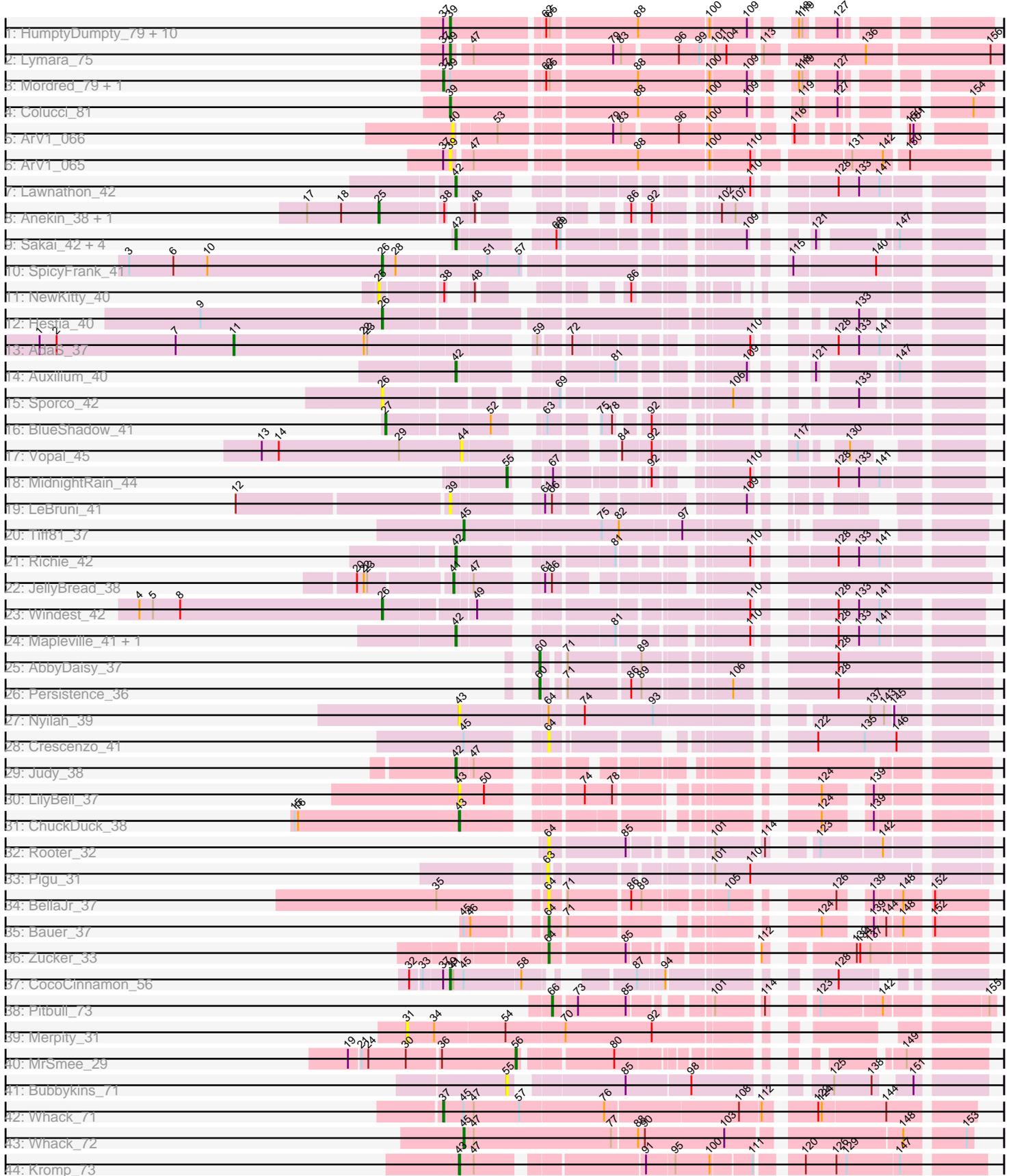# Pham 283821

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 283821 Report

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

Pham number 283821 has 61 members, 17 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 : Sakai_42, Gorpy_43, YoungHarleezy_42, Aikyam_39, MaterMagnus_42
• 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 : Vopal_45
• Track 18 : MidnightRain_44
• Track 19 : LeBruni_41
• Track 20 : Tiff81_37
• Track 21 : Richie_42
• Track 22 : JellyBread_38
• Track 23 : Windest_42
• Track 24 : Mapleville_41, Isolde_43
• Track 25 : AbbyDaisy_37
• Track 26 : Persistence_36
• Track 27 : Nyilah_39
• Track 28 : Crescenzo_41
• Track 29 : Judy_38
• Track 30 : LilyBell_37
• Track 31 : ChuckDuck_38
• Track 32 : Rooter_32
• Track 33 : Pigu_31
• Track 34 : BellaJr_37
• Track 35 : Bauer_37

