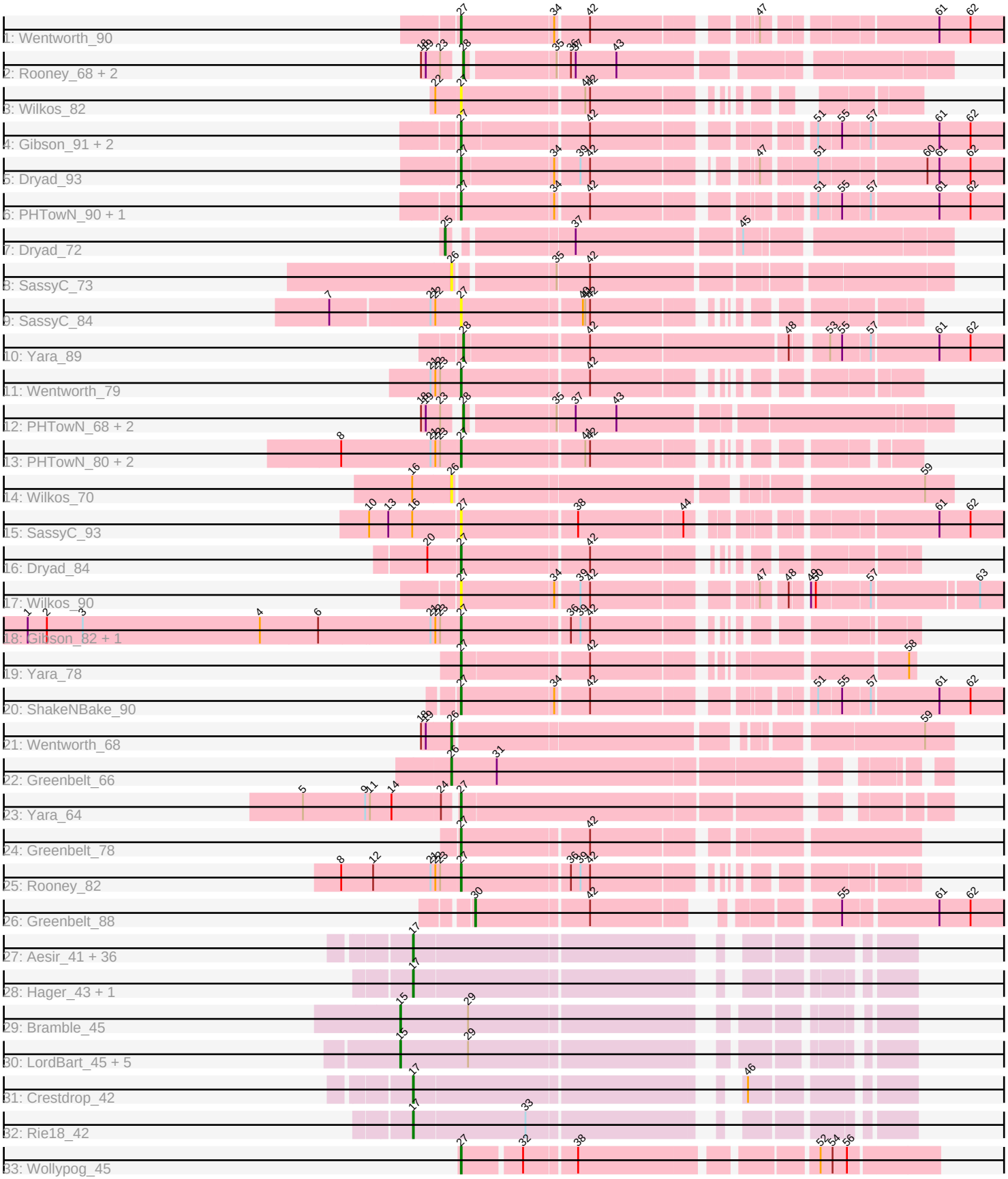
Pham 347507


1: Wentworth_90
2: Rooney_68 + 2
3: Wilkos_82
4: Gibson_91 + 2
5: Dryad_93
6: PHTowN_90 + 1
7: Dryad_72
8: SassyC_73
9: SassyC_84
10: Yara_89
11: Wentworth_79
12: PHTowN_68 + 2
13: PHTowN_80 + 2
14: Wilkos_70
15: SassyC_93
16: Dryad_84
17: Wilkos_90
18: Gibson_82 + 1
19: Yara_78
20: ShakeNBake_90
21: Wentworth_68
22: Greenbelt_66
23: Yara_64
24: Greenbelt_78
25: Rooney_82
26: Greenbelt_88
27: Aesir_41 + 36
28: Hager_43 + 1
29: Bramble_45
30: LordBart_45 + 5
31: Crestdrop_42
32: Rie18_42
33: Wollypog_45

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 347507 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347507 has 85 members, 13 are drafts.

Phages represented in each track:
- Track 1 : Wentworth_90
- Track 2 : Rooney_68, Virizion_73, Gibson_68
- Track 3 : Wilkos_82
- Track 4 : Gibson_91, Rooney_91, Virizion_97
- Track 5 : Dryad_93
- Track 6 : PHTowN_90, Lizz_90
- Track 7 : Dryad_72
- Track 8 : SassyC_73
- Track 9 : SassyC_84
- Track 10 : Yara_89
- Track 11 : Wentworth_79
- Track 12 : PHTowN_68, Lizz_68, ShakeNBake_68
- Track 13 : PHTowN_80, ShakeNBake_80, Lizz_80
- Track 14 : Wilkos_70
- Track 15 : SassyC_93
- Track 16 : Dryad_84
- Track 17 : Wilkos_90
- Track 18 : Gibson_82, Virizion_88
- Track 19 : Yara_78
- Track 20 : ShakeNBake_90
- Track 21 : Wentworth_68
- Track 22 : Greenbelt_66
- Track 23 : Yara_64
- Track 24 : Greenbelt_78
- Track 25 : Rooney_82
