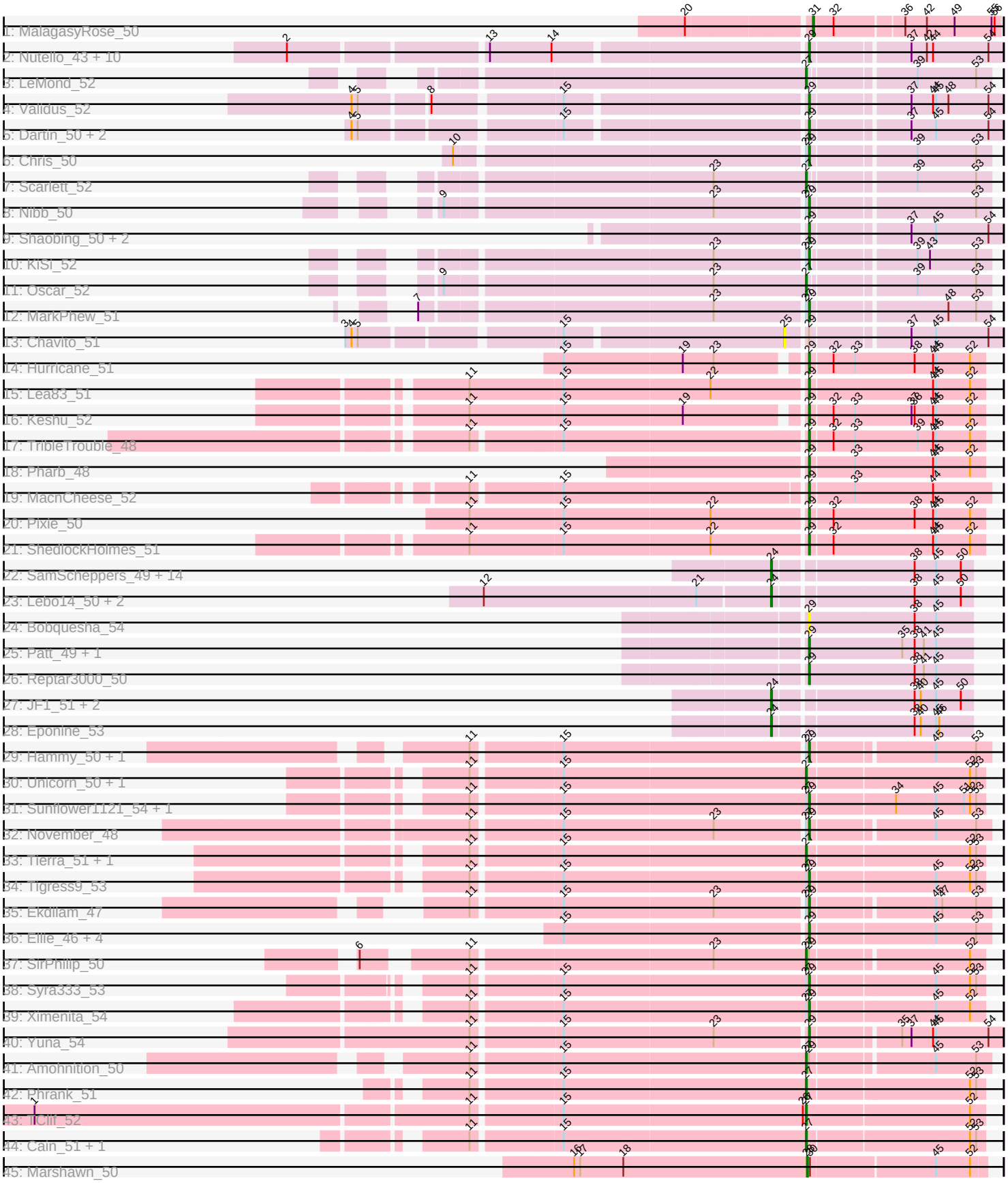
Pham 342041


1: MalagasyRose_50
2: Nutello_43 + 10
3: LeMond_52
4: Validus_52
5: Dartin_50 + 2
6: Chris_50
7: Scarlett_52
8: Nibb_50
9: Shaobing_50 + 2
10: KISI_52
11: Oscar_52
12: MarkPhew_51
13: Chavito_51
14: Hurricane_51
15: Lea83_51
16: Keshu_52
17: TribleTrouble_48
18: Pharb_48
19: MacnCheese_52
20: Pixie_50
21: SnedlockHolmes_51
22: SamScheppers_49 + 14
23: Lebo14_50 + 2
24: Bobquesha_54
25: Patt_49 + 1
26: Reptar3000_50
27: JF1_51 + 2
28: Eponine_53
29: Hammy_50 + 1
30: Unicorn_50 + 1
31: Sunflower1121_54 + 1
32: November_48
33: Tierra_51 + 1
34: Tigress9_53
35: Ekdilam_47
36: Ellie_46 + 4
37: SirPhilip_50
38: Syra333_53
39: Ximenita_54
40: Yuna_54
41: Amohnition_50
42: Phrank_51
43: IICliff_52
44: Cain_51 + 1
45: Marshawn_50

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 342041 Report

This analysis was run 11/14/26 on database version 672.

