Pham 283695


1: Nergal_42
2: Pixie_47 + 1
3: Hurricane_48 + 2
4: Lea83_48 + 1
5: TribleTrouble_45
6: Pharb_45
7: Kraw_49 + 18
8: Fionnbharth_49 + 1
9: Patt_46
10: Bobquesha_51 + 1
11: MissDaisy_47
12: Unicorn_47 + 3
13: Hammy_47 + 1
14: Amohnition_40
15: Sunflower1121_51 + 2
16: Applecrisp_44 + 4
17: November_45
18: Krueger_51 + 1
19: Ekdilam_44
20: Tierra_48 + 1
21: SirPhilip_47
22: Ximenita_51
23: Yuna_51
24: Amohnition_47
25: Aminay_48
26: Boilgate_44
27: Rose5_39 + 10
28: OhShagHennessy_39 + 8
29: Claus_42
30: Bromden_41
31: Sheng711_40 + 2
32: Aegeus_45 + 1

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 283695 Report

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

Pham number 283695 has 89 members, 7 are drafts.

Phages represented in each track:
- Track 1 : Nergal_42
- Track 2 : Pixie_47, TBond007_47
- Track 3 : Hurricane_48, Keshu_49, MacnCheese_49
- Track 4 : Lea83_48, ShedlockHolmes_48
- Track 5 : TribleTrouble_45
- Track 6 : Pharb_45
- Track 7 : Kraw_49, SamScheppers_47, Chancellor_49, Lebo14_48, Qhanda_51, YasnayaPolyana_49, Juliette_51, Slarp_49, DanSyl44_52, Wintermute_49, Cheetobro_49, OmniCritical_48, Malthus_50, Taquito_49, JF1_49, Y10_48, Mitti_49, Ruthiejr_50, Y2_48
- Track 8 : Fionnbharth_49, Eponine_51
- Track 9 : Patt_46
- Track 10 : Bobquesha_51, Reptar3000_47
- Track 11 : MissDaisy_47
- Track 12 : Unicorn_47, Cain_48, PhelpsODU_47, Bryler_48
- Track 13 : Hammy_47, DarthP_47
- Track 14 : Amohnition_40
- Track 15 : Sunflower1121_51, Syra333_50, Shadow1_50
- Track 16 : Applecrisp_44, Ellie_43, Amgine_45, Fefferhead_45, Lavahound_46
- Track 17 : November_45
- Track 18 : Krueger_51, Tigress9_51
- Track 19 : Ekdilam_44
- Track 20 : Tierra_48, Phrank_48
- Track 21 : SirPhilip_47
- Track 22 : Ximenita_51
- Track 23 : Yuna_51
- Track 24 : Amohnition_47
- Track 25 : Aminay_48
- Track 26 : Boilgate_44
- Track 27 : Rose5_39, Tyson_39, MAckerman_40, CicholasNage_40, Halena_39, Calm_40, Wyatt2_40, Zaria_40, Silverleaf_39, AvadaKedavra_40, Acquire49_40
- Track 28 : OhShagHennessy_39, Wamburgrxpress_40, Poochiewood_39, LeBron_40, Enceladus_39, JoeDirt_39, Appletree2_39, DirkDirk_39, UPIE_40
- Track 29 : Claus_42
- Track 30 : Bromden_41
- Track 31 : Sheng711_40, Douge_39, Chaser_39
- Track 32 : Aegeus_45, Baudelaire_45

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

The start number called the most often in the published annotations is 9, it was called in 32 of the 82 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Amgine_45, Amohnition_47, Applecrisp_44, Bryler_48, Cain_48, DarthP_47, Ekdilam_44, Ellie_43, Fefferhead_45, Hammy_47, Hurricane_48, Keshu_49, Krueger_51, Lavahound_46, Lea83_48, MacnCheese_49, Nergal_42, November_45, Pharb_45, PhelpsODU_47, Phrank_48, Pixie_47, Shadow1_50, ShedlockHolmes_48, SirPhilip_47, Sunflower1121_51, Syra333_50, TBond007_47, Tierra_48, Tigress9_51, TribleTrouble_45, Unicorn_47, Ximenita_51, Yuna_51,