- Track 26 : Greenbelt_88
- Track 27 : Aesir_41, Karate_41, OhDear_42, Tedro_42, Krampus_42, Pharpay_42, Annapurna_42, SafetyGuy_42, Cybele_42, CoolCookie_42, DannyDe_42, Potty_42, Chivey_42, JDawG_41, Anakin_42, Snakehole_42, Rachella_42, FountainFog_41, Poultress_41, MortySmith_40, Haunter_42, Dauntless_41, Tiggy93_42, NarutoRun_42, JingleBells_42, Neptune_42, PhunaPhoke_42, Gilda_42, Erudite_41, AnnaSerena_42, SilentWarrior_42, OverHedge_42, Tongui_42, FreddieHg_42, Kate_43, Hiddenleaf_42, Artiphact_42
- Track 28 : Hager_43, WinnieLou_43
- Track 29 : Bramble_45
- Track 30 : LordBart_45, TinyMiny_45, RikSengupta_45, Sparcetus_45, Ajin_45, Kors_45

• Track 31 : Crestdrop_42
• Track 32 : Rie18_42
• Track 33 : Wollypog_45

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

The start number called the most often in the published annotations is 17, it was called in 37 of the 72 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aesir_41, Anakin_42, AnnaSerena_42, Annapurna_42, Artiphact_42, Chivey_42, CoolCookie_42, Crestdrop_42, Cybele_42, DannyDe_42, Dauntless_41, Erudite_41, FountainFog_41, FreddieHg_42, Gilda_42, Hager_43, Haunter_42, Hiddenleaf_42, JDawG_41, JingleBells_42, Karate_41, Kate_43, Krampus_42, MortySmith_40, NarutoRun_42, Neptune_42, OhDear_42, OverHedge_42, Pharpay_42, PhunaPhoke_42, Potty_42, Poultress_41, Rachella_42, Rie18_42, SafetyGuy_42, SilentWarrior_42, Snakehole_42, Tedro_42, Tiggy93_42, Tongui_42, WinnieLou_43,