Pham number 342041 has 87 members, 7 are drafts.

Phages represented in each track:
• Track 1 : MalagasyRose_50
• Track 2 : Nutello_43, Amelie_43, Nikao_46, Teejan_45, LilPharaoh_43, SgtBeansprout_43, Torres_46, Biglebops_43, Trice_43, Enkosi_45, Mdavu_44
• Track 3 : LeMond_52
• Track 4 : Validus_52
• Track 5 : Dartin_50, Richo_50, McMater_50
• Track 6 : Chris_50
• Track 7 : Scarlett_52
• Track 8 : Nibb_50
• Track 9 : Shaobing_50, Niklas_50, Peanam_50
• Track 10 : KiSi_52
• Track 11 : Oscar_52
• Track 12 : MarkPhew_51
• Track 13 : Chavito_51
• Track 14 : Hurricane_51
• Track 15 : Lea83_51
• Track 16 : Keshu_52
• Track 17 : TribleTrouble_48
• Track 18 : Pharb_48
• Track 19 : MacnCheese_52
• Track 20 : Pixie_50
• Track 21 : ShedlockHolmes_51
• Track 22 : SamScheppers_49, Fionnbharth_51, Malthus_52, YasnayaPolyana_51, Juliette_53, Cheetobro_51, Taquito_51, Slarp_51, Wintermute_51, OmniCritical_50, Ruthiejr_52, Qhanda_53, Kraw_51, Chancellor_51, Mitti_51
• Track 23 : Lebo14_50, DanSyl44_54, Nolwazi_53
• Track 24 : Bobquesha_54
• Track 25 : Patt_49, MissDaisy_50
• Track 26 : Reptar3000_50
• Track 27 : JF1_51, Y10_50, Y2_50
• Track 28 : Eponine_53
• Track 29 : Hammy_50, DarthP_50
• Track 30 : Unicorn_50, PhelpsODU_50
• Track 31 : Sunflower1121_54, Shadow1_53
• Track 32 : November_48
• Track 33 : Tierra_51, Krueger_54
• Track 34 : Tigress9_53

• Track 35 : Ekdilam_47
• Track 36 : Ellie_46, Amgine_48, Applecrisp_47, Fefferhead_48, Lavahound_47
• Track 37 : SirPhilip_50
• Track 38 : Syra333_53
• Track 39 : Ximenita_54
• Track 40 : Yuna_54
• Track 41 : Amohnition_50
• Track 42 : Phrank_51
• Track 43 : TClif_52
• Track 44 : Cain_51, Bryler_51
• Track 45 : Marshawn_50

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

The start number called the most often in the published annotations is 29, it was called in 46 of the 80 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Amelie_43, Amgine_48, Applecrisp_47, Biglebops_43, Bobquesha_54, Chris_50, DarthP_50, Dartin_50, Ekdilam_47, Ellie_46, Enkosi_45, Fefferhead_48, Hammy_50, Hurricane_51, Keshu_52, KiSi_52, Lavahound_47, Lea83_51, LilPharaoh_43, MacnCheese_52, MarkPhew_51, McMater_50, Mdavu_44, MissDaisy_50, Nibb_50, Nikao_46, Niklas_50, November_48, Nutello_43, Patt_49, Peanam_50, Pharb_48, Pixie_50, Reptar3000_50, Richo_50, SgtBeansprout_43, Shadow1_53, Shaobing_50, ShedlockHolmes_51, Sunflower1121_54, Syra333_53, Teejan_45, Tigress9_53, Torres_46, TribleTrouble_48, Trice_43, Validus_52, Ximenita_54, Yuna_54,

Genes that have the "Most Annotated" start but do not call it:
• Amohnition_50, Chavito_51, SirPhilip_50,

Genes that do not have the "Most Annotated" start:
• Bryler_51, Cain_51, Chancellor_51, Cheetobro_51, DanSyl44_54, Eponine_53, Fionnbharth_51, JF1_51, Juliette_53, Kraw_51, Krueger_54, LeMond_52, Lebo14_50, MalagasyRose_50, Malthus_52, Marshawn_50, Mitti_51, Nolwazi_53, OmniCritical_50, Oscar_52, PhelpsODU_50, Phrank_51, Qhanda_53, Ruthiejr_52, SamScheppers_49, Scarlett_52, Slarp_51, TClif_52, Taquito_51, Tierra_51, Unicorn_50, Wintermute_51, Y10_50, Y2_50, YasnayaPolyana_51,