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

Genes that do not have the "Most Annotated" start:
• Acquire49_40, Aegeus_45, Aminay_48, Amohnition_40, Appletree2_39, AvadaKedavra_40, Baudelaire_45, Bobquesha_51, Boilgate_44, Bromden_41, Calm_40, Chancellor_49, Chaser_39, Cheetobro_49, CicholasNage_40, Claus_42, DanSyl44_52, DirkDirk_39, Douge_39, Enceladus_39, Eponine_51, Fionnbharth_49, Halena_39, JF1_49, JoeDirt_39, Juliette_51, Kraw_49, LeBron_40, Lebo14_48, MAckerman_40, Malthus_50, MissDaisy_47, Mitti_49, OhShagHennessy_39, OmniCritical_48, Patt_46, Poochiewood_39, Qhanda_51, Reptar3000_47, Rose5_39, Ruthiejr_50, SamScheppers_47, Sheng711_40, Silverleaf_39, Slarp_49, Taquito_49, Tyson_39, UPIE_40, Wamburgrxpress_40, Wintermute_49, Wyatt2_40, Y10_48, Y2_48, YasnayaPolyana_49, Zaria_40,

Summary by start number:

Start 6:
• Found in 1 of 89 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Amohnition_40 (K6),

Start 7:
• Found in 25 of 89 (28.1%) of genes in pham
• Manual Annotations of this start: 22 of 82
• Called 96.0% of time when present
• Phage (with cluster) where this start called: Acquire49_40 (L1), Appletree2_39 (L1), AvadaKedavra_40 (L1), Bromden_41 (L4), Calm_40 (L1), Chaser_39 (L4), CicholasNage_40 (L1), DirkDirk_39 (L1), Douge_39 (L4), Enceladus_39 (L1), Halena_39 (L1), JoeDirt_39 (L1), LeBron_40 (L1), MAckerman_40 (L1), OhShagHennessy_39 (L1), Poochiewood_39 (L1), Rose5_39 (L1), Sheng711_40 (L4), Silverleaf_39 (L1), Tyson_39 (L1), UPIE_40 (L1), Wamburgrxpress_40 (L1), Wyatt2_40 (L1), Zaria_40 (L1),

Start 8:

• Found in 1 of 89 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Boilgate_44 (K8),

Start 9:
• Found in 34 of 89 (38.2%) of genes in pham
• Manual Annotations of this start: 32 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Amgine_45 (K6), Amohnition_47 (K6), Applecrisp_44 (K6), Bryler_48 (K6), Cain_48 (K6), DarthP_47 (K6), Ekdilam_44 (K6), Ellie_43 (K6), Fefferhead_45 (K6), Hammy_47 (K6), Hurricane_48 (K3), Keshu_49 (K3), Krueger_51 (K6), Lavahound_46 (K6), Lea83_48 (K3), MacnCheese_49 (K3), Nergal_42 (AG), November_45 (K6), Pharb_45 (K3), PhelpsODU_47 (K6), Phrank_48 (K6), Pixie_47 (K3), Shadow1_50 (K6), ShedlockHolmes_48 (K3), SirPhilip_47 (K6), Sunflower1121_51 (K6), Syra333_50 (K6), TBond007_47 (K3), Tierra_48 (K6), Tigress9_51 (K6), TribleTrouble_45 (K3), Unicorn_47 (K6), Ximenita_51 (K6), Yuna_51 (K6),

Start 10:
• Found in 2 of 89 (2.2%) of genes in pham
• Manual Annotations of this start: 2 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aegeus_45 (L5), Baudelaire_45 (L5),

