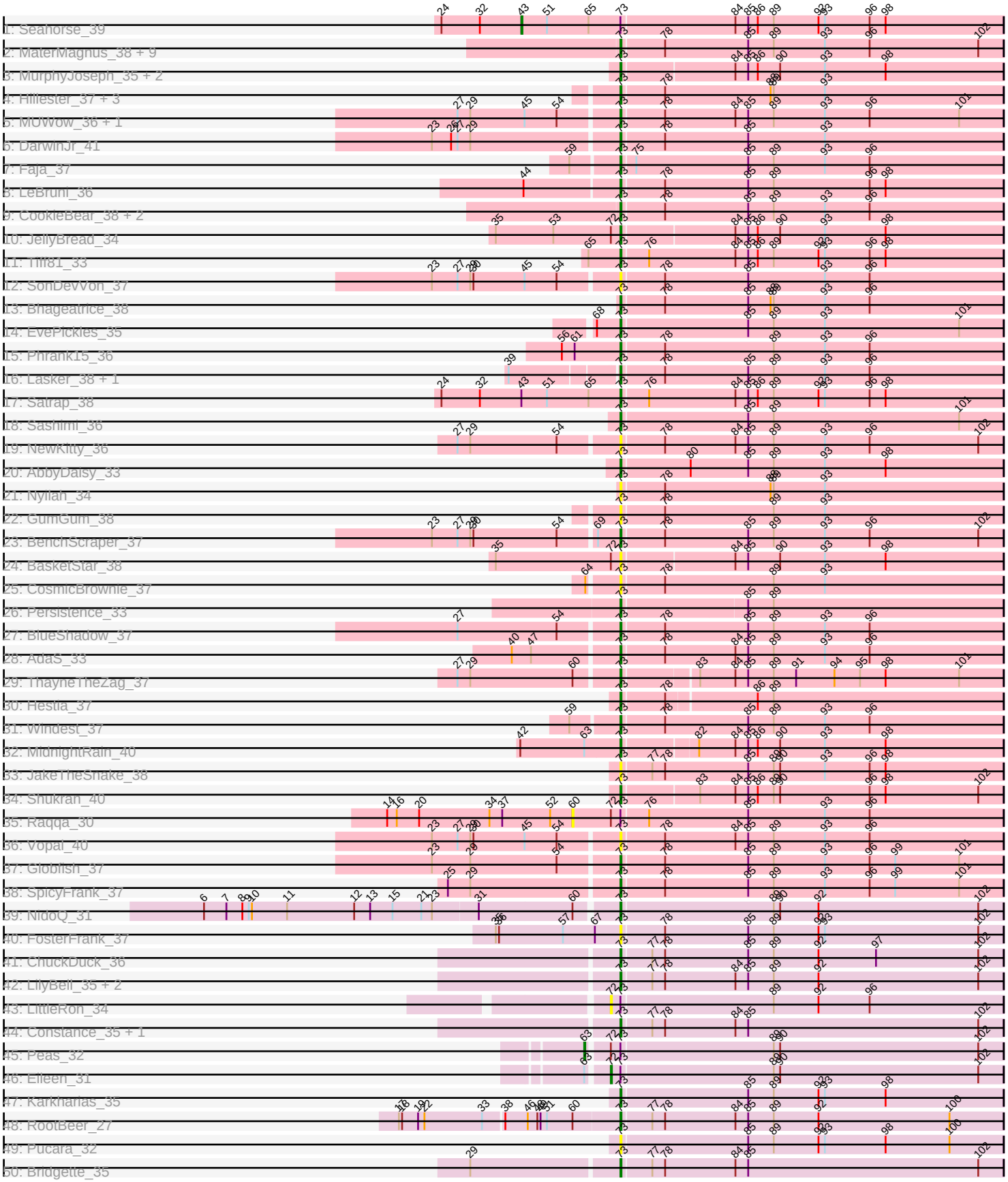
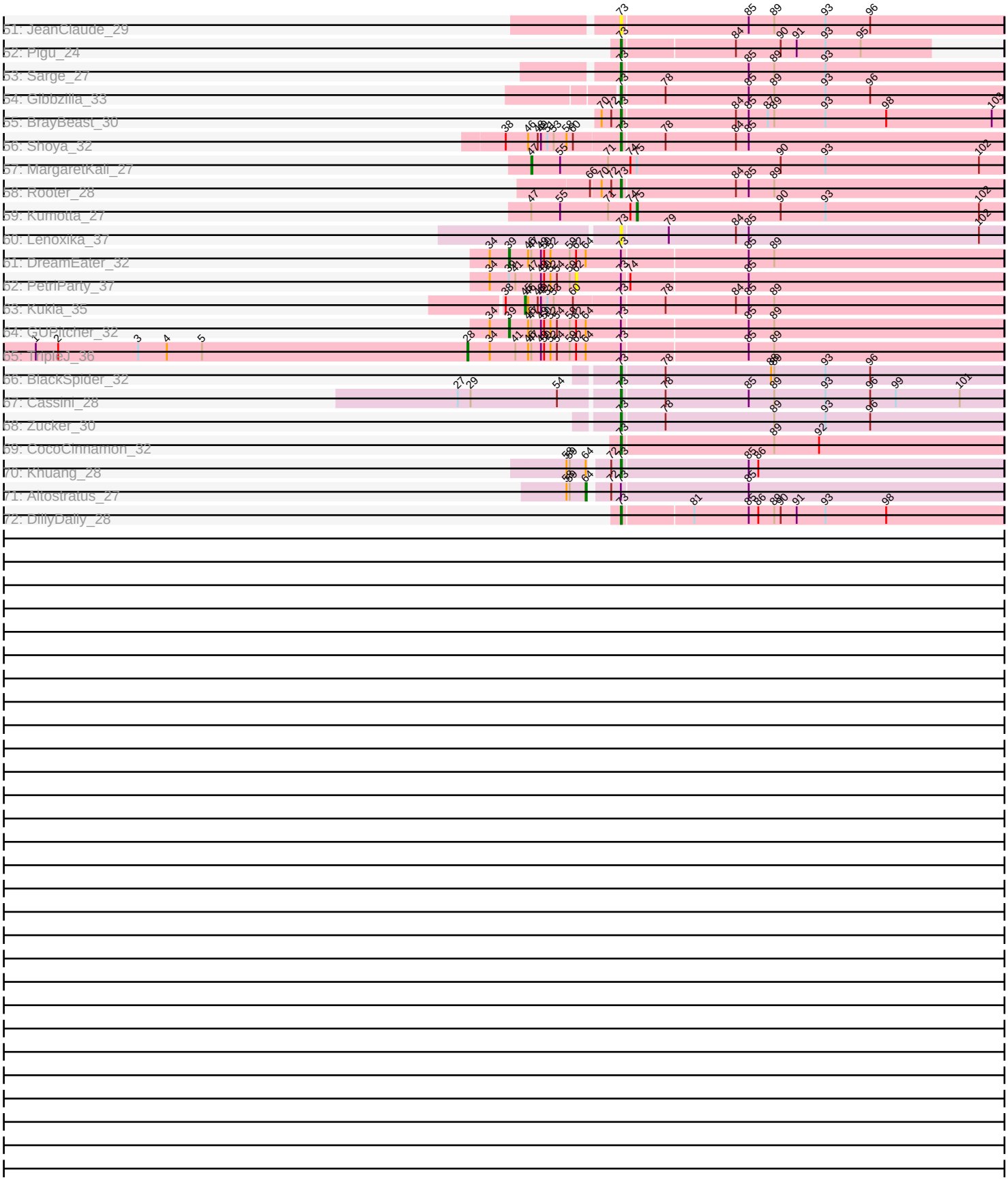
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1: Seahorse_39
2: MaterMagnus_38 + 9
3: MurphyJoseph_35 + 2
4: Hillester_37 + 3
5: MOWow_36 + 1
6: DarwinJr_41
7: Faja_37
8: LeBrunl_36
9: CookieBear_38 + 2
10: JellyBread_34
11: Tiff81_33
12: SonDevVon_37
13: Bhageatrice_38
14: EvePickles_35
15: Phrank15_36
16: Lasker_38 + 1
17: Satrap_38
18: Sashimi_36
19: NewKitty_36
20: AbbyDaisy_33
21: Nylah_34
22: GumGum_38
23: BenchScraper_37
24: BasketStar_38
25: CosmicBrownie_37
26: Persistence_33
27: BlueShadow_37
28: AdaS_33
29: ThayneTheZag_37
30: Hestia_37
31: Windest_37
32: MidnightRain_40
33: JakeTheSnake_38
34: Shukran_40
35: Raqqa_30
36: Vopal_40
37: Globlish_37
38: SpicyFrank_37
39: NiddO_31
40: FosterFrank_37
41: ChuckDuck_36
42: LilyBell_35 + 2
43: LittleRon_34
44: Constance_35 + 1
45: Peas_32
46: Eileen_31
47: Karkharias_35
48: RootBeer_27
49: Pucara_32
50: Bridgette_35

