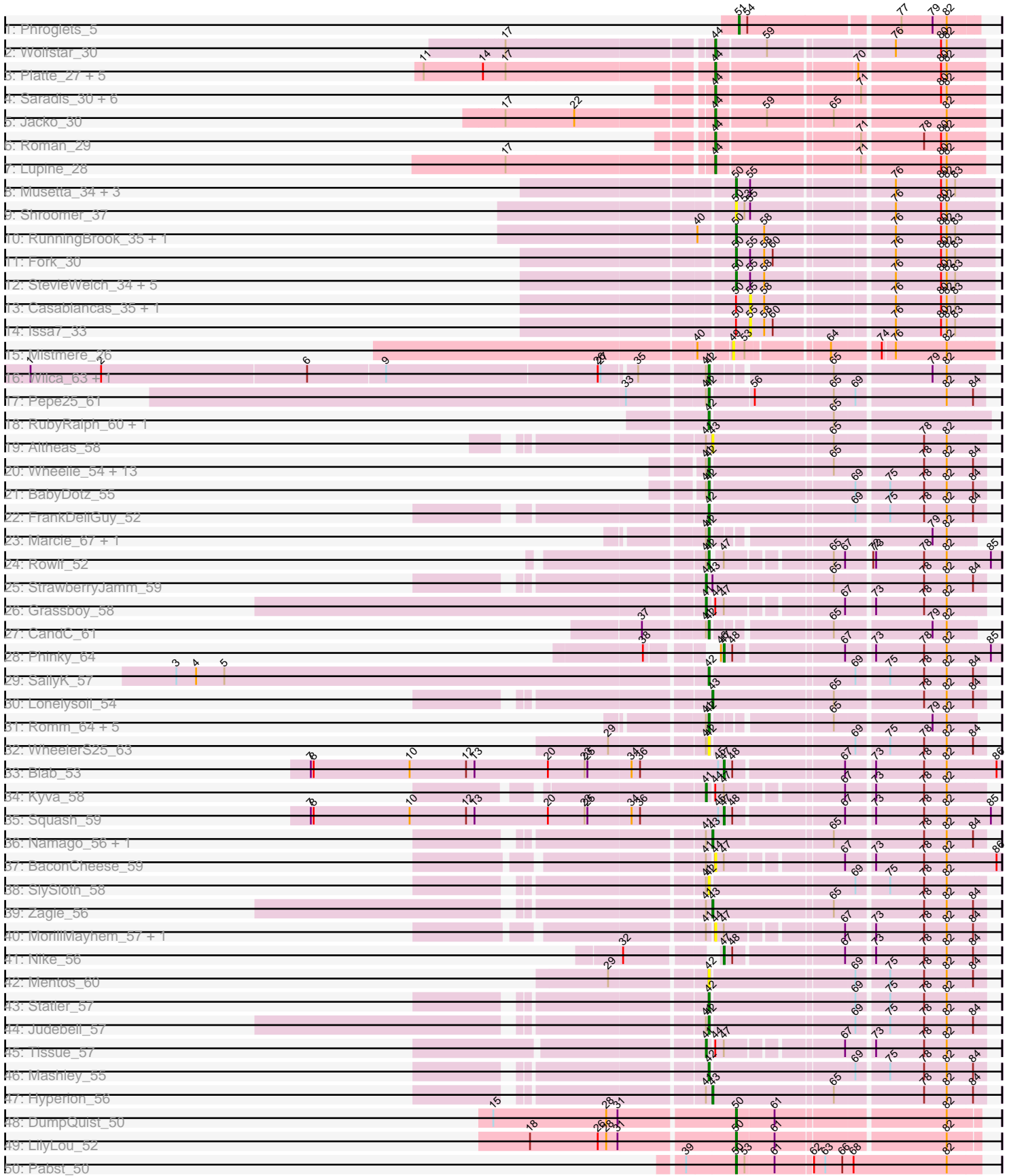
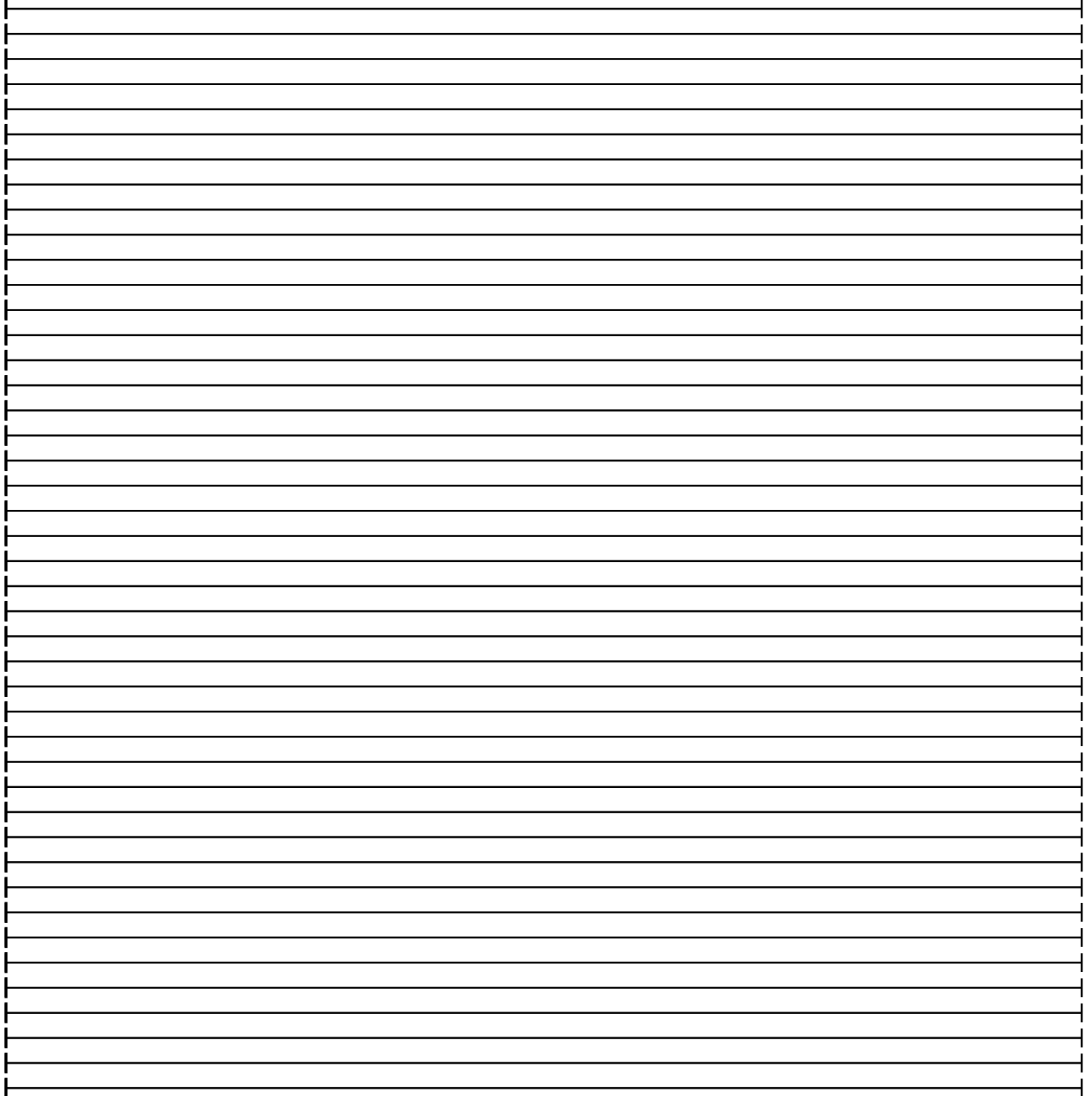
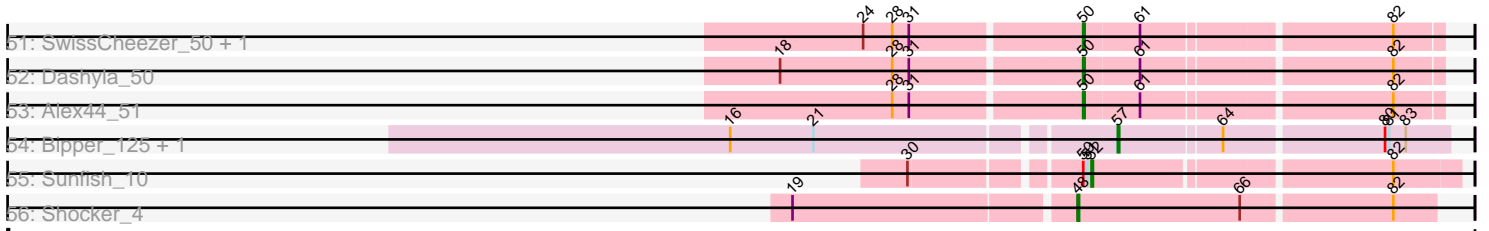