Start 11:
• Found in 25 of 89 (28.1%) of genes in pham
• Manual Annotations of this start: 22 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bobquesha_51 (K4), Chancellor_49 (K4), Cheetobro_49 (K4), DanSyl44_52 (K4), Eponine_51 (K4), Fionnbharth_49 (K4), JF1_49 (K4), Juliette_51 (K4), Kraw_49 (K4), Lebo14_48 (K4), Malthus_50 (K4), MissDaisy_47 (K4), Mitti_49 (K4), OmniCritical_48 (K4), Patt_46 (K4), Qhanda_51 (K4), Reptar3000_47 (K4), Ruthiejr_50 (K4), SamScheppers_47 (K4), Slarp_49 (K4), Taquito_49 (K4), Wintermute_49 (K4), Y10_48 (K4), Y2_48 (K4), YasnayaPolyana_49 (K4),

Start 12:
• Found in 14 of 89 (15.7%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 7.1% of time when present
• Phage (with cluster) where this start called: Aminay_48 (K7),

Start 13:
• Found in 7 of 89 (7.9%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 14.3% of time when present
• Phage (with cluster) where this start called: Claus_42 (L2),

Summary by clusters:

There are 10 clusters represented in this pham: AG, L1, K3, L4, L5, L2, K6, K4, K7, K8,

Info for manual annotations of cluster AG:
•Start number 9 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster K3:
•Start number 9 was manually annotated 9 times for cluster K3.

Info for manual annotations of cluster K4:
•Start number 11 was manually annotated 22 times for cluster K4.

Info for manual annotations of cluster K6:
•Start number 6 was manually annotated 1 time for cluster K6.
•Start number 9 was manually annotated 22 times for cluster K6.

Info for manual annotations of cluster K7:
•Start number 12 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:
•Start number 8 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster L1:
•Start number 7 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:
•Start number 13 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L4:
•Start number 7 was manually annotated 3 times for cluster L4.

Info for manual annotations of cluster L5:
•Start number 10 was manually annotated 2 times for cluster L5.

Gene Information:

Gene: Acquire49_40 Start: 33342, Stop: 33551, Start Num: 7
Candidate Starts for Acquire49_40:
(4, 33285), (Start: 7 @33342 has 22 MA's), (22, 33462),

Gene: Aegeus_45 Start: 37056, Stop: 37259, Start Num: 10
Candidate Starts for Aegeus_45:
(Start: 10 @37056 has 2 MA's), (Start: 13 @37089 has 1 MA's), (15, 37095), (16, 37119), (20, 37152), (25, 37209), (29, 37254),

Gene: Amgine_45 Start: 36475, Stop: 36687, Start Num: 9
Candidate Starts for Amgine_45:
(Start: 9 @36475 has 32 MA's), (23, 36619),

Gene: Aminay_48 Start: 36910, Stop: 37110, Start Num: 12
Candidate Starts for Aminay_48:
(1, 36673), (Start: 12 @36910 has 1 MA's), (18, 36982), (23, 37045),

Gene: Amohnition_40 Start: 32428, Stop: 32189, Start Num: 6
Candidate Starts for Amohnition_40:
(Start: 6 @32428 has 1 MA's), (Start: 13 @32362 has 1 MA's), (16, 32332), (20, 32299), (24, 32251), (26, 32233), (28, 32200),

Gene: Amohnition_47 Start: 36488, Stop: 36700, Start Num: 9
Candidate Starts for Amohnition_47:
(Start: 9 @36488 has 32 MA's), (23, 36632),

Gene: Applecrisp_44 Start: 35971, Stop: 36183, Start Num: 9
Candidate Starts for Applecrisp_44:
(Start: 9 @35971 has 32 MA's), (23, 36115),

Gene: Appletree2_39 Start: 33269, Stop: 33478, Start Num: 7
Candidate Starts for Appletree2_39:
(4, 33227), (Start: 7 @33269 has 22 MA's), (17, 33338), (22, 33389), (23, 33413), (25, 33425),

