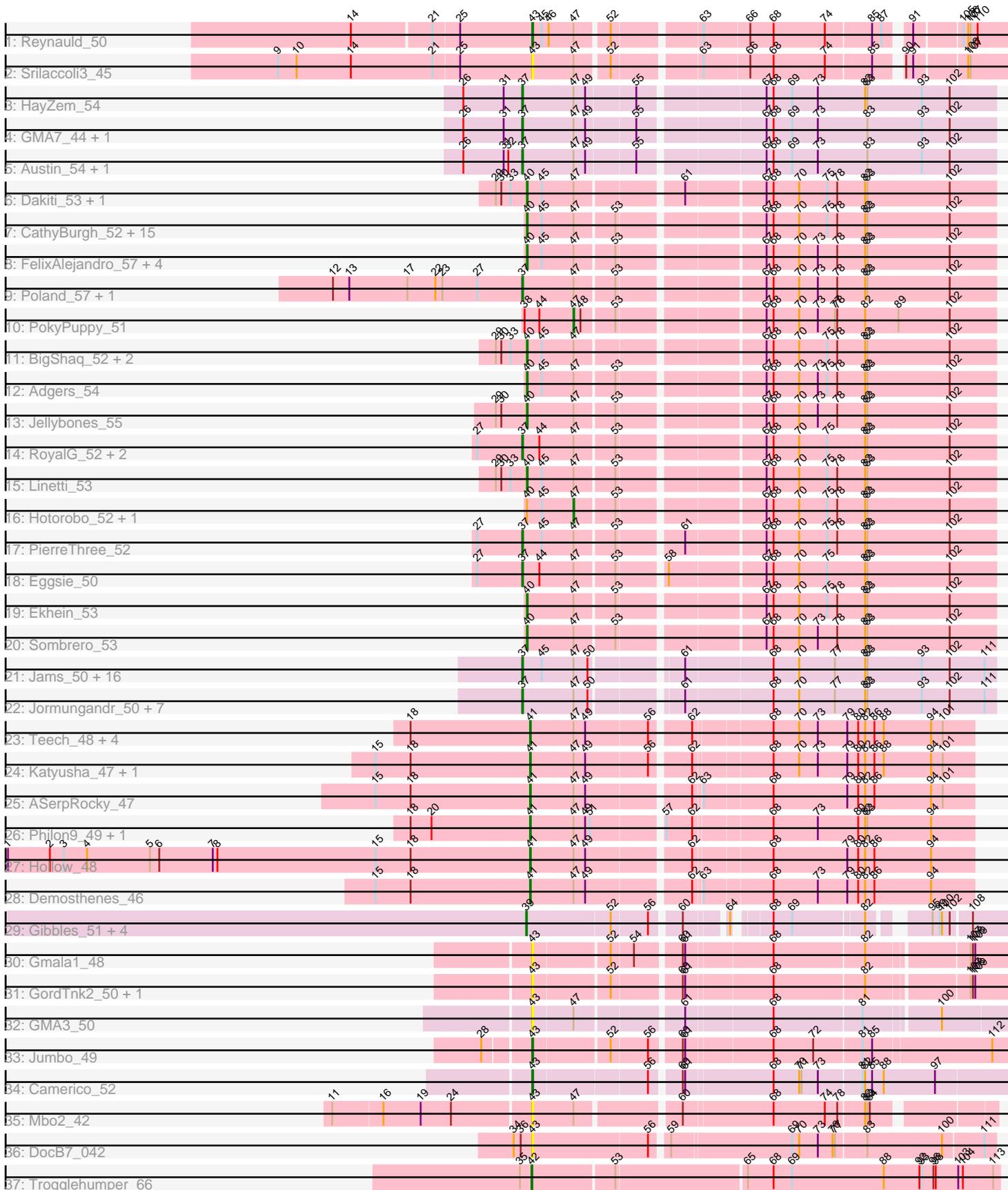# Pham 283669

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 283669 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283669 has 99 members, 14 are drafts.

Phages represented in each track:
• Track 1 : Reynauld_50
• Track 2 : Srilaccoli3_45
• Track 3 : HayZem_54
• Track 4 : GMA7_44, Amore2_55
• Track 5 : Austin_54, GTE7_43
• Track 6 : Dakiti_53, Chelms_52
• Track 7 : CathyBurgh_52, Squibbles_52, John316_56, Sam12_52, GourdThymes_52, Kelzog_54, RemRem_53, Monty_51, Barbochs_51, BirksAndSocks_57, Flakey_52, Gorko_52, Lizzo_52, Exiguo_52, Worcestershire_53, Beaver_56
• Track 8 : FelixAlejandro_57, Butterball_56, CinnamonToast_58, Boneham_56, BillyBobJr_58
• Track 9 : Poland_57, Msay19_57
• Track 10 : PokyPuppy_51
• Track 11 : BigShaq_52, BenoitCattle_53, Crete_53
• Track 12 : Adgers_54
• Track 13 : Jellybones_55
• Track 14 : RoyalG_52, Diabla_55, SteveFrench_51
• Track 15 : Linetti_53
• Track 16 : Hotorobo_52, Breezic_52
• Track 17 : PierreThree_52
• Track 18 : Eggsie_50
• Track 19 : Ekhein_53
• Track 20 : Sombrero_53
• Track 21 : Jams_50, Charianelly_50, Luker_51, Shelley_50, Minos_51, MrWormie_50, Anamika_50, Kaseim_50, Damp_50, Sticker17_50, Newt_51, Hello_50, Berries_50, Hail2Pitt_49, Woes_50, Lidong_50, Bianmat_50
• Track 22 : Jormungandr_50, Harambe_50, GalacticEye_50, Nimi13_50, Teal_50, Lahirium_50, Neoevie_50, Guillaume_50
• Track 23 : Teech_48, Tredge_48, Niagara_47, Kvothe_47, Teatealatte_48
• Track 24 : Katyusha_47, Benczkowski14_47
• Track 25 : ASerpRocky_47
• Track 26 : Philon9_49, Vitaenoii_49
• Track 27 : Hollow_48
• Track 28 : Demosthenes_46
• Track 29 : Gibbles_51, RobinSparkles_56, Orchid_52, Kampe_53, PatrickStar_53
• Track 30 : Gmala1_48

- Track 31 : GordTnk2_50, GordDuk1_49
- Track 32 : GMA3_50
- Track 33 : Jumbo_49
- Track 34 : Camerico_52
- Track 35 : Mbo2_42
- Track 36 : DocB7_042
- Track 37 : Trogglehumper_66