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

Genes that do not have the "Most Annotated" start:
• Ajin_45, Bramble_45, Dryad_72, Dryad_84, Dryad_93, Gibson_68, Gibson_82, Gibson_91, Greenbelt_66, Greenbelt_78, Greenbelt_88, Kors_45, Lizz_68, Lizz_80, Lizz_90, LordBart_45, PHTowN_68, PHTowN_80, PHTowN_90, RikSengupta_45, Rooney_68, Rooney_82, Rooney_91, SassyC_73, SassyC_84, SassyC_93, ShakeNBake_68, ShakeNBake_80, ShakeNBake_90, Sparcetus_45, TinyMiny_45, Virizion_73, Virizion_88, Virizion_97, Wentworth_68, Wentworth_79, Wentworth_90, Wilkos_70, Wilkos_82, Wilkos_90, Wollypog_45, Yara_64, Yara_78, Yara_89,

Summary by start number:

Start 15:
• Found in 7 of 85 (8.2%) of genes in pham
• Manual Annotations of this start: 7 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ajin_45 (EF), Bramble_45 (EF), Kors_45 (EF), LordBart_45 (EF), RikSengupta_45 (EF), Sparcetus_45 (EF), TinyMiny_45 (EF),

Start 17:
• Found in 41 of 85 (48.2%) of genes in pham
• Manual Annotations of this start: 37 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aesir_41 (EF), Anakin_42 (EF), AnnaSerena_42 (EF), Annapurna_42 (EF), Artiphact_42 (EF), Chivey_42 (EF), CoolCookie_42 (EF), Crestdrop_42 (EF), Cybele_42 (EF), DannyDe_42 (EF), Dauntless_41 (EF), Erudite_41 (EF), FountainFog_41 (EF), FreddieHg_42 (EF), Gilda_42 (EF), Hager_43 (EF), Haunter_42 (EF), Hiddenleaf_42 (EF), JDawG_41 (EF), JingleBells_42 (EF), Karate_41 (EF), Kate_43 (EF), Krampus_42 (EF), MortySmith_40 (EF), NarutoRun_42 (EF), Neptune_42 (EF), OhDear_42 (EF),

OverHedge_42 (EF), Pharpay_42 (EF), PhunaPhoke_42 (EF), Potty_42 (EF), Poultress_41 (EF), Rachella_42 (EF), Rie18_42 (EF), SafetyGuy_42 (EF), SilentWarrior_42 (EF), Snakehole_42 (EF), Tedro_42 (EF), Tiggy93_42 (EF), Tongui_42 (EF), WinnieLou_43 (EF),

Start 25:
• Found in 1 of 85 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dryad_72 (BN),

Start 26:
• Found in 4 of 85 (4.7%) of genes in pham
• Manual Annotations of this start: 2 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Greenbelt_66 (BN), SassyC_73 (BN), Wentworth_68 (BN), Wilkos_70 (BN),

Start 27:
• Found in 24 of 85 (28.2%) of genes in pham
• Manual Annotations of this start: 18 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dryad_84 (BN), Dryad_93 (BN), Gibson_82 (BN), Gibson_91 (BN), Greenbelt_78 (BN), Lizz_80 (BN), Lizz_90 (BN), PHTowN_80 (BN), PHTowN_90 (BN), Rooney_82 (BN), Rooney_91 (BN), SassyC_84 (BN), SassyC_93 (BN), ShakeNBake_80 (BN), ShakeNBake_90 (BN), Virizion_88 (BN), Virizion_97 (BN), Wentworth_79 (BN), Wentworth_90 (BN), Wilkos_82 (BN), Wilkos_90 (BN), Wollypog_45 (singleton), Yara_64 (BN), Yara_78 (BN),

Start 28:
• Found in 7 of 85 (8.2%) of genes in pham
• Manual Annotations of this start: 6 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Gibson_68 (BN), Lizz_68 (BN), PHTowN_68 (BN), Rooney_68 (BN), ShakeNBake_68 (BN), Virizion_73 (BN), Yara_89 (BN),

Start 30:
• Found in 1 of 85 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Greenbelt_88 (BN),

Summary by clusters:

There are 3 clusters represented in this pham: BN, EF, singleton,

Info for manual annotations of cluster BN:
•Start number 25 was manually annotated 1 time for cluster BN.
•Start number 26 was manually annotated 2 times for cluster BN.
•Start number 27 was manually annotated 17 times for cluster BN.
•Start number 28 was manually annotated 6 times for cluster BN.