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51: JeanClaude_29
52: Pigu_24
53: Sarge_27
54: Gibbzilla_33
55: BrayBeast_30
56: Shoya_32
57: MargaretKali_27
58: Rooter_28
59: Kumotta_27
60: Lenoxika_37
61: DreamEater_32
62: PetriParty_37
63: Kukla_35
64: GOBitcher_32
65: TripleJ_36
66: BlackSpider_32
67: Cassini_28
68: Zucker_30
69: CocoCinnamon_32
70: Khuang_28
71: Altostratus_27
72: DillyDally_28

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 343854 Report

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

Pham number 343854 has 93 members, 18 are drafts.

Phages represented in each track:
- Track 1 : Seahorse_39
- Track 2 : MaterMagnus_38, Sporco_39, Richie_38, Aikyam_35, Sakai_38, Auxilium_36, Raphaella_38, Gorpy_39, BillyTP_39, YoungHarleezy_38
- Track 3 : MurphyJoseph_35, Anekin_35, Crescenzo_37
- Track 4 : Hillester_37, RadFad_37, BellaJr_34, Bauer_33
- Track 5 : MUWow_36, Isolde_37
- Track 6 : DarwinJr_41
- Track 7 : Faja_37
- Track 8 : LeBruni_36
- Track 9 : CookieBear_38, Mapleville_38, Kabloowy_39
- Track 10 : JellyBread_34
- Track 11 : Tiff81_33
- Track 12 : SonDevVon_37
- Track 13 : Bhageatrice_38
- Track 14 : EvePickles_35
- Track 15 : Phrank15_36
- Track 16 : Lasker_38, Lawnathon_38
- Track 17 : Satrap_38
- Track 18 : Sashimi_36
- Track 19 : NewKitty_36
- Track 20 : AbbyDaisy_33
- Track 21 : Nyilah_34
- Track 22 : GumGum_38
- Track 23 : BenchScraper_37
- Track 24 : BasketStar_38
- Track 25 : CosmicBrownie_37
- Track 26 : Persistence_33
- Track 27 : BlueShadow_37
- Track 28 : AdaS_33
- Track 29 : ThayneTheZag_37
- Track 30 : Hestia_37
- Track 31 : Windest_37
- Track 32 : MidnightRain_40
- Track 33 : JakeTheSnake_38
- Track 34 : Shukran_40
- Track 35 : Raqqa_30
- Track 36 : Vopal_40

• Track 37 : Globfish_37
• Track 38 : SpicyFrank_37
• Track 39 : NidoQ_31
• Track 40 : FosterFrank_37
• Track 41 : ChuckDuck_36
• Track 42 : LilyBell_35, KayMoney_36, Judy_36
• Track 43 : LittleRon_34
• Track 44 : Constance_35, GlobiWarming_36
• Track 45 : Peas_32
• Track 46 : Eileen_31
• Track 47 : Karkharias_35
• Track 48 : RootBeer_27
• Track 49 : Pucara_32
• Track 50 : Bridgette_35
• Track 51 : JeanClaude_29
• Track 52 : Pigu_24
• Track 53 : Sarge_27
• Track 54 : Gibbzilla_33
• Track 55 : BrayBeast_30
• Track 56 : Shoya_32
• Track 57 : MargaretKali_27
• Track 58 : Rooter_28
• Track 59 : Kumotta_27
• Track 60 : Lenoxika_37
• Track 61 : DreamEater_32
• Track 62 : PetriParty_37
• Track 63 : Kukla_35
• Track 64 : GUPitcher_32
• Track 65 : TripleJ_36
• Track 66 : BlackSpider_32
• Track 67 : Cassini_28
• Track 68 : Zucker_30
• Track 69 : CocoCinnamon_32
• Track 70 : Khuang_28
• Track 71 : Altostratus_27
• Track 72 : DillyDally_28

