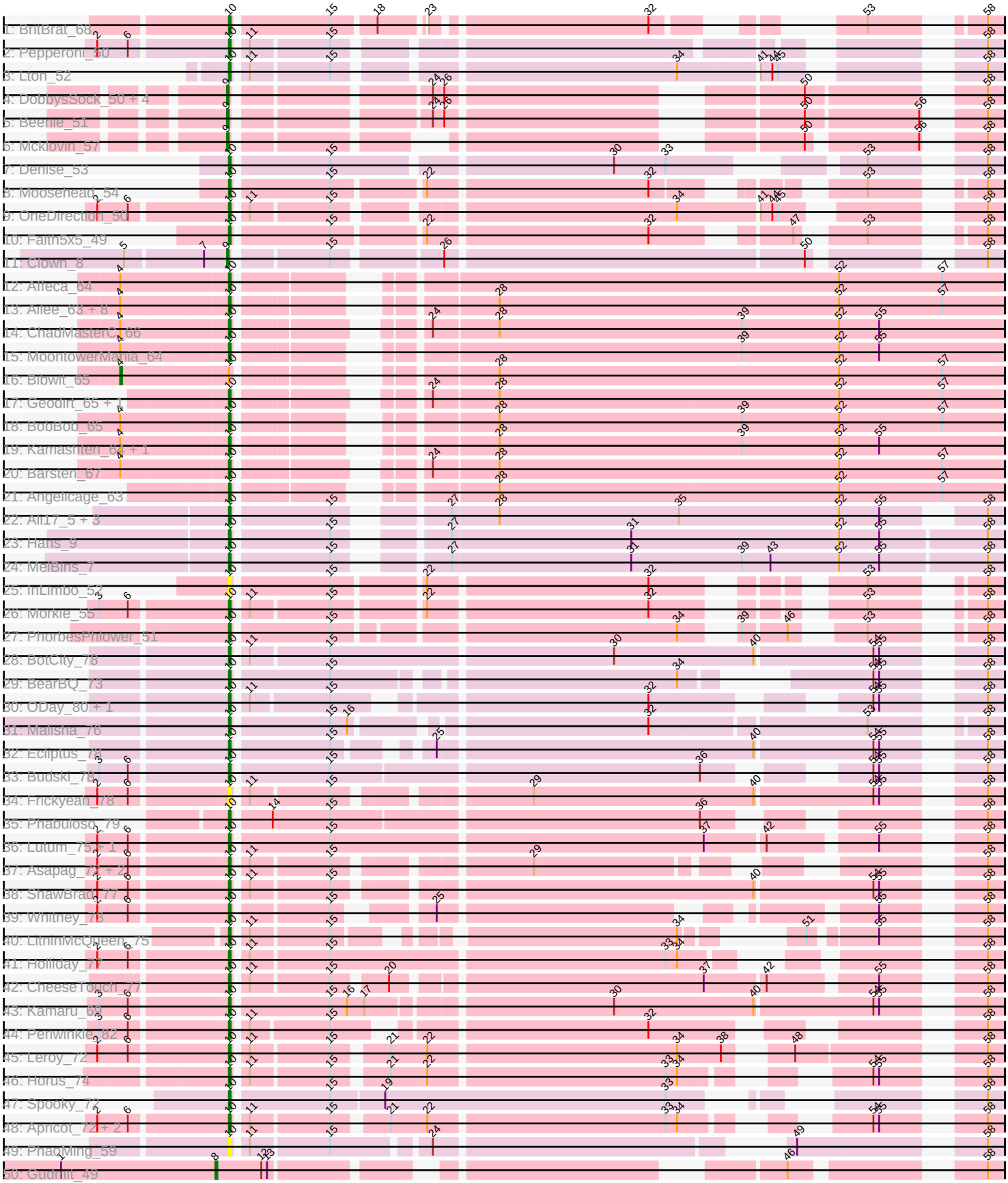
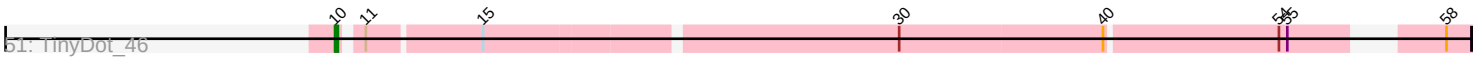
# Pham 347559


