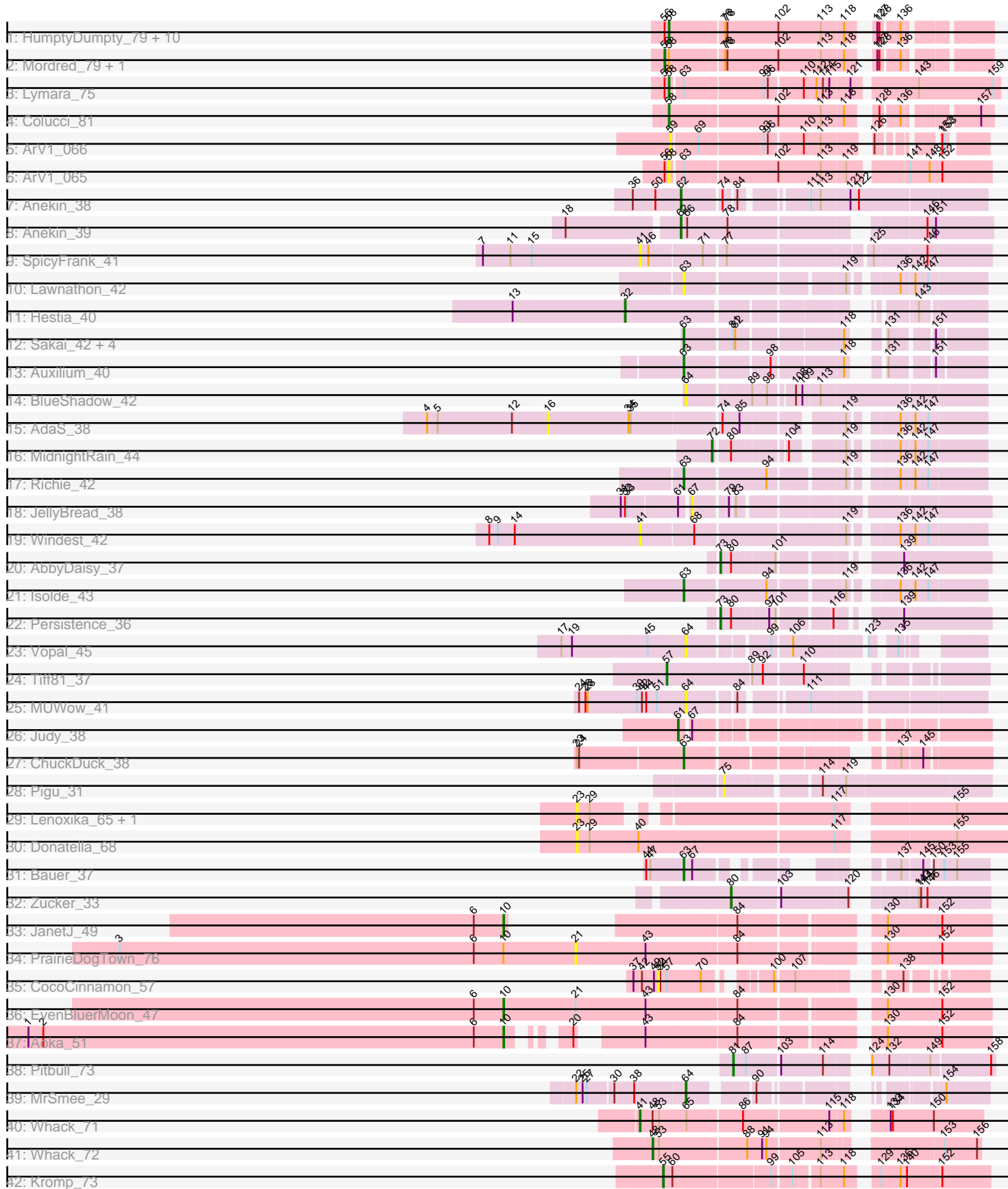


Pham 219767



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 219767 Report

This analysis was run 03/28/25 on database version 593.

Pham number 219767 has 58 members, 19 are drafts.