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

The start number called the most often in the published annotations is 73, it was called in 65 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AbbyDaisy_33, AdaS_33, Aikyam_35, Anekin_35, Auxilium_36, BasketStar_38, Bauer_33, BellaJr_34, BenchScraper_37, Bhageatrice_38, BillyTP_39, BlackSpider_32, BlueShadow_37, BrayBeast_30, Bridgette_35, Cassini_28, ChuckDuck_36, CocoCinnamon_32, Constance_35, CookieBear_38, CosmicBrownie_37, Crescenzo_37, DarwinJr_41, DillyDally_28, EvePickles_35, Faja_37, FosterFrank_37, Gibbzilla_33, Globfish_37, GlobiWarming_36, Gorpy_39, GumGum_38, Hestia_37, Hillester_37, Isolde_37, JakeTheSnake_38,

JeanClaude_29, JellyBread_34, Judy_36, Kabloowy_39, Karkharias_35, KayMoney_36, Khuang_28, Lasker_38, Lawnathon_38, LeBruni_36, Lenoxika_37, LilyBell_35, MUWow_36, Mapleville_38, MaterMagnus_38, MidnightRain_40, MurphyJoseph_35, NewKitty_36, NidoQ_31, Nyilah_34, Persistence_33, Phrank15_36, Pigu_24, Pucara_32, RadFad_37, Raphaella_38, Richie_38, RootBeer_27, Rooter_28, Sakai_38, Sarge_27, Sashimi_36, Satrap_38, Shoya_32, Shukran_40, SonDevVon_37, SpicyFrank_37, Sporco_39, ThayneTheZag_37, Tiff81_33, Vopal_40, Windest_37, YoungHarleezy_38, Zucker_30,

Genes that have the "Most Annotated" start but do not call it:
• Altostratus_27, DreamEater_32, Eileen_31, GUPitcher_32, Kukla_35, LittleRon_34, Peas_32, PetriParty_37, Raqqa_30, Seahorse_39, TripleJ_36,

Genes that do not have the "Most Annotated" start:
• Kumotta_27, MargaretKali_27,

Summary by start number:

Start 28:
• Found in 1 of 93 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 75
• Called 100.0% of time when present
• Phage (with cluster) where this start called: TripleJ_36 (FJ),

Start 39:
• Found in 5 of 93 (5.4%) of genes in pham
• Manual Annotations of this start: 2 of 75
• Called 40.0% of time when present
• Phage (with cluster) where this start called: DreamEater_32 (FJ), GUPitcher_32 (FJ),

Start 43:
• Found in 2 of 93 (2.2%) of genes in pham
• Manual Annotations of this start: 1 of 75
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Seahorse_39 (AY),

Start 45:
• Found in 5 of 93 (5.4%) of genes in pham
• Manual Annotations of this start: 1 of 75
• Called 20.0% of time when present
• Phage (with cluster) where this start called: Kukla_35 (FJ),

Start 47:
• Found in 7 of 93 (7.5%) of genes in pham
• Manual Annotations of this start: 1 of 75
• Called 14.3% of time when present
• Phage (with cluster) where this start called: MargaretKali_27 (FB),

Start 60:
• Found in 6 of 93 (6.5%) of genes in pham
• No Manual Annotations of this start.
• Called 16.7% of time when present

• Phage (with cluster) where this start called: Raqqa_30 (AY),

Start 62:
• Found in 4 of 93 (4.3%) of genes in pham
• No Manual Annotations of this start.
• Called 25.0% of time when present
• Phage (with cluster) where this start called: PetriParty_37 (FJ),

Start 63:
• Found in 3 of 93 (3.2%) of genes in pham
• Manual Annotations of this start: 1 of 75
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Peas_32 (FA),

Start 64:
• Found in 6 of 93 (6.5%) of genes in pham
• Manual Annotations of this start: 1 of 75
• Called 16.7% of time when present
• Phage (with cluster) where this start called: Altostratus_27 (FS),

Start 72:
• Found in 10 of 93 (10.8%) of genes in pham
• Manual Annotations of this start: 1 of 75
• Called 20.0% of time when present
• Phage (with cluster) where this start called: Eileen_31 (FA), LittleRon_34 (FA),

Start 73:
• Found in 91 of 93 (97.8%) of genes in pham
• Manual Annotations of this start: 65 of 75
• Called 87.9% of time when present
• Phage (with cluster) where this start called: AbbyDaisy_33 (AY), AdaS_33 (AY), Aikyam_35 (AY), Anekin_35 (AY), Auxilium_36 (AY), BasketStar_38 (AY), Bauer_33 (FN), BellaJr_34 (FN), BenchScraper_37 (AY), Bhageatrice_38 (AY), BillyTP_39 (AY), BlackSpider_32 (FN), BlueShadow_37 (AY), BrayBeast_30 (FB), Bridgette_35 (FA), Cassini_28 (FN), ChuckDuck_36 (FA), CocoCinnamon_32 (FO), Constance_35 (FA), CookieBear_38 (AY), CosmicBrownie_37 (AY), Crescenzo_37 (AY), DarwinJr_41 (AY), DillyDally_28 (singleton), EvePickles_35 (AY), Faja_37 (AY), FosterFrank_37 (FA), Gibbzilla_33 (FB), Globfish_37 (AY), GlobiWarming_36 (FA), Gorpy_39 (AY), GumGum_38 (AY), Hestia_37 (AY), Hillester_37 (AY), Isolde_37 (AY), JakeTheSnake_38 (AY), JeanClaude_29 (FB), JellyBread_34 (AY), Judy_36 (FA), Kabloowy_39 (AY), Karkharias_35 (FA), KayMoney_36 (FA), Khuang_28 (FS), Lasker_38 (AY), Lawnathon_38 (AY), LeBruni_36 (AY), Lenoxika_37 (FF), LilyBell_35 (FA), MUWow_36 (AY), Mapleville_38 (AY), MaterMagnus_38 (AY), MidnightRain_40 (AY), MurphyJoseph_35 (AY), NewKitty_36 (AY), NidoQ_31 (FA), Nyilah_34 (AY), Persistence_33 (AY), Phrank15_36 (AY), Pigu_24 (FB), Pucara_32 (FA), RadFad_37 (AY), Raphaella_38 (AY), Richie_38 (AY), RootBeer_27 (FA), Rooter_28 (FB), Sakai_38 (AY), Sarge_27 (FB), Sashimi_36 (AY), Satrap_38 (AY), Shoya_32 (FB), Shukran_40 (AY), SonDevVon_37 (AY), SpicyFrank_37 (AY), Sporco_39 (AY), ThayneTheZag_37 (AY), Tiff81_33 (AY), Vopal_40 (AY), Windest_37 (AY), YoungHarleezy_38 (AY), Zucker_30 (FN),

