

Pham 301309



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 301309 Report

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

Pham number 301309 has 80 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Sejanus_49
- Track 2 : Confidence_45
- Track 3 : EnalisNailo_42
- Track 4 : Lilas_45, Bradissa_43
- Track 5 : Pytheas_48, Jablanski_48
- Track 6 : Posh_50
- Track 7 : Hyzer_52
- Track 8 : PantheRoc_46
- Track 9 : BaxterFox_47
- Track 10 : Clank_49
- Track 11 : Sarma624_43, BigPhil_42, Coco12_44, Brookers_43, Cerasum_42, Rialto_51, Velveteen_41, Kingsley_42
- Track 12 : PhlipPhlop_46, TDanisky_50, Sparkdehlily_50, OwlsT2W_45, Gandalph_47, EmiMonkey_44
- Track 13 : Che8_49
- Track 14 : Drago_46, Lij_44, Lucia_46, DirtMcgirt_46, Leozinho_47, OlympiaSaint_47, Tootsieroll_49, UncleRicky_47
- Track 15 : MilleniumForce_46, Violac_49
- Track 16 : Juniper1_44
- Track 17 : SeaLumen_52, Polo2Bam_54, Whatsapiecost_45, NewHope4_49, Soul22_51, Enzomatic_54
- Track 18 : Hegedechwinu_46, Juice456_49
- Track 19 : Minnie_50
- Track 20 : Yorick_45, Plumbus_47, Phatniss_45
- Track 21 : EleanorGeorge_45
- Track 22 : Maravista_47, Mutaforma13_49
- Track 23 : Alexphander_52
- Track 24 : Sandalphon_49
- Track 25 : Eradicator_39
- Track 26 : Galactic_47, LunaBlu_50
- Track 27 : Byougenkin_44
- Track 28 : Fancypants_47
- Track 29 : MulchExplorer_48, Kimberlium_48, QuickMath_47
- Track 30 : Bubbles123_44
- Track 31 : Spartacus_47, WillSterrel_47, IrishSherpFalk_47
- Track 32 : Sabbb_52
- Track 33 : Wachhund_49

- Track 34 : Royals2015_48
- Track 35 : JalFarm20_56, Blarby_58
- Track 36 : Doug_47
- Track 37 : Aubs_45
- Track 38 : Kersh_48
- Track 39 : Avani_55, Tchotchke_49
- Track 40 : Cornie_39, Mahavrat_44
- Track 41 : ThulaThula_38

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

The start number called the most often in the published annotations is 19, it was called in 61 of the 72 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander_52, Aubs_45, Avani_55, BigPhil_42, Blarby_58, Brookers_43, Bubbles123_44, Byougenkin_44, Cerasum_42, Che8_49, Clank_49, Coco12_44, Cornie_39, DirtMcgirt_46, Doug_47, Drago_46, EleanorGeorge_45, EmiMonkey_44, Enzomatic_54, Eradicator_39, Fancypants_47, Galactic_47, Gandolph_47, Hegedechwinu_46, IrishSherpFalk_47, JalFarm20_56, Juice456_49, Juniper1_44, Kersh_48, Kimberlium_48, Kingsley_42, Leozinho_47, Llij_44, Lucia_46, LunaBlu_50, Mahavrat_44, Maravista_47, MilleniumForce_46, Minnie_50, MulchExplorer_48, Mutaforma13_49, NewHope4_49, OlympiaSaint_47, OwlsT2W_45, Phatniss_45, PhilipPhlop_46, Plumbus_47, Polo2Bam_54, QuickMath_47, Rialto_51, Royals2015_48, Sabb_52, Sandalphon_49, Sarma624_43, SeaLumen_52, Soul22_51, Sparkdehlily_50, Spartacus_47, TDanisky_50, Tchotchke_49, Tootsieroll_49, UncleRicky_47, Velveteen_41, Violac_49, Wachhund_49, Whatsapiecost_45, WillSterrel_47, Yorick_45,

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:

- BaxterFox_47, Bradissa_43, Confidence_45, EnalisNailo_42, Hyzer_52, Jablanski_48, Lilas_45, PantheRoc_46, Posh_50, Pytheas_48, Sejanus_49, ThulaThula_38,

Summary by start number:

Start 14:

- Found in 1 of 80 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hyzer_52 (CZ1),

Start 15:

- Found in 3 of 80 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 72
- Called 33.3% of time when present
- Phage (with cluster) where this start called: BaxterFox_47 (CZ3),

Start 16:

- Found in 8 of 80 (10.0%) of genes in pham
- Manual Annotations of this start: 4 of 72
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Bradissa_43 (CY1), Confidence_45 (CY1), Lilas_45 (CY1), Posh_50 (CY4),

Start 18:

- Found in 12 of 80 (15.0%) of genes in pham
- Manual Annotations of this start: 6 of 72
- Called 50.0% of time when present
- Phage (with cluster) where this start called: EnalisNailo_42 (CY1), Jablanski_48 (CY3), PantheRoc_46 (CZ3), Pytheas_48 (CY3), Sejanus_49 (AD), ThulaThula_38 (P5),

Start 19:

- Found in 68 of 80 (85.0%) of genes in pham
- Manual Annotations of this start: 61 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alexphander_52 (F1), Aubs_45 (F1), Avani_55 (F2), BigPhil_42 (F1), Blarby_58 (F), Brookers_43 (F1), Bubbles123_44 (F1), Byougenkin_44 (F1), Cerasum_42 (F1), Che8_49 (F1), Clank_49 (F), Coco12_44 (F1), Cornie_39 (F5), DirtMcgirt_46 (F1), Doug_47 (F1), Drago_46 (F1), EleanorGeorge_45 (F1), EmiMonkey_44 (F1), Enzomatic_54 (F1), Eradicator_39 (F1), Fancypants_47 (F1), Galactic_47 (F1), Gandolph_47 (F1), Hegedechwinu_46 (F1), IrishSherpFalk_47 (F1), JalFarm20_56 (F1), Juice456_49 (F1), Juniper1_44 (F1), Kersh_48 (F1), Kimberlium_48 (F1), Kingsley_42 (F1), Leozinho_47 (F1), Llij_44 (F1), Lucia_46 (F1), LunaBlu_50 (F1), Mahavrat_44 (F1), Maravista_47 (F1), MilleniumForce_46 (F1), Minnie_50 (F1), MulchExplorer_48 (F1), Mutaforma13_49 (F1), NewHope4_49 (F1), OlympiaSaint_47 (F1), OwlsT2W_45 (F1), Phatniss_45 (F1), PhilipPhlop_46 (F1), Plumbus_47 (F1), Polo2Bam_54 (F1), QuickMath_47 (F1), Rialto_51 (F1), Royals2015_48 (F1), Sabb_52 (F1), Sandalphon_49 (F1), Sarma624_43 (F1), SeaLumen_52 (F1), Soul22_51 (F2), Sparkdehlily_50 (F1), Spartacus_47 (F1), TDanisky_50 (F1), Tchotchke_49 (F1), Tootsieroll_49 (F1), UncleRicky_47 (F1), Velveteen_41 (F1), Violac_49 (F1), Wachhund_49 (F1), Whatsapiecost_45 (F1), WillSterrel_47 (F1), Yorick_45 (F1),

Summary by clusters:

There are 11 clusters represented in this pham: CY3, F1, CY1, F5, CY4, CZ3, CZ1, F2, F, P5, AD,

Info for manual annotations of cluster AD:

- Start number 18 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster CY1:

- Start number 16 was manually annotated 3 times for cluster CY1.
- Start number 18 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CY3:

- Start number 18 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CY4:

- Start number 16 was manually annotated 1 time for cluster CY4.

Info for manual annotations of cluster CZ3:

- Start number 15 was manually annotated 1 time for cluster CZ3.
- Start number 18 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster F1:

- Start number 19 was manually annotated 58 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 19 was manually annotated 2 times for cluster F2.

Info for manual annotations of cluster F5:

- Start number 19 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster P5:

- Start number 18 was manually annotated 1 time for cluster P5.

Gene Information:

Gene: Alexphander_52 Start: 35997, Stop: 36857, Start Num: 19

Candidate Starts for Alexphander_52:

(Start: 19 @35997 has 61 MA's), (22, 36093), (26, 36177), (28, 36210), (29, 36243), (32, 36288), (33, 36315), (35, 36363), (45, 36435), (46, 36453), (47, 36456), (52, 36603), (53, 36606), (54, 36630), (55, 36693), (56, 36714), (62, 36822),

Gene: Aubs_45 Start: 34886, Stop: 35752, Start Num: 19

Candidate Starts for Aubs_45:

(Start: 19 @34886 has 61 MA's), (22, 34985), (24, 34994), (32, 35165), (33, 35192), (39, 35279), (40, 35282), (41, 35288), (42, 35297), (46, 35348), (47, 35351), (52, 35498), (54, 35525), (55, 35588),

Gene: Avani_55 Start: 35200, Stop: 36060, Start Num: 19

Candidate Starts for Avani_55:

(Start: 19 @35200 has 61 MA's), (22, 35296), (26, 35380), (28, 35413), (29, 35446), (32, 35491), (33, 35518), (35, 35566), (45, 35638), (46, 35656), (47, 35659), (52, 35806), (54, 35833), (55, 35896), (56, 35917),

Gene: BaxterFox_47 Start: 36495, Stop: 37400, Start Num: 15

Candidate Starts for BaxterFox_47:

(13, 36387), (Start: 15 @36495 has 1 MA's), (Start: 16 @36528 has 4 MA's), (Start: 18 @36540 has 6 MA's), (23, 36648), (24, 36654), (32, 36825), (34, 36879), (37, 36909), (39, 36927), (46, 36993), (49, 37068), (53, 37149), (58, 37293),

Gene: BigPhil_42 Start: 30882, Stop: 31748, Start Num: 19

Candidate Starts for BigPhil_42:

(Start: 19 @30882 has 61 MA's), (20, 30909), (22, 30981), (24, 30990), (32, 31161), (35, 31236), (39, 31275), (40, 31278), (41, 31284), (42, 31293), (46, 31344), (47, 31347), (51, 31473), (52, 31494), (53, 31497), (54, 31521), (55, 31584), (58, 31641), (60, 31707), (61, 31710),

Gene: Blarby_58 Start: 35815, Stop: 36681, Start Num: 19

Candidate Starts for Blarby_58:

(Start: 19 @35815 has 61 MA's), (22, 35914), (24, 35923), (32, 36094), (33, 36121), (35, 36169), (39, 36208), (40, 36211), (41, 36217), (42, 36226), (44, 36253), (46, 36277), (52, 36427), (53, 36430), (54, 36454), (55, 36517), (56, 36538), (57, 36565), (59, 36622), (62, 36646),

Gene: Bradissa_43 Start: 35472, Stop: 36344, Start Num: 16

Candidate Starts for Bradissa_43:

(Start: 16 @35472 has 4 MA's), (Start: 18 @35484 has 6 MA's), (22, 35589), (24, 35598), (32, 35769), (34, 35823), (37, 35853), (49, 36012), (53, 36093), (58, 36237),

Gene: Brookers_43 Start: 33833, Stop: 34699, Start Num: 19

Candidate Starts for Brookers_43:

(Start: 19 @33833 has 61 MA's), (20, 33860), (22, 33932), (24, 33941), (32, 34112), (35, 34187), (39, 34226), (40, 34229), (41, 34235), (42, 34244), (46, 34295), (47, 34298), (51, 34424), (52, 34445), (53, 34448), (54, 34472), (55, 34535), (58, 34592), (60, 34658), (61, 34661),

Gene: Bubbles123_44 Start: 35595, Stop: 36461, Start Num: 19

Candidate Starts for Bubbles123_44:

(Start: 19 @35595 has 61 MA's), (22, 35694), (24, 35703), (30, 35841), (32, 35874), (33, 35901), (35, 35949), (39, 35988), (40, 35991), (41, 35997), (42, 36006), (44, 36033), (46, 36057), (52, 36207), (53, 36210), (54, 36234), (55, 36297), (56, 36318), (57, 36345), (59, 36402), (62, 36426),

Gene: Byougenkin_44 Start: 34980, Stop: 35858, Start Num: 19

Candidate Starts for Byougenkin_44:

(8, 34740), (Start: 19 @34980 has 61 MA's), (22, 35079), (24, 35088), (32, 35259), (33, 35286), (34, 35313), (36, 35346), (38, 35370), (42, 35394), (48, 35487), (52, 35604), (53, 35607), (54, 35631), (55, 35694), (56, 35715), (57, 35742), (62, 35823),

Gene: Cerasum_42 Start: 30900, Stop: 31766, Start Num: 19

Candidate Starts for Cerasum_42:

(Start: 19 @30900 has 61 MA's), (20, 30927), (22, 30999), (24, 31008), (32, 31179), (35, 31254), (39, 31293), (40, 31296), (41, 31302), (42, 31311), (46, 31362), (47, 31365), (51, 31491), (52, 31512), (53, 31515), (54, 31539), (55, 31602), (58, 31659), (60, 31725), (61, 31728),

Gene: Che8_49 Start: 36144, Stop: 37010, Start Num: 19

Candidate Starts for Che8_49:

(Start: 19 @36144 has 61 MA's), (22, 36243), (24, 36252), (32, 36423), (39, 36537), (40, 36540), (41, 36546), (42, 36555), (46, 36606), (47, 36609), (52, 36756), (53, 36759), (54, 36783), (55, 36846), (56, 36867), (57, 36894), (62, 36975),

Gene: Clank_49 Start: 35152, Stop: 36018, Start Num: 19

Candidate Starts for Clank_49:

(Start: 19 @35152 has 61 MA's), (22, 35251), (24, 35260), (32, 35431), (35, 35506), (39, 35545), (40, 35548), (41, 35554), (42, 35563), (46, 35614), (47, 35617), (51, 35743), (52, 35764), (53, 35767), (54, 35791), (55, 35854), (58, 35911), (60, 35977), (61, 35980),

Gene: Coco12_44 Start: 34957, Stop: 35823, Start Num: 19

Candidate Starts for Coco12_44:

(Start: 19 @34957 has 61 MA's), (20, 34984), (22, 35056), (24, 35065), (32, 35236), (35, 35311), (39, 35350), (40, 35353), (41, 35359), (42, 35368), (46, 35419), (47, 35422), (51, 35548), (52, 35569), (53, 35572), (54, 35596), (55, 35659), (58, 35716), (60, 35782), (61, 35785),

Gene: Confidence_45 Start: 33363, Stop: 34235, Start Num: 16

Candidate Starts for Confidence_45:

(3, 33027), (11, 33213), (12, 33219), (Start: 16 @33363 has 4 MA's), (Start: 18 @33375 has 6 MA's), (22, 33480), (24, 33489), (32, 33660), (34, 33714), (47, 33831), (49, 33903), (53, 33984), (58, 34128),

Gene: Cornie_39 Start: 33017, Stop: 33901, Start Num: 19

Candidate Starts for Cornie_39:

(Start: 19 @33017 has 61 MA's), (22, 33116), (24, 33125), (31, 33308), (32, 33314), (35, 33389), (39, 33428), (40, 33431), (41, 33437), (42, 33446), (44, 33473), (46, 33497), (47, 33500), (52, 33647), (53, 33650), (54, 33674), (55, 33737), (56, 33758), (62, 33866),

Gene: DirtMcgirt_46 Start: 34376, Stop: 35242, Start Num: 19

Candidate Starts for DirtMcgirt_46:

(Start: 19 @34376 has 61 MA's), (22, 34475), (24, 34484), (32, 34655), (33, 34682), (39, 34769), (40, 34772), (41, 34778), (42, 34787), (46, 34838), (47, 34841), (48, 34871), (52, 34988), (54, 35015), (55, 35078), (56, 35099),

Gene: Doug_47 Start: 35453, Stop: 36319, Start Num: 19

Candidate Starts for Doug_47:

(Start: 19 @35453 has 61 MA's), (22, 35552), (24, 35561), (32, 35732), (33, 35759), (35, 35807), (39, 35846), (40, 35849), (41, 35855), (42, 35864), (44, 35891), (46, 35915), (52, 36065), (53, 36068), (54, 36092), (55, 36155), (58, 36212), (60, 36278), (61, 36281),

Gene: Drago_46 Start: 34379, Stop: 35245, Start Num: 19

Candidate Starts for Drago_46:

(Start: 19 @34379 has 61 MA's), (22, 34478), (24, 34487), (32, 34658), (33, 34685), (39, 34772), (40, 34775), (41, 34781), (42, 34790), (46, 34841), (47, 34844), (48, 34874), (52, 34991), (54, 35018), (55, 35081), (56, 35102),

Gene: EleanorGeorge_45 Start: 34568, Stop: 35434, Start Num: 19

Candidate Starts for EleanorGeorge_45:

(Start: 19 @34568 has 61 MA's), (22, 34667), (24, 34676), (32, 34847), (33, 34874), (39, 34961), (40, 34964), (41, 34970), (42, 34979), (44, 35006), (46, 35030), (47, 35033), (52, 35180), (53, 35183), (54, 35207), (55, 35270), (56, 35291), (59, 35375), (62, 35399),

