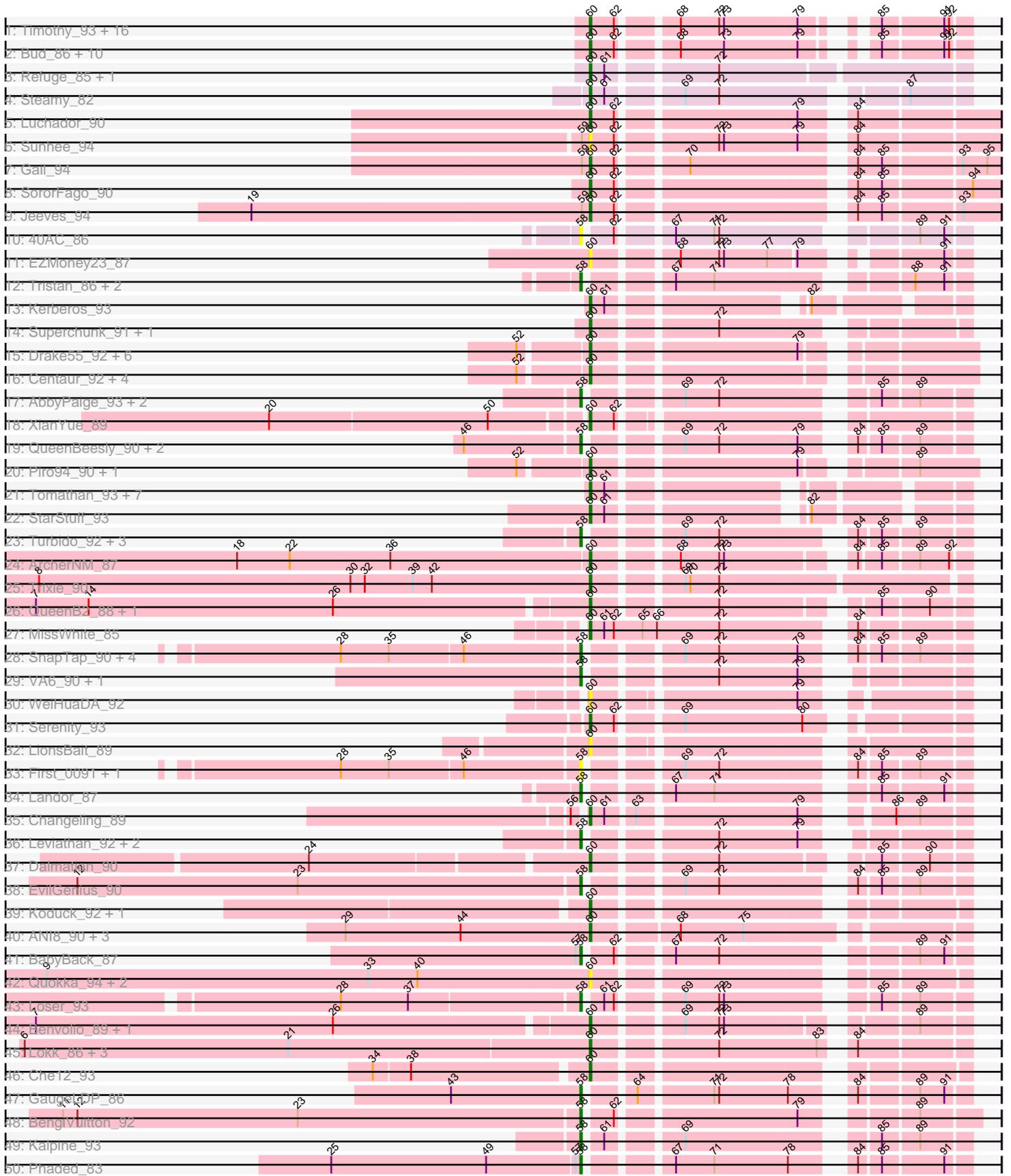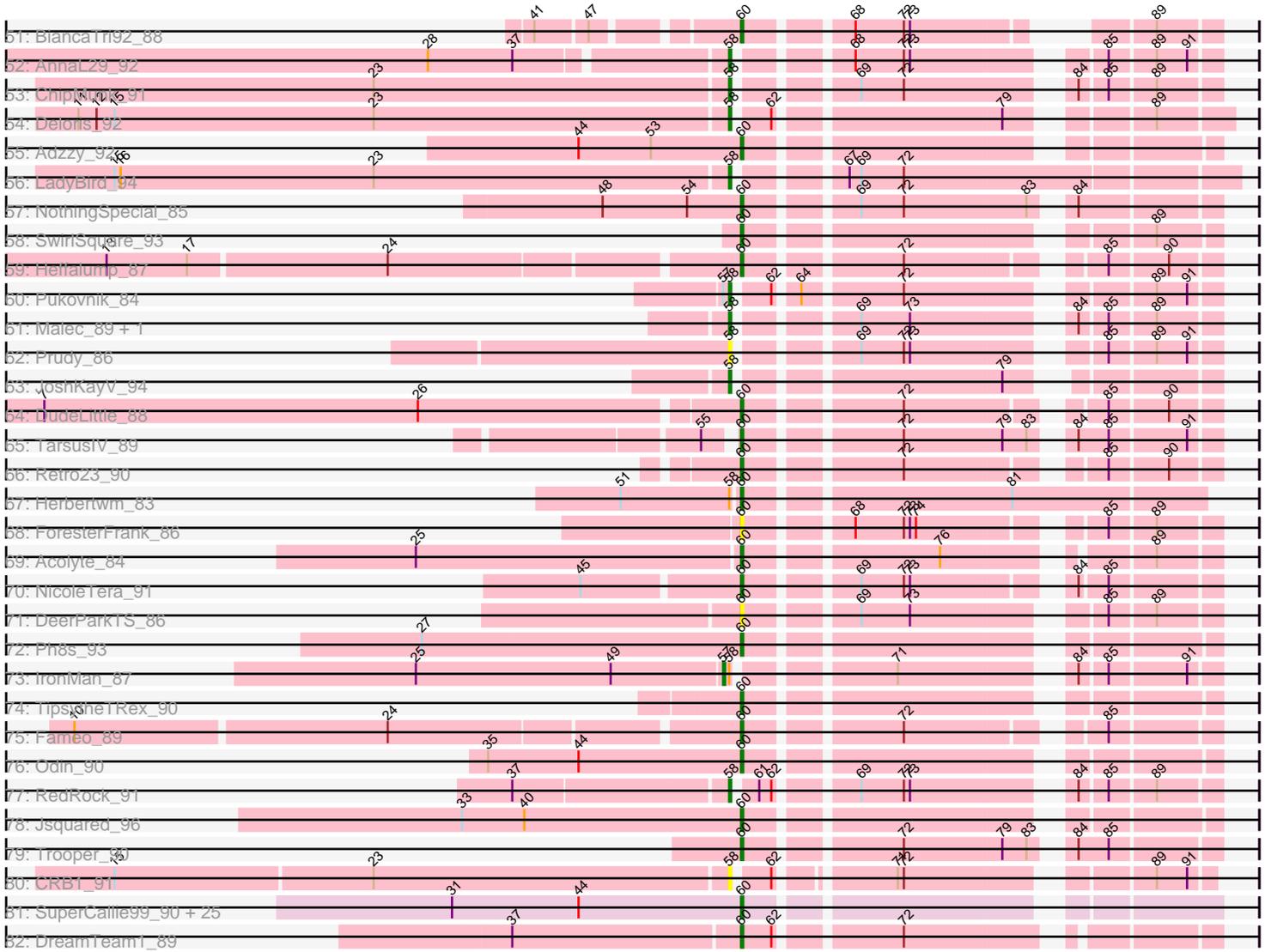# Zoomed Pham 289117

Zoomed Pham 289117

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 289117 Report

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

Pham number 289117 has 182 members, 24 are drafts.