Gene: AvadaKedavra_40 Start: 33351, Stop: 33560, Start Num: 7
Candidate Starts for AvadaKedavra_40:
(4, 33294), (Start: 7 @33351 has 22 MA's), (22, 33471),

Gene: Baudelaire_45 Start: 37056, Stop: 37259, Start Num: 10
Candidate Starts for Baudelaire_45:
(Start: 10 @37056 has 2 MA's), (Start: 13 @37089 has 1 MA's), (15, 37095), (16, 37119), (20, 37152), (25, 37209), (29, 37254),

Gene: Bobquesha_51 Start: 35789, Stop: 35974, Start Num: 11
Candidate Starts for Bobquesha_51:
(Start: 11 @35789 has 22 MA's), (23, 35909),

Gene: Boilgate_44 Start: 36561, Stop: 36746, Start Num: 8
Candidate Starts for Boilgate_44:
(Start: 8 @36561 has 1 MA's),

Gene: Bromden_41 Start: 34169, Stop: 34384, Start Num: 7
Candidate Starts for Bromden_41:
(Start: 7 @34169 has 22 MA's), (21, 34280), (22, 34295), (23, 34319),

Gene: Bryler_48 Start: 35349, Stop: 35561, Start Num: 9
Candidate Starts for Bryler_48:
(3, 35259), (Start: 9 @35349 has 32 MA's), (Start: 12 @35364 has 1 MA's), (16, 35415), (17, 35418), (23, 35493),

Gene: Cain_48 Start: 35337, Stop: 35549, Start Num: 9
Candidate Starts for Cain_48:
(3, 35247), (Start: 9 @35337 has 32 MA's), (Start: 12 @35352 has 1 MA's), (16, 35403), (17, 35406), (23, 35481),

Gene: Calm_40 Start: 33357, Stop: 33566, Start Num: 7
Candidate Starts for Calm_40:
(4, 33300), (Start: 7 @33357 has 22 MA's), (22, 33477),

Gene: Chancellor_49 Start: 36414, Stop: 36599, Start Num: 11

Candidate Starts for Chancellor_49:
(Start: 11 @36414 has 22 MA's), (15, 36432), (16, 36456), (23, 36534),

Gene: Chaser_39 Start: 33432, Stop: 33659, Start Num: 7
Candidate Starts for Chaser_39:
(Start: 7 @33432 has 22 MA's), (Start: 13 @33474 has 1 MA's), (19, 33528), (22, 33558), (23, 33582),

Gene: Cheetobro_49 Start: 36411, Stop: 36596, Start Num: 11
Candidate Starts for Cheetobro_49:
(Start: 11 @36411 has 22 MA's), (15, 36429), (16, 36453), (23, 36531),

Gene: CicholasNage_40 Start: 33378, Stop: 33587, Start Num: 7
Candidate Starts for CicholasNage_40:
(4, 33321), (Start: 7 @33378 has 22 MA's), (22, 33498),

Gene: Claus_42 Start: 34755, Stop: 34928, Start Num: 13
Candidate Starts for Claus_42:
(Start: 7 @34713 has 22 MA's), (Start: 13 @34755 has 1 MA's), (15, 34761), (17, 34788), (23, 34863), (25, 34875), (27, 34905),

Gene: DanSyl44_52 Start: 37457, Stop: 37642, Start Num: 11
Candidate Starts for DanSyl44_52:
(Start: 11 @37457 has 22 MA's), (15, 37475), (16, 37499), (23, 37577),

Gene: DarthP_47 Start: 36375, Stop: 36584, Start Num: 9
Candidate Starts for DarthP_47:
(Start: 9 @36375 has 32 MA's), (22, 36492), (23, 36516),

Gene: DirkDirk_39 Start: 33329, Stop: 33538, Start Num: 7
Candidate Starts for DirkDirk_39:
(4, 33287), (Start: 7 @33329 has 22 MA's), (17, 33398), (22, 33449), (23, 33473), (25, 33485),

