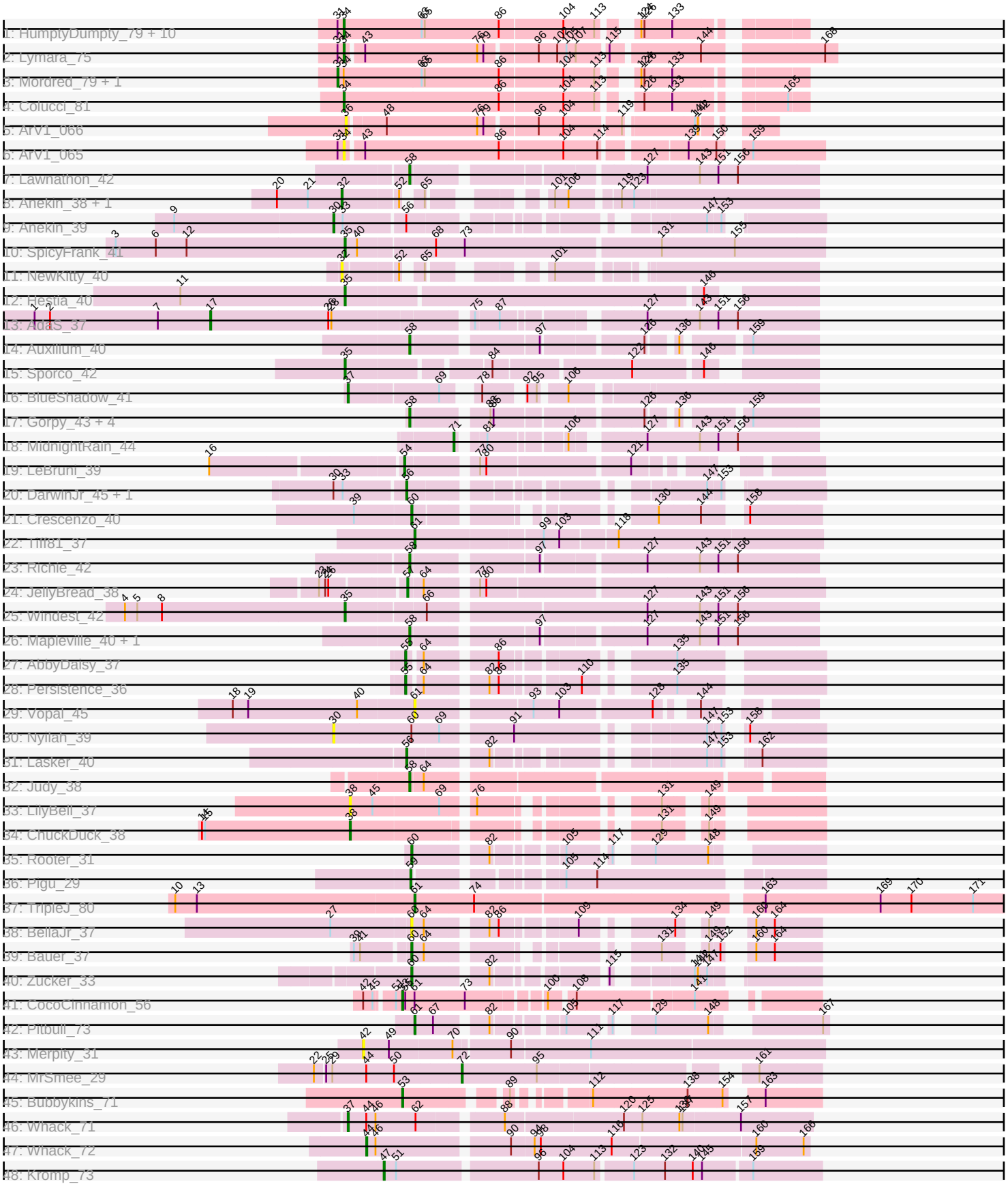
# Pham 347599


1: HumptyDumpty_79 + 10
2: Lymara_75
3: Mordred_79 + 1
4: Colucci_81
5: ArV1_066
6: ArV1_065
7: Lawnathon_42
8: Anekin_38 + 1
9: Anekin_39
10: SpicyFrank_41
11: NewKitty_40
12: Nestia_40
13: AdaS_37
14: Auxilium_40
15: Sporco_42
16: BlueShadow_41
17: Gorpy_43 + 4
18: MidnightRain_44
19: LeBruni_39
20: DarwinJr_45 + 1
21: Crescenzo_40
22: Tiff81_37
23: Richie_42
24: JellyBread_38
25: Windest_42
26: Mapleville_40 + 1
27: AbbyDaisy_37
28: Persistence_36
29: Vopal_45
30: Nylah_39
31: Lasker_40
32: Judy_38
33: LilyBell_37
34: ChuckDuck_38
35: Rooter_31
36: Pigu_29
37: TripleJ_80
38: BellaJr_37
39: Bauer_37
40: Zucker_33
41: CocoCinnamon_56
42: Pitbull_73
43: Merpity_31
44: MrSmee_29
45: Bubbykins_71
46: Whack_71
47: Whack_72
48: Kromp_73

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 347599 Report

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

Pham number 347599 has 66 members, 10 are drafts.

Phages represented in each track:
• Track 1 : HumptyDumpty_79, Chocolat_79, RosiePosie_79, Linus_79, EdgarPoe_78, Scavito_80, Chipper1996_800, Chubster_80, Kabreeze_79, PrincessTrina_80, Tophat_80
• Track 2 : Lymara_75
• Track 3 : Mordred_79, JaNo_78
• Track 4 : Colucci_81
• Track 5 : ArV1_066
• Track 6 : ArV1_065
• Track 7 : Lawnathon_42
• Track 8 : Anekin_38, DarwinJr_44
• Track 9 : Anekin_39
• Track 10 : SpicyFrank_41
• Track 11 : NewKitty_40
• Track 12 : Hestia_40
• Track 13 : AdaS_37
• Track 14 : Auxilium_40
• Track 15 : Sporco_42
• Track 16 : BlueShadow_41
• Track 17 : Gorpy_43, YoungHarleezy_42, Aikyam_39, MaterMagnus_42, Sakai_42
• Track 18 : MidnightRain_44
• Track 19 : LeBruni_39
• Track 20 : DarwinJr_45, JakeTheSnake_44
• Track 21 : Crescenzo_40
• Track 22 : Tiff81_37
• Track 23 : Richie_42