Phages represented in each track:
• Track 1 : Timothy_93, Orange_93, Aneem_94, Jabith_93, Munch_92, MaCh_93, Joselito_91, TinyTimmy_91, Lucivia_94, Kimba_90, Bachome_91, Ebony_92, Petersenfast_87, Mabel_93, Bowtie_89, Saskia_90, Gilberta_91
• Track 2 : Bud_86, Salz_89, Sham4_90, Mulciber_92, Et2Brutus_93, Flaverint_94, Insomnia_93, Snape_93, Wolpertinger_93, Hutc2_90, Fibonacci_93
• Track 3 : Refuge_85, DarthPhader_83
• Track 4 : Steamy_82
• Track 5 : Luchador_90
• Track 6 : Sunhee_94
• Track 7 : Gail_94
• Track 8 : SororFago_90
• Track 9 : Jeeves_94
• Track 10 : 40AC_86
• Track 11 : EZMoney23_87
• Track 12 : Tristan_86, Jaan_88, Bactobuster_82
• Track 13 : Kerberos_93
• Track 14 : Superchunk_91, Caraxes_92
• Track 15 : Drake55_92, NaSiaTalie_93, Equemioh13_92, WideWale_93, Flare16_92, Updawg_93, Gratitude_90
• Track 16 : Centaur_92, Baehexic_91, Sknot_92, MiculUcigas_92, Terrific_93
• Track 17 : AbbyPaige_93, LilTurb_92, Whabigail7_90
• Track 18 : XianYue_89
• Track 19 : QueenBeesly_90, FiringLine_90, SemperFi_90
• Track 20 : Piro94_90, HarryHoudini_91
• Track 21 : Tomathan_93, Duplo_94, D29_84, D32_81, Pomar16_93, Travvers_93, Naji_82, DBQu4n_93
• Track 22 : StarStuff_93
• Track 23 : Turbido_92, Jerm_92, Smeagan_93, KingCyrus_89
• Track 24 : ArcherNM_87
• Track 25 : Trixie_90
• Track 26 : QueenB2_88, Anselm_92
• Track 27 : MissWhite_85
• Track 28 : SnapTap_90, Crucio_90, Georgie2_92, Power_90, SweetiePie_90
• Track 29 : VA6_90, AN3_90
• Track 30 : WeiHuaDA_92
• Track 31 : Serenity_93
• Track 32 : LionsBait_89

- Track 33 : First_0091, 20ES_92
- Track 34 : Landor_87
- Track 35 : Changeling_89
- Track 36 : Leviathan_92, Agape74_93, Dignity_93
- Track 37 : Dalmatian_90
- Track 38 : EvilGenius_90
- Track 39 : Koduck_92, L5_84
- Track 40 : ANI8_90, VC3_89, AN9_90, C3_83
- Track 41 : BabyBack_87
- Track 42 : Quokka_94, MajorMajor_89, Bradman_95
- Track 43 : Loser_93
- Track 44 : Benvolio_89, Echild_94
- Track 45 : Lokk_86, BobSwaget_85, Miko_87, Rachaly_88
- Track 46 : Che12_93
- Track 47 : GaugeLDP_86
- Track 48 : BengiVuitton_92
- Track 49 : Kalpine_93
- Track 50 : Phaded_83
- Track 51 : BiancaTri92_88
- Track 52 : AnnaL29_92
- Track 53 : ChipMunk_91
- Track 54 : Deloris_92
- Track 55 : Adzzy_92
- Track 56 : LadyBird_94
- Track 57 : NothingSpecial_85
- Track 58 : SwirlSquare_93
- Track 59 : Heffalump_87
- Track 60 : Pukovnik_84
- Track 61 : Malec_89, Larenn_89
- Track 62 : Prudy_86
- Track 63 : JoshKayV_94
- Track 64 : DudeLittle_88
- Track 65 : TarsusIV_89
- Track 66 : Retro23_90
- Track 67 : Herbertwm_83
- Track 68 : ForesterFrank_86
- Track 69 : Acolyte_84
- Track 70 : NicoleTera_91
- Track 71 : DeerParkTS_86
- Track 72 : Ph8s_93
- Track 73 : IronMan_87
- Track 74 : TipsytheTRex_90
- Track 75 : Fameo_89
- Track 76 : Odin_90
- Track 77 : RedRock_91
- Track 78 : Jsquared_96
- Track 79 : Trooper_90
- Track 80 : CRB1_91
- Track 81 : SuperCallie99_90, Zaka_96, Indra_98, Hammer_96, Roksolana_96, Yokurt_95, Hexamo_95, Zulu_97, Rifter_96, BlessJoy_96, Jeffabunny_84, DelvinSonDorr_89, ToneTone_92, Isiphiwo_90, Gruunaga_96, Blue7_97, Wiks_95, Lilbunny_92, Koko_97, Artemis2UCLA_95, Helmet_98, Tucker_96, Gladiator_92, CloudWang3_96, Temprado_97, Garak_97

• Track 82 : DreamTeam1_89

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

The start number called the most often in the published annotations is 60, it was called in 117 of the 158 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AN9_90, ANI8_90, Acolyte_84, Adzzy_92, Aneem_94, Anselm_92, ArcherNM_87, Artemis2UCLA_95, Bachome_91, Baehexic_91, Benvolio_89, BiancaTri92_88, BlessJoy_96, Blue7_97, BobSwaget_85, Bowtie_89, Bradman_95, Bud_86, C3_83, Caraxes_92, Centaur_92, Changeling_89, Che12_93, CloudWang3_96, D29_84, D32_81, DBQu4n_93, Dalmatian_90, DarthPhader_83, DeerParkTS_86, DelvinSonDorr_89, Drake55_92, DreamTeam1_89, DudeLittle_88, Duplo_94, EZMoney23_87, Ebony_92, Echild_94, Equemioh13_92, Et2Brutus_93, Fameo_89, Fibonacci_93, Flare16_92, Flaverint_94, ForesterFrank_86, Gail_94, Garak_97, Gilberta_91, Gladiator_92, Gratitude_90, Gruunaga_96, Hammer_96, HarryHoudini_91, Heffalump_87, Helmet_98, Herbertwm_83, Hexamo_95, Hutc2_90, Indra_98, Insomnia_93, Isiphiwo_90, Jabith_93, Jeeves_94, Jeffabunny_84, Joselito_91, Jsquared_96, Kerberos_93, Kimba_90, Koduck_92, Koko_97, L5_84, Lilbunny_92, LionsBait_89, Lokk_86, Luchador_90, Lucivia_94, MaCh_93, Mabel_93, MajorMajor_89, MiculUcigas_92, Miko_87, MissWhite_85, Mulciber_92, Munch_92, NaSiaTalie_93, Naji_82, NicoleTera_91, NothingSpecial_85, Odin_90, Orange_93, Petersenfast_87, Ph8s_93, Piro94_90, Pomar16_93, QueenB2_88, Quokka_94, Rachaly_88, Refuge_85, Retro23_90, Rifter_96, Roksolana_96, Salz_89, Saskia_90, Serenity_93, Sham4_90, Sknot_92, Snape_93, SororFago_90, StarStuff_93, Steamy_82, Sunhee_94, SuperCallie99_90, Superchunk_91, SwirlSquare_93, TarsusIV_89, Temprado_97, Terrific_93, Timothy_93, TinyTimmy_91, TipsytheTRex_90, Tomathan_93, ToneTone_92, Travvers_93, Trixie_90, Trooper_90, Tucker_96, Updawg_93, VC3_89, WeiHuaDA_92, WideWale_93, Wiks_95, Wolpertinger_93, XianYue_89, Yokurt_95, Zaka_96, Zulu_97,

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

Genes that do not have the "Most Annotated" start:
• 20ES_92, 40AC_86, AN3_90, AbbyPaige_93, Agape74_93, AnnaL29_92, BabyBack_87, Bactobuster_82, BengiVuitton_92, CRB1_91, ChipMunk_91, Crucio_90, Deloris_92, Dignity_93, EvilGenius_90, FiringLine_90, First_0091, GaugeLDP_86, Georgie2_92, IronMan_87, Jaan_88, Jerm_92, JoshKayV_94, Kalpine_93, KingCyrus_89, LadyBird_94, Landor_87, Larenn_89, Leviathan_92, LilTurb_92, Loser_93, Malec_89, Phaded_83, Power_90, Prudy_86, Pukovnik_84, QueenBeesly_90, RedRock_91, SemperFi_90, Smeagan_93, SnapTap_90, SweetiePie_90, Tristan_86, Turbido_92, VA6_90, Whabigail7_90,

Summary by start number:

Start 57:
• Found in 4 of 182 (2.2%) of genes in pham
• Manual Annotations of this start: 1 of 158

• Called 25.0% of time when present
• Phage (with cluster) where this start called: IronMan_87 (A2),