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

The start number called the most often in the published annotations is 37, it was called in 35 of the 85 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Amore2_55, Anamika_50, Austin_54, Berries_50, Bianmat_50, Charianelly_50, Damp_50, Diabla_55, Eggsie_50, GMA7_44, GTE7_43, GalacticEye_50, Guillaume_50, Hail2Pitt_49, Harambe_50, HayZem_54, Hello_50, Jams_50, Jormungandr_50, Kaseim_50, Lahirium_50, Lidong_50, Luker_51, Minos_51, MrWormie_50, Msay19_57, Neoevie_50, Newt_51, Nimi13_50, PierreThree_52, Poland_57, RoyalG_52, Shelley_50, SteveFrench_51, Sticker17_50, Teal_50, Woes_50,

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

Genes that do not have the "Most Annotated" start:
- ASerpRocky_47, Adgers_54, Barbochs_51, Beaver_56, Benczkowski14_47, BenoitCattle_53, BigShaq_52, BillyBobJr_58, BirksAndSocks_57, Boneham_56, Breezic_52, Butterball_56, Camerico_52, CathyBurgh_52, Chelms_52, CinnamonToast_58, Crete_53, Dakiti_53, Demosthenes_46, DocB7_042, Ekhein_53, Exiguo_52, FelixAlejandro_57, Flakey_52, GMA3_50, Gibbles_51, Gmala1_48, GordDuk1_49, GordTnk2_50, Gorko_52, GourdThymes_52, Hollow_48, Hotorobo_52, Jellybones_55, John316_56, Jumbo_49, Kampe_53, Katyusha_47, Kelzog_54, Kvothe_47, Linetti_53, Lizzo_52, Mbo2_42, Monty_51, Niagara_47, Orchid_52, PatrickStar_53, Philon9_49, PokyPuppy_51, RemRem_53, Reynauld_50, RobinSparkles_56, Sam12_52, Sombrero_53, Squibbles_52, Srilaccoli3_45, Teatealatte_48, Teech_48, Tredge_48, Trogglehumper_66, Vitaenoii_49, Worcestershire_53,

Summary by start number:

Start 37:
- Found in 37 of 99 (37.4%) of genes in pham
- Manual Annotations of this start: 35 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amore2_55 (CS1), Anamika_50 (CS3), Austin_54 (CS1), Berries_50 (CS3), Bianmat_50 (CS3), Charianelly_50 (CS3), Damp_50 (CS3), Diabla_55 (CS2), Eggsie_50 (CS2), GMA7_44 (CS1), GTE7_43 (CS1), GalacticEye_50 (CS3), Guillaume_50 (CS3), Hail2Pitt_49 (CS3), Harambe_50 (CS3), HayZem_54 (CS1), Hello_50 (CS3), Jams_50 (CS3), Jormungandr_50 (CS3),

Kaseim_50 (CS3), Lahirium_50 (CS3), Lidong_50 (CS3), Luker_51 (CS3), Minos_51 (CS3), MrWormie_50 (CS3), Msay19_57 (CS2), Neoevie_50 (CS3), Newt_51 (CS3), Nimi13_50 (CS3), PierreThree_52 (CS2), Poland_57 (CS2), RoyalG_52 (CS2), Shelley_50 (CS3), SteveFrench_51 (CS2), Sticker17_50 (CS3), Teal_50 (CS3), Woes_50 (CS3),

Start 39:
• Found in 5 of 99 (5.1%) of genes in pham
• Manual Annotations of this start: 5 of 85
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Gibbles_51 (CX), Kampe_53 (CX), Orchid_52 (CX), PatrickStar_53 (CX), RobinSparkles_56 (CX),

Start 40:
• Found in 33 of 99 (33.3%) of genes in pham
• Manual Annotations of this start: 26 of 85
• Called 93.9% of time when present
• Phage (with cluster) where this start called: Adgers_54 (CS2), Barbochs_51 (CS2), Beaver_56 (CS2), BenoitCattle_53 (CS2), BigShaq_52 (CS2), BillyBobJr_58 (CS2), BirksAndSocks_57 (CS2), Boneham_56 (CS2), Butterball_56 (CS2), CathyBurgh_52 (CS2), Chelms_52 (CS2), CinnamonToast_58 (CS2), Crete_53 (CS2), Dakiti_53 (CS2), Ekhein_53 (CS2), Exiguo_52 (CS2), FelixAlejandro_57 (CS2), Flakey_52 (CS2), Gorko_52 (CS2), GourdThymes_52 (CS2), Jellybones_55 (CS2), John316_56 (CS2), Kelzog_54 (CS2), Linetti_53 (CS2), Lizzo_52 (CS2), Monty_51 (CS2), RemRem_53 (CS2), Sam12_52 (CS2), Sombrero_53 (CS2), Squibbles_52 (CS2), Worcestershire_53 (CS2),

Start 41:
• Found in 12 of 99 (12.1%) of genes in pham
• Manual Annotations of this start: 12 of 85
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ASerpRocky_47 (CS4), Benczkowski14_47 (CS4), Demosthenes_46 (CS4), Hollow_48 (CS4), Katyusha_47 (CS4), Kvothe_47 (CS4), Niagara_47 (CS4), Philon9_49 (CS4), Teatealatte_48 (CS4), Teech_48 (CS4), Tredge_48 (CS4), Vitaenoii_49 (CS4),

Start 42:
• Found in 1 of 99 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 85
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Trogglehumper_66 (singleton),

Start 43:
• Found in 10 of 99 (10.1%) of genes in pham
• Manual Annotations of this start: 3 of 85
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Camerico_52 (DF4), DocB7_042 (singleton), GMA3_50 (DF2), Gmala1_48 (DF1), GordDuk1_49 (DF1), GordTnk2_50 (DF1), Jumbo_49 (DF3), Mbo2_42 (singleton), Reynauld_50 (CH), Srilaccoli3_45 (CH),

Start 47:
• Found in 87 of 99 (87.9%) of genes in pham

• Manual Annotations of this start: 3 of 85
• Called 3.4% of time when present
• Phage (with cluster) where this start called: Breezic_52 (CS2), Hotorobo_52 (CS2), PokyPuppy_51 (CS2),

Summary by clusters:

There are 11 clusters represented in this pham: singleton, CH, DF4, DF1, DF3, DF2, CX, CS4, CS1, CS3, CS2,

Info for manual annotations of cluster CH:
•Start number 43 was manually annotated 1 time for cluster CH.

Info for manual annotations of cluster CS1:
•Start number 37 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CS2:
•Start number 37 was manually annotated 7 times for cluster CS2.
•Start number 40 was manually annotated 26 times for cluster CS2.
•Start number 47 was manually annotated 3 times for cluster CS2.

Info for manual annotations of cluster CS3:
•Start number 37 was manually annotated 25 times for cluster CS3.

Info for manual annotations of cluster CS4:
•Start number 41 was manually annotated 12 times for cluster CS4.

Info for manual annotations of cluster CX:
•Start number 39 was manually annotated 5 times for cluster CX.

Info for manual annotations of cluster DF3:
•Start number 43 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DF4:
•Start number 43 was manually annotated 1 time for cluster DF4.