• Track 24 : JellyBread_38
• Track 25 : Windest_42
• Track 26 : Mapleville_40, Isolde_43
• Track 27 : AbbyDaisy_37
• Track 28 : Persistence_36
• Track 29 : Vopal_45
• Track 30 : Nyilah_39
• Track 31 : Lasker_40
• Track 32 : Judy_38
• Track 33 : LilyBell_37
• Track 34 : ChuckDuck_38
• Track 35 : Rooter_31

• Track 36 : Pigu_29
• Track 37 : TripleJ_80
• Track 38 : BellaJr_37
• Track 39 : Bauer_37
• Track 40 : Zucker_33
• Track 41 : CocoCinnamon_56
• Track 42 : Pitbull_73
• Track 43 : Merpity_31
• Track 44 : MrSmee_29
• Track 45 : Bubbykins_71
• Track 46 : Whack_71
• Track 47 : Whack_72
• Track 48 : Kromp_73

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

The start number called the most often in the published annotations is 34, it was called in 13 of the 56 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ArV1_065, Chipper1996_800, Chocolat_79, Chubster_80, Colucci_81, EdgarPoe_78, HumptyDumpty_79, Kabreeze_79, Linus_79, Lymara_75, PrincessTrina_80, RosiePosie_79, Scavito_80, Tophat_80,

Genes that have the "Most Annotated" start but do not call it:
• JaNo_78, Mordred_79,

Genes that do not have the "Most Annotated" start:
• AbbyDaisy_37, AdaS_37, Aikyam_39, Anekin_38, Anekin_39, ArV1_066, Auxilium_40, Bauer_37, BellaJr_37, BlueShadow_41, Bubbykins_71, ChuckDuck_38, CocoCinnamon_56, Crescenzo_40, DarwinJr_44, DarwinJr_45, Gorpy_43, Hestia_40, Isolde_43, JakeTheSnake_44, JellyBread_38, Judy_38, Kromp_73, Lasker_40, Lawnathon_42, LeBruni_39, LilyBell_37, Mapleville_40, MaterMagnus_42, Merpity_31, MidnightRain_44, MrSmee_29, NewKitty_40, Nyilah_39, Persistence_36, Pigu_29, Pitbull_73, Richie_42, Rooter_31, Sakai_42, SpicyFrank_41, Sporco_42, Tiff81_37, TripleJ_80, Vopal_45, Whack_71, Whack_72, Windest_42, YoungHarleezy_42, Zucker_33,

