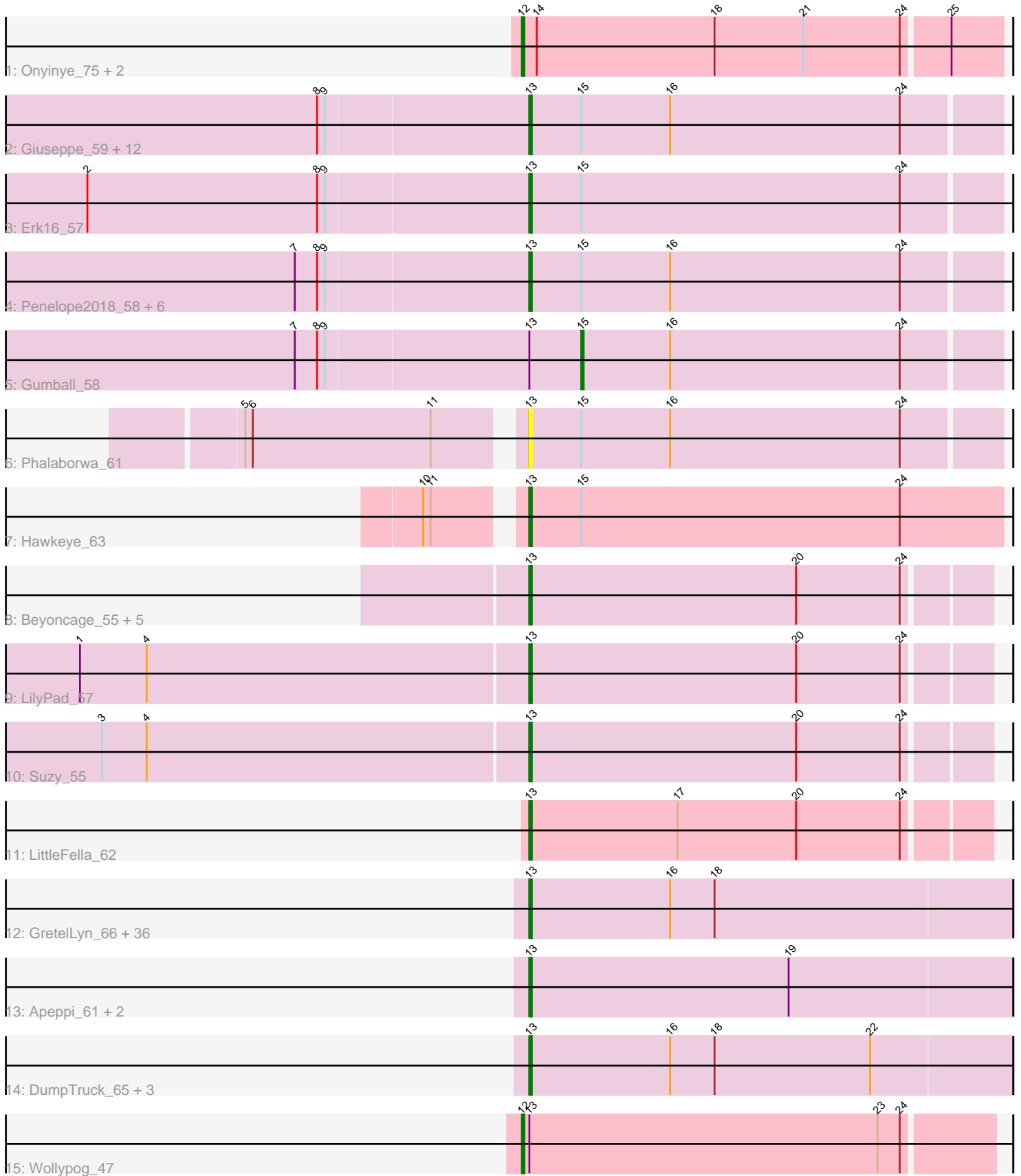


Pham 304949



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 304949 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304949 has 81 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Onyinye_75, Aikoy_75, Leopard_74
- Track 2 : Giuseppe_59, Helpful_61, Chill_60, BigMama_56, Butterscotch_57, PBI1_55, Adjutor_57, Delton_59, Visconti_59, WaldoWhy_60, Prager_58, Troll4_58, Thoth_58
- Track 3 : Erk16_57
- Track 4 : Penelope2018_58, SuperheroCarly_59, PLOT_58, KandZ_57, Mopey_59, Nova_57, SirHarley_60
- Track 5 : Gumball_58
- Track 6 : Phalaborwa_61
- Track 7 : Hawkeye_63
- Track 8 : Beyoncage_55, Djokovic_55, Madi_55, Sienna_55, BiteSize_55, Terapin_56
- Track 9 : LilyPad_57
- Track 10 : Suzy_55
- Track 11 : LittleFella_62
- Track 12 : GretelLyn_66, Alyssamiracle_69, Charminar_65, Ranch_66, Gibbin_68, Patos_70, Erutan_66, NorManre_70, DoobyDoo_65, Rukungu_68, Lila22_67, Zany_64, Jamemuya19_65, Avian_64, Stormer_66, BirthdayBoy_68, Alephilan_67, Pywacket_63, Wojtek_62, Sadboi_67, Genamy16_69, Sampudon_66, ParvusTarda_65, DaviePasture_66, Riduram_65, NovaSharks_68, Rumi_67, Astralis_66, Rota_63, LavAbarElk_66, Fulcrum_66, Lambo_64, RazorC_66, Yikes_68, OtterstedtS21_66, Jalebi_65, GOATification_66
- Track 13 : Apeppi_61, LuckyLeo_63, Tillicus_61
- Track 14 : DumpTruck_65, Xenia2_65, MoiGyank_69, Mima20_66
- Track 15 : Wollypog_47

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