Phages represented in each track:

- Track 1 : HumptyDumpty_79, Chocolat_79, RosiePosie_79, EdgarPoe_78, Scavito_80, Chipper1996_800, Kabreeze_79, PrincessTrina_80, Linus_79, Tophat_80, Chubster_80
- Track 2 : Mordred_79, JaNo_78
- Track 3 : Lymara_75
- Track 4 : Colucci_81
- Track 5 : ArV1_066
- Track 6 : ArV1_065
- Track 7 : Anekin_38
- Track 8 : Anekin_39
- Track 9 : SpicyFrank_41
- Track 10 : Lawnathon_42
- Track 11 : Hestia_40
- Track 12 : Sakai_42, Gorpy_43, YoungHarleezy_42, Aikyam_39, MaterMagnus_42
- Track 13 : Auxilium_40
- Track 14 : BlueShadow_42
- Track 15 : AdaS_38
- Track 16 : MidnightRain_44
- Track 17 : Richie_42
- Track 18 : JellyBread_38
- Track 19 : Windest_42
- Track 20 : AbbyDaisy_37
- Track 21 : Isolde_43
- Track 22 : Persistence_36
- Track 23 : Vopal_45
- Track 24 : Tiff81_37
- Track 25 : MUWow_41
- Track 26 : Judy_38
- Track 27 : ChuckDuck_38
- Track 28 : Pigu_31
- Track 29 : Lenoxika_65, AllBusiness_63
- Track 30 : Donatella_68
- Track 31 : Bauer_37
- Track 32 : Zucker_33
- Track 33 : JanetJ_49
- Track 34 : PrairieDogTown_76
- Track 35 : CocoCinnamon_57

- Track 36 : EvenBluerMoon_47
- Track 37 : Aoka_51
- Track 38 : Pitbull_73
- Track 39 : MrSmee_29
- Track 40 : Whack_71
- Track 41 : Whack_72
- Track 42 : 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 58, it was called in 13 of the 39 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_38, Aikyam_39, AllBusiness_63, Anekin_38, Anekin_39, Aoka_51, ArV1_066, Auxilium_40, Bauer_37, BlueShadow_42, ChuckDuck_38, CocoCinnamon_57, Donatella_68, EvenBluerMoon_47, Gorpy_43, Hestia_40, Isolde_43, JanetJ_49, JellyBread_38, Judy_38, Kromp_73, Lawnathon_42, Lenoxika_65, MUWow_41, MaterMagnus_42, MidnightRain_44, MrSmee_29, Persistence_36, Pigu_31, Pitbull_73, PrairieDogTown_76, Richie_42, Sakai_42, SpicyFrank_41, Tiff81_37, Vopal_45, Whack_71, Whack_72, Windest_42, YoungHarleezy_42, Zucker_33,

Summary by start number:

Start 10:

- Found in 4 of 58 (6.9%) of genes in pham
- Manual Annotations of this start: 3 of 39
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Aoka_51 (FO), EvenBluerMoon_47 (FO), JanetJ_49 (FO),

Start 16:

- Found in 1 of 58 (1.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AdaS_38 (AY),

Start 21:

- Found in 2 of 58 (3.4%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present

- Phage (with cluster) where this start called: PrairieDogTown_76 (FO),

Start 23:

- Found in 4 of 58 (6.9%) of genes in pham
- No Manual Annotations of this start.
- Called 75.0% of time when present
- Phage (with cluster) where this start called: AllBusiness_63 (FF), Donatella_68 (FF), Lenoxika_65 (FF),

Start 32:

- Found in 2 of 58 (3.4%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Hestia_40 (AY),

Start 41:

- Found in 3 of 58 (5.2%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SpicyFrank_41 (AY), Whack_71 (singleton), Windest_42 (AY),

Start 48:

- Found in 2 of 58 (3.4%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Whack_72 (singleton),

Start 52:

- Found in 1 of 58 (1.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CocoCinnamon_57 (FO),

Start 55:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kromp_73 (singleton),

Start 56:

- Found in 15 of 58 (25.9%) of genes in pham
- Manual Annotations of this start: 2 of 39
- Called 13.3% of time when present
- Phage (with cluster) where this start called: JaNo_78 (AR), Mordred_79 (AR),

Start 57:

- Found in 2 of 58 (3.4%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Tiff81_37 (AY),

Start 58:

- Found in 16 of 58 (27.6%) of genes in pham
- Manual Annotations of this start: 13 of 39
- 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 59:

- Found in 1 of 58 (1.7%) 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 61:

- Found in 2 of 58 (3.4%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Judy_38 (FA),

Start 62:

- Found in 2 of 58 (3.4%) of genes in pham
- Manual Annotations of this start: 2 of 39
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anekin_38 (AY), Anekin_39 (AY),

Start 63:

- Found in 13 of 58 (22.4%) of genes in pham
- Manual Annotations of this start: 7 of 39
- Called 84.6% of time when present
- Phage (with cluster) where this start called: Aikyam_39 (AY), Auxilium_40 (AY), Bauer_37 (FN), ChuckDuck_38 (FA), Gorpy_43 (AY), Isolde_43 (AY), Lawnathon_42 (AY), MaterMagnus_42 (AY), Richie_42 (AY), Sakai_42 (AY), YoungHarleezy_42 (AY),

Start 64:

- Found in 4 of 58 (6.9%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueShadow_42 (AY), MUWow_41 (AY), MrSmee_29 (FQ), Vopal_45 (AY),

Start 67:

- Found in 3 of 58 (5.2%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: JellyBread_38 (AY),

Start 72:

- Found in 1 of 58 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MidnightRain_44 (AY),

Start 73:

- Found in 2 of 58 (3.4%) of genes in pham
- Manual Annotations of this start: 2 of 39
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_37 (AY), Persistence_36 (AY),

Start 75:

- Found in 1 of 58 (1.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pigu_31 (FB),

Start 80:

- Found in 4 of 58 (6.9%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Zucker_33 (FN),

Start 81:

- Found in 6 of 58 (10.3%) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Pitbull_73 (FQ),

Summary by clusters:

There are 9 clusters represented in this pham: FQ, singleton, FA, FB, AR, FF, AY, FN, FO,

Info for manual annotations of cluster AR:

- Start number 56 was manually annotated 2 times for cluster AR.
- Start number 58 was manually annotated 13 times for cluster AR.

Info for manual annotations of cluster AY:

- Start number 32 was manually annotated 1 time for cluster AY.
- Start number 57 was manually annotated 1 time for cluster AY.
- Start number 62 was manually annotated 2 times for cluster AY.
- Start number 63 was manually annotated 5 times for cluster AY.
- Start number 72 was manually annotated 1 time for cluster AY.
- Start number 73 was manually annotated 2 times for cluster AY.

Info for manual annotations of cluster FA:

- Start number 61 was manually annotated 1 time for cluster FA.
- Start number 63 was manually annotated 1 time for cluster FA.

Info for manual annotations of cluster FN:

- Start number 63 was manually annotated 1 time for cluster FN.
- Start number 80 was manually annotated 1 time for cluster FN.

Info for manual annotations of cluster FO:

- Start number 10 was manually annotated 3 times for cluster FO.

Info for manual annotations of cluster FQ:

- Start number 64 was manually annotated 1 time for cluster FQ.
- Start number 81 was manually annotated 1 time for cluster FQ.

Gene Information:

Gene: AbbyDaisy_37 Start: 27733, Stop: 27410, Start Num: 73

Candidate Starts for AbbyDaisy_37:

(Start: 73 @27733 has 2 MA's), (Start: 80 @27721 has 1 MA's), (101, 27661), (139, 27529),

Gene: AdaS_38 Start: 26390, Stop: 25854, Start Num: 16

Candidate Starts for AdaS_38:

(4, 26561), (5, 26546), (12, 26441), (16, 26390), (34, 26276), (35, 26273), (74, 26153), (85, 26132), (119, 26018), (136, 25967), (142, 25949), (147, 25931),

Gene: Aikyam_39 Start: 26132, Stop: 25803, Start Num: 63

Candidate Starts for Aikyam_39:

(Start: 63 @26132 has 7 MA's), (Start: 81 @26069 has 1 MA's), (82, 26066), (118, 25937), (131, 25916), (151, 25865),

Gene: AllBusiness_63 Start: 42408, Stop: 42935, Start Num: 23

Candidate Starts for AllBusiness_63:

(23, 42408), (29, 42426), (117, 42717), (155, 42855),

Gene: Anekin_38 Start: 27545, Stop: 27171, Start Num: 62

Candidate Starts for Anekin_38:

(36, 27608), (50, 27578), (Start: 62 @27545 has 2 MA's), (74, 27494), (84, 27482), (111, 27407), (113, 27395), (121, 27356), (122, 27344),

Gene: Anekin_39 Start: 27918, Stop: 27538, Start Num: 62

Candidate Starts for Anekin_39:

(18, 28068), (Start: 62 @27918 has 2 MA's), (66, 27909), (78, 27852), (146, 27627), (151, 27615),

Gene: Aoka_51 Start: 34831, Stop: 35385, Start Num: 10

Candidate Starts for Aoka_51:

(1, 34159), (2, 34180), (6, 34789), (Start: 10 @34831 has 3 MA's), (20, 34879), (43, 34945), (84, 35068), (130, 35242), (152, 35317),

Gene: ArV1_066 Start: 50683, Stop: 51042, Start Num: 59

Candidate Starts for ArV1_066:

(59, 50683), (69, 50716), (93, 50803), (96, 50809), (110, 50854), (113, 50878), (126, 50929), (152, 50989), (153, 50992),

Gene: ArV1_065 Start: 50268, Stop: 50690, Start Num: 58

Candidate Starts for ArV1_065:

(Start: 56 @50262 has 2 MA's), (Start: 58 @50268 has 13 MA's), (Start: 63 @50283 has 7 MA's), (102, 50412), (113, 50472), (119, 50505), (141, 50577), (148, 50604), (152, 50622),

Gene: Auxilium_40 Start: 25834, Stop: 25505, Start Num: 63
Candidate Starts for Auxilium_40:
(Start: 63 @25834 has 7 MA's), (98, 25726), (118, 25639), (131, 25618), (151, 25567),

Gene: Bauer_37 Start: 26477, Stop: 26764, Start Num: 63
Candidate Starts for Bauer_37:
(44, 26429), (47, 26435), (Start: 63 @26477 has 7 MA's), (67, 26489), (137, 26654), (145, 26681),
(150, 26690), (153, 26702), (155, 26720),

Gene: BlueShadow_42 Start: 28230, Stop: 27841, Start Num: 64
Candidate Starts for BlueShadow_42:
(Start: 64 @28230 has 1 MA's), (89, 28146), (95, 28125), (108, 28095), (109, 28086), (113, 28065),

Gene: Chipper1996_800 Start: 51561, Stop: 51953, Start Num: 58
Candidate Starts for Chipper1996_800:
(Start: 56 @51555 has 2 MA's), (Start: 58 @51561 has 13 MA's), (76, 51636), (78, 51639), (102,
51711), (113, 51771), (118, 51801), (127, 51822), (128, 51825), (136, 51849),

Gene: Chocolat_79 Start: 51268, Stop: 51660, Start Num: 58
Candidate Starts for Chocolat_79:
(Start: 56 @51262 has 2 MA's), (Start: 58 @51268 has 13 MA's), (76, 51343), (78, 51346), (102,
51418), (113, 51478), (118, 51508), (127, 51529), (128, 51532), (136, 51556),

Gene: Chubster_80 Start: 51962, Stop: 52354, Start Num: 58
Candidate Starts for Chubster_80:
(Start: 56 @51956 has 2 MA's), (Start: 58 @51962 has 13 MA's), (76, 52037), (78, 52040), (102,
52112), (113, 52172), (118, 52202), (127, 52223), (128, 52226), (136, 52250),

Gene: ChuckDuck_38 Start: 26145, Stop: 26492, Start Num: 63
Candidate Starts for ChuckDuck_38:
(23, 26001), (24, 26004), (Start: 63 @26145 has 7 MA's), (137, 26379), (145, 26406),

Gene: CocoCinnamon_57 Start: 35240, Stop: 35584, Start Num: 52
Candidate Starts for CocoCinnamon_57:
(37, 35210), (42, 35219), (49, 35234), (52, 35240), (54, 35243), (Start: 57 @35252 has 1 MA's), (70,
35300), (100, 35366), (107, 35387), (138, 35492),

