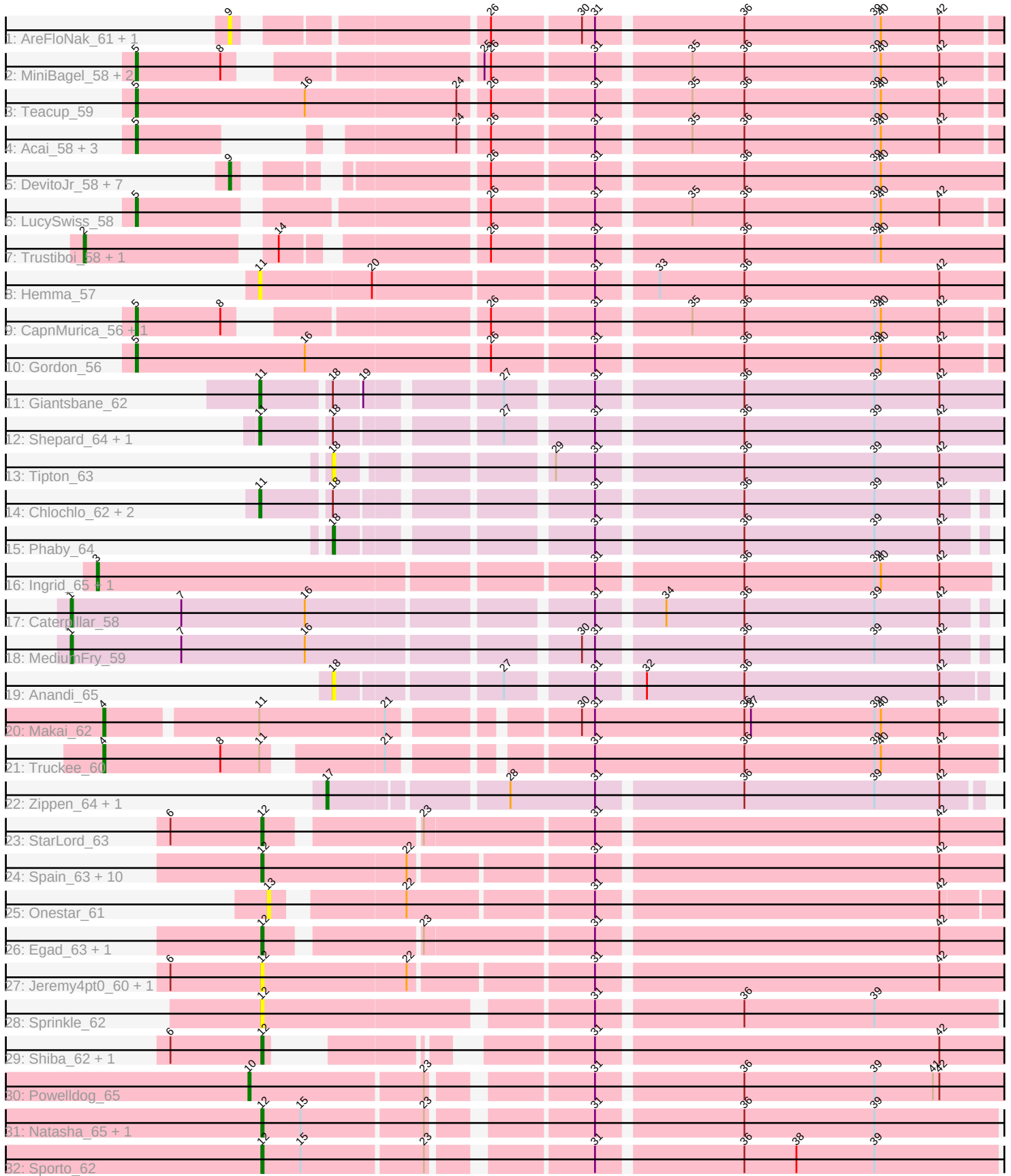


Pham 280423



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 280423 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280423 has 66 members, 14 are drafts.