The start number called the most often in the published annotations is 13, it was called in 70 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adjutor_57, Alephilan_67, Alyssamiracle_69, Apeppi_61, Astralis_66, Avian_64, Beyoncage_55, BigMama_56, BirthdayBoy_68, BiteSize_55, Butterscotch_57,

Charminar_65, Chill_60, DaviePasture_66, Delton_59, Djokovic_55, DoobyDoo_65, DumpTruck_65, Erk16_57, Erutan_66, Fulcrum_66, GOATification_66, Genamy16_69, Gibbin_68, Giuseppe_59, GretellLyn_66, Hawkeye_63, Helpful_61, Jalebi_65, Jamemuya19_65, KandZ_57, Lambo_64, LavAbarElk_66, Lila22_67, LilyPad_57, LittleFella_62, LuckyLeo_63, Madi_55, Mima20_66, MoiGyank_69, Mopey_59, NorManre_70, NovaSharks_68, Nova_57, OtterstedtS21_66, PBI1_55, PLOT_58, ParvusTarda_65, Patos_70, Penelope2018_58, Phalaborwa_61, Prager_58, Pywacket_63, Ranch_66, RazorC_66, Riduram_65, Rota_63, Rukungu_68, Rumi_67, Sadboi_67, Sampudon_66, Sienna_55, SirHarley_60, Stormer_66, SuperheroCarly_59, Suzy_55, Terapin_56, Thoth_58, Tillicus_61, Troll4_58, Visconti_59, WaldoWhy_60, Wojtek_62, Xenia2_65, Yikes_68, Zany_64,

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

- Gumball_58, Wollypog_47,

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

- Aikoy_75, Leopard_74, Onyinye_75,

Summary by start number:

Start 12:

- Found in 4 of 81 (4.9%) of genes in pham
- Manual Annotations of this start: 4 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aikoy_75 (AE), Leopard_74 (AE), Onyinye_75 (AE), Wollypog_47 (singleton),

Start 13:

- Found in 78 of 81 (96.3%) of genes in pham
- Manual Annotations of this start: 70 of 75
- Called 97.4% of time when present
- Phage (with cluster) where this start called: Adjutor_57 (D1), Alephilan_67 (DV), Alyssamiracle_69 (DV), Apeppi_61 (DV), Astralis_66 (DV), Avian_64 (DV), Beyoncage_55 (DG1), BigMama_56 (D1), BirthdayBoy_68 (DV), BiteSize_55 (DG1), Butterscotch_57 (D1), Charminar_65 (DV), Chill_60 (D1), DaviePasture_66 (DV), Delton_59 (D1), Djokovic_55 (DG1), DoobyDoo_65 (DV), DumpTruck_65 (DV), Erk16_57 (D1), Erutan_66 (DV), Fulcrum_66 (DV), GOATification_66 (DV), Genamy16_69 (DV), Gibbin_68 (DV), Giuseppe_59 (D1), GretellLyn_66 (DV), Hawkeye_63 (D2), Helpful_61 (D1), Jalebi_65 (DV), Jamemuya19_65 (DV), KandZ_57 (D1), Lambo_64 (DV), LavAbarElk_66 (DV), Lila22_67 (DV), LilyPad_57 (DG1), LittleFella_62 (DG2), LuckyLeo_63 (DV), Madi_55 (DG1), Mima20_66 (DV), MoiGyank_69 (DV), Mopey_59 (D1), NorManre_70 (DV), NovaSharks_68 (DV), Nova_57 (D1), OtterstedtS21_66 (DV), PBI1_55 (D1), PLOT_58 (D1), ParvusTarda_65 (DV), Patos_70 (DV), Penelope2018_58 (D1), Phalaborwa_61 (D1), Prager_58 (D1), Pywacket_63 (DV), Ranch_66 (DV), RazorC_66 (DV), Riduram_65 (DV), Rota_63 (DV), Rukungu_68 (DV), Rumi_67 (DV), Sadboi_67 (DV), Sampudon_66 (DV), Sienna_55 (DG1), SirHarley_60 (D1), Stormer_66 (DV), SuperheroCarly_59 (D1), Suzy_55 (DG1), Terapin_56 (DG1), Thoth_58 (D1), Tillicus_61 (DV), Troll4_58 (D1), Visconti_59 (D1), WaldoWhy_60 (D1), Wojtek_62 (DV), Xenia2_65 (DV), Yikes_68 (DV), Zany_64 (DV),

Start 15:

- Found in 24 of 81 (29.6%) of genes in pham

- Manual Annotations of this start: 1 of 75
- Called 4.2% of time when present
- Phage (with cluster) where this start called: Gumball_58 (D1),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, AE, DG2, DG1, DV, D2, D1,

Info for manual annotations of cluster AE:

- Start number 12 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster D1:

- Start number 13 was manually annotated 21 times for cluster D1.
- Start number 15 was manually annotated 1 time for cluster D1.

Info for manual annotations of cluster D2:

- Start number 13 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DG1:

- Start number 13 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 13 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

- Start number 13 was manually annotated 39 times for cluster DV.

Gene Information:

Gene: Adjutor_57 Start: 44227, Stop: 44415, Start Num: 13

Candidate Starts for Adjutor_57:

(8, 44143), (9, 44146), (Start: 13 @44227 has 70 MA's), (Start: 15 @44248 has 1 MA's), (16, 44284), (24, 44377),

Gene: Aikoy_75 Start: 51802, Stop: 51993, Start Num: 12

Candidate Starts for Aikoy_75:

(Start: 12 @51802 has 4 MA's), (14, 51808), (18, 51880), (21, 51916), (24, 51955), (25, 51973),

Gene: Alephilan_67 Start: 45298, Stop: 45492, Start Num: 13

Candidate Starts for Alephilan_67:

(Start: 13 @45298 has 70 MA's), (16, 45355), (18, 45373),

Gene: Alyssamiracle_69 Start: 44300, Stop: 44494, Start Num: 13

Candidate Starts for Alyssamiracle_69:

(Start: 13 @44300 has 70 MA's), (16, 44357), (18, 44375),

Gene: Apeppi_61 Start: 44459, Stop: 44653, Start Num: 13

Candidate Starts for Apeppi_61:

(Start: 13 @44459 has 70 MA's), (19, 44564),

Gene: Astralis_66 Start: 43879, Stop: 44073, Start Num: 13

Candidate Starts for Astralis_66:
(Start: 13 @43879 has 70 MA's), (16, 43936), (18, 43954),

Gene: Avian_64 Start: 44028, Stop: 44222, Start Num: 13
Candidate Starts for Avian_64:
(Start: 13 @44028 has 70 MA's), (16, 44085), (18, 44103),

Gene: Beyoncage_55 Start: 41632, Stop: 41814, Start Num: 13
Candidate Starts for Beyoncage_55:
(Start: 13 @41632 has 70 MA's), (20, 41740), (24, 41782),

Gene: BigMama_56 Start: 44303, Stop: 44491, Start Num: 13
Candidate Starts for BigMama_56:
(8, 44219), (9, 44222), (Start: 13 @44303 has 70 MA's), (Start: 15 @44324 has 1 MA's), (16, 44360),
(24, 44453),

Gene: BirthdayBoy_68 Start: 45604, Stop: 45798, Start Num: 13
Candidate Starts for BirthdayBoy_68:
(Start: 13 @45604 has 70 MA's), (16, 45661), (18, 45679),

