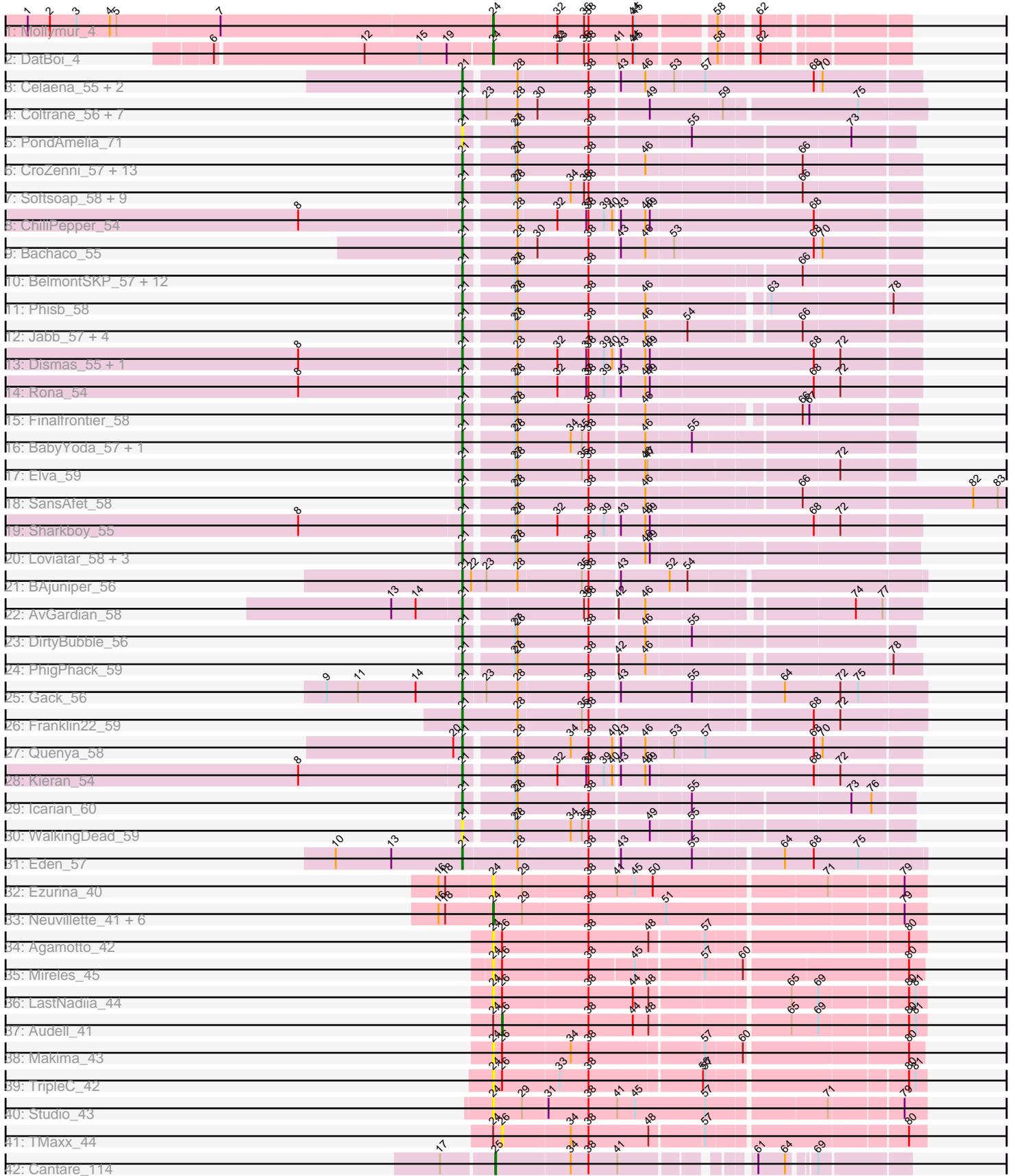# Pham 286913

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 286913 Report

This analysis was run 03/28/26 on database version 641.

Pham number 286913 has 100 members, 22 are drafts.

Phages represented in each track:
• Track 1 : Mollymur_4
• Track 2 : DatBoi_4
• Track 3 : Celaena_55, Katzastrophic_56, FlameThrower_54
• Track 4 : Coltrane_56, Vitas_56, Brahms_56, Bernstein_56, Skylord_56, Armstrong_56, Clayda5_58, Rollins_56
• Track 5 : PondAmelia_71
• Track 6 : CroZenni_57, QMacho_59, Slay_57, TukTuk_58, Pecas_58, Jovita_56, Lilo27_58, SarBear_57, Swervy_58, Cashington_56, Burritobowl_58, Nicky22_58, BubbaBear_56, Doobus_55
• Track 7 : Softsoap_58, Avocadoman_55, IndyLu_58, LimaBean_57, Kate33_60, PastaFagioli_57, Didgeridoo_61, Abigail_56, BabyDaisy_58, Lahqtemish_56
• Track 8 : ChiliPepper_54
• Track 9 : Bachaco_55
• Track 10 : BelmontSKP_57, Johnathan_56, Solea_59, Albright_54, Lynlen_58, Kenzers_57, Bengal_59, Milomuff_58, AnnaLie_57, Albedo_58, Arroyo_57, DickRichards_55, SirBeanington_57
• Track 11 : Phisb_58
• Track 12 : Jabb_57, Eula_57, MsUbiquitous_57, AylexOG_59, CupcakePrincess_57
• Track 13 : Dismas_55, Kamdara_54
• Track 14 : Rona_54
• Track 15 : Finalfrontier_58
• Track 16 : BabyYoda_57, Stromboli_57
• Track 17 : Elva_59
• Track 18 : SansAfet_58
• Track 19 : Sharkboy_55
• Track 20 : Loviatar_58, Akino08_58, SanaSana_59, Stoor_57
• Track 21 : BAjuniper_56
• Track 22 : AvGardian_58
• Track 23 : DirtyBubble_56
• Track 24 : PhigPhack_59
• Track 25 : Gack_56
• Track 26 : Franklin22_59
• Track 27 : Quenya_58
• Track 28 : Kieran_54
• Track 29 : Icarian_60
• Track 30 : WalkingDead_59
• Track 31 : Eden_57