- Track 36 : Zucker_33
- Track 37 : CocoCinnamon_56
- Track 38 : Pitbull_73
- Track 39 : Merpity_31
- Track 40 : MrSmee_29
- Track 41 : Bubbykins_71
- Track 42 : Whack_71
- Track 43 : Whack_72
- Track 44 : 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 39, it was called in 14 of the 44 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- ArV1_065, Chipper1996_800, Chocolat_79, Chubster_80, CocoCinnamon_56, Colucci_81, EdgarPoe_78, HumptyDumpty_79, Kabreeze_79, LeBruni_41, 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, ArV1_066, Auxilium_40, Bauer_37, BellaJr_37, BlueShadow_41, Bubbykins_71, ChuckDuck_38, Crescenzo_41, DarwinJr_44, Gorpy_43, Hestia_40, Isolde_43, JellyBread_38, Judy_38, Kromp_73, Lawnathon_42, LilyBell_37, Mapleville_41, MaterMagnus_42, Merpity_31, MidnightRain_44, MrSmee_29, NewKitty_40, Nyilah_39, Persistence_36, Pigu_31, Pitbull_73, Richie_42, Rooter_32, Sakai_42, SpicyFrank_41, Sporco_42, Tiff81_37, Vopal_45, Whack_71, Whack_72, Windest_42, YoungHarleezy_42, Zucker_33,

**Summary by start number:**

Start 11:
- Found in 1 of 61 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 44
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AdaS_37 (AY),

Start 25:
- Found in 3 of 61 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 1 of 44
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anekin_38 (AY), DarwinJr_44 (AY), NewKitty_40 (AY),

Start 26:
- Found in 4 of 61 ( 6.6% ) of genes in pham

• Manual Annotations of this start: 3 of 44
• 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 27:
• Found in 1 of 61 ( 1.6% ) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BlueShadow_41 (AY),

Start 31:
• Found in 1 of 61 ( 1.6% ) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Merpity_31 (FQ),

Start 37:
• Found in 17 of 61 ( 27.9% ) of genes in pham
• Manual Annotations of this start: 3 of 44
• Called 17.6% of time when present
• Phage (with cluster) where this start called: JaNo_78 (AR), Mordred_79 (AR), Whack_71 (singleton),

Start 39:
• Found in 18 of 61 ( 29.5% ) of genes in pham
• Manual Annotations of this start: 14 of 44
• Called 88.9% of time when present
• Phage (with cluster) where this start called: ArV1_065 (AR), Chipper1996_800 (AR), Chocolat_79 (AR), Chubster_80 (AR), CocoCinnamon_56 (FO), Colucci_81 (AR), EdgarPoe_78 (AR), HumptyDumpty_79 (AR), Kabreeze_79 (AR), LeBruni_41 (AY), Linus_79 (AR), Lymara_75 (AR), PrincessTrina_80 (AR), RosiePosie_79 (AR), Scavito_80 (AR), Tophat_80 (AR),

Start 40:
• Found in 1 of 61 ( 1.6% ) 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 41:
• Found in 2 of 61 ( 3.3% ) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 50.0% of time when present
• Phage (with cluster) where this start called: JellyBread_38 (AY),

Start 42:
• Found in 11 of 61 ( 18.0% ) of genes in pham
• Manual Annotations of this start: 9 of 44
• 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_41 (AY), MaterMagnus_42 (AY), Richie_42 (AY), Sakai_42 (AY), YoungHarleezy_42

(AY),

Start 43:
• Found in 4 of 61 ( 6.6% ) of genes in pham
• Manual Annotations of this start: 2 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ChuckDuck_38 (FA), Kromp_73 (singleton), LilyBell_37 (FA), Nyilah_39 (AY),