Phages represented in each track:

- Track 1 : AreFloNak_61, Nivinsha_60
- Track 2 : MiniBagel_58, Issa_57, Dinallo_57
- Track 3 : Teacup_59
- Track 4 : Acai_58, ElephantMan_58, Niktson_58, Brunswick_59
- Track 5 : DevitoJr_58, Breylor17_58, CastorTray_62, Westerlin_58, Tatanka_55, Nightmare_60, Synopsis_57, Darby_57
- Track 6 : LucySwiss_58
- Track 7 : Trustiboi_58, ScienceWizSam_59
- Track 8 : Hemma_57
- Track 9 : CapnMurica_56, Tenno_59
- Track 10 : Gordon_56
- Track 11 : Giantsbane_62
- Track 12 : Shepard_64, LilHuddy_63
- Track 13 : Tipton_63
- Track 14 : Chlochlo_62, Bouchard_62, Tokki_67
- Track 15 : Phaby_64
- Track 16 : Ingrid_65, Loretta_62
- Track 17 : Caterpillar_58
- Track 18 : MediumFry_59
- Track 19 : Anandi_65
- Track 20 : Makai_62
- Track 21 : Truckee_60
- Track 22 : Zippen_64, Inked_65
- Track 23 : StarLord_63
- Track 24 : Spain_63, Stayer_63, DoctorPepper_62, Sloopyjoe_63, BronxBay_63, Linda_63, Boog_62, Michelle_63, Salk_63, MrAaronian_63, Djungelskog_62
- Track 25 : Onestar_61
- Track 26 : Egad_63, ProfFrink_63
- Track 27 : Jeremy4pt0_60, HerbBucket_61
- Track 28 : Sprinkle_62
- Track 29 : Shiba_62, Raunak_64
- Track 30 : PowellDog_65
- Track 31 : Natasha_65, RustyBoy_66
- Track 32 : Sporto_62

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

The start number called the most often in the published annotations is 12, it was called in 17 of the 52 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Boog_62, BronxBay_63, Djungelskog_62, DoctorPepper_62, Egad_63, HerbBucket_61, Jeremy4pt0_60, Linda_63, Michelle_63, MrAaronian_63, Natasha_65, ProfFrink_63, Raunak_64, RustyBoy_66, Salk_63, Shiba_62, Sloopyjoe_63, Spain_63, Sporto_62, Sprinkle_62, StarLord_63, Stayer_63,

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

-

Genes that do not have the "Most Annotated" start:

- Acai_58, Anandi_65, AreFloNak_61, Bouchard_62, Breylor17_58, Brunswick_59, CapnMurica_56, CastorTray_62, Caterpillar_58, Chlochlo_62, Darby_57, DevitoJr_58, Dinallo_57, ElephantMan_58, Giantsbane_62, Gordon_56, Hemma_57, Ingrid_65, Inked_65, Issa_57, LilHuddy_63, Loretta_62, LucySwiss_58, Makai_62, MediumFry_59, MiniBagel_58, Nightmare_60, Niktson_58, Nivinsha_60, Onestar_61, Phaby_64, Powelldog_65, ScienceWizSam_59, Shepard_64, Synepsis_57, Tatanka_55, Teacup_59, Tenno_59, Tipton_63, Tokki_67, Truckee_60, Trustiboi_58, Westerlin_58, Zippen_64,

Summary by start number:

Start 1:

- Found in 2 of 66 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Caterpillar_58 (AU4), MediumFry_59 (AU4),

Start 2:

- Found in 2 of 66 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ScienceWizSam_59 (AU1), Trustiboi_58 (AU1),

Start 3:

- Found in 2 of 66 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ingrid_65 (AU3), Loretta_62 (AU3),

Start 4:

- Found in 2 of 66 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Makai_62 (AU5), Truckee_60 (AU5),

Start 5:

- Found in 12 of 66 (18.2%) of genes in pham
- Manual Annotations of this start: 10 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acai_58 (AU1), Brunswick_59 (AU1), CapnMurica_56 (AU1), Dinallo_57 (AU1), ElephantMan_58 (AU1), Gordon_56 (AU1), Issa_57 (AU1), LucySwiss_58 (AU1), MiniBagel_58 (AU1), Niktson_58 (AU1), Teacup_59 (AU1), Tenno_59 (AU1),

Start 9:

- Found in 10 of 66 (15.2%) of genes in pham
- Manual Annotations of this start: 7 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AreFloNak_61 (AU1), Breylor17_58 (AU1), CastorTray_62 (AU1), Darby_57 (AU1), DevitoJr_58 (AU1), Nightmare_60 (AU1), Nivinsha_60 (AU1), Synepsis_57 (AU1), Tatanka_55 (AU1), Westerlin_58 (AU1),