Pham 294587



Pham 294587



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 294587 Report

This analysis was run 04/18/26 on database version 643.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 294587 has 102 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Phroglets_5
- Track 2 : Wolfstar_30
- Track 3 : Platte_27, Hortus1_27, Alleb_28, Tandem_27, Pioneer3_27, OlinDD_27
- Track 4 : Saradis_30, PhillyPhilly_29, Solimine_30, Pavlo_28, Uterion_31, Hubbs_29, DejaVu_30
- Track 5 : Jacko_30
- Track 6 : Roman_29
- Track 7 : Lupine_28
- Track 8 : Musetta_34, Welcome_35, Yuma_33, ASegato_33
- Track 9 : Shroomer_37
- Track 10 : RunningBrook_35, DustyDino_37
- Track 11 : Fork_30
- Track 12 : StevieWelch_34, HollowPurple_35, Erenyeager_34, SteakFry_33, Lyell_34, Necrophoxinus_36
- Track 13 : Casablancas_35, Deschain_34
- Track 14 : Issa7_33
- Track 15 : Mistmere_26
- Track 16 : Wilca_63, BirdInFrench_63
- Track 17 : Pepe25_61
- Track 18 : RubyRalph_60, Fransoyer_58
- Track 19 : Altheas_58
- Track 20 : Wheelie_54, EverythinBagel_53, Llemily_54, Sillytadpoles_55, Quammi_52, DonaldDuck_54, Viceroy_53, Casend_55, Zhafia_57, Jehoshaphat_56, Rudy_52, Wayne3_56, Phabia_54, Teehee_55
- Track 21 : BabyDotz_55
- Track 22 : FrankDeliGuy_52
- Track 23 : Marcie_67, OneinaGillian_62
- Track 24 : Rowlf_52
- Track 25 : StrawberryJamm_59
- Track 26 : Grassboy_58
- Track 27 : CandC_61
- Track 28 : Phinky_64
- Track 29 : SallyK_57

- Track 30 : Lonelysoil_54
- Track 31 : Romm_64, Fregley_62, KillerQueen_63, Tempo_62, Kelcole_60, RobinRose_64
- Track 32 : WheelerS25_63
- Track 33 : Blab_53
- Track 34 : Kyva_58
- Track 35 : Squash_59
- Track 36 : Namago_56, Gazebo_55
- Track 37 : BaconCheese_59
- Track 38 : SlySloth_58
- Track 39 : Zagie_56
- Track 40 : MorillMayhem_57, Mila11_59
- Track 41 : Nike_56
- Track 42 : Mentos_60
- Track 43 : Statler_57
- Track 44 : Judebell_57
- Track 45 : Tissue_57
- Track 46 : Mashley_55
- Track 47 : Hyperion_56
- Track 48 : DumpQuist_50
- Track 49 : LilyLou_52
- Track 50 : Pabst_50
- Track 51 : SwissCheezer_50, ArMaWen_50
- Track 52 : Dashyla_50
- Track 53 : Alex44_51
- Track 54 : Bipper_125, Cracklewink_126
- Track 55 : Sunfish_10
- Track 56 : Shocker_4