•Start number 30 was manually annotated 1 time for cluster BN.

Info for manual annotations of cluster EF:
•Start number 15 was manually annotated 7 times for cluster EF.
•Start number 17 was manually annotated 37 times for cluster EF.

Gene Information:

Gene: Aesir_41 Start: 27893, Stop: 28423, Start Num: 17
Candidate Starts for Aesir_41:
(Start: 17 @27893 has 37 MA's),

Gene: Ajin_45 Start: 29095, Stop: 29643, Start Num: 15
Candidate Starts for Ajin_45:
(Start: 15 @29095 has 7 MA's), (29, 29179),

Gene: Anakin_42 Start: 28213, Stop: 28749, Start Num: 17
Candidate Starts for Anakin_42:
(Start: 17 @28213 has 37 MA's),

Gene: AnnaSerena_42 Start: 28248, Stop: 28784, Start Num: 17
Candidate Starts for AnnaSerena_42:
(Start: 17 @28248 has 37 MA's),

Gene: Annapurna_42 Start: 27522, Stop: 28052, Start Num: 17
Candidate Starts for Annapurna_42:
(Start: 17 @27522 has 37 MA's),

Gene: Artiphact_42 Start: 28237, Stop: 28773, Start Num: 17
Candidate Starts for Artiphact_42:
(Start: 17 @28237 has 37 MA's),

Gene: Bramble_45 Start: 29144, Stop: 29692, Start Num: 15
Candidate Starts for Bramble_45:
(Start: 15 @29144 has 7 MA's), (29, 29228),

Gene: Chivey_42 Start: 27471, Stop: 28001, Start Num: 17
Candidate Starts for Chivey_42:
(Start: 17 @27471 has 37 MA's),

Gene: CoolCookie_42 Start: 28243, Stop: 28779, Start Num: 17
Candidate Starts for CoolCookie_42:
(Start: 17 @28243 has 37 MA's),

Gene: Crestdrop_42 Start: 27505, Stop: 28035, Start Num: 17
Candidate Starts for Crestdrop_42:
(Start: 17 @27505 has 37 MA's), (46, 27859),

Gene: Cybele_42 Start: 28213, Stop: 28749, Start Num: 17
Candidate Starts for Cybele_42:
(Start: 17 @28213 has 37 MA's),

Gene: DannyDe_42 Start: 27477, Stop: 28007, Start Num: 17
Candidate Starts for DannyDe_42:
(Start: 17 @27477 has 37 MA's),

Gene: Dauntless_41 Start: 27799, Stop: 28329, Start Num: 17
Candidate Starts for Dauntless_41:
(Start: 17 @27799 has 37 MA's),

Gene: Dryad_93 Start: 59282, Stop: 58686, Start Num: 27
Candidate Starts for Dryad_93:
(Start: 27 @59282 has 18 MA's), (34, 59171), (39, 59144), (42, 59132), (47, 58970), (51, 58910), (60, 58784), (61, 58769), (62, 58730),

Gene: Dryad_72 Start: 48943, Stop: 48380, Start Num: 25
Candidate Starts for Dryad_72:
(Start: 25 @48943 has 1 MA's), (37, 48808), (45, 48613),

Gene: Dryad_84 Start: 55433, Stop: 54966, Start Num: 27
Candidate Starts for Dryad_84:
(20, 55472), (Start: 27 @55433 has 18 MA's), (42, 55280),