Start 10:

- Found in 1 of 66 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Powelldog_65 (AW),

Start 11:

- Found in 9 of 66 (13.6%) of genes in pham
- Manual Annotations of this start: 6 of 52
- Called 77.8% of time when present
- Phage (with cluster) where this start called: Bouchard_62 (AU2), Chlochlo_62 (AU2), Giantsbane_62 (AU2), Hemma_57 (AU1), LilHuddy_63 (AU2), Shepard_64 (AU2), Tokki_67 (AU2),

Start 12:

- Found in 22 of 66 (33.3%) of genes in pham
- Manual Annotations of this start: 17 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boog_62 (AW), BronxBay_63 (AW), Djungelskog_62 (AW), DoctorPepper_62 (AW), Egad_63 (AW), HerbBucket_61 (AW), Jeremy4pt0_60 (AW), Linda_63 (AW), Michelle_63 (AW), MrAaronian_63 (AW), Natasha_65 (AW), ProfFrink_63 (AW), Raunak_64 (AW), RustyBoy_66 (AW), Salk_63 (AW), Shiba_62 (AW), Sloopyjoe_63 (AW), Spain_63 (AW), Sporto_62 (AW), Sprinkle_62 (AW), StarLord_63 (AW), Stayer_63 (AW),

Start 13:

- 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: Onestar_61 (AW),

Start 17:

- Found in 2 of 66 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 52
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Inked_65 (AU7), Zippen_64 (AU7),

Start 18:

- Found in 9 of 66 (13.6%) of genes in pham
- Manual Annotations of this start: 1 of 52
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Anandi_65 (AU4), Phaby_64 (AU2), Tipton_63 (AU2),

Summary by clusters:

There are 7 clusters represented in this pham: AW, AU1, AU3, AU2, AU5, AU4, AU7,

Info for manual annotations of cluster AU1:

- Start number 2 was manually annotated 2 times for cluster AU1.
- Start number 5 was manually annotated 10 times for cluster AU1.
- Start number 9 was manually annotated 7 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 11 was manually annotated 6 times for cluster AU2.
- Start number 18 was manually annotated 1 time for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 3 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 1 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 4 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU7:

- Start number 17 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:

- Start number 10 was manually annotated 1 time for cluster AW.
- Start number 12 was manually annotated 17 times for cluster AW.

Gene Information:

Gene: Acai_58 Start: 42880, Stop: 43212, Start Num: 5

Candidate Starts for Acai_58:

(Start: 5 @42880 has 10 MA's), (24, 42976), (26, 42988), (31, 43033), (35, 43072), (36, 43096), (39, 43156), (40, 43159), (42, 43186),

Gene: Anandi_65 Start: 43587, Stop: 43865, Start Num: 18

Candidate Starts for Anandi_65:

(Start: 18 @43587 has 1 MA's), (27, 43656), (31, 43692), (32, 43710), (36, 43755), (42, 43845),

Gene: AreFloNak_61 Start: 42859, Stop: 43182, Start Num: 9

Candidate Starts for AreFloNak_61:

(Start: 9 @42859 has 7 MA's), (26, 42958), (30, 42997), (31, 43003), (36, 43066), (39, 43126), (40, 43129), (42, 43156),

Gene: Boog_62 Start: 41296, Stop: 41628, Start Num: 12

Candidate Starts for Boog_62:

(Start: 12 @41296 has 17 MA's), (22, 41362), (31, 41440), (42, 41593),

Gene: Bouchard_62 Start: 43508, Stop: 43810, Start Num: 11

Candidate Starts for Bouchard_62:

(Start: 11 @43508 has 6 MA's), (Start: 18 @43538 has 1 MA's), (31, 43640), (36, 43703), (39, 43763), (42, 43793),

Gene: Breylor17_58 Start: 43432, Stop: 43758, Start Num: 9

Candidate Starts for Breylor17_58:

(Start: 9 @43432 has 7 MA's), (26, 43531), (31, 43576), (36, 43639), (39, 43699), (40, 43702),

Gene: BronxBay_63 Start: 41552, Stop: 41884, Start Num: 12

Candidate Starts for BronxBay_63:

(Start: 12 @41552 has 17 MA's), (22, 41618), (31, 41696), (42, 41849),

Gene: Brunswick_59 Start: 42729, Stop: 43055, Start Num: 5

Candidate Starts for Brunswick_59:

(Start: 5 @42729 has 10 MA's), (24, 42819), (26, 42831), (31, 42876), (35, 42915), (36, 42939), (39, 42999), (40, 43002), (42, 43029),

Gene: CapnMurica_56 Start: 43585, Stop: 43947, Start Num: 5

Candidate Starts for CapnMurica_56:

(Start: 5 @43585 has 10 MA's), (8, 43624), (26, 43723), (31, 43768), (35, 43807), (36, 43831), (39, 43891), (40, 43894), (42, 43921),

Gene: CastorTray_62 Start: 43620, Stop: 43946, Start Num: 9

Candidate Starts for CastorTray_62:

(Start: 9 @43620 has 7 MA's), (26, 43719), (31, 43764), (36, 43827), (39, 43887), (40, 43890),

Gene: Caterpillar_58 Start: 42467, Stop: 42865, Start Num: 1

Candidate Starts for Caterpillar_58:

(Start: 1 @42467 has 2 MA's), (7, 42518), (16, 42575), (31, 42695), (34, 42722), (36, 42758), (39, 42818), (42, 42848),

Gene: Chlochlo_62 Start: 43034, Stop: 43336, Start Num: 11

Candidate Starts for Chlochlo_62:

(Start: 11 @43034 has 6 MA's), (Start: 18 @43064 has 1 MA's), (31, 43166), (36, 43229), (39, 43289), (42, 43319),

Gene: Darby_57 Start: 42676, Stop: 42993, Start Num: 9

Candidate Starts for Darby_57:

(Start: 9 @42676 has 7 MA's), (26, 42766), (31, 42811), (36, 42874), (39, 42934), (40, 42937),

Gene: DevitoJr_58 Start: 43062, Stop: 43379, Start Num: 9

Candidate Starts for DevitoJr_58:

(Start: 9 @43062 has 7 MA's), (26, 43152), (31, 43197), (36, 43260), (39, 43320), (40, 43323),

Gene: Dinallo_57 Start: 43894, Stop: 44256, Start Num: 5

Candidate Starts for Dinallo_57:

(Start: 5 @43894 has 10 MA's), (8, 43933), (25, 44029), (26, 44032), (31, 44077), (35, 44116), (36, 44140), (39, 44200), (40, 44203), (42, 44230),

Gene: Djungelskog_62 Start: 41551, Stop: 41883, Start Num: 12

Candidate Starts for Djungelskog_62:

(Start: 12 @41551 has 17 MA's), (22, 41617), (31, 41695), (42, 41848),

Gene: DoctorPepper_62 Start: 41256, Stop: 41588, Start Num: 12

Candidate Starts for DoctorPepper_62:

(Start: 12 @41256 has 17 MA's), (22, 41322), (31, 41400), (42, 41553),

Gene: Egad_63 Start: 41553, Stop: 41879, Start Num: 12

Candidate Starts for Egad_63:

(Start: 12 @41553 has 17 MA's), (23, 41616), (31, 41691), (42, 41844),

Gene: ElephantMan_58 Start: 43359, Stop: 43685, Start Num: 5

Candidate Starts for ElephantMan_58:

(Start: 5 @43359 has 10 MA's), (24, 43449), (26, 43461), (31, 43506), (35, 43545), (36, 43569), (39, 43629), (40, 43632), (42, 43659),

Gene: Giantsbane_62 Start: 42221, Stop: 42541, Start Num: 11

Candidate Starts for Giantsbane_62:

(Start: 11 @42221 has 6 MA's), (Start: 18 @42251 has 1 MA's), (19, 42263), (27, 42317), (31, 42353), (36, 42416), (39, 42476), (42, 42506),

Gene: Gordon_56 Start: 43483, Stop: 43866, Start Num: 5

Candidate Starts for Gordon_56:

(Start: 5 @43483 has 10 MA's), (16, 43561), (26, 43642), (31, 43687), (36, 43750), (39, 43810), (40, 43813), (42, 43840),

Gene: Hemma_57 Start: 40112, Stop: 40447, Start Num: 11

Candidate Starts for Hemma_57:

(Start: 11 @40112 has 6 MA's), (20, 40163), (31, 40259), (33, 40283), (36, 40322), (42, 40412),

