 14569), (22, 14632),

Gene: Anakin\_28 Start: 14035, Stop: 14905, Start Num: 3

Candidate Starts for Anakin\_28:

(Start: 3 @14035 has 63 MA's), (4, 14182), (5, 14206), (6, 14287), (9, 14326), (10, 14329), (13, 14377), (18, 14527), (20, 14560), (21, 14569), (22, 14632), (24, 14833),

Gene: AnnaSerena\_28 Start: 14044, Stop: 14914, Start Num: 3

Candidate Starts for AnnaSerena\_28:

(Start: 3 @14044 has 63 MA's), (4, 14191), (5, 14215), (6, 14296), (9, 14335), (10, 14338), (13, 14386), (18, 14536), (20, 14569), (21, 14578), (22, 14641), (24, 14842),

Gene: AnnaSerena\_27 Start: 14044, Stop: 14688, Start Num: 3

Candidate Starts for AnnaSerena\_27:

(Start: 3 @14044 has 63 MA's), (4, 14191), (5, 14215), (6, 14296), (9, 14335), (10, 14338), (13, 14386), (18, 14536), (20, 14569), (21, 14578), (22, 14641),

Gene: Annapurna\_27 Start: 13248, Stop: 13889, Start Num: 3

Candidate Starts for Annapurna\_27:

(Start: 3 @13248 has 63 MA's), (4, 13392), (5, 13416), (8, 13521), (9, 13536), (10, 13539), (11, 13545), (13, 13587), (14, 13599), (18, 13737), (20, 13770), (21, 13779), (22, 13842),

Gene: Artiphact\_27 Start: 14036, Stop: 14680, Start Num: 3

Candidate Starts for Artiphact\_27:

(Start: 3 @14036 has 63 MA's), (4, 14183), (5, 14207), (6, 14288), (9, 14327), (10, 14330), (13, 14378), (18, 14528), (20, 14561), (21, 14570), (22, 14633),

Gene: Bramble\_28 Start: 13937, Stop: 14530, Start Num: 3

Candidate Starts for Bramble\_28:

(1, 13700), (2, 13814), (Start: 3 @13937 has 63 MA's), (7, 14192), (9, 14219), (10, 14222), (12, 14252), (15, 14291), (17, 14339), (18, 14378), (19, 14384), (20, 14411), (21, 14420), (22, 14483),

Gene: Chivey\_27 Start: 13241, Stop: 14069, Start Num: 3

Candidate Starts for Chivey\_27:

(Start: 3 @13241 has 63 MA's), (4, 13385), (5, 13409), (8, 13514), (9, 13529), (10, 13532), (11, 13538), (18, 13691), (20, 13724), (21, 13733), (22, 13796), (24, 13997),

Gene: Chivey\_26 Start: 13241, Stop: 13843, Start Num: 3

Candidate Starts for Chivey\_26:

(Start: 3 @13241 has 63 MA's), (4, 13385), (5, 13409), (8, 13514), (9, 13529), (10, 13532), (11, 13538), (18, 13691), (20, 13724), (21, 13733), (22, 13796),

Gene: CoolCookie\_28 Start: 14042, Stop: 14912, Start Num: 3

Candidate Starts for CoolCookie\_28:

(Start: 3 @14042 has 63 MA's), (4, 14189), (5, 14213), (6, 14294), (9, 14333), (10, 14336), (13, 14384), (18, 14534), (20, 14567), (21, 14576), (22, 14639), (24, 14840),

Gene: CoolCookie\_27 Start: 14042, Stop: 14686, Start Num: 3

Candidate Starts for CoolCookie\_27:

(Start: 3 @14042 has 63 MA's), (4, 14189), (5, 14213), (6, 14294), (9, 14333), (10, 14336), (13, 14384), (18, 14534), (20, 14567), (21, 14576), (22, 14639),

Gene: Crestdrop\_26 Start: 13111, Stop: 13752, Start Num: 3

Candidate Starts for Crestdrop\_26:

(Start: 3 @13111 has 63 MA's), (4, 13255), (5, 13279), (8, 13384), (9, 13399), (10, 13402), (11, 13408), (13, 13450), (14, 13462), (18, 13600), (20, 13633), (21, 13642), (22, 13705),