1: BritBrat_68
2: Pepperoni_50
3: Lton_52
4: DobbysSock_50 + 4
5: Beemie_51
6: Mcklovin_57
7: Denise_53
8: Moosehead_54
9: OneDirection_50
10: Faith5x5_49
11: Clown_8
12: Alleca_64
13: Allee_63 + 8
14: ChadMasterO_66
15: MoontowerMafia_64
16: Bibwit_65
17: Geodin_65 + 1
18: BobBob_65
19: Kamashten_64 + 1
20: Barsten_67
21: Angelicage_63
22: Ali17_5 + 3
23: Hans_9
24: MelBins_7
25: InLimbo_52
26: Morkie_55
27: PhorbesPhlower_51
28: BotCity_78
29: BearBQ_73
30: ODay_80 + 1
31: Mallsha_76
32: Ecliptus_78
33: Budski_78
34: Frickyeah_78
35: Phabuloso_79
36: Lutum_75 + 1
37: Asapag_72 + 2
38: ShawBrad_77
39: Whitney_78
40: LithiriMcQueen_75
41: Holliday_77
42: CheeseTorch_77
43: Kamaru_68
44: Periwinkle_82
45: Leroy_72
46: Horus_74
47: Spooky_72
48: Apricot_72 + 2
49: PhatMing_59
50: Guohit_49

# Pham 347559



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 347559 Report

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

Pham number 347559 has 74 members, 4 are drafts.

Phages represented in each track:
- Track 1 : BritBrat_68
- Track 2 : Pepperoni_50
- Track 3 : Lton_52
- Track 4 : DobbysSock_50, Samman98_58, Clark_57, Invectra_59, Rizz_58
- Track 5 : Beenie_51
- Track 6 : Mcklovin_57
- Track 7 : Denise_53
- Track 8 : Moosehead_54
- Track 9 : OneDirection_50
- Track 10 : Faith5x5_49
- Track 11 : Clown_8
- Track 12 : Affeca_64
- Track 13 : Ailee_63, Fitzgerald_64, Lennon_66, Sedona_65, Sitar_66, Keitabear_65, Sanjuju_65, Stultus_62, Shivanishola_63
- Track 14 : ChadMasterC_66
- Track 15 : MoontowerMania_64
- Track 16 : Bibwit_65
- Track 17 : Geodirt_65, Kewpiedoll_65
- Track 18 : BobBob_65
- Track 19 : Kamashten_64, Thing3_64
- Track 20 : Barsten_67
- Track 21 : Angelicage_63
- Track 22 : Ali17_5, Inspectinfecti_8, Phinally_7, Leonard_7
- Track 23 : Hans_9
- Track 24 : MelBins_7
- Track 25 : InLimbo_52
- Track 26 : Morkie_55
- Track 27 : PhorbesPhlower_51
- Track 28 : BotCity_78
- Track 29 : BearBQ_73
- Track 30 : ODay_80, Kuwabara_74
- Track 31 : Malisha_76
- Track 32 : Ecliptus_78
- Track 33 : Budski_78
- Track 34 : Frickyeah_78
- Track 35 : Phabuloso_79
- Track 36 : Lutum_75, Kenna_69

• Track 37 : Asapag_72, BENtherdunthat_76, Birdsong_71
• Track 38 : ShawBrad_77
• Track 39 : Whitney_73
• Track 40 : LitninMcQueen_75
• Track 41 : Holliday_77
• Track 42 : CheeseTouch_77
• Track 43 : Kamaru_69
• Track 44 : Periwinkle_82
• Track 45 : Leroy_72
• Track 46 : Horus_74
• Track 47 : Spooky_72
• Track 48 : Apricot_72, Crater_72, Phistory_71
• Track 49 : PhaoMing_59
• Track 50 : Gudmit_49
• Track 51 : TinyDot_46

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

The start number called the most often in the published annotations is 10, it was called in 61 of the 70 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Affeca_64, Ailee_63, Ali17_5, Angelicage_63, Apricot_72, Asapag_72, BENtherdunthat_76, Barsten_67, BearBQ_73, Birdsong_71, BobBob_65, BotCity_78, BritBrat_68, Budski_78, ChadMasterC_66, CheeseTouch_77, Crater_72, Denise_53, Ecliptus_78, Faith5x5_49, Fitzgerald_64, Frickyeah_78, Geodirt_65, Hans_9, Holliday_77, Horus_74, InLimbo_52, Inspectinfecti_8, Kamaru_69, Kamashten_64, Keitabear_65, Kenna_69, Kewpiedoll_65, Kuwabara_74, Lennon_66, Leonard_7, Leroy_72, LitninMcQueen_75, Lton_52, Lutum_75, Malisha_76, MelBins_7, MoontowerMania_64, Moosehead_54, Morkie_55, ODay_80, OneDirection_50, Pepperoni_50, Periwinkle_82, Phabuloso_79, PhaoMing_59, Phinally_7, Phistory_71, PhorbesPhlower_51, Sanjuju_65, Sedona_65, ShawBrad_77, Shivanishola_63, Sitar_66, Spooky_72, Stultus_62, Thing3_64, TinyDot_46, Whitney_73,