Gene: Erudite_41 Start: 27799, Stop: 28329, Start Num: 17
Candidate Starts for Erudite_41:
(Start: 17 @27799 has 37 MA's),

Gene: FountainFog_41 Start: 27523, Stop: 28044, Start Num: 17
Candidate Starts for FountainFog_41:
(Start: 17 @27523 has 37 MA's),

Gene: FreddieHg_42 Start: 27487, Stop: 28017, Start Num: 17
Candidate Starts for FreddieHg_42:
(Start: 17 @27487 has 37 MA's),

Gene: Gibson_91 Start: 59251, Stop: 58649, Start Num: 27
Candidate Starts for Gibson_91:
(Start: 27 @59251 has 18 MA's), (42, 59101), (51, 58873), (55, 58846), (57, 58813), (61, 58732), (62, 58693),

Gene: Gibson_82 Start: 55230, Stop: 54763, Start Num: 27
Candidate Starts for Gibson_82:
(1, 55767), (2, 55743), (3, 55698), (4, 55476), (6, 55404), (21, 55266), (22, 55260), (23, 55254), (Start: 27 @55230 has 18 MA's), (36, 55101), (39, 55089), (42, 55077),

Gene: Gibson_68 Start: 48192, Stop: 47644, Start Num: 28
Candidate Starts for Gibson_68:
(18, 48231), (19, 48225), (23, 48207), (Start: 28 @48192 has 6 MA's), (35, 48087), (36, 48072), (37, 48066), (43, 48015),

Gene: Gilda_42 Start: 28237, Stop: 28773, Start Num: 17
Candidate Starts for Gilda_42:
(Start: 17 @28237 has 37 MA's),

Gene: Greenbelt_66 Start: 44319, Stop: 43777, Start Num: 26
Candidate Starts for Greenbelt_66:
(Start: 26 @44319 has 2 MA's), (31, 44262),

Gene: Greenbelt_78 Start: 51064, Stop: 50546, Start Num: 27
Candidate Starts for Greenbelt_78:
(Start: 27 @51064 has 18 MA's), (42, 50911),

Gene: Greenbelt_88 Start: 56317, Stop: 55751, Start Num: 30
Candidate Starts for Greenbelt_88:
(Start: 30 @56317 has 1 MA's), (42, 56182), (55, 55945), (61, 55834), (62, 55795),

Gene: Hager_43 Start: 27723, Stop: 28247, Start Num: 17
Candidate Starts for Hager_43:
(Start: 17 @27723 has 37 MA's),

Gene: Haunter_42 Start: 27644, Stop: 28171, Start Num: 17
Candidate Starts for Haunter_42:
(Start: 17 @27644 has 37 MA's),

Gene: Hiddenleaf_42 Start: 27471, Stop: 28001, Start Num: 17
Candidate Starts for Hiddenleaf_42:
(Start: 17 @27471 has 37 MA's),

Gene: JDawG_41 Start: 27888, Stop: 28418, Start Num: 17
Candidate Starts for JDawG_41:
(Start: 17 @27888 has 37 MA's),

Gene: JingleBells_42 Start: 27592, Stop: 28122, Start Num: 17
Candidate Starts for JingleBells_42:
(Start: 17 @27592 has 37 MA's),

Gene: Karate_41 Start: 28242, Stop: 28775, Start Num: 17
Candidate Starts for Karate_41:
(Start: 17 @28242 has 37 MA's),

Gene: Kate_43 Start: 28245, Stop: 28781, Start Num: 17
Candidate Starts for Kate_43:
(Start: 17 @28245 has 37 MA's),

Gene: Kors_45 Start: 29172, Stop: 29720, Start Num: 15
Candidate Starts for Kors_45:
(Start: 15 @29172 has 7 MA's), (29, 29256),

Gene: Krampus_42 Start: 28245, Stop: 28781, Start Num: 17
Candidate Starts for Krampus_42:
(Start: 17 @28245 has 37 MA's),