**Summary by start number:**

Start 17:
• Found in 1 of 66 ( 1.5% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AdaS_37 (AY),

Start 30:
• Found in 4 of 66 ( 6.1% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 50.0% of time when present

• Phage (with cluster) where this start called: Anekin_39 (AY), Nyilah_39 (AY),

Start 31:
• Found in 15 of 66 ( 22.7% ) of genes in pham
• Manual Annotations of this start: 2 of 56
• Called 13.3% of time when present
• Phage (with cluster) where this start called: JaNo_78 (AR), Mordred_79 (AR),

Start 32:
• Found in 3 of 66 ( 4.5% ) of genes in pham
• Manual Annotations of this start: 2 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Anekin_38 (AY), DarwinJr_44 (AY), NewKitty_40 (AY),

Start 34:
• Found in 16 of 66 ( 24.2% ) of genes in pham
• Manual Annotations of this start: 13 of 56
• Called 87.5% of time when present
• Phage (with cluster) where this start called: ArV1_065 (AR), Chipper1996_800 (AR), Chocolat_79 (AR), Chubster_80 (AR), Colucci_81 (AR), EdgarPoe_78 (AR), HumptyDumpty_79 (AR), Kabreeze_79 (AR), Linus_79 (AR), Lymara_75 (AR), PrincessTrina_80 (AR), RosiePosie_79 (AR), Scavito_80 (AR), Tophat_80 (AR),

Start 35:
• Found in 4 of 66 ( 6.1% ) of genes in pham
• Manual Annotations of this start: 4 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Hestia_40 (AY), SpicyFrank_41 (AY), Sporco_42 (AY), Windest_42 (AY),

Start 36:
• Found in 1 of 66 ( 1.5% ) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ArV1_066 (AR),

Start 37:
• Found in 2 of 66 ( 3.0% ) of genes in pham
• Manual Annotations of this start: 2 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BlueShadow_41 (AY), Whack_71 (singleton),

Start 38:
• Found in 2 of 66 ( 3.0% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ChuckDuck_38 (FA), LilyBell_37 (FA),

Start 42:
• Found in 2 of 66 ( 3.0% ) of genes in pham
• No Manual Annotations of this start.

• Called 50.0% of time when present
• Phage (with cluster) where this start called: Merpity_31 (FQ1),

Start 44:
• Found in 3 of 66 ( 4.5% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Whack_72 (singleton),

Start 47:
• Found in 1 of 66 ( 1.5% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Kromp_73 (singleton),

Start 53:
• Found in 2 of 66 ( 3.0% ) of genes in pham
• Manual Annotations of this start: 2 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bubbykins_71 (UNK), CocoCinnamon_56 (FO),

Start 54:
• Found in 1 of 66 ( 1.5% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: LeBruni_39 (AY),

Start 55:
• Found in 3 of 66 ( 4.5% ) of genes in pham
• Manual Annotations of this start: 2 of 56
• Called 66.7% of time when present
• Phage (with cluster) where this start called: AbbyDaisy_37 (AY), Persistence_36 (AY),

Start 56:
• Found in 4 of 66 ( 6.1% ) of genes in pham
• Manual Annotations of this start: 2 of 56
• Called 75.0% of time when present
• Phage (with cluster) where this start called: DarwinJr_45 (AY), JakeTheSnake_44 (AY), Lasker_40 (AY),

Start 57:
• Found in 1 of 66 ( 1.5% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: JellyBread_38 (AY),

Start 58:
• Found in 11 of 66 ( 16.7% ) of genes in pham
• Manual Annotations of this start: 10 of 56
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Aikyam_39 (AY), Auxilium_40 (AY), Gorpy_43 (AY), Isolde_43 (AY), Judy_38 (FA), Lawnathon_42 (AY), Mapleville_40 (AY), MaterMagnus_42 (AY), Richie_42 (AY), Sakai_42 (AY), YoungHarleezy_42 (AY),

Start 59:
• Found in 1 of 66 ( 1.5% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Pigu_29 (FB),

Start 60:
• Found in 6 of 66 ( 9.1% ) of genes in pham
• Manual Annotations of this start: 4 of 56
• Called 83.3% of time when present
• Phage (with cluster) where this start called: Bauer_37 (FN), BellaJr_37 (FN), Crescenzo_40 (AY), Rooter_31 (FB), Zucker_33 (FN),