Start 75:
• Found in 3 of 93 (3.2%) of genes in pham

• Manual Annotations of this start: 1 of 75
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Kumotta_27 (FB),

Summary by clusters:

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

Info for manual annotations of cluster AY:
•Start number 43 was manually annotated 1 time for cluster AY.
•Start number 73 was manually annotated 43 times for cluster AY.

Info for manual annotations of cluster FA:
•Start number 63 was manually annotated 1 time for cluster FA.
•Start number 72 was manually annotated 1 time for cluster FA.
•Start number 73 was manually annotated 9 times for cluster FA.

Info for manual annotations of cluster FB:
•Start number 47 was manually annotated 1 time for cluster FB.
•Start number 73 was manually annotated 6 times for cluster FB.
•Start number 75 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FJ:
•Start number 28 was manually annotated 1 time for cluster FJ.
•Start number 39 was manually annotated 2 times for cluster FJ.
•Start number 45 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster FN:
•Start number 73 was manually annotated 4 times for cluster FN.

Info for manual annotations of cluster FO:
•Start number 73 was manually annotated 1 time for cluster FO.

Info for manual annotations of cluster FS:
•Start number 64 was manually annotated 1 time for cluster FS.
•Start number 73 was manually annotated 1 time for cluster FS.

Gene Information:

Gene: AbbyDaisy_33 Start: 25439, Stop: 25795, Start Num: 73
Candidate Starts for AbbyDaisy_33:
(Start: 73 @25439 has 65 MA's), (80, 25502), (85, 25556), (89, 25580), (93, 25628), (98, 25685),

Gene: AdaS_33 Start: 23924, Stop: 24280, Start Num: 73
Candidate Starts for AdaS_33:
(40, 23828), (Start: 47 @23846 has 1 MA's), (Start: 73 @23924 has 65 MA's), (78, 23963), (84, 24029), (85, 24041), (89, 24065), (93, 24113), (96, 24155),

Gene: Aikyam_35 Start: 23855, Stop: 24211, Start Num: 73

Candidate Starts for Aikyam_35:
(Start: 73 @23855 has 65 MA's), (78, 23894), (85, 23972), (89, 23996), (93, 24044), (96, 24086), (102, 24188),

Gene: Altostratus_27 Start: 21307, Stop: 21687, Start Num: 64
Candidate Starts for Altostratus_27:
(58, 21289), (59, 21292), (Start: 64 @21307 has 1 MA's), (Start: 72 @21322 has 1 MA's), (Start: 73 @21331 has 65 MA's), (85, 21448),

Gene: Anekin_35 Start: 25205, Stop: 25558, Start Num: 73
Candidate Starts for Anekin_35:
(Start: 73 @25205 has 65 MA's), (84, 25307), (85, 25319), (86, 25328), (90, 25349), (93, 25391), (98, 25448),

Gene: Auxilium_36 Start: 23557, Stop: 23913, Start Num: 73
Candidate Starts for Auxilium_36:
(Start: 73 @23557 has 65 MA's), (78, 23596), (85, 23674), (89, 23698), (93, 23746), (96, 23788), (102, 23890),

Gene: BasketStar_38 Start: 25921, Stop: 26274, Start Num: 73
Candidate Starts for BasketStar_38:
(35, 25804), (Start: 72 @25912 has 1 MA's), (Start: 73 @25921 has 65 MA's), (84, 26023), (85, 26035), (90, 26065), (93, 26107), (98, 26164),

Gene: Bauer_33 Start: 25076, Stop: 25432, Start Num: 73
Candidate Starts for Bauer_33:
(Start: 73 @25076 has 65 MA's), (78, 25115), (88, 25214), (89, 25217), (93, 25265),

Gene: BellaJr_34 Start: 26052, Stop: 26408, Start Num: 73
Candidate Starts for BellaJr_34:
(Start: 73 @26052 has 65 MA's), (78, 26091), (88, 26190), (89, 26193), (93, 26241),

Gene: BenchScraper_37 Start: 25515, Stop: 25871, Start Num: 73
Candidate Starts for BenchScraper_37:
(23, 25344), (27, 25368), (29, 25380), (30, 25383), (54, 25461), (69, 25494), (Start: 73 @25515 has 65 MA's), (78, 25554), (85, 25632), (89, 25656), (93, 25704), (96, 25746), (102, 25848),

Gene: Bhageatrice_38 Start: 27344, Stop: 27700, Start Num: 73
Candidate Starts for Bhageatrice_38:
(Start: 73 @27344 has 65 MA's), (78, 27383), (85, 27461), (88, 27482), (89, 27485), (93, 27533), (96, 27575),

Gene: BillyTP_39 Start: 26753, Stop: 27109, Start Num: 73
Candidate Starts for BillyTP_39:
(Start: 73 @26753 has 65 MA's), (78, 26792), (85, 26870), (89, 26894), (93, 26942), (96, 26984), (102, 27086),

Gene: BlackSpider_32 Start: 24964, Stop: 25320, Start Num: 73
Candidate Starts for BlackSpider_32:
(Start: 73 @24964 has 65 MA's), (78, 25003), (88, 25102), (89, 25105), (93, 25153), (96, 25195),

Gene: BlueShadow_37 Start: 25500, Stop: 25856, Start Num: 73
Candidate Starts for BlueShadow_37:

(27, 25353), (54, 25446), (Start: 73 @25500 has 65 MA's), (78, 25539), (85, 25617), (89, 25641), (93, 25689), (96, 25731),

Gene: BrayBeast_30 Start: 22742, Stop: 23098, Start Num: 73
Candidate Starts for BrayBeast_30:
(70, 22724), (Start: 72 @22733 has 1 MA's), (Start: 73 @22742 has 65 MA's), (84, 22847), (85, 22859), (87, 22877), (89, 22883), (93, 22931), (98, 22988), (103, 23087),