Gene Information:

Gene: ASerpRocky_47 Start: 47956, Stop: 47420, Start Num: 41
Candidate Starts for ASerpRocky_47:
(15, 48154), (18, 48109), (Start: 41 @47956 has 12 MA's), (Start: 47 @47902 has 3 MA's), (49, 47887), (62, 47764), (63, 47755), (68, 47671), (79, 47578), (80, 47566), (82, 47557), (86, 47545), (94, 47473), (101, 47458),

Gene: Adgers_54 Start: 47499, Stop: 46936, Start Num: 40
Candidate Starts for Adgers_54:
(Start: 40 @47499 has 26 MA's), (45, 47481), (Start: 47 @47442 has 3 MA's), (53, 47394), (67, 47223), (68, 47214), (70, 47181), (73, 47157), (75, 47145), (78, 47133), (82, 47100), (83, 47097), (102, 46992),

Gene: Amore2_55 Start: 47896, Stop: 47321, Start Num: 37
Candidate Starts for Amore2_55:
(26, 47971), (31, 47920), (Start: 37 @47896 has 35 MA's), (Start: 47 @47833 has 3 MA's), (49, 47818), (55, 47758), (67, 47608), (68, 47599), (69, 47575), (73, 47542), (83, 47482), (93, 47413), (102, 47377),

Gene: Anamika_50 Start: 48401, Stop: 47832, Start Num: 37
Candidate Starts for Anamika_50:
(Start: 37 @48401 has 35 MA's), (45, 48377), (Start: 47 @48338 has 3 MA's), (50, 48320), (61, 48218), (68, 48110), (70, 48077), (77, 48032), (82, 47996), (83, 47993), (93, 47924), (102, 47888), (111, 47846),

Gene: Austin_54 Start: 47894, Stop: 47319, Start Num: 37
Candidate Starts for Austin_54:
(26, 47969), (31, 47918), (32, 47912), (Start: 37 @47894 has 35 MA's), (Start: 47 @47831 has 3 MA's), (49, 47816), (55, 47756), (67, 47606), (68, 47597), (69, 47573), (73, 47540), (83, 47480), (93, 47411), (102, 47375),

Gene: Barbochs_51 Start: 47243, Stop: 46680, Start Num: 40
Candidate Starts for Barbochs_51:
(Start: 40 @47243 has 26 MA's), (45, 47225), (Start: 47 @47186 has 3 MA's), (53, 47138), (67, 46967), (68, 46958), (70, 46925), (75, 46889), (78, 46877), (82, 46844), (83, 46841), (102, 46736),

Gene: Beaver_56 Start: 49013, Stop: 48450, Start Num: 40
Candidate Starts for Beaver_56:
(Start: 40 @49013 has 26 MA's), (45, 48995), (Start: 47 @48956 has 3 MA's), (53, 48908), (67, 48737), (68, 48728), (70, 48695), (75, 48659), (78, 48647), (82, 48614), (83, 48611), (102, 48506),

Gene: Benczkowski14_47 Start: 48227, Stop: 47691, Start Num: 41
Candidate Starts for Benczkowski14_47:
(15, 48425), (18, 48380), (Start: 41 @48227 has 12 MA's), (Start: 47 @48173 has 3 MA's), (49, 48158), (56, 48080), (62, 48035), (68, 47942), (70, 47909), (73, 47885), (79, 47849), (80, 47837), (82, 47828), (86, 47816), (88, 47804), (94, 47744), (101, 47729),

Gene: BenoitCattle_53 Start: 47606, Stop: 47043, Start Num: 40
Candidate Starts for BenoitCattle_53:
(29, 47645), (30, 47639), (33, 47627), (Start: 40 @47606 has 26 MA's), (45, 47588), (Start: 47 @47549 has 3 MA's), (67, 47330), (68, 47321), (70, 47288), (75, 47252), (78, 47240), (82, 47207), (83, 47204), (102, 47099),

Gene: Berries_50 Start: 48373, Stop: 47804, Start Num: 37
Candidate Starts for Berries_50:
(Start: 37 @48373 has 35 MA's), (45, 48349), (Start: 47 @48310 has 3 MA's), (50, 48292), (61, 48190), (68, 48082), (70, 48049), (77, 48004), (82, 47968), (83, 47965), (93, 47896), (102, 47860), (111, 47818),

Gene: Bianmat_50 Start: 48413, Stop: 47844, Start Num: 37
Candidate Starts for Bianmat_50:
(Start: 37 @48413 has 35 MA's), (45, 48389), (Start: 47 @48350 has 3 MA's), (50, 48332), (61, 48230), (68, 48122), (70, 48089), (77, 48044), (82, 48008), (83, 48005), (93, 47936), (102, 47900), (111, 47858),

Gene: BigShaq_52 Start: 47611, Stop: 47048, Start Num: 40
Candidate Starts for BigShaq_52:

(29, 47650), (30, 47644), (33, 47632), (Start: 40 @47611 has 26 MA's), (45, 47593), (Start: 47 @47554 has 3 MA's), (67, 47335), (68, 47326), (70, 47293), (75, 47257), (78, 47245), (82, 47212), (83, 47209), (102, 47104),

Gene: BillyBobJr_58 Start: 49323, Stop: 48760, Start Num: 40
Candidate Starts for BillyBobJr_58:
(Start: 40 @49323 has 26 MA's), (45, 49305), (Start: 47 @49266 has 3 MA's), (53, 49218), (67, 49047), (68, 49038), (70, 49005), (73, 48981), (78, 48957), (82, 48924), (83, 48921), (102, 48816),

Gene: BirksAndSocks_57 Start: 49363, Stop: 48800, Start Num: 40
Candidate Starts for BirksAndSocks_57:
(Start: 40 @49363 has 26 MA's), (45, 49345), (Start: 47 @49306 has 3 MA's), (53, 49258), (67, 49087), (68, 49078), (70, 49045), (75, 49009), (78, 48997), (82, 48964), (83, 48961), (102, 48856),

Gene: Boneham_56 Start: 49264, Stop: 48701, Start Num: 40
Candidate Starts for Boneham_56:
(Start: 40 @49264 has 26 MA's), (45, 49246), (Start: 47 @49207 has 3 MA's), (53, 49159), (67, 48988), (68, 48979), (70, 48946), (73, 48922), (78, 48898), (82, 48865), (83, 48862), (102, 48757),

Gene: Breezic_52 Start: 47199, Stop: 46693, Start Num: 47
Candidate Starts for Breezic_52:
(Start: 40 @47256 has 26 MA's), (45, 47238), (Start: 47 @47199 has 3 MA's), (53, 47151), (67, 46980), (68, 46971), (70, 46938), (75, 46902), (78, 46890), (82, 46857), (83, 46854), (102, 46749),