Genes that have the "Most Annotated" start but do not call it:
• Bibwit_65,

Genes that do not have the "Most Annotated" start:
• Beenie_51, Clark_57, Clown_8, DobbysSock_50, Gudmit_49, Invectra_59, Mcklovin_57, Rizz_58, Samman98_58,

**Summary by start number:**

Start 4:
• Found in 17 of 74 ( 23.0% ) of genes in pham
• Manual Annotations of this start: 1 of 70
• Called 5.9% of time when present
• Phage (with cluster) where this start called: Bibwit_65 (DE1),

Start 8:

• Found in 1 of 74 ( 1.4% ) of genes in pham
• Manual Annotations of this start: 1 of 70
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Gudmit_49 (singleton),

Start 9:
• Found in 8 of 74 ( 10.8% ) of genes in pham
• Manual Annotations of this start: 7 of 70
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Beenie_51 (CZ4), Clark_57 (CZ4), Clown_8 (DC2), DobbysSock_50 (CZ4), Invectra_59 (CZ4), Mcklovin_57 (CZ4), Rizz_58 (CZ4), Samman98_58 (CZ4),

Start 10:
• Found in 65 of 74 ( 87.8% ) of genes in pham
• Manual Annotations of this start: 61 of 70
• Called 98.5% of time when present
• Phage (with cluster) where this start called: Affeca_64 (DE1), Ailee_63 (DE1), Ali17_5 (DE2), Angelicage_63 (DE1), Apricot_72 (DN3), Asapag_72 (DN1), BENtherdunthat_76 (DN1), Barsten_67 (DE1), BearBQ_73 (DN), Birdsong_71 (DN), BobBob_65 (DE1), BotCity_78 (DN), BritBrat_68 (CY2), Budski_78 (DN), ChadMasterC_66 (DE1), CheeseTouch_77 (DN1), Crater_72 (DN3), Denise_53 (CZ5), Ecliptus_78 (DN), Faith5x5_49 (CZ6), Fitzgerald_64 (DE1), Frickyeah_78 (DN1), Geodirt_65 (DE1), Hans_9 (DE2), Holliday_77 (DN1), Horus_74 (DN1), InLimbo_52 (DH), Inspectinfecti_8 (DE2), Kamaru_69 (DN1), Kamashten_64 (DE1), Keitabear_65 (DE1), Kenna_69 (DN1), Kewpiedoll_65 (DE1), Kuwabara_74 (DN4), Lennon_66 (DE1), Leonard_7 (DE2), Leroy_72 (DN1), LitninMcQueen_75 (DN1), Lton_52 (CZ), Lutum_75 (DN1), Malisha_76 (DN), MelBins_7 (DE2), MoontowerMania_64 (DE1), Moosehead_54 (CZ6), Morkie_55 (DH), ODay_80 (DN), OneDirection_50 (CZ6), Pepperoni_50 (CZ), Periwinkle_82 (DN1), Phabuloso_79 (DN1), PhaoMing_59 (UNK), Phinally_7 (DE2), Phistory_71 (DN1), PhorbesPhlower_51 (DH), Sanjuju_65 (DE1), Sedona_65 (DE1), ShawBrad_77 (DN1), Shivanishola_63 (DE1), Sitar_66 (DE1), Spooky_72 (DN2), Stultus_62 (DE1), Thing3_64 (DE1), TinyDot_46 (singleton), Whitney_73 (DN1),

**Summary by clusters:**

There are 16 clusters represented in this pham: DN, CY2, singleton, DH, DN4, DE1, DE2, CZ6, CZ4, CZ5, CZ, DN1, DN3, DN2, UNK, DC2,

Info for manual annotations of cluster CY2:
•Start number 10 was manually annotated 1 time for cluster CY2.

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

Info for manual annotations of cluster CZ4:
•Start number 9 was manually annotated 6 times for cluster CZ4.