• Track 32 : Ezurina_40
• Track 33 : Neuvillette_41, ChipsNGuac_42, CardboardBox_42, ChamoyPickle_43, AnnabelLee_41, Roberts_41, Gerri43_42
• Track 34 : Agamotto_42
• Track 35 : Mireles_45
• Track 36 : LastNadiia_44
• Track 37 : Audell_41
• Track 38 : Makima_43
• Track 39 : TripleC_42
• Track 40 : Studio_43
• Track 41 : TMaxx_44
• Track 42 : Cantare_114

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

The start number called the most often in the published annotations is 21, it was called in 73 of the 78 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abigail_56, Akino08_58, Albedo_58, Albright_54, AnnaLie_57, Armstrong_56, Arroyo_57, AvGardian_58, Avocadoman_55, AylexOG_59, BAjuniper_56, BabyDaisy_58, BabyYoda_57, Bachaco_55, BelmontSKP_57, Bengal_59, Bernstein_56, Brahms_56, BubbaBear_56, Burritobowl_58, Cashington_56, Celaena_55, ChiliPepper_54, Clayda5_58, Coltrane_56, CroZenni_57, CupcakePrincess_57, DickRichards_55, Didgeridoo_61, DirtyBubble_56, Dismas_55, Doobus_55, Eden_57, Elva_59, Eula_57, Finalfrontier_58, FlameThrower_54, Franklin22_59, Gack_56, Icarian_60, IndyLu_58, Jabb_57, Johnathan_56, Jovita_56, Kamdara_54, Kate33_60, Katzastrophic_56, Kenzers_57, Kieran_54, Lahqtemish_56, Lilo27_58, LimaBean_57, Loviatar_58, Lynlen_58, Milomuff_58, MsUbiquitous_57, Nicky22_58, PastaFagioli_57, Pecas_58, PhigPhack_59, Phisb_58, PondAmelia_71, QMacho_59, Quenya_58, Rollins_56, Rona_54, SanaSana_59, SansAfet_58, SarBear_57, Sharkboy_55, SirBeanington_57, Skylord_56, Slay_57, Softsoap_58, Solea_59, Stoor_57, Stromboli_57, Swervy_58, TukTuk_58, Vitas_56, WalkingDead_59,

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

Genes that do not have the "Most Annotated" start:
• Agamotto_42, AnnabelLee_41, Audell_41, Cantare_114, CardboardBox_42, ChamoyPickle_43, ChipsNGuac_42, DatBoi_4, Ezurina_40, Gerri43_42, LastNadiia_44, Makima_43, Mireles_45, Mollymur_4, Neuvillette_41, Roberts_41, Studio_43, TMaxx_44, TripleC_42,

Summary by start number:

Start 21:
• Found in 81 of 100 (81.0%) of genes in pham
• Manual Annotations of this start: 73 of 78
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Abigail_56 (EB), Akino08_58 (EB), Albedo_58 (EB), Albright_54 (EB), AnnaLie_57 (EB), Armstrong_56 (EB), Arroyo_57 (EB), AvGardian_58 (EB), Avocadoman_55 (EB), AylexOG_59 (EB), BAjuniper_56 (EB), BabyDaisy_58 (EB), BabyYoda_57 (EB), Bachaco_55 (EB), BelmontSKP_57 (EB), Bengal_59 (EB), Bernstein_56 (EB), Brahms_56 (EB), BubbaBear_56 (EB), Burritobowl_58 (EB), Cashington_56 (EB), Celaena_55 (EB), ChiliPepper_54 (EB), Clayda5_58 (EB), Coltrane_56 (EB), CroZenni_57 (EB), CupcakePrincess_57 (EB), DickRichards_55 (EB), Didgeridoo_61 (EB), DirtyBubble_56 (EB), Dismas_55 (EB), Doobus_55 (EB), Eden_57 (EB), Elva_59 (EB), Eula_57 (EB), Finalfrontier_58 (EB), FlameThrower_54 (EB), Franklin22_59 (EB), Gack_56 (EB), Icarian_60 (EB), IndyLu_58 (EB), Jabb_57 (EB), Johnathan_56 (EB), Jovita_56 (EB), Kamdara_54 (EB), Kate33_60 (EB), Katzastrophic_56 (EB), Kenzers_57 (EB), Kieran_54 (EB), Lahqtemish_56 (EB), Lilo27_58 (EB), LimaBean_57 (EB), Loviatar_58 (EB), Lynlen_58 (EB), Milomuff_58 (EB), MsUbiquitous_57 (EB), Nicky22_58 (EB), PastaFagioli_57 (EB), Pecas_58 (EB), PhigPhack_59 (EB), Phisb_58 (EB), PondAmelia_71 (EB), QMacho_59 (EB), Quenya_58 (EB), Rollins_56 (EB), Rona_54 (EB), SanaSana_59 (EB), SansAfet_58 (EB), SarBear_57 (EB), Sharkboy_55 (EB), SirBeanington_57 (EB), Skylord_56 (EB), Slay_57 (EB), Softsoap_58 (EB), Solea_59 (EB), Stoor_57 (EB), Stromboli_57 (EB), Swervy_58 (EB), TukTuk_58 (EB), Vitas_56 (EB), WalkingDead_59 (EB),