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

The start number called the most often in the published annotations is 42, it was called in 34 of the 85 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BabyDotz_55, BirdInFrench_63, CandC_61, Casend_55, DonaldDuck_54, EverythinBagel_53, FrankDeliGuy_52, Fransoyer_58, Fregley_62, Jehoshaphat_56, Judebell_57, Kelcole_60, KillerQueen_63, Llemily_54, Marcie_67, Mashley_55, Mentos_60, OneinaGillian_62, Pepe25_61, Phabia_54, Quammi_52, RobinRose_64, Romm_64, Rowlf_52, RubyRalph_60, Rudy_52, SallyK_57, Sillytadpoles_55, SlySloth_58, Statler_57, Teehee_55, Tempo_62, Viceroy_53, Wayne3_56, WheelerS25_63, Wheelie_54, Wilca_63, Zhafia_57,

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

-

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

- ASegato_33, Alex44_51, Alleb_28, Altheas_58, ArMaWen_50, BaconCheese_59, Bipper_125, Blab_53, Casablanacas_35, Cracklewink_126, Dashyla_50, DejaVu_30, Deschain_34, DumpQuist_50, DustyDino_37, Erenyeager_34, Fork_30, Gazebo_55,

Grassboy_58, HollowPurple_35, Hortus1_27, Hubbs_29, Hyperion_56, Issa7_33, Jacko_30, Kyva_58, LilyLou_52, Lonelysoil_54, Lupine_28, Lyell_34, Mila11_59, Mistmere_26, MorillMayhem_57, Musetta_34, Namago_56, Necrophoxinus_36, Nike_56, OlinDD_27, Pabst_50, Pavlo_28, PhillyPhilly_29, Phinky_64, Phroglets_5, Pioneer3_27, Platte_27, Roman_29, RunningBrook_35, Saradis_30, Shocker_4, Shroomer_37, Solimine_30, Squash_59, SteakFry_33, StevieWelch_34, StrawberryJamm_59, Sunfish_10, SwissCheezer_50, Tandem_27, Tissue_57, Uterion_31, Welcome_35, Wolfstar_30, Yuma_33, Zagie_56,

Summary by start number:

Start 41:

- Found in 43 of 102 (42.2%) of genes in pham
- Manual Annotations of this start: 4 of 85
- Called 9.3% of time when present
- Phage (with cluster) where this start called: Grassboy_58 (EG), Kyva_58 (EG), StrawberryJamm_59 (EG), Tissue_57 (EG),

Start 42:

- Found in 38 of 102 (37.3%) of genes in pham
- Manual Annotations of this start: 34 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyDotz_55 (EG), BirdInFrench_63 (EG), CandC_61 (EG), Casend_55 (EG), DonaldDuck_54 (EG), EverythinBagel_53 (EG), FrankDeliGuy_52 (EG), Fransoyer_58 (EG), Fregley_62 (EG), Jehoshaphat_56 (EG), Judebell_57 (EG), Kelcole_60 (EG), KillerQueen_63 (EG), Lemily_54 (EG), Marcie_67 (EG), Mashley_55 (EG), Mentos_60 (EG), OneinaGillian_62 (EG), Pepe25_61 (EG), Phabia_54 (EG), Quammi_52 (EG), RobinRose_64 (EG), Romm_64 (EG), Rowlf_52 (EG), RubyRalph_60 (EG), Rudy_52 (EG), SallyK_57 (EG), Sillytadpoles_55 (EG), SlySloth_58 (EG), Statler_57 (EG), Teehee_55 (EG), Tempo_62 (EG), Viceroy_53 (EG), Wayne3_56 (EG), WheelerS25_63 (EG), Wheelie_54 (EG), Wilca_63 (EG), Zhafia_57 (EG),

Start 43:

- Found in 7 of 102 (6.9%) of genes in pham
- Manual Annotations of this start: 5 of 85
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Altheas_58 (EG), Gazebo_55 (EG), Hyperion_56 (EG), Lonelysoil_54 (EG), Namago_56 (EG), Zagie_56 (EG),

Start 44:

- Found in 23 of 102 (22.5%) of genes in pham
- Manual Annotations of this start: 14 of 85
- Called 87.0% of time when present
- Phage (with cluster) where this start called: Alleb_28 (ED1), BaconCheese_59 (EG), DejaVu_30 (ED1), Hortus1_27 (ED1), Hubbs_29 (ED1), Jacko_30 (ED1), Lupine_28 (ED1), Mila11_59 (EG), MorillMayhem_57 (EG), OlinDD_27 (ED1), Pavlo_28 (ED1), PhillyPhilly_29 (ED1), Pioneer3_27 (ED1), Platte_27 (ED1), Roman_29 (ED1), Saradis_30 (ED1), Solimine_30 (ED1), Tandem_27 (ED1), Uterion_31 (ED1), Wolfstar_30 (ED),

Start 47:

- Found in 11 of 102 (10.8%) of genes in pham

- Manual Annotations of this start: 4 of 85
- Called 36.4% of time when present
- Phage (with cluster) where this start called: Blab_53 (EG), Nike_56 (EG), Phinky_64 (EG), Squash_59 (EG),

Start 48:

- Found in 5 of 102 (4.9%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Shocker_4 (singleton),

Start 49:

- Found in 1 of 102 (1.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mistmere_26 (ED3),

Start 50:

- Found in 25 of 102 (24.5%) of genes in pham
- Manual Annotations of this start: 19 of 85
- Called 84.0% of time when present
- Phage (with cluster) where this start called: ASegato_33 (ED2), Alex44_51 (EK1), ArMaWen_50 (EK1), Dashyla_50 (EK1), DumpQuist_50 (EK1), DustyDino_37 (ED2), Erenyeager_34 (ED2), Fork_30 (ED2), HollowPurple_35 (ED2), LilyLou_52 (EK1), Lyell_34 (ED2), Musetta_34 (ED2), Necrophoxinus_36 (ED2), Pabst_50 (EK1), RunningBrook_35 (ED2), Shroomer_37 (ED2), SteakFry_33 (ED2), StevieWelch_34 (ED2), SwissCheezer_50 (EK1), Welcome_35 (ED2), Yuma_33 (ED2),

Start 51:

- Found in 2 of 102 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Phroglets_5 (AV),

Start 52:

- Found in 1 of 102 (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: Sunfish_10 (singleton),

Start 55:

- Found in 15 of 102 (14.7%) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Casablanacas_35 (ED2), Deschain_34 (ED2), Issa7_33 (ED2),

Start 57:

- Found in 2 of 102 (2.0%) of genes in pham
- Manual Annotations of this start: 2 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bipper_125 (Y), Cracklewink_126 (Y),

Summary by clusters:

There are 9 clusters represented in this pham: singleton, ED, EG, ED2, ED3, ED1, AV, Y, EK1,

Info for manual annotations of cluster AV:

- Start number 51 was manually annotated 1 time for cluster AV.