Gene: Douge_39 Start: 33370, Stop: 33597, Start Num: 7
Candidate Starts for Douge_39:
(Start: 7 @33370 has 22 MA's), (Start: 13 @33412 has 1 MA's), (19, 33466), (22, 33496), (23, 33520),

Gene: Ekdilam_44 Start: 35937, Stop: 36149, Start Num: 9
Candidate Starts for Ekdilam_44:
(Start: 9 @35937 has 32 MA's), (17, 36006), (23, 36081),

Gene: Ellie_43 Start: 35663, Stop: 35875, Start Num: 9
Candidate Starts for Ellie_43:
(Start: 9 @35663 has 32 MA's), (23, 35807),

Gene: Enceladus_39 Start: 33312, Stop: 33521, Start Num: 7
Candidate Starts for Enceladus_39:
(4, 33270), (Start: 7 @33312 has 22 MA's), (17, 33381), (22, 33432), (23, 33456), (25, 33468),

Gene: Eponine_51 Start: 37164, Stop: 37352, Start Num: 11
Candidate Starts for Eponine_51:
(5, 37113), (Start: 11 @37164 has 22 MA's), (15, 37185), (16, 37209), (23, 37287),

Gene: Fefferhead_45 Start: 35614, Stop: 35826, Start Num: 9

Candidate Starts for Fefferhead_45:
(Start: 9 @35614 has 32 MA's), (23, 35758),

Gene: Fionnbharth_49 Start: 36562, Stop: 36750, Start Num: 11
Candidate Starts for Fionnbharth_49:
(5, 36511), (Start: 11 @36562 has 22 MA's), (15, 36583), (16, 36607), (23, 36685),

Gene: Halena_39 Start: 33353, Stop: 33562, Start Num: 7
Candidate Starts for Halena_39:
(4, 33296), (Start: 7 @33353 has 22 MA's), (22, 33473),

Gene: Hammy_47 Start: 36363, Stop: 36572, Start Num: 9
Candidate Starts for Hammy_47:
(Start: 9 @36363 has 32 MA's), (22, 36480), (23, 36504),

Gene: Hurricane_48 Start: 36096, Stop: 36308, Start Num: 9
Candidate Starts for Hurricane_48:
(Start: 9 @36096 has 32 MA's), (22, 36216), (23, 36240),

Gene: JF1_49 Start: 36482, Stop: 36667, Start Num: 11
Candidate Starts for JF1_49:
(Start: 11 @36482 has 22 MA's), (15, 36500), (16, 36524), (23, 36602),

Gene: JoeDirt_39 Start: 33310, Stop: 33519, Start Num: 7
Candidate Starts for JoeDirt_39:
(4, 33268), (Start: 7 @33310 has 22 MA's), (17, 33379), (22, 33430), (23, 33454), (25, 33466),

Gene: Juliette_51 Start: 36638, Stop: 36823, Start Num: 11
Candidate Starts for Juliette_51:
(Start: 11 @36638 has 22 MA's), (15, 36656), (16, 36680), (23, 36758),

Gene: Keshu_49 Start: 36154, Stop: 36366, Start Num: 9
Candidate Starts for Keshu_49:
(Start: 9 @36154 has 32 MA's), (22, 36274), (23, 36298),

Gene: Kraw_49 Start: 36326, Stop: 36511, Start Num: 11
Candidate Starts for Kraw_49:
(Start: 11 @36326 has 22 MA's), (15, 36344), (16, 36368), (23, 36446),

Gene: Krueger_51 Start: 36343, Stop: 36555, Start Num: 9
Candidate Starts for Krueger_51:
(Start: 9 @36343 has 32 MA's), (Start: 12 @36358 has 1 MA's), (16, 36409), (17, 36412), (23, 36487),

Gene: Lavahound_46 Start: 36596, Stop: 36808, Start Num: 9
Candidate Starts for Lavahound_46:
(Start: 9 @36596 has 32 MA's), (23, 36740),