Start 58:
• Found in 47 of 182 (25.8%) of genes in pham
• Manual Annotations of this start: 40 of 158
• Called 95.7% of time when present
• Phage (with cluster) where this start called: 20ES_92 (A2), 40AC_86 (A17), AN3_90 (A2), AbbyPaige_93 (A2), Agape74_93 (A2), AnnaL29_92 (A2), BabyBack_87 (A2), Bactobuster_82 (A2), BengiVuitton_92 (A2), CRB1_91 (A2), ChipMunk_91 (A2), Crucio_90 (A2), Deloris_92 (A2), Dignity_93 (A2), EvilGenius_90 (A2), FiringLine_90 (A2), First_0091 (A2), GaugeLDP_86 (A2), Georgie2_92 (A2), Jaan_88 (A2), Jerm_92 (A2), JoshKayV_94 (A2), Kalpine_93 (A2), KingCyrus_89 (A2), LadyBird_94 (A2), Landor_87 (A2), Larenn_89 (A2), Leviathan_92 (A2), LilTurb_92 (A2), Loser_93 (A2), Malec_89 (A2), Phaded_83 (A2), Power_90 (A2), Prudy_86 (A2), Pukovnik_84 (A2), QueenBeesly_90 (A2), RedRock_91 (A2), SemperFi_90 (A2), Smeagan_93 (A2), SnapTap_90 (A2), SweetiePie_90 (A2), Tristan_86 (A2), Turbido_92 (A2), VA6_90 (A2), Whabigail7_90 (A2),

Start 60:
• Found in 136 of 182 (74.7%) of genes in pham
• Manual Annotations of this start: 117 of 158
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AN9_90 (A2), ANI8_90 (A2), Acolyte_84 (A2), Adzzy_92 (A2), Aneem_94 (A11), Anselm_92 (A2), ArcherNM_87 (A2), Artemis2UCLA_95 (A6), Bachome_91 (A11), Baehexic_91 (A2), Benvolio_89 (A2), BiancaTri92_88 (A2), BlessJoy_96 (A6), Blue7_97 (A6), BobSwaget_85 (A2), Bowtie_89 (A11), Bradman_95 (A2), Bud_86 (A11), C3_83 (A2), Caraxes_92 (A2), Centaur_92 (A2), Changeling_89 (A2), Che12_93 (A2), CloudWang3_96 (A6), D29_84 (A2), D32_81 (A2), DBQu4n_93 (A2), Dalmatian_90 (A2), DarthPhader_83 (A12), DeerParkTS_86 (A2), DelvinSonDorr_89 (A6), Drake55_92 (A2), DreamTeam1_89 (A9), DudeLittle_88 (A2), Duplo_94 (A2), EZMoney23_87 (A2), Ebony_92 (A11), Echild_94 (A2), Equemioh13_92 (A2), Et2Brutus_93 (A11), Fameo_89 (A2), Fibonacci_93 (A11), Flare16_92 (A2), Flaverint_94 (A11), ForesterFrank_86 (A2), Gail_94 (A14), Garak_97 (A6), Gilberta_91 (A11), Gladiator_92 (A6), Gratitude_90 (A2), Gruunaga_96 (A6), Hammer_96 (A6), HarryHoudini_91 (A2), Heffalump_87 (A2), Helmet_98 (A6), Herbertwm_83 (A2), Hexamo_95 (A6), Hutc2_90 (A11), Indra_98 (A6), Insomnia_93 (A11), Isiphiwo_90 (A6), Jabith_93 (A11), Jeeves_94 (A14), Jeffabunny_84 (A6), Joselito_91 (A11), Jsquared_96 (A2), Kerberos_93 (A2), Kimba_90 (A11), Koduck_92 (A2), Koko_97 (A6), L5_84 (A2), Lilbunny_92 (A6), LionsBait_89 (A2), Lokk_86 (A2), Luchador_90 (A14), Lucivia_94 (A11), MaCh_93 (A11), Mabel_93 (A11), MajorMajor_89 (A2), MiculUcigas_92 (A2), Miko_87 (A2), MissWhite_85 (A2), Mulciber_92 (A11), Munch_92 (A11), NaSiaTalie_93 (A2), Naji_82 (A2), NicoleTera_91 (A2), NothingSpecial_85 (A2), Odin_90 (A2), Orange_93 (A11), Petersenfast_87 (A11), Ph8s_93 (A2), Piro94_90 (A2), Pomar16_93 (A2), QueenB2_88 (A2), Quokka_94 (A2), Rachaly_88 (A2), Refuge_85 (A12), Retro23_90 (A2), Rifter_96 (A6), Roksolana_96 (A6), Salz_89 (A11), Saskia_90 (A11), Serenity_93 (A2), Sham4_90 (A11), Sknot_92 (A2), Snape_93 (A11), SororFago_90 (A14), StarStuff_93 (A2), Steamy_82 (A12), Sunhee_94 (A14), SuperCallie99_90 (A6), Superchunk_91 (A2), SwirlSquare_93 (A2), TarsusIV_89 (A2), Temprado_97 (A6), Terrific_93 (A2), Timothy_93 (A11), TinyTimmy_91 (A11), TipsytheTRex_90 (A2), Tomathan_93 (A2), ToneTone_92 (A6), Travvers_93 (A2), Trixie_90 (A2), Trooper_90 (A2), Tucker_96

(A6), Updawg_93 (A2), VC3_89 (A2), WeiHuaDA_92 (A2), WideWale_93 (A2), Wiks_95 (A6), Wolpertinger_93 (A11), XianYue_89 (A2), Yokurt_95 (A6), Zaka_96 (A6), Zulu_97 (A6),

Summary by clusters:

There are 7 clusters represented in this pham: A14, A17, A11, A12, A2, A6, A9,

Info for manual annotations of cluster A11:
•Start number 60 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A12:
•Start number 60 was manually annotated 3 times for cluster A12.

Info for manual annotations of cluster A14:
•Start number 60 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A2:
•Start number 57 was manually annotated 1 time for cluster A2.
•Start number 58 was manually annotated 40 times for cluster A2.
•Start number 60 was manually annotated 61 times for cluster A2.

Info for manual annotations of cluster A6:
•Start number 60 was manually annotated 24 times for cluster A6.

Info for manual annotations of cluster A9:
•Start number 60 was manually annotated 1 time for cluster A9.

Gene Information:
Gene: 20ES_92 Start: 50139, Stop: 49939, Start Num: 58
Candidate Starts for 20ES_92:
(28, 50283), (35, 50253), (46, 50208), (Start: 58 @50139 has 40 MA's), (69, 50091), (72, 50070), (84, 50001), (85, 49989), (89, 49968),

Gene: 40AC_86 Start: 50289, Stop: 50089, Start Num: 58
Candidate Starts for 40AC_86:
(Start: 58 @50289 has 40 MA's), (62, 50274), (67, 50247), (71, 50223), (72, 50220), (89, 50118), (91, 50103),

Gene: AN3_90 Start: 48394, Stop: 48197, Start Num: 58
Candidate Starts for AN3_90:
(Start: 58 @48394 has 40 MA's), (72, 48325), (79, 48277),

Gene: AN9_90 Start: 48351, Stop: 48139, Start Num: 60
Candidate Starts for AN9_90:
(29, 48504), (44, 48432), (Start: 60 @48351 has 117 MA's), (68, 48303), (75, 48264),

Gene: ANI8_90 Start: 48351, Stop: 48139, Start Num: 60
Candidate Starts for ANI8_90:

(29, 48504), (44, 48432), (Start: 60 @48351 has 117 MA's), (68, 48303), (75, 48264),

Gene: AbbyPaige_93 Start: 50379, Stop: 50179, Start Num: 58
Candidate Starts for AbbyPaige_93:
(Start: 58 @50379 has 40 MA's), (69, 50331), (72, 50310), (85, 50229), (89, 50208),

Gene: Acolyte_84 Start: 49202, Stop: 49002, Start Num: 60
Candidate Starts for Acolyte_84:
(25, 49361), (Start: 60 @49202 has 117 MA's), (76, 49115), (89, 49031),

Gene: Adzzy_92 Start: 49175, Stop: 48975, Start Num: 60
Candidate Starts for Adzzy_92:
(44, 49256), (53, 49220), (Start: 60 @49175 has 117 MA's),

Gene: Agape74_93 Start: 50352, Stop: 50155, Start Num: 58
Candidate Starts for Agape74_93:
(Start: 58 @50352 has 40 MA's), (72, 50283), (79, 50235),

Gene: Aneem_94 Start: 49357, Stop: 49163, Start Num: 60
Candidate Starts for Aneem_94:
(Start: 60 @49357 has 117 MA's), (62, 49342), (68, 49312), (72, 49288), (73, 49285), (79, 49240), (85, 49213), (91, 49177), (92, 49174),

Gene: AnnaL29_92 Start: 50344, Stop: 50144, Start Num: 58
Candidate Starts for AnnaL29_92:
(28, 50482), (37, 50440), (Start: 58 @50344 has 40 MA's), (68, 50299), (72, 50275), (73, 50272), (85, 50194), (89, 50173), (91, 50158),

Gene: Anselm_92 Start: 50249, Stop: 50049, Start Num: 60
Candidate Starts for Anselm_92:
(7, 50588), (14, 50555), (26, 50402), (Start: 60 @50249 has 117 MA's), (72, 50180), (85, 50099), (90, 50072),