Info for manual annotations of cluster CZ5:
•Start number 10 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ6:

•Start number 10 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster DC2:
•Start number 9 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE1:
•Start number 4 was manually annotated 1 time for cluster DE1.
•Start number 10 was manually annotated 19 times for cluster DE1.

Info for manual annotations of cluster DE2:
•Start number 10 was manually annotated 6 times for cluster DE2.

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

Info for manual annotations of cluster DN:
•Start number 10 was manually annotated 7 times for cluster DN.

Info for manual annotations of cluster DN1:
•Start number 10 was manually annotated 15 times for cluster DN1.

Info for manual annotations of cluster DN2:
•Start number 10 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DN3:
•Start number 10 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:
•Start number 10 was manually annotated 1 time for cluster DN4.

### *Gene Information:*

Gene: Affeca_64 Start: 50623, Stop: 50991, Start Num: 10
Candidate Starts for Affeca_64:
(Start: 4 @50569 has 1 MA's), (Start: 10 @50623 has 61 MA's), (52, 50905), (57, 50959),

Gene: Ailee_63 Start: 50343, Stop: 50711, Start Num: 10
Candidate Starts for Ailee_63:
(Start: 4 @50289 has 1 MA's), (Start: 10 @50343 has 61 MA's), (28, 50448), (52, 50625), (57, 50679),

Gene: Ali17_5 Start: 4477, Stop: 4836, Start Num: 10
Candidate Starts for Ali17_5:
(Start: 10 @4477 has 61 MA's), (15, 4525), (27, 4567), (28, 4591), (35, 4684), (52, 4768), (55, 4789), (58, 4828),

Gene: Angelicage_63 Start: 50575, Stop: 50943, Start Num: 10
Candidate Starts for Angelicage_63:
(Start: 10 @50575 has 61 MA's), (28, 50680), (52, 50857), (57, 50911),

Gene: Apricot_72 Start: 42626, Stop: 42949, Start Num: 10

Candidate Starts for Apricot_72:
(2, 42563), (6, 42578), (Start: 10 @42626 has 61 MA's), (11, 42632), (15, 42671), (21, 42695), (22, 42713), (33, 42833), (34, 42839), (54, 42899), (55, 42902), (58, 42941),

Gene: Asapag_72 Start: 42928, Stop: 43242, Start Num: 10
Candidate Starts for Asapag_72:
(2, 42865), (6, 42880), (Start: 10 @42928 has 61 MA's), (11, 42934), (15, 42973), (29, 43060), (58, 43234),

Gene: BENtherdunthat_76 Start: 43974, Stop: 44288, Start Num: 10
Candidate Starts for BENtherdunthat_76:
(2, 43911), (6, 43926), (Start: 10 @43974 has 61 MA's), (11, 43980), (15, 44019), (29, 44106), (58, 44280),

Gene: Barsten_67 Start: 50851, Stop: 51222, Start Num: 10
Candidate Starts for Barsten_67:
(Start: 4 @50797 has 1 MA's), (Start: 10 @50851 has 61 MA's), (24, 50926), (28, 50959), (52, 51136), (57, 51190),

Gene: BearBQ_73 Start: 45171, Stop: 45494, Start Num: 10
Candidate Starts for BearBQ_73:
(Start: 10 @45171 has 61 MA's), (15, 45219), (34, 45384), (54, 45444), (55, 45447), (58, 45486),

Gene: Beenie_51 Start: 38991, Stop: 39326, Start Num: 9
Candidate Starts for Beenie_51:
(Start: 9 @38991 has 7 MA's), (24, 39081), (26, 39087), (50, 39243), (56, 39300), (58, 39318),

Gene: Bibwit_65 Start: 49883, Stop: 50305, Start Num: 4
Candidate Starts for Bibwit_65:
(Start: 4 @49883 has 1 MA's), (Start: 10 @49937 has 61 MA's), (28, 50042), (52, 50219), (57, 50273),

Gene: Birdsong_71 Start: 42664, Stop: 42978, Start Num: 10
Candidate Starts for Birdsong_71:
(2, 42601), (6, 42616), (Start: 10 @42664 has 61 MA's), (11, 42670), (15, 42709), (29, 42796), (58, 42970),

Gene: BobBob_65 Start: 50063, Stop: 50431, Start Num: 10
Candidate Starts for BobBob_65:
(Start: 4 @50009 has 1 MA's), (Start: 10 @50063 has 61 MA's), (28, 50168), (39, 50294), (52, 50345), (57, 50399),