Start 61:
• Found in 5 of 66 ( 7.6% ) of genes in pham
• Manual Annotations of this start: 3 of 56
• Called 80.0% of time when present
• Phage (with cluster) where this start called: Pitbull_73 (FQ1), Tiff81_37 (AY), TripleJ_80 (FJ), Vopal_45 (AY),

Start 71:
• Found in 1 of 66 ( 1.5% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: MidnightRain_44 (AY),

Start 72:
• Found in 1 of 66 ( 1.5% ) of genes in pham
• Manual Annotations of this start: 1 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: MrSmee_29 (FQ1),

**Summary by clusters:**

There are 10 clusters represented in this pham: singleton, UNK, FA, FB, AR, AY, FJ, FQ1, FN, FO,

Info for manual annotations of cluster AR:
•Start number 31 was manually annotated 2 times for cluster AR.
•Start number 34 was manually annotated 13 times for cluster AR.

Info for manual annotations of cluster AY:
•Start number 17 was manually annotated 1 time for cluster AY.
•Start number 30 was manually annotated 1 time for cluster AY.
•Start number 32 was manually annotated 2 times for cluster AY.
•Start number 35 was manually annotated 4 times for cluster AY.
•Start number 37 was manually annotated 1 time for cluster AY.
•Start number 54 was manually annotated 1 time for cluster AY.

•Start number 55 was manually annotated 2 times for cluster AY.
•Start number 56 was manually annotated 2 times for cluster AY.
•Start number 57 was manually annotated 1 time for cluster AY.
•Start number 58 was manually annotated 9 times for cluster AY.
•Start number 60 was manually annotated 1 time for cluster AY.
•Start number 61 was manually annotated 1 time for cluster AY.
•Start number 71 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster FA:
•Start number 38 was manually annotated 1 time for cluster FA.
•Start number 58 was manually annotated 1 time for cluster FA.

Info for manual annotations of cluster FB:
•Start number 59 was manually annotated 1 time for cluster FB.
•Start number 60 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FJ:
•Start number 61 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster FN:
•Start number 60 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster FO:
•Start number 53 was manually annotated 1 time for cluster FO.

Info for manual annotations of cluster FQ1:
•Start number 61 was manually annotated 1 time for cluster FQ1.
•Start number 72 was manually annotated 1 time for cluster FQ1.

Info for manual annotations of cluster UNK:
•Start number 53 was manually annotated 1 time for cluster UNK.

### *Gene Information:*

Gene: AbbyDaisy_37 Start: 27733, Stop: 27410, Start Num: 55
Candidate Starts for AbbyDaisy_37:
(Start: 55 @27733 has 2 MA's), (64, 27721), (86, 27661), (135, 27529),

Gene: AdaS_37 Start: 26390, Stop: 25854, Start Num: 17
Candidate Starts for AdaS_37:
(1, 26561), (2, 26546), (7, 26441), (Start: 17 @26390 has 1 MA's), (26, 26276), (28, 26273), (75, 26153), (87, 26132), (127, 26018), (143, 25967), (151, 25949), (156, 25931),

Gene: Aikyam_39 Start: 26132, Stop: 25803, Start Num: 58
Candidate Starts for Aikyam_39:
(Start: 58 @26132 has 10 MA's), (83, 26069), (85, 26066), (126, 25937), (136, 25916), (159, 25865),

Gene: Anekin_38 Start: 27545, Stop: 27171, Start Num: 32
Candidate Starts for Anekin_38:
(20, 27608), (21, 27578), (Start: 32 @27545 has 2 MA's), (52, 27494), (65, 27482), (101, 27407), (106, 27395), (119, 27356), (123, 27344),

Gene: Anekin_39 Start: 27918, Stop: 27538, Start Num: 30
Candidate Starts for Anekin_39:
(9, 28068), (Start: 30 @27918 has 1 MA's), (33, 27909), (Start: 56 @27852 has 2 MA's), (147, 27627), (153, 27615),

Gene: ArV1_066 Start: 50683, Stop: 51042, Start Num: 36
Candidate Starts for ArV1_066:
(36, 50683), (48, 50716), (76, 50803), (79, 50809), (96, 50854), (104, 50878), (119, 50929), (141, 50989), (142, 50992),

Gene: ArV1_065 Start: 50268, Stop: 50690, Start Num: 34
Candidate Starts for ArV1_065:
(Start: 31 @50262 has 2 MA's), (Start: 34 @50268 has 13 MA's), (43, 50283), (86, 50412), (104, 50472), (114, 50505), (139, 50577), (150, 50604), (159, 50622),