Gene: Lizz_68 Start: 48031, Stop: 47468, Start Num: 28
Candidate Starts for Lizz_68:
(18, 48070), (19, 48064), (23, 48046), (Start: 28 @48031 has 6 MA's), (35, 47926), (37, 47905), (43, 47854),

Gene: Lizz_80 Start: 54885, Stop: 54421, Start Num: 27
Candidate Starts for Lizz_80:
(8, 55032), (21, 54921), (22, 54915), (23, 54909), (Start: 27 @54885 has 18 MA's), (41, 54738), (42, 54732),

Gene: Lizz_90 Start: 59245, Stop: 58643, Start Num: 27
Candidate Starts for Lizz_90:
(Start: 27 @59245 has 18 MA's), (34, 59131), (42, 59092), (51, 58867), (55, 58840), (57, 58807), (61, 58726), (62, 58687),

Gene: LordBart_45 Start: 29081, Stop: 29629, Start Num: 15
Candidate Starts for LordBart_45:
(Start: 15 @29081 has 7 MA's), (29, 29165),

Gene: MortySmith_40 Start: 27276, Stop: 27806, Start Num: 17
Candidate Starts for MortySmith_40:
(Start: 17 @27276 has 37 MA's),

Gene: NarutoRun_42 Start: 28213, Stop: 28749, Start Num: 17
Candidate Starts for NarutoRun_42:
(Start: 17 @28213 has 37 MA's),

Gene: Neptune_42 Start: 28213, Stop: 28749, Start Num: 17
Candidate Starts for Neptune_42:
(Start: 17 @28213 has 37 MA's),

Gene: OhDear_42 Start: 28211, Stop: 28747, Start Num: 17
Candidate Starts for OhDear_42:
(Start: 17 @28211 has 37 MA's),

Gene: OverHedge_42 Start: 28203, Stop: 28739, Start Num: 17
Candidate Starts for OverHedge_42:
(Start: 17 @28203 has 37 MA's),

Gene: PHTowN_90 Start: 59243, Stop: 58641, Start Num: 27
Candidate Starts for PHTowN_90:
(Start: 27 @59243 has 18 MA's), (34, 59129), (42, 59090), (51, 58865), (55, 58838), (57, 58805), (61, 58724), (62, 58685),

Gene: PHTowN_68 Start: 48029, Stop: 47466, Start Num: 28
Candidate Starts for PHTowN_68:
(18, 48068), (19, 48062), (23, 48044), (Start: 28 @48029 has 6 MA's), (35, 47924), (37, 47903), (43, 47852),

Gene: PHTowN_80 Start: 54883, Stop: 54419, Start Num: 27
Candidate Starts for PHTowN_80:
(8, 55030), (21, 54919), (22, 54913), (23, 54907), (Start: 27 @54883 has 18 MA's), (41, 54736), (42, 54730),

Gene: Pharpay_42 Start: 28258, Stop: 28794, Start Num: 17
Candidate Starts for Pharpay_42:
(Start: 17 @28258 has 37 MA's),

Gene: PhunaPhoke_42 Start: 28231, Stop: 28767, Start Num: 17
Candidate Starts for PhunaPhoke_42:
(Start: 17 @28231 has 37 MA's),

Gene: Potty_42 Start: 28236, Stop: 28772, Start Num: 17
Candidate Starts for Potty_42:
(Start: 17 @28236 has 37 MA's),

Gene: Poultress_41 Start: 28582, Stop: 29115, Start Num: 17
Candidate Starts for Poultress_41:
(Start: 17 @28582 has 37 MA's),

Gene: Rachella_42 Start: 28239, Stop: 28775, Start Num: 17
Candidate Starts for Rachella_42:
(Start: 17 @28239 has 37 MA's),

Gene: Rie18_42 Start: 27794, Stop: 28321, Start Num: 17
Candidate Starts for Rie18_42:
(Start: 17 @27794 has 37 MA's), (33, 27932),