Gene: ArcherNM_87 Start: 49878, Stop: 49678, Start Num: 60
Candidate Starts for ArcherNM_87:
(18, 50097), (22, 50064), (36, 50001), (Start: 60 @49878 has 117 MA's), (68, 49833), (72, 49809), (73, 49806), (84, 49740), (85, 49728), (89, 49707), (92, 49689),

Gene: Artemis2UCLA_95 Start: 48793, Stop: 48590, Start Num: 60
Candidate Starts for Artemis2UCLA_95:
(31, 48937), (44, 48874), (Start: 60 @48793 has 117 MA's),

Gene: BabyBack_87 Start: 50564, Stop: 50364, Start Num: 58
Candidate Starts for BabyBack_87:
(Start: 57 @50567 has 1 MA's), (Start: 58 @50564 has 40 MA's), (62, 50549), (67, 50522), (72, 50495), (89, 50393), (91, 50378),

Gene: Bachome_91 Start: 48405, Stop: 48211, Start Num: 60
Candidate Starts for Bachome_91:
(Start: 60 @48405 has 117 MA's), (62, 48390), (68, 48360), (72, 48336), (73, 48333), (79, 48288), (85, 48261), (91, 48225), (92, 48222),

Gene: Bactobuster_82 Start: 49061, Stop: 48861, Start Num: 58

Candidate Starts for Bactobuster_82:
(Start: 58 @49061 has 40 MA's), (67, 49019), (71, 48995), (88, 48893), (91, 48875),

Gene: Baehexic_91 Start: 49989, Stop: 49783, Start Num: 60
Candidate Starts for Baehexic_91:
(52, 50028), (Start: 60 @49989 has 117 MA's),

Gene: BengiVuitton_92 Start: 50339, Stop: 50133, Start Num: 58
Candidate Starts for BengiVuitton_92:
(11, 50660), (12, 50651), (23, 50513), (Start: 58 @50339 has 40 MA's), (62, 50324), (79, 50222), (89, 50168),

Gene: Benvolio_89 Start: 49865, Stop: 49665, Start Num: 60
Candidate Starts for Benvolio_89:
(7, 50204), (26, 50018), (Start: 60 @49865 has 117 MA's), (69, 49817), (72, 49796), (73, 49793), (89, 49694),

Gene: BiancaTri92_88 Start: 49684, Stop: 49499, Start Num: 60
Candidate Starts for BiancaTri92_88:
(41, 49765), (47, 49741), (Start: 60 @49684 has 117 MA's), (68, 49639), (72, 49615), (73, 49612), (89, 49528),

Gene: BlessJoy_96 Start: 49317, Stop: 49114, Start Num: 60
Candidate Starts for BlessJoy_96:
(31, 49461), (44, 49398), (Start: 60 @49317 has 117 MA's),

Gene: Blue7_97 Start: 49027, Stop: 48824, Start Num: 60
Candidate Starts for Blue7_97:
(31, 49171), (44, 49108), (Start: 60 @49027 has 117 MA's),

Gene: BobSwaget_85 Start: 47723, Stop: 47517, Start Num: 60
Candidate Starts for BobSwaget_85:
(6, 48074), (21, 47909), (Start: 60 @47723 has 117 MA's), (72, 47654), (83, 47594), (84, 47582),

Gene: Bowtie_89 Start: 47964, Stop: 47770, Start Num: 60
Candidate Starts for Bowtie_89:
(Start: 60 @47964 has 117 MA's), (62, 47949), (68, 47919), (72, 47895), (73, 47892), (79, 47847), (85, 47820), (91, 47784), (92, 47781),

Gene: Bradman_95 Start: 49601, Stop: 49401, Start Num: 60
Candidate Starts for Bradman_95:
(2, 50039), (9, 49940), (33, 49739), (40, 49709), (Start: 60 @49601 has 117 MA's),

Gene: Bud_86 Start: 48063, Stop: 47869, Start Num: 60
Candidate Starts for Bud_86:
(Start: 60 @48063 has 117 MA's), (62, 48048), (68, 48018), (73, 47991), (79, 47946), (85, 47919), (91, 47883), (92, 47880),

Gene: C3_83 Start: 48351, Stop: 48139, Start Num: 60
Candidate Starts for C3_83:
(29, 48504), (44, 48432), (Start: 60 @48351 has 117 MA's), (68, 48303), (75, 48264),

Gene: CRB1_91 Start: 50324, Stop: 50130, Start Num: 58

Candidate Starts for CRB1_91:
(15, 50624), (23, 50498), (Start: 58 @50324 has 40 MA's), (62, 50309), (71, 50261), (72, 50258), (89, 50156), (91, 50141),

Gene: Caraxes_92 Start: 49153, Stop: 48953, Start Num: 60
Candidate Starts for Caraxes_92:
(Start: 60 @49153 has 117 MA's), (72, 49084),

Gene: Centaur_92 Start: 49856, Stop: 49650, Start Num: 60
Candidate Starts for Centaur_92:
(52, 49895), (Start: 60 @49856 has 117 MA's),

Gene: Changeling_89 Start: 50335, Stop: 50135, Start Num: 60
Candidate Starts for Changeling_89:
(56, 50341), (Start: 60 @50335 has 117 MA's), (61, 50326), (63, 50311), (79, 50218), (86, 50179), (89, 50164),

Gene: Che12_93 Start: 49275, Stop: 49075, Start Num: 60
Candidate Starts for Che12_93:
(34, 49401), (38, 49380), (Start: 60 @49275 has 117 MA's),

Gene: ChipMunk_91 Start: 51305, Stop: 51105, Start Num: 58
Candidate Starts for ChipMunk_91:
(23, 51479), (Start: 58 @51305 has 40 MA's), (69, 51257), (72, 51236), (84, 51167), (85, 51155), (89, 51134),

Gene: CloudWang3_96 Start: 49322, Stop: 49119, Start Num: 60
Candidate Starts for CloudWang3_96:
(31, 49466), (44, 49403), (Start: 60 @49322 has 117 MA's),

Gene: Crucio_90 Start: 50098, Stop: 49898, Start Num: 58
Candidate Starts for Crucio_90:
(28, 50242), (35, 50212), (46, 50167), (Start: 58 @50098 has 40 MA's), (69, 50050), (72, 50029), (79, 49981), (84, 49960), (85, 49948), (89, 49927),

Gene: D29_84 Start: 46305, Stop: 46111, Start Num: 60
Candidate Starts for D29_84:
(Start: 60 @46305 has 117 MA's), (61, 46296),

Gene: D32_81 Start: 46305, Stop: 46111, Start Num: 60
Candidate Starts for D32_81:
(Start: 60 @46305 has 117 MA's), (61, 46296),

Gene: DBQu4n_93 Start: 49920, Stop: 49726, Start Num: 60
Candidate Starts for DBQu4n_93:
(Start: 60 @49920 has 117 MA's), (61, 49911),

Gene: Dalmatian_90 Start: 49897, Stop: 49697, Start Num: 60
Candidate Starts for Dalmatian_90:
(24, 50062), (Start: 60 @49897 has 117 MA's), (72, 49828), (85, 49747), (90, 49720),

Gene: DarthPhader_83 Start: 48841, Stop: 48626, Start Num: 60
Candidate Starts for DarthPhader_83:

(Start: 60 @48841 has 117 MA's), (61, 48832), (72, 48772),

Gene: DeerParkTS_86 Start: 48701, Stop: 48501, Start Num: 60
Candidate Starts for DeerParkTS_86:
(Start: 60 @48701 has 117 MA's), (69, 48653), (73, 48629), (85, 48551), (89, 48530),

Gene: Deloris_92 Start: 50032, Stop: 49826, Start Num: 58
Candidate Starts for Deloris_92:
(11, 50353), (12, 50344), (15, 50335), (23, 50206), (Start: 58 @50032 has 40 MA's), (62, 50017), (79, 49915), (89, 49861),

Gene: DelvinSonDorr_89 Start: 48396, Stop: 48193, Start Num: 60
Candidate Starts for DelvinSonDorr_89:
(31, 48540), (44, 48477), (Start: 60 @48396 has 117 MA's),

Gene: Dignity_93 Start: 50459, Stop: 50262, Start Num: 58
Candidate Starts for Dignity_93:
(Start: 58 @50459 has 40 MA's), (72, 50390), (79, 50342),

Gene: Drake55_92 Start: 49768, Stop: 49562, Start Num: 60
Candidate Starts for Drake55_92:
(52, 49807), (Start: 60 @49768 has 117 MA's), (79, 49651),