Gene: Auxilium_40 Start: 25834, Stop: 25505, Start Num: 58
Candidate Starts for Auxilium_40:
(Start: 58 @25834 has 10 MA's), (97, 25726), (126, 25639), (136, 25618), (159, 25567),

Gene: Bauer_37 Start: 26477, Stop: 26764, Start Num: 60
Candidate Starts for Bauer_37:
(39, 26429), (41, 26435), (Start: 60 @26477 has 4 MA's), (64, 26489), (131, 26654), (149, 26681), (152, 26690), (160, 26702), (164, 26720),

Gene: BellaJr_37 Start: 27529, Stop: 27828, Start Num: 60
Candidate Starts for BellaJr_37:
(27, 27454), (Start: 60 @27529 has 4 MA's), (64, 27541), (82, 27592), (86, 27601), (109, 27664), (134, 27730), (149, 27745), (160, 27766), (164, 27784),

Gene: BlueShadow_41 Start: 28230, Stop: 27841, Start Num: 37
Candidate Starts for BlueShadow_41:
(Start: 37 @28230 has 2 MA's), (69, 28146), (78, 28125), (92, 28095), (95, 28086), (106, 28065),

Gene: Bubbykins_71 Start: 48965, Stop: 49300, Start Num: 53
Candidate Starts for Bubbykins_71:
(Start: 53 @48965 has 2 MA's), (89, 49049), (112, 49103), (138, 49193), (154, 49226), (163, 49247),

Gene: Chipper1996_800 Start: 51561, Stop: 51953, Start Num: 34
Candidate Starts for Chipper1996_800:
(Start: 31 @51555 has 2 MA's), (Start: 34 @51561 has 13 MA's), (63, 51636), (65, 51639), (86, 51711), (104, 51771), (113, 51801), (124, 51822), (126, 51825), (133, 51849),

Gene: Chocolat_79 Start: 51268, Stop: 51660, Start Num: 34
Candidate Starts for Chocolat_79:
(Start: 31 @51262 has 2 MA's), (Start: 34 @51268 has 13 MA's), (63, 51343), (65, 51346), (86, 51418), (104, 51478), (113, 51508), (124, 51529), (126, 51532), (133, 51556),

Gene: Chubster_80 Start: 51962, Stop: 52354, Start Num: 34
Candidate Starts for Chubster_80:
(Start: 31 @51956 has 2 MA's), (Start: 34 @51962 has 13 MA's), (63, 52037), (65, 52040), (86, 52112), (104, 52172), (113, 52202), (124, 52223), (126, 52226), (133, 52250),

Gene: ChuckDuck_38 Start: 26145, Stop: 26492, Start Num: 38
Candidate Starts for ChuckDuck_38:
(14, 26001), (15, 26004), (Start: 38 @26145 has 1 MA's), (131, 26379), (149, 26406),

Gene: CocoCinnamon_56 Start: 35240, Stop: 35584, Start Num: 53
Candidate Starts for CocoCinnamon_56:
(42, 35210), (45, 35219), (51, 35234), (Start: 53 @35240 has 2 MA's), (Start: 55 @35243 has 2 MA's), (Start: 61 @35252 has 3 MA's), (73, 35300), (100, 35366), (108, 35387), (141, 35492),

Gene: Colucci_81 Start: 51910, Stop: 52302, Start Num: 34
Candidate Starts for Colucci_81:
(Start: 34 @51910 has 13 MA's), (86, 52060), (104, 52120), (113, 52150), (126, 52174), (133, 52198), (165, 52285),

Gene: Crescenzo_40 Start: 28602, Stop: 28297, Start Num: 60
Candidate Starts for Crescenzo_40:
(39, 28656), (Start: 60 @28602 has 4 MA's), (130, 28431), (144, 28392), (158, 28365),

Gene: DarwinJr_44 Start: 29257, Stop: 28883, Start Num: 32
Candidate Starts for DarwinJr_44:
(20, 29320), (21, 29290), (Start: 32 @29257 has 2 MA's), (52, 29206), (65, 29194), (101, 29119), (106, 29107), (119, 29068), (123, 29056),

Gene: DarwinJr_45 Start: 29564, Stop: 29250, Start Num: 56
Candidate Starts for DarwinJr_45:
(Start: 30 @29630 has 1 MA's), (33, 29621), (Start: 56 @29564 has 2 MA's), (147, 29339), (153, 29327),

