

Pham 85465



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 85465 Report

This analysis was run 04/28/24 on database version 559.

Pham number 85465 has 74 members, 9 are drafts.

Phages represented in each track:

- Track 1 : JoeDirt_79, Enceladus_76, CicholasNage_76, OhShagHennessy_76
- Track 2 : MAckerman_76, Acquire49_79, Silverleaf_79, Appletree2_78, Rose5_79, UPIE_78, LeBron_78, Calm_81, Wyatt2_80, Tyson_80, Wamburggrxpress_79, Halena_77, DirkDirk_76, AvadaKedavra_79, Zaria_80
- Track 3 : Gardann_82, Itos_81, Crossroads_82, Gabriela_81, Vetrix_81, Miley16_82, Winky_82, GuuelaD_80, BigCheese_82, Wilder_83, Loadrie_81, Netyap_83, MkaliMitinis3_83, Faith1_82, BobsGarage_82, Rumpelstiltskin_79, Breezona_82, DrSeegs_82, Kahlid_82, Nicholasp3_82, Zakai_83, LilDestine_81, Wigglewiggles_81
- Track 4 : Claus_82, Baoshan_79, Hafay_83
- Track 5 : ZhongYanYuan_79
- Track 6 : Archie_79
- Track 7 : Bazzle_79
- Track 8 : Tourach_81
- Track 9 : Finemlucis_81
- Track 10 : Lewan_83
- Track 11 : Bellis_78
- Track 12 : Jubie_79, Nicholas_78, Kingsolomon_78, Clautastrophe_78, Jobypre_81, Lumos_80, MsGreen_80, Snenia_79
- Track 13 : Ellson_79, DuncansLeg_80
- Track 14 : Moostard_78, Finnry_80, Samty_79
- Track 15 : Lolly9_79, MiniMac_84, MiniLon_84
- Track 16 : Whirlwind_81
- Track 17 : Krypton555_81
- Track 18 : Bromden_80
- Track 19 : DyoEdafos_84
- Track 20 : Douge_79
- Track 21 : Chaser_78

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 27 of the 65 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Archie_79, Baoshan_79, Bazzle_79, BigCheese_82, BobsGarage_82, Breezona_82, Claus_82, Crossroads_82, DrSeegs_82, Faith1_82, Finemlucis_81, Gabriela_81, Gardann_82, GuuelaD_80, Hafay_83, Itos_81, Kahlid_82, LilDestine_81, Loadrie_81, Miley16_82, MkaliMitinis3_83, Netyap_83, Nicholasp3_82, Rumpelstiltskin_79, Tourach_81, Vetrix_81, Wigglewiggle_81, Wilder_83, Winky_82, Zakai_83, ZhongYanYuan_79,

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

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

- Acquire49_79, Appletree2_78, AvadaKedavra_79, Bellis_78, Bromden_80, Calm_81, Chaser_78, CicholasNage_76, Clautastrophe_78, DirkDirk_76, Douge_79, DuncansLeg_80, DyoEdafos_84, Ellson_79, Enceladus_76, Finnry_80, Halena_77, Jobypre_81, JoeDirt_79, Jubie_79, Kingsolomon_78, Krypton555_81, LeBron_78, Lewan_83, Lolly9_79, Lumos_80, MAckerman_76, MiniLon_84, MiniMac_84, Moostard_78, MsGreen_80, Nicholas_78, OhShagHennessy_76, Rose5_79, Samty_79, Silverleaf_79, Snenia_79, Tyson_80, UPIE_78, Wamburggrxpress_79, Whirlwind_81, Wyatt2_80, Zaria_80,

Summary by start number:

Start 2:

- Found in 1 of 74 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lewan_83 (L2),

Start 3:

- Found in 31 of 74 (41.9%) of genes in pham
- Manual Annotations of this start: 27 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archie_79 (L2), Baoshan_79 (L2), Bazzle_79 (L2), BigCheese_82 (L2), BobsGarage_82 (L2), Breezona_82 (L2), Claus_82 (L2), Crossroads_82 (L2), DrSeegs_82 (L2), Faith1_82 (L2), Finemlucis_81 (L2), Gabriela_81 (L2), Gardann_82 (L2), GuuelaD_80 (L2), Hafay_83 (L2), Itos_81 (L2), Kahlid_82 (L2), LilDestine_81 (L2), Loadrie_81 (L2), Miley16_82 (L2), MkaliMitinis3_83 (L2), Netyap_83 (L2), Nicholasp3_82 (L2), Rumpelstiltskin_79 (L2), Tourach_81 (L2), Vetrix_81 (L2), Wigglewiggle_81 (L2), Wilder_83 (L2), Winky_82 (L2), Zakai_83 (L2), ZhongYanYuan_79 (L2),