Info for manual annotations of cluster ED:

- Start number 44 was manually annotated 1 time for cluster ED.

Info for manual annotations of cluster ED1:

- Start number 44 was manually annotated 13 times for cluster ED1.

Info for manual annotations of cluster ED2:

- Start number 50 was manually annotated 12 times for cluster ED2.

Info for manual annotations of cluster EG:

- Start number 41 was manually annotated 4 times for cluster EG.
- Start number 42 was manually annotated 34 times for cluster EG.
- Start number 43 was manually annotated 5 times for cluster EG.
- Start number 47 was manually annotated 4 times for cluster EG.

Info for manual annotations of cluster EK1:

- Start number 50 was manually annotated 7 times for cluster EK1.

Info for manual annotations of cluster Y:

- Start number 57 was manually annotated 2 times for cluster Y.

Gene Information:

Gene: ASegato_33 Start: 9624, Stop: 9875, Start Num: 50

Candidate Starts for ASegato_33:

(Start: 50 @9624 has 19 MA's), (55, 9639), (76, 9774), (80, 9822), (82, 9828), (83, 9837),

Gene: Alex44_51 Start: 51379, Stop: 51618, Start Num: 50

Candidate Starts for Alex44_51:

(28, 51250), (31, 51262), (Start: 50 @51379 has 19 MA's), (61, 51418), (82, 51586),

Gene: Alleb_28 Start: 8830, Stop: 9090, Start Num: 44

Candidate Starts for Alleb_28:

(11, 8539), (14, 8602), (17, 8626), (Start: 44 @8830 has 14 MA's), (70, 8965), (80, 9046), (82, 9052),

Gene: Altheas_58 Start: 42617, Stop: 42345, Start Num: 43

Candidate Starts for Altheas_58:

(Start: 41 @42623 has 4 MA's), (Start: 43 @42617 has 5 MA's), (65, 42494), (78, 42407), (82, 42383),

Gene: ArMaWen_50 Start: 50919, Stop: 51158, Start Num: 50

Candidate Starts for ArMaWen_50:

(24, 50769), (28, 50790), (31, 50802), (Start: 50 @50919 has 19 MA's), (61, 50958), (82, 51126),

Gene: BabyDotz_55 Start: 42840, Stop: 42568, Start Num: 42

Candidate Starts for BabyDotz_55:

(Start: 41 @42843 has 4 MA's), (Start: 42 @42840 has 34 MA's), (69, 42696), (75, 42666), (78, 42630), (82, 42606), (84, 42579),

Gene: BaconCheese_59 Start: 43496, Stop: 43224, Start Num: 44

Candidate Starts for BaconCheese_59:

(Start: 41 @43502 has 4 MA's), (Start: 44 @43496 has 14 MA's), (Start: 47 @43487 has 4 MA's), (67, 43379), (73, 43355), (78, 43304), (82, 43280), (86, 43229),

Gene: Bipper_125 Start: 73005, Stop: 73226, Start Num: 57

Candidate Starts for Bipper_125:

(16, 72744), (21, 72804), (Start: 57 @73005 has 2 MA's), (64, 73074), (80, 73182), (81, 73185), (83, 73197),

Gene: BirdInFrench_63 Start: 42918, Stop: 42661, Start Num: 42

Candidate Starts for BirdInFrench_63:

(1, 43611), (2, 43536), (6, 43320), (9, 43239), (26, 43017), (27, 43014), (35, 42984), (Start: 41 @42921 has 4 MA's), (Start: 42 @42918 has 34 MA's), (65, 42810), (79, 42714), (82, 42699),

Gene: Blab_53 Start: 41667, Stop: 41395, Start Num: 47

Candidate Starts for Blab_53:

(7, 42102), (8, 42099), (10, 41997), (12, 41937), (13, 41928), (20, 41850), (23, 41811), (25, 41808), (34, 41763), (36, 41754), (45, 41673), (Start: 47 @41667 has 4 MA's), (Start: 48 @41658 has 1 MA's), (67, 41550), (73, 41526), (78, 41475), (82, 41451), (86, 41400),

Gene: CandC_61 Start: 42136, Stop: 41888, Start Num: 42

Candidate Starts for CandC_61:

(37, 42196), (Start: 41 @42139 has 4 MA's), (Start: 42 @42136 has 34 MA's), (65, 42028), (79, 41932), (82, 41917),

Gene: Casablancas_35 Start: 9722, Stop: 9958, Start Num: 55

Candidate Starts for Casablancas_35:

(Start: 50 @9707 has 19 MA's), (55, 9722), (58, 9737), (76, 9857), (80, 9905), (82, 9911), (83, 9920),

Gene: Casend_55 Start: 42251, Stop: 41979, Start Num: 42

Candidate Starts for Casend_55:

(Start: 41 @42254 has 4 MA's), (Start: 42 @42251 has 34 MA's), (65, 42128), (78, 42041), (82, 42017), (84, 41990),

Gene: Cracklewink_126 Start: 72157, Stop: 72378, Start Num: 57

Candidate Starts for Cracklewink_126:

(16, 71896), (21, 71956), (Start: 57 @72157 has 2 MA's), (64, 72226), (80, 72334), (81, 72337), (83, 72349),

Gene: Dashyla_50 Start: 51053, Stop: 51292, Start Num: 50

Candidate Starts for Dashyla_50:

(18, 50843), (28, 50924), (31, 50936), (Start: 50 @51053 has 19 MA's), (61, 51092), (82, 51260),

Gene: DejaVu_30 Start: 9028, Stop: 9288, Start Num: 44

Candidate Starts for DejaVu_30:

(Start: 44 @9028 has 14 MA's), (71, 9166), (80, 9244), (82, 9250),

Gene: Deschain_34 Start: 10386, Stop: 10622, Start Num: 55

Candidate Starts for Deschain_34:

(Start: 50 @10371 has 19 MA's), (55, 10386), (58, 10401), (76, 10521), (80, 10569), (82, 10575), (83, 10584),

Gene: DonaldDuck_54 Start: 41600, Stop: 41328, Start Num: 42

Candidate Starts for DonaldDuck_54:

(Start: 41 @41603 has 4 MA's), (Start: 42 @41600 has 34 MA's), (65, 41477), (78, 41390), (82, 41366), (84, 41339),

Gene: DumpQuist_50 Start: 50907, Stop: 51146, Start Num: 50

Candidate Starts for DumpQuist_50:

(15, 50658), (28, 50778), (31, 50790), (Start: 50 @50907 has 19 MA's), (61, 50946), (82, 51114),

Gene: DustyDino_37 Start: 10571, Stop: 10822, Start Num: 50

Candidate Starts for DustyDino_37:

(40, 10535), (Start: 50 @10571 has 19 MA's), (58, 10601), (76, 10721), (80, 10769), (82, 10775), (83, 10784),

Gene: Erenyeager_34 Start: 9965, Stop: 10216, Start Num: 50

Candidate Starts for Erenyeager_34:

(Start: 50 @9965 has 19 MA's), (55, 9980), (58, 9995), (76, 10115), (80, 10163), (82, 10169), (83, 10178),

Gene: EverythinBagel_53 Start: 41961, Stop: 41689, Start Num: 42

Candidate Starts for EverythinBagel_53:

(Start: 41 @41964 has 4 MA's), (Start: 42 @41961 has 34 MA's), (65, 41838), (78, 41751), (82, 41727), (84, 41700),

Gene: Fork_30 Start: 9281, Stop: 9532, Start Num: 50

Candidate Starts for Fork_30:

(Start: 50 @9281 has 19 MA's), (55, 9296), (58, 9311), (60, 9320), (76, 9431), (80, 9479), (82, 9485), (83, 9494),

Gene: FrankDeliGuy_52 Start: 41773, Stop: 41501, Start Num: 42

Candidate Starts for FrankDeliGuy_52:

(Start: 42 @41773 has 34 MA's), (69, 41629), (75, 41599), (78, 41563), (82, 41539), (84, 41512),

Gene: Fransoyer_58 Start: 44153, Stop: 43872, Start Num: 42

Candidate Starts for Fransoyer_58:

(Start: 42 @44153 has 34 MA's), (65, 44027),

Gene: Fregley_62 Start: 42305, Stop: 42057, Start Num: 42

Candidate Starts for Fregley_62:

(Start: 41 @42308 has 4 MA's), (Start: 42 @42305 has 34 MA's), (65, 42197), (79, 42101), (82, 42086),

Gene: Gazebo_55 Start: 42275, Stop: 42003, Start Num: 43

Candidate Starts for Gazebo_55:

(Start: 41 @42281 has 4 MA's), (Start: 43 @42275 has 5 MA's), (65, 42152), (78, 42065), (82, 42041), (84, 42014),

Gene: Grassboy_58 Start: 42646, Stop: 42386, Start Num: 41

Candidate Starts for Grassboy_58:

(Start: 41 @42646 has 4 MA's), (Start: 44 @42640 has 14 MA's), (Start: 47 @42631 has 4 MA's), (67, 42523), (73, 42499), (78, 42448), (82, 42424),

Gene: HollowPurple_35 Start: 9821, Stop: 10072, Start Num: 50

Candidate Starts for HollowPurple_35:

(Start: 50 @9821 has 19 MA's), (55, 9836), (58, 9851), (76, 9971), (80, 10019), (82, 10025), (83, 10034),

Gene: Hortus1_27 Start: 8829, Stop: 9089, Start Num: 44

Candidate Starts for Hortus1_27:

(11, 8538), (14, 8601), (17, 8625), (Start: 44 @8829 has 14 MA's), (70, 8964), (80, 9045), (82, 9051),

Gene: Hubbs_29 Start: 9240, Stop: 9500, Start Num: 44

Candidate Starts for Hubbs_29:

(Start: 44 @9240 has 14 MA's), (71, 9378), (80, 9456), (82, 9462),

Gene: Hyperion_56 Start: 42456, Stop: 42184, Start Num: 43

Candidate Starts for Hyperion_56:

(Start: 41 @42459 has 4 MA's), (Start: 43 @42456 has 5 MA's), (65, 42333), (78, 42246), (82, 42222), (84, 42195),

Gene: Issa7_33 Start: 9290, Stop: 9526, Start Num: 55

Candidate Starts for Issa7_33:

(Start: 50 @9275 has 19 MA's), (55, 9290), (58, 9305), (60, 9314), (76, 9425), (80, 9473), (82, 9479), (83, 9488),

Gene: Jacko_30 Start: 9333, Stop: 9593, Start Num: 44

Candidate Starts for Jacko_30:

(17, 9132), (22, 9204), (Start: 44 @9333 has 14 MA's), (59, 9384), (65, 9447), (82, 9555),

Gene: Jehoshaphat_56 Start: 42519, Stop: 42247, Start Num: 42

Candidate Starts for Jehoshaphat_56:

(Start: 41 @42522 has 4 MA's), (Start: 42 @42519 has 34 MA's), (65, 42396), (78, 42309), (82, 42285), (84, 42258),

Gene: Judebell_57 Start: 42165, Stop: 41893, Start Num: 42

Candidate Starts for Judebell_57:

(Start: 41 @42168 has 4 MA's), (Start: 42 @42165 has 34 MA's), (69, 42021), (75, 41991), (78, 41955), (82, 41931), (84, 41904),

Gene: Kelcole_60 Start: 42364, Stop: 42116, Start Num: 42

Candidate Starts for Kelcole_60:

(Start: 41 @42367 has 4 MA's), (Start: 42 @42364 has 34 MA's), (65, 42256), (79, 42160), (82, 42145),

Gene: KillerQueen_63 Start: 42614, Stop: 42366, Start Num: 42

Candidate Starts for KillerQueen_63:

(Start: 41 @42617 has 4 MA's), (Start: 42 @42614 has 34 MA's), (65, 42506), (79, 42410), (82, 42395),