Gene: DreamTeam1_89 Start: 49222, Stop: 49022, Start Num: 60
Candidate Starts for DreamTeam1_89:
(37, 49333), (Start: 60 @49222 has 117 MA's), (62, 49207), (72, 49153),

Gene: DudeLittle_88 Start: 49616, Stop: 49416, Start Num: 60
Candidate Starts for DudeLittle_88:
(7, 49955), (26, 49769), (Start: 60 @49616 has 117 MA's), (72, 49547), (85, 49466), (90, 49439),

Gene: Duplo_94 Start: 49977, Stop: 49783, Start Num: 60
Candidate Starts for Duplo_94:
(Start: 60 @49977 has 117 MA's), (61, 49968),

Gene: EZMoney23_87 Start: 49272, Stop: 49078, Start Num: 60
Candidate Starts for EZMoney23_87:
(Start: 60 @49272 has 117 MA's), (68, 49227), (72, 49203), (73, 49200), (77, 49173), (79, 49158), (91, 49092),

Gene: Ebony_92 Start: 48928, Stop: 48734, Start Num: 60
Candidate Starts for Ebony_92:
(Start: 60 @48928 has 117 MA's), (62, 48913), (68, 48883), (72, 48859), (73, 48856), (79, 48811), (85, 48784), (91, 48748), (92, 48745),

Gene: Echild_94 Start: 49889, Stop: 49689, Start Num: 60
Candidate Starts for Echild_94:
(7, 50228), (26, 50042), (Start: 60 @49889 has 117 MA's), (69, 49841), (72, 49820), (73, 49817), (89, 49718),

Gene: Equemioh13_92 Start: 50091, Stop: 49885, Start Num: 60
Candidate Starts for Equemioh13_92:
(52, 50130), (Start: 60 @50091 has 117 MA's), (79, 49974),

Gene: Et2Brutus_93 Start: 49205, Stop: 49011, Start Num: 60
Candidate Starts for Et2Brutus_93:
(Start: 60 @49205 has 117 MA's), (62, 49190), (68, 49160), (73, 49133), (79, 49088), (85, 49061), (91, 49025), (92, 49022),

Gene: EvilGenius_90 Start: 51306, Stop: 51106, Start Num: 58
Candidate Starts for EvilGenius_90:
(12, 51618), (23, 51480), (Start: 58 @51306 has 40 MA's), (69, 51258), (72, 51237), (84, 51168), (85, 51156), (89, 51135),

Gene: Fameo_89 Start: 49669, Stop: 49469, Start Num: 60
Candidate Starts for Fameo_89:
(10, 49984), (24, 49834), (Start: 60 @49669 has 117 MA's), (72, 49600), (85, 49519),

Gene: Fibonacci_93 Start: 49211, Stop: 49017, Start Num: 60
Candidate Starts for Fibonacci_93:
(Start: 60 @49211 has 117 MA's), (62, 49196), (68, 49166), (73, 49139), (79, 49094), (85, 49067), (91, 49031), (92, 49028),

Gene: FiringLine_90 Start: 50194, Stop: 49994, Start Num: 58
Candidate Starts for FiringLine_90:
(46, 50263), (Start: 58 @50194 has 40 MA's), (69, 50146), (72, 50125), (79, 50077), (84, 50056), (85, 50044), (89, 50023),

Gene: First_0091 Start: 50042, Stop: 49842, Start Num: 58
Candidate Starts for First_0091:
(28, 50186), (35, 50156), (46, 50111), (Start: 58 @50042 has 40 MA's), (69, 49994), (72, 49973), (84, 49904), (85, 49892), (89, 49871),

Gene: Flare16_92 Start: 49906, Stop: 49700, Start Num: 60
Candidate Starts for Flare16_92:
(52, 49945), (Start: 60 @49906 has 117 MA's), (79, 49789),

Gene: Flaverint_94 Start: 49355, Stop: 49161, Start Num: 60
Candidate Starts for Flaverint_94:
(Start: 60 @49355 has 117 MA's), (62, 49340), (68, 49310), (73, 49283), (79, 49238), (85, 49211), (91, 49175), (92, 49172),

Gene: ForesterFrank_86 Start: 49808, Stop: 49608, Start Num: 60
Candidate Starts for ForesterFrank_86:
(Start: 60 @49808 has 117 MA's), (68, 49763), (72, 49739), (73, 49736), (74, 49733), (85, 49658), (89, 49637),

Gene: Gail_94 Start: 50010, Stop: 49786, Start Num: 60
Candidate Starts for Gail_94:
(59, 50013), (Start: 60 @50010 has 117 MA's), (62, 49995), (70, 49959), (84, 49869), (85, 49854), (93, 49809), (95, 49794),

Gene: Garak_97 Start: 49267, Stop: 49064, Start Num: 60
Candidate Starts for Garak_97:
(31, 49411), (44, 49348), (Start: 60 @49267 has 117 MA's),

Gene: GaugeLDP_86 Start: 50114, Stop: 49914, Start Num: 58
Candidate Starts for GaugeLDP_86:
(43, 50195), (Start: 58 @50114 has 40 MA's), (64, 50090), (71, 50048), (72, 50045), (78, 50003), (84, 49976), (89, 49943), (91, 49928),

Gene: Georgie2_92 Start: 50242, Stop: 50042, Start Num: 58
Candidate Starts for Georgie2_92:
(28, 50386), (35, 50356), (46, 50311), (Start: 58 @50242 has 40 MA's), (69, 50194), (72, 50173), (79, 50125), (84, 50104), (85, 50092), (89, 50071),

Gene: Gilberta_91 Start: 48231, Stop: 48037, Start Num: 60
Candidate Starts for Gilberta_91:
(Start: 60 @48231 has 117 MA's), (62, 48216), (68, 48186), (72, 48162), (73, 48159), (79, 48114), (85, 48087), (91, 48051), (92, 48048),

Gene: Gladiator_92 Start: 48987, Stop: 48784, Start Num: 60
Candidate Starts for Gladiator_92:
(31, 49131), (44, 49068), (Start: 60 @48987 has 117 MA's),

Gene: Gratitude_90 Start: 50091, Stop: 49885, Start Num: 60
Candidate Starts for Gratitude_90:
(52, 50130), (Start: 60 @50091 has 117 MA's), (79, 49974),

Gene: Gruunaga_96 Start: 48943, Stop: 48740, Start Num: 60
Candidate Starts for Gruunaga_96:
(31, 49087), (44, 49024), (Start: 60 @48943 has 117 MA's),

Gene: Hammer_96 Start: 48640, Stop: 48437, Start Num: 60
Candidate Starts for Hammer_96:
(31, 48784), (44, 48721), (Start: 60 @48640 has 117 MA's),

Gene: HarryHoudini_91 Start: 49772, Stop: 49566, Start Num: 60
Candidate Starts for HarryHoudini_91:
(52, 49811), (Start: 60 @49772 has 117 MA's), (79, 49655), (89, 49601),

Gene: Heffalump_87 Start: 50137, Stop: 49937, Start Num: 60
Candidate Starts for Heffalump_87:
(13, 50437), (17, 50398), (24, 50302), (Start: 60 @50137 has 117 MA's), (72, 50068), (85, 49987), (90, 49960),

Gene: Helmet_98 Start: 49267, Stop: 49064, Start Num: 60
Candidate Starts for Helmet_98:
(31, 49411), (44, 49348), (Start: 60 @49267 has 117 MA's),

Gene: Herbertwm_83 Start: 48223, Stop: 48008, Start Num: 60
Candidate Starts for Herbertwm_83:
(51, 48280), (Start: 58 @48226 has 40 MA's), (Start: 60 @48223 has 117 MA's), (81, 48100),

Gene: Hexamo_95 Start: 48808, Stop: 48605, Start Num: 60
Candidate Starts for Hexamo_95:
(31, 48952), (44, 48889), (Start: 60 @48808 has 117 MA's),

Gene: Hutc2_90 Start: 48095, Stop: 47901, Start Num: 60

Candidate Starts for Hutc2_90:
(Start: 60 @48095 has 117 MA's), (62, 48080), (68, 48050), (73, 48023), (79, 47978), (85, 47951), (91, 47915), (92, 47912),

Gene: Indra_98 Start: 49268, Stop: 49065, Start Num: 60
Candidate Starts for Indra_98:
(31, 49412), (44, 49349), (Start: 60 @49268 has 117 MA's),

Gene: Insomnia_93 Start: 49389, Stop: 49195, Start Num: 60
Candidate Starts for Insomnia_93:
(Start: 60 @49389 has 117 MA's), (62, 49374), (68, 49344), (73, 49317), (79, 49272), (85, 49245), (91, 49209), (92, 49206),