Start 24:
• Found in 18 of 100 (18.0%) of genes in pham
• Manual Annotations of this start: 3 of 78
• Called 88.9% of time when present
• Phage (with cluster) where this start called: Agamotto_42 (FR), AnnabelLee_41 (FR), CardboardBox_42 (FR), ChamoyPickle_43 (FR), ChipsNGuac_42 (FR), DatBoi_4 (DL), Ezurina_40 (FR), Gerri43_42 (FR), LastNadiia_44 (FR), Makima_43 (FR), Mireles_45 (FR), Mollymur_4 (DL), Neuvillette_41 (FR), Roberts_41 (FR), Studio_43 (FR), TripleC_42 (FR),

Start 25:
• Found in 1 of 100 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 78
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Cantare_114 (singleton),

Start 26:
• Found in 7 of 100 (7.0%) of genes in pham
• Manual Annotations of this start: 1 of 78
• Called 28.6% of time when present
• Phage (with cluster) where this start called: Audell_41 (FR), TMaxx_44 (FR),

Summary by clusters:

There are 4 clusters represented in this pham: FR, singleton, DL, EB,

Info for manual annotations of cluster DL:
•Start number 24 was manually annotated 2 times for cluster DL.

Info for manual annotations of cluster EB:
•Start number 21 was manually annotated 73 times for cluster EB.

Info for manual annotations of cluster FR:
•Start number 24 was manually annotated 1 time for cluster FR.
•Start number 26 was manually annotated 1 time for cluster FR.

Gene Information:

Gene: Abigail_56 Start: 36201, Stop: 36776, Start Num: 21
Candidate Starts for Abigail_56:
(Start: 21 @36201 has 73 MA's), (27, 36261), (28, 36264), (34, 36336), (36, 36354), (38, 36360), (66, 36624),

Gene: Agamotto_42 Start: 32271, Stop: 31735, Start Num: 24
Candidate Starts for Agamotto_42:
(Start: 24 @32271 has 3 MA's), (Start: 26 @32259 has 1 MA's), (38, 32145), (48, 32070), (57, 32004), (80, 31758),

Gene: Akino08_58 Start: 38574, Stop: 39149, Start Num: 21
Candidate Starts for Akino08_58:
(Start: 21 @38574 has 73 MA's), (27, 38634), (28, 38637), (38, 38733), (46, 38802), (49, 38808),

Gene: Albedo_58 Start: 36929, Stop: 37501, Start Num: 21
Candidate Starts for Albedo_58:
(Start: 21 @36929 has 73 MA's), (27, 36989), (28, 36992), (38, 37088), (66, 37352),

Gene: Albright_54 Start: 35632, Stop: 36207, Start Num: 21
Candidate Starts for Albright_54:
(Start: 21 @35632 has 73 MA's), (27, 35692), (28, 35695), (38, 35791), (66, 36055),

Gene: AnnaLie_57 Start: 36858, Stop: 37430, Start Num: 21
Candidate Starts for AnnaLie_57:
(Start: 21 @36858 has 73 MA's), (27, 36918), (28, 36921), (38, 37017), (66, 37281),

Gene: AnnabelLee_41 Start: 29186, Stop: 28641, Start Num: 24
Candidate Starts for AnnabelLee_41:
(16, 29258), (18, 29249), (Start: 24 @29186 has 3 MA's), (29, 29147), (38, 29060), (51, 28958), (79, 28670),

Gene: Armstrong_56 Start: 34973, Stop: 35572, Start Num: 21
Candidate Starts for Armstrong_56:
(Start: 21 @34973 has 73 MA's), (23, 35003), (28, 35045), (30, 35072), (38, 35141), (49, 35216), (59, 35312), (75, 35483),

Gene: Arroyo_57 Start: 36969, Stop: 37541, Start Num: 21
Candidate Starts for Arroyo_57:
(Start: 21 @36969 has 73 MA's), (27, 37029), (28, 37032), (38, 37128), (66, 37392),

Gene: Audell_41 Start: 31855, Stop: 31328, Start Num: 26
Candidate Starts for Audell_41:
(Start: 24 @31867 has 3 MA's), (Start: 26 @31855 has 1 MA's), (38, 31741), (44, 31684), (48, 31666), (65, 31495), (69, 31459), (80, 31351), (81, 31342),

Gene: AvGardian_58 Start: 37129, Stop: 37695, Start Num: 21
Candidate Starts for AvGardian_58:
(13, 37036), (14, 37069), (Start: 21 @37129 has 73 MA's), (36, 37279), (38, 37285), (42, 37318), (46, 37354), (74, 37612), (77, 37648),