Summary by start number:

Start 24:
• Found in 22 of 87 (25.3%) of genes in pham
• Manual Annotations of this start: 19 of 80
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Chancellor_51 (K4), Cheetobro_51 (K4), DanSyl44_54 (K4), Eponine_53 (K4), Fionnbharth_51 (K4), JF1_51 (K4), Juliette_53 (K4), Kraw_51 (K4), Lebo14_50 (K4), Malthus_52 (K4), Mitti_51 (K4), Nolwazi_53 (K4), OmniCritical_50 (K4), Qhanda_53 (K4), Ruthiejr_52 (K4), SamScheppers_49 (K4), Slarp_51 (K4), Taquito_51 (K4), Wintermute_51 (K4), Y10_50 (K4), Y2_50 (K4), YasnayaPolyana_51 (K4),

Start 25:
• Found in 1 of 87 (1.1%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Chavito_51 (K1),

Start 27:
• Found in 26 of 87 (29.9%) of genes in pham
• Manual Annotations of this start: 13 of 80
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Amohnition_50 (K6), Bryler_51 (K6), Cain_51 (K6), Krueger_54 (K6), LeMond_52 (K1), Oscar_52 (K1), PhelpsODU_50 (K6), Phrank_51 (K6), Scarlett_52 (K1), SirPhilip_50 (K6), TClif_52 (K6), Tierra_51 (K6), Unicorn_50 (K6),

Start 28:
• Found in 1 of 87 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 80
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Marshawn_50 (K6),

Start 29:
• Found in 52 of 87 (59.8%) of genes in pham
• Manual Annotations of this start: 46 of 80
• Called 94.2% of time when present
• Phage (with cluster) where this start called: Amelie_43 (K1), Amgine_48 (K6), Applecrisp_47 (K6), Biglebops_43 (K1), Bobquesha_54 (K4), Chris_50 (K1), DarthP_50 (K6), Dartin_50 (K1), Ekdilam_47 (K6), Ellie_46 (K6), Enkosi_45 (K1), Fefferhead_48 (K6), Hammy_50 (K6), Hurricane_51 (K3), Keshu_52 (K3), KiSi_52 (K1), Lavahound_47 (K6), Lea83_51 (K3), LilPharaoh_43 (K1), MacnCheese_52 (K3), MarkPhew_51 (K1), McMater_50 (K1), Mdavu_44 (K1), MissDaisy_50 (K4), Nibb_50 (K1), Nikao_46 (K1), Niklas_50 (K1), November_48 (K6), Nutello_43 (K1), Patt_49 (K4), Peanam_50 (K1), Pharb_48 (K3), Pixie_50 (K3), Reptar3000_50 (K4), Richo_50 (K1), SgtBeansprout_43 (K1), Shadow1_53 (K6), Shaobing_50 (K1), ShedlockHolmes_51 (K3), Sunflower1121_54 (K6), Syra333_53 (K6), Teejan_45 (K1), Tigress9_53 (K6), Torres_46 (K1), TribleTrouble_48 (K3), Trice_43 (K1), Validus_52 (K1), Ximenita_54 (K6), Yuna_54 (K6),

Start 31:
• Found in 1 of 87 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 80
• Called 100.0% of time when present
• Phage (with cluster) where this start called: MalagasyRose_50 (AG),

Summary by clusters:

There are 5 clusters represented in this pham: K3, K1, K6, AG, K4,

Info for manual annotations of cluster AG:
•Start number 31 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster K1:

•Start number 27 was manually annotated 3 times for cluster K1.
•Start number 29 was manually annotated 20 times for cluster K1.

Info for manual annotations of cluster K3:
•Start number 29 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:
•Start number 24 was manually annotated 19 times for cluster K4.
•Start number 29 was manually annotated 3 times for cluster K4.

Info for manual annotations of cluster K6:
•Start number 27 was manually annotated 10 times for cluster K6.
•Start number 28 was manually annotated 1 time for cluster K6.
•Start number 29 was manually annotated 15 times for cluster K6.