Gene: RikSengupta_45 Start: 29209, Stop: 29757, Start Num: 15
Candidate Starts for RikSengupta_45:
(Start: 15 @29209 has 7 MA's), (29, 29293),

Gene: Rooney_68 Start: 48168, Stop: 47620, Start Num: 28
Candidate Starts for Rooney_68:
(18, 48207), (19, 48201), (23, 48183), (Start: 28 @48168 has 6 MA's), (35, 48063), (36, 48048), (37, 48042), (43, 47991),

Gene: Rooney_91 Start: 59259, Stop: 58657, Start Num: 27
Candidate Starts for Rooney_91:
(Start: 27 @59259 has 18 MA's), (42, 59109), (51, 58881), (55, 58854), (57, 58821), (61, 58740), (62, 58701),

Gene: Rooney_82 Start: 55236, Stop: 54769, Start Num: 27
Candidate Starts for Rooney_82:
(8, 55383), (12, 55344), (21, 55272), (22, 55266), (23, 55260), (Start: 27 @55236 has 18 MA's), (36, 55107), (39, 55095), (42, 55083),

Gene: SafetyGuy_42 Start: 28219, Stop: 28755, Start Num: 17
Candidate Starts for SafetyGuy_42:
(Start: 17 @28219 has 37 MA's),

Gene: SassyC_73 Start: 49109, Stop: 48540, Start Num: 26
Candidate Starts for SassyC_73:
(Start: 26 @49109 has 2 MA's), (35, 48995), (42, 48956),

Gene: SassyC_84 Start: 55255, Stop: 54782, Start Num: 27
Candidate Starts for SassyC_84:
(7, 55411), (21, 55291), (22, 55285), (Start: 27 @55255 has 18 MA's), (40, 55111), (41, 55108), (42, 55102),

Gene: SassyC_93 Start: 58745, Stop: 58146, Start Num: 27

Candidate Starts for SassyC_93:
(10, 58856), (13, 58832), (16, 58802), (Start: 27 @58745 has 18 MA's), (38, 58607), (44, 58481), (61, 58229), (62, 58190),

Gene: ShakeNBake_90 Start: 59266, Stop: 58664, Start Num: 27
Candidate Starts for ShakeNBake_90:
(Start: 27 @59266 has 18 MA's), (34, 59152), (42, 59113), (51, 58888), (55, 58861), (57, 58828), (61, 58747), (62, 58708),

Gene: ShakeNBake_80 Start: 54910, Stop: 54446, Start Num: 27
Candidate Starts for ShakeNBake_80:
(8, 55057), (21, 54946), (22, 54940), (23, 54934), (Start: 27 @54910 has 18 MA's), (41, 54763), (42, 54757),

Gene: ShakeNBake_68 Start: 48056, Stop: 47493, Start Num: 28
Candidate Starts for ShakeNBake_68:
(18, 48095), (19, 48089), (23, 48071), (Start: 28 @48056 has 6 MA's), (35, 47951), (37, 47930), (43, 47879),

Gene: SilentWarrior_42 Start: 27484, Stop: 28014, Start Num: 17
Candidate Starts for SilentWarrior_42:
(Start: 17 @27484 has 37 MA's),

Gene: Snakehole_42 Start: 27416, Stop: 27952, Start Num: 17
Candidate Starts for Snakehole_42:
(Start: 17 @27416 has 37 MA's),

Gene: Sparcetus_45 Start: 29088, Stop: 29636, Start Num: 15
Candidate Starts for Sparcetus_45:
(Start: 15 @29088 has 7 MA's), (29, 29172),

Gene: Tedro_42 Start: 27724, Stop: 28254, Start Num: 17
Candidate Starts for Tedro_42:
(Start: 17 @27724 has 37 MA's),

Gene: Tiggy93_42 Start: 28242, Stop: 28778, Start Num: 17
Candidate Starts for Tiggy93_42:
(Start: 17 @28242 has 37 MA's),

Gene: TinyMiny_45 Start: 29107, Stop: 29655, Start Num: 15
Candidate Starts for TinyMiny_45:
(Start: 15 @29107 has 7 MA's), (29, 29191),