Gene: Avocadoman_55 Start: 35833, Stop: 36408, Start Num: 21
Candidate Starts for Avocadoman_55:
(Start: 21 @35833 has 73 MA's), (27, 35893), (28, 35896), (34, 35968), (36, 35986), (38, 35992), (66, 36256),

Gene: AylexOG_59 Start: 36864, Stop: 37427, Start Num: 21
Candidate Starts for AylexOG_59:
(Start: 21 @36864 has 73 MA's), (27, 36924), (28, 36927), (38, 37023), (46, 37092), (54, 37143), (66, 37278),

Gene: BAjuniper_56 Start: 37510, Stop: 38103, Start Num: 21
Candidate Starts for BAjuniper_56:
(Start: 21 @37510 has 73 MA's), (22, 37522), (23, 37543), (28, 37582), (35, 37666), (38, 37675), (43, 37711), (52, 37777), (54, 37801),

Gene: BabyDaisy_58 Start: 37133, Stop: 37708, Start Num: 21
Candidate Starts for BabyDaisy_58:
(Start: 21 @37133 has 73 MA's), (27, 37193), (28, 37196), (34, 37268), (36, 37286), (38, 37292), (66, 37556),

Gene: BabyYoda_57 Start: 37507, Stop: 38073, Start Num: 21
Candidate Starts for BabyYoda_57:
(Start: 21 @37507 has 73 MA's), (27, 37567), (28, 37570), (34, 37642), (35, 37657), (38, 37666), (46, 37735), (55, 37792),

Gene: Bachaco_55 Start: 38194, Stop: 38778, Start Num: 21
Candidate Starts for Bachaco_55:
(Start: 21 @38194 has 73 MA's), (28, 38257), (30, 38281), (38, 38350), (43, 38386), (46, 38419), (53, 38455), (68, 38641), (70, 38650),

Gene: BelmontSKP_57 Start: 36858, Stop: 37430, Start Num: 21
Candidate Starts for BelmontSKP_57:
(Start: 21 @36858 has 73 MA's), (27, 36918), (28, 36921), (38, 37017), (66, 37281),

Gene: Bengal_59 Start: 36736, Stop: 37308, Start Num: 21
Candidate Starts for Bengal_59:
(Start: 21 @36736 has 73 MA's), (27, 36796), (28, 36799), (38, 36895), (66, 37159),

Gene: Bernstein_56 Start: 34971, Stop: 35570, Start Num: 21
Candidate Starts for Bernstein_56:
(Start: 21 @34971 has 73 MA's), (23, 35001), (28, 35043), (30, 35070), (38, 35139), (49, 35214), (59, 35310), (75, 35481),

Gene: Brahms_56 Start: 34873, Stop: 35472, Start Num: 21
Candidate Starts for Brahms_56:
(Start: 21 @34873 has 73 MA's), (23, 34903), (28, 34945), (30, 34972), (38, 35041), (49, 35116), (59, 35212), (75, 35383),

Gene: BubbaBear_56 Start: 36610, Stop: 37182, Start Num: 21
Candidate Starts for BubbaBear_56:
(Start: 21 @36610 has 73 MA's), (27, 36670), (28, 36673), (38, 36769), (46, 36838), (66, 37033),

Gene: Burritobowl_58 Start: 36705, Stop: 37277, Start Num: 21
Candidate Starts for Burritobowl_58:
(Start: 21 @36705 has 73 MA's), (27, 36765), (28, 36768), (38, 36864), (46, 36933), (66, 37128),

Gene: Cantare_114 Start: 82997, Stop: 83470, Start Num: 25
Candidate Starts for Cantare_114:
(17, 82931), (Start: 25 @82997 has 1 MA's), (34, 83096), (38, 83120), (41, 83156), (61, 83297), (64, 83333), (69, 83360),

Gene: CardboardBox_42 Start: 29189, Stop: 28644, Start Num: 24
Candidate Starts for CardboardBox_42:
(16, 29261), (18, 29252), (Start: 24 @29189 has 3 MA's), (29, 29150), (38, 29063), (51, 28961), (79, 28673),

Gene: Cashington_56 Start: 36062, Stop: 36634, Start Num: 21
Candidate Starts for Cashington_56:
(Start: 21 @36062 has 73 MA's), (27, 36122), (28, 36125), (38, 36221), (46, 36290), (66, 36485),

Gene: Celaena_55 Start: 37956, Stop: 38540, Start Num: 21
Candidate Starts for Celaena_55:
(Start: 21 @37956 has 73 MA's), (28, 38019), (38, 38112), (43, 38148), (46, 38181), (53, 38217), (57, 38256), (68, 38403), (70, 38412),

Gene: ChamoyPickle_43 Start: 29729, Stop: 29184, Start Num: 24
Candidate Starts for ChamoyPickle_43:
(16, 29801), (18, 29792), (Start: 24 @29729 has 3 MA's), (29, 29690), (38, 29603), (51, 29501), (79, 29213),

Gene: ChiliPepper_54 Start: 37266, Stop: 37850, Start Num: 21
Candidate Starts for ChiliPepper_54:
(8, 37047), (Start: 21 @37266 has 73 MA's), (28, 37329), (32, 37380), (37, 37419), (38, 37422), (39, 37443), (40, 37452), (43, 37458), (46, 37491), (49, 37497), (68, 37713),