Gene Information:

Gene: Amelie_43 Start: 35852, Stop: 36028, Start Num: 29
Candidate Starts for Amelie_43:
(2, 35381), (13, 35558), (14, 35618), (Start: 29 @35852 has 46 MA's), (37, 35939), (42, 35954), (44, 35960), (54, 36014),

Gene: Amgine_48 Start: 37350, Stop: 37520, Start Num: 29
Candidate Starts for Amgine_48:
(15, 37119), (Start: 29 @37350 has 46 MA's), (45, 37467), (53, 37506),

Gene: Amohnition_50 Start: 37357, Stop: 37524, Start Num: 27
Candidate Starts for Amohnition_50:
(11, 37048), (15, 37129), (Start: 27 @37357 has 13 MA's), (Start: 29 @37360 has 46 MA's), (45, 37471), (53, 37510),

Gene: Applecrisp_47 Start: 36846, Stop: 37016, Start Num: 29
Candidate Starts for Applecrisp_47:
(15, 36615), (Start: 29 @36846 has 46 MA's), (45, 36963), (53, 37002),

Gene: Biglebops_43 Start: 35852, Stop: 36028, Start Num: 29
Candidate Starts for Biglebops_43:
(2, 35381), (13, 35558), (14, 35618), (Start: 29 @35852 has 46 MA's), (37, 35939), (42, 35954), (44, 35960), (54, 36014),

Gene: Bobquesha_54 Start: 36495, Stop: 36653, Start Num: 29
Candidate Starts for Bobquesha_54:
(Start: 29 @36495 has 46 MA's), (38, 36597), (45, 36618),

Gene: Bryler_51 Start: 36170, Stop: 36337, Start Num: 27
Candidate Starts for Bryler_51:
(11, 35855), (15, 35936), (Start: 27 @36170 has 13 MA's), (52, 36323), (53, 36329),

Gene: Cain_51 Start: 36158, Stop: 36325, Start Num: 27
Candidate Starts for Cain_51:
(11, 35843), (15, 35924), (Start: 27 @36158 has 13 MA's), (52, 36311), (53, 36317),

Gene: Chancellor_51 Start: 36908, Stop: 37090, Start Num: 24
Candidate Starts for Chancellor_51:
(Start: 24 @36908 has 19 MA's), (38, 37034), (45, 37055), (50, 37079),

Gene: Chavito_51 Start: 37741, Stop: 37935, Start Num: 25
Candidate Starts for Chavito_51:
(3, 37351), (4, 37357), (5, 37363), (15, 37537), (25, 37741), (Start: 29 @37759 has 46 MA's), (37, 37846), (45, 37870), (54, 37921),

Gene: Cheetobro_51 Start: 36905, Stop: 37087, Start Num: 24
Candidate Starts for Cheetobro_51:
(Start: 24 @36905 has 19 MA's), (38, 37031), (45, 37052), (50, 37076),

Gene: Chris_50 Start: 37221, Stop: 37385, Start Num: 29
Candidate Starts for Chris_50:
(10, 36897), (Start: 27 @37218 has 13 MA's), (Start: 29 @37221 has 46 MA's), (39, 37314), (53, 37371),

Gene: DanSyl44_54 Start: 37949, Stop: 38131, Start Num: 24
Candidate Starts for DanSyl44_54:
(12, 37676), (21, 37880), (Start: 24 @37949 has 19 MA's), (38, 38075), (45, 38096), (50, 38120),

Gene: DarthP_50 Start: 37244, Stop: 37408, Start Num: 29
Candidate Starts for DarthP_50:
(11, 36932), (15, 37013), (Start: 27 @37241 has 13 MA's), (Start: 29 @37244 has 46 MA's), (45, 37355), (53, 37394),

Gene: Dartin_50 Start: 37097, Stop: 37273, Start Num: 29
Candidate Starts for Dartin_50:
(4, 36695), (5, 36701), (15, 36875), (Start: 29 @37097 has 46 MA's), (37, 37184), (45, 37208), (54, 37259),

Gene: Ekdilam_47 Start: 36788, Stop: 36952, Start Num: 29
Candidate Starts for Ekdilam_47:
(11, 36476), (15, 36557), (23, 36701), (Start: 27 @36785 has 13 MA's), (Start: 29 @36788 has 46 MA's), (45, 36899), (47, 36905), (53, 36938),

Gene: Ellie_46 Start: 36538, Stop: 36708, Start Num: 29
Candidate Starts for Ellie_46:
(15, 36307), (Start: 29 @36538 has 46 MA's), (45, 36655), (53, 36694),

Gene: Enkosi_45 Start: 38465, Stop: 38641, Start Num: 29
Candidate Starts for Enkosi_45:
(2, 37994), (13, 38171), (14, 38231), (Start: 29 @38465 has 46 MA's), (37, 38552), (42, 38567), (44, 38573), (54, 38627),

