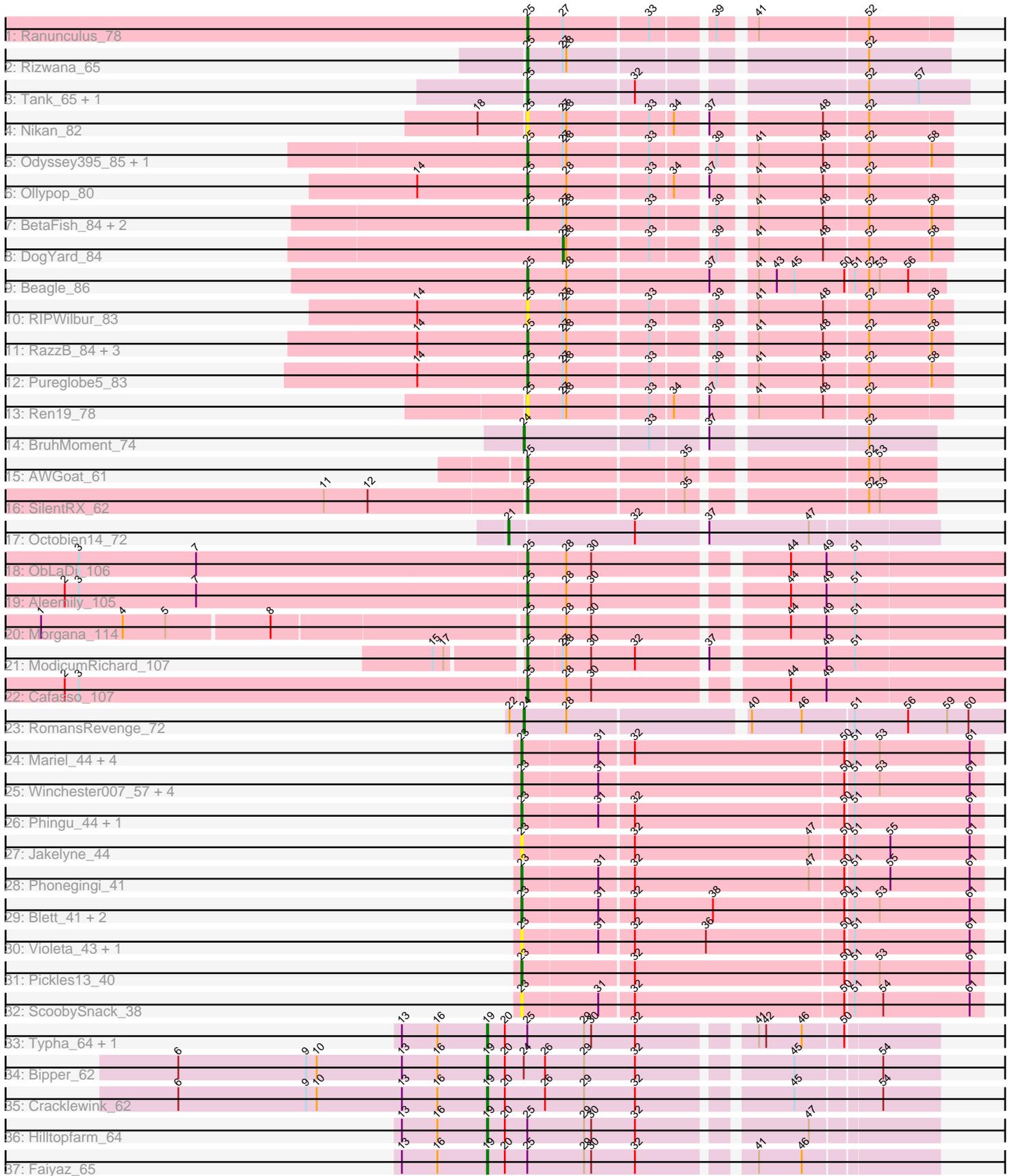


Pham 291205



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 291205 Report

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

Pham number 291205 has 57 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Ranunculus_78
- Track 2 : Rizwana_65
- Track 3 : Tank_65, Wilde_67
- Track 4 : Nikan_82
- Track 5 : Odyssey395_85, PhuzzTulsa_82
- Track 6 : Ollypop_80
- Track 7 : BetaFish_84, Pointis_81, Kubulix_84
- Track 8 : DogYard_84
- Track 9 : Beagle_86
- Track 10 : RIPWilbur_83
- Track 11 : RazzB_84, Forrestell_84, MellowYellow_85, NyleyClemson_84
- Track 12 : Pureglobe5_83
- Track 13 : Ren19_78
- Track 14 : BruhMoment_74
- Track 15 : AWGoat_61
- Track 16 : SilentRX_62
- Track 17 : Octobien14_72
- Track 18 : ObLaDi_106
- Track 19 : Aleemily_105
- Track 20 : Morgana_114
- Track 21 : ModicumRichard_107
- Track 22 : Cafasso_107
- Track 23 : RomansRevenge_72
- Track 24 : Mariel_44, Warren_41, Antuna_42, Dropshot_41, MenE_42
- Track 25 : Winchester007_57, Losacky_42, PhillyJawn_42, Guzman_41, Appa_41
- Track 26 : Phingu_44, CookieDog_41
- Track 27 : Jakelyne_44
- Track 28 : Phonegingi_41
- Track 29 : Blett_41, Bush_42, NCRodriguez_42
- Track 30 : Violeta_43, Carrillo_43
- Track 31 : Pickles13_40
- Track 32 : ScoobySnack_38
- Track 33 : Typha_64, AuntGwenStacy_65
- Track 34 : Bipper_62
- Track 35 : Cracklewink_62
- Track 36 : Hilltopfarm_64
- Track 37 : Faiyaz_65

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