Gene: ChipsNGuac_42 Start: 29189, Stop: 28644, Start Num: 24
Candidate Starts for ChipsNGuac_42:
(16, 29261), (18, 29252), (Start: 24 @29189 has 3 MA's), (29, 29150), (38, 29063), (51, 28961), (79, 28673),

Gene: Clayda5_58 Start: 34938, Stop: 35537, Start Num: 21
Candidate Starts for Clayda5_58:
(Start: 21 @34938 has 73 MA's), (23, 34968), (28, 35010), (30, 35037), (38, 35106), (49, 35181), (59, 35277), (75, 35448),

Gene: Coltrane_56 Start: 34873, Stop: 35472, Start Num: 21
Candidate Starts for Coltrane_56:
(Start: 21 @34873 has 73 MA's), (23, 34903), (28, 34945), (30, 34972), (38, 35041), (49, 35116), (59, 35212), (75, 35383),

Gene: CroZenni_57 Start: 36477, Stop: 37049, Start Num: 21

Candidate Starts for CroZenni_57:
(Start: 21 @36477 has 73 MA's), (27, 36537), (28, 36540), (38, 36636), (46, 36705), (66, 36900),

Gene: CupcakePrincess_57 Start: 36335, Stop: 36898, Start Num: 21
Candidate Starts for CupcakePrincess_57:
(Start: 21 @36335 has 73 MA's), (27, 36395), (28, 36398), (38, 36494), (46, 36563), (54, 36614), (66, 36749),

Gene: DatBoi_4 Start: 1881, Stop: 2372, Start Num: 24
Candidate Starts for DatBoi_4:
(6, 1518), (12, 1713), (15, 1788), (19, 1824), (Start: 24 @1881 has 3 MA's), (32, 1965), (33, 1968), (36, 2001), (38, 2007), (41, 2046), (44, 2067), (45, 2070), (58, 2160), (62, 2199),

Gene: DickRichards_55 Start: 36652, Stop: 37224, Start Num: 21
Candidate Starts for DickRichards_55:
(Start: 21 @36652 has 73 MA's), (27, 36712), (28, 36715), (38, 36811), (66, 37075),

Gene: Didgeridoo_61 Start: 37517, Stop: 38092, Start Num: 21
Candidate Starts for Didgeridoo_61:
(Start: 21 @37517 has 73 MA's), (27, 37577), (28, 37580), (34, 37652), (36, 37670), (38, 37676), (66, 37940),

Gene: DirtyBubble_56 Start: 37177, Stop: 37743, Start Num: 21
Candidate Starts for DirtyBubble_56:
(Start: 21 @37177 has 73 MA's), (27, 37237), (28, 37240), (38, 37336), (46, 37405), (55, 37462),

Gene: Dismas_55 Start: 37187, Stop: 37771, Start Num: 21
Candidate Starts for Dismas_55:
(8, 36968), (Start: 21 @37187 has 73 MA's), (28, 37250), (32, 37301), (37, 37340), (38, 37343), (39, 37364), (40, 37373), (43, 37379), (46, 37412), (49, 37418), (68, 37634), (72, 37667),

Gene: Doobus_55 Start: 36141, Stop: 36713, Start Num: 21
Candidate Starts for Doobus_55:
(Start: 21 @36141 has 73 MA's), (27, 36201), (28, 36204), (38, 36300), (46, 36369), (66, 36564),

Gene: Eden_57 Start: 36088, Stop: 36681, Start Num: 21
Candidate Starts for Eden_57:
(10, 35917), (13, 35992), (Start: 21 @36088 has 73 MA's), (28, 36160), (38, 36253), (43, 36289), (55, 36385), (64, 36496), (68, 36535), (75, 36595),

Gene: Elva_59 Start: 37571, Stop: 38137, Start Num: 21
Candidate Starts for Elva_59:
(Start: 21 @37571 has 73 MA's), (27, 37631), (28, 37634), (35, 37721), (38, 37730), (46, 37799), (47, 37802), (72, 38042),

Gene: Eula_57 Start: 36321, Stop: 36884, Start Num: 21
Candidate Starts for Eula_57:
(Start: 21 @36321 has 73 MA's), (27, 36381), (28, 36384), (38, 36480), (46, 36549), (54, 36600), (66, 36735),

Gene: Ezurina_40 Start: 30276, Stop: 29731, Start Num: 24
Candidate Starts for Ezurina_40:

(16, 30345), (18, 30336), (Start: 24 @30276 has 3 MA's), (29, 30237), (38, 30150), (41, 30114), (45, 30090), (50, 30066), (71, 29850), (79, 29760),

Gene: Finalfrontier_58 Start: 37434, Stop: 37991, Start Num: 21
Candidate Starts for Finalfrontier_58:
(Start: 21 @37434 has 73 MA's), (27, 37494), (28, 37497), (38, 37593), (46, 37662), (66, 37848), (67, 37857),

Gene: FlameThrower_54 Start: 36993, Stop: 37577, Start Num: 21
Candidate Starts for FlameThrower_54:
(Start: 21 @36993 has 73 MA's), (28, 37056), (38, 37149), (43, 37185), (46, 37218), (53, 37254), (57, 37293), (68, 37440), (70, 37449),