Gene: Eponine_53 Start: 37661, Stop: 37843, Start Num: 24
Candidate Starts for Eponine_53:
(Start: 24 @37661 has 19 MA's), (38, 37787), (40, 37793), (45, 37808), (46, 37811),

Gene: Fefferhead_48 Start: 36488, Stop: 36658, Start Num: 29
Candidate Starts for Fefferhead_48:

(15, 36257), (Start: 29 @36488 has 46 MA's), (45, 36605), (53, 36644),

Gene: Fionnbharth_51 Start: 37059, Stop: 37241, Start Num: 24
Candidate Starts for Fionnbharth_51:
(Start: 24 @37059 has 19 MA's), (38, 37185), (45, 37206), (50, 37230),

Gene: Hammy_50 Start: 37232, Stop: 37396, Start Num: 29
Candidate Starts for Hammy_50:
(11, 36920), (15, 37001), (Start: 27 @37229 has 13 MA's), (Start: 29 @37232 has 46 MA's), (45, 37343), (53, 37382),

Gene: Hurricane_51 Start: 36986, Stop: 37153, Start Num: 29
Candidate Starts for Hurricane_51:
(15, 36767), (19, 36881), (23, 36911), (Start: 29 @36986 has 46 MA's), (32, 37007), (33, 37028), (38, 37085), (44, 37103), (45, 37106), (52, 37139),

Gene: JF1_51 Start: 36976, Stop: 37158, Start Num: 24
Candidate Starts for JF1_51:
(Start: 24 @36976 has 19 MA's), (38, 37102), (40, 37108), (45, 37123), (50, 37147),

Gene: Juliette_53 Start: 37132, Stop: 37314, Start Num: 24
Candidate Starts for Juliette_53:
(Start: 24 @37132 has 19 MA's), (38, 37258), (45, 37279), (50, 37303),

Gene: Keshu_52 Start: 37053, Stop: 37220, Start Num: 29
Candidate Starts for Keshu_52:
(11, 36744), (15, 36834), (19, 36948), (Start: 29 @37053 has 46 MA's), (32, 37074), (33, 37095), (37, 37149), (38, 37152), (44, 37170), (45, 37173), (52, 37206),

Gene: KiSi_52 Start: 37604, Stop: 37765, Start Num: 29
Candidate Starts for KiSi_52:
(23, 37517), (Start: 27 @37601 has 13 MA's), (Start: 29 @37604 has 46 MA's), (39, 37694), (43, 37706), (53, 37751),

Gene: Kraw_51 Start: 36820, Stop: 37002, Start Num: 24
Candidate Starts for Kraw_51:
(Start: 24 @36820 has 19 MA's), (38, 36946), (45, 36967), (50, 36991),

Gene: Krueger_54 Start: 37164, Stop: 37331, Start Num: 27
Candidate Starts for Krueger_54:
(11, 36849), (15, 36930), (Start: 27 @37164 has 13 MA's), (52, 37317), (53, 37323),

Gene: Lavahound_47 Start: 37471, Stop: 37641, Start Num: 29
Candidate Starts for Lavahound_47:
(15, 37240), (Start: 29 @37471 has 46 MA's), (45, 37588), (53, 37627),

Gene: LeMond_52 Start: 37585, Stop: 37749, Start Num: 27
Candidate Starts for LeMond_52:
(Start: 27 @37585 has 13 MA's), (39, 37678), (53, 37735),

Gene: Lea83_51 Start: 37039, Stop: 37206, Start Num: 29
Candidate Starts for Lea83_51:

(11, 36718), (15, 36808), (22, 36949), (Start: 29 @37039 has 46 MA's), (44, 37156), (45, 37159), (52, 37192),

Gene: Lebo14_50 Start: 37084, Stop: 37266, Start Num: 24
Candidate Starts for Lebo14_50:
(12, 36811), (21, 37015), (Start: 24 @37084 has 19 MA's), (38, 37210), (45, 37231), (50, 37255),

Gene: LilPharaoh_43 Start: 35580, Stop: 35756, Start Num: 29
Candidate Starts for LilPharaoh_43:
(2, 35109), (13, 35286), (14, 35346), (Start: 29 @35580 has 46 MA's), (37, 35667), (42, 35682), (44, 35688), (54, 35742),

Gene: MacnCheese_52 Start: 37944, Stop: 38117, Start Num: 29
Candidate Starts for MacnCheese_52:
(11, 37635), (15, 37716), (Start: 29 @37944 has 46 MA's), (33, 37986), (44, 38061),

Gene: MalagasyRose_50 Start: 35187, Stop: 35360, Start Num: 31
Candidate Starts for MalagasyRose_50:
(20, 35076), (Start: 31 @35187 has 1 MA's), (32, 35205), (36, 35268), (42, 35289), (49, 35316), (55, 35352), (56, 35355),