The start number called the most often in the published annotations is 25, it was called in 20 of the 40 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AWGoat_61, Aleemily_105, Beagle_86, BetaFish_84, Cafasso_107, Forrestell_84, Kubulix_84, MellowYellow_85, ModicumRichard_107, Morgana_114, Nikan_82, NyleyClemson_84, ObLaDi_106, Odyssey395_85, Ollypop_80, PhuzzTulsa_82, Pointis_81, Pureglobe5_83, RIPWilbur_83, Ranunculus_78, RazzB_84, Ren19_78, Rizwana_65, SilentRX_62, Tank_65, Wilde_67,

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

- AuntGwenStacy_65, Faiyaz_65, Hilltopfarm_64, Typha_64,

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

- Antuna_42, Appa_41, Bipper_62, Blett_41, BruhMoment_74, Bush_42, Carrillo_43, CookieDog_41, Cracklewink_62, DogYard_84, Dropshot_41, Guzman_41, Jakelyne_44, Losacky_42, Mariel_44, MenE_42, NCRodriguez_42, Octobien14_72, PhillyJawn_42, Phingu_44, Phonegingi_41, Pickles13_40, RomansRevenge_72, ScoobySnack_38, Violeta_43, Warren_41, Winchester007_57,

Summary by start number:

Start 19:

- Found in 6 of 57 (10.5%) of genes in pham
- Manual Annotations of this start: 5 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy_65 (Y), Bipper_62 (Y), Cracklewink_62 (Y), Faiyaz_65 (Y), Hilltopfarm_64 (Y), Typha_64 (Y),

Start 21:

- Found in 1 of 57 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Octobien14_72 (DU1),

Start 23:

- Found in 21 of 57 (36.8%) of genes in pham
- Manual Annotations of this start: 11 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antuna_42 (GA), Appa_41 (GA), Blett_41 (GA), Bush_42 (GA), Carrillo_43 (GA), CookieDog_41 (GA), Dropshot_41 (GA), Guzman_41 (GA), Jakelyne_44 (GA), Losacky_42 (GA), Mariel_44 (GA), MenE_42 (GA), NCRodriguez_42 (GA), PhillyJawn_42 (GA), Phingu_44 (GA), Phonegingi_41 (GA), Pickles13_40 (GA), ScoobySnack_38 (GA), Violeta_43 (GA), Warren_41 (GA), Winchester007_57 (GA),