Gene: Butterball_56 Start: 49269, Stop: 48706, Start Num: 40
Candidate Starts for Butterball_56:
(Start: 40 @49269 has 26 MA's), (45, 49251), (Start: 47 @49212 has 3 MA's), (53, 49164), (67, 48993), (68, 48984), (70, 48951), (73, 48927), (78, 48903), (82, 48870), (83, 48867), (102, 48762),

Gene: Camerico_52 Start: 49576, Stop: 49001, Start Num: 43
Candidate Starts for Camerico_52:
(Start: 43 @49576 has 3 MA's), (56, 49438), (60, 49405), (61, 49402), (68, 49294), (70, 49261), (71, 49258), (73, 49237), (81, 49186), (82, 49183), (85, 49174), (88, 49159), (97, 49093),

Gene: CathyBurgh_52 Start: 47833, Stop: 47270, Start Num: 40
Candidate Starts for CathyBurgh_52:
(Start: 40 @47833 has 26 MA's), (45, 47815), (Start: 47 @47776 has 3 MA's), (53, 47728), (67, 47557), (68, 47548), (70, 47515), (75, 47479), (78, 47467), (82, 47434), (83, 47431), (102, 47326),

Gene: Charianelly_50 Start: 48123, Stop: 47554, Start Num: 37
Candidate Starts for Charianelly_50:
(Start: 37 @48123 has 35 MA's), (45, 48099), (Start: 47 @48060 has 3 MA's), (50, 48042), (61, 47940), (68, 47832), (70, 47799), (77, 47754), (82, 47718), (83, 47715), (93, 47646), (102, 47610), (111, 47568),

Gene: Chelms_52 Start: 47599, Stop: 47036, Start Num: 40
Candidate Starts for Chelms_52:
(29, 47638), (30, 47632), (33, 47620), (Start: 40 @47599 has 26 MA's), (45, 47581), (Start: 47 @47542 has 3 MA's), (61, 47419), (67, 47323), (68, 47314), (70, 47281), (75, 47245), (78, 47233), (82, 47200), (83, 47197), (102, 47092),

Gene: CinnamonToast_58 Start: 49323, Stop: 48760, Start Num: 40
Candidate Starts for CinnamonToast_58:

(Start: 40 @49323 has 26 MA's), (45, 49305), (Start: 47 @49266 has 3 MA's), (53, 49218), (67, 49047), (68, 49038), (70, 49005), (73, 48981), (78, 48957), (82, 48924), (83, 48921), (102, 48816),

Gene: Crete_53 Start: 47877, Stop: 47314, Start Num: 40
Candidate Starts for Crete_53:
(29, 47916), (30, 47910), (33, 47898), (Start: 40 @47877 has 26 MA's), (45, 47859), (Start: 47 @47820 has 3 MA's), (67, 47601), (68, 47592), (70, 47559), (75, 47523), (78, 47511), (82, 47478), (83, 47475), (102, 47370),

Gene: Dakiti_53 Start: 48467, Stop: 47904, Start Num: 40
Candidate Starts for Dakiti_53:
(29, 48506), (30, 48500), (33, 48488), (Start: 40 @48467 has 26 MA's), (45, 48449), (Start: 47 @48410 has 3 MA's), (61, 48287), (67, 48191), (68, 48182), (70, 48149), (75, 48113), (78, 48101), (82, 48068), (83, 48065), (102, 47960),

Gene: Damp_50 Start: 47287, Stop: 46718, Start Num: 37
Candidate Starts for Damp_50:
(Start: 37 @47287 has 35 MA's), (45, 47263), (Start: 47 @47224 has 3 MA's), (50, 47206), (61, 47104), (68, 46996), (70, 46963), (77, 46918), (82, 46882), (83, 46879), (93, 46810), (102, 46774), (111, 46732),

Gene: Demosthenes_46 Start: 47932, Stop: 47396, Start Num: 41
Candidate Starts for Demosthenes_46:
(15, 48130), (18, 48085), (Start: 41 @47932 has 12 MA's), (Start: 47 @47878 has 3 MA's), (49, 47863), (62, 47740), (63, 47731), (68, 47647), (73, 47590), (79, 47554), (80, 47542), (82, 47533), (86, 47521), (94, 47449),

Gene: Diabla_55 Start: 49046, Stop: 48477, Start Num: 37
Candidate Starts for Diabla_55:
(27, 49103), (Start: 37 @49046 has 35 MA's), (44, 49025), (Start: 47 @48983 has 3 MA's), (53, 48935), (67, 48764), (68, 48755), (70, 48722), (75, 48686), (82, 48641), (83, 48638), (102, 48533),

Gene: DocB7_042 Start: 39836, Stop: 39279, Start Num: 43
Candidate Starts for DocB7_042:
(34, 39860), (36, 39851), (Start: 43 @39836 has 3 MA's), (56, 39692), (59, 39674), (69, 39524), (70, 39515), (73, 39491), (76, 39473), (77, 39470), (83, 39434), (100, 39341), (111, 39293),

Gene: Eggsie_50 Start: 47008, Stop: 46439, Start Num: 37
Candidate Starts for Eggsie_50:
(27, 47065), (Start: 37 @47008 has 35 MA's), (44, 46987), (Start: 47 @46945 has 3 MA's), (53, 46897), (58, 46843), (67, 46726), (68, 46717), (70, 46684), (75, 46648), (82, 46603), (83, 46600), (102, 46495),

Gene: Ekhein_53 Start: 46961, Stop: 46398, Start Num: 40
Candidate Starts for Ekhein_53:
(Start: 40 @46961 has 26 MA's), (Start: 47 @46904 has 3 MA's), (53, 46856), (67, 46685), (68, 46676), (70, 46643), (75, 46607), (78, 46595), (82, 46562), (83, 46559), (102, 46454),

Gene: Exiguo_52 Start: 46973, Stop: 46410, Start Num: 40
Candidate Starts for Exiguo_52:
(Start: 40 @46973 has 26 MA's), (45, 46955), (Start: 47 @46916 has 3 MA's), (53, 46868), (67, 46697), (68, 46688), (70, 46655), (75, 46619), (78, 46607), (82, 46574), (83, 46571), (102, 46466),

Gene: FelixAlejandro_57 Start: 49467, Stop: 48904, Start Num: 40

Candidate Starts for FelixAlejandro_57:
(Start: 40 @49467 has 26 MA's), (45, 49449), (Start: 47 @49410 has 3 MA's), (53, 49362), (67, 49191), (68, 49182), (70, 49149), (73, 49125), (78, 49101), (82, 49068), (83, 49065), (102, 48960),

Gene: Flakey_52 Start: 47837, Stop: 47274, Start Num: 40
Candidate Starts for Flakey_52:
(Start: 40 @47837 has 26 MA's), (45, 47819), (Start: 47 @47780 has 3 MA's), (53, 47732), (67, 47561), (68, 47552), (70, 47519), (75, 47483), (78, 47471), (82, 47438), (83, 47435), (102, 47330),