Gene: EmiMonkey_44 Start: 36187, Stop: 37053, Start Num: 19

Candidate Starts for EmiMonkey_44:

(Start: 19 @36187 has 61 MA's), (22, 36286), (24, 36295), (32, 36466), (33, 36493), (39, 36580), (40, 36583), (41, 36589), (42, 36598), (46, 36649), (47, 36652), (52, 36799), (54, 36826), (55, 36889), (56, 36910),

Gene: EnalisNailo_42 Start: 35018, Stop: 35878, Start Num: 18

Candidate Starts for EnalisNailo_42:

(Start: 16 @35006 has 4 MA's), (Start: 18 @35018 has 6 MA's), (22, 35123), (24, 35132), (32, 35303), (34, 35357), (37, 35387), (49, 35546), (53, 35627), (58, 35771),

Gene: Enzomatic_54 Start: 35595, Stop: 36461, Start Num: 19

Candidate Starts for Enzomatic_54:

(Start: 19 @35595 has 61 MA's), (22, 35694), (24, 35703), (30, 35841), (32, 35874), (33, 35901), (35, 35949), (39, 35988), (40, 35991), (41, 35997), (42, 36006), (44, 36033), (46, 36057), (47, 36060), (52, 36207), (53, 36210), (54, 36234), (55, 36297), (56, 36318), (57, 36345), (59, 36402), (62, 36426),

Gene: Eradicator_39 Start: 33017, Stop: 33883, Start Num: 19

Candidate Starts for Eradicator_39:

(1, 32519), (2, 32570), (4, 32693), (5, 32699), (6, 32714), (7, 32768), (9, 32840), (10, 32849), (Start: 19 @33017 has 61 MA's), (22, 33116), (24, 33125), (32, 33296), (33, 33323), (35, 33371), (39, 33410), (40, 33413), (41, 33419), (42, 33428), (44, 33455), (46, 33479), (52, 33629), (53, 33632), (54, 33656), (55, 33719), (58, 33776), (60, 33842), (61, 33845),

Gene: Fancypants_47 Start: 35868, Stop: 36734, Start Num: 19

Candidate Starts for Fancypants_47:

(Start: 19 @35868 has 61 MA's), (22, 35967), (24, 35976), (32, 36147), (33, 36174), (35, 36222), (39, 36261), (40, 36264), (41, 36270), (42, 36279), (44, 36306), (46, 36330), (52, 36480), (53, 36483), (54, 36507), (55, 36570), (56, 36591), (62, 36699),

Gene: Galactic_47 Start: 35708, Stop: 36574, Start Num: 19

Candidate Starts for Galactic_47:

(Start: 19 @35708 has 61 MA's), (22, 35807), (24, 35816), (32, 35987), (33, 36014), (39, 36101), (40, 36104), (41, 36110), (42, 36119), (44, 36146), (46, 36170), (47, 36173), (52, 36320), (53, 36323), (54, 36347), (55, 36410), (56, 36431), (57, 36458), (59, 36515), (62, 36539),

Gene: Gandolph_47 Start: 34842, Stop: 35708, Start Num: 19

Candidate Starts for Gandolph_47:

(Start: 19 @34842 has 61 MA's), (22, 34941), (24, 34950), (32, 35121), (33, 35148), (39, 35235), (40, 35238), (41, 35244), (42, 35253), (46, 35304), (47, 35307), (52, 35454), (54, 35481), (55, 35544), (56, 35565),

Gene: Hegedechwinu_46 Start: 33868, Stop: 34734, Start Num: 19

Candidate Starts for Hegedechwinu_46:

(1, 33370), (2, 33421), (4, 33544), (5, 33550), (6, 33565), (7, 33619), (9, 33691), (10, 33700), (Start: 19 @33868 has 61 MA's), (22, 33967), (24, 33976), (32, 34147), (33, 34174), (39, 34261), (40, 34264), (41, 34270), (42, 34279), (46, 34330), (47, 34333), (52, 34480), (53, 34483), (54, 34507), (55, 34570), (56, 34591), (59, 34675), (62, 34699),

Gene: Hyzer_52 Start: 37874, Stop: 38794, Start Num: 14

Candidate Starts for Hyzer_52:

(14, 37874), (Start: 15 @37886 has 1 MA's), (Start: 16 @37919 has 4 MA's), (Start: 18 @37931 has 6 MA's), (21, 37979), (22, 38033), (25, 38093), (37, 38303), (39, 38321), (49, 38462), (50, 38504), (53, 38543), (55, 38630), (58, 38687),

Gene: IrishSherpFalk_47 Start: 36049, Stop: 36915, Start Num: 19

Candidate Starts for IrishSherpFalk_47:

(Start: 19 @36049 has 61 MA's), (22, 36148), (24, 36157), (32, 36328), (33, 36355), (39, 36442), (40, 36445), (41, 36451), (42, 36460), (46, 36511), (47, 36514), (52, 36661), (53, 36664), (54, 36688), (55, 36751), (58, 36808), (60, 36874), (61, 36877),

Gene: Jablanski_48 Start: 37976, Stop: 38839, Start Num: 18

Candidate Starts for Jablanski_48:

(Start: 18 @37976 has 6 MA's), (24, 38093), (27, 38171), (32, 38264), (34, 38318), (47, 38435), (53, 38588), (55, 38675), (58, 38732),

Gene: JalFarm20_56 Start: 37874, Stop: 38740, Start Num: 19

Candidate Starts for JalFarm20_56:

(Start: 19 @37874 has 61 MA's), (22, 37973), (24, 37982), (32, 38153), (33, 38180), (35, 38228), (39, 38267), (40, 38270), (41, 38276), (42, 38285), (44, 38312), (46, 38336), (52, 38486), (53, 38489), (54,