Start 24:

- Found in 3 of 57 (5.3%) of genes in pham
- Manual Annotations of this start: 2 of 40
- Called 66.7% of time when present
- Phage (with cluster) where this start called: BruhMoment_74 (AP3), RomansRevenge_72 (FT),

Start 25:

- Found in 30 of 57 (52.6%) of genes in pham
- Manual Annotations of this start: 20 of 40
- Called 86.7% of time when present
- Phage (with cluster) where this start called: AWGoat_61 (AP4), Aleemily_105 (DZ), Beagle_86 (AP2), BetaFish_84 (AP2), Cafasso_107 (DZ), Forrestell_84 (AP2), Kubulix_84 (AP2), MellowYellow_85 (AP2), ModicumRichard_107 (DZ), Morgana_114 (DZ), Nikan_82 (AP2), NyleyClemson_84 (AP2), ObLaDi_106 (DZ), Odyssey395_85 (AP2), Ollypop_80 (AP2), PhuzzTulsa_82 (AP2), Pointis_81 (AP2), Pureglobe5_83 (AP2), RIPWilbur_83 (AP2), Ranunculus_78 (AP), RazzB_84 (AP2), Ren19_78 (AP2), Rizwana_65 (AP1), SilentRX_62 (AP4), Tank_65 (AP1), Wilde_67 (AP1),

Start 27:

- Found in 17 of 57 (29.8%) of genes in pham
- Manual Annotations of this start: 1 of 40
- Called 5.9% of time when present
- Phage (with cluster) where this start called: DogYard_84 (AP2),

Summary by clusters:

There are 10 clusters represented in this pham: FT, AP2, AP3, AP1, AP4, AP, DZ, GA, Y, DU1,

Info for manual annotations of cluster AP:

- Start number 25 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP1:

- Start number 25 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 25 was manually annotated 9 times for cluster AP2.
- Start number 27 was manually annotated 1 time for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 24 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:

- Start number 25 was manually annotated 2 times for cluster AP4.

Info for manual annotations of cluster DU1:

- Start number 21 was manually annotated 1 time for cluster DU1.

Info for manual annotations of cluster DZ:

- Start number 25 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster FT:

- Start number 24 was manually annotated 1 time for cluster FT.

Info for manual annotations of cluster GA:

- Start number 23 was manually annotated 11 times for cluster GA.

Info for manual annotations of cluster Y:

- Start number 19 was manually annotated 5 times for cluster Y.

Gene Information:

Gene: AWGoat_61 Start: 44482, Stop: 44168, Start Num: 25

Candidate Starts for AWGoat_61:

(Start: 25 @44482 has 20 MA's), (35, 44356), (52, 44224), (53, 44215),

Gene: Aleemily_105 Start: 59933, Stop: 60322, Start Num: 25

Candidate Starts for Aleemily_105:

(2, 59546), (3, 59558), (7, 59657), (Start: 25 @59933 has 20 MA's), (28, 59966), (30, 59987), (44, 60134), (49, 60164), (51, 60188),

Gene: Antuna_42 Start: 25698, Stop: 26075, Start Num: 23

Candidate Starts for Antuna_42:

(Start: 23 @25698 has 11 MA's), (31, 25761), (32, 25788), (50, 25962), (51, 25968), (53, 25989), (61, 26064),

Gene: Appa_41 Start: 25620, Stop: 25997, Start Num: 23

Candidate Starts for Appa_41:

(Start: 23 @25620 has 11 MA's), (31, 25683), (50, 25884), (51, 25890), (53, 25911), (61, 25986),

Gene: AuntGwenStacy_65 Start: 45161, Stop: 45511, Start Num: 19

Candidate Starts for AuntGwenStacy_65:

(13, 45089), (16, 45119), (Start: 19 @45161 has 5 MA's), (20, 45176), (Start: 25 @45194 has 20 MA's), (29, 45242), (30, 45248), (32, 45284), (41, 45368), (42, 45374), (46, 45404), (50, 45437),

Gene: Beagle_86 Start: 50592, Stop: 50260, Start Num: 25

Candidate Starts for Beagle_86:

(Start: 25 @50592 has 20 MA's), (28, 50559), (37, 50442), (41, 50412), (43, 50397), (45, 50382), (50, 50340), (51, 50334), (52, 50322), (53, 50313), (56, 50289),

Gene: BetaFish_84 Start: 50810, Stop: 50484, Start Num: 25

Candidate Starts for BetaFish_84:

(Start: 25 @50810 has 20 MA's), (Start: 27 @50780 has 1 MA's), (28, 50777), (33, 50711), (39, 50666), (41, 50642), (48, 50588), (52, 50552), (58, 50501),

Gene: Bipper_62 Start: 43632, Stop: 43982, Start Num: 19

Candidate Starts for Bipper_62:

(6, 43371), (9, 43479), (10, 43488), (13, 43560), (16, 43590), (Start: 19 @43632 has 5 MA's), (20, 43647), (Start: 24 @43662 has 2 MA's), (26, 43680), (29, 43713), (32, 43755), (45, 43869), (54, 43935),

Gene: Blett_41 Start: 25800, Stop: 26177, Start Num: 23

Candidate Starts for Blett_41:

(Start: 23 @25800 has 11 MA's), (31, 25863), (32, 25890), (38, 25956), (50, 26064), (51, 26070), (53, 26091), (61, 26166),

Gene: BruhMoment_74 Start: 49610, Stop: 49293, Start Num: 24

Candidate Starts for BruhMoment_74:

(Start: 24 @49610 has 2 MA's), (33, 49508), (37, 49469), (52, 49349),

Gene: Bush_42 Start: 25748, Stop: 26125, Start Num: 23

Candidate Starts for Bush_42:

(Start: 23 @25748 has 11 MA's), (31, 25811), (32, 25838), (38, 25904), (50, 26012), (51, 26018), (53, 26039), (61, 26114),

Gene: Cafasso_107 Start: 60484, Stop: 60873, Start Num: 25

Candidate Starts for Cafasso_107:

(2, 60097), (3, 60109), (Start: 25 @60484 has 20 MA's), (28, 60517), (30, 60538), (44, 60685), (49, 60715),

Gene: Carrillo_43 Start: 25721, Stop: 26098, Start Num: 23

Candidate Starts for Carrillo_43:

(Start: 23 @25721 has 11 MA's), (31, 25784), (32, 25811), (36, 25871), (50, 25985), (51, 25991), (61, 26087),

Gene: CookieDog_41 Start: 25721, Stop: 26098, Start Num: 23

Candidate Starts for CookieDog_41:

(Start: 23 @25721 has 11 MA's), (31, 25784), (32, 25811), (50, 25985), (51, 25991), (61, 26087),

Gene: Cracklewink_62 Start: 43613, Stop: 43963, Start Num: 19

Candidate Starts for Cracklewink_62:

(6, 43352), (9, 43460), (10, 43469), (13, 43541), (16, 43571), (Start: 19 @43613 has 5 MA's), (20, 43628), (26, 43661), (29, 43694), (32, 43736), (45, 43850), (54, 43916),

Gene: DogYard_84 Start: 50267, Stop: 49971, Start Num: 27

Candidate Starts for DogYard_84:

(Start: 27 @50267 has 1 MA's), (28, 50264), (33, 50198), (39, 50153), (41, 50129), (48, 50075), (52, 50039), (58, 49988),

Gene: Dropshot_41 Start: 25455, Stop: 25832, Start Num: 23

Candidate Starts for Dropshot_41:

(Start: 23 @25455 has 11 MA's), (31, 25518), (32, 25545), (50, 25719), (51, 25725), (53, 25746), (61, 25821),

Gene: Faiyaz_65 Start: 45151, Stop: 45501, Start Num: 19

Candidate Starts for Faiyaz_65:

(13, 45079), (16, 45109), (Start: 19 @45151 has 5 MA's), (20, 45166), (Start: 25 @45184 has 20 MA's), (29, 45232), (30, 45238), (32, 45274), (41, 45358), (46, 45394),