Start 4:

- Found in 4 of 74 (5.4%) of genes in pham
- Manual Annotations of this start: 3 of 65
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Bromden_80 (L4), Chaser_78 (L4), DyoEdafos_84 (L4),

Start 7:

- Found in 19 of 74 (25.7%) of genes in pham
- Manual Annotations of this start: 14 of 65
- Called 78.9% of time when present

- Phage (with cluster) where this start called: Acquire49_79 (L1), Appletree2_78 (L1), AvadaKedavra_79 (L1), Calm_81 (L1), DirkDirk_76 (L1), Halena_77 (L1), LeBron_78 (L1), MAckerman_76 (L1), Rose5_79 (L1), Silverleaf_79 (L1), Tyson_80 (L1), UPIE_78 (L1), Wamburgxpress_79 (L1), Wyatt2_80 (L1), Zaria_80 (L1),

Start 8:

- Found in 38 of 74 (51.4%) of genes in pham
- Manual Annotations of this start: 20 of 65
- Called 60.5% of time when present
- Phage (with cluster) where this start called: Bellis_78 (L3), CicholasNage_76 (L1), Clautastrophe_78 (L3), DuncansLeg_80 (L3), Ellson_79 (L3), Enceladus_76 (L1), Finnry_80 (L3), Jobypre_81 (L3), JoeDirt_79 (L1), Jubie_79 (L3), Kingsolomon_78 (L3), Krypton555_81 (L3), Lolly9_79 (L3), Lumos_80 (L3), MiniLon_84 (L3), MiniMac_84 (L3), Moostard_78 (L3), MsGreen_80 (L3), Nicholas_78 (L3), OhShagHennessy_76 (L1), Samty_79 (L3), Snenia_79 (L3), Whirlwind_81 (L3),

Start 9:

- Found in 1 of 74 (1.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Douge_79 (L4),

Summary by clusters:

There are 4 clusters represented in this pham: L4, L2, L3, L1,

Info for manual annotations of cluster L1:

- Start number 7 was manually annotated 14 times for cluster L1.
- Start number 8 was manually annotated 4 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 2 was manually annotated 1 time for cluster L2.
- Start number 3 was manually annotated 27 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 8 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 4 was manually annotated 3 times for cluster L4.

Gene Information:

Gene: Acquire49_79 Start: 52317, Stop: 52652, Start Num: 7

Candidate Starts for Acquire49_79:

(Start: 7 @52317 has 14 MA's), (Start: 8 @52329 has 20 MA's), (14, 52383), (20, 52512), (24, 52539),

Gene: Appletree2_78 Start: 51928, Stop: 52263, Start Num: 7

Candidate Starts for Appletree2_78:

(Start: 7 @51928 has 14 MA's), (Start: 8 @51940 has 20 MA's), (14, 51994), (20, 52123), (24, 52150),

Gene: Archie_79 Start: 53799, Stop: 54203, Start Num: 3

Candidate Starts for Archie_79:

(Start: 3 @53799 has 27 MA's), (5, 53832), (10, 53892), (11, 53901), (19, 54045), (23, 54084),

Gene: AvadaKedavra_79 Start: 52396, Stop: 52731, Start Num: 7

Candidate Starts for AvadaKedavra_79:

(Start: 7 @52396 has 14 MA's), (Start: 8 @52408 has 20 MA's), (14, 52462), (20, 52591), (24, 52618),

Gene: Baoshan_79 Start: 54085, Stop: 54489, Start Num: 3

Candidate Starts for Baoshan_79:

(Start: 3 @54085 has 27 MA's), (5, 54118), (10, 54178), (15, 54250), (18, 54328), (19, 54331), (22, 54364),

Gene: Bazzle_79 Start: 53988, Stop: 54392, Start Num: 3

Candidate Starts for Bazzle_79:

(Start: 3 @53988 has 27 MA's), (5, 54021), (10, 54081), (19, 54234), (23, 54273),

Gene: Bellis_78 Start: 54062, Stop: 54385, Start Num: 8

Candidate Starts for Bellis_78:

(Start: 8 @54062 has 20 MA's), (10, 54083), (26, 54311), (29, 54356),

Gene: BigCheese_82 Start: 54215, Stop: 54619, Start Num: 3

Candidate Starts for BigCheese_82:

(Start: 3 @54215 has 27 MA's), (5, 54248), (10, 54308), (11, 54317), (19, 54461),

Gene: BobsGarage_82 Start: 54215, Stop: 54619, Start Num: 3

Candidate Starts for BobsGarage_82:

(Start: 3 @54215 has 27 MA's), (5, 54248), (10, 54308), (11, 54317), (19, 54461),

Gene: Breezona_82 Start: 54215, Stop: 54619, Start Num: 3

Candidate Starts for Breezona_82:

(Start: 3 @54215 has 27 MA's), (5, 54248), (10, 54308), (11, 54317), (19, 54461),

Gene: Bromden_80 Start: 53647, Stop: 54018, Start Num: 4

Candidate Starts for Bromden_80:

(Start: 4 @53647 has 3 MA's), (6, 53680), (14, 53749), (17, 53803), (19, 53860), (22, 53893), (26, 53944),

Gene: Calm_81 Start: 52639, Stop: 52974, Start Num: 7

Candidate Starts for Calm_81:

(Start: 7 @52639 has 14 MA's), (Start: 8 @52651 has 20 MA's), (14, 52705), (20, 52834), (24, 52861),

Gene: Chaser_78 Start: 52652, Stop: 53017, Start Num: 4

Candidate Starts for Chaser_78:

(1, 52619), (Start: 4 @52652 has 3 MA's), (13, 52739), (14, 52748), (17, 52802), (22, 52892), (29, 52988),

Gene: CicholasNage_76 Start: 51993, Stop: 52316, Start Num: 8

Candidate Starts for CicholasNage_76:

(Start: 7 @51981 has 14 MA's), (Start: 8 @51993 has 20 MA's), (14, 52047), (20, 52176), (24, 52203),

Gene: Claus_82 Start: 54150, Stop: 54554, Start Num: 3

Candidate Starts for Claus_82:

(Start: 3 @54150 has 27 MA's), (5, 54183), (10, 54243), (15, 54315), (18, 54393), (19, 54396), (22, 54429),

Gene: Clautastrophe_78 Start: 54060, Stop: 54383, Start Num: 8

Candidate Starts for Clautastrophe_78:

(Start: 8 @54060 has 20 MA's), (10, 54081), (24, 54273), (26, 54309), (29, 54354),

Gene: Crossroads_82 Start: 54290, Stop: 54694, Start Num: 3

Candidate Starts for Crossroads_82:

(Start: 3 @54290 has 27 MA's), (5, 54323), (10, 54383), (11, 54392), (19, 54536),

Gene: DirkDirk_76 Start: 51508, Stop: 51843, Start Num: 7

Candidate Starts for DirkDirk_76:

(Start: 7 @51508 has 14 MA's), (Start: 8 @51520 has 20 MA's), (14, 51574), (20, 51703), (24, 51730),

Gene: Douge_79 Start: 52662, Stop: 52973, Start Num: 9

Candidate Starts for Douge_79:

(Start: 4 @52584 has 3 MA's), (9, 52662), (11, 52677), (17, 52755), (19, 52812), (22, 52845),

Gene: DrSeegs_82 Start: 54215, Stop: 54619, Start Num: 3

Candidate Starts for DrSeegs_82:

(Start: 3 @54215 has 27 MA's), (5, 54248), (10, 54308), (11, 54317), (19, 54461),

Gene: DuncansLeg_80 Start: 54079, Stop: 54402, Start Num: 8

Candidate Starts for DuncansLeg_80:

(Start: 8 @54079 has 20 MA's), (12, 54124), (14, 54136), (24, 54292), (25, 54319), (27, 54337), (28, 54349), (29, 54373),

Gene: DyoEdafos_84 Start: 53485, Stop: 53871, Start Num: 4

Candidate Starts for DyoEdafos_84:

(1, 53452), (Start: 4 @53485 has 3 MA's), (11, 53578), (17, 53656), (19, 53713), (22, 53746), (26, 53797),

Gene: Ellson_79 Start: 54394, Stop: 54717, Start Num: 8

Candidate Starts for Ellson_79:

(Start: 8 @54394 has 20 MA's), (12, 54439), (14, 54451), (24, 54607), (25, 54634), (27, 54652), (28, 54664), (29, 54688),

Gene: Enceladus_76 Start: 52297, Stop: 52620, Start Num: 8

Candidate Starts for Enceladus_76:

(Start: 7 @52285 has 14 MA's), (Start: 8 @52297 has 20 MA's), (14, 52351), (20, 52480), (24, 52507),

Gene: Faith1_82 Start: 54215, Stop: 54619, Start Num: 3

Candidate Starts for Faith1_82:

(Start: 3 @54215 has 27 MA's), (5, 54248), (10, 54308), (11, 54317), (19, 54461),

Gene: Finemlucis_81 Start: 54683, Stop: 55087, Start Num: 3

Candidate Starts for Finemlucis_81:

(Start: 3 @54683 has 27 MA's), (5, 54716), (16, 54851),

Gene: Finnry_80 Start: 54311, Stop: 54634, Start Num: 8

Candidate Starts for Finnry_80:

(Start: 8 @54311 has 20 MA's), (10, 54332), (20, 54497), (26, 54560), (29, 54605),

Gene: Gabriela_81 Start: 53561, Stop: 53965, Start Num: 3

Candidate Starts for Gabriela_81:

(Start: 3 @53561 has 27 MA's), (5, 53594), (10, 53654), (11, 53663), (19, 53807),

Gene: Gardann_82 Start: 54050, Stop: 54454, Start Num: 3

Candidate Starts for Gardann_82:

(Start: 3 @54050 has 27 MA's), (5, 54083), (10, 54143), (11, 54152), (19, 54296),

Gene: GuuelaD_80 Start: 54330, Stop: 54740, Start Num: 3

Candidate Starts for GuuelaD_80:

(Start: 3 @54330 has 27 MA's), (5, 54363), (10, 54423), (11, 54432), (19, 54576),

Gene: Hafay_83 Start: 54145, Stop: 54549, Start Num: 3

Candidate Starts for Hafay_83:

(Start: 3 @54145 has 27 MA's), (5, 54178), (10, 54238), (15, 54310), (18, 54388), (19, 54391), (22, 54424),

Gene: Halena_77 Start: 51555, Stop: 51890, Start Num: 7

Candidate Starts for Halena_77:

(Start: 7 @51555 has 14 MA's), (Start: 8 @51567 has 20 MA's), (14, 51621), (20, 51750), (24, 51777),

Gene: Itos_81 Start: 53121, Stop: 53525, Start Num: 3

Candidate Starts for Itos_81:

(Start: 3 @53121 has 27 MA's), (5, 53154), (10, 53214), (11, 53223), (19, 53367),

Gene: Jobypre_81 Start: 54060, Stop: 54383, Start Num: 8

Candidate Starts for Jobypre_81:

(Start: 8 @54060 has 20 MA's), (10, 54081), (24, 54273), (26, 54309), (29, 54354),

Gene: JoeDirt_79 Start: 52895, Stop: 53218, Start Num: 8

Candidate Starts for JoeDirt_79:

(Start: 7 @52883 has 14 MA's), (Start: 8 @52895 has 20 MA's), (14, 52949), (20, 53078), (24, 53105),

Gene: Jubie_79 Start: 54195, Stop: 54518, Start Num: 8

Candidate Starts for Jubie_79:

(Start: 8 @54195 has 20 MA's), (10, 54216), (24, 54408), (26, 54444), (29, 54489),

Gene: Kahlid_82 Start: 54221, Stop: 54631, Start Num: 3

Candidate Starts for Kahlid_82:

(Start: 3 @54221 has 27 MA's), (5, 54254), (10, 54314), (11, 54323), (19, 54467),

Gene: Kingsolomon_78 Start: 54067, Stop: 54390, Start Num: 8

Candidate Starts for Kingsolomon_78:

(Start: 8 @54067 has 20 MA's), (10, 54088), (24, 54280), (26, 54316), (29, 54361),

Gene: Krypton555_81 Start: 54339, Stop: 54659, Start Num: 8

Candidate Starts for Krypton555_81:

(Start: 8 @54339 has 20 MA's), (14, 54393), (26, 54585), (29, 54630),

Gene: LeBron_78 Start: 51554, Stop: 51889, Start Num: 7

Candidate Starts for LeBron_78:

(Start: 7 @51554 has 14 MA's), (Start: 8 @51566 has 20 MA's), (14, 51620), (20, 51749), (24, 51776),

Gene: Lewan_83 Start: 54273, Stop: 54686, Start Num: 2

Candidate Starts for Lewan_83:

(Start: 2 @54273 has 1 MA's), (5, 54309), (10, 54369), (11, 54378), (19, 54522),

Gene: LilDestine_81 Start: 54125, Stop: 54535, Start Num: 3

Candidate Starts for LilDestine_81:

(Start: 3 @54125 has 27 MA's), (5, 54158), (10, 54218), (11, 54227), (19, 54371),

Gene: Loadrie_81 Start: 54300, Stop: 54710, Start Num: 3

Candidate Starts for Loadrie_81:

(Start: 3 @54300 has 27 MA's), (5, 54333), (10, 54393), (11, 54402), (19, 54546),

Gene: Lolly9_79 Start: 54161, Stop: 54481, Start Num: 8

Candidate Starts for Lolly9_79:

(Start: 8 @54161 has 20 MA's), (10, 54182), (14, 54215), (20, 54344), (21, 54350), (24, 54371), (25, 54398), (27, 54416), (29, 54452),

Gene: Lumos_80 Start: 54057, Stop: 54380, Start Num: 8

Candidate Starts for Lumos_80:

(Start: 8 @54057 has 20 MA's), (10, 54078), (24, 54270), (26, 54306), (29, 54351),

Gene: MAckerman_76 Start: 51548, Stop: 51883, Start Num: 7

Candidate Starts for MAckerman_76:

(Start: 7 @51548 has 14 MA's), (Start: 8 @51560 has 20 MA's), (14, 51614), (20, 51743), (24, 51770),

Gene: Miley16_82 Start: 54215, Stop: 54619, Start Num: 3

Candidate Starts for Miley16_82:

(Start: 3 @54215 has 27 MA's), (5, 54248), (10, 54308), (11, 54317), (19, 54461),

Gene: MiniLon_84 Start: 54162, Stop: 54482, Start Num: 8

Candidate Starts for MiniLon_84:

(Start: 8 @54162 has 20 MA's), (10, 54183), (14, 54216), (20, 54345), (21, 54351), (24, 54372), (25, 54399), (27, 54417), (29, 54453),

Gene: MiniMac_84 Start: 54157, Stop: 54477, Start Num: 8

Candidate Starts for MiniMac_84:

(Start: 8 @54157 has 20 MA's), (10, 54178), (14, 54211), (20, 54340), (21, 54346), (24, 54367), (25, 54394), (27, 54412), (29, 54448),

Gene: MkaliMitinis3_83 Start: 54284, Stop: 54694, Start Num: 3

Candidate Starts for MkaliMitinis3_83:

(Start: 3 @54284 has 27 MA's), (5, 54317), (10, 54377), (11, 54386), (19, 54530),

Gene: Moostard_78 Start: 54062, Stop: 54385, Start Num: 8

Candidate Starts for Moostard_78:

(Start: 8 @54062 has 20 MA's), (10, 54083), (20, 54248), (26, 54311), (29, 54356),

Gene: MsGreen_80 Start: 54059, Stop: 54382, Start Num: 8

Candidate Starts for MsGreen_80:

(Start: 8 @54059 has 20 MA's), (10, 54080), (24, 54272), (26, 54308), (29, 54353),

Gene: Netyap_83 Start: 54216, Stop: 54620, Start Num: 3

Candidate Starts for Netyap_83:

(Start: 3 @54216 has 27 MA's), (5, 54249), (10, 54309), (11, 54318), (19, 54462),

Gene: Nicholas_78 Start: 54067, Stop: 54390, Start Num: 8

Candidate Starts for Nicholas_78:

(Start: 8 @54067 has 20 MA's), (10, 54088), (24, 54280), (26, 54316), (29, 54361),

Gene: Nicholasp3_82 Start: 54050, Stop: 54454, Start Num: 3

Candidate Starts for Nicholasp3_82:

(Start: 3 @54050 has 27 MA's), (5, 54083), (10, 54143), (11, 54152), (19, 54296),

Gene: OhShagHennessy_76 Start: 51598, Stop: 51921, Start Num: 8

Candidate Starts for OhShagHennessy_76:

(Start: 7 @51586 has 14 MA's), (Start: 8 @51598 has 20 MA's), (14, 51652), (20, 51781), (24, 51808),

Gene: Rose5_79 Start: 52728, Stop: 53063, Start Num: 7

Candidate Starts for Rose5_79:

(Start: 7 @52728 has 14 MA's), (Start: 8 @52740 has 20 MA's), (14, 52794), (20, 52923), (24, 52950),