38513), (55, 38576), (56, 38597), (57, 38624), (59, 38681), (62, 38705),

Gene: Juice456_49 Start: 36470, Stop: 37336, Start Num: 19

Candidate Starts for Juice456_49:

(1, 35972), (2, 36023), (4, 36146), (5, 36152), (6, 36167), (7, 36221), (9, 36293), (10, 36302), (Start: 19 @36470 has 61 MA's), (22, 36569), (24, 36578), (32, 36749), (33, 36776), (39, 36863), (40, 36866), (41, 36872), (42, 36881), (46, 36932), (47, 36935), (52, 37082), (53, 37085), (54, 37109), (55, 37172), (56, 37193), (59, 37277), (62, 37301),

Gene: Juniper1_44 Start: 34680, Stop: 35546, Start Num: 19

Candidate Starts for Juniper1_44:

(Start: 19 @34680 has 61 MA's), (22, 34779), (24, 34788), (32, 34959), (33, 34986), (39, 35073), (40, 35076), (41, 35082), (42, 35091), (46, 35142), (47, 35145), (52, 35292), (53, 35295), (54, 35319), (55, 35382), (56, 35403), (62, 35511),

Gene: Kersh_48 Start: 36769, Stop: 37635, Start Num: 19

Candidate Starts for Kersh_48:

(Start: 19 @36769 has 61 MA's), (22, 36868), (24, 36877), (32, 37048), (33, 37075), (39, 37162), (40, 37165), (41, 37171), (42, 37180), (46, 37231), (52, 37381), (53, 37384), (54, 37408), (55, 37471), (58, 37528), (60, 37594), (61, 37597),

Gene: Kimberlium_48 Start: 36118, Stop: 36984, Start Num: 19

Candidate Starts for Kimberlium_48:

(Start: 19 @36118 has 61 MA's), (22, 36217), (24, 36226), (30, 36364), (32, 36397), (33, 36424), (35, 36472), (39, 36511), (40, 36514), (41, 36520), (42, 36529), (44, 36556), (46, 36580), (47, 36583), (52, 36730), (53, 36733), (54, 36757), (55, 36820), (56, 36841), (57, 36868), (62, 36949),

Gene: Kingsley_42 Start: 33690, Stop: 34556, Start Num: 19

Candidate Starts for Kingsley_42:

(Start: 19 @33690 has 61 MA's), (20, 33717), (22, 33789), (24, 33798), (32, 33969), (35, 34044), (39, 34083), (40, 34086), (41, 34092), (42, 34101), (46, 34152), (47, 34155), (51, 34281), (52, 34302), (53, 34305), (54, 34329), (55, 34392), (58, 34449), (60, 34515), (61, 34518),

Gene: Leozinho_47 Start: 35147, Stop: 36013, Start Num: 19

Candidate Starts for Leozinho_47:

(Start: 19 @35147 has 61 MA's), (22, 35246), (24, 35255), (32, 35426), (33, 35453), (39, 35540), (40, 35543), (41, 35549), (42, 35558), (46, 35609), (47, 35612), (48, 35642), (52, 35759), (54, 35786), (55, 35849), (56, 35870),

Gene: Lilas_45 Start: 36717, Stop: 37589, Start Num: 16

Candidate Starts for Lilas_45:

(Start: 16 @36717 has 4 MA's), (Start: 18 @36729 has 6 MA's), (22, 36834), (24, 36843), (32, 37014), (34, 37068), (37, 37098), (49, 37257), (53, 37338), (58, 37482),

Gene: Llij_44 Start: 34533, Stop: 35399, Start Num: 19

Candidate Starts for Llij_44:

(Start: 19 @34533 has 61 MA's), (22, 34632), (24, 34641), (32, 34812), (33, 34839), (39, 34926), (40, 34929), (41, 34935), (42, 34944), (46, 34995), (47, 34998), (48, 35028), (52, 35145), (54, 35172), (55, 35235), (56, 35256),

Gene: Lucia_46 Start: 34677, Stop: 35543, Start Num: 19

Candidate Starts for Lucia_46:

(Start: 19 @34677 has 61 MA's), (22, 34776), (24, 34785), (32, 34956), (33, 34983), (39, 35070), (40, 35073), (41, 35079), (42, 35088), (46, 35139), (47, 35142), (48, 35172), (52, 35289), (54, 35316), (55, 35379), (56, 35400),

Gene: LunaBlu_50 Start: 36367, Stop: 37233, Start Num: 19

Candidate Starts for LunaBlu_50:

(Start: 19 @36367 has 61 MA's), (22, 36466), (24, 36475), (32, 36646), (33, 36673), (39, 36760), (40, 36763), (41, 36769), (42, 36778), (44, 36805), (46, 36829), (47, 36832), (52, 36979), (53, 36982), (54, 37006), (55, 37069), (56, 37090), (57, 37117), (59, 37174), (62, 37198),

Gene: Mahavrat_44 Start: 34476, Stop: 35360, Start Num: 19

Candidate Starts for Mahavrat_44:

(Start: 19 @34476 has 61 MA's), (22, 34575), (24, 34584), (31, 34767), (32, 34773), (35, 34848), (39, 34887), (40, 34890), (41, 34896), (42, 34905), (44, 34932), (46, 34956), (47, 34959), (52, 35106), (53, 35109), (54, 35133), (55, 35196), (56, 35217), (62, 35325),

Gene: Maravista_47 Start: 35877, Stop: 36743, Start Num: 19

Candidate Starts for Maravista_47:

(Start: 19 @35877 has 61 MA's), (22, 35976), (24, 35985), (30, 36123), (32, 36156), (33, 36183), (35, 36231), (39, 36270), (40, 36273), (41, 36279), (42, 36288), (44, 36315), (46, 36339), (47, 36342), (52, 36489), (53, 36492), (54, 36516), (55, 36579), (56, 36600), (62, 36708),

Gene: MilleniumForce_46 Start: 35851, Stop: 36717, Start Num: 19

Candidate Starts for MilleniumForce_46:

(Start: 19 @35851 has 61 MA's), (22, 35950), (24, 35959), (30, 36097), (32, 36130), (33, 36157), (35, 36205), (39, 36244), (40, 36247), (41, 36253), (42, 36262), (44, 36289), (46, 36313), (47, 36316), (52, 36463), (53, 36466), (54, 36490), (55, 36553), (58, 36610), (60, 36676), (61, 36679),

Gene: Minnie_50 Start: 36205, Stop: 37071, Start Num: 19

Candidate Starts for Minnie_50:

(Start: 19 @36205 has 61 MA's), (22, 36304), (24, 36313), (32, 36484), (33, 36511), (39, 36598), (40, 36601), (41, 36607), (42, 36616), (46, 36667), (47, 36670), (52, 36817), (53, 36820), (54, 36844), (55, 36907), (56, 36928), (57, 36955),

Gene: MulchExplorer_48 Start: 36117, Stop: 36983, Start Num: 19

Candidate Starts for MulchExplorer_48:

(Start: 19 @36117 has 61 MA's), (22, 36216), (24, 36225), (30, 36363), (32, 36396), (33, 36423), (35, 36471), (39, 36510), (40, 36513), (41, 36519), (42, 36528), (44, 36555), (46, 36579), (47, 36582), (52, 36729), (53, 36732), (54, 36756), (55, 36819), (56, 36840), (57, 36867), (62, 36948),

Gene: Mutaforma13_49 Start: 36153, Stop: 37019, Start Num: 19

Candidate Starts for Mutaforma13_49:

(Start: 19 @36153 has 61 MA's), (22, 36252), (24, 36261), (30, 36399), (32, 36432), (33, 36459), (35, 36507), (39, 36546), (40, 36549), (41, 36555), (42, 36564), (44, 36591), (46, 36615), (47, 36618), (52, 36765), (53, 36768), (54, 36792), (55, 36855), (56, 36876), (62, 36984),

Gene: NewHope4_49 Start: 35741, Stop: 36607, Start Num: 19

Candidate Starts for NewHope4_49:

(Start: 19 @35741 has 61 MA's), (22, 35840), (24, 35849), (30, 35987), (32, 36020), (33, 36047), (35, 36095), (39, 36134), (40, 36137), (41, 36143), (42, 36152), (44, 36179), (46, 36203), (47, 36206), (52, 36353), (53, 36356), (54, 36380), (55, 36443), (56, 36464), (57, 36491), (59, 36548), (62, 36572),

Gene: OlympiaSaint_47 Start: 35172, Stop: 36038, Start Num: 19

Candidate Starts for OlympiaSaint_47:

(Start: 19 @35172 has 61 MA's), (22, 35271), (24, 35280), (32, 35451), (33, 35478), (39, 35565), (40, 35568), (41, 35574), (42, 35583), (46, 35634), (47, 35637), (48, 35667), (52, 35784), (54, 35811), (55, 35874), (56, 35895),

Gene: OwlsT2W_45 Start: 35172, Stop: 36038, Start Num: 19

Candidate Starts for OwlsT2W_45:

(Start: 19 @35172 has 61 MA's), (22, 35271), (24, 35280), (32, 35451), (33, 35478), (39, 35565), (40, 35568), (41, 35574), (42, 35583), (46, 35634), (47, 35637), (52, 35784), (54, 35811), (55, 35874), (56, 35895),

Gene: PantheRoc_46 Start: 35515, Stop: 36375, Start Num: 18

Candidate Starts for PantheRoc_46:

(13, 35362), (Start: 15 @35470 has 1 MA's), (Start: 16 @35503 has 4 MA's), (Start: 18 @35515 has 6 MA's), (24, 35629), (32, 35800), (34, 35854), (37, 35884), (39, 35902), (46, 35968), (49, 36043), (53, 36124), (58, 36268),

Gene: Phatniss_45 Start: 35050, Stop: 35916, Start Num: 19

Candidate Starts for Phatniss_45:

(Start: 19 @35050 has 61 MA's), (22, 35149), (24, 35158), (32, 35329), (33, 35356), (39, 35443), (40, 35446), (41, 35452), (42, 35461), (46, 35512), (47, 35515), (51, 35641), (52, 35662), (53, 35665), (54, 35689), (55, 35752), (58, 35809), (60, 35875), (61, 35878),

Gene: PhlipPhlop_46 Start: 36187, Stop: 37053, Start Num: 19

Candidate Starts for PhlipPhlop_46:

(Start: 19 @36187 has 61 MA's), (22, 36286), (24, 36295), (32, 36466), (33, 36493), (39, 36580), (40, 36583), (41, 36589), (42, 36598), (46, 36649), (47, 36652), (52, 36799), (54, 36826), (55, 36889), (56, 36910),

Gene: Plumbus_47 Start: 34797, Stop: 35663, Start Num: 19

Candidate Starts for Plumbus_47:

(Start: 19 @34797 has 61 MA's), (22, 34896), (24, 34905), (32, 35076), (33, 35103), (39, 35190), (40, 35193), (41, 35199), (42, 35208), (46, 35259), (47, 35262), (51, 35388), (52, 35409), (53, 35412), (54, 35436), (55, 35499), (58, 35556), (60, 35622), (61, 35625),

Gene: Polo2Bam_54 Start: 35595, Stop: 36461, Start Num: 19

Candidate Starts for Polo2Bam_54:

(Start: 19 @35595 has 61 MA's), (22, 35694), (24, 35703), (30, 35841), (32, 35874), (33, 35901), (35, 35949), (39, 35988), (40, 35991), (41, 35997), (42, 36006), (44, 36033), (46, 36057), (47, 36060), (52, 36207), (53, 36210), (54, 36234), (55, 36297), (56, 36318), (57, 36345), (59, 36402), (62, 36426),

Gene: Posh_50 Start: 37122, Stop: 37994, Start Num: 16

Candidate Starts for Posh_50:

(12, 36978), (Start: 16 @37122 has 4 MA's), (Start: 18 @37134 has 6 MA's), (24, 37248), (32, 37419), (34, 37473), (49, 37662), (53, 37743), (58, 37887),

Gene: Pytheas_48 Start: 37975, Stop: 38838, Start Num: 18

Candidate Starts for Pytheas_48:

(Start: 18 @37975 has 6 MA's), (24, 38092), (27, 38170), (32, 38263), (34, 38317), (47, 38434), (53, 38587), (55, 38674), (58, 38731),

Gene: QuickMath_47 Start: 36341, Stop: 37207, Start Num: 19

Candidate Starts for QuickMath_47:

(Start: 19 @36341 has 61 MA's), (22, 36440), (24, 36449), (30, 36587), (32, 36620), (33, 36647), (35, 36695), (39, 36734), (40, 36737), (41, 36743), (42, 36752), (44, 36779), (46, 36803), (47, 36806), (52, 36953), (53, 36956), (54, 36980), (55, 37043), (56, 37064), (57, 37091), (62, 37172),

Gene: Rialto_51 Start: 37369, Stop: 38235, Start Num: 19

Candidate Starts for Rialto_51:

(Start: 19 @37369 has 61 MA's), (20, 37396), (22, 37468), (24, 37477), (32, 37648), (35, 37723), (39, 37762), (40, 37765), (41, 37771), (42, 37780), (46, 37831), (47, 37834), (51, 37960), (52, 37981), (53, 37984), (54, 38008), (55, 38071), (58, 38128), (60, 38194), (61, 38197),

Gene: Royals2015_48 Start: 35193, Stop: 36059, Start Num: 19

Candidate Starts for Royals2015_48:

(Start: 19 @35193 has 61 MA's), (22, 35292), (24, 35301), (32, 35472), (33, 35499), (39, 35586), (40, 35589), (41, 35595), (42, 35604), (46, 35655), (47, 35658), (48, 35688), (52, 35805), (54, 35832), (55, 35895), (56, 35916),

Gene: Sabbb_52 Start: 36611, Stop: 37489, Start Num: 19

Candidate Starts for Sabbb_52:

(8, 36371), (Start: 19 @36611 has 61 MA's), (22, 36710), (24, 36719), (32, 36890), (33, 36917), (34, 36944), (36, 36977), (38, 37001), (42, 37025), (48, 37118), (52, 37235), (54, 37262), (55, 37325), (56, 37346),

Gene: Sandalphon_49 Start: 36106, Stop: 36972, Start Num: 19

Candidate Starts for Sandalphon_49:

(Start: 19 @36106 has 61 MA's), (22, 36205), (24, 36214), (32, 36385), (33, 36412), (39, 36499), (40, 36502), (41, 36508), (42, 36517), (43, 36538), (46, 36568), (47, 36571), (48, 36601), (52, 36718), (53, 36721), (54, 36745), (55, 36808), (56, 36829), (62, 36937),

Gene: Sarma624_43 Start: 30882, Stop: 31748, Start Num: 19

Candidate Starts for Sarma624_43:

(Start: 19 @30882 has 61 MA's), (20, 30909), (22, 30981), (24, 30990), (32, 31161), (35, 31236), (39, 31275), (40, 31278), (41, 31284), (42, 31293), (46, 31344), (47, 31347), (51, 31473), (52, 31494), (53, 31497), (54, 31521), (55, 31584), (58, 31641), (60, 31707), (61, 31710),

Gene: SeaLumen_52 Start: 35595, Stop: 36461, Start Num: 19

Candidate Starts for SeaLumen_52:

(Start: 19 @35595 has 61 MA's), (22, 35694), (24, 35703), (30, 35841), (32, 35874), (33, 35901), (35, 35949), (39, 35988), (40, 35991), (41, 35997), (42, 36006), (44, 36033), (46, 36057), (47, 36060), (52, 36207), (53, 36210), (54, 36234), (55, 36297), (56, 36318), (57, 36345), (59, 36402), (62, 36426),

Gene: Sejanus_49 Start: 44587, Stop: 45456, Start Num: 18

Candidate Starts for Sejanus_49:

(17, 44581), (Start: 18 @44587 has 6 MA's), (22, 44689), (24, 44698), (32, 44869), (33, 44896), (41, 44992), (42, 45001), (44, 45028), (47, 45055), (49, 45127), (52, 45202), (54, 45229),

Gene: Soul22_51 Start: 35297, Stop: 36163, Start Num: 19

Candidate Starts for Soul22_51:

(Start: 19 @35297 has 61 MA's), (22, 35396), (24, 35405), (30, 35543), (32, 35576), (33, 35603), (35, 35651), (39, 35690), (40, 35693), (41, 35699), (42, 35708), (44, 35735), (46, 35759), (47, 35762), (52, 35909), (53, 35912), (54, 35936), (55, 35999), (56, 36020), (57, 36047), (59, 36104), (62, 36128),

Gene: Sparkdehlily_50 Start: 35945, Stop: 36811, Start Num: 19

Candidate Starts for Sparkdehlily_50:

(Start: 19 @35945 has 61 MA's), (22, 36044), (24, 36053), (32, 36224), (33, 36251), (39, 36338), (40, 36341), (41, 36347), (42, 36356), (46, 36407), (47, 36410), (52, 36557), (54, 36584), (55, 36647), (56, 36668),