Gene: Crestdrop\_27 Start: 13111, Stop: 13978, Start Num: 3

Candidate Starts for Crestdrop\_27:

(Start: 3 @13111 has 63 MA's), (4, 13255), (5, 13279), (8, 13384), (9, 13399), (10, 13402), (11, 13408), (13, 13450), (14, 13462), (18, 13600), (20, 13633), (21, 13642), (22, 13705), (24, 13906),

Gene: Cybele\_27 Start: 14012, Stop: 14656, Start Num: 3

Candidate Starts for Cybele\_27:

(Start: 3 @14012 has 63 MA's), (4, 14159), (5, 14183), (6, 14264), (9, 14303), (10, 14306), (13, 14354), (14, 14366), (18, 14504), (20, 14537), (21, 14546), (22, 14609),

Gene: Cybele\_28 Start: 14012, Stop: 14882, Start Num: 3

Candidate Starts for Cybele\_28:

(Start: 3 @14012 has 63 MA's), (4, 14159), (5, 14183), (6, 14264), (9, 14303), (10, 14306), (13, 14354), (14, 14366), (18, 14504), (20, 14537), (21, 14546), (22, 14609), (24, 14810),

Gene: DannyDe\_26 Start: 13233, Stop: 13835, Start Num: 3

Candidate Starts for DannyDe\_26:

(Start: 3 @13233 has 63 MA's), (4, 13377), (5, 13401), (8, 13506), (9, 13521), (10, 13524), (11, 13530), (18, 13683), (20, 13716), (21, 13725), (22, 13788),

Gene: DannyDe\_27 Start: 13233, Stop: 14061, Start Num: 3

Candidate Starts for DannyDe\_27:

(Start: 3 @13233 has 63 MA's), (4, 13377), (5, 13401), (8, 13506), (9, 13521), (10, 13524), (11, 13530), (18, 13683), (20, 13716), (21, 13725), (22, 13788), (24, 13989),

Gene: Dauntless\_27 Start: 13754, Stop: 14621, Start Num: 3

Candidate Starts for Dauntless\_27:

(Start: 3 @13754 has 63 MA's), (4, 13898), (5, 13922), (8, 14027), (9, 14042), (10, 14045), (11, 14051), (13, 14093), (14, 14105), (18, 14243), (20, 14276), (21, 14285), (22, 14348), (24, 14549),

Gene: Dauntless\_26 Start: 13754, Stop: 14395, Start Num: 3

Candidate Starts for Dauntless\_26:

(Start: 3 @13754 has 63 MA's), (4, 13898), (5, 13922), (8, 14027), (9, 14042), (10, 14045), (11, 14051), (13, 14093), (14, 14105), (18, 14243), (20, 14276), (21, 14285), (22, 14348),

Gene: Erudite\_26 Start: 13754, Stop: 14395, Start Num: 3

Candidate Starts for Erudite\_26:

(Start: 3 @13754 has 63 MA's), (4, 13898), (5, 13922), (8, 14027), (9, 14042), (10, 14045), (11, 14051), (13, 14093), (14, 14105), (18, 14243), (20, 14276), (21, 14285), (22, 14348),

Gene: FreddieHg\_26 Start: 13257, Stop: 13859, Start Num: 3

Candidate Starts for FreddieHg\_26:

(Start: 3 @13257 has 63 MA's), (4, 13401), (5, 13425), (8, 13530), (9, 13545), (10, 13548), (11, 13554), (18, 13707), (20, 13740), (21, 13749), (22, 13812),

Gene: FreddieHg\_27 Start: 13257, Stop: 14085, Start Num: 3

Candidate Starts for FreddieHg\_27:

(Start: 3 @13257 has 63 MA's), (4, 13401), (5, 13425), (8, 13530), (9, 13545), (10, 13548), (11, 13554), (18, 13707), (20, 13740), (21, 13749), (22, 13812), (24, 14013),

Gene: Gilda\_28 Start: 14036, Stop: 14906, Start Num: 3

Candidate Starts for Gilda\_28:

(Start: 3 @14036 has 63 MA's), (4, 14183), (5, 14207), (6, 14288), (9, 14327), (10, 14330), (13, 14378), (18, 14528), (20, 14561), (21, 14570), (22, 14633), (24, 14834),