Gene: Franklin22_59 Start: 35732, Stop: 36328, Start Num: 21
Candidate Starts for Franklin22_59:
(Start: 21 @35732 has 73 MA's), (28, 35804), (35, 35888), (38, 35897), (68, 36179), (72, 36215),

Gene: Gack_56 Start: 35679, Stop: 36275, Start Num: 21
Candidate Starts for Gack_56:
(9, 35496), (11, 35538), (14, 35616), (Start: 21 @35679 has 73 MA's), (23, 35709), (28, 35751), (38, 35844), (43, 35880), (55, 35976), (64, 36087), (72, 36162), (75, 36186),

Gene: Gerri43_42 Start: 29189, Stop: 28644, Start Num: 24
Candidate Starts for Gerri43_42:
(16, 29261), (18, 29252), (Start: 24 @29189 has 3 MA's), (29, 29150), (38, 29063), (51, 28961), (79, 28673),

Gene: Icarian_60 Start: 38175, Stop: 38744, Start Num: 21
Candidate Starts for Icarian_60:
(Start: 21 @38175 has 73 MA's), (27, 38235), (28, 38238), (38, 38334), (55, 38460), (73, 38664), (76, 38691),

Gene: IndyLu_58 Start: 37065, Stop: 37640, Start Num: 21
Candidate Starts for IndyLu_58:
(Start: 21 @37065 has 73 MA's), (27, 37125), (28, 37128), (34, 37200), (36, 37218), (38, 37224), (66, 37488),

Gene: Jabb_57 Start: 36335, Stop: 36898, Start Num: 21
Candidate Starts for Jabb_57:
(Start: 21 @36335 has 73 MA's), (27, 36395), (28, 36398), (38, 36494), (46, 36563), (54, 36614), (66, 36749),

Gene: Johnathan_56 Start: 35979, Stop: 36551, Start Num: 21
Candidate Starts for Johnathan_56:
(Start: 21 @35979 has 73 MA's), (27, 36039), (28, 36042), (38, 36138), (66, 36402),

Gene: Jovita_56 Start: 36190, Stop: 36747, Start Num: 21
Candidate Starts for Jovita_56:
(Start: 21 @36190 has 73 MA's), (27, 36250), (28, 36253), (38, 36349), (46, 36418), (66, 36604),

Gene: Kamdara_54 Start: 37225, Stop: 37809, Start Num: 21
Candidate Starts for Kamdara_54:

(8, 37006), (Start: 21 @37225 has 73 MA's), (28, 37288), (32, 37339), (37, 37378), (38, 37381), (39, 37402), (40, 37411), (43, 37417), (46, 37450), (49, 37456), (68, 37672), (72, 37705),

Gene: Kate33_60 Start: 36810, Stop: 37385, Start Num: 21
Candidate Starts for Kate33_60:
(Start: 21 @36810 has 73 MA's), (27, 36870), (28, 36873), (34, 36945), (36, 36963), (38, 36969), (66, 37233),

Gene: Katzastrophic_56 Start: 37503, Stop: 38087, Start Num: 21
Candidate Starts for Katzastrophic_56:
(Start: 21 @37503 has 73 MA's), (28, 37566), (38, 37659), (43, 37695), (46, 37728), (53, 37764), (57, 37803), (68, 37950), (70, 37959),

Gene: Kenzers_57 Start: 36458, Stop: 37030, Start Num: 21
Candidate Starts for Kenzers_57:
(Start: 21 @36458 has 73 MA's), (27, 36518), (28, 36521), (38, 36617), (66, 36881),

Gene: Kieran_54 Start: 37228, Stop: 37812, Start Num: 21
Candidate Starts for Kieran_54:
(8, 37009), (Start: 21 @37228 has 73 MA's), (27, 37288), (28, 37291), (32, 37342), (37, 37381), (38, 37384), (39, 37405), (40, 37414), (43, 37420), (46, 37453), (49, 37459), (68, 37675), (72, 37708),

Gene: Lahqtemish_56 Start: 36892, Stop: 37464, Start Num: 21
Candidate Starts for Lahqtemish_56:
(Start: 21 @36892 has 73 MA's), (27, 36952), (28, 36955), (34, 37027), (36, 37045), (38, 37051), (66, 37315),

Gene: LastNadiia_44 Start: 31833, Stop: 31294, Start Num: 24
Candidate Starts for LastNadiia_44:
(Start: 24 @31833 has 3 MA's), (Start: 26 @31821 has 1 MA's), (38, 31707), (44, 31650), (48, 31632), (65, 31461), (69, 31425), (80, 31317), (81, 31308),

Gene: Lilo27_58 Start: 36482, Stop: 37039, Start Num: 21
Candidate Starts for Lilo27_58:
(Start: 21 @36482 has 73 MA's), (27, 36542), (28, 36545), (38, 36641), (46, 36710), (66, 36896),

Gene: LimaBean_57 Start: 36079, Stop: 36654, Start Num: 21
Candidate Starts for LimaBean_57:
(Start: 21 @36079 has 73 MA's), (27, 36139), (28, 36142), (34, 36214), (36, 36232), (38, 36238), (66, 36502),

Gene: Loviatar_58 Start: 38589, Stop: 39164, Start Num: 21
Candidate Starts for Loviatar_58:
(Start: 21 @38589 has 73 MA's), (27, 38649), (28, 38652), (38, 38748), (46, 38817), (49, 38823),