Gene: BotCity_78 Start: 45425, Stop: 45796, Start Num: 10
Candidate Starts for BotCity_78:
(Start: 10 @45425 has 61 MA's), (11, 45431), (15, 45470), (30, 45614), (40, 45686), (54, 45746), (55, 45749), (58, 45788),

Gene: BritBrat_68 Start: 44637, Stop: 44939, Start Num: 10
Candidate Starts for BritBrat_68:
(Start: 10 @44637 has 61 MA's), (15, 44685), (18, 44706), (23, 44727), (32, 44832), (53, 44889), (58, 44931),

Gene: Budski_78 Start: 44785, Stop: 45126, Start Num: 10
Candidate Starts for Budski_78:

(3, 44722), (6, 44737), (Start: 10 @44785 has 61 MA's), (15, 44833), (36, 45019), (54, 45076), (55, 45079), (58, 45118),

Gene: ChadMasterC_66 Start: 52230, Stop: 52601, Start Num: 10
Candidate Starts for ChadMasterC_66:
(Start: 4 @52176 has 1 MA's), (Start: 10 @52230 has 61 MA's), (24, 52305), (28, 52338), (39, 52464), (52, 52515), (55, 52536),

Gene: CheeseTouch_77 Start: 40196, Stop: 40543, Start Num: 10
Candidate Starts for CheeseTouch_77:
(Start: 10 @40196 has 61 MA's), (11, 40202), (15, 40241), (20, 40265), (37, 40415), (42, 40445), (55, 40496), (58, 40535),

Gene: Clark_57 Start: 38808, Stop: 39143, Start Num: 9
Candidate Starts for Clark_57:
(Start: 9 @38808 has 7 MA's), (24, 38898), (26, 38904), (50, 39060), (58, 39135),

Gene: Clown_8 Start: 5206, Stop: 5559, Start Num: 9
Candidate Starts for Clown_8:
(5, 5155), (7, 5194), (Start: 9 @5206 has 7 MA's), (15, 5251), (26, 5302), (50, 5482), (58, 5551),

Gene: Crater_72 Start: 43021, Stop: 43344, Start Num: 10
Candidate Starts for Crater_72:
(2, 42958), (6, 42973), (Start: 10 @43021 has 61 MA's), (11, 43027), (15, 43066), (21, 43090), (22, 43108), (33, 43228), (34, 43234), (54, 43294), (55, 43297), (58, 43336),

Gene: Denise_53 Start: 34928, Stop: 35266, Start Num: 10
Candidate Starts for Denise_53:
(Start: 10 @34928 has 61 MA's), (15, 34976), (30, 35114), (33, 35141), (53, 35213), (58, 35258),

Gene: DobbysSock_50 Start: 37650, Stop: 37985, Start Num: 9
Candidate Starts for DobbysSock_50:
(Start: 9 @37650 has 7 MA's), (24, 37740), (26, 37746), (50, 37902), (58, 37977),

Gene: Ecliptus_78 Start: 45538, Stop: 45891, Start Num: 10
Candidate Starts for Ecliptus_78:
(Start: 10 @45538 has 61 MA's), (15, 45586), (25, 45622), (40, 45781), (54, 45841), (55, 45844), (58, 45883),

Gene: Faith5x5_49 Start: 33082, Stop: 33411, Start Num: 10
Candidate Starts for Faith5x5_49:
(Start: 10 @33082 has 61 MA's), (15, 33130), (22, 33172), (32, 33283), (47, 33337), (53, 33361), (58, 33403),

Gene: Fitzgerald_64 Start: 51085, Stop: 51453, Start Num: 10
Candidate Starts for Fitzgerald_64:
(Start: 4 @51031 has 1 MA's), (Start: 10 @51085 has 61 MA's), (28, 51190), (52, 51367), (57, 51421),

Gene: Frickyeah_78 Start: 44063, Stop: 44419, Start Num: 10
Candidate Starts for Frickyeah_78:
(2, 44000), (6, 44015), (Start: 10 @44063 has 61 MA's), (11, 44069), (15, 44108), (29, 44195), (40, 44309), (54, 44369), (55, 44372), (58, 44411),

Gene: Geodirt_65 Start: 51295, Stop: 51666, Start Num: 10
Candidate Starts for Geodirt_65:
(Start: 10 @51295 has 61 MA's), (24, 51370), (28, 51403), (52, 51580), (57, 51634),