Gene: Rumpelstiltskin_79 Start: 53843, Stop: 54247, Start Num: 3

Candidate Starts for Rumpelstiltskin_79:

(Start: 3 @53843 has 27 MA's), (5, 53876), (10, 53936), (11, 53945), (19, 54089),

Gene: Samty_79 Start: 54055, Stop: 54378, Start Num: 8

Candidate Starts for Samty_79:

(Start: 8 @54055 has 20 MA's), (10, 54076), (20, 54241), (26, 54304), (29, 54349),

Gene: Silverleaf_79 Start: 52184, Stop: 52519, Start Num: 7

Candidate Starts for Silverleaf_79:

(Start: 7 @52184 has 14 MA's), (Start: 8 @52196 has 20 MA's), (14, 52250), (20, 52379), (24, 52406),

Gene: Snenia_79 Start: 54061, Stop: 54384, Start Num: 8

Candidate Starts for Snenia_79:

(Start: 8 @54061 has 20 MA's), (10, 54082), (24, 54274), (26, 54310), (29, 54355),

Gene: Tourach_81 Start: 54333, Stop: 54737, Start Num: 3

Candidate Starts for Tourach_81:

(Start: 3 @54333 has 27 MA's), (5, 54366), (6, 54387), (11, 54435), (14, 54459), (19, 54579), (22, 54612),

Gene: Tyson_80 Start: 52654, Stop: 52989, Start Num: 7

Candidate Starts for Tyson_80:

(Start: 7 @52654 has 14 MA's), (Start: 8 @52666 has 20 MA's), (14, 52720), (20, 52849), (24, 52876),

Gene: UPIE_78 Start: 52250, Stop: 52585, Start Num: 7

Candidate Starts for UPIE_78:

(Start: 7 @52250 has 14 MA's), (Start: 8 @52262 has 20 MA's), (14, 52316), (20, 52445), (24, 52472),

Gene: Vetrix_81 Start: 54132, Stop: 54542, Start Num: 3

Candidate Starts for Vetrix_81:

(Start: 3 @54132 has 27 MA's), (5, 54165), (10, 54225), (11, 54234), (19, 54378),

Gene: Wamburgrxpress_79 Start: 52689, Stop: 53024, Start Num: 7

Candidate Starts for Wamburgexpress_79:

(Start: 7 @52689 has 14 MA's), (Start: 8 @52701 has 20 MA's), (14, 52755), (20, 52884), (24, 52911),

Gene: Whirlwind_81 Start: 54302, Stop: 54622, Start Num: 8

Candidate Starts for Whirlwind_81:

(Start: 8 @54302 has 20 MA's), (14, 54356), (29, 54593),

Gene: Wigglewobble_81 Start: 54077, Stop: 54487, Start Num: 3

Candidate Starts for Wigglewobble_81:

(Start: 3 @54077 has 27 MA's), (5, 54110), (10, 54170), (11, 54179), (19, 54323),

Gene: Wilder_83 Start: 54221, Stop: 54631, Start Num: 3

Candidate Starts for Wilder_83:

(Start: 3 @54221 has 27 MA's), (5, 54254), (10, 54314), (11, 54323), (19, 54467),

Gene: Winky_82 Start: 54215, Stop: 54619, Start Num: 3

Candidate Starts for Winky_82:

(Start: 3 @54215 has 27 MA's), (5, 54248), (10, 54308), (11, 54317), (19, 54461),

Gene: Wyatt2_80 Start: 52652, Stop: 52987, Start Num: 7

Candidate Starts for Wyatt2_80:

(Start: 7 @52652 has 14 MA's), (Start: 8 @52664 has 20 MA's), (14, 52718), (20, 52847), (24, 52874),

Gene: Zakai_83 Start: 54541, Stop: 54951, Start Num: 3

Candidate Starts for Zakai_83:

(Start: 3 @54541 has 27 MA's), (5, 54574), (10, 54634), (11, 54643), (19, 54787),

Gene: Zaria_80 Start: 52104, Stop: 52439, Start Num: 7

Candidate Starts for Zaria_80:

(Start: 7 @52104 has 14 MA's), (Start: 8 @52116 has 20 MA's), (14, 52170), (20, 52299), (24, 52326),

Gene: ZhongYanYuan_79 Start: 53668, Stop: 54072, Start Num: 3

Candidate Starts for ZhongYanYuan_79:

(Start: 3 @53668 has 27 MA's), (5, 53701), (10, 53761), (18, 53911), (19, 53914), (22, 53947),