Start 44:
• Found in 1 of 61 ( 1.6% ) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Vopal_45 (AY),

Start 45:
• Found in 6 of 61 ( 9.8% ) of genes in pham
• Manual Annotations of this start: 2 of 44
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Tiff81_37 (AY), Whack_72 (singleton),

Start 55:
• Found in 2 of 61 ( 3.3% ) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bubbykins_71 (UNK), MidnightRain_44 (AY),

Start 56:
• Found in 1 of 61 ( 1.6% ) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: MrSmee_29 (FQ),

Start 60:
• Found in 2 of 61 ( 3.3% ) of genes in pham
• Manual Annotations of this start: 2 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AbbyDaisy_37 (AY), Persistence_36 (AY),

Start 63:
• Found in 2 of 61 ( 3.3% ) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Pigu_31 (FB),

Start 64:
• Found in 6 of 61 ( 9.8% ) of genes in pham
• Manual Annotations of this start: 2 of 44
• Called 83.3% of time when present
• Phage (with cluster) where this start called: Bauer_37 (FN), BellaJr_37 (FN), Crescenzo_41 (AY), Rooter_32 (FB), Zucker_33 (FN),

Start 66:
• Found in 3 of 61 ( 4.9% ) of genes in pham
• Manual Annotations of this start: 1 of 44
• Called 33.3% 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, AY, UNK, FN, FO,

Info for manual annotations of cluster AR:
•Start number 37 was manually annotated 2 times for cluster AR.
•Start number 39 was manually annotated 13 times for cluster AR.

Info for manual annotations of cluster AY:
•Start number 11 was manually annotated 1 time for cluster AY.
•Start number 25 was manually annotated 1 time for cluster AY.
•Start number 26 was manually annotated 3 times for cluster AY.
•Start number 27 was manually annotated 1 time for cluster AY.
•Start number 41 was manually annotated 1 time for cluster AY.
•Start number 42 was manually annotated 8 times for cluster AY.
•Start number 45 was manually annotated 1 time for cluster AY.
•Start number 55 was manually annotated 1 time for cluster AY.
•Start number 60 was manually annotated 2 times for cluster AY.

Info for manual annotations of cluster FA:
•Start number 42 was manually annotated 1 time for cluster FA.
•Start number 43 was manually annotated 1 time for cluster FA.


Info for manual annotations of cluster FN:
•Start number 64 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster FO:
•Start number 39 was manually annotated 1 time for cluster FO.

Info for manual annotations of cluster FQ:
•Start number 56 was manually annotated 1 time for cluster FQ.
•Start number 66 was manually annotated 1 time for cluster FQ.


*Gene Information:*
Gene: AbbyDaisy_37 Start: 27733, Stop: 27410, Start Num: 60
Candidate Starts for AbbyDaisy_37:
(Start: 60 @27733 has 2 MA's), (71, 27721), (89, 27661), (128, 27529),

Gene: AdaS_37 Start: 26390, Stop: 25854, Start Num: 11
Candidate Starts for AdaS_37:

(1, 26561), (2, 26546), (7, 26441), (Start: 11 @26390 has 1 MA's), (22, 26276), (23, 26273), (59, 26153), (72, 26132), (110, 26018), (128, 25967), (133, 25949), (141, 25931),

Gene: Aikyam_39 Start: 26132, Stop: 25803, Start Num: 42
Candidate Starts for Aikyam_39:
(Start: 42 @26132 has 9 MA's), (68, 26069), (69, 26066), (109, 25937), (121, 25916), (147, 25865),

Gene: Anekin_38 Start: 27545, Stop: 27171, Start Num: 25
Candidate Starts for Anekin_38:
(17, 27608), (18, 27578), (Start: 25 @27545 has 1 MA's), (38, 27494), (48, 27482), (86, 27407), (92, 27395), (102, 27356), (107, 27344),

Gene: ArV1_066 Start: 50683, Stop: 51042, Start Num: 40
Candidate Starts for ArV1_066:
(40, 50683), (53, 50716), (79, 50803), (83, 50809), (96, 50854), (100, 50878), (116, 50929), (150, 50989), (151, 50992),