Gene: Forrestell_84 Start: 49543, Stop: 49217, Start Num: 25

Candidate Starts for Forrestell_84:

(14, 49636), (Start: 25 @49543 has 20 MA's), (Start: 27 @49513 has 1 MA's), (28, 49510), (33, 49444), (39, 49399), (41, 49375), (48, 49321), (52, 49285), (58, 49234),

Gene: Guzman_41 Start: 25719, Stop: 26096, Start Num: 23

Candidate Starts for Guzman_41:

(Start: 23 @25719 has 11 MA's), (31, 25782), (50, 25983), (51, 25989), (53, 26010), (61, 26085),

Gene: Hilltopfarm_64 Start: 44853, Stop: 45203, Start Num: 19

Candidate Starts for Hilltopfarm_64:

(13, 44781), (16, 44811), (Start: 19 @44853 has 5 MA's), (20, 44868), (Start: 25 @44886 has 20 MA's), (29, 44934), (30, 44940), (32, 44976), (47, 45102),

Gene: Jakelyne_44 Start: 25830, Stop: 26207, Start Num: 23

Candidate Starts for Jakelyne_44:

(Start: 23 @25830 has 11 MA's), (32, 25920), (47, 26067), (50, 26094), (51, 26100), (55, 26130), (61, 26196),

Gene: Kubulix_84 Start: 49967, Stop: 49641, Start Num: 25

Candidate Starts for Kubulix_84:

(Start: 25 @49967 has 20 MA's), (Start: 27 @49937 has 1 MA's), (28, 49934), (33, 49868), (39, 49823), (41, 49799), (48, 49745), (52, 49709), (58, 49658),

Gene: Losacky_42 Start: 25840, Stop: 26217, Start Num: 23

Candidate Starts for Losacky_42:

(Start: 23 @25840 has 11 MA's), (31, 25903), (50, 26104), (51, 26110), (53, 26131), (61, 26206),

Gene: Mariel_44 Start: 26189, Stop: 26566, Start Num: 23

Candidate Starts for Mariel_44:

(Start: 23 @26189 has 11 MA's), (31, 26252), (32, 26279), (50, 26453), (51, 26459), (53, 26480), (61, 26555),

Gene: MellowYellow_85 Start: 50209, Stop: 49883, Start Num: 25

Candidate Starts for MellowYellow_85:

(14, 50302), (Start: 25 @50209 has 20 MA's), (Start: 27 @50179 has 1 MA's), (28, 50176), (33, 50110), (39, 50065), (41, 50041), (48, 49987), (52, 49951), (58, 49900),

Gene: MenE_42 Start: 25720, Stop: 26097, Start Num: 23

Candidate Starts for MenE_42:

(Start: 23 @25720 has 11 MA's), (31, 25783), (32, 25810), (50, 25984), (51, 25990), (53, 26011), (61, 26086),

Gene: ModicumRichard_107 Start: 60769, Stop: 61155, Start Num: 25

Candidate Starts for ModicumRichard_107:

(15, 60703), (17, 60712), (Start: 25 @60769 has 20 MA's), (Start: 27 @60796 has 1 MA's), (28, 60799), (30, 60820), (32, 60856), (37, 60910), (49, 60997), (51, 61021),

Gene: Morgana_114 Start: 62857, Stop: 63246, Start Num: 25

Candidate Starts for Morgana_114:

(1, 62464), (4, 62533), (5, 62569), (8, 62653), (Start: 25 @62857 has 20 MA's), (28, 62890), (30, 62911), (44, 63058), (49, 63088), (51, 63112),

Gene: NCRodriguez_42 Start: 25942, Stop: 26319, Start Num: 23

Candidate Starts for NCRodriguez_42:

(Start: 23 @25942 has 11 MA's), (31, 26005), (32, 26032), (38, 26098), (50, 26206), (51, 26212), (53, 26233), (61, 26308),

Gene: Nikan_82 Start: 50187, Stop: 49861, Start Num: 25

Candidate Starts for Nikan_82:

(18, 50226), (Start: 25 @50187 has 20 MA's), (Start: 27 @50157 has 1 MA's), (28, 50154), (33, 50088), (34, 50070), (37, 50049), (48, 49965), (52, 49929),