Gene: Colucci_81 Start: 51910, Stop: 52302, Start Num: 58
Candidate Starts for Colucci_81:
(Start: 58 @51910 has 13 MA's), (102, 52060), (113, 52120), (118, 52150), (128, 52174), (136, 52198),
(157, 52285),

Gene: Donatella_68 Start: 41819, Stop: 42394, Start Num: 23
Candidate Starts for Donatella_68:
(23, 41819), (29, 41837), (40, 41906), (117, 42176), (155, 42314),

Gene: EdgarPoe_78 Start: 51425, Stop: 51817, Start Num: 58
Candidate Starts for EdgarPoe_78:
(Start: 56 @51419 has 2 MA's), (Start: 58 @51425 has 13 MA's), (76, 51500), (78, 51503), (102,
51575), (113, 51635), (118, 51665), (127, 51686), (128, 51689), (136, 51713),

Gene: EvenBluerMoon_47 Start: 34191, Stop: 34832, Start Num: 10
Candidate Starts for EvenBluerMoon_47:

(6, 34149), (Start: 10 @34191 has 3 MA's), (21, 34293), (43, 34392), (84, 34515), (130, 34689), (152, 34764),

Gene: Gorpy_43 Start: 29526, Stop: 29197, Start Num: 63

Candidate Starts for Gorpy_43:

(Start: 63 @29526 has 7 MA's), (Start: 81 @29463 has 1 MA's), (82, 29460), (118, 29331), (131, 29310), (151, 29259),

Gene: Hestia_40 Start: 27726, Stop: 27310, Start Num: 32

Candidate Starts for Hestia_40:

(13, 27885), (Start: 32 @27726 has 1 MA's), (143, 27396),

Gene: HumptyDumpty_79 Start: 51228, Stop: 51620, Start Num: 58

Candidate Starts for HumptyDumpty_79:

(Start: 56 @51222 has 2 MA's), (Start: 58 @51228 has 13 MA's), (76, 51303), (78, 51306), (102, 51378), (113, 51438), (118, 51468), (127, 51489), (128, 51492), (136, 51516),

Gene: Isolde_43 Start: 28418, Stop: 28056, Start Num: 63

Candidate Starts for Isolde_43:

(Start: 63 @28418 has 7 MA's), (94, 28310), (119, 28220), (136, 28169), (142, 28151), (147, 28133),

Gene: JaNo_78 Start: 51193, Stop: 51591, Start Num: 56

Candidate Starts for JaNo_78:

(Start: 56 @51193 has 2 MA's), (Start: 58 @51199 has 13 MA's), (76, 51274), (78, 51277), (102, 51349), (113, 51409), (118, 51439), (127, 51460), (128, 51463), (136, 51487),

Gene: JanetJ_49 Start: 35354, Stop: 35842, Start Num: 10

Candidate Starts for JanetJ_49:

(6, 35312), (Start: 10 @35354 has 3 MA's), (84, 35525), (130, 35699), (152, 35774),

Gene: JellyBread_38 Start: 26853, Stop: 26491, Start Num: 67

Candidate Starts for JellyBread_38:

(31, 26937), (Start: 32 @26931 has 1 MA's), (33, 26928), (Start: 61 @26865 has 1 MA's), (67, 26853), (79, 26811), (83, 26805),

Gene: Judy_38 Start: 26628, Stop: 26987, Start Num: 61

Candidate Starts for Judy_38:

(Start: 61 @26628 has 1 MA's), (67, 26640),

Gene: Kabreeze_79 Start: 51285, Stop: 51677, Start Num: 58

Candidate Starts for Kabreeze_79:

(Start: 56 @51279 has 2 MA's), (Start: 58 @51285 has 13 MA's), (76, 51360), (78, 51363), (102, 51435), (113, 51495), (118, 51525), (127, 51546), (128, 51549), (136, 51573),

Gene: Kromp_73 Start: 47753, Stop: 47349, Start Num: 55

Candidate Starts for Kromp_73:

(Start: 55 @47753 has 1 MA's), (60, 47741), (99, 47612), (105, 47588), (113, 47558), (118, 47525), (129, 47495), (136, 47468), (140, 47459), (152, 47414),