Gene: Bridgette_35 Start: 25558, Stop: 25914, Start Num: 73
Candidate Starts for Bridgette_35:
(29, 25423), (Start: 73 @25558 has 65 MA's), (77, 25585), (78, 25597), (84, 25663), (85, 25675), (102, 25891),

Gene: Cassini_28 Start: 22942, Stop: 23298, Start Num: 73
Candidate Starts for Cassini_28:
(27, 22795), (29, 22807), (54, 22888), (Start: 73 @22942 has 65 MA's), (78, 22981), (85, 23059), (89, 23083), (93, 23131), (96, 23173), (99, 23197), (101, 23257),

Gene: ChuckDuck_36 Start: 25325, Stop: 25681, Start Num: 73
Candidate Starts for ChuckDuck_36:
(Start: 73 @25325 has 65 MA's), (77, 25352), (78, 25364), (85, 25442), (89, 25466), (92, 25508), (97, 25562), (102, 25658),

Gene: CocoCinnamon_32 Start: 23460, Stop: 23816, Start Num: 73
Candidate Starts for CocoCinnamon_32:
(Start: 73 @23460 has 65 MA's), (89, 23601), (92, 23643),

Gene: Constance_35 Start: 25797, Stop: 26153, Start Num: 73
Candidate Starts for Constance_35:
(Start: 73 @25797 has 65 MA's), (77, 25824), (78, 25836), (84, 25902), (85, 25914), (102, 26130),

Gene: CookieBear_38 Start: 26017, Stop: 26373, Start Num: 73
Candidate Starts for CookieBear_38:
(Start: 73 @26017 has 65 MA's), (78, 26056), (85, 26134), (89, 26158), (93, 26206), (96, 26248),

Gene: CosmicBrownie_37 Start: 25323, Stop: 25679, Start Num: 73
Candidate Starts for CosmicBrownie_37:
(Start: 64 @25296 has 1 MA's), (Start: 73 @25323 has 65 MA's), (78, 25362), (89, 25464), (93, 25512),

Gene: Crescenzo_37 Start: 25928, Stop: 26281, Start Num: 73
Candidate Starts for Crescenzo_37:
(Start: 73 @25928 has 65 MA's), (84, 26030), (85, 26042), (86, 26051), (90, 26072), (93, 26114), (98, 26171),

Gene: DarwinJr_41 Start: 26914, Stop: 27270, Start Num: 73
Candidate Starts for DarwinJr_41:
(23, 26743), (26, 26761), (27, 26767), (29, 26779), (Start: 73 @26914 has 65 MA's), (78, 26953), (85, 27031), (93, 27103),

Gene: DillyDally_28 Start: 22383, Stop: 22736, Start Num: 73
Candidate Starts for DillyDally_28:
(Start: 73 @22383 has 65 MA's), (81, 22446), (85, 22497), (86, 22506), (89, 22521), (90, 22527), (91, 22542), (93, 22569), (98, 22626),

Gene: DreamEater_32 Start: 26752, Stop: 27210, Start Num: 39
Candidate Starts for DreamEater_32:
(34, 26734), (Start: 39 @26752 has 2 MA's), (46, 26770), (Start: 47 @26773 has 1 MA's), (49, 26782), (50, 26785), (52, 26791), (59, 26809), (62, 26815), (Start: 64 @26824 has 1 MA's), (Start: 73 @26857 has 65 MA's), (85, 26971), (89, 26995),

Gene: Eileen_31 Start: 23758, Stop: 24123, Start Num: 72
Candidate Starts for Eileen_31:
(Start: 63 @23740 has 1 MA's), (Start: 72 @23758 has 1 MA's), (Start: 73 @23767 has 65 MA's), (89, 23908), (90, 23914), (102, 24100),

Gene: EvePickles_35 Start: 26683, Stop: 27039, Start Num: 73
Candidate Starts for EvePickles_35:
(68, 26662), (Start: 73 @26683 has 65 MA's), (85, 26800), (89, 26824), (93, 26872), (101, 26998),

Gene: Faja_37 Start: 27291, Stop: 27647, Start Num: 73
Candidate Starts for Faja_37:
(59, 27249), (Start: 73 @27291 has 65 MA's), (Start: 75 @27303 has 1 MA's), (85, 27408), (89, 27432), (93, 27480), (96, 27522),

Gene: FosterFrank_37 Start: 25527, Stop: 25883, Start Num: 73
Candidate Starts for FosterFrank_37:
(35, 25410), (36, 25413), (57, 25473), (67, 25503), (Start: 73 @25527 has 65 MA's), (78, 25566), (85, 25644), (89, 25668), (92, 25710), (93, 25716), (102, 25860),

Gene: GUPitcher_32 Start: 26983, Stop: 27441, Start Num: 39
Candidate Starts for GUPitcher_32:
(34, 26965), (Start: 39 @26983 has 2 MA's), (46, 27001), (Start: 47 @27004 has 1 MA's), (49, 27013), (50, 27016), (52, 27022), (54, 27028), (59, 27040), (62, 27046), (Start: 64 @27055 has 1 MA's), (Start: 73 @27088 has 65 MA's), (85, 27202), (89, 27226),

Gene: Gibbzilla_33 Start: 23547, Stop: 23903, Start Num: 73
Candidate Starts for Gibbzilla_33:
(Start: 73 @23547 has 65 MA's), (78, 23586), (85, 23664), (89, 23688), (93, 23736), (96, 23778),

Gene: Globfish_37 Start: 25740, Stop: 26096, Start Num: 73
Candidate Starts for Globfish_37:
(23, 25569), (29, 25605), (54, 25686), (Start: 73 @25740 has 65 MA's), (78, 25779), (85, 25857), (89, 25881), (93, 25929), (96, 25971), (99, 25995), (101, 26055),

Gene: GlobiWarming_36 Start: 25241, Stop: 25597, Start Num: 73
Candidate Starts for GlobiWarming_36:
(Start: 73 @25241 has 65 MA's), (77, 25268), (78, 25280), (84, 25346), (85, 25358), (102, 25574),