Gene: BiteSize_55 Start: 41718, Stop: 41900, Start Num: 13
Candidate Starts for BiteSize_55:
(Start: 13 @41718 has 70 MA's), (20, 41826), (24, 41868),

Gene: Butterscotch_57 Start: 44287, Stop: 44475, Start Num: 13
Candidate Starts for Butterscotch_57:
(8, 44203), (9, 44206), (Start: 13 @44287 has 70 MA's), (Start: 15 @44308 has 1 MA's), (16, 44344),
(24, 44437),

Gene: Charminar_65 Start: 43638, Stop: 43832, Start Num: 13
Candidate Starts for Charminar_65:
(Start: 13 @43638 has 70 MA's), (16, 43695), (18, 43713),

Gene: Chill_60 Start: 44350, Stop: 44538, Start Num: 13
Candidate Starts for Chill_60:
(8, 44266), (9, 44269), (Start: 13 @44350 has 70 MA's), (Start: 15 @44371 has 1 MA's), (16, 44407),
(24, 44500),

Gene: DaviePasture_66 Start: 45212, Stop: 45406, Start Num: 13
Candidate Starts for DaviePasture_66:
(Start: 13 @45212 has 70 MA's), (16, 45269), (18, 45287),

Gene: Delton_59 Start: 44685, Stop: 44873, Start Num: 13
Candidate Starts for Delton_59:
(8, 44601), (9, 44604), (Start: 13 @44685 has 70 MA's), (Start: 15 @44706 has 1 MA's), (16, 44742),
(24, 44835),

Gene: Djokovic_55 Start: 41631, Stop: 41813, Start Num: 13
Candidate Starts for Djokovic_55:
(Start: 13 @41631 has 70 MA's), (20, 41739), (24, 41781),

Gene: DoobyDoo_65 Start: 44188, Stop: 44382, Start Num: 13
Candidate Starts for DoobyDoo_65:

(Start: 13 @44188 has 70 MA's), (16, 44245), (18, 44263),

Gene: DumpTruck_65 Start: 44000, Stop: 44194, Start Num: 13

Candidate Starts for DumpTruck_65:

(Start: 13 @44000 has 70 MA's), (16, 44057), (18, 44075), (22, 44138),

Gene: Erk16_57 Start: 44389, Stop: 44577, Start Num: 13

Candidate Starts for Erk16_57:

(2, 44212), (8, 44305), (9, 44308), (Start: 13 @44389 has 70 MA's), (Start: 15 @44410 has 1 MA's), (24, 44539),

Gene: Erutan_66 Start: 44830, Stop: 45024, Start Num: 13

Candidate Starts for Erutan_66:

(Start: 13 @44830 has 70 MA's), (16, 44887), (18, 44905),

Gene: Fulcrum_66 Start: 44912, Stop: 45106, Start Num: 13

Candidate Starts for Fulcrum_66:

(Start: 13 @44912 has 70 MA's), (16, 44969), (18, 44987),

Gene: GOATification_66 Start: 44912, Stop: 45106, Start Num: 13

Candidate Starts for GOATification_66:

(Start: 13 @44912 has 70 MA's), (16, 44969), (18, 44987),

Gene: Genamy16_69 Start: 44286, Stop: 44480, Start Num: 13

Candidate Starts for Genamy16_69:

(Start: 13 @44286 has 70 MA's), (16, 44343), (18, 44361),

Gene: Gibbin_68 Start: 45717, Stop: 45911, Start Num: 13

Candidate Starts for Gibbin_68:

(Start: 13 @45717 has 70 MA's), (16, 45774), (18, 45792),

Gene: Giuseppe_59 Start: 44255, Stop: 44443, Start Num: 13

Candidate Starts for Giuseppe_59:

(8, 44171), (9, 44174), (Start: 13 @44255 has 70 MA's), (Start: 15 @44276 has 1 MA's), (16, 44312), (24, 44405),

Gene: Gretellyn_66 Start: 45702, Stop: 45896, Start Num: 13

Candidate Starts for Gretellyn_66:

(Start: 13 @45702 has 70 MA's), (16, 45759), (18, 45777),

Gene: Gumball_58 Start: 44768, Stop: 44935, Start Num: 15

Candidate Starts for Gumball_58:

(7, 44654), (8, 44663), (9, 44666), (Start: 13 @44747 has 70 MA's), (Start: 15 @44768 has 1 MA's), (16, 44804), (24, 44897),

Gene: Hawkeye_63 Start: 44249, Stop: 44440, Start Num: 13

Candidate Starts for Hawkeye_63:

(10, 44216), (11, 44219), (Start: 13 @44249 has 70 MA's), (Start: 15 @44270 has 1 MA's), (24, 44399),

Gene: Helpful_61 Start: 44616, Stop: 44804, Start Num: 13

Candidate Starts for Helpful_61:

(8, 44532), (9, 44535), (Start: 13 @44616 has 70 MA's), (Start: 15 @44637 has 1 MA's), (16, 44673), (24, 44766),

Gene: Jalebi_65 Start: 46055, Stop: 46249, Start Num: 13
Candidate Starts for Jalebi_65:
(Start: 13 @46055 has 70 MA's), (16, 46112), (18, 46130),

Gene: Jamemuya19_65 Start: 43891, Stop: 44085, Start Num: 13
Candidate Starts for Jamemuya19_65:
(Start: 13 @43891 has 70 MA's), (16, 43948), (18, 43966),

Gene: KandZ_57 Start: 44413, Stop: 44601, Start Num: 13
Candidate Starts for KandZ_57:
(7, 44320), (8, 44329), (9, 44332), (Start: 13 @44413 has 70 MA's), (Start: 15 @44434 has 1 MA's),
(16, 44470), (24, 44563),

Gene: Lambo_64 Start: 44709, Stop: 44903, Start Num: 13
Candidate Starts for Lambo_64:
(Start: 13 @44709 has 70 MA's), (16, 44766), (18, 44784),

Gene: LavAbarElk_66 Start: 44449, Stop: 44643, Start Num: 13
Candidate Starts for LavAbarElk_66:
(Start: 13 @44449 has 70 MA's), (16, 44506), (18, 44524),

Gene: Leopard_74 Start: 52108, Stop: 52299, Start Num: 12
Candidate Starts for Leopard_74:
(Start: 12 @52108 has 4 MA's), (14, 52114), (18, 52186), (21, 52222), (24, 52261), (25, 52279),

Gene: Lila22_67 Start: 45661, Stop: 45855, Start Num: 13
Candidate Starts for Lila22_67:
(Start: 13 @45661 has 70 MA's), (16, 45718), (18, 45736),

Gene: LilyPad_57 Start: 42828, Stop: 43010, Start Num: 13
Candidate Starts for LilyPad_57:
(1, 42648), (4, 42675), (Start: 13 @42828 has 70 MA's), (20, 42936), (24, 42978),

Gene: LittleFella_62 Start: 44348, Stop: 44530, Start Num: 13
Candidate Starts for LittleFella_62:
(Start: 13 @44348 has 70 MA's), (17, 44408), (20, 44456), (24, 44498),

Gene: LuckyLeo_63 Start: 44459, Stop: 44653, Start Num: 13
Candidate Starts for LuckyLeo_63:
(Start: 13 @44459 has 70 MA's), (19, 44564),

Gene: Madi_55 Start: 41709, Stop: 41891, Start Num: 13
Candidate Starts for Madi_55:
(Start: 13 @41709 has 70 MA's), (20, 41817), (24, 41859),

Gene: Mima20_66 Start: 45218, Stop: 45412, Start Num: 13
Candidate Starts for Mima20_66:
(Start: 13 @45218 has 70 MA's), (16, 45275), (18, 45293), (22, 45356),

Gene: MoiGyank_69 Start: 45983, Stop: 46177, Start Num: 13
Candidate Starts for MoiGyank_69:
(Start: 13 @45983 has 70 MA's), (16, 46040), (18, 46058), (22, 46121),

Gene: Mopey_59 Start: 44291, Stop: 44479, Start Num: 13

Candidate Starts for Mopey_59:

(7, 44198), (8, 44207), (9, 44210), (Start: 13 @44291 has 70 MA's), (Start: 15 @44312 has 1 MA's), (16, 44348), (24, 44441),

Gene: NorManre_70 Start: 46109, Stop: 46303, Start Num: 13

Candidate Starts for NorManre_70:

(Start: 13 @46109 has 70 MA's), (16, 46166), (18, 46184),

Gene: Nova_57 Start: 44743, Stop: 44931, Start Num: 13

Candidate Starts for Nova_57:

(7, 44650), (8, 44659), (9, 44662), (Start: 13 @44743 has 70 MA's), (Start: 15 @44764 has 1 MA's), (16, 44800), (24, 44893),

Gene: NovaSharks_68 Start: 43877, Stop: 44071, Start Num: 13

Candidate Starts for NovaSharks_68:

(Start: 13 @43877 has 70 MA's), (16, 43934), (18, 43952),

Gene: Onyinye_75 Start: 51975, Stop: 52166, Start Num: 12

Candidate Starts for Onyinye_75:

(Start: 12 @51975 has 4 MA's), (14, 51981), (18, 52053), (21, 52089), (24, 52128), (25, 52146),

Gene: OtterstedtS21_66 Start: 45043, Stop: 45237, Start Num: 13

Candidate Starts for OtterstedtS21_66:

(Start: 13 @45043 has 70 MA's), (16, 45100), (18, 45118),

Gene: PBI1_55 Start: 44218, Stop: 44406, Start Num: 13

Candidate Starts for PBI1_55:

(8, 44134), (9, 44137), (Start: 13 @44218 has 70 MA's), (Start: 15 @44239 has 1 MA's), (16, 44275), (24, 44368),

Gene: PLOT_58 Start: 44270, Stop: 44458, Start Num: 13

Candidate Starts for PLOT_58:

(7, 44177), (8, 44186), (9, 44189), (Start: 13 @44270 has 70 MA's), (Start: 15 @44291 has 1 MA's), (16, 44327), (24, 44420),

Gene: ParvusTarda_65 Start: 44415, Stop: 44609, Start Num: 13

Candidate Starts for ParvusTarda_65:

(Start: 13 @44415 has 70 MA's), (16, 44472), (18, 44490),

Gene: Patos_70 Start: 46108, Stop: 46302, Start Num: 13

Candidate Starts for Patos_70:

(Start: 13 @46108 has 70 MA's), (16, 46165), (18, 46183),

Gene: Penelope2018_58 Start: 44288, Stop: 44476, Start Num: 13

Candidate Starts for Penelope2018_58:

(7, 44195), (8, 44204), (9, 44207), (Start: 13 @44288 has 70 MA's), (Start: 15 @44309 has 1 MA's), (16, 44345), (24, 44438),

Gene: Phalaborwa_61 Start: 44729, Stop: 44917, Start Num: 13

Candidate Starts for Phalaborwa_61:

(5, 44624), (6, 44627), (11, 44699), (Start: 13 @44729 has 70 MA's), (Start: 15 @44750 has 1 MA's), (16, 44786), (24, 44879),

Gene: Prager_58 Start: 44307, Stop: 44495, Start Num: 13

Candidate Starts for Prager_58:

(8, 44223), (9, 44226), (Start: 13 @44307 has 70 MA's), (Start: 15 @44328 has 1 MA's), (16, 44364), (24, 44457),

Gene: Pywacket_63 Start: 45827, Stop: 46021, Start Num: 13

Candidate Starts for Pywacket_63:

(Start: 13 @45827 has 70 MA's), (16, 45884), (18, 45902),

Gene: Ranch_66 Start: 43887, Stop: 44081, Start Num: 13

Candidate Starts for Ranch_66:

(Start: 13 @43887 has 70 MA's), (16, 43944), (18, 43962),

Gene: RazorC_66 Start: 44031, Stop: 44225, Start Num: 13

Candidate Starts for RazorC_66:

(Start: 13 @44031 has 70 MA's), (16, 44088), (18, 44106),

Gene: Riduram_65 Start: 43606, Stop: 43800, Start Num: 13

Candidate Starts for Riduram_65:

(Start: 13 @43606 has 70 MA's), (16, 43663), (18, 43681),

Gene: Rota_63 Start: 44901, Stop: 45095, Start Num: 13

Candidate Starts for Rota_63:

(Start: 13 @44901 has 70 MA's), (16, 44958), (18, 44976),

Gene: Rukungu_68 Start: 45906, Stop: 46100, Start Num: 13

Candidate Starts for Rukungu_68:

(Start: 13 @45906 has 70 MA's), (16, 45963), (18, 45981),

Gene: Rumi_67 Start: 43574, Stop: 43768, Start Num: 13

Candidate Starts for Rumi_67:

(Start: 13 @43574 has 70 MA's), (16, 43631), (18, 43649),

Gene: Sadboi_67 Start: 45703, Stop: 45897, Start Num: 13

Candidate Starts for Sadboi_67:

(Start: 13 @45703 has 70 MA's), (16, 45760), (18, 45778),

Gene: Sampudon_66 Start: 46055, Stop: 46249, Start Num: 13

Candidate Starts for Sampudon_66:

(Start: 13 @46055 has 70 MA's), (16, 46112), (18, 46130),

Gene: Sienna_55 Start: 41709, Stop: 41891, Start Num: 13

Candidate Starts for Sienna_55:

(Start: 13 @41709 has 70 MA's), (20, 41817), (24, 41859),

Gene: SirHarley_60 Start: 44730, Stop: 44918, Start Num: 13

Candidate Starts for SirHarley_60:

(7, 44637), (8, 44646), (9, 44649), (Start: 13 @44730 has 70 MA's), (Start: 15 @44751 has 1 MA's), (16, 44787), (24, 44880),

Gene: Stormer_66 Start: 43578, Stop: 43772, Start Num: 13
Candidate Starts for Stormer_66:
(Start: 13 @43578 has 70 MA's), (16, 43635), (18, 43653),

Gene: SuperheroCarly_59 Start: 44404, Stop: 44592, Start Num: 13
Candidate Starts for SuperheroCarly_59:
(7, 44311), (8, 44320), (9, 44323), (Start: 13 @44404 has 70 MA's), (Start: 15 @44425 has 1 MA's),
(16, 44461), (24, 44554),

Gene: Suzy_55 Start: 42902, Stop: 43084, Start Num: 13
Candidate Starts for Suzy_55:
(3, 42731), (4, 42749), (Start: 13 @42902 has 70 MA's), (20, 43010), (24, 43052),

Gene: Terapin_56 Start: 41633, Stop: 41815, Start Num: 13
Candidate Starts for Terapin_56:
(Start: 13 @41633 has 70 MA's), (20, 41741), (24, 41783),

Gene: Thoth_58 Start: 44286, Stop: 44474, Start Num: 13
Candidate Starts for Thoth_58:
(8, 44202), (9, 44205), (Start: 13 @44286 has 70 MA's), (Start: 15 @44307 has 1 MA's), (16, 44343),
(24, 44436),

Gene: Tillicus_61 Start: 44400, Stop: 44594, Start Num: 13
Candidate Starts for Tillicus_61:
(Start: 13 @44400 has 70 MA's), (19, 44505),

Gene: Troll4_58 Start: 44417, Stop: 44605, Start Num: 13
Candidate Starts for Troll4_58:
(8, 44333), (9, 44336), (Start: 13 @44417 has 70 MA's), (Start: 15 @44438 has 1 MA's), (16, 44474),
(24, 44567),

Gene: Visconti_59 Start: 44297, Stop: 44485, Start Num: 13
Candidate Starts for Visconti_59:
(8, 44213), (9, 44216), (Start: 13 @44297 has 70 MA's), (Start: 15 @44318 has 1 MA's), (16, 44354),
(24, 44447),

Gene: WaldoWhy_60 Start: 44350, Stop: 44538, Start Num: 13
Candidate Starts for WaldoWhy_60:
(8, 44266), (9, 44269), (Start: 13 @44350 has 70 MA's), (Start: 15 @44371 has 1 MA's), (16, 44407),
(24, 44500),

Gene: Wojtek_62 Start: 44136, Stop: 44330, Start Num: 13
Candidate Starts for Wojtek_62:
(Start: 13 @44136 has 70 MA's), (16, 44193), (18, 44211),

Gene: Wollypog_47 Start: 34596, Stop: 34784, Start Num: 12
Candidate Starts for Wollypog_47:
(Start: 12 @34596 has 4 MA's), (Start: 13 @34599 has 70 MA's), (23, 34740), (24, 34749),

Gene: Xenia2_65 Start: 43903, Stop: 44097, Start Num: 13
Candidate Starts for Xenia2_65:
(Start: 13 @43903 has 70 MA's), (16, 43960), (18, 43978), (22, 44041),

Gene: Yikes_68 Start: 46149, Stop: 46343, Start Num: 13
Candidate Starts for Yikes_68:
(Start: 13 @46149 has 70 MA's), (16, 46206), (18, 46224),

Gene: Zany_64 Start: 45550, Stop: 45744, Start Num: 13
Candidate Starts for Zany_64:
(Start: 13 @45550 has 70 MA's), (16, 45607), (18, 45625),