Gene: GMA3_50 Start: 46070, Stop: 45516, Start Num: 43
Candidate Starts for GMA3_50:
(Start: 43 @46070 has 3 MA's), (Start: 47 @46022 has 3 MA's), (61, 45899), (68, 45794), (81, 45686), (100, 45599),

Gene: GMA7_44 Start: 42110, Stop: 41535, Start Num: 37
Candidate Starts for GMA7_44:
(26, 42185), (31, 42134), (Start: 37 @42110 has 35 MA's), (Start: 47 @42047 has 3 MA's), (49, 42032), (55, 41972), (67, 41822), (68, 41813), (69, 41789), (73, 41756), (83, 41696), (93, 41627), (102, 41591),

Gene: GTE7_43 Start: 42141, Stop: 41566, Start Num: 37
Candidate Starts for GTE7_43:
(26, 42216), (31, 42165), (32, 42159), (Start: 37 @42141 has 35 MA's), (Start: 47 @42078 has 3 MA's), (49, 42063), (55, 42003), (67, 41853), (68, 41844), (69, 41820), (73, 41787), (83, 41727), (93, 41658), (102, 41622),

Gene: GalacticEye_50 Start: 48084, Stop: 47515, Start Num: 37
Candidate Starts for GalacticEye_50:
(Start: 37 @48084 has 35 MA's), (Start: 47 @48021 has 3 MA's), (50, 48003), (61, 47901), (68, 47793), (70, 47760), (77, 47715), (82, 47679), (83, 47676), (93, 47607), (102, 47571), (111, 47529),

Gene: Gibbles_51 Start: 46643, Stop: 46122, Start Num: 39
Candidate Starts for Gibbles_51:
(Start: 39 @46643 has 5 MA's), (52, 46541), (56, 46496), (60, 46463), (64, 46418), (68, 46382), (69, 46358), (82, 46274), (95, 46217), (99, 46208), (100, 46205), (102, 46196), (108, 46172),

Gene: Gmala1_48 Start: 44268, Stop: 43714, Start Num: 43
Candidate Starts for Gmala1_48:
(Start: 43 @44268 has 3 MA's), (52, 44178), (54, 44151), (60, 44100), (61, 44097), (68, 43992), (82, 43881), (107, 43764), (108, 43761), (109, 43758),

Gene: GordDuk1_49 Start: 44419, Stop: 43865, Start Num: 43
Candidate Starts for GordDuk1_49:
(Start: 43 @44419 has 3 MA's), (52, 44329), (60, 44251), (61, 44248), (68, 44143), (82, 44032), (107, 43915), (108, 43912), (109, 43909),

Gene: GordTnk2_50 Start: 44573, Stop: 44019, Start Num: 43
Candidate Starts for GordTnk2_50:
(Start: 43 @44573 has 3 MA's), (52, 44483), (60, 44405), (61, 44402), (68, 44297), (82, 44186), (107, 44069), (108, 44066), (109, 44063),

Gene: Gorko_52 Start: 46965, Stop: 46402, Start Num: 40
Candidate Starts for Gorko_52:

(Start: 40 @46965 has 26 MA's), (45, 46947), (Start: 47 @46908 has 3 MA's), (53, 46860), (67, 46689), (68, 46680), (70, 46647), (75, 46611), (78, 46599), (82, 46566), (83, 46563), (102, 46458),

Gene: GourdThymes_52 Start: 47839, Stop: 47276, Start Num: 40
Candidate Starts for GourdThymes_52:
(Start: 40 @47839 has 26 MA's), (45, 47821), (Start: 47 @47782 has 3 MA's), (53, 47734), (67, 47563), (68, 47554), (70, 47521), (75, 47485), (78, 47473), (82, 47440), (83, 47437), (102, 47332),

Gene: Guillaume_50 Start: 48134, Stop: 47565, Start Num: 37
Candidate Starts for Guillaume_50:
(Start: 37 @48134 has 35 MA's), (Start: 47 @48071 has 3 MA's), (50, 48053), (61, 47951), (68, 47843), (70, 47810), (77, 47765), (82, 47729), (83, 47726), (93, 47657), (102, 47621), (111, 47579),

Gene: Hail2Pitt_49 Start: 48610, Stop: 48041, Start Num: 37
Candidate Starts for Hail2Pitt_49:
(Start: 37 @48610 has 35 MA's), (45, 48586), (Start: 47 @48547 has 3 MA's), (50, 48529), (61, 48427), (68, 48319), (70, 48286), (77, 48241), (82, 48205), (83, 48202), (93, 48133), (102, 48097), (111, 48055),

Gene: Harambe_50 Start: 48401, Stop: 47832, Start Num: 37
Candidate Starts for Harambe_50:
(Start: 37 @48401 has 35 MA's), (Start: 47 @48338 has 3 MA's), (50, 48320), (61, 48218), (68, 48110), (70, 48077), (77, 48032), (82, 47996), (83, 47993), (93, 47924), (102, 47888), (111, 47846),

Gene: HayZem_54 Start: 47893, Stop: 47318, Start Num: 37
Candidate Starts for HayZem_54:
(26, 47968), (31, 47917), (Start: 37 @47893 has 35 MA's), (Start: 47 @47830 has 3 MA's), (49, 47815), (55, 47755), (67, 47605), (68, 47596), (69, 47572), (73, 47539), (82, 47482), (83, 47479), (93, 47410), (102, 47374),

Gene: Hello_50 Start: 48363, Stop: 47794, Start Num: 37
Candidate Starts for Hello_50:
(Start: 37 @48363 has 35 MA's), (45, 48339), (Start: 47 @48300 has 3 MA's), (50, 48282), (61, 48180), (68, 48072), (70, 48039), (77, 47994), (82, 47958), (83, 47955), (93, 47886), (102, 47850), (111, 47808),

Gene: Hollow_48 Start: 48563, Stop: 48027, Start Num: 41
Candidate Starts for Hollow_48:
(1, 49235), (2, 49181), (3, 49163), (4, 49133), (5, 49052), (6, 49040), (7, 48971), (8, 48965), (15, 48761), (18, 48716), (Start: 41 @48563 has 12 MA's), (Start: 47 @48509 has 3 MA's), (49, 48494), (62, 48371), (68, 48278), (79, 48185), (80, 48173), (82, 48164), (86, 48152), (94, 48080),

Gene: Hotorobo_52 Start: 47787, Stop: 47281, Start Num: 47
Candidate Starts for Hotorobo_52:
(Start: 40 @47844 has 26 MA's), (45, 47826), (Start: 47 @47787 has 3 MA's), (53, 47739), (67, 47568), (68, 47559), (70, 47526), (75, 47490), (78, 47478), (82, 47445), (83, 47442), (102, 47337),