Gene: IronMan_87 Start: 50577, Stop: 50374, Start Num: 57
Candidate Starts for IronMan_87:
(25, 50727), (49, 50631), (Start: 57 @50577 has 1 MA's), (Start: 58 @50574 has 40 MA's), (71, 50508), (84, 50436), (85, 50424), (91, 50388),

Gene: Isiphiwo_90 Start: 48358, Stop: 48155, Start Num: 60
Candidate Starts for Isiphiwo_90:
(31, 48502), (44, 48439), (Start: 60 @48358 has 117 MA's),

Gene: Jaan_88 Start: 50691, Stop: 50491, Start Num: 58
Candidate Starts for Jaan_88:
(Start: 58 @50691 has 40 MA's), (67, 50649), (71, 50625), (88, 50523), (91, 50505),

Gene: Jabith_93 Start: 49403, Stop: 49209, Start Num: 60
Candidate Starts for Jabith_93:
(Start: 60 @49403 has 117 MA's), (62, 49388), (68, 49358), (72, 49334), (73, 49331), (79, 49286), (85, 49259), (91, 49223), (92, 49220),

Gene: Jeeves_94 Start: 48823, Stop: 48599, Start Num: 60
Candidate Starts for Jeeves_94:
(19, 49030), (59, 48826), (Start: 60 @48823 has 117 MA's), (62, 48808), (84, 48682), (85, 48667), (93, 48622),

Gene: Jeffabunny_84 Start: 45411, Stop: 45208, Start Num: 60
Candidate Starts for Jeffabunny_84:
(31, 45555), (44, 45492), (Start: 60 @45411 has 117 MA's),

Gene: Jerm_92 Start: 50317, Stop: 50117, Start Num: 58
Candidate Starts for Jerm_92:
(Start: 58 @50317 has 40 MA's), (69, 50269), (72, 50248), (84, 50179), (85, 50167), (89, 50146),

Gene: Joselito_91 Start: 49109, Stop: 48915, Start Num: 60
Candidate Starts for Joselito_91:
(Start: 60 @49109 has 117 MA's), (62, 49094), (68, 49064), (72, 49040), (73, 49037), (79, 48992), (85, 48965), (91, 48929), (92, 48926),

Gene: JoshKayV_94 Start: 50772, Stop: 50575, Start Num: 58
Candidate Starts for JoshKayV_94:
(Start: 58 @50772 has 40 MA's), (79, 50655),

Gene: Jsquared_96 Start: 49844, Stop: 49644, Start Num: 60
Candidate Starts for Jsquared_96:
(33, 49982), (40, 49952), (Start: 60 @49844 has 117 MA's),

Gene: Kalpine_93 Start: 50429, Stop: 50229, Start Num: 58
Candidate Starts for Kalpine_93:
(Start: 58 @50429 has 40 MA's), (61, 50420), (69, 50381), (85, 50279), (89, 50258),

Gene: Kerberos_93 Start: 49940, Stop: 49746, Start Num: 60
Candidate Starts for Kerberos_93:
(Start: 60 @49940 has 117 MA's), (61, 49931), (82, 49829),

Gene: Kimba_90 Start: 48412, Stop: 48218, Start Num: 60
Candidate Starts for Kimba_90:
(Start: 60 @48412 has 117 MA's), (62, 48397), (68, 48367), (72, 48343), (73, 48340), (79, 48295), (85, 48268), (91, 48232), (92, 48229),

Gene: KingCyrus_89 Start: 51319, Stop: 51119, Start Num: 58
Candidate Starts for KingCyrus_89:
(Start: 58 @51319 has 40 MA's), (69, 51271), (72, 51250), (84, 51181), (85, 51169), (89, 51148),

Gene: Koduck_92 Start: 49225, Stop: 49025, Start Num: 60
Candidate Starts for Koduck_92:
(Start: 60 @49225 has 117 MA's),

Gene: Koko_97 Start: 49657, Stop: 49454, Start Num: 60
Candidate Starts for Koko_97:
(31, 49801), (44, 49738), (Start: 60 @49657 has 117 MA's),

Gene: L5_84 Start: 48929, Stop: 48729, Start Num: 60
Candidate Starts for L5_84:
(Start: 60 @48929 has 117 MA's),

Gene: LadyBird_94 Start: 50501, Stop: 50274, Start Num: 58
Candidate Starts for LadyBird_94:
(15, 50804), (16, 50801), (23, 50675), (Start: 58 @50501 has 40 MA's), (67, 50459), (69, 50453), (72, 50432),

Gene: Landor_87 Start: 50607, Stop: 50407, Start Num: 58
Candidate Starts for Landor_87:
(Start: 58 @50607 has 40 MA's), (67, 50565), (71, 50541), (85, 50457), (91, 50421),

Gene: Larenn_89 Start: 49810, Stop: 49610, Start Num: 58
Candidate Starts for Larenn_89:
(Start: 58 @49810 has 40 MA's), (69, 49762), (73, 49738), (84, 49672), (85, 49660), (89, 49639),

Gene: Leviathan_92 Start: 50395, Stop: 50198, Start Num: 58
Candidate Starts for Leviathan_92:
(Start: 58 @50395 has 40 MA's), (72, 50326), (79, 50278),

Gene: LilTurb_92 Start: 50307, Stop: 50107, Start Num: 58
Candidate Starts for LilTurb_92:
(Start: 58 @50307 has 40 MA's), (69, 50259), (72, 50238), (85, 50157), (89, 50136),

Gene: Lilbunny_92 Start: 47515, Stop: 47312, Start Num: 60
Candidate Starts for Lilbunny_92:
(31, 47659), (44, 47596), (Start: 60 @47515 has 117 MA's),

Gene: LionsBait_89 Start: 50794, Stop: 50594, Start Num: 60
Candidate Starts for LionsBait_89:
(Start: 60 @50794 has 117 MA's),

Gene: Lokk_86 Start: 48344, Stop: 48138, Start Num: 60
Candidate Starts for Lokk_86:
(6, 48695), (21, 48530), (Start: 60 @48344 has 117 MA's), (72, 48275), (83, 48215), (84, 48203),

Gene: Loser_93 Start: 50594, Stop: 50394, Start Num: 58
Candidate Starts for Loser_93:
(28, 50738), (37, 50696), (Start: 58 @50594 has 40 MA's), (61, 50585), (62, 50579), (69, 50546), (72, 50525), (73, 50522), (85, 50444), (89, 50423),

Gene: Luchador_90 Start: 49724, Stop: 49500, Start Num: 60
Candidate Starts for Luchador_90:
(Start: 60 @49724 has 117 MA's), (62, 49709), (79, 49607), (84, 49583),

Gene: Lucivia_94 Start: 49388, Stop: 49194, Start Num: 60
Candidate Starts for Lucivia_94:
(Start: 60 @49388 has 117 MA's), (62, 49373), (68, 49343), (72, 49319), (73, 49316), (79, 49271), (85, 49244), (91, 49208), (92, 49205),

Gene: MaCh_93 Start: 49352, Stop: 49158, Start Num: 60
Candidate Starts for MaCh_93:
(Start: 60 @49352 has 117 MA's), (62, 49337), (68, 49307), (72, 49283), (73, 49280), (79, 49235), (85, 49208), (91, 49172), (92, 49169),

Gene: Mabel_93 Start: 49353, Stop: 49159, Start Num: 60
Candidate Starts for Mabel_93:
(Start: 60 @49353 has 117 MA's), (62, 49338), (68, 49308), (72, 49284), (73, 49281), (79, 49236), (85, 49209), (91, 49173), (92, 49170),

Gene: MajorMajor_89 Start: 47893, Stop: 47693, Start Num: 60
Candidate Starts for MajorMajor_89:
(2, 48331), (9, 48232), (33, 48031), (40, 48001), (Start: 60 @47893 has 117 MA's),

Gene: Malec_89 Start: 50218, Stop: 50018, Start Num: 58
Candidate Starts for Malec_89:
(Start: 58 @50218 has 40 MA's), (69, 50170), (73, 50146), (84, 50080), (85, 50068), (89, 50047),

Gene: MiculUcigas_92 Start: 49809, Stop: 49603, Start Num: 60
Candidate Starts for MiculUcigas_92:
(52, 49848), (Start: 60 @49809 has 117 MA's),

Gene: Miko_87 Start: 49201, Stop: 48995, Start Num: 60
Candidate Starts for Miko_87:
(6, 49552), (21, 49387), (Start: 60 @49201 has 117 MA's), (72, 49132), (83, 49072), (84, 49060),

Gene: MissWhite_85 Start: 46633, Stop: 46421, Start Num: 60
Candidate Starts for MissWhite_85:
(Start: 60 @46633 has 117 MA's), (61, 46624), (62, 46618), (65, 46600), (66, 46591), (72, 46552), (84, 46483),