Gene: Gudmit_49 Start: 31812, Stop: 32141, Start Num: 8
Candidate Starts for Gudmit_49:
(1, 31731), (Start: 8 @31812 has 1 MA's), (12, 31836), (13, 31839), (46, 32055), (58, 32133),

Gene: Hans_9 Start: 5000, Stop: 5374, Start Num: 10
Candidate Starts for Hans_9:
(Start: 10 @5000 has 61 MA's), (15, 5048), (27, 5090), (31, 5183), (52, 5291), (55, 5312), (58, 5366),

Gene: Holliday_77 Start: 47029, Stop: 47361, Start Num: 10
Candidate Starts for Holliday_77:
(2, 46966), (6, 46981), (Start: 10 @47029 has 61 MA's), (11, 47035), (15, 47074), (33, 47245), (34, 47251), (58, 47353),

Gene: Horus_74 Start: 45088, Stop: 45411, Start Num: 10
Candidate Starts for Horus_74:
(Start: 10 @45088 has 61 MA's), (11, 45094), (15, 45133), (21, 45157), (22, 45175), (33, 45295), (34, 45301), (54, 45361), (55, 45364), (58, 45403),

Gene: InLimbo_52 Start: 34192, Stop: 34518, Start Num: 10
Candidate Starts for InLimbo_52:
(Start: 10 @34192 has 61 MA's), (15, 34240), (22, 34282), (32, 34393), (53, 34468), (58, 34510),

Gene: Inspectinfecti_8 Start: 5534, Stop: 5893, Start Num: 10
Candidate Starts for Inspectinfecti_8:
(Start: 10 @5534 has 61 MA's), (15, 5582), (27, 5624), (28, 5648), (35, 5741), (52, 5825), (55, 5846), (58, 5885),

Gene: Invectra_59 Start: 40382, Stop: 40717, Start Num: 9
Candidate Starts for Invectra_59:
(Start: 9 @40382 has 7 MA's), (24, 40472), (26, 40478), (50, 40634), (58, 40709),

Gene: Kamaru_69 Start: 42541, Stop: 42909, Start Num: 10
Candidate Starts for Kamaru_69:
(3, 42478), (6, 42493), (Start: 10 @42541 has 61 MA's), (15, 42589), (16, 42598), (17, 42607), (30, 42727), (40, 42799), (54, 42859), (55, 42862), (58, 42901),

Gene: Kamashten_64 Start: 49896, Stop: 50264, Start Num: 10
Candidate Starts for Kamashten_64:
(Start: 4 @49842 has 1 MA's), (Start: 10 @49896 has 61 MA's), (28, 50001), (39, 50127), (52, 50178), (55, 50199),

Gene: Keitabear_65 Start: 51857, Stop: 52225, Start Num: 10
Candidate Starts for Keitabear_65:
(Start: 4 @51803 has 1 MA's), (Start: 10 @51857 has 61 MA's), (28, 51962), (52, 52139), (57, 52193),

Gene: Kenna_69 Start: 42661, Stop: 43026, Start Num: 10
Candidate Starts for Kenna_69:
(2, 42598), (6, 42613), (Start: 10 @42661 has 61 MA's), (15, 42709), (37, 42898), (42, 42928), (55, 42979), (58, 43018),

Gene: Kewpiedoll_65 Start: 51216, Stop: 51587, Start Num: 10
Candidate Starts for Kewpiedoll_65:
(Start: 10 @51216 has 61 MA's), (24, 51291), (28, 51324), (52, 51501), (57, 51555),

Gene: Kuwabara_74 Start: 44853, Stop: 45173, Start Num: 10
Candidate Starts for Kuwabara_74:
(Start: 10 @44853 has 61 MA's), (11, 44859), (15, 44898), (32, 45042), (54, 45126), (55, 45129), (58, 45165),

Gene: Lennon_66 Start: 52006, Stop: 52374, Start Num: 10
Candidate Starts for Lennon_66:
(Start: 4 @51952 has 1 MA's), (Start: 10 @52006 has 61 MA's), (28, 52111), (52, 52288), (57, 52342),

Gene: Leonard_7 Start: 5129, Stop: 5488, Start Num: 10
Candidate Starts for Leonard_7:
(Start: 10 @5129 has 61 MA's), (15, 5177), (27, 5219), (28, 5243), (35, 5336), (52, 5420), (55, 5441), (58, 5480),