Gene: Jams_50 Start: 47573, Stop: 47004, Start Num: 37
Candidate Starts for Jams_50:
(Start: 37 @47573 has 35 MA's), (45, 47549), (Start: 47 @47510 has 3 MA's), (50, 47492), (61, 47390), (68, 47282), (70, 47249), (77, 47204), (82, 47168), (83, 47165), (93, 47096), (102, 47060), (111, 47018),

Gene: Jellybones_55 Start: 48945, Stop: 48382, Start Num: 40
Candidate Starts for Jellybones_55:
(29, 48984), (30, 48978), (Start: 40 @48945 has 26 MA's), (Start: 47 @48888 has 3 MA's), (53, 48840),
(67, 48669), (68, 48660), (70, 48627), (73, 48603), (78, 48579), (82, 48546), (83, 48543), (102, 48438),

Gene: John316_56 Start: 49002, Stop: 48439, Start Num: 40
Candidate Starts for John316_56:
(Start: 40 @49002 has 26 MA's), (45, 48984), (Start: 47 @48945 has 3 MA's), (53, 48897), (67, 48726),
(68, 48717), (70, 48684), (75, 48648), (78, 48636), (82, 48603), (83, 48600), (102, 48495),

Gene: Jormungandr_50 Start: 48116, Stop: 47547, Start Num: 37
Candidate Starts for Jormungandr_50:
(Start: 37 @48116 has 35 MA's), (Start: 47 @48053 has 3 MA's), (50, 48035), (61, 47933), (68, 47825),
(70, 47792), (77, 47747), (82, 47711), (83, 47708), (93, 47639), (102, 47603), (111, 47561),

Gene: Jumbo_49 Start: 48952, Stop: 48386, Start Num: 43
Candidate Starts for Jumbo_49:
(28, 49006), (Start: 43 @48952 has 3 MA's), (52, 48862), (56, 48817), (60, 48784), (61, 48781), (68,
48676), (72, 48625), (81, 48568), (85, 48556), (112, 48409),

Gene: Kampe_53 Start: 46621, Stop: 46100, Start Num: 39
Candidate Starts for Kampe_53:
(Start: 39 @46621 has 5 MA's), (52, 46519), (56, 46474), (60, 46441), (64, 46396), (68, 46360), (69,
46336), (82, 46252), (95, 46195), (99, 46186), (100, 46183), (102, 46174), (108, 46150),

Gene: Kaseim_50 Start: 47558, Stop: 46989, Start Num: 37
Candidate Starts for Kaseim_50:
(Start: 37 @47558 has 35 MA's), (45, 47534), (Start: 47 @47495 has 3 MA's), (50, 47477), (61, 47375),
(68, 47267), (70, 47234), (77, 47189), (82, 47153), (83, 47150), (93, 47081), (102, 47045), (111,
47003),

Gene: Katyusha_47 Start: 48227, Stop: 47691, Start Num: 41
Candidate Starts for Katyusha_47:
(15, 48425), (18, 48380), (Start: 41 @48227 has 12 MA's), (Start: 47 @48173 has 3 MA's), (49, 48158),
(56, 48080), (62, 48035), (68, 47942), (70, 47909), (73, 47885), (79, 47849), (80, 47837), (82, 47828),
(86, 47816), (88, 47804), (94, 47744), (101, 47729),

Gene: Kelzog_54 Start: 47851, Stop: 47288, Start Num: 40
Candidate Starts for Kelzog_54:
(Start: 40 @47851 has 26 MA's), (45, 47833), (Start: 47 @47794 has 3 MA's), (53, 47746), (67, 47575),
(68, 47566), (70, 47533), (75, 47497), (78, 47485), (82, 47452), (83, 47449), (102, 47344),

Gene: Kvothe_47 Start: 48126, Stop: 47590, Start Num: 41
Candidate Starts for Kvothe_47:
(18, 48279), (Start: 41 @48126 has 12 MA's), (Start: 47 @48072 has 3 MA's), (49, 48057), (56, 47979),
(62, 47934), (68, 47841), (70, 47808), (73, 47784), (79, 47748), (80, 47736), (82, 47727), (86, 47715),
(88, 47703), (94, 47643), (101, 47628),

Gene: Lahirium_50 Start: 48638, Stop: 48069, Start Num: 37
Candidate Starts for Lahirium_50:
(Start: 37 @48638 has 35 MA's), (Start: 47 @48575 has 3 MA's), (50, 48557), (61, 48455), (68, 48347),
(70, 48314), (77, 48269), (82, 48233), (83, 48230), (93, 48161), (102, 48125), (111, 48083),

Gene: Lidong_50 Start: 48373, Stop: 47804, Start Num: 37
Candidate Starts for Lidong_50:
(Start: 37 @48373 has 35 MA's), (45, 48349), (Start: 47 @48310 has 3 MA's), (50, 48292), (61, 48190), (68, 48082), (70, 48049), (77, 48004), (82, 47968), (83, 47965), (93, 47896), (102, 47860), (111, 47818),

Gene: Linetti_53 Start: 48608, Stop: 48045, Start Num: 40
Candidate Starts for Linetti_53:
(29, 48647), (30, 48641), (33, 48629), (Start: 40 @48608 has 26 MA's), (45, 48590), (Start: 47 @48551 has 3 MA's), (53, 48503), (67, 48332), (68, 48323), (70, 48290), (75, 48254), (78, 48242), (82, 48209), (83, 48206), (102, 48101),

Gene: Lizzo_52 Start: 47833, Stop: 47270, Start Num: 40
Candidate Starts for Lizzo_52:
(Start: 40 @47833 has 26 MA's), (45, 47815), (Start: 47 @47776 has 3 MA's), (53, 47728), (67, 47557), (68, 47548), (70, 47515), (75, 47479), (78, 47467), (82, 47434), (83, 47431), (102, 47326),

Gene: Luker_51 Start: 48591, Stop: 48022, Start Num: 37
Candidate Starts for Luker_51:
(Start: 37 @48591 has 35 MA's), (45, 48567), (Start: 47 @48528 has 3 MA's), (50, 48510), (61, 48408), (68, 48300), (70, 48267), (77, 48222), (82, 48186), (83, 48183), (93, 48114), (102, 48078), (111, 48036),

Gene: Mbo2_42 Start: 37548, Stop: 37012, Start Num: 43
Candidate Starts for Mbo2_42:
(11, 37794), (16, 37731), (19, 37683), (24, 37644), (Start: 43 @37548 has 3 MA's), (Start: 47 @37497 has 3 MA's), (60, 37377), (68, 37269), (74, 37203), (78, 37188), (82, 37158), (83, 37155), (84, 37152),

Gene: Minos_51 Start: 48115, Stop: 47546, Start Num: 37
Candidate Starts for Minos_51:
(Start: 37 @48115 has 35 MA's), (45, 48091), (Start: 47 @48052 has 3 MA's), (50, 48034), (61, 47932), (68, 47824), (70, 47791), (77, 47746), (82, 47710), (83, 47707), (93, 47638), (102, 47602), (111, 47560),