Gene: Mulciber_92 Start: 49208, Stop: 49014, Start Num: 60
Candidate Starts for Mulciber_92:
(Start: 60 @49208 has 117 MA's), (62, 49193), (68, 49163), (73, 49136), (79, 49091), (85, 49064), (91, 49028), (92, 49025),

Gene: Munch_92 Start: 49357, Stop: 49163, Start Num: 60
Candidate Starts for Munch_92:
(Start: 60 @49357 has 117 MA's), (62, 49342), (68, 49312), (72, 49288), (73, 49285), (79, 49240), (85, 49213), (91, 49177), (92, 49174),

Gene: NaSiaTalie_93 Start: 49970, Stop: 49764, Start Num: 60
Candidate Starts for NaSiaTalie_93:
(52, 50009), (Start: 60 @49970 has 117 MA's), (79, 49853),

Gene: Naji_82 Start: 46305, Stop: 46111, Start Num: 60
Candidate Starts for Naji_82:
(Start: 60 @46305 has 117 MA's), (61, 46296),

Gene: NicoleTera_91 Start: 49964, Stop: 49764, Start Num: 60
Candidate Starts for NicoleTera_91:
(45, 50039), (Start: 60 @49964 has 117 MA's), (69, 49916), (72, 49895), (73, 49892), (84, 49826), (85, 49814),

Gene: NothingSpecial_85 Start: 49750, Stop: 49544, Start Num: 60
Candidate Starts for NothingSpecial_85:
(48, 49819), (54, 49777), (Start: 60 @49750 has 117 MA's), (69, 49702), (72, 49681), (83, 49621), (84, 49609),

Gene: Odin_90 Start: 49615, Stop: 49415, Start Num: 60
Candidate Starts for Odin_90:
(35, 49741), (44, 49696), (Start: 60 @49615 has 117 MA's),

Gene: Orange_93 Start: 48907, Stop: 48713, Start Num: 60
Candidate Starts for Orange_93:
(Start: 60 @48907 has 117 MA's), (62, 48892), (68, 48862), (72, 48838), (73, 48835), (79, 48790), (85, 48763), (91, 48727), (92, 48724),

Gene: Petersenfast_87 Start: 47788, Stop: 47594, Start Num: 60
Candidate Starts for Petersenfast_87:
(Start: 60 @47788 has 117 MA's), (62, 47773), (68, 47743), (72, 47719), (73, 47716), (79, 47671), (85, 47644), (91, 47608), (92, 47605),

Gene: Ph8s_93 Start: 49402, Stop: 49202, Start Num: 60
Candidate Starts for Ph8s_93:
(27, 49558), (Start: 60 @49402 has 117 MA's),

Gene: Phaded_83 Start: 50574, Stop: 50374, Start Num: 58
Candidate Starts for Phaded_83:

(25, 50727), (49, 50631), (Start: 57 @50577 has 1 MA's), (Start: 58 @50574 has 40 MA's), (67, 50532), (71, 50508), (78, 50463), (84, 50436), (85, 50424), (91, 50388),

Gene: Piro94_90 Start: 49697, Stop: 49491, Start Num: 60
Candidate Starts for Piro94_90:
(52, 49736), (Start: 60 @49697 has 117 MA's), (79, 49580), (89, 49526),

Gene: Pomar16_93 Start: 50013, Stop: 49819, Start Num: 60
Candidate Starts for Pomar16_93:
(Start: 60 @50013 has 117 MA's), (61, 50004),

Gene: Power_90 Start: 50241, Stop: 50041, Start Num: 58
Candidate Starts for Power_90:
(28, 50385), (35, 50355), (46, 50310), (Start: 58 @50241 has 40 MA's), (69, 50193), (72, 50172), (79, 50124), (84, 50103), (85, 50091), (89, 50070),

Gene: Prudy_86 Start: 50122, Stop: 49922, Start Num: 58
Candidate Starts for Prudy_86:
(Start: 58 @50122 has 40 MA's), (69, 50074), (72, 50053), (73, 50050), (85, 49972), (89, 49951), (91, 49936),

Gene: Pukovnik_84 Start: 50036, Stop: 49836, Start Num: 58
Candidate Starts for Pukovnik_84:
(Start: 57 @50039 has 1 MA's), (Start: 58 @50036 has 40 MA's), (62, 50021), (64, 50012), (72, 49967), (89, 49865), (91, 49850),

Gene: QueenB2_88 Start: 49442, Stop: 49242, Start Num: 60
Candidate Starts for QueenB2_88:
(7, 49781), (14, 49748), (26, 49595), (Start: 60 @49442 has 117 MA's), (72, 49373), (85, 49292), (90, 49265),

Gene: QueenBeesly_90 Start: 50194, Stop: 49994, Start Num: 58
Candidate Starts for QueenBeesly_90:
(46, 50263), (Start: 58 @50194 has 40 MA's), (69, 50146), (72, 50125), (79, 50077), (84, 50056), (85, 50044), (89, 50023),

Gene: Quokka_94 Start: 49602, Stop: 49402, Start Num: 60
Candidate Starts for Quokka_94:
(2, 50040), (9, 49941), (33, 49740), (40, 49710), (Start: 60 @49602 has 117 MA's),

Gene: Rachaly_88 Start: 49344, Stop: 49138, Start Num: 60
Candidate Starts for Rachaly_88:
(6, 49695), (21, 49530), (Start: 60 @49344 has 117 MA's), (72, 49275), (83, 49215), (84, 49203),

Gene: RedRock_91 Start: 50352, Stop: 50152, Start Num: 58
Candidate Starts for RedRock_91:
(37, 50454), (Start: 58 @50352 has 40 MA's), (61, 50343), (62, 50337), (69, 50304), (72, 50283), (73, 50280), (84, 50214), (85, 50202), (89, 50181),

Gene: Refuge_85 Start: 49685, Stop: 49470, Start Num: 60
Candidate Starts for Refuge_85:
(Start: 60 @49685 has 117 MA's), (61, 49676), (72, 49616),

Gene: Retro23_90 Start: 49740, Stop: 49540, Start Num: 60
Candidate Starts for Retro23_90:
(Start: 60 @49740 has 117 MA's), (72, 49671), (85, 49590), (90, 49563),

Gene: Rifter_96 Start: 48435, Stop: 48232, Start Num: 60
Candidate Starts for Rifter_96:
(31, 48579), (44, 48516), (Start: 60 @48435 has 117 MA's),

Gene: Roksolana_96 Start: 49151, Stop: 48948, Start Num: 60
Candidate Starts for Roksolana_96:
(31, 49295), (44, 49232), (Start: 60 @49151 has 117 MA's),

Gene: Salz_89 Start: 48017, Stop: 47823, Start Num: 60
Candidate Starts for Salz_89:
(Start: 60 @48017 has 117 MA's), (62, 48002), (68, 47972), (73, 47945), (79, 47900), (85, 47873), (91, 47837), (92, 47834),

Gene: Saskia_90 Start: 48419, Stop: 48225, Start Num: 60
Candidate Starts for Saskia_90:
(Start: 60 @48419 has 117 MA's), (62, 48404), (68, 48374), (72, 48350), (73, 48347), (79, 48302), (85, 48275), (91, 48239), (92, 48236),

Gene: SemperFi_90 Start: 50082, Stop: 49882, Start Num: 58
Candidate Starts for SemperFi_90:
(46, 50151), (Start: 58 @50082 has 40 MA's), (69, 50034), (72, 50013), (79, 49965), (84, 49944), (85, 49932), (89, 49911),

Gene: Serenity_93 Start: 49307, Stop: 49107, Start Num: 60
Candidate Starts for Serenity_93:
(Start: 60 @49307 has 117 MA's), (62, 49292), (69, 49259), (80, 49187),

Gene: Sham4_90 Start: 48103, Stop: 47909, Start Num: 60
Candidate Starts for Sham4_90:
(Start: 60 @48103 has 117 MA's), (62, 48088), (68, 48058), (73, 48031), (79, 47986), (85, 47959), (91, 47923), (92, 47920),

Gene: Sknot_92 Start: 49903, Stop: 49697, Start Num: 60
Candidate Starts for Sknot_92:
(52, 49942), (Start: 60 @49903 has 117 MA's),

Gene: Smeagan_93 Start: 50489, Stop: 50289, Start Num: 58
Candidate Starts for Smeagan_93:
(Start: 58 @50489 has 40 MA's), (69, 50441), (72, 50420), (84, 50351), (85, 50339), (89, 50318),