Gene: Tongui_42 Start: 27839, Stop: 28375, Start Num: 17
Candidate Starts for Tongui_42:
(Start: 17 @27839 has 37 MA's),

Gene: Virizion_97 Start: 59446, Stop: 58844, Start Num: 27
Candidate Starts for Virizion_97:
(Start: 27 @59446 has 18 MA's), (42, 59296), (51, 59068), (55, 59041), (57, 59008), (61, 58927), (62, 58888),

Gene: Virizion_73 Start: 48388, Stop: 47840, Start Num: 28

Candidate Starts for Virizion_73:
(18, 48427), (19, 48421), (23, 48403), (Start: 28 @48388 has 6 MA's), (35, 48283), (36, 48268), (37, 48262), (43, 48211),

Gene: Virizion_88 Start: 55426, Stop: 54959, Start Num: 27
Candidate Starts for Virizion_88:
(1, 55963), (2, 55939), (3, 55894), (4, 55672), (6, 55600), (21, 55462), (22, 55456), (23, 55450), (Start: 27 @55426 has 18 MA's), (36, 55297), (39, 55285), (42, 55273),

Gene: Wentworth_90 Start: 58648, Stop: 58046, Start Num: 27
Candidate Starts for Wentworth_90:
(Start: 27 @58648 has 18 MA's), (34, 58534), (42, 58495), (47, 58321), (61, 58129), (62, 58090),

Gene: Wentworth_79 Start: 54336, Stop: 53863, Start Num: 27
Candidate Starts for Wentworth_79:
(21, 54372), (22, 54366), (23, 54360), (Start: 27 @54336 has 18 MA's), (42, 54183),

Gene: Wentworth_68 Start: 48157, Stop: 47597, Start Num: 26
Candidate Starts for Wentworth_68:
(18, 48193), (19, 48187), (Start: 26 @48157 has 2 MA's), (59, 47632),

Gene: Wilkos_82 Start: 54813, Stop: 54361, Start Num: 27
Candidate Starts for Wilkos_82:
(22, 54843), (Start: 27 @54813 has 18 MA's), (41, 54666), (42, 54660),

Gene: Wilkos_70 Start: 48319, Stop: 47750, Start Num: 26
Candidate Starts for Wilkos_70:
(16, 48367), (Start: 26 @48319 has 2 MA's), (59, 47785),

Gene: Wilkos_90 Start: 58442, Stop: 57849, Start Num: 27
Candidate Starts for Wilkos_90:
(Start: 27 @58442 has 18 MA's), (34, 58328), (39, 58301), (42, 58289), (47, 58115), (48, 58088), (49, 58073), (50, 58067), (57, 58004), (63, 57881),

Gene: WinnieLou_43 Start: 27846, Stop: 28370, Start Num: 17
Candidate Starts for WinnieLou_43:
(Start: 17 @27846 has 37 MA's),

Gene: Wollypog_45 Start: 32939, Stop: 33472, Start Num: 27
Candidate Starts for Wollypog_45:
(Start: 27 @32939 has 18 MA's), (32, 33008), (38, 33068), (52, 33332), (54, 33347), (56, 33365),

Gene: Yara_89 Start: 59333, Stop: 58701, Start Num: 28
Candidate Starts for Yara_89:
(Start: 28 @59333 has 6 MA's), (42, 59186), (48, 58949), (53, 58913), (55, 58898), (57, 58865), (61, 58784), (62, 58745),

Gene: Yara_78 Start: 53975, Stop: 53490, Start Num: 27
Candidate Starts for Yara_78:
(Start: 27 @53975 has 18 MA's), (42, 53825), (58, 53498),

Gene: Yara_64 Start: 46991, Stop: 46455, Start Num: 27
Candidate Starts for Yara_64:

(5, 47177), (9, 47099), (11, 47093), (14, 47066), (24, 47006), (Start: 27 @46991 has 18 MA's),