Gene: LeBron_40 Start: 33354, Stop: 33563, Start Num: 7
Candidate Starts for LeBron_40:
(4, 33312), (Start: 7 @33354 has 22 MA's), (17, 33423), (22, 33474), (23, 33498), (25, 33510),

Gene: Lea83_48 Start: 36128, Stop: 36340, Start Num: 9
Candidate Starts for Lea83_48:

(Start: 9 @36128 has 32 MA's), (22, 36248), (23, 36272),

Gene: Lebo14_48 Start: 36592, Stop: 36777, Start Num: 11
Candidate Starts for Lebo14_48:
(Start: 11 @36592 has 22 MA's), (15, 36610), (16, 36634), (23, 36712),

Gene: MAckerman_40 Start: 33347, Stop: 33556, Start Num: 7
Candidate Starts for MAckerman_40:
(4, 33290), (Start: 7 @33347 has 22 MA's), (22, 33467),

Gene: MacnCheese_49 Start: 37043, Stop: 37276, Start Num: 9
Candidate Starts for MacnCheese_49:
(Start: 9 @37043 has 32 MA's), (22, 37163), (23, 37187),

Gene: Malthus_50 Start: 36326, Stop: 36511, Start Num: 11
Candidate Starts for Malthus_50:
(Start: 11 @36326 has 22 MA's), (15, 36344), (16, 36368), (23, 36446),

Gene: MissDaisy_47 Start: 35801, Stop: 35989, Start Num: 11
Candidate Starts for MissDaisy_47:
(Start: 11 @35801 has 22 MA's), (16, 35846), (23, 35924),

Gene: Mitti_49 Start: 36502, Stop: 36687, Start Num: 11
Candidate Starts for Mitti_49:
(Start: 11 @36502 has 22 MA's), (15, 36520), (16, 36544), (23, 36622),

Gene: Nergal_42 Start: 34081, Stop: 34293, Start Num: 9
Candidate Starts for Nergal_42:
(Start: 9 @34081 has 32 MA's), (22, 34201), (23, 34225),

Gene: November_45 Start: 36096, Stop: 36308, Start Num: 9
Candidate Starts for November_45:
(Start: 9 @36096 has 32 MA's), (29, 36297),

Gene: OhShagHennessy_39 Start: 33300, Stop: 33509, Start Num: 7
Candidate Starts for OhShagHennessy_39:
(4, 33258), (Start: 7 @33300 has 22 MA's), (17, 33369), (22, 33420), (23, 33444), (25, 33456),

Gene: OmniCritical_48 Start: 36311, Stop: 36496, Start Num: 11
Candidate Starts for OmniCritical_48:
(Start: 11 @36311 has 22 MA's), (15, 36329), (16, 36353), (23, 36431),

Gene: Patt_46 Start: 35525, Stop: 35713, Start Num: 11
Candidate Starts for Patt_46:
(1, 35309), (Start: 11 @35525 has 22 MA's), (16, 35570), (23, 35648),

Gene: Pharb_45 Start: 34846, Stop: 35067, Start Num: 9
Candidate Starts for Pharb_45:
(3, 34756), (Start: 9 @34846 has 32 MA's), (22, 34966), (23, 34990),

Gene: PhelpsODU_47 Start: 35370, Stop: 35582, Start Num: 9
Candidate Starts for PhelpsODU_47:

(3, 35280), (Start: 9 @35370 has 32 MA's), (Start: 12 @35385 has 1 MA's), (16, 35436), (17, 35439), (23, 35514),

Gene: Phrank_48 Start: 35327, Stop: 35539, Start Num: 9
Candidate Starts for Phrank_48:
(3, 35237), (Start: 9 @35327 has 32 MA's), (Start: 12 @35342 has 1 MA's), (16, 35393), (17, 35396), (23, 35471),