Gene: Monty_51 Start: 46983, Stop: 46420, Start Num: 40
Candidate Starts for Monty_51:
(Start: 40 @46983 has 26 MA's), (45, 46965), (Start: 47 @46926 has 3 MA's), (53, 46878), (67, 46707), (68, 46698), (70, 46665), (75, 46629), (78, 46617), (82, 46584), (83, 46581), (102, 46476),

Gene: MrWormie_50 Start: 47276, Stop: 46707, Start Num: 37
Candidate Starts for MrWormie_50:
(Start: 37 @47276 has 35 MA's), (45, 47252), (Start: 47 @47213 has 3 MA's), (50, 47195), (61, 47093), (68, 46985), (70, 46952), (77, 46907), (82, 46871), (83, 46868), (93, 46799), (102, 46763), (111, 46721),

Gene: Msay19_57 Start: 49462, Stop: 48893, Start Num: 37
Candidate Starts for Msay19_57:
(12, 49705), (13, 49684), (17, 49609), (22, 49573), (23, 49564), (27, 49519), (Start: 37 @49462 has 35 MA's), (Start: 47 @49399 has 3 MA's), (53, 49351), (67, 49180), (68, 49171), (70, 49138), (73, 49114), (78, 49090), (82, 49057), (83, 49054), (102, 48949),

Gene: Neoevie_50 Start: 48377, Stop: 47808, Start Num: 37
Candidate Starts for Neoevie_50:

(Start: 37 @48377 has 35 MA's), (Start: 47 @48314 has 3 MA's), (50, 48296), (61, 48194), (68, 48086), (70, 48053), (77, 48008), (82, 47972), (83, 47969), (93, 47900), (102, 47864), (111, 47822),

Gene: Newt_51 Start: 48605, Stop: 48036, Start Num: 37
Candidate Starts for Newt_51:
(Start: 37 @48605 has 35 MA's), (45, 48581), (Start: 47 @48542 has 3 MA's), (50, 48524), (61, 48422), (68, 48314), (70, 48281), (77, 48236), (82, 48200), (83, 48197), (93, 48128), (102, 48092), (111, 48050),

Gene: Niagara_47 Start: 48217, Stop: 47681, Start Num: 41
Candidate Starts for Niagara_47:
(18, 48370), (Start: 41 @48217 has 12 MA's), (Start: 47 @48163 has 3 MA's), (49, 48148), (56, 48070), (62, 48025), (68, 47932), (70, 47899), (73, 47875), (79, 47839), (80, 47827), (82, 47818), (86, 47806), (88, 47794), (94, 47734), (101, 47719),

Gene: Nimi13_50 Start: 48124, Stop: 47555, Start Num: 37
Candidate Starts for Nimi13_50:
(Start: 37 @48124 has 35 MA's), (Start: 47 @48061 has 3 MA's), (50, 48043), (61, 47941), (68, 47833), (70, 47800), (77, 47755), (82, 47719), (83, 47716), (93, 47647), (102, 47611), (111, 47569),

Gene: Orchid_52 Start: 46622, Stop: 46101, Start Num: 39
Candidate Starts for Orchid_52:
(Start: 39 @46622 has 5 MA's), (52, 46520), (56, 46475), (60, 46442), (64, 46397), (68, 46361), (69, 46337), (82, 46253), (95, 46196), (99, 46187), (100, 46184), (102, 46175), (108, 46151),

Gene: PatrickStar_53 Start: 46621, Stop: 46100, Start Num: 39
Candidate Starts for PatrickStar_53:
(Start: 39 @46621 has 5 MA's), (52, 46519), (56, 46474), (60, 46441), (64, 46396), (68, 46360), (69, 46336), (82, 46252), (95, 46195), (99, 46186), (100, 46183), (102, 46174), (108, 46150),

Gene: Philon9_49 Start: 49248, Stop: 48712, Start Num: 41
Candidate Starts for Philon9_49:
(18, 49401), (20, 49374), (Start: 41 @49248 has 12 MA's), (Start: 47 @49194 has 3 MA's), (49, 49179), (51, 49173), (57, 49089), (62, 49056), (68, 48963), (73, 48906), (80, 48858), (82, 48849), (83, 48846), (94, 48765),

Gene: PierreThree_52 Start: 48363, Stop: 47794, Start Num: 37
Candidate Starts for PierreThree_52:
(27, 48420), (Start: 37 @48363 has 35 MA's), (45, 48339), (Start: 47 @48300 has 3 MA's), (53, 48252), (61, 48177), (67, 48081), (68, 48072), (70, 48039), (75, 48003), (78, 47991), (82, 47958), (83, 47955), (102, 47850),

Gene: PokyPuppy_51 Start: 48234, Stop: 47728, Start Num: 47
Candidate Starts for PokyPuppy_51:
(38, 48294), (44, 48276), (Start: 47 @48234 has 3 MA's), (48, 48225), (53, 48186), (67, 48015), (68, 48006), (70, 47973), (73, 47949), (77, 47928), (78, 47925), (82, 47892), (89, 47850), (102, 47784),

Gene: Poland_57 Start: 49441, Stop: 48872, Start Num: 37
Candidate Starts for Poland_57:
(12, 49684), (13, 49663), (17, 49588), (22, 49552), (23, 49543), (27, 49498), (Start: 37 @49441 has 35 MA's), (Start: 47 @49378 has 3 MA's), (53, 49330), (67, 49159), (68, 49150), (70, 49117), (73, 49093), (78, 49069), (82, 49036), (83, 49033), (102, 48928),

Gene: RemRem_53 Start: 46973, Stop: 46410, Start Num: 40
Candidate Starts for RemRem_53:
(Start: 40 @46973 has 26 MA's), (45, 46955), (Start: 47 @46916 has 3 MA's), (53, 46868), (67, 46697),
(68, 46688), (70, 46655), (75, 46619), (78, 46607), (82, 46574), (83, 46571), (102, 46466),

Gene: Reynauld_50 Start: 46430, Stop: 45882, Start Num: 43
Candidate Starts for Reynauld_50:
(14, 46655), (21, 46556), (25, 46523), (Start: 43 @46430 has 3 MA's), (45, 46418), (46, 46409), (Start:
47 @46379 has 3 MA's), (52, 46340), (63, 46238), (66, 46181), (68, 46151), (74, 46085), (85, 46031),
(87, 46019), (91, 45995), (105, 45941), (106, 45935), (107, 45932), (110, 45923),

Gene: RobinSparkles_56 Start: 47174, Stop: 46653, Start Num: 39
Candidate Starts for RobinSparkles_56:
(Start: 39 @47174 has 5 MA's), (52, 47072), (56, 47027), (60, 46994), (64, 46949), (68, 46913), (69,
46889), (82, 46805), (95, 46748), (99, 46739), (100, 46736), (102, 46727), (108, 46703),