Gene: Gilda\_27 Start: 14036, Stop: 14680, Start Num: 3

Candidate Starts for Gilda\_27:

(Start: 3 @14036 has 63 MA's), (4, 14183), (5, 14207), (6, 14288), (9, 14327), (10, 14330), (13, 14378), (18, 14528), (20, 14561), (21, 14570), (22, 14633),

Gene: Hager\_28 Start: 13598, Stop: 14242, Start Num: 3

Candidate Starts for Hager\_28:

(Start: 3 @13598 has 63 MA's), (4, 13745), (5, 13769), (6, 13850), (9, 13889), (10, 13892), (13, 13940), (18, 14090), (20, 14123), (21, 14132), (22, 14195),

Gene: Haunter\_28 Start: 13449, Stop: 14319, Start Num: 3

Candidate Starts for Haunter\_28:

(Start: 3 @13449 has 63 MA's), (4, 13596), (5, 13620), (6, 13701), (9, 13740), (10, 13743), (13, 13791), (18, 13941), (20, 13974), (21, 13983), (22, 14046), (24, 14247),

Gene: Haunter\_27 Start: 13449, Stop: 14093, Start Num: 3

Candidate Starts for Haunter\_27:

(Start: 3 @13449 has 63 MA's), (4, 13596), (5, 13620), (6, 13701), (9, 13740), (10, 13743), (13, 13791), (18, 13941), (20, 13974), (21, 13983), (22, 14046),

Gene: Hiddenleaf\_27 Start: 13241, Stop: 14069, Start Num: 3

Candidate Starts for Hiddenleaf\_27:

(Start: 3 @13241 has 63 MA's), (4, 13385), (5, 13409), (8, 13514), (9, 13529), (10, 13532), (11, 13538), (18, 13691), (20, 13724), (21, 13733), (22, 13796), (24, 13997),

Gene: Hiddenleaf\_26 Start: 13241, Stop: 13843, Start Num: 3

Candidate Starts for Hiddenleaf\_26:

(Start: 3 @13241 has 63 MA's), (4, 13385), (5, 13409), (8, 13514), (9, 13529), (10, 13532), (11, 13538), (18, 13691), (20, 13724), (21, 13733), (22, 13796),

Gene: JDawG\_26 Start: 13823, Stop: 14425, Start Num: 3

Candidate Starts for JDawG\_26:

(Start: 3 @13823 has 63 MA's), (4, 13967), (5, 13991), (8, 14096), (9, 14111), (10, 14114), (11, 14120), (13, 14162), (18, 14273), (20, 14306), (21, 14315), (22, 14378),

Gene: JingleBells\_27 Start: 13318, Stop: 14185, Start Num: 3

Candidate Starts for JingleBells\_27:

(Start: 3 @13318 has 63 MA's), (4, 13462), (5, 13486), (8, 13591), (9, 13606), (10, 13609), (11, 13615), (13, 13657), (14, 13669), (18, 13807), (20, 13840), (21, 13849), (22, 13912), (24, 14113),

Gene: JingleBells\_26 Start: 13318, Stop: 13959, Start Num: 3

Candidate Starts for JingleBells\_26:

(Start: 3 @13318 has 63 MA's), (4, 13462), (5, 13486), (8, 13591), (9, 13606), (10, 13609), (11, 13615), (13, 13657), (14, 13669), (18, 13807), (20, 13840), (21, 13849), (22, 13912),

Gene: Karate\_27 Start: 13448, Stop: 14318, Start Num: 3

Candidate Starts for Karate\_27:

(Start: 3 @13448 has 63 MA's), (4, 13595), (5, 13619), (6, 13700), (9, 13739), (10, 13742), (13, 13790), (18, 13940), (20, 13973), (21, 13982), (22, 14045), (24, 14246),

Gene: Karate\_26 Start: 13448, Stop: 14092, Start Num: 3

Candidate Starts for Karate\_26:

(Start: 3 @13448 has 63 MA's), (4, 13595), (5, 13619), (6, 13700), (9, 13739), (10, 13742), (13, 13790), (18, 13940), (20, 13973), (21, 13982), (22, 14045),