Gene: Malthus_52 Start: 36820, Stop: 37002, Start Num: 24
Candidate Starts for Malthus_52:
(Start: 24 @36820 has 19 MA's), (38, 36946), (45, 36967), (50, 36991),

Gene: MarkPhew_51 Start: 37053, Stop: 37217, Start Num: 29
Candidate Starts for MarkPhew_51:
(7, 36699), (23, 36966), (Start: 27 @37050 has 13 MA's), (Start: 29 @37053 has 46 MA's), (48, 37176), (53, 37203),

Gene: Marshawn_50 Start: 37185, Stop: 37352, Start Num: 28
Candidate Starts for Marshawn_50:
(16, 36966), (17, 36972), (18, 37014), (Start: 28 @37185 has 1 MA's), (30, 37188), (45, 37305), (52, 37338),

Gene: McMater_50 Start: 37097, Stop: 37273, Start Num: 29
Candidate Starts for McMater_50:
(4, 36695), (5, 36701), (15, 36875), (Start: 29 @37097 has 46 MA's), (37, 37184), (45, 37208), (54, 37259),

Gene: Mdavu_44 Start: 35841, Stop: 36017, Start Num: 29
Candidate Starts for Mdavu_44:
(2, 35370), (13, 35547), (14, 35607), (Start: 29 @35841 has 46 MA's), (37, 35928), (42, 35943), (44, 35949), (54, 36003),

Gene: MissDaisy_50 Start: 36510, Stop: 36668, Start Num: 29
Candidate Starts for MissDaisy_50:
(Start: 29 @36510 has 46 MA's), (35, 36600), (38, 36612), (41, 36621), (45, 36633),

Gene: Mitti_51 Start: 36996, Stop: 37178, Start Num: 24
Candidate Starts for Mitti_51:
(Start: 24 @36996 has 19 MA's), (38, 37122), (45, 37143), (50, 37167),

Gene: Nibb_50 Start: 36742, Stop: 36906, Start Num: 29
Candidate Starts for Nibb_50:
(9, 36409), (23, 36655), (Start: 27 @36739 has 13 MA's), (Start: 29 @36742 has 46 MA's), (53, 36892),

Gene: Nikao_46 Start: 38465, Stop: 38641, Start Num: 29
Candidate Starts for Nikao_46:
(2, 37994), (13, 38171), (14, 38231), (Start: 29 @38465 has 46 MA's), (37, 38552), (42, 38567), (44, 38573), (54, 38627),

Gene: Niklas_50 Start: 37158, Stop: 37334, Start Num: 29
Candidate Starts for Niklas_50:
(Start: 29 @37158 has 46 MA's), (37, 37245), (45, 37269), (54, 37320),

Gene: Nolwazi_53 Start: 36897, Stop: 37079, Start Num: 24
Candidate Starts for Nolwazi_53:
(12, 36624), (21, 36828), (Start: 24 @36897 has 19 MA's), (38, 37023), (45, 37044), (50, 37068),

Gene: November_48 Start: 36995, Stop: 37159, Start Num: 29
Candidate Starts for November_48:
(11, 36683), (15, 36764), (23, 36908), (Start: 27 @36992 has 13 MA's), (Start: 29 @36995 has 46 MA's), (45, 37106), (53, 37145),

Gene: Nutello_43 Start: 35852, Stop: 36028, Start Num: 29
Candidate Starts for Nutello_43:
(2, 35381), (13, 35558), (14, 35618), (Start: 29 @35852 has 46 MA's), (37, 35939), (42, 35954), (44, 35960), (54, 36014),

Gene: OmniCritical_50 Start: 36805, Stop: 36987, Start Num: 24
Candidate Starts for OmniCritical_50:
(Start: 24 @36805 has 19 MA's), (38, 36931), (45, 36952), (50, 36976),

Gene: Oscar_52 Start: 37487, Stop: 37651, Start Num: 27
Candidate Starts for Oscar_52:
(9, 37157), (23, 37403), (Start: 27 @37487 has 13 MA's), (39, 37580), (53, 37637),

Gene: Patt_49 Start: 36234, Stop: 36392, Start Num: 29
Candidate Starts for Patt_49:
(Start: 29 @36234 has 46 MA's), (35, 36324), (38, 36336), (41, 36345), (45, 36357),

Gene: Peanam_50 Start: 37116, Stop: 37292, Start Num: 29
Candidate Starts for Peanam_50:
(Start: 29 @37116 has 46 MA's), (37, 37203), (45, 37227), (54, 37278),