Gene: ArV1_065 Start: 50268, Stop: 50690, Start Num: 39
Candidate Starts for ArV1_065:
(Start: 37 @50262 has 3 MA's), (Start: 39 @50268 has 14 MA's), (47, 50283), (88, 50412), (100, 50472), (110, 50505), (131, 50577), (142, 50604), (150, 50622),

Gene: Auxilium_40 Start: 25834, Stop: 25505, Start Num: 42
Candidate Starts for Auxilium_40:
(Start: 42 @25834 has 9 MA's), (81, 25726), (109, 25639), (121, 25618), (147, 25567),

Gene: Bauer_37 Start: 26477, Stop: 26764, Start Num: 64
Candidate Starts for Bauer_37:
(Start: 45 @26429 has 2 MA's), (46, 26435), (Start: 64 @26477 has 2 MA's), (71, 26489), (124, 26654), (139, 26681), (144, 26690), (148, 26702), (152, 26720),

Gene: BellaJr_37 Start: 27529, Stop: 27828, Start Num: 64
Candidate Starts for BellaJr_37:
(35, 27454), (Start: 64 @27529 has 2 MA's), (71, 27541), (86, 27592), (89, 27601), (105, 27664), (126, 27730), (139, 27745), (148, 27766), (152, 27784),

Gene: BlueShadow_41 Start: 28230, Stop: 27841, Start Num: 27
Candidate Starts for BlueShadow_41:
(Start: 27 @28230 has 1 MA's), (52, 28146), (63, 28125), (75, 28095), (78, 28086), (92, 28065),

Gene: Bubbykins_71 Start: 48965, Stop: 49300, Start Num: 55
Candidate Starts for Bubbykins_71:
(Start: 55 @48965 has 1 MA's), (85, 49049), (98, 49103), (125, 49193), (138, 49226), (151, 49247),

Gene: Chipper1996_800 Start: 51561, Stop: 51953, Start Num: 39
Candidate Starts for Chipper1996_800:
(Start: 37 @51555 has 3 MA's), (Start: 39 @51561 has 14 MA's), (62, 51636), (65, 51639), (88, 51711), (100, 51771), (109, 51801), (118, 51822), (119, 51825), (127, 51849),

Gene: Chocolat_79 Start: 51268, Stop: 51660, Start Num: 39
Candidate Starts for Chocolat_79:
(Start: 37 @51262 has 3 MA's), (Start: 39 @51268 has 14 MA's), (62, 51343), (65, 51346), (88, 51418), (100, 51478), (109, 51508), (118, 51529), (119, 51532), (127, 51556),

Gene: Chubster_80 Start: 51962, Stop: 52354, Start Num: 39
Candidate Starts for Chubster_80:
(Start: 37 @51956 has 3 MA's), (Start: 39 @51962 has 14 MA's), (62, 52037), (65, 52040), (88, 52112), (100, 52172), (109, 52202), (118, 52223), (119, 52226), (127, 52250),

Gene: ChuckDuck_38 Start: 26145, Stop: 26492, Start Num: 43
Candidate Starts for ChuckDuck_38:
(15, 26001), (16, 26004), (Start: 43 @26145 has 2 MA's), (124, 26379), (139, 26406),

Gene: CocoCinnamon_56 Start: 35240, Stop: 35584, Start Num: 39
Candidate Starts for CocoCinnamon_56:
(32, 35210), (33, 35219), (Start: 37 @35234 has 3 MA's), (Start: 39 @35240 has 14 MA's), (Start: 41 @35243 has 1 MA's), (Start: 45 @35252 has 2 MA's), (58, 35300), (87, 35366), (94, 35387), (128, 35492),

Gene: Colucci_81 Start: 51910, Stop: 52302, Start Num: 39
Candidate Starts for Colucci_81:
(Start: 39 @51910 has 14 MA's), (88, 52060), (100, 52120), (109, 52150), (119, 52174), (127, 52198), (154, 52285),

Gene: Crescenzo_41 Start: 28602, Stop: 28297, Start Num: 64
Candidate Starts for Crescenzo_41:
(Start: 45 @28656 has 2 MA's), (Start: 64 @28602 has 2 MA's), (122, 28431), (135, 28392), (146, 28365),