Gene: Leroy_72 Start: 42957, Stop: 43301, Start Num: 10
Candidate Starts for Leroy_72:
(2, 42894), (6, 42909), (Start: 10 @42957 has 61 MA's), (11, 42963), (15, 43002), (21, 43026), (22, 43044), (34, 43170), (38, 43191), (48, 43212), (58, 43293),

Gene: LitninMcQueen_75 Start: 43856, Stop: 44158, Start Num: 10
Candidate Starts for LitninMcQueen_75:
(Start: 10 @43856 has 61 MA's), (11, 43862), (15, 43901), (34, 44054), (51, 44081), (55, 44111), (58, 44150),

Gene: Lton_52 Start: 32721, Stop: 33059, Start Num: 10
Candidate Starts for Lton_52:
(Start: 10 @32721 has 61 MA's), (11, 32727), (15, 32766), (34, 32928), (41, 32967), (44, 32973), (45, 32976), (58, 33051),

Gene: Lutum_75 Start: 43824, Stop: 44189, Start Num: 10
Candidate Starts for Lutum_75:
(2, 43761), (6, 43776), (Start: 10 @43824 has 61 MA's), (15, 43872), (37, 44061), (42, 44091), (55, 44142), (58, 44181),

Gene: Malisha_76 Start: 47249, Stop: 47602, Start Num: 10
Candidate Starts for Malisha_76:
(Start: 10 @47249 has 61 MA's), (15, 47297), (16, 47306), (32, 47444), (53, 47552), (58, 47594),

Gene: Mcklovin_57 Start: 44830, Stop: 45141, Start Num: 9
Candidate Starts for Mcklovin_57:
(Start: 9 @44830 has 7 MA's), (50, 45064), (56, 45115), (58, 45133),

Gene: MelBins_7 Start: 5115, Stop: 5489, Start Num: 10
Candidate Starts for MelBins_7:
(Start: 10 @5115 has 61 MA's), (15, 5163), (27, 5205), (31, 5298), (39, 5355), (43, 5370), (52, 5406), (55, 5427), (58, 5481),

Gene: MoontowerMania_64 Start: 51183, Stop: 51551, Start Num: 10

Candidate Starts for MoontowerMania_64:
(Start: 4 @51129 has 1 MA's), (Start: 10 @51183 has 61 MA's), (39, 51414), (52, 51465), (55, 51486),

Gene: Moosehead_54 Start: 33307, Stop: 33630, Start Num: 10
Candidate Starts for Moosehead_54:
(Start: 10 @33307 has 61 MA's), (15, 33355), (22, 33397), (32, 33508), (53, 33580), (58, 33622),

Gene: Morkie_55 Start: 34669, Stop: 34992, Start Num: 10
Candidate Starts for Morkie_55:
(3, 34606), (6, 34621), (Start: 10 @34669 has 61 MA's), (11, 34675), (15, 34714), (22, 34756), (32, 34867), (53, 34942), (58, 34984),

Gene: ODay_80 Start: 46266, Stop: 46589, Start Num: 10
Candidate Starts for ODay_80:
(Start: 10 @46266 has 61 MA's), (11, 46272), (15, 46311), (32, 46455), (54, 46539), (55, 46542), (58, 46581),

Gene: OneDirection_50 Start: 32364, Stop: 32702, Start Num: 10
Candidate Starts for OneDirection_50:
(2, 32301), (6, 32316), (Start: 10 @32364 has 61 MA's), (11, 32370), (15, 32409), (34, 32571), (41, 32610), (44, 32616), (45, 32619), (58, 32694),

Gene: Pepperoni_50 Start: 33825, Stop: 34151, Start Num: 10
Candidate Starts for Pepperoni_50:
(2, 33762), (6, 33777), (Start: 10 @33825 has 61 MA's), (11, 33831), (15, 33870), (58, 34143),

Gene: Periwinkle_82 Start: 46121, Stop: 46444, Start Num: 10
Candidate Starts for Periwinkle_82:
(3, 46058), (6, 46073), (Start: 10 @46121 has 61 MA's), (11, 46127), (15, 46166), (32, 46310), (58, 46436),

Gene: Phabuloso_79 Start: 44818, Stop: 45159, Start Num: 10
Candidate Starts for Phabuloso_79:
(Start: 10 @44818 has 61 MA's), (14, 44836), (15, 44866), (36, 45052), (58, 45151),

Gene: PhaoMing_59 Start: 40381, Stop: 40710, Start Num: 10
Candidate Starts for PhaoMing_59:
(Start: 10 @40381 has 61 MA's), (11, 40387), (15, 40426), (24, 40471), (49, 40621), (58, 40702),