Gene: Gorpy_39 Start: 27249, Stop: 27605, Start Num: 73
Candidate Starts for Gorpy_39:
(Start: 73 @27249 has 65 MA's), (78, 27288), (85, 27366), (89, 27390), (93, 27438), (96, 27480), (102, 27582),

Gene: GumGum_38 Start: 25667, Stop: 26023, Start Num: 73
Candidate Starts for GumGum_38:
(Start: 73 @25667 has 65 MA's), (78, 25706), (89, 25808), (93, 25856),

Gene: Hestia_37 Start: 25541, Stop: 25891, Start Num: 73
Candidate Starts for Hestia_37:
(Start: 73 @25541 has 65 MA's), (78, 25580), (86, 25661), (89, 25676),

Gene: Hillester_37 Start: 25503, Stop: 25859, Start Num: 73
Candidate Starts for Hillester_37:
(Start: 73 @25503 has 65 MA's), (78, 25542), (88, 25641), (89, 25644), (93, 25692),

Gene: Isolde_37 Start: 25269, Stop: 25625, Start Num: 73
Candidate Starts for Isolde_37:
(27, 25122), (29, 25134), (Start: 45 @25185 has 1 MA's), (54, 25215), (Start: 73 @25269 has 65 MA's), (78, 25308), (84, 25374), (85, 25386), (89, 25410), (93, 25458), (96, 25500), (101, 25584),

Gene: JakeTheSnake_38 Start: 26164, Stop: 26520, Start Num: 73
Candidate Starts for JakeTheSnake_38:
(Start: 73 @26164 has 65 MA's), (77, 26191), (78, 26203), (85, 26281), (89, 26305), (90, 26311), (93, 26353), (96, 26395), (98, 26410),

Gene: JeanClaude_29 Start: 21664, Stop: 22020, Start Num: 73
Candidate Starts for JeanClaude_29:
(Start: 73 @21664 has 65 MA's), (85, 21781), (89, 21805), (93, 21853), (96, 21895),

Gene: JellyBread_34 Start: 24457, Stop: 24810, Start Num: 73
Candidate Starts for JellyBread_34:
(35, 24340), (53, 24394), (Start: 72 @24448 has 1 MA's), (Start: 73 @24457 has 65 MA's), (84, 24559), (85, 24571), (86, 24580), (90, 24601), (93, 24643), (98, 24700),

Gene: Judy_36 Start: 25808, Stop: 26164, Start Num: 73
Candidate Starts for Judy_36:
(Start: 73 @25808 has 65 MA's), (77, 25835), (78, 25847), (84, 25913), (85, 25925), (89, 25949), (92, 25991), (102, 26141),

Gene: Kabloowy_39 Start: 26197, Stop: 26553, Start Num: 73
Candidate Starts for Kabloowy_39:
(Start: 73 @26197 has 65 MA's), (78, 26236), (85, 26314), (89, 26338), (93, 26386), (96, 26428),

Gene: Karkharias_35 Start: 25457, Stop: 25813, Start Num: 73
Candidate Starts for Karkharias_35:
(Start: 73 @25457 has 65 MA's), (85, 25574), (89, 25598), (92, 25640), (93, 25646), (98, 25703),

Gene: KayMoney_36 Start: 25329, Stop: 25685, Start Num: 73
Candidate Starts for KayMoney_36:
(Start: 73 @25329 has 65 MA's), (77, 25356), (78, 25368), (84, 25434), (85, 25446), (89, 25470), (92, 25512), (102, 25662),

Gene: Khuang_28 Start: 22101, Stop: 22457, Start Num: 73
Candidate Starts for Khuang_28:
(58, 22059), (59, 22062), (Start: 64 @22077 has 1 MA's), (Start: 72 @22092 has 1 MA's), (Start: 73 @22101 has 65 MA's), (85, 22218), (86, 22227),

Gene: Kukla_35 Start: 26486, Stop: 26929, Start Num: 45
Candidate Starts for Kukla_35:

(38, 26468), (Start: 45 @26486 has 1 MA's), (46, 26489), (48, 26498), (49, 26501), (51, 26507), (53, 26513), (60, 26531), (Start: 73 @26573 has 65 MA's), (78, 26612), (84, 26678), (85, 26690), (89, 26714),

Gene: Kumotta_27 Start: 22462, Stop: 22806, Start Num: 75
Candidate Starts for Kumotta_27:
(Start: 47 @22363 has 1 MA's), (55, 22390), (71, 22435), (74, 22456), (Start: 75 @22462 has 1 MA's), (90, 22597), (93, 22639), (102, 22783),

Gene: Lasker_38 Start: 26020, Stop: 26376, Start Num: 73
Candidate Starts for Lasker_38:
(Start: 39 @25927 has 2 MA's), (Start: 73 @26020 has 65 MA's), (78, 26059), (85, 26137), (89, 26161), (93, 26209), (96, 26251),

Gene: Lawnathon_38 Start: 25871, Stop: 26227, Start Num: 73
Candidate Starts for Lawnathon_38:
(Start: 39 @25778 has 2 MA's), (Start: 73 @25871 has 65 MA's), (78, 25910), (85, 25988), (89, 26012), (93, 26060), (96, 26102),

Gene: LeBruni_36 Start: 25255, Stop: 25611, Start Num: 73
Candidate Starts for LeBruni_36:
(44, 25168), (Start: 73 @25255 has 65 MA's), (78, 25294), (85, 25372), (89, 25396), (96, 25486), (98, 25501),

Gene: Lenoxika_37 Start: 27217, Stop: 27573, Start Num: 73
Candidate Starts for Lenoxika_37:
(Start: 73 @27217 has 65 MA's), (79, 27259), (84, 27322), (85, 27334), (102, 27550),

Gene: LilyBell_35 Start: 25223, Stop: 25579, Start Num: 73
Candidate Starts for LilyBell_35:
(Start: 73 @25223 has 65 MA's), (77, 25250), (78, 25262), (84, 25328), (85, 25340), (89, 25364), (92, 25406), (102, 25556),

Gene: LittleRon_34 Start: 24936, Stop: 25301, Start Num: 72
Candidate Starts for LittleRon_34:
(Start: 72 @24936 has 1 MA's), (Start: 73 @24945 has 65 MA's), (89, 25086), (92, 25128), (96, 25176),