Gene: EdgarPoe_78 Start: 51425, Stop: 51817, Start Num: 34
Candidate Starts for EdgarPoe_78:
(Start: 31 @51419 has 2 MA's), (Start: 34 @51425 has 13 MA's), (63, 51500), (65, 51503), (86, 51575), (104, 51635), (113, 51665), (124, 51686), (126, 51689), (133, 51713),

Gene: Gorpy_43 Start: 29526, Stop: 29197, Start Num: 58
Candidate Starts for Gorpy_43:
(Start: 58 @29526 has 10 MA's), (83, 29463), (85, 29460), (126, 29331), (136, 29310), (159, 29259),

Gene: Hestia_40 Start: 27726, Stop: 27310, Start Num: 35
Candidate Starts for Hestia_40:
(11, 27885), (Start: 35 @27726 has 4 MA's), (146, 27396),

Gene: HumptyDumpty_79 Start: 51228, Stop: 51620, Start Num: 34
Candidate Starts for HumptyDumpty_79:
(Start: 31 @51222 has 2 MA's), (Start: 34 @51228 has 13 MA's), (63, 51303), (65, 51306), (86, 51378), (104, 51438), (113, 51468), (124, 51489), (126, 51492), (133, 51516),

Gene: Isolde_43 Start: 28418, Stop: 28056, Start Num: 58
Candidate Starts for Isolde_43:
(Start: 58 @28418 has 10 MA's), (97, 28310), (127, 28220), (143, 28169), (151, 28151), (156, 28133),

Gene: JaNo_78 Start: 51193, Stop: 51591, Start Num: 31
Candidate Starts for JaNo_78:

(Start: 31 @51193 has 2 MA's), (Start: 34 @51199 has 13 MA's), (63, 51274), (65, 51277), (86, 51349), (104, 51409), (113, 51439), (124, 51460), (126, 51463), (133, 51487),

Gene: JakeTheSnake_44 Start: 29350, Stop: 29036, Start Num: 56
Candidate Starts for JakeTheSnake_44:
(Start: 30 @29416 has 1 MA's), (33, 29407), (Start: 56 @29350 has 2 MA's), (147, 29125), (153, 29113),

Gene: JellyBread_38 Start: 26865, Stop: 26491, Start Num: 57
Candidate Starts for JellyBread_38:
(23, 26937), (24, 26931), (26, 26928), (Start: 57 @26865 has 1 MA's), (64, 26853), (77, 26811), (80, 26805),

Gene: Judy_38 Start: 26628, Stop: 26987, Start Num: 58
Candidate Starts for Judy_38:
(Start: 58 @26628 has 10 MA's), (64, 26640),

Gene: Kabreeze_79 Start: 51285, Stop: 51677, Start Num: 34
Candidate Starts for Kabreeze_79:
(Start: 31 @51279 has 2 MA's), (Start: 34 @51285 has 13 MA's), (63, 51360), (65, 51363), (86, 51435), (104, 51495), (113, 51525), (124, 51546), (126, 51549), (133, 51573),

Gene: Kromp_73 Start: 47753, Stop: 47349, Start Num: 47
Candidate Starts for Kromp_73:
(Start: 47 @47753 has 1 MA's), (51, 47741), (96, 47612), (104, 47588), (113, 47558), (123, 47525), (132, 47495), (140, 47468), (145, 47459), (159, 47414),

Gene: Lasker_40 Start: 28079, Stop: 27765, Start Num: 56
Candidate Starts for Lasker_40:
(Start: 56 @28079 has 2 MA's), (82, 28013), (147, 27854), (153, 27842), (162, 27824),

Gene: Lawnathon_42 Start: 28163, Stop: 27801, Start Num: 58
Candidate Starts for Lawnathon_42:
(Start: 58 @28163 has 10 MA's), (127, 27965), (143, 27914), (151, 27896), (156, 27878),

Gene: LeBruni_39 Start: 27481, Stop: 27158, Start Num: 54
Candidate Starts for LeBruni_39:
(16, 27655), (Start: 54 @27481 has 1 MA's), (77, 27424), (80, 27418), (121, 27289),

Gene: LilyBell_37 Start: 26044, Stop: 26394, Start Num: 38
Candidate Starts for LilyBell_37:
(Start: 38 @26044 has 1 MA's), (45, 26065), (69, 26128), (76, 26152), (131, 26281), (149, 26308),