Gene: Pixie_47 Start: 35607, Stop: 35819, Start Num: 9
Candidate Starts for Pixie_47:
(Start: 9 @35607 has 32 MA's), (14, 35646), (22, 35727), (23, 35751),

Gene: Poochiewood_39 Start: 33328, Stop: 33537, Start Num: 7
Candidate Starts for Poochiewood_39:
(4, 33286), (Start: 7 @33328 has 22 MA's), (17, 33397), (22, 33448), (23, 33472), (25, 33484),

Gene: Qhanda_51 Start: 36423, Stop: 36608, Start Num: 11
Candidate Starts for Qhanda_51:
(Start: 11 @36423 has 22 MA's), (15, 36441), (16, 36465), (23, 36543),

Gene: Reptar3000_47 Start: 35516, Stop: 35701, Start Num: 11
Candidate Starts for Reptar3000_47:
(Start: 11 @35516 has 22 MA's), (23, 35636),

Gene: Rose5_39 Start: 33342, Stop: 33551, Start Num: 7
Candidate Starts for Rose5_39:
(4, 33285), (Start: 7 @33342 has 22 MA's), (22, 33462),

Gene: Ruthiejr_50 Start: 36376, Stop: 36561, Start Num: 11
Candidate Starts for Ruthiejr_50:
(Start: 11 @36376 has 22 MA's), (15, 36394), (16, 36418), (23, 36496),

Gene: SamScheppers_47 Start: 36805, Stop: 36990, Start Num: 11
Candidate Starts for SamScheppers_47:
(Start: 11 @36805 has 22 MA's), (15, 36823), (16, 36847), (23, 36925),

Gene: Shadow1_50 Start: 36488, Stop: 36700, Start Num: 9
Candidate Starts for Shadow1_50:
(Start: 9 @36488 has 32 MA's), (Start: 12 @36503 has 1 MA's), (23, 36632), (29, 36689),

Gene: ShedlockHolmes_48 Start: 36132, Stop: 36344, Start Num: 9
Candidate Starts for ShedlockHolmes_48:
(Start: 9 @36132 has 32 MA's), (22, 36252), (23, 36276),

Gene: Sheng711_40 Start: 33476, Stop: 33703, Start Num: 7
Candidate Starts for Sheng711_40:
(Start: 7 @33476 has 22 MA's), (Start: 13 @33518 has 1 MA's), (19, 33572), (22, 33602), (23, 33626),

Gene: Silverleaf_39 Start: 33342, Stop: 33551, Start Num: 7
Candidate Starts for Silverleaf_39:
(4, 33285), (Start: 7 @33342 has 22 MA's), (22, 33462),

Gene: SirPhilip_47 Start: 36707, Stop: 36919, Start Num: 9

Candidate Starts for SirPhilip_47:
(2, 36575), (Start: 9 @36707 has 32 MA's), (17, 36776), (23, 36851),

Gene: Slarp_49 Start: 36414, Stop: 36599, Start Num: 11
Candidate Starts for Slarp_49:
(Start: 11 @36414 has 22 MA's), (15, 36432), (16, 36456), (23, 36534),

Gene: Sunflower1121_51 Start: 36589, Stop: 36801, Start Num: 9
Candidate Starts for Sunflower1121_51:
(Start: 9 @36589 has 32 MA's), (Start: 12 @36604 has 1 MA's), (23, 36733), (29, 36790),

Gene: Syra333_50 Start: 36256, Stop: 36468, Start Num: 9
Candidate Starts for Syra333_50:
(Start: 9 @36256 has 32 MA's), (Start: 12 @36271 has 1 MA's), (23, 36400), (29, 36457),

Gene: TBond007_47 Start: 35606, Stop: 35818, Start Num: 9
Candidate Starts for TBond007_47:
(Start: 9 @35606 has 32 MA's), (14, 35645), (22, 35726), (23, 35750),