Gene: MUWow_36 Start: 25525, Stop: 25881, Start Num: 73
Candidate Starts for MUWow_36:
(27, 25378), (29, 25390), (Start: 45 @25441 has 1 MA's), (54, 25471), (Start: 73 @25525 has 65 MA's), (78, 25564), (84, 25630), (85, 25642), (89, 25666), (93, 25714), (96, 25756), (101, 25840),

Gene: Mapleville_38 Start: 25950, Stop: 26306, Start Num: 73
Candidate Starts for Mapleville_38:
(Start: 73 @25950 has 65 MA's), (78, 25989), (85, 26067), (89, 26091), (93, 26139), (96, 26181),

Gene: MargaretKali_27 Start: 21998, Stop: 22441, Start Num: 47
Candidate Starts for MargaretKali_27:
(Start: 47 @21998 has 1 MA's), (55, 22025), (71, 22070), (74, 22091), (Start: 75 @22097 has 1 MA's), (90, 22232), (93, 22274), (102, 22418),

Gene: MaterMagnus_38 Start: 26027, Stop: 26383, Start Num: 73
Candidate Starts for MaterMagnus_38:

(Start: 73 @26027 has 65 MA's), (78, 26066), (85, 26144), (89, 26168), (93, 26216), (96, 26258), (102, 26360),

Gene: MidnightRain_40 Start: 26819, Stop: 27169, Start Num: 73
Candidate Starts for MidnightRain_40:
(42, 26726), (Start: 63 @26786 has 1 MA's), (Start: 73 @26819 has 65 MA's), (82, 26885), (84, 26918), (85, 26930), (86, 26939), (90, 26960), (93, 27002), (98, 27059),

Gene: MurphyJoseph_35 Start: 24758, Stop: 25111, Start Num: 73
Candidate Starts for MurphyJoseph_35:
(Start: 73 @24758 has 65 MA's), (84, 24860), (85, 24872), (86, 24881), (90, 24902), (93, 24944), (98, 25001),

Gene: NewKitty_36 Start: 25105, Stop: 25461, Start Num: 73
Candidate Starts for NewKitty_36:
(27, 24958), (29, 24970), (54, 25051), (Start: 73 @25105 has 65 MA's), (78, 25144), (84, 25210), (85, 25222), (89, 25246), (93, 25294), (96, 25336), (102, 25438),

Gene: NidoQ_31 Start: 24670, Stop: 25026, Start Num: 73
Candidate Starts for NidoQ_31:
(6, 24292), (7, 24313), (8, 24328), (9, 24334), (10, 24337), (11, 24370), (12, 24433), (13, 24448), (15, 24469), (21, 24496), (23, 24505), (31, 24547), (60, 24634), (Start: 73 @24670 has 65 MA's), (89, 24811), (90, 24817), (92, 24853), (102, 25003),

Gene: Nyilah_34 Start: 24057, Stop: 24413, Start Num: 73
Candidate Starts for Nyilah_34:
(Start: 73 @24057 has 65 MA's), (78, 24096), (88, 24195), (89, 24198), (93, 24246),

Gene: Peas_32 Start: 25888, Stop: 26271, Start Num: 63
Candidate Starts for Peas_32:
(Start: 63 @25888 has 1 MA's), (Start: 72 @25906 has 1 MA's), (Start: 73 @25915 has 65 MA's), (89, 26056), (90, 26062), (102, 26248),

Gene: Persistence_33 Start: 24151, Stop: 24504, Start Num: 73
Candidate Starts for Persistence_33:
(Start: 73 @24151 has 65 MA's), (85, 24265), (89, 24289),

Gene: PetriParty_37 Start: 26772, Stop: 27167, Start Num: 62
Candidate Starts for PetriParty_37:
(34, 26691), (Start: 39 @26709 has 2 MA's), (41, 26715), (Start: 47 @26730 has 1 MA's), (49, 26739), (50, 26742), (52, 26748), (54, 26754), (59, 26766), (62, 26772), (Start: 73 @26814 has 65 MA's), (74, 26820), (85, 26928),

Gene: Phrank15_36 Start: 24864, Stop: 25220, Start Num: 73
Candidate Starts for Phrank15_36:
(56, 24810), (61, 24822), (Start: 73 @24864 has 65 MA's), (78, 24903), (89, 25005), (93, 25053), (96, 25095),

Gene: Pigu_24 Start: 20880, Stop: 21164, Start Num: 73
Candidate Starts for Pigu_24:
(Start: 73 @20880 has 65 MA's), (84, 20982), (90, 21024), (91, 21039), (93, 21066), (95, 21099),

Gene: Pucara_32 Start: 25297, Stop: 25653, Start Num: 73

Candidate Starts for Pucara_32:
(Start: 73 @25297 has 65 MA's), (85, 25414), (89, 25438), (92, 25480), (93, 25486), (98, 25543), (100, 25603),

Gene: RadFad_37 Start: 25503, Stop: 25859, Start Num: 73
Candidate Starts for RadFad_37:
(Start: 73 @25503 has 65 MA's), (78, 25542), (88, 25641), (89, 25644), (93, 25692),

Gene: Raphaella_38 Start: 25951, Stop: 26307, Start Num: 73
Candidate Starts for Raphaella_38:
(Start: 73 @25951 has 65 MA's), (78, 25990), (85, 26068), (89, 26092), (93, 26140), (96, 26182), (102, 26284),

Gene: Raqqa_30 Start: 23000, Stop: 23401, Start Num: 60
Candidate Starts for Raqqa_30:
(14, 22826), (16, 22835), (20, 22856), (34, 22922), (37, 22934), (52, 22979), (60, 23000), (Start: 72 @23036 has 1 MA's), (Start: 73 @23045 has 65 MA's), (76, 23069), (85, 23162), (93, 23234), (96, 23276),

Gene: Richie_38 Start: 26032, Stop: 26388, Start Num: 73
Candidate Starts for Richie_38:
(Start: 73 @26032 has 65 MA's), (78, 26071), (85, 26149), (89, 26173), (93, 26221), (96, 26263), (102, 26365),

Gene: RootBeer_27 Start: 22119, Stop: 22475, Start Num: 73
Candidate Starts for RootBeer_27:
(17, 21918), (18, 21921), (19, 21936), (22, 21942), (33, 21996), (38, 22014), (46, 22035), (48, 22044), (49, 22047), (51, 22053), (60, 22077), (Start: 73 @22119 has 65 MA's), (77, 22146), (78, 22158), (84, 22224), (85, 22236), (89, 22260), (92, 22302), (100, 22425),