Gene: Linus_79 Start: 51733, Stop: 52125, Start Num: 34
Candidate Starts for Linus_79:
(Start: 31 @51727 has 2 MA's), (Start: 34 @51733 has 13 MA's), (63, 51808), (65, 51811), (86, 51883), (104, 51943), (113, 51973), (124, 51994), (126, 51997), (133, 52021),

Gene: Lymara_75 Start: 50005, Stop: 50436, Start Num: 34
Candidate Starts for Lymara_75:
(Start: 31 @49999 has 2 MA's), (Start: 34 @50005 has 13 MA's), (43, 50020), (76, 50128), (79, 50134), (96, 50179), (102, 50197), (105, 50206), (107, 50215), (115, 50242), (144, 50323), (168, 50425),

Gene: Mapleville_40 Start: 28242, Stop: 27880, Start Num: 58
Candidate Starts for Mapleville_40:
(Start: 58 @28242 has 10 MA's), (97, 28134), (127, 28044), (143, 27993), (151, 27975), (156, 27957),

Gene: MaterMagnus_42 Start: 28304, Stop: 27975, Start Num: 58
Candidate Starts for MaterMagnus_42:
(Start: 58 @28304 has 10 MA's), (83, 28241), (85, 28238), (126, 28109), (136, 28088), (159, 28037),

Gene: Merpity_31 Start: 22847, Stop: 22416, Start Num: 42
Candidate Starts for Merpity_31:
(42, 22847), (49, 22823), (70, 22763), (90, 22712), (111, 22637),

Gene: MidnightRain_44 Start: 29060, Stop: 28755, Start Num: 71
Candidate Starts for MidnightRain_44:
(Start: 71 @29060 has 1 MA's), (81, 29042), (106, 28976), (127, 28919), (143, 28868), (151, 28850), (156, 28832),

Gene: Mordred_79 Start: 51318, Stop: 51716, Start Num: 31
Candidate Starts for Mordred_79:
(Start: 31 @51318 has 2 MA's), (Start: 34 @51324 has 13 MA's), (63, 51399), (65, 51402), (86, 51474), (104, 51534), (113, 51564), (124, 51585), (126, 51588), (133, 51612),

Gene: MrSmee_29 Start: 23244, Stop: 22936, Start Num: 72
Candidate Starts for MrSmee_29:
(22, 23382), (25, 23373), (29, 23367), (Start: 44 @23334 has 1 MA's), (50, 23307), (Start: 72 @23244 has 1 MA's), (95, 23172), (161, 22995),

Gene: NewKitty_40 Start: 27430, Stop: 27074, Start Num: 32
Candidate Starts for NewKitty_40:
(Start: 32 @27430 has 2 MA's), (52, 27382), (65, 27370), (101, 27295),

Gene: Nyilah_39 Start: 26837, Stop: 26430, Start Num: 30
Candidate Starts for Nyilah_39:
(Start: 30 @26837 has 1 MA's), (Start: 60 @26762 has 4 MA's), (69, 26735), (91, 26675), (147, 26519), (153, 26507), (158, 26501),

Gene: Persistence_36 Start: 26553, Stop: 26230, Start Num: 55
Candidate Starts for Persistence_36:
(Start: 55 @26553 has 2 MA's), (64, 26541), (82, 26490), (86, 26481), (110, 26415), (135, 26349),

Gene: Pigu_29 Start: 22735, Stop: 23076, Start Num: 59
Candidate Starts for Pigu_29:
(Start: 59 @22735 has 1 MA's), (105, 22849), (114, 22879),

Gene: Pitbull_73 Start: 38580, Stop: 38888, Start Num: 61
Candidate Starts for Pitbull_73:
(Start: 61 @38580 has 3 MA's), (67, 38598), (82, 38640), (105, 38694), (117, 38730), (129, 38754), (148, 38805), (167, 38883),

Gene: PrincessTrina_80 Start: 51629, Stop: 52021, Start Num: 34
Candidate Starts for PrincessTrina_80:
(Start: 31 @51623 has 2 MA's), (Start: 34 @51629 has 13 MA's), (63, 51704), (65, 51707), (86, 51779), (104, 51839), (113, 51869), (124, 51890), (126, 51893), (133, 51917),

Gene: Richie_42 Start: 28324, Stop: 27962, Start Num: 58
Candidate Starts for Richie_42:
(Start: 58 @28324 has 10 MA's), (97, 28216), (127, 28126), (143, 28075), (151, 28057), (156, 28039),