Gene: DarwinJr_44 Start: 29257, Stop: 28883, Start Num: 25
Candidate Starts for DarwinJr_44:
(17, 29320), (18, 29290), (Start: 25 @29257 has 1 MA's), (38, 29206), (48, 29194), (86, 29119), (92, 29107), (102, 29068), (107, 29056),

Gene: EdgarPoe_78 Start: 51425, Stop: 51817, Start Num: 39
Candidate Starts for EdgarPoe_78:
(Start: 37 @51419 has 3 MA's), (Start: 39 @51425 has 14 MA's), (62, 51500), (65, 51503), (88, 51575), (100, 51635), (109, 51665), (118, 51686), (119, 51689), (127, 51713),

Gene: Gorpy_43 Start: 29526, Stop: 29197, Start Num: 42
Candidate Starts for Gorpy_43:
(Start: 42 @29526 has 9 MA's), (68, 29463), (69, 29460), (109, 29331), (121, 29310), (147, 29259),

Gene: Hestia_40 Start: 27726, Stop: 27310, Start Num: 26
Candidate Starts for Hestia_40:
(9, 27885), (Start: 26 @27726 has 3 MA's), (133, 27396),

Gene: HumptyDumpty_79 Start: 51228, Stop: 51620, Start Num: 39
Candidate Starts for HumptyDumpty_79:
(Start: 37 @51222 has 3 MA's), (Start: 39 @51228 has 14 MA's), (62, 51303), (65, 51306), (88, 51378), (100, 51438), (109, 51468), (118, 51489), (119, 51492), (127, 51516),

Gene: Isolde_43 Start: 28418, Stop: 28056, Start Num: 42
Candidate Starts for Isolde_43:
(Start: 42 @28418 has 9 MA's), (81, 28310), (110, 28220), (128, 28169), (133, 28151), (141, 28133),

Gene: JaNo_78 Start: 51193, Stop: 51591, Start Num: 37
Candidate Starts for JaNo_78:
(Start: 37 @51193 has 3 MA's), (Start: 39 @51199 has 14 MA's), (62, 51274), (65, 51277), (88, 51349), (100, 51409), (109, 51439), (118, 51460), (119, 51463), (127, 51487),

Gene: JellyBread_38 Start: 26865, Stop: 26491, Start Num: 41
Candidate Starts for JellyBread_38:
(20, 26937), (22, 26931), (23, 26928), (Start: 41 @26865 has 1 MA's), (47, 26853), (61, 26811), (Start: 66 @26805 has 1 MA's),

Gene: Judy_38 Start: 26628, Stop: 26987, Start Num: 42
Candidate Starts for Judy_38:
(Start: 42 @26628 has 9 MA's), (47, 26640),

Gene: Kabreeze_79 Start: 51285, Stop: 51677, Start Num: 39
Candidate Starts for Kabreeze_79:
(Start: 37 @51279 has 3 MA's), (Start: 39 @51285 has 14 MA's), (62, 51360), (65, 51363), (88, 51435), (100, 51495), (109, 51525), (118, 51546), (119, 51549), (127, 51573),

Gene: Kromp_73 Start: 47753, Stop: 47349, Start Num: 43
Candidate Starts for Kromp_73:
(Start: 43 @47753 has 2 MA's), (47, 47741), (91, 47612), (95, 47588), (100, 47558), (111, 47525), (120, 47495), (126, 47468), (129, 47459), (147, 47414),

Gene: Lawnathon_42 Start: 28163, Stop: 27801, Start Num: 42
Candidate Starts for Lawnathon_42:
(Start: 42 @28163 has 9 MA's), (110, 27965), (128, 27914), (133, 27896), (141, 27878),

Gene: LeBruni_41 Start: 27481, Stop: 27158, Start Num: 39
Candidate Starts for LeBruni_41:
(12, 27655), (Start: 39 @27481 has 14 MA's), (61, 27424), (Start: 66 @27418 has 1 MA's), (109, 27289),

Gene: LilyBell_37 Start: 26044, Stop: 26394, Start Num: 43
Candidate Starts for LilyBell_37:
(Start: 43 @26044 has 2 MA's), (50, 26065), (74, 26128), (78, 26152), (124, 26281), (139, 26308),