Gene: NyleyClemson_84 Start: 49827, Stop: 49501, Start Num: 25

Candidate Starts for NyleyClemson_84:

(14, 49920), (Start: 25 @49827 has 20 MA's), (Start: 27 @49797 has 1 MA's), (28, 49794), (33, 49728), (39, 49683), (41, 49659), (48, 49605), (52, 49569), (58, 49518),

Gene: ObLaDi_106 Start: 60168, Stop: 60557, Start Num: 25

Candidate Starts for ObLaDi_106:

(3, 59793), (7, 59892), (Start: 25 @60168 has 20 MA's), (28, 60201), (30, 60222), (44, 60369), (49, 60399), (51, 60423),

Gene: Octobien14_72 Start: 45181, Stop: 45522, Start Num: 21

Candidate Starts for Octobien14_72:

(Start: 21 @45181 has 1 MA's), (32, 45283), (37, 45337), (47, 45421),

Gene: Odyssey395_85 Start: 50318, Stop: 49992, Start Num: 25

Candidate Starts for Odyssey395_85:

(Start: 25 @50318 has 20 MA's), (Start: 27 @50288 has 1 MA's), (28, 50285), (33, 50219), (39, 50174), (41, 50150), (48, 50096), (52, 50060), (58, 50009),

Gene: Ollypop_80 Start: 50972, Stop: 50646, Start Num: 25

Candidate Starts for Ollypop_80:

(14, 51065), (Start: 25 @50972 has 20 MA's), (28, 50939), (33, 50873), (34, 50855), (37, 50834), (41, 50804), (48, 50750), (52, 50714),

Gene: PhillyJawn_42 Start: 25617, Stop: 25994, Start Num: 23

Candidate Starts for PhillyJawn_42:

(Start: 23 @25617 has 11 MA's), (31, 25680), (50, 25881), (51, 25887), (53, 25908), (61, 25983),

Gene: Phingu_44 Start: 25833, Stop: 26210, Start Num: 23

Candidate Starts for Phingu_44:

(Start: 23 @25833 has 11 MA's), (31, 25896), (32, 25923), (50, 26097), (51, 26103), (61, 26199),

Gene: Phonegingi_41 Start: 25666, Stop: 26043, Start Num: 23

Candidate Starts for Phonegingi_41:

(Start: 23 @25666 has 11 MA's), (31, 25729), (32, 25756), (47, 25903), (50, 25930), (51, 25936), (55, 25966), (61, 26032),

Gene: PhuzzTulsa_82 Start: 50446, Stop: 50120, Start Num: 25

Candidate Starts for PhuzzTulsa_82:

(Start: 25 @50446 has 20 MA's), (Start: 27 @50416 has 1 MA's), (28, 50413), (33, 50347), (39, 50302), (41, 50278), (48, 50224), (52, 50188), (58, 50137),

Gene: Pickles13_40 Start: 25930, Stop: 26307, Start Num: 23

Candidate Starts for Pickles13_40:

(Start: 23 @25930 has 11 MA's), (32, 26020), (50, 26194), (51, 26200), (53, 26221), (61, 26296),

Gene: Pointis_81 Start: 49894, Stop: 49568, Start Num: 25

Candidate Starts for Pointis_81:

(Start: 25 @49894 has 20 MA's), (Start: 27 @49864 has 1 MA's), (28, 49861), (33, 49795), (39, 49750), (41, 49726), (48, 49672), (52, 49636), (58, 49585),

Gene: Pureglobe5_83 Start: 50341, Stop: 50015, Start Num: 25

Candidate Starts for Pureglobe5_83:

(14, 50434), (Start: 25 @50341 has 20 MA's), (Start: 27 @50311 has 1 MA's), (28, 50308), (33, 50242), (39, 50197), (41, 50173), (48, 50119), (52, 50083), (58, 50032),

Gene: RIPWilbur_83 Start: 49861, Stop: 49535, Start Num: 25

Candidate Starts for RIPWilbur_83:

(14, 49954), (Start: 25 @49861 has 20 MA's), (Start: 27 @49831 has 1 MA's), (28, 49828), (33, 49762), (39, 49717), (41, 49693), (48, 49639), (52, 49603), (58, 49552),

Gene: Ranunculus_78 Start: 52647, Stop: 52321, Start Num: 25

Candidate Starts for Ranunculus_78:

(Start: 25 @52647 has 20 MA's), (Start: 27 @52617 has 1 MA's), (33, 52548), (39, 52503), (41, 52479), (52, 52389),

Gene: RazzB_84 Start: 49953, Stop: 49627, Start Num: 25

Candidate Starts for RazzB_84:

(14, 50046), (Start: 25 @49953 has 20 MA's), (Start: 27 @49923 has 1 MA's), (28, 49920), (33, 49854), (39, 49809), (41, 49785), (48, 49731), (52, 49695), (58, 49644),

Gene: Ren19_78 Start: 49730, Stop: 49404, Start Num: 25

Candidate Starts for Ren19_78:

(Start: 25 @49730 has 20 MA's), (Start: 27 @49700 has 1 MA's), (28, 49697), (33, 49631), (34, 49613), (37, 49592), (41, 49562), (48, 49508), (52, 49472),

Gene: Rizwana_65 Start: 46684, Stop: 46358, Start Num: 25

Candidate Starts for Rizwana_65:

(Start: 25 @46684 has 20 MA's), (Start: 27 @46654 has 1 MA's), (28, 46651), (52, 46426),

Gene: RomansRevenge_72 Start: 48362, Stop: 47964, Start Num: 24

Candidate Starts for RomansRevenge_72:

(22, 48374), (Start: 24 @48362 has 2 MA's), (28, 48326), (40, 48185), (46, 48143), (51, 48101), (56, 48056), (59, 48023), (60, 48005),

Gene: ScoobySnack_38 Start: 25435, Stop: 25812, Start Num: 23

Candidate Starts for ScoobySnack_38:

(Start: 23 @25435 has 11 MA's), (31, 25498), (32, 25525), (50, 25699), (51, 25705), (54, 25729), (61, 25801),

Gene: SilentRX_62 Start: 45416, Stop: 45102, Start Num: 25

Candidate Starts for SilentRX_62:

(11, 45581), (12, 45545), (Start: 25 @45416 has 20 MA's), (35, 45290), (52, 45158), (53, 45149),

Gene: Tank_65 Start: 46679, Stop: 46338, Start Num: 25

Candidate Starts for Tank_65:

(Start: 25 @46679 has 20 MA's), (32, 46592), (52, 46421), (57, 46379),

Gene: Typha_64 Start: 45161, Stop: 45511, Start Num: 19

Candidate Starts for Typha_64:

(13, 45089), (16, 45119), (Start: 19 @45161 has 5 MA's), (20, 45176), (Start: 25 @45194 has 20 MA's), (29, 45242), (30, 45248), (32, 45284), (41, 45368), (42, 45374), (46, 45404), (50, 45437),

Gene: Violeta_43 Start: 25712, Stop: 26089, Start Num: 23

Candidate Starts for Violeta_43:

(Start: 23 @25712 has 11 MA's), (31, 25775), (32, 25802), (36, 25862), (50, 25976), (51, 25982), (61, 26078),

Gene: Warren_41 Start: 25673, Stop: 26050, Start Num: 23

Candidate Starts for Warren_41:

(Start: 23 @25673 has 11 MA's), (31, 25736), (32, 25763), (50, 25937), (51, 25943), (53, 25964), (61, 26039),

Gene: Wilde_67 Start: 46978, Stop: 46637, Start Num: 25

Candidate Starts for Wilde_67:

(Start: 25 @46978 has 20 MA's), (32, 46891), (52, 46720), (57, 46678),

Gene: Winchester007_57 Start: 31732, Stop: 32109, Start Num: 23

Candidate Starts for Winchester007_57:

(Start: 23 @31732 has 11 MA's), (31, 31795), (50, 31996), (51, 32002), (53, 32023), (61, 32098),