Gene: Pharb_48 Start: 35749, Stop: 35916, Start Num: 29
Candidate Starts for Pharb_48:
(Start: 29 @35749 has 46 MA's), (33, 35791), (44, 35866), (45, 35869), (52, 35902),

Gene: PhelpsODU_50 Start: 36191, Stop: 36358, Start Num: 27
Candidate Starts for PhelpsODU_50:
(11, 35876), (15, 35957), (Start: 27 @36191 has 13 MA's), (52, 36344), (53, 36350),

Gene: Phrank_51 Start: 36148, Stop: 36315, Start Num: 27
Candidate Starts for Phrank_51:

(11, 35833), (15, 35914), (Start: 27 @36148 has 13 MA's), (52, 36301), (53, 36307),

Gene: Pixie_50 Start: 36518, Stop: 36685, Start Num: 29
Candidate Starts for Pixie_50:
(11, 36197), (15, 36287), (22, 36428), (Start: 29 @36518 has 46 MA's), (32, 36539), (38, 36617), (44, 36635), (45, 36638), (52, 36671),

Gene: Qhanda_53 Start: 36917, Stop: 37099, Start Num: 24
Candidate Starts for Qhanda_53:
(Start: 24 @36917 has 19 MA's), (38, 37043), (45, 37064), (50, 37088),

Gene: Reptar3000_50 Start: 36222, Stop: 36380, Start Num: 29
Candidate Starts for Reptar3000_50:
(Start: 29 @36222 has 46 MA's), (38, 36324), (41, 36333), (45, 36345),

Gene: Richo_50 Start: 37097, Stop: 37273, Start Num: 29
Candidate Starts for Richo_50:
(4, 36695), (5, 36701), (15, 36875), (Start: 29 @37097 has 46 MA's), (37, 37184), (45, 37208), (54, 37259),

Gene: Ruthiejr_52 Start: 36870, Stop: 37052, Start Num: 24
Candidate Starts for Ruthiejr_52:
(Start: 24 @36870 has 19 MA's), (38, 36996), (45, 37017), (50, 37041),

Gene: SamScheppers_49 Start: 37299, Stop: 37481, Start Num: 24
Candidate Starts for SamScheppers_49:
(Start: 24 @37299 has 19 MA's), (38, 37425), (45, 37446), (50, 37470),

Gene: Scarlett_52 Start: 37479, Stop: 37643, Start Num: 27
Candidate Starts for Scarlett_52:
(23, 37395), (Start: 27 @37479 has 13 MA's), (39, 37572), (53, 37629),

Gene: SgtBeansprout_43 Start: 35852, Stop: 36028, Start Num: 29
Candidate Starts for SgtBeansprout_43:
(2, 35381), (13, 35558), (14, 35618), (Start: 29 @35852 has 46 MA's), (37, 35939), (42, 35954), (44, 35960), (54, 36014),

Gene: Shadow1_53 Start: 37312, Stop: 37476, Start Num: 29
Candidate Starts for Shadow1_53:
(11, 36994), (15, 37075), (Start: 27 @37309 has 13 MA's), (Start: 29 @37312 has 46 MA's), (34, 37390), (45, 37429), (51, 37456), (52, 37462), (53, 37468),

Gene: Shaobing_50 Start: 37134, Stop: 37310, Start Num: 29
Candidate Starts for Shaobing_50:
(Start: 29 @37134 has 46 MA's), (37, 37221), (45, 37245), (54, 37296),

Gene: ShedlockHolmes_51 Start: 37043, Stop: 37210, Start Num: 29
Candidate Starts for ShedlockHolmes_51:
(11, 36722), (15, 36812), (22, 36953), (Start: 29 @37043 has 46 MA's), (32, 37064), (44, 37160), (45, 37163), (52, 37196),

Gene: SirPhilip_50 Start: 37572, Stop: 37733, Start Num: 27
Candidate Starts for SirPhilip_50:

(6, 37182), (11, 37263), (23, 37488), (Start: 27 @37572 has 13 MA's), (Start: 29 @37575 has 46 MA's), (52, 37719),

Gene: Slarp_51 Start: 36908, Stop: 37090, Start Num: 24
Candidate Starts for Slarp_51:
(Start: 24 @36908 has 19 MA's), (38, 37034), (45, 37055), (50, 37079),

Gene: Sunflower1121_54 Start: 37413, Stop: 37577, Start Num: 29
Candidate Starts for Sunflower1121_54:
(11, 37095), (15, 37176), (Start: 27 @37410 has 13 MA's), (Start: 29 @37413 has 46 MA's), (34, 37491), (45, 37530), (51, 37557), (52, 37563), (53, 37569),