Gene: Rooter_28 Start: 21836, Stop: 22192, Start Num: 73
Candidate Starts for Rooter_28:
(66, 21809), (70, 21818), (Start: 72 @21827 has 1 MA's), (Start: 73 @21836 has 65 MA's), (84, 21941), (85, 21953), (89, 21977),

Gene: Sakai_38 Start: 25960, Stop: 26316, Start Num: 73
Candidate Starts for Sakai_38:
(Start: 73 @25960 has 65 MA's), (78, 25999), (85, 26077), (89, 26101), (93, 26149), (96, 26191), (102, 26293),

Gene: Sarge_27 Start: 20690, Stop: 21046, Start Num: 73
Candidate Starts for Sarge_27:
(Start: 73 @20690 has 65 MA's), (85, 20807), (89, 20831), (93, 20879),

Gene: Sashimi_36 Start: 26820, Stop: 27176, Start Num: 73
Candidate Starts for Sashimi_36:
(Start: 73 @26820 has 65 MA's), (85, 26937), (89, 26961), (101, 27135),

Gene: Satrap_38 Start: 25954, Stop: 26310, Start Num: 73
Candidate Starts for Satrap_38:
(24, 25786), (32, 25822), (Start: 43 @25861 has 1 MA's), (51, 25885), (65, 25924), (Start: 73 @25954 has 65 MA's), (76, 25978), (84, 26059), (85, 26071), (86, 26080), (89, 26095), (92, 26137), (93, 26143), (96, 26185), (98, 26200),

Gene: Seahorse_39 Start: 27369, Stop: 27818, Start Num: 43
Candidate Starts for Seahorse_39:
(24, 27294), (32, 27330), (Start: 43 @27369 has 1 MA's), (51, 27393), (65, 27432), (Start: 73 @27462 has 65 MA's), (84, 27567), (85, 27579), (86, 27588), (89, 27603), (92, 27645), (93, 27651), (96, 27693), (98, 27708),

Gene: Shoya_32 Start: 22698, Stop: 23054, Start Num: 73
Candidate Starts for Shoya_32:
(38, 22593), (46, 22614), (48, 22623), (49, 22626), (51, 22632), (53, 22638), (58, 22650), (60, 22656), (Start: 73 @22698 has 65 MA's), (78, 22737), (84, 22803), (85, 22815),

Gene: Shukran_40 Start: 26491, Stop: 26844, Start Num: 73
Candidate Starts for Shukran_40:
(Start: 73 @26491 has 65 MA's), (83, 26560), (84, 26593), (85, 26605), (86, 26614), (89, 26629), (90, 26635), (96, 26719), (98, 26734), (102, 26821),

Gene: SonDevVon_37 Start: 25848, Stop: 26204, Start Num: 73
Candidate Starts for SonDevVon_37:
(23, 25677), (27, 25701), (29, 25713), (30, 25716), (Start: 45 @25764 has 1 MA's), (54, 25794), (Start: 73 @25848 has 65 MA's), (78, 25887), (85, 25965), (93, 26037), (96, 26079),

Gene: SpicyFrank_37 Start: 25735, Stop: 26091, Start Num: 73
Candidate Starts for SpicyFrank_37:
(25, 25579), (29, 25600), (Start: 73 @25735 has 65 MA's), (78, 25774), (85, 25852), (89, 25876), (93, 25924), (96, 25966), (99, 25990), (101, 26050),

Gene: Sporco_39 Start: 26008, Stop: 26364, Start Num: 73
Candidate Starts for Sporco_39:
(Start: 73 @26008 has 65 MA's), (78, 26047), (85, 26125), (89, 26149), (93, 26197), (96, 26239), (102, 26341),

Gene: ThayneTheZag_37 Start: 25660, Stop: 26010, Start Num: 73
Candidate Starts for ThayneTheZag_37:
(27, 25513), (29, 25525), (60, 25621), (Start: 73 @25660 has 65 MA's), (83, 25726), (84, 25759), (85, 25771), (89, 25795), (91, 25816), (94, 25852), (95, 25876), (98, 25900), (101, 25969),

Gene: Tiff81_33 Start: 23054, Stop: 23410, Start Num: 73
Candidate Starts for Tiff81_33:
(65, 23024), (Start: 73 @23054 has 65 MA's), (76, 23078), (84, 23159), (85, 23171), (86, 23180), (89, 23195), (92, 23237), (93, 23243), (96, 23285), (98, 23300),

Gene: TripleJ_36 Start: 26273, Stop: 26770, Start Num: 28
Candidate Starts for TripleJ_36:
(1, 25868), (2, 25889), (3, 25964), (4, 25991), (5, 26024), (Start: 28 @26273 has 1 MA's), (34, 26294), (41, 26318), (46, 26330), (Start: 47 @26333 has 1 MA's), (49, 26342), (50, 26345), (52, 26351), (54, 26357), (59, 26369), (62, 26375), (Start: 64 @26384 has 1 MA's), (Start: 73 @26417 has 65 MA's), (85, 26531), (89, 26555),

Gene: Vopal_40 Start: 28322, Stop: 28678, Start Num: 73
Candidate Starts for Vopal_40:
(23, 28151), (27, 28175), (29, 28187), (30, 28190), (Start: 45 @28238 has 1 MA's), (54, 28268), (Start: 73 @28322 has 65 MA's), (78, 28361), (84, 28427), (85, 28439), (89, 28463), (93, 28511), (96, 28553),

Gene: Windest_37 Start: 24341, Stop: 24697, Start Num: 73
Candidate Starts for Windest_37:
(59, 24299), (Start: 73 @24341 has 65 MA's), (78, 24380), (85, 24458), (89, 24482), (93, 24530), (96, 24572),

Gene: YoungHarleezy_38 Start: 26030, Stop: 26386, Start Num: 73
Candidate Starts for YoungHarleezy_38:
(Start: 73 @26030 has 65 MA's), (78, 26069), (85, 26147), (89, 26171), (93, 26219), (96, 26261), (102, 26363),

Gene: Zucker_30 Start: 24815, Stop: 25171, Start Num: 73
Candidate Starts for Zucker_30:
(Start: 73 @24815 has 65 MA's), (78, 24854), (89, 24956), (93, 25004), (96, 25046),