Gene: RoyalG_52 Start: 47657, Stop: 47088, Start Num: 37
Candidate Starts for RoyalG_52:
(27, 47714), (Start: 37 @47657 has 35 MA's), (44, 47636), (Start: 47 @47594 has 3 MA's), (53, 47546),
(67, 47375), (68, 47366), (70, 47333), (75, 47297), (82, 47252), (83, 47249), (102, 47144),

Gene: Sam12_52 Start: 46973, Stop: 46410, Start Num: 40
Candidate Starts for Sam12_52:
(Start: 40 @46973 has 26 MA's), (45, 46955), (Start: 47 @46916 has 3 MA's), (53, 46868), (67, 46697),
(68, 46688), (70, 46655), (75, 46619), (78, 46607), (82, 46574), (83, 46571), (102, 46466),

Gene: Shelley_50 Start: 47600, Stop: 47031, Start Num: 37
Candidate Starts for Shelley_50:
(Start: 37 @47600 has 35 MA's), (45, 47576), (Start: 47 @47537 has 3 MA's), (50, 47519), (61, 47417),
(68, 47309), (70, 47276), (77, 47231), (82, 47195), (83, 47192), (93, 47123), (102, 47087), (111,
47045),

Gene: Sombrero_53 Start: 47346, Stop: 46783, Start Num: 40
Candidate Starts for Sombrero_53:
(Start: 40 @47346 has 26 MA's), (Start: 47 @47289 has 3 MA's), (53, 47241), (67, 47070), (68, 47061),
(70, 47028), (73, 47004), (78, 46980), (82, 46947), (83, 46944), (102, 46839),

Gene: Squibbles_52 Start: 47836, Stop: 47273, Start Num: 40
Candidate Starts for Squibbles_52:
(Start: 40 @47836 has 26 MA's), (45, 47818), (Start: 47 @47779 has 3 MA's), (53, 47731), (67, 47560),
(68, 47551), (70, 47518), (75, 47482), (78, 47470), (82, 47437), (83, 47434), (102, 47329),

Gene: Srilaccoli3_45 Start: 45227, Stop: 44679, Start Num: 43
Candidate Starts for Srilaccoli3_45:
(9, 45551), (10, 45527), (14, 45458), (21, 45353), (25, 45320), (Start: 43 @45227 has 3 MA's), (Start:
47 @45176 has 3 MA's), (52, 45137), (63, 45035), (66, 44978), (68, 44948), (74, 44882), (85, 44828),
(90, 44801), (91, 44792), (106, 44732), (107, 44729),

Gene: SteveFrench_51 Start: 47897, Stop: 47328, Start Num: 37
Candidate Starts for SteveFrench_51:
(27, 47954), (Start: 37 @47897 has 35 MA's), (44, 47876), (Start: 47 @47834 has 3 MA's), (53, 47786),
(67, 47615), (68, 47606), (70, 47573), (75, 47537), (82, 47492), (83, 47489), (102, 47384),

Gene: Sticker17_50 Start: 48115, Stop: 47546, Start Num: 37
Candidate Starts for Sticker17_50:
(Start: 37 @48115 has 35 MA's), (45, 48091), (Start: 47 @48052 has 3 MA's), (50, 48034), (61, 47932), (68, 47824), (70, 47791), (77, 47746), (82, 47710), (83, 47707), (93, 47638), (102, 47602), (111, 47560),

Gene: Teal_50 Start: 48582, Stop: 48013, Start Num: 37
Candidate Starts for Teal_50:
(Start: 37 @48582 has 35 MA's), (47, 48519 has 3 MA's), (50, 48501), (61, 48399), (68, 48291), (70, 48258), (77, 48213), (82, 48177), (83, 48174), (93, 48105), (102, 48069), (111, 48027),

Gene: Teatealatte_48 Start: 48129, Stop: 47593, Start Num: 41
Candidate Starts for Teatealatte_48:
(18, 48282), (Start: 41 @48129 has 12 MA's), (Start: 47 @48075 has 3 MA's), (49, 48060), (56, 47982), (62, 47937), (68, 47844), (70, 47811), (73, 47787), (79, 47751), (80, 47739), (82, 47730), (86, 47718), (88, 47706), (94, 47646), (101, 47631),

Gene: Teech_48 Start: 47930, Stop: 47394, Start Num: 41
Candidate Starts for Teech_48:
(18, 48083), (Start: 41 @47930 has 12 MA's), (Start: 47 @47876 has 3 MA's), (49, 47861), (56, 47783), (62, 47738), (68, 47645), (70, 47612), (73, 47588), (79, 47552), (80, 47540), (82, 47531), (86, 47519), (88, 47507), (94, 47447), (101, 47432),

Gene: Tredge_48 Start: 48129, Stop: 47593, Start Num: 41
Candidate Starts for Tredge_48:
(18, 48282), (Start: 41 @48129 has 12 MA's), (Start: 47 @48075 has 3 MA's), (49, 48060), (56, 47982), (62, 47937), (68, 47844), (70, 47811), (73, 47787), (79, 47751), (80, 47739), (82, 47730), (86, 47718), (88, 47706), (94, 47646), (101, 47631),

Gene: Trogglehumper_66 Start: 54761, Stop: 54177, Start Num: 42
Candidate Starts for Trogglehumper_66:
(35, 54776), (Start: 42 @54761 has 1 MA's), (53, 54659), (65, 54497), (68, 54464), (69, 54440), (88, 54323), (92, 54278), (93, 54275), (96, 54260), (98, 54257), (103, 54230), (104, 54224), (113, 54185),

Gene: Vitaenoii_49 Start: 49247, Stop: 48711, Start Num: 41
Candidate Starts for Vitaenoii_49:
(18, 49400), (20, 49373), (Start: 41 @49247 has 12 MA's), (Start: 47 @49193 has 3 MA's), (49, 49178), (51, 49172), (57, 49088), (62, 49055), (68, 48962), (73, 48905), (80, 48857), (82, 48848), (83, 48845), (94, 48764),

Gene: Woes_50 Start: 48633, Stop: 48064, Start Num: 37
Candidate Starts for Woes_50:
(Start: 37 @48633 has 35 MA's), (45, 48609), (Start: 47 @48570 has 3 MA's), (50, 48552), (61, 48450), (68, 48342), (70, 48309), (77, 48264), (82, 48228), (83, 48225), (93, 48156), (102, 48120), (111, 48078),

Gene: Worcestershire_53 Start: 46975, Stop: 46412, Start Num: 40
Candidate Starts for Worcestershire_53:
(Start: 40 @46975 has 26 MA's), (45, 46957), (Start: 47 @46918 has 3 MA's), (53, 46870), (67, 46699), (68, 46690), (70, 46657), (75, 46621), (78, 46609), (82, 46576), (83, 46573), (102, 46468),