Gene: Kyva_58 Start: 42703, Stop: 42443, Start Num: 41

Candidate Starts for Kyva_58:

(Start: 41 @42703 has 4 MA's), (Start: 44 @42697 has 14 MA's), (Start: 47 @42688 has 4 MA's), (67, 42580), (73, 42556), (78, 42505), (82, 42481),

Gene: LilyLou_52 Start: 51371, Stop: 51610, Start Num: 50

Candidate Starts for LilyLou_52:

(18, 51161), (26, 51233), (28, 51242), (31, 51254), (Start: 50 @51371 has 19 MA's), (61, 51410), (82, 51578),

Gene: Llemily_54 Start: 41295, Stop: 41023, Start Num: 42

Candidate Starts for Llemily_54:

(Start: 41 @41298 has 4 MA's), (Start: 42 @41295 has 34 MA's), (65, 41172), (78, 41085), (82, 41061), (84, 41034),

Gene: Lonelysoil_54 Start: 41648, Stop: 41376, Start Num: 43

Candidate Starts for Lonelysoil_54:

(Start: 43 @41648 has 5 MA's), (65, 41525), (78, 41438), (82, 41414), (84, 41387),

Gene: Lupine_28 Start: 8912, Stop: 9172, Start Num: 44

Candidate Starts for Lupine_28:

(17, 8711), (Start: 44 @8912 has 14 MA's), (71, 9050), (80, 9128), (82, 9134),

Gene: Lyell_34 Start: 9883, Stop: 10134, Start Num: 50

Candidate Starts for Lyell_34:

(Start: 50 @9883 has 19 MA's), (55, 9898), (58, 9913), (76, 10033), (80, 10081), (82, 10087), (83, 10096),

Gene: Marcie_67 Start: 43263, Stop: 43015, Start Num: 42

Candidate Starts for Marcie_67:

(Start: 41 @43266 has 4 MA's), (Start: 42 @43263 has 34 MA's), (79, 43059), (82, 43044),

Gene: Mashley_55 Start: 42232, Stop: 41960, Start Num: 42

Candidate Starts for Mashley_55:

(Start: 42 @42232 has 34 MA's), (69, 42088), (75, 42058), (78, 42022), (82, 41998), (84, 41971),

Gene: Mentos_60 Start: 43466, Stop: 43194, Start Num: 42

Candidate Starts for Mentos_60:

(29, 43562), (Start: 42 @43466 has 34 MA's), (69, 43322), (75, 43292), (78, 43256), (82, 43232), (84, 43205),

Gene: Mila11_59 Start: 43685, Stop: 43431, Start Num: 44

Candidate Starts for Mila11_59:

(Start: 41 @43691 has 4 MA's), (Start: 44 @43685 has 14 MA's), (Start: 47 @43676 has 4 MA's), (67, 43568), (73, 43544), (78, 43493), (82, 43469), (84, 43442),

Gene: Mistmere_26 Start: 7490, Stop: 7738, Start Num: 49

Candidate Starts for Mistmere_26:

(40, 7460), (49, 7490), (53, 7502), (64, 7580), (74, 7625), (76, 7637), (82, 7691),

Gene: MorillMayhem_57 Start: 42562, Stop: 42308, Start Num: 44

Candidate Starts for MorillMayhem_57:

(Start: 41 @42568 has 4 MA's), (Start: 44 @42562 has 14 MA's), (Start: 47 @42553 has 4 MA's), (67, 42445), (73, 42421), (78, 42370), (82, 42346), (84, 42319),

Gene: Musetta_34 Start: 9992, Stop: 10243, Start Num: 50

Candidate Starts for Musetta_34:

(Start: 50 @9992 has 19 MA's), (55, 10007), (76, 10142), (80, 10190), (82, 10196), (83, 10205),

Gene: Namago_56 Start: 41635, Stop: 41363, Start Num: 43

Candidate Starts for Namago_56:

(Start: 41 @41641 has 4 MA's), (Start: 43 @41635 has 5 MA's), (65, 41512), (78, 41425), (82, 41401), (84, 41374),

Gene: Necrophoxinus_36 Start: 10579, Stop: 10830, Start Num: 50

Candidate Starts for Necrophoxinus_36:

(Start: 50 @10579 has 19 MA's), (55, 10594), (58, 10609), (76, 10729), (80, 10777), (82, 10783), (83, 10792),

Gene: Nike_56 Start: 42603, Stop: 42349, Start Num: 47

Candidate Starts for Nike_56:

(32, 42684), (Start: 47 @42603 has 4 MA's), (Start: 48 @42594 has 1 MA's), (67, 42486), (73, 42462), (78, 42411), (82, 42387), (84, 42360),

Gene: OlinDD_27 Start: 8828, Stop: 9088, Start Num: 44

Candidate Starts for OlinDD_27:

(11, 8537), (14, 8600), (17, 8624), (Start: 44 @8828 has 14 MA's), (70, 8963), (80, 9044), (82, 9050),

Gene: OneinaGillian_62 Start: 42266, Stop: 42018, Start Num: 42

Candidate Starts for OneinaGillian_62:

(Start: 41 @42269 has 4 MA's), (Start: 42 @42266 has 34 MA's), (79, 42062), (82, 42047),

Gene: Pabst_50 Start: 50450, Stop: 50701, Start Num: 50

Candidate Starts for Pabst_50:

(39, 50399), (Start: 50 @50450 has 19 MA's), (53, 50459), (61, 50489), (62, 50525), (63, 50537), (66, 50555), (68, 50567), (82, 50666),

Gene: Pavlo_28 Start: 9187, Stop: 9447, Start Num: 44

Candidate Starts for Pavlo_28:

(Start: 44 @9187 has 14 MA's), (71, 9325), (80, 9403), (82, 9409),

Gene: Pepe25_61 Start: 41821, Stop: 41549, Start Num: 42

Candidate Starts for Pepe25_61:

(33, 41899), (Start: 41 @41824 has 4 MA's), (Start: 42 @41821 has 34 MA's), (56, 41779), (65, 41698), (69, 41677), (82, 41587), (84, 41560),

Gene: Phabia_54 Start: 41710, Stop: 41438, Start Num: 42

Candidate Starts for Phabia_54:

(Start: 41 @41713 has 4 MA's), (Start: 42 @41710 has 34 MA's), (65, 41587), (78, 41500), (82, 41476), (84, 41449),

Gene: PhillyPhilly_29 Start: 9092, Stop: 9352, Start Num: 44

Candidate Starts for PhillyPhilly_29:

(Start: 44 @9092 has 14 MA's), (71, 9230), (80, 9308), (82, 9314),

Gene: Phinky_64 Start: 44342, Stop: 44070, Start Num: 47

Candidate Starts for Phinky_64:

(38, 44396), (46, 44345), (Start: 47 @44342 has 4 MA's), (Start: 48 @44333 has 1 MA's), (67, 44225), (73, 44201), (78, 44150), (82, 44126), (85, 44081),

Gene: Phroglets_5 Start: 3497, Stop: 3736, Start Num: 51
Candidate Starts for Phroglets_5:
(Start: 51 @3497 has 1 MA's), (54, 3506), (77, 3656), (79, 3689), (82, 3704),

Gene: Pioneer3_27 Start: 8827, Stop: 9087, Start Num: 44
Candidate Starts for Pioneer3_27:
(11, 8536), (14, 8599), (17, 8623), (Start: 44 @8827 has 14 MA's), (70, 8962), (80, 9043), (82, 9049),

Gene: Platte_27 Start: 8597, Stop: 8857, Start Num: 44
Candidate Starts for Platte_27:
(11, 8306), (14, 8369), (17, 8393), (Start: 44 @8597 has 14 MA's), (70, 8732), (80, 8813), (82, 8819),

Gene: Quammi_52 Start: 41410, Stop: 41138, Start Num: 42
Candidate Starts for Quammi_52:
(Start: 41 @41413 has 4 MA's), (Start: 42 @41410 has 34 MA's), (65, 41287), (78, 41200), (82, 41176),
(84, 41149),

Gene: RobinRose_64 Start: 42778, Stop: 42530, Start Num: 42
Candidate Starts for RobinRose_64:
(Start: 41 @42781 has 4 MA's), (Start: 42 @42778 has 34 MA's), (65, 42670), (79, 42574), (82, 42559),

Gene: Roman_29 Start: 9087, Stop: 9347, Start Num: 44
Candidate Starts for Roman_29:
(Start: 44 @9087 has 14 MA's), (71, 9225), (78, 9285), (80, 9303), (82, 9309),

Gene: Romm_64 Start: 42775, Stop: 42527, Start Num: 42
Candidate Starts for Romm_64:
(Start: 41 @42778 has 4 MA's), (Start: 42 @42775 has 34 MA's), (65, 42667), (79, 42571), (82, 42556),

Gene: Rowlf_52 Start: 41508, Stop: 41236, Start Num: 42
Candidate Starts for Rowlf_52:
(Start: 41 @41511 has 4 MA's), (Start: 42 @41508 has 34 MA's), (Start: 47 @41499 has 4 MA's), (65,
41403), (67, 41391), (72, 41370), (73, 41367), (78, 41316), (82, 41292), (85, 41247),

Gene: RubyRalph_60 Start: 44491, Stop: 44210, Start Num: 42
Candidate Starts for RubyRalph_60:
(Start: 42 @44491 has 34 MA's), (65, 44365),

Gene: Rudy_52 Start: 41446, Stop: 41174, Start Num: 42
Candidate Starts for Rudy_52:
(Start: 41 @41449 has 4 MA's), (Start: 42 @41446 has 34 MA's), (65, 41323), (78, 41236), (82, 41212),
(84, 41185),

Gene: RunningBrook_35 Start: 10571, Stop: 10822, Start Num: 50
Candidate Starts for RunningBrook_35:
(40, 10535), (Start: 50 @10571 has 19 MA's), (58, 10601), (76, 10721), (80, 10769), (82, 10775), (83,
10784),

Gene: SallyK_57 Start: 42760, Stop: 42488, Start Num: 42
Candidate Starts for SallyK_57:
(3, 43315), (4, 43294), (5, 43264), (Start: 42 @42760 has 34 MA's), (69, 42616), (75, 42586), (78,
42550), (82, 42526), (84, 42499),

Gene: Saradis_30 Start: 9150, Stop: 9410, Start Num: 44
Candidate Starts for Saradis_30:
(Start: 44 @9150 has 14 MA's), (71, 9288), (80, 9366), (82, 9372),

Gene: Shocker_4 Start: 1170, Stop: 1418, Start Num: 48
Candidate Starts for Shocker_4:
(19, 975), (Start: 48 @1170 has 1 MA's), (66, 1287), (82, 1389),

Gene: Shroomer_37 Start: 10099, Stop: 10350, Start Num: 50
Candidate Starts for Shroomer_37:
(Start: 50 @10099 has 19 MA's), (53, 10108), (55, 10114), (76, 10249), (80, 10297), (82, 10303),

Gene: Sillytadpoles_55 Start: 41283, Stop: 41011, Start Num: 42
Candidate Starts for Sillytadpoles_55:
(Start: 41 @41286 has 4 MA's), (Start: 42 @41283 has 34 MA's), (65, 41160), (78, 41073), (82, 41049),
(84, 41022),

Gene: SlySloth_58 Start: 42152, Stop: 41880, Start Num: 42
Candidate Starts for SlySloth_58:
(Start: 41 @42155 has 4 MA's), (Start: 42 @42152 has 34 MA's), (69, 42008), (75, 41978), (78, 41942),
(82, 41918),

Gene: Solimine_30 Start: 9565, Stop: 9825, Start Num: 44
Candidate Starts for Solimine_30:
(Start: 44 @9565 has 14 MA's), (71, 9703), (80, 9781), (82, 9787),

Gene: Squash_59 Start: 42626, Stop: 42354, Start Num: 47
Candidate Starts for Squash_59:
(7, 43061), (8, 43058), (10, 42956), (12, 42896), (13, 42887), (20, 42809), (23, 42770), (25, 42767),
(34, 42722), (36, 42713), (45, 42632), (Start: 47 @42626 has 4 MA's), (Start: 48 @42617 has 1 MA's),
(67, 42509), (73, 42485), (78, 42434), (82, 42410), (85, 42365),