Gene: SnapTap_90 Start: 49897, Stop: 49697, Start Num: 58
Candidate Starts for SnapTap_90:
(28, 50041), (35, 50011), (46, 49966), (Start: 58 @49897 has 40 MA's), (69, 49849), (72, 49828), (79, 49780), (84, 49759), (85, 49747), (89, 49726),

Gene: Snape_93 Start: 48896, Stop: 48702, Start Num: 60
Candidate Starts for Snape_93:
(Start: 60 @48896 has 117 MA's), (62, 48881), (68, 48851), (73, 48824), (79, 48779), (85, 48752), (91, 48716), (92, 48713),

Gene: SororFago_90 Start: 49611, Stop: 49387, Start Num: 60
Candidate Starts for SororFago_90:
(Start: 60 @49611 has 117 MA's), (62, 49596), (84, 49470), (85, 49455), (94, 49404),

Gene: StarStuff_93 Start: 49975, Stop: 49781, Start Num: 60
Candidate Starts for StarStuff_93:
(Start: 60 @49975 has 117 MA's), (61, 49966), (82, 49864),

Gene: Steamy_82 Start: 48643, Stop: 48440, Start Num: 60
Candidate Starts for Steamy_82:
(Start: 60 @48643 has 117 MA's), (61, 48634), (69, 48595), (72, 48574), (87, 48475),

Gene: Sunhee_94 Start: 48450, Stop: 48226, Start Num: 60
Candidate Starts for Sunhee_94:
(59, 48453), (Start: 60 @48450 has 117 MA's), (62, 48435), (72, 48381), (73, 48378), (79, 48333), (84, 48309),

Gene: SuperCallie99_90 Start: 48859, Stop: 48656, Start Num: 60
Candidate Starts for SuperCallie99_90:
(31, 49003), (44, 48940), (Start: 60 @48859 has 117 MA's),

Gene: Superchunk_91 Start: 49153, Stop: 48953, Start Num: 60
Candidate Starts for Superchunk_91:
(Start: 60 @49153 has 117 MA's), (72, 49084),

Gene: SweetiePie_90 Start: 50030, Stop: 49830, Start Num: 58
Candidate Starts for SweetiePie_90:
(28, 50174), (35, 50144), (46, 50099), (Start: 58 @50030 has 40 MA's), (69, 49982), (72, 49961), (79, 49913), (84, 49892), (85, 49880), (89, 49859),

Gene: SwirlSquare_93 Start: 48865, Stop: 48665, Start Num: 60
Candidate Starts for SwirlSquare_93:
(Start: 60 @48865 has 117 MA's), (89, 48694),

Gene: TarsusIV_89 Start: 50048, Stop: 49842, Start Num: 60
Candidate Starts for TarsusIV_89:
(55, 50060), (Start: 60 @50048 has 117 MA's), (72, 49979), (79, 49931), (83, 49919), (84, 49907), (85, 49892), (91, 49856),

Gene: Temprado_97 Start: 49267, Stop: 49064, Start Num: 60
Candidate Starts for Temprado_97:
(31, 49411), (44, 49348), (Start: 60 @49267 has 117 MA's),

Gene: Terrific_93 Start: 49871, Stop: 49665, Start Num: 60
Candidate Starts for Terrific_93:
(52, 49910), (Start: 60 @49871 has 117 MA's),

Gene: Timothy_93 Start: 48873, Stop: 48679, Start Num: 60
Candidate Starts for Timothy_93:
(Start: 60 @48873 has 117 MA's), (62, 48858), (68, 48828), (72, 48804), (73, 48801), (79, 48756), (85, 48729), (91, 48693), (92, 48690),

Gene: TinyTimmy_91 Start: 48602, Stop: 48408, Start Num: 60
Candidate Starts for TinyTimmy_91:
(Start: 60 @48602 has 117 MA's), (62, 48587), (68, 48557), (72, 48533), (73, 48530), (79, 48485), (85, 48458), (91, 48422), (92, 48419),

Gene: TipsytheTRex_90 Start: 49524, Stop: 49324, Start Num: 60
Candidate Starts for TipsytheTRex_90:
(Start: 60 @49524 has 117 MA's),

Gene: Tomathan_93 Start: 50054, Stop: 49860, Start Num: 60
Candidate Starts for Tomathan_93:
(Start: 60 @50054 has 117 MA's), (61, 50045),

Gene: ToneTone_92 Start: 48818, Stop: 48615, Start Num: 60
Candidate Starts for ToneTone_92:
(31, 48962), (44, 48899), (Start: 60 @48818 has 117 MA's),

Gene: Travvers_93 Start: 49971, Stop: 49777, Start Num: 60
Candidate Starts for Travvers_93:
(Start: 60 @49971 has 117 MA's), (61, 49962),

Gene: Tristan_86 Start: 50406, Stop: 50206, Start Num: 58
Candidate Starts for Tristan_86:
(Start: 58 @50406 has 40 MA's), (67, 50364), (71, 50340), (88, 50238), (91, 50220),

Gene: Trixie_90 Start: 50621, Stop: 50406, Start Num: 60
Candidate Starts for Trixie_90:
(1, 51101), (3, 51047), (4, 51044), (5, 51026), (8, 50966), (30, 50771), (32, 50762), (39, 50732), (42, 50720), (Start: 60 @50621 has 117 MA's), (69, 50573), (70, 50570), (72, 50552),

Gene: Trooper_90 Start: 49643, Stop: 49437, Start Num: 60
Candidate Starts for Trooper_90:
(Start: 60 @49643 has 117 MA's), (72, 49574), (79, 49526), (83, 49514), (84, 49502), (85, 49487),

Gene: Tucker_96 Start: 49021, Stop: 48818, Start Num: 60
Candidate Starts for Tucker_96:
(31, 49165), (44, 49102), (Start: 60 @49021 has 117 MA's),

Gene: Turbido_92 Start: 50323, Stop: 50123, Start Num: 58
Candidate Starts for Turbido_92:
(Start: 58 @50323 has 40 MA's), (69, 50275), (72, 50254), (84, 50185), (85, 50173), (89, 50152),

Gene: Updawg_93 Start: 50091, Stop: 49885, Start Num: 60
Candidate Starts for Updawg_93:
(52, 50130), (Start: 60 @50091 has 117 MA's), (79, 49974),

Gene: VA6_90 Start: 49965, Stop: 49768, Start Num: 58
Candidate Starts for VA6_90:
(Start: 58 @49965 has 40 MA's), (72, 49896), (79, 49848),

Gene: VC3_89 Start: 48351, Stop: 48139, Start Num: 60
Candidate Starts for VC3_89:
(29, 48504), (44, 48432), (Start: 60 @48351 has 117 MA's), (68, 48303), (75, 48264),

Gene: WeiHuaDA_92 Start: 50647, Stop: 50450, Start Num: 60
Candidate Starts for WeiHuaDA_92:
(Start: 60 @50647 has 117 MA's), (79, 50533),

Gene: Whabigail7_90 Start: 50321, Stop: 50121, Start Num: 58
Candidate Starts for Whabigail7_90:
(Start: 58 @50321 has 40 MA's), (69, 50273), (72, 50252), (85, 50171), (89, 50150),

Gene: WideWale_93 Start: 50091, Stop: 49885, Start Num: 60
Candidate Starts for WideWale_93:
(52, 50130), (Start: 60 @50091 has 117 MA's), (79, 49974),

Gene: Wiks_95 Start: 48898, Stop: 48695, Start Num: 60
Candidate Starts for Wiks_95:
(31, 49042), (44, 48979), (Start: 60 @48898 has 117 MA's),

Gene: Wolpertinger_93 Start: 49222, Stop: 49028, Start Num: 60
Candidate Starts for Wolpertinger_93:
(Start: 60 @49222 has 117 MA's), (62, 49207), (68, 49177), (73, 49150), (79, 49105), (85, 49078), (91, 49042), (92, 49039),

Gene: XianYue_89 Start: 50250, Stop: 50050, Start Num: 60
Candidate Starts for XianYue_89:
(20, 50439), (50, 50304), (Start: 60 @50250 has 117 MA's), (62, 50235),

Gene: Yokurt_95 Start: 48898, Stop: 48695, Start Num: 60
Candidate Starts for Yokurt_95:
(31, 49042), (44, 48979), (Start: 60 @48898 has 117 MA's),

Gene: Zaka_96 Start: 48898, Stop: 48695, Start Num: 60
Candidate Starts for Zaka_96:
(31, 49042), (44, 48979), (Start: 60 @48898 has 117 MA's),

Gene: Zulu_97 Start: 49275, Stop: 49072, Start Num: 60
Candidate Starts for Zulu_97:
(31, 49419), (44, 49356), (Start: 60 @49275 has 117 MA's),