Gene: Linus_79 Start: 51733, Stop: 52125, Start Num: 39
Candidate Starts for Linus_79:
(Start: 37 @51727 has 3 MA's), (Start: 39 @51733 has 14 MA's), (62, 51808), (65, 51811), (88, 51883), (100, 51943), (109, 51973), (118, 51994), (119, 51997), (127, 52021),

Gene: Lymara_75 Start: 50005, Stop: 50436, Start Num: 39
Candidate Starts for Lymara_75:
(Start: 37 @49999 has 3 MA's), (Start: 39 @50005 has 14 MA's), (47, 50020), (79, 50128), (83, 50134), (96, 50179), (99, 50197), (101, 50206), (104, 50215), (113, 50242), (136, 50323), (156, 50425),

Gene: Mapleville_41 Start: 28242, Stop: 27880, Start Num: 42
Candidate Starts for Mapleville_41:
(Start: 42 @28242 has 9 MA's), (81, 28134), (110, 28044), (128, 27993), (133, 27975), (141, 27957),

Gene: MaterMagnus_42 Start: 28304, Stop: 27975, Start Num: 42
Candidate Starts for MaterMagnus_42:

(Start: 42 @28304 has 9 MA's), (68, 28241), (69, 28238), (109, 28109), (121, 28088), (147, 28037),

Gene: Merpity_31 Start: 22847, Stop: 22416, Start Num: 31
Candidate Starts for Merpity_31:
(31, 22847), (34, 22823), (54, 22763), (70, 22712), (92, 22637),

Gene: MidnightRain_44 Start: 29060, Stop: 28755, Start Num: 55
Candidate Starts for MidnightRain_44:
(Start: 55 @29060 has 1 MA's), (67, 29042), (92, 28976), (110, 28919), (128, 28868), (133, 28850),
(141, 28832),

Gene: Mordred_79 Start: 51318, Stop: 51716, Start Num: 37
Candidate Starts for Mordred_79:
(Start: 37 @51318 has 3 MA's), (Start: 39 @51324 has 14 MA's), (62, 51399), (65, 51402), (88, 51474),
(100, 51534), (109, 51564), (118, 51585), (119, 51588), (127, 51612),

Gene: MrSmee_29 Start: 23244, Stop: 22936, Start Num: 56
Candidate Starts for MrSmee_29:
(19, 23382), (21, 23373), (24, 23367), (30, 23334), (36, 23307), (Start: 56 @23244 has 1 MA's), (80,
23172), (149, 22995),

Gene: NewKitty_40 Start: 27430, Stop: 27074, Start Num: 25
Candidate Starts for NewKitty_40:
(Start: 25 @27430 has 1 MA's), (38, 27382), (48, 27370), (86, 27295),

Gene: Nyilah_39 Start: 26837, Stop: 26430, Start Num: 43
Candidate Starts for Nyilah_39:
(Start: 43 @26837 has 2 MA's), (Start: 64 @26762 has 2 MA's), (74, 26735), (93, 26675), (137, 26519),
(143, 26507), (145, 26501),

Gene: Persistence_36 Start: 26553, Stop: 26230, Start Num: 60
Candidate Starts for Persistence_36:
(Start: 60 @26553 has 2 MA's), (71, 26541), (86, 26490), (89, 26481), (106, 26415), (128, 26349),

Gene: Pigu_31 Start: 22735, Stop: 23076, Start Num: 63
Candidate Starts for Pigu_31:
(63, 22735), (101, 22849), (110, 22879),

Gene: Pitbull_73 Start: 38580, Stop: 38888, Start Num: 66
Candidate Starts for Pitbull_73:
(Start: 66 @38580 has 1 MA's), (73, 38598), (85, 38640), (101, 38694), (114, 38730), (123, 38754),
(142, 38805), (155, 38883),

Gene: PrincessTrina_80 Start: 51629, Stop: 52021, Start Num: 39
Candidate Starts for PrincessTrina_80:
(Start: 37 @51623 has 3 MA's), (Start: 39 @51629 has 14 MA's), (62, 51704), (65, 51707), (88, 51779),
(100, 51839), (109, 51869), (118, 51890), (119, 51893), (127, 51917),

Gene: Richie_42 Start: 28324, Stop: 27962, Start Num: 42
Candidate Starts for Richie_42:
(Start: 42 @28324 has 9 MA's), (81, 28216), (110, 28126), (128, 28075), (133, 28057), (141, 28039),