Gene: Phinally_7 Start: 5126, Stop: 5485, Start Num: 10
Candidate Starts for Phinally_7:
(Start: 10 @5126 has 61 MA's), (15, 5174), (27, 5216), (28, 5240), (35, 5333), (52, 5417), (55, 5438), (58, 5477),

Gene: Phistory_71 Start: 42186, Stop: 42509, Start Num: 10
Candidate Starts for Phistory_71:
(2, 42123), (6, 42138), (Start: 10 @42186 has 61 MA's), (11, 42192), (15, 42231), (21, 42255), (22, 42273), (33, 42393), (34, 42399), (54, 42459), (55, 42462), (58, 42501),

Gene: PhorbesPhlower_51 Start: 33361, Stop: 33684, Start Num: 10
Candidate Starts for PhorbesPhlower_51:
(Start: 10 @33361 has 61 MA's), (15, 33409), (34, 33574), (39, 33589), (46, 33610), (53, 33634), (58, 33676),

Gene: Rizz_58 Start: 39594, Stop: 39929, Start Num: 9
Candidate Starts for Rizz_58:
(Start: 9 @39594 has 7 MA's), (24, 39684), (26, 39690), (50, 39846), (58, 39921),

Gene: Samman98_58 Start: 38911, Stop: 39246, Start Num: 9
Candidate Starts for Samman98_58:
(Start: 9 @38911 has 7 MA's), (24, 39001), (26, 39007), (50, 39163), (58, 39238),

Gene: Sanjuju_65 Start: 51217, Stop: 51585, Start Num: 10
Candidate Starts for Sanjuju_65:
(Start: 4 @51163 has 1 MA's), (Start: 10 @51217 has 61 MA's), (28, 51322), (52, 51499), (57, 51553),

Gene: Sedona_65 Start: 51790, Stop: 52158, Start Num: 10
Candidate Starts for Sedona_65:
(Start: 4 @51736 has 1 MA's), (Start: 10 @51790 has 61 MA's), (28, 51895), (52, 52072), (57, 52126),

Gene: ShawBrad_77 Start: 43579, Stop: 43935, Start Num: 10
Candidate Starts for ShawBrad_77:
(2, 43516), (6, 43531), (Start: 10 @43579 has 61 MA's), (11, 43585), (15, 43624), (40, 43825), (54, 43885), (55, 43888), (58, 43927),

Gene: Shivanishola_63 Start: 48835, Stop: 49203, Start Num: 10
Candidate Starts for Shivanishola_63:
(Start: 4 @48781 has 1 MA's), (Start: 10 @48835 has 61 MA's), (28, 48940), (52, 49117), (57, 49171),

Gene: Sitar_66 Start: 51715, Stop: 52083, Start Num: 10
Candidate Starts for Sitar_66:
(Start: 4 @51661 has 1 MA's), (Start: 10 @51715 has 61 MA's), (28, 51820), (52, 51997), (57, 52051),

Gene: Spooky_72 Start: 43079, Stop: 43405, Start Num: 10
Candidate Starts for Spooky_72:
(Start: 10 @43079 has 61 MA's), (15, 43127), (19, 43154), (33, 43301), (58, 43397),

Gene: Stultus_62 Start: 49962, Stop: 50330, Start Num: 10
Candidate Starts for Stultus_62:
(Start: 4 @49908 has 1 MA's), (Start: 10 @49962 has 61 MA's), (28, 50067), (52, 50244), (57, 50298),

Gene: Thing3_64 Start: 49896, Stop: 50264, Start Num: 10
Candidate Starts for Thing3_64:
(Start: 4 @49842 has 1 MA's), (Start: 10 @49896 has 61 MA's), (28, 50001), (39, 50127), (52, 50178), (55, 50199),

Gene: TinyDot_46 Start: 31361, Stop: 31729, Start Num: 10
Candidate Starts for TinyDot_46:
(Start: 10 @31361 has 61 MA's), (11, 31367), (15, 31406), (30, 31547), (40, 31619), (54, 31679), (55, 31682), (58, 31721),

Gene: Whitney_73 Start: 44698, Stop: 45015, Start Num: 10
Candidate Starts for Whitney_73:
(2, 44635), (6, 44650), (Start: 10 @44698 has 61 MA's), (15, 44743), (25, 44779), (55, 44968), (58, 45007),