Gene: Kate\_28 Start: 14044, Stop: 14914, Start Num: 3

Candidate Starts for Kate\_28:

(Start: 3 @14044 has 63 MA's), (4, 14191), (5, 14215), (6, 14296), (9, 14335), (10, 14338), (13, 14386), (18, 14536), (20, 14569), (21, 14578), (22, 14641), (24, 14842),

Gene: Kate\_27 Start: 14044, Stop: 14688, Start Num: 3

Candidate Starts for Kate\_27:

(Start: 3 @14044 has 63 MA's), (4, 14191), (5, 14215), (6, 14296), (9, 14335), (10, 14338), (13, 14386), (18, 14536), (20, 14569), (21, 14578), (22, 14641),

Gene: Kors\_29 Start: 14017, Stop: 14610, Start Num: 3

Candidate Starts for Kors\_29:

(Start: 3 @14017 has 63 MA's), (7, 14272), (9, 14299), (10, 14302), (12, 14332), (15, 14371), (17, 14419), (18, 14458), (19, 14464), (20, 14491), (21, 14500), (22, 14563),

Gene: Krampus\_28 Start: 14042, Stop: 14912, Start Num: 3

Candidate Starts for Krampus\_28:

(Start: 3 @14042 has 63 MA's), (4, 14189), (5, 14213), (6, 14294), (9, 14333), (10, 14336), (13, 14384), (18, 14534), (20, 14567), (21, 14576), (22, 14639), (24, 14840),

Gene: Krampus\_27 Start: 14042, Stop: 14686, Start Num: 3

Candidate Starts for Krampus\_27:

(Start: 3 @14042 has 63 MA's), (4, 14189), (5, 14213), (6, 14294), (9, 14333), (10, 14336), (13, 14384), (18, 14534), (20, 14567), (21, 14576), (22, 14639),

Gene: LordBart\_28 Start: 13933, Stop: 14526, Start Num: 3

Candidate Starts for LordBart\_28:

(Start: 3 @13933 has 63 MA's), (9, 14215), (10, 14218), (12, 14248), (15, 14287), (17, 14335), (18, 14374), (19, 14380), (20, 14407), (21, 14416), (22, 14479),

Gene: MortySmith\_25 Start: 13216, Stop: 13818, Start Num: 3

Candidate Starts for MortySmith\_25:

(Start: 3 @13216 has 63 MA's), (4, 13360), (5, 13384), (8, 13489), (9, 13504), (10, 13507), (11, 13513), (13, 13555), (18, 13666), (20, 13699), (21, 13708), (22, 13771),

Gene: NarutoRun\_28 Start: 14035, Stop: 14905, Start Num: 3

Candidate Starts for NarutoRun\_28:

(Start: 3 @14035 has 63 MA's), (4, 14182), (5, 14206), (6, 14287), (9, 14326), (10, 14329), (13, 14377), (18, 14527), (20, 14560), (21, 14569), (22, 14632), (24, 14833),

Gene: NarutoRun\_27 Start: 14035, Stop: 14679, Start Num: 3

Candidate Starts for NarutoRun\_27:

(Start: 3 @14035 has 63 MA's), (4, 14182), (5, 14206), (6, 14287), (9, 14326), (10, 14329), (13, 14377), (18, 14527), (20, 14560), (21, 14569), (22, 14632),

Gene: Neptune\_28 Start: 14012, Stop: 14882, Start Num: 3

Candidate Starts for Neptune\_28:

(Start: 3 @14012 has 63 MA's), (4, 14159), (5, 14183), (6, 14264), (9, 14303), (10, 14306), (13, 14354), (14, 14366), (18, 14504), (20, 14537), (21, 14546), (22, 14609), (24, 14810),

Gene: Neptune\_27 Start: 14012, Stop: 14656, Start Num: 3

Candidate Starts for Neptune\_27:

(Start: 3 @14012 has 63 MA's), (4, 14159), (5, 14183), (6, 14264), (9, 14303), (10, 14306), (13, 14354), (14, 14366), (18, 14504), (20, 14537), (21, 14546), (22, 14609),

Gene: OverHedge\_27 Start: 14002, Stop: 14646, Start Num: 3

Candidate Starts for OverHedge\_27:

(Start: 3 @14002 has 63 MA's), (4, 14149), (5, 14173), (6, 14254), (9, 14293), (10, 14296), (13, 14344), (16, 14410), (18, 14494), (20, 14527), (21, 14536), (22, 14599),

Gene: OverHedge\_28 Start: 14002, Stop: 14872, Start Num: 3

Candidate Starts for OverHedge\_28:

(Start: 3 @14002 has 63 MA's), (4, 14149), (5, 14173), (6, 14254), (9, 14293), (10, 14296), (13, 14344), (16, 14410), (18, 14494), (20, 14527), (21, 14536), (22, 14599), (24, 14800),

Gene: Pharpay\_28 Start: 14057, Stop: 14927, Start Num: 3

Candidate Starts for Pharpay\_28:

(Start: 3 @14057 has 63 MA's), (4, 14204), (5, 14228), (6, 14309), (9, 14348), (10, 14351), (13, 14399), (18, 14549), (20, 14582), (21, 14591), (22, 14654), (24, 14855),

Gene: Pharpay\_27 Start: 14057, Stop: 14701, Start Num: 3

Candidate Starts for Pharpay\_27:

(Start: 3 @14057 has 63 MA's), (4, 14204), (5, 14228), (6, 14309), (9, 14348), (10, 14351), (13, 14399), (18, 14549), (20, 14582), (21, 14591), (22, 14654),

Gene: PhunaPhoke\_28 Start: 14030, Stop: 14900, Start Num: 3

Candidate Starts for PhunaPhoke\_28:

(Start: 3 @14030 has 63 MA's), (4, 14177), (5, 14201), (6, 14282), (9, 14321), (10, 14324), (13, 14372), (18, 14522), (20, 14555), (21, 14564), (22, 14627), (24, 14828),



Gene: PhunaPhoke\_27 Start: 14030, Stop: 14674, Start Num: 3

Candidate Starts for PhunaPhoke\_27:

(Start: 3 @14030 has 63 MA's), (4, 14177), (5, 14201), (6, 14282), (9, 14321), (10, 14324), (13, 14372), (18, 14522), (20, 14555), (21, 14564), (22, 14627),

Gene: Potty\_27 Start: 14035, Stop: 14679, Start Num: 3

Candidate Starts for Potty\_27:

(Start: 3 @14035 has 63 MA's), (4, 14182), (5, 14206), (6, 14287), (9, 14326), (10, 14329), (13, 14377), (18, 14527), (20, 14560), (21, 14569), (22, 14632),

Gene: Potty\_28 Start: 14035, Stop: 14905, Start Num: 3

Candidate Starts for Potty\_28:

(Start: 3 @14035 has 63 MA's), (4, 14182), (5, 14206), (6, 14287), (9, 14326), (10, 14329), (13, 14377), (18, 14527), (20, 14560), (21, 14569), (22, 14632), (24, 14833),

Gene: Poultruss\_27 Start: 13799, Stop: 14669, Start Num: 3

Candidate Starts for Poultruss\_27:

(Start: 3 @13799 has 63 MA's), (4, 13946), (5, 13970), (6, 14051), (9, 14090), (10, 14093), (13, 14141), (18, 14291), (20, 14324), (21, 14333), (22, 14396), (24, 14597),

Gene: Poultruss\_26 Start: 13799, Stop: 14443, Start Num: 3

Candidate Starts for Poultruss\_26:

(Start: 3 @13799 has 63 MA's), (4, 13946), (5, 13970), (6, 14051), (9, 14090), (10, 14093), (13, 14141), (18, 14291), (20, 14324), (21, 14333), (22, 14396),

Gene: Rachella\_27 Start: 14038, Stop: 14682, Start Num: 3

Candidate Starts for Rachella\_27:

(Start: 3 @14038 has 63 MA's), (4, 14185), (5, 14209), (6, 14290), (9, 14329), (10, 14332), (13, 14380), (18, 14530), (20, 14563), (21, 14572), (22, 14635),

Gene: Rie18\_27 Start: 13380, Stop: 14024, Start Num: 3

Candidate Starts for Rie18\_27:

(Start: 3 @13380 has 63 MA's), (4, 13527), (5, 13551), (6, 13632), (9, 13671), (10, 13674), (13, 13722), (18, 13872), (20, 13905), (21, 13914), (22, 13977),