Gene: Syra333_53 Start: 37077, Stop: 37241, Start Num: 29
Candidate Starts for Syra333_53:
(11, 36759), (15, 36840), (Start: 27 @37074 has 13 MA's), (Start: 29 @37077 has 46 MA's), (45, 37194), (52, 37227), (53, 37233),

Gene: TClif_52 Start: 37471, Stop: 37641, Start Num: 27
Candidate Starts for TClif_52:
(1, 36745), (11, 37156), (15, 37237), (26, 37468), (Start: 27 @37471 has 13 MA's), (52, 37627),

Gene: Taquito_51 Start: 37155, Stop: 37337, Start Num: 24
Candidate Starts for Taquito_51:
(Start: 24 @37155 has 19 MA's), (38, 37281), (45, 37302), (50, 37326),

Gene: Teejan_45 Start: 38465, Stop: 38641, Start Num: 29
Candidate Starts for Teejan_45:
(2, 37994), (13, 38171), (14, 38231), (Start: 29 @38465 has 46 MA's), (37, 38552), (42, 38567), (44, 38573), (54, 38627),

Gene: Tierra_51 Start: 36959, Stop: 37126, Start Num: 27
Candidate Starts for Tierra_51:
(11, 36644), (15, 36725), (Start: 27 @36959 has 13 MA's), (52, 37112), (53, 37118),

Gene: Tigress9_53 Start: 37167, Stop: 37331, Start Num: 29
Candidate Starts for Tigress9_53:
(11, 36849), (15, 36930), (Start: 27 @37164 has 13 MA's), (Start: 29 @37167 has 46 MA's), (45, 37284), (52, 37317), (53, 37323),

Gene: Torres_46 Start: 38466, Stop: 38642, Start Num: 29
Candidate Starts for Torres_46:
(2, 37995), (13, 38172), (14, 38232), (Start: 29 @38466 has 46 MA's), (37, 38553), (42, 38568), (44, 38574), (54, 38628),

Gene: TribleTrouble_48 Start: 36399, Stop: 36566, Start Num: 29
Candidate Starts for TribleTrouble_48:
(11, 36087), (15, 36168), (Start: 29 @36399 has 46 MA's), (32, 36420), (33, 36441), (39, 36501), (44, 36516), (45, 36519), (52, 36552),

Gene: Trice_43 Start: 35853, Stop: 36029, Start Num: 29
Candidate Starts for Trice_43:
(2, 35382), (13, 35559), (14, 35619), (Start: 29 @35853 has 46 MA's), (37, 35940), (42, 35955), (44, 35961), (54, 36015),

Gene: Unicorn_50 Start: 36191, Stop: 36358, Start Num: 27
Candidate Starts for Unicorn_50:
(11, 35876), (15, 35957), (Start: 27 @36191 has 13 MA's), (52, 36344), (53, 36350),

Gene: Validus_52 Start: 37178, Stop: 37354, Start Num: 29
Candidate Starts for Validus_52:
(4, 36776), (5, 36782), (8, 36842), (15, 36956), (Start: 29 @37178 has 46 MA's), (37, 37265), (44, 37286), (45, 37289), (48, 37301), (54, 37340),

Gene: Wintermute_51 Start: 37057, Stop: 37239, Start Num: 24
Candidate Starts for Wintermute_51:
(Start: 24 @37057 has 19 MA's), (38, 37183), (45, 37204), (50, 37228),

Gene: Ximenita_54 Start: 37266, Stop: 37430, Start Num: 29
Candidate Starts for Ximenita_54:
(11, 36948), (15, 37029), (Start: 27 @37263 has 13 MA's), (Start: 29 @37266 has 46 MA's), (45, 37383), (52, 37416),

Gene: Y10_50 Start: 36976, Stop: 37158, Start Num: 24
Candidate Starts for Y10_50:
(Start: 24 @36976 has 19 MA's), (38, 37102), (40, 37108), (45, 37123), (50, 37147),

Gene: Y2_50 Start: 36976, Stop: 37158, Start Num: 24
Candidate Starts for Y2_50:
(Start: 24 @36976 has 19 MA's), (38, 37102), (40, 37108), (45, 37123), (50, 37147),

Gene: YasnayaPolyana_51 Start: 36907, Stop: 37089, Start Num: 24
Candidate Starts for YasnayaPolyana_51:
(Start: 24 @36907 has 19 MA's), (38, 37033), (45, 37054), (50, 37078),

Gene: Yuna_54 Start: 38047, Stop: 38223, Start Num: 29
Candidate Starts for Yuna_54:
(11, 37735), (15, 37816), (23, 37960), (Start: 29 @38047 has 46 MA's), (35, 38125), (37, 38134), (44, 38155), (45, 38158), (54, 38209),