Gene: Statler_57 Start: 42227, Stop: 41955, Start Num: 42
Candidate Starts for Statler_57:
(Start: 42 @42227 has 34 MA's), (69, 42083), (75, 42053), (78, 42017), (82, 41993),

Gene: SteakFry_33 Start: 9821, Stop: 10072, Start Num: 50
Candidate Starts for SteakFry_33:
(Start: 50 @9821 has 19 MA's), (55, 9836), (58, 9851), (76, 9971), (80, 10019), (82, 10025), (83,
10034),

Gene: StevieWelch_34 Start: 9971, Stop: 10222, Start Num: 50
Candidate Starts for StevieWelch_34:
(Start: 50 @9971 has 19 MA's), (55, 9986), (58, 10001), (76, 10121), (80, 10169), (82, 10175), (83,
10184),

Gene: StrawberryJamm_59 Start: 41944, Stop: 41666, Start Num: 41
Candidate Starts for StrawberryJamm_59:
(Start: 41 @41944 has 4 MA's), (Start: 43 @41938 has 5 MA's), (65, 41815), (78, 41728), (82, 41704),
(84, 41677),

Gene: Sunfish_10 Start: 3392, Stop: 3637, Start Num: 52
Candidate Starts for Sunfish_10:

(30, 3278), (Start: 50 @3386 has 19 MA's), (Start: 51 @3389 has 1 MA's), (Start: 52 @3392 has 1 MA's), (82, 3593),

Gene: SwissCheezer_50 Start: 50936, Stop: 51175, Start Num: 50

Candidate Starts for SwissCheezer_50:

(24, 50786), (28, 50807), (31, 50819), (Start: 50 @50936 has 19 MA's), (61, 50975), (82, 51143),

Gene: Tandem_27 Start: 8766, Stop: 9026, Start Num: 44

Candidate Starts for Tandem_27:

(11, 8475), (14, 8538), (17, 8562), (Start: 44 @8766 has 14 MA's), (70, 8901), (80, 8982), (82, 8988),

Gene: Teehee_55 Start: 42516, Stop: 42244, Start Num: 42

Candidate Starts for Teehee_55:

(Start: 41 @42519 has 4 MA's), (Start: 42 @42516 has 34 MA's), (65, 42393), (78, 42306), (82, 42282), (84, 42255),

Gene: Tempo_62 Start: 42643, Stop: 42395, Start Num: 42

Candidate Starts for Tempo_62:

(Start: 41 @42646 has 4 MA's), (Start: 42 @42643 has 34 MA's), (65, 42535), (79, 42439), (82, 42424),

Gene: Tissue_57 Start: 42542, Stop: 42282, Start Num: 41

Candidate Starts for Tissue_57:

(Start: 41 @42542 has 4 MA's), (Start: 44 @42536 has 14 MA's), (Start: 47 @42527 has 4 MA's), (67, 42419), (73, 42395), (78, 42344), (82, 42320),

Gene: Uterion_31 Start: 9657, Stop: 9917, Start Num: 44

Candidate Starts for Uterion_31:

(Start: 44 @9657 has 14 MA's), (71, 9795), (80, 9873), (82, 9879),

Gene: Viceroy_53 Start: 41416, Stop: 41144, Start Num: 42

Candidate Starts for Viceroy_53:

(Start: 41 @41419 has 4 MA's), (Start: 42 @41416 has 34 MA's), (65, 41293), (78, 41206), (82, 41182), (84, 41155),

Gene: Wayne3_56 Start: 42279, Stop: 42007, Start Num: 42

Candidate Starts for Wayne3_56:

(Start: 41 @42282 has 4 MA's), (Start: 42 @42279 has 34 MA's), (65, 42156), (78, 42069), (82, 42045), (84, 42018),

Gene: Welcome_35 Start: 9988, Stop: 10239, Start Num: 50

Candidate Starts for Welcome_35:

(Start: 50 @9988 has 19 MA's), (55, 10003), (76, 10138), (80, 10186), (82, 10192), (83, 10201),

Gene: WheelerS25_63 Start: 43635, Stop: 43363, Start Num: 42

Candidate Starts for WheelerS25_63:

(29, 43731), (Start: 41 @43638 has 4 MA's), (Start: 42 @43635 has 34 MA's), (69, 43491), (75, 43461), (78, 43425), (82, 43401), (84, 43374),

Gene: Wheelie_54 Start: 41600, Stop: 41328, Start Num: 42

Candidate Starts for Wheelie_54:

(Start: 41 @41603 has 4 MA's), (Start: 42 @41600 has 34 MA's), (65, 41477), (78, 41390), (82, 41366), (84, 41339),

Gene: Wilca_63 Start: 42918, Stop: 42661, Start Num: 42

Candidate Starts for Wilca_63:

(1, 43611), (2, 43536), (6, 43320), (9, 43239), (26, 43017), (27, 43014), (35, 42984), (Start: 41 @42921 has 4 MA's), (Start: 42 @42918 has 34 MA's), (65, 42810), (79, 42714), (82, 42699),

Gene: Wolfstar_30 Start: 9600, Stop: 9860, Start Num: 44

Candidate Starts for Wolfstar_30:

(17, 9399), (Start: 44 @9600 has 14 MA's), (59, 9651), (76, 9768), (80, 9816), (82, 9822),

Gene: Yuma_33 Start: 9891, Stop: 10142, Start Num: 50

Candidate Starts for Yuma_33:

(Start: 50 @9891 has 19 MA's), (55, 9906), (76, 10041), (80, 10089), (82, 10095), (83, 10104),

Gene: Zagie_56 Start: 42135, Stop: 41863, Start Num: 43

Candidate Starts for Zagie_56:

(Start: 41 @42141 has 4 MA's), (Start: 43 @42135 has 5 MA's), (65, 42012), (78, 41925), (82, 41901), (84, 41874),

Gene: Zhafia_57 Start: 42080, Stop: 41808, Start Num: 42

Candidate Starts for Zhafia_57:

(Start: 41 @42083 has 4 MA's), (Start: 42 @42080 has 34 MA's), (65, 41957), (78, 41870), (82, 41846), (84, 41819),