Gene: Lawnathon_42 Start: 28163, Stop: 27801, Start Num: 63

Candidate Starts for Lawnathon_42:

(Start: 63 @28163 has 7 MA's), (119, 27965), (136, 27914), (142, 27896), (147, 27878),

Gene: Lenoxika_65 Start: 41111, Stop: 41638, Start Num: 23

Candidate Starts for Lenoxika_65:

(23, 41111), (29, 41129), (117, 41420), (155, 41558),

Gene: Linus_79 Start: 51733, Stop: 52125, Start Num: 58

Candidate Starts for Linus_79:

(Start: 56 @51727 has 2 MA's), (Start: 58 @51733 has 13 MA's), (76, 51808), (78, 51811), (102, 51883), (113, 51943), (118, 51973), (127, 51994), (128, 51997), (136, 52021),

Gene: Lymara_75 Start: 50005, Stop: 50436, Start Num: 58

Candidate Starts for Lymara_75:

(Start: 56 @49999 has 2 MA's), (Start: 58 @50005 has 13 MA's), (Start: 63 @50020 has 7 MA's), (93, 50128), (96, 50134), (110, 50179), (112, 50197), (114, 50206), (115, 50215), (121, 50242), (143, 50323), (159, 50425),

Gene: MUWow_41 Start: 28384, Stop: 28031, Start Num: 64

Candidate Starts for MUWow_41:

(24, 28531), (26, 28522), (28, 28519), (39, 28450), (42, 28444), (44, 28438), (51, 28423), (Start: 64 @28384 has 1 MA's), (84, 28327), (111, 28252),

Gene: MaterMagnus_42 Start: 28304, Stop: 27975, Start Num: 63

Candidate Starts for MaterMagnus_42:

(Start: 63 @28304 has 7 MA's), (Start: 81 @28241 has 1 MA's), (82, 28238), (118, 28109), (131, 28088), (151, 28037),

Gene: MidnightRain_44 Start: 29060, Stop: 28755, Start Num: 72

Candidate Starts for MidnightRain_44:

(Start: 72 @29060 has 1 MA's), (Start: 80 @29042 has 1 MA's), (104, 28976), (119, 28919), (136, 28868), (142, 28850), (147, 28832),

Gene: Mordred_79 Start: 51318, Stop: 51716, Start Num: 56

Candidate Starts for Mordred_79:

(Start: 56 @51318 has 2 MA's), (Start: 58 @51324 has 13 MA's), (76, 51399), (78, 51402), (102, 51474), (113, 51534), (118, 51564), (127, 51585), (128, 51588), (136, 51612),

Gene: MrSmee_29 Start: 23244, Stop: 22936, Start Num: 64

Candidate Starts for MrSmee_29:

(22, 23382), (25, 23373), (27, 23367), (30, 23334), (38, 23307), (Start: 64 @23244 has 1 MA's), (90, 23172), (154, 22995),

Gene: Persistence_36 Start: 26553, Stop: 26230, Start Num: 73

Candidate Starts for Persistence_36:

(Start: 73 @26553 has 2 MA's), (Start: 80 @26541 has 1 MA's), (97, 26490), (101, 26481), (116, 26415), (139, 26349),

Gene: Pigu_31 Start: 22735, Stop: 23076, Start Num: 75

Candidate Starts for Pigu_31:

(75, 22735), (114, 22849), (119, 22879),

Gene: Pitbull_73 Start: 38580, Stop: 38888, Start Num: 81

Candidate Starts for Pitbull_73:

(Start: 81 @38580 has 1 MA's), (87, 38598), (103, 38640), (114, 38694), (124, 38730), (132, 38754), (149, 38805), (158, 38883),

Gene: PrairieDogTown_76 Start: 34295, Stop: 34834, Start Num: 21

Candidate Starts for PrairieDogTown_76:

(3, 33650), (6, 34151), (Start: 10 @34193 has 3 MA's), (21, 34295), (43, 34394), (84, 34517), (130, 34691), (152, 34766),

Gene: PrincessTrina_80 Start: 51629, Stop: 52021, Start Num: 58

Candidate Starts for PrincessTrina_80:

(Start: 56 @51623 has 2 MA's), (Start: 58 @51629 has 13 MA's), (76, 51704), (78, 51707), (102, 51779), (113, 51839), (118, 51869), (127, 51890), (128, 51893), (136, 51917),

Gene: Richie_42 Start: 28324, Stop: 27962, Start Num: 63

Candidate Starts for Richie_42:

(Start: 63 @28324 has 7 MA's), (94, 28216), (119, 28126), (136, 28075), (142, 28057), (147, 28039),

Gene: RosiePosie_79 Start: 51413, Stop: 51805, Start Num: 58

Candidate Starts for RosiePosie_79:

(Start: 56 @51407 has 2 MA's), (Start: 58 @51413 has 13 MA's), (76, 51488), (78, 51491), (102, 51563), (113, 51623), (118, 51653), (127, 51674), (128, 51677), (136, 51701),

Gene: Sakai_42 Start: 28237, Stop: 27908, Start Num: 63

Candidate Starts for Sakai_42:

(Start: 63 @28237 has 7 MA's), (Start: 81 @28174 has 1 MA's), (82, 28171), (118, 28042), (131, 28021), (151, 27970),

Gene: Scavito_80 Start: 51373, Stop: 51765, Start Num: 58

Candidate Starts for Scavito_80:

(Start: 56 @51367 has 2 MA's), (Start: 58 @51373 has 13 MA's), (76, 51448), (78, 51451), (102, 51523), (113, 51583), (118, 51613), (127, 51634), (128, 51637), (136, 51661),

Gene: SpicyFrank_41 Start: 28170, Stop: 27721, Start Num: 41

Candidate Starts for SpicyFrank_41:

(7, 28392), (11, 28353), (15, 28323), (Start: 41 @28170 has 1 MA's), (46, 28158), (71, 28086), (77, 28059), (125, 27876), (146, 27807),

Gene: Tiff81_37 Start: 25801, Stop: 25427, Start Num: 57

Candidate Starts for Tiff81_37:

(Start: 57 @25801 has 1 MA's), (89, 25684), (92, 25669), (110, 25618),

Gene: Tophat_80 Start: 51562, Stop: 51954, Start Num: 58

Candidate Starts for Tophat_80:

(Start: 56 @51556 has 2 MA's), (Start: 58 @51562 has 13 MA's), (76, 51637), (78, 51640), (102, 51712), (113, 51772), (118, 51802), (127, 51823), (128, 51826), (136, 51850),

Gene: Vopal_45 Start: 31144, Stop: 30827, Start Num: 64

Candidate Starts for Vopal_45:

(17, 31315), (19, 31300), (45, 31195), (Start: 64 @31144 has 1 MA's), (99, 31045), (106, 31021), (123, 30937), (135, 30910),

Gene: Whack_71 Start: 46738, Stop: 47166, Start Num: 41

Candidate Starts for Whack_71:

(Start: 41 @46738 has 1 MA's), (Start: 48 @46756 has 1 MA's), (53, 46765), (65, 46804), (86, 46876), (115, 46987), (118, 47005), (133, 47041), (134, 47044), (150, 47098),

Gene: Whack_72 Start: 47171, Stop: 47581, Start Num: 48

Candidate Starts for Whack_72:

(Start: 48 @47171 has 1 MA's), (53, 47180), (88, 47300), (91, 47321), (94, 47327), (113, 47396), (153, 47531), (156, 47576),

Gene: Windest_42 Start: 27278, Stop: 26847, Start Num: 41

Candidate Starts for Windest_42:

(8, 27491), (9, 27479), (14, 27455), (Start: 41 @27278 has 1 MA's), (68, 27206), (119, 27011), (136, 26960), (142, 26942), (147, 26924),

Gene: YoungHarleezy_42 Start: 28307, Stop: 27978, Start Num: 63

Candidate Starts for YoungHarleezy_42:

(Start: 63 @28307 has 7 MA's), (Start: 81 @28244 has 1 MA's), (82, 28241), (118, 28112), (131, 28091), (151, 28040),

Gene: Zucker_33 Start: 26898, Stop: 26590, Start Num: 80

Candidate Starts for Zucker_33:

(Start: 80 @26898 has 1 MA's), (103, 26835), (120, 26748), (143, 26688), (144, 26685), (146, 26676),