Gene: Rooter_31 Start: 24062, Stop: 23754, Start Num: 60
Candidate Starts for Rooter_31:
(Start: 60 @24062 has 4 MA's), (82, 23999), (105, 23945), (117, 23909), (129, 23885), (148, 23834),

Gene: RosiePosie_79 Start: 51413, Stop: 51805, Start Num: 34
Candidate Starts for RosiePosie_79:
(Start: 31 @51407 has 2 MA's), (Start: 34 @51413 has 13 MA's), (63, 51488), (65, 51491), (86, 51563), (104, 51623), (113, 51653), (124, 51674), (126, 51677), (133, 51701),

Gene: Sakai_42 Start: 28237, Stop: 27908, Start Num: 58
Candidate Starts for Sakai_42:
(Start: 58 @28237 has 10 MA's), (83, 28174), (85, 28171), (126, 28042), (136, 28021), (159, 27970),

Gene: Scavito_80 Start: 51373, Stop: 51765, Start Num: 34
Candidate Starts for Scavito_80:
(Start: 31 @51367 has 2 MA's), (Start: 34 @51373 has 13 MA's), (63, 51448), (65, 51451), (86, 51523), (104, 51583), (113, 51613), (124, 51634), (126, 51637), (133, 51661),

Gene: SpicyFrank_41 Start: 28170, Stop: 27721, Start Num: 35
Candidate Starts for SpicyFrank_41:
(3, 28392), (6, 28353), (12, 28323), (Start: 35 @28170 has 4 MA's), (40, 28158), (68, 28086), (73, 28059), (131, 27876), (155, 27807),

Gene: Sporco_42 Start: 28336, Stop: 27938, Start Num: 35
Candidate Starts for Sporco_42:
(Start: 35 @28336 has 4 MA's), (84, 28210), (122, 28087), (146, 28024),

Gene: Tiff81_37 Start: 25801, Stop: 25427, Start Num: 61
Candidate Starts for Tiff81_37:
(Start: 61 @25801 has 3 MA's), (99, 25684), (103, 25669), (118, 25618),

Gene: Tophat_80 Start: 51562, Stop: 51954, Start Num: 34
Candidate Starts for Tophat_80:
(Start: 31 @51556 has 2 MA's), (Start: 34 @51562 has 13 MA's), (63, 51637), (65, 51640), (86, 51712), (104, 51772), (113, 51802), (124, 51823), (126, 51826), (133, 51850),

Gene: TripleJ_80 Start: 42604, Stop: 43176, Start Num: 61
Candidate Starts for TripleJ_80:
(10, 42373), (13, 42394), (Start: 61 @42604 has 3 MA's), (74, 42661), (163, 42922), (169, 43033), (170, 43063), (171, 43123),

Gene: Vopal_45 Start: 31144, Stop: 30827, Start Num: 61
Candidate Starts for Vopal_45:
(18, 31315), (19, 31300), (40, 31195), (Start: 61 @31144 has 3 MA's), (93, 31045), (103, 31021), (128, 30937), (144, 30910),

Gene: Whack_71 Start: 46738, Stop: 47166, Start Num: 37
Candidate Starts for Whack_71:

(Start: 37 @46738 has 2 MA's), (Start: 44 @46756 has 1 MA's), (46, 46765), (62, 46804), (88, 46876), (120, 46987), (125, 47005), (136, 47041), (137, 47044), (157, 47098),

Gene: Whack_72 Start: 47171, Stop: 47581, Start Num: 44
Candidate Starts for Whack_72:
(Start: 44 @47171 has 1 MA's), (46, 47180), (90, 47300), (94, 47321), (98, 47327), (116, 47396), (160, 47531), (166, 47576),

Gene: Windest_42 Start: 27278, Stop: 26847, Start Num: 35
Candidate Starts for Windest_42:
(4, 27491), (5, 27479), (8, 27455), (Start: 35 @27278 has 4 MA's), (66, 27206), (127, 27011), (143, 26960), (151, 26942), (156, 26924),

Gene: YoungHarleezy_42 Start: 28307, Stop: 27978, Start Num: 58
Candidate Starts for YoungHarleezy_42:
(Start: 58 @28307 has 10 MA's), (83, 28244), (85, 28241), (126, 28112), (136, 28091), (159, 28040),

Gene: Zucker_33 Start: 26898, Stop: 26590, Start Num: 60
Candidate Starts for Zucker_33:
(Start: 60 @26898 has 4 MA's), (82, 26835), (115, 26748), (141, 26688), (142, 26685), (147, 26676),