Gene: Taquito_49 Start: 36661, Stop: 36846, Start Num: 11
Candidate Starts for Taquito_49:
(Start: 11 @36661 has 22 MA's), (15, 36679), (16, 36703), (23, 36781),

Gene: Tierra_48 Start: 36138, Stop: 36350, Start Num: 9
Candidate Starts for Tierra_48:
(3, 36048), (Start: 9 @36138 has 32 MA's), (Start: 12 @36153 has 1 MA's), (16, 36204), (17, 36207), (23, 36282),

Gene: Tigress9_51 Start: 36343, Stop: 36555, Start Num: 9
Candidate Starts for Tigress9_51:
(Start: 9 @36343 has 32 MA's), (Start: 12 @36358 has 1 MA's), (16, 36409), (17, 36412), (23, 36487),

Gene: TribleTrouble_45 Start: 35497, Stop: 35709, Start Num: 9
Candidate Starts for TribleTrouble_45:
(Start: 9 @35497 has 32 MA's), (Start: 12 @35512 has 1 MA's), (23, 35641),

Gene: Tyson_39 Start: 33343, Stop: 33552, Start Num: 7
Candidate Starts for Tyson_39:
(4, 33286), (Start: 7 @33343 has 22 MA's), (22, 33463),

Gene: UPIE_40 Start: 33326, Stop: 33535, Start Num: 7
Candidate Starts for UPIE_40:
(4, 33284), (Start: 7 @33326 has 22 MA's), (17, 33395), (22, 33446), (23, 33470), (25, 33482),

Gene: Unicorn_47 Start: 35370, Stop: 35582, Start Num: 9
Candidate Starts for Unicorn_47:
(3, 35280), (Start: 9 @35370 has 32 MA's), (Start: 12 @35385 has 1 MA's), (16, 35436), (17, 35439), (23, 35514),

Gene: Wamburgrxpress_40 Start: 33341, Stop: 33550, Start Num: 7
Candidate Starts for Wamburgrxpress_40:
(4, 33299), (Start: 7 @33341 has 22 MA's), (17, 33410), (22, 33461), (23, 33485), (25, 33497),

Gene: Wintermute_49 Start: 36563, Stop: 36748, Start Num: 11
Candidate Starts for Wintermute_49:
(Start: 11 @36563 has 22 MA's), (15, 36581), (16, 36605), (23, 36683),

Gene: Wyatt2_40 Start: 33342, Stop: 33551, Start Num: 7
Candidate Starts for Wyatt2_40:
(4, 33285), (Start: 7 @33342 has 22 MA's), (22, 33462),

Gene: Ximenita_51 Start: 36442, Stop: 36654, Start Num: 9
Candidate Starts for Ximenita_51:
(Start: 9 @36442 has 32 MA's), (Start: 12 @36457 has 1 MA's), (23, 36586), (27, 36628), (29, 36643),

Gene: Y10_48 Start: 36482, Stop: 36667, Start Num: 11
Candidate Starts for Y10_48:
(Start: 11 @36482 has 22 MA's), (15, 36500), (16, 36524), (23, 36602),

Gene: Y2_48 Start: 36482, Stop: 36667, Start Num: 11
Candidate Starts for Y2_48:
(Start: 11 @36482 has 22 MA's), (15, 36500), (16, 36524), (23, 36602),

Gene: YasnayaPolyana_49 Start: 36413, Stop: 36598, Start Num: 11
Candidate Starts for YasnayaPolyana_49:
(Start: 11 @36413 has 22 MA's), (15, 36431), (16, 36455), (23, 36533),

Gene: Yuna_51 Start: 37201, Stop: 37413, Start Num: 9
Candidate Starts for Yuna_51:
(Start: 9 @37201 has 32 MA's), (23, 37345), (29, 37402),

Gene: Zaria_40 Start: 33357, Stop: 33566, Start Num: 7
Candidate Starts for Zaria_40:
(4, 33300), (Start: 7 @33357 has 22 MA's), (22, 33477),