Gene: Rie18\_28 Start: 13380, Stop: 14250, Start Num: 3

Candidate Starts for Rie18\_28:

(Start: 3 @13380 has 63 MA's), (4, 13527), (5, 13551), (6, 13632), (9, 13671), (10, 13674), (13, 13722), (18, 13872), (20, 13905), (21, 13914), (22, 13977), (24, 14178),

Gene: RikSengupta\_29 Start: 14054, Stop: 14879, Start Num: 3

Candidate Starts for RikSengupta\_29:

(Start: 3 @14054 has 63 MA's), (7, 14309), (9, 14336), (10, 14339), (12, 14369), (15, 14408), (17, 14456), (18, 14495), (19, 14501), (20, 14528), (21, 14537), (22, 14600), (23, 14678), (24, 14801),

Gene: RikSengupta\_28 Start: 14054, Stop: 14647, Start Num: 3

Candidate Starts for RikSengupta\_28:

(Start: 3 @14054 has 63 MA's), (7, 14309), (9, 14336), (10, 14339), (12, 14369), (15, 14408), (17, 14456), (18, 14495), (19, 14501), (20, 14528), (21, 14537), (22, 14600),

Gene: SilentWarrior\_26 Start: 13249, Stop: 13851, Start Num: 3

Candidate Starts for SilentWarrior\_26:

(Start: 3 @13249 has 63 MA's), (4, 13393), (5, 13417), (8, 13522), (9, 13537), (10, 13540), (11, 13546), (18, 13699), (20, 13732), (21, 13741), (22, 13804),

Gene: Snakehole\_28 Start: 13338, Stop: 13940, Start Num: 3

Candidate Starts for Snakehole\_28:

(Start: 3 @13338 has 63 MA's), (4, 13482), (5, 13506), (8, 13611), (9, 13626), (10, 13629), (11, 13635), (18, 13788), (20, 13821), (21, 13830), (22, 13893),

Gene: Sparcetus\_28 Start: 13933, Stop: 14526, Start Num: 3

Candidate Starts for Sparcetus\_28:

(Start: 3 @13933 has 63 MA's), (9, 14215), (10, 14218), (12, 14248), (15, 14287), (17, 14335), (18, 14374), (19, 14380), (20, 14407), (21, 14416), (22, 14479),

Gene: Tedro\_28 Start: 13508, Stop: 14378, Start Num: 3

Candidate Starts for Tedro\_28:

(Start: 3 @13508 has 63 MA's), (4, 13655), (5, 13679), (6, 13760), (9, 13799), (10, 13802), (13, 13850), (18, 14000), (20, 14033), (21, 14042), (22, 14105), (24, 14306),

Gene: Tedro\_27 Start: 13508, Stop: 14152, Start Num: 3

Candidate Starts for Tedro\_27:

(Start: 3 @13508 has 63 MA's), (4, 13655), (5, 13679), (6, 13760), (9, 13799), (10, 13802), (13, 13850), (18, 14000), (20, 14033), (21, 14042), (22, 14105),

Gene: TinyMiny\_28 Start: 13952, Stop: 14545, Start Num: 3

Candidate Starts for TinyMiny\_28:

(Start: 3 @13952 has 63 MA's), (7, 14207), (9, 14234), (10, 14237), (12, 14267), (15, 14306), (17, 14354), (18, 14393), (19, 14399), (20, 14426), (21, 14435), (22, 14498),

Gene: TinyMiny\_29 Start: 13952, Stop: 14777, Start Num: 3

Candidate Starts for TinyMiny\_29:

(Start: 3 @13952 has 63 MA's), (7, 14207), (9, 14234), (10, 14237), (12, 14267), (15, 14306), (17, 14354), (18, 14393), (19, 14399), (20, 14426), (21, 14435), (22, 14498), (23, 14576), (24, 14699),

Gene: Tongui\_27 Start: 13372, Stop: 14016, Start Num: 3

Candidate Starts for Tongui\_27:

(Start: 3 @13372 has 63 MA's), (4, 13519), (5, 13543), (6, 13624), (9, 13663), (10, 13666), (13, 13714), (18, 13864), (20, 13897), (21, 13906), (22, 13969),