Gene: Spartacus_47 Start: 34966, Stop: 35832, Start Num: 19

Candidate Starts for Spartacus_47:

(Start: 19 @34966 has 61 MA's), (22, 35065), (24, 35074), (32, 35245), (33, 35272), (39, 35359), (40, 35362), (41, 35368), (42, 35377), (46, 35428), (47, 35431), (52, 35578), (53, 35581), (54, 35605), (55, 35668), (58, 35725), (60, 35791), (61, 35794),

Gene: TDanisky_50 Start: 35945, Stop: 36811, Start Num: 19

Candidate Starts for TDanisky_50:

(Start: 19 @35945 has 61 MA's), (22, 36044), (24, 36053), (32, 36224), (33, 36251), (39, 36338), (40, 36341), (41, 36347), (42, 36356), (46, 36407), (47, 36410), (52, 36557), (54, 36584), (55, 36647), (56, 36668),

Gene: Tchotchke_49 Start: 34846, Stop: 35706, Start Num: 19

Candidate Starts for Tchotchke_49:

(Start: 19 @34846 has 61 MA's), (22, 34942), (26, 35026), (28, 35059), (29, 35092), (32, 35137), (33, 35164), (35, 35212), (45, 35284), (46, 35302), (47, 35305), (52, 35452), (54, 35479), (55, 35542), (56, 35563),

Gene: ThulaThula_38 Start: 31478, Stop: 32350, Start Num: 18

Candidate Starts for ThulaThula_38:

(Start: 18 @31478 has 6 MA's), (22, 31580), (24, 31589), (32, 31760), (34, 31814), (41, 31886), (42, 31895), (44, 31922), (46, 31946), (47, 31949), (52, 32096), (54, 32123),

Gene: Tootsieroll_49 Start: 35136, Stop: 36002, Start Num: 19

Candidate Starts for Tootsieroll_49:

(Start: 19 @35136 has 61 MA's), (22, 35235), (24, 35244), (32, 35415), (33, 35442), (39, 35529), (40, 35532), (41, 35538), (42, 35547), (46, 35598), (47, 35601), (48, 35631), (52, 35748), (54, 35775), (55, 35838), (56, 35859),

Gene: UncleRicky_47 Start: 35876, Stop: 36742, Start Num: 19

Candidate Starts for UncleRicky_47:

(Start: 19 @35876 has 61 MA's), (22, 35975), (24, 35984), (32, 36155), (33, 36182), (39, 36269), (40, 36272), (41, 36278), (42, 36287), (46, 36338), (47, 36341), (48, 36371), (52, 36488), (54, 36515), (55, 36578), (56, 36599),

Gene: Velveteen_41 Start: 30882, Stop: 31748, Start Num: 19

Candidate Starts for Velveteen_41:

(Start: 19 @30882 has 61 MA's), (20, 30909), (22, 30981), (24, 30990), (32, 31161), (35, 31236), (39, 31275), (40, 31278), (41, 31284), (42, 31293), (46, 31344), (47, 31347), (51, 31473), (52, 31494), (53, 31497), (54, 31521), (55, 31584), (58, 31641), (60, 31707), (61, 31710),

Gene: Violac_49 Start: 36179, Stop: 37045, Start Num: 19

Candidate Starts for Violac_49:

(Start: 19 @36179 has 61 MA's), (22, 36278), (24, 36287), (30, 36425), (32, 36458), (33, 36485), (35, 36533), (39, 36572), (40, 36575), (41, 36581), (42, 36590), (44, 36617), (46, 36641), (47, 36644), (52, 36791), (53, 36794), (54, 36818), (55, 36881), (58, 36938), (60, 37004), (61, 37007),

Gene: Wachhund_49 Start: 35066, Stop: 35932, Start Num: 19

Candidate Starts for Wachhund_49:

(Start: 19 @35066 has 61 MA's), (22, 35165), (24, 35174), (30, 35312), (32, 35345), (33, 35372), (35, 35420), (39, 35459), (40, 35462), (41, 35468), (42, 35477), (44, 35504), (46, 35528), (47, 35531), (52, 35678), (53, 35681), (54, 35705), (55, 35768), (56, 35789), (57, 35816), (59, 35873),

Gene: Whatsapiecost_45 Start: 34328, Stop: 35194, Start Num: 19

Candidate Starts for Whatsapiecost_45:

(Start: 19 @34328 has 61 MA's), (22, 34427), (24, 34436), (30, 34574), (32, 34607), (33, 34634), (35, 34682), (39, 34721), (40, 34724), (41, 34730), (42, 34739), (44, 34766), (46, 34790), (47, 34793), (52, 34940), (53, 34943), (54, 34967), (55, 35030), (56, 35051), (57, 35078), (59, 35135), (62, 35159),

Gene: WillSterrel_47 Start: 36082, Stop: 36948, Start Num: 19

Candidate Starts for WillSterrel_47:

(Start: 19 @36082 has 61 MA's), (22, 36181), (24, 36190), (32, 36361), (33, 36388), (39, 36475), (40, 36478), (41, 36484), (42, 36493), (46, 36544), (47, 36547), (52, 36694), (53, 36697), (54, 36721), (55, 36784), (58, 36841), (60, 36907), (61, 36910),

Gene: Yorick_45 Start: 35055, Stop: 35921, Start Num: 19

Candidate Starts for Yorick_45:

(Start: 19 @35055 has 61 MA's), (22, 35154), (24, 35163), (32, 35334), (33, 35361), (39, 35448), (40, 35451), (41, 35457), (42, 35466), (46, 35517), (47, 35520), (51, 35646), (52, 35667), (53, 35670), (54, 35694), (55, 35757), (58, 35814), (60, 35880), (61, 35883),