Gene: Lynlen_58 Start: 36638, Stop: 37210, Start Num: 21
Candidate Starts for Lynlen_58:
(Start: 21 @36638 has 73 MA's), (27, 36698), (28, 36701), (38, 36797), (66, 37061),

Gene: Makima_43 Start: 30935, Stop: 30399, Start Num: 24
Candidate Starts for Makima_43:
(Start: 24 @30935 has 3 MA's), (Start: 26 @30923 has 1 MA's), (34, 30833), (38, 30809), (57, 30668), (60, 30623), (80, 30419),

Gene: Milomuff_58 Start: 36590, Stop: 37162, Start Num: 21
Candidate Starts for Milomuff_58:
(Start: 21 @36590 has 73 MA's), (27, 36650), (28, 36653), (38, 36749), (66, 37013),

Gene: Mireles_45 Start: 30478, Stop: 29945, Start Num: 24
Candidate Starts for Mireles_45:
(Start: 24 @30478 has 3 MA's), (Start: 26 @30466 has 1 MA's), (38, 30352), (45, 30295), (57, 30214), (60, 30169), (80, 29965),

Gene: Mollymur_4 Start: 1661, Stop: 2152, Start Num: 24
Candidate Starts for Mollymur_4:
(1, 1046), (2, 1076), (3, 1112), (4, 1157), (5, 1166), (7, 1304), (Start: 24 @1661 has 3 MA's), (32, 1745), (36, 1781), (38, 1787), (44, 1847), (45, 1850), (58, 1940), (62, 1979),

Gene: MsUbiquitous_57 Start: 36335, Stop: 36898, Start Num: 21
Candidate Starts for MsUbiquitous_57:
(Start: 21 @36335 has 73 MA's), (27, 36395), (28, 36398), (38, 36494), (46, 36563), (54, 36614), (66, 36749),

Gene: Neuvillette_41 Start: 29189, Stop: 28644, Start Num: 24
Candidate Starts for Neuvillette_41:
(16, 29261), (18, 29252), (Start: 24 @29189 has 3 MA's), (29, 29150), (38, 29063), (51, 28961), (79, 28673),

Gene: Nicky22_58 Start: 37090, Stop: 37653, Start Num: 21
Candidate Starts for Nicky22_58:
(Start: 21 @37090 has 73 MA's), (27, 37150), (28, 37153), (38, 37249), (46, 37318), (66, 37504),

Gene: PastaFagioli_57 Start: 37034, Stop: 37609, Start Num: 21
Candidate Starts for PastaFagioli_57:
(Start: 21 @37034 has 73 MA's), (27, 37094), (28, 37097), (34, 37169), (36, 37187), (38, 37193), (66, 37457),

Gene: Pecas_58 Start: 36716, Stop: 37273, Start Num: 21
Candidate Starts for Pecas_58:
(Start: 21 @36716 has 73 MA's), (27, 36776), (28, 36779), (38, 36875), (46, 36944), (66, 37130),

Gene: PhigPhack_59 Start: 36600, Stop: 37166, Start Num: 21
Candidate Starts for PhigPhack_59:
(Start: 21 @36600 has 73 MA's), (27, 36660), (28, 36663), (38, 36759), (42, 36792), (46, 36828), (78, 37128),

Gene: Phisb_58 Start: 36756, Stop: 37322, Start Num: 21
Candidate Starts for Phisb_58:
(Start: 21 @36756 has 73 MA's), (27, 36816), (28, 36819), (38, 36915), (46, 36984), (63, 37128), (78, 37284),

Gene: PondAmelia_71 Start: 37554, Stop: 38123, Start Num: 21
Candidate Starts for PondAmelia_71:
(Start: 21 @37554 has 73 MA's), (27, 37614), (28, 37617), (38, 37713), (55, 37839), (73, 38043),

Gene: QMacho_59 Start: 36978, Stop: 37547, Start Num: 21

Candidate Starts for QMacho_59:
(Start: 21 @36978 has 73 MA's), (27, 37038), (28, 37041), (38, 37137), (46, 37206), (66, 37392),

Gene: Quenya_58 Start: 37635, Stop: 38219, Start Num: 21
Candidate Starts for Quenya_58:
(20, 37623), (Start: 21 @37635 has 73 MA's), (28, 37698), (34, 37767), (38, 37791), (40, 37821), (43, 37827), (46, 37860), (53, 37896), (57, 37935), (68, 38082), (70, 38091),

Gene: Roberts_41 Start: 29189, Stop: 28644, Start Num: 24
Candidate Starts for Roberts_41:
(16, 29261), (18, 29252), (Start: 24 @29189 has 3 MA's), (29, 29150), (38, 29063), (51, 28961), (79, 28673),

Gene: Rollins_56 Start: 34971, Stop: 35570, Start Num: 21
Candidate Starts for Rollins_56:
(Start: 21 @34971 has 73 MA's), (23, 35001), (28, 35043), (30, 35070), (38, 35139), (49, 35214), (59, 35310), (75, 35481),

Gene: Rona_54 Start: 37178, Stop: 37762, Start Num: 21
Candidate Starts for Rona_54:
(8, 36959), (Start: 21 @37178 has 73 MA's), (27, 37238), (28, 37241), (32, 37292), (37, 37331), (38, 37334), (39, 37355), (43, 37370), (46, 37403), (49, 37409), (68, 37625), (72, 37658),