Gene: Rooter_32 Start: 24062, Stop: 23754, Start Num: 64

Candidate Starts for Rooter_32:
(Start: 64 @24062 has 2 MA's), (85, 23999), (101, 23945), (114, 23909), (123, 23885), (142, 23834),

Gene: RosiePosie_79 Start: 51413, Stop: 51805, Start Num: 39
Candidate Starts for RosiePosie_79:
(Start: 37 @51407 has 3 MA's), (Start: 39 @51413 has 14 MA's), (62, 51488), (65, 51491), (88, 51563), (100, 51623), (109, 51653), (118, 51674), (119, 51677), (127, 51701),

Gene: Sakai_42 Start: 28237, Stop: 27908, Start Num: 42
Candidate Starts for Sakai_42:
(Start: 42 @28237 has 9 MA's), (68, 28174), (69, 28171), (109, 28042), (121, 28021), (147, 27970),

Gene: Scavito_80 Start: 51373, Stop: 51765, Start Num: 39
Candidate Starts for Scavito_80:
(Start: 37 @51367 has 3 MA's), (Start: 39 @51373 has 14 MA's), (62, 51448), (65, 51451), (88, 51523), (100, 51583), (109, 51613), (118, 51634), (119, 51637), (127, 51661),

Gene: SpicyFrank_41 Start: 28170, Stop: 27721, Start Num: 26
Candidate Starts for SpicyFrank_41:
(3, 28392), (6, 28353), (10, 28323), (Start: 26 @28170 has 3 MA's), (28, 28158), (51, 28086), (57, 28059), (115, 27876), (140, 27807),

Gene: Sporco_42 Start: 28336, Stop: 27938, Start Num: 26
Candidate Starts for Sporco_42:
(Start: 26 @28336 has 3 MA's), (69, 28210), (106, 28087), (133, 28024),

Gene: Tiff81_37 Start: 25801, Stop: 25427, Start Num: 45
Candidate Starts for Tiff81_37:
(Start: 45 @25801 has 2 MA's), (75, 25684), (82, 25669), (97, 25618),

Gene: Tophat_80 Start: 51562, Stop: 51954, Start Num: 39
Candidate Starts for Tophat_80:
(Start: 37 @51556 has 3 MA's), (Start: 39 @51562 has 14 MA's), (62, 51637), (65, 51640), (88, 51712), (100, 51772), (109, 51802), (118, 51823), (119, 51826), (127, 51850),

Gene: Vopal_45 Start: 31144, Stop: 30827, Start Num: 44
Candidate Starts for Vopal_45:
(13, 31315), (14, 31300), (29, 31195), (44, 31144), (84, 31045), (92, 31021), (117, 30937), (130, 30910),

Gene: Whack_71 Start: 46738, Stop: 47166, Start Num: 37
Candidate Starts for Whack_71:
(Start: 37 @46738 has 3 MA's), (Start: 45 @46756 has 2 MA's), (47, 46765), (57, 46804), (76, 46876), (108, 46987), (112, 47005), (122, 47041), (124, 47044), (144, 47098),

Gene: Whack_72 Start: 47171, Stop: 47581, Start Num: 45
Candidate Starts for Whack_72:
(Start: 45 @47171 has 2 MA's), (47, 47180), (77, 47300), (88, 47321), (90, 47327), (103, 47396), (148, 47531), (153, 47576),

Gene: Windest_42 Start: 27278, Stop: 26847, Start Num: 26
Candidate Starts for Windest_42:

(4, 27491), (5, 27479), (8, 27455), (Start: 26 @27278 has 3 MA's), (49, 27206), (110, 27011), (128, 26960), (133, 26942), (141, 26924),

Gene: YoungHarleezy_42 Start: 28307, Stop: 27978, Start Num: 42
Candidate Starts for YoungHarleezy_42:
(Start: 42 @28307 has 9 MA's), (68, 28244), (69, 28241), (109, 28112), (121, 28091), (147, 28040),

Gene: Zucker_33 Start: 26898, Stop: 26590, Start Num: 64
Candidate Starts for Zucker_33:
(Start: 64 @26898 has 2 MA's), (85, 26835), (112, 26748), (132, 26688), (134, 26685), (137, 26676),