Gene: SanaSana_59 Start: 37932, Stop: 38507, Start Num: 21
Candidate Starts for SanaSana_59:
(Start: 21 @37932 has 73 MA's), (27, 37992), (28, 37995), (38, 38091), (46, 38160), (49, 38166),

Gene: SansAfet_58 Start: 36387, Stop: 37073, Start Num: 21
Candidate Starts for SansAfet_58:
(Start: 21 @36387 has 73 MA's), (27, 36447), (28, 36450), (38, 36546), (46, 36615), (66, 36810), (82, 37029), (83, 37062),

Gene: SarBear_57 Start: 36282, Stop: 36845, Start Num: 21
Candidate Starts for SarBear_57:
(Start: 21 @36282 has 73 MA's), (27, 36342), (28, 36345), (38, 36441), (46, 36510), (66, 36696),

Gene: Sharkboy_55 Start: 37277, Stop: 37861, Start Num: 21
Candidate Starts for Sharkboy_55:
(8, 37058), (Start: 21 @37277 has 73 MA's), (27, 37337), (28, 37340), (32, 37391), (38, 37433), (39, 37454), (43, 37469), (46, 37502), (49, 37508), (68, 37724), (72, 37757),

Gene: SirBeanington_57 Start: 36799, Stop: 37371, Start Num: 21
Candidate Starts for SirBeanington_57:
(Start: 21 @36799 has 73 MA's), (27, 36859), (28, 36862), (38, 36958), (66, 37222),

Gene: Skylord_56 Start: 34912, Stop: 35511, Start Num: 21
Candidate Starts for Skylord_56:
(Start: 21 @34912 has 73 MA's), (23, 34942), (28, 34984), (30, 35011), (38, 35080), (49, 35155), (59, 35251), (75, 35422),

Gene: Slay_57 Start: 36874, Stop: 37437, Start Num: 21
Candidate Starts for Slay_57:
(Start: 21 @36874 has 73 MA's), (27, 36934), (28, 36937), (38, 37033), (46, 37102), (66, 37288),

Gene: Softsoap_58 Start: 36640, Stop: 37215, Start Num: 21
Candidate Starts for Softsoap_58:
(Start: 21 @36640 has 73 MA's), (27, 36700), (28, 36703), (34, 36775), (36, 36793), (38, 36799), (66, 37063),

Gene: Solea_59 Start: 36589, Stop: 37161, Start Num: 21
Candidate Starts for Solea_59:
(Start: 21 @36589 has 73 MA's), (27, 36649), (28, 36652), (38, 36748), (66, 37012),

Gene: Stoor_57 Start: 37719, Stop: 38294, Start Num: 21
Candidate Starts for Stoor_57:
(Start: 21 @37719 has 73 MA's), (27, 37779), (28, 37782), (38, 37878), (46, 37947), (49, 37953),

Gene: Stromboli_57 Start: 37544, Stop: 38110, Start Num: 21
Candidate Starts for Stromboli_57:
(Start: 21 @37544 has 73 MA's), (27, 37604), (28, 37607), (34, 37679), (35, 37694), (38, 37703), (46, 37772), (55, 37829),

Gene: Studio_43 Start: 30552, Stop: 30007, Start Num: 24
Candidate Starts for Studio_43:
(Start: 24 @30552 has 3 MA's), (29, 30513), (31, 30480), (38, 30426), (41, 30390), (45, 30366), (57, 30273), (71, 30126), (79, 30036),

Gene: Swervy_58 Start: 36554, Stop: 37111, Start Num: 21
Candidate Starts for Swervy_58:
(Start: 21 @36554 has 73 MA's), (27, 36614), (28, 36617), (38, 36713), (46, 36782), (66, 36968),

Gene: TMaxx_44 Start: 30109, Stop: 29585, Start Num: 26
Candidate Starts for TMaxx_44:
(Start: 24 @30121 has 3 MA's), (Start: 26 @30109 has 1 MA's), (34, 30019), (38, 29995), (48, 29920), (57, 29854), (80, 29608),

Gene: TripleC_42 Start: 32451, Stop: 31915, Start Num: 24
Candidate Starts for TripleC_42:
(Start: 24 @32451 has 3 MA's), (Start: 26 @32439 has 1 MA's), (33, 32364), (38, 32325), (56, 32187), (57, 32184), (80, 31938), (81, 31929),

Gene: TukTuk_58 Start: 36619, Stop: 37176, Start Num: 21
Candidate Starts for TukTuk_58:
(Start: 21 @36619 has 73 MA's), (27, 36679), (28, 36682), (38, 36778), (46, 36847), (66, 37033),

Gene: Vitas_56 Start: 34944, Stop: 35543, Start Num: 21
Candidate Starts for Vitas_56:
(Start: 21 @34944 has 73 MA's), (23, 34974), (28, 35016), (30, 35043), (38, 35112), (49, 35187), (59, 35283), (75, 35454),

Gene: WalkingDead_59 Start: 38299, Stop: 38865, Start Num: 21
Candidate Starts for WalkingDead_59:
(Start: 21 @38299 has 73 MA's), (27, 38359), (28, 38362), (34, 38434), (35, 38449), (38, 38458), (49, 38533), (55, 38584),