Gene: HerbBucket_61 Start: 41293, Stop: 41610, Start Num: 12

Candidate Starts for HerbBucket_61:

(6, 41251), (Start: 12 @41293 has 17 MA's), (22, 41359), (31, 41422), (42, 41575),

Gene: Ingrid_65 Start: 43339, Stop: 43734, Start Num: 3

Candidate Starts for Ingrid_65:

(Start: 3 @43339 has 2 MA's), (31, 43558), (36, 43621), (39, 43681), (40, 43684), (42, 43711),

Gene: Inked_65 Start: 44293, Stop: 44580, Start Num: 17

Candidate Starts for Inked_65:

(Start: 17 @44293 has 2 MA's), (28, 44368), (31, 44407), (36, 44470), (39, 44530), (42, 44560),

Gene: Issa_57 Start: 42679, Stop: 43041, Start Num: 5

Candidate Starts for Issa_57:

(Start: 5 @42679 has 10 MA's), (8, 42718), (25, 42814), (26, 42817), (31, 42862), (35, 42901), (36, 42925), (39, 42985), (40, 42988), (42, 43015),

Gene: Jeremy4pt0_60 Start: 41251, Stop: 41583, Start Num: 12

Candidate Starts for Jeremy4pt0_60:

(6, 41209), (Start: 12 @41251 has 17 MA's), (22, 41317), (31, 41395), (42, 41548),

Gene: LilHuddy_63 Start: 43331, Stop: 43651, Start Num: 11

Candidate Starts for LilHuddy_63:

(Start: 11 @43331 has 6 MA's), (Start: 18 @43361 has 1 MA's), (27, 43427), (31, 43463), (36, 43526), (39, 43586), (42, 43616),

Gene: Linda_63 Start: 41549, Stop: 41881, Start Num: 12

Candidate Starts for Linda_63:

(Start: 12 @41549 has 17 MA's), (22, 41615), (31, 41693), (42, 41846),

Gene: Loretta_62 Start: 43339, Stop: 43734, Start Num: 3

Candidate Starts for Loretta_62:

(Start: 3 @43339 has 2 MA's), (31, 43558), (36, 43621), (39, 43681), (40, 43684), (42, 43711),

Gene: LucySwiss_58 Start: 42467, Stop: 42835, Start Num: 5

Candidate Starts for LucySwiss_58:

(Start: 5 @42467 has 10 MA's), (26, 42611), (31, 42656), (35, 42695), (36, 42719), (39, 42779), (40, 42782), (42, 42809),

Gene: Makai_62 Start: 43423, Stop: 43809, Start Num: 4

Candidate Starts for Makai_62:

(Start: 4 @43423 has 2 MA's), (Start: 11 @43489 has 6 MA's), (21, 43546), (30, 43618), (31, 43624), (36, 43693), (37, 43696), (39, 43753), (40, 43756), (42, 43783),

Gene: MediumFry_59 Start: 42756, Stop: 43154, Start Num: 1

Candidate Starts for MediumFry_59:

(Start: 1 @42756 has 2 MA's), (7, 42807), (16, 42864), (30, 42978), (31, 42984), (36, 43047), (39, 43107), (42, 43137),

Gene: Michelle_63 Start: 41551, Stop: 41883, Start Num: 12

Candidate Starts for Michelle_63:

(Start: 12 @41551 has 17 MA's), (22, 41617), (31, 41695), (42, 41848),

Gene: MiniBagel_58 Start: 43567, Stop: 43929, Start Num: 5

Candidate Starts for MiniBagel_58:

(Start: 5 @43567 has 10 MA's), (8, 43606), (25, 43702), (26, 43705), (31, 43750), (35, 43789), (36, 43813), (39, 43873), (40, 43876), (42, 43903),

Gene: MrAaronian_63 Start: 41551, Stop: 41883, Start Num: 12

Candidate Starts for MrAaronian_63:

(Start: 12 @41551 has 17 MA's), (22, 41617), (31, 41695), (42, 41848),

Gene: Natasha_65 Start: 41511, Stop: 41825, Start Num: 12

Candidate Starts for Natasha_65:

(Start: 12 @41511 has 17 MA's), (15, 41529), (23, 41583), (31, 41646), (36, 41709), (39, 41769),

Gene: Nightmare_60 Start: 43904, Stop: 44227, Start Num: 9

Candidate Starts for Nightmare_60:

(Start: 9 @43904 has 7 MA's), (26, 44003), (31, 44048), (36, 44111), (39, 44171), (40, 44174),

Gene: Niktson_58 Start: 43359, Stop: 43685, Start Num: 5

Candidate Starts for Niktson_58:

(Start: 5 @43359 has 10 MA's), (24, 43449), (26, 43461), (31, 43506), (35, 43545), (36, 43569), (39, 43629), (40, 43632), (42, 43659),

Gene: Nivinsha_60 Start: 42859, Stop: 43182, Start Num: 9

Candidate Starts for Nivinsha_60:

(Start: 9 @42859 has 7 MA's), (26, 42958), (30, 42997), (31, 43003), (36, 43066), (39, 43126), (40, 43129), (42, 43156),

Gene: Onestar_61 Start: 41324, Stop: 41641, Start Num: 13

Candidate Starts for Onestar_61:

(13, 41324), (22, 41375), (31, 41456), (42, 41609),

Gene: Phaby_64 Start: 43940, Stop: 44212, Start Num: 18

Candidate Starts for Phaby_64:

(Start: 18 @43940 has 1 MA's), (31, 44042), (36, 44105), (39, 44165), (42, 44195),

Gene: Powelldog_65 Start: 41968, Stop: 42291, Start Num: 10

Candidate Starts for Powelldog_65:

(Start: 10 @41968 has 1 MA's), (23, 42046), (31, 42109), (36, 42172), (39, 42232), (41, 42259), (42, 42262),

Gene: ProfFrink_63 Start: 41552, Stop: 41878, Start Num: 12

Candidate Starts for ProfFrink_63:

(Start: 12 @41552 has 17 MA's), (23, 41615), (31, 41690), (42, 41843),

Gene: Raunak_64 Start: 41249, Stop: 41539, Start Num: 12

Candidate Starts for Raunak_64:

(6, 41207), (Start: 12 @41249 has 17 MA's), (31, 41351), (42, 41504),

Gene: RustyBoy_66 Start: 41710, Stop: 42024, Start Num: 12

Candidate Starts for RustyBoy_66:

(Start: 12 @41710 has 17 MA's), (15, 41728), (23, 41782), (31, 41845), (36, 41908), (39, 41968),

Gene: Salk_63 Start: 41549, Stop: 41881, Start Num: 12

Candidate Starts for Salk_63:

(Start: 12 @41549 has 17 MA's), (22, 41615), (31, 41693), (42, 41846),

Gene: ScienceWizSam_59 Start: 42958, Stop: 43344, Start Num: 2

Candidate Starts for ScienceWizSam_59:

(Start: 2 @42958 has 2 MA's), (14, 43036), (26, 43117), (31, 43162), (36, 43225), (39, 43285), (40, 43288),

Gene: Shepard_64 Start: 43190, Stop: 43510, Start Num: 11

Candidate Starts for Shepard_64:

(Start: 11 @43190 has 6 MA's), (Start: 18 @43220 has 1 MA's), (27, 43286), (31, 43322), (36, 43385), (39, 43445), (42, 43475),

Gene: Shiba_62 Start: 41249, Stop: 41539, Start Num: 12

Candidate Starts for Shiba_62:

(6, 41207), (Start: 12 @41249 has 17 MA's), (31, 41351), (42, 41504),

Gene: Sloopyjoe_63 Start: 41553, Stop: 41885, Start Num: 12

Candidate Starts for Sloopyjoe_63:

(Start: 12 @41553 has 17 MA's), (22, 41619), (31, 41697), (42, 41850),

Gene: Spain_63 Start: 41551, Stop: 41883, Start Num: 12

Candidate Starts for Spain_63:

(Start: 12 @41551 has 17 MA's), (22, 41617), (31, 41695), (42, 41848),

Gene: Sporto_62 Start: 42677, Stop: 42991, Start Num: 12

Candidate Starts for Sporto_62:

(Start: 12 @42677 has 17 MA's), (15, 42695), (23, 42749), (31, 42812), (36, 42875), (38, 42899), (39, 42935),

Gene: Sprinkle_62 Start: 41712, Stop: 42032, Start Num: 12

Candidate Starts for Sprinkle_62:

(Start: 12 @41712 has 17 MA's), (31, 41853), (36, 41916), (39, 41976),

Gene: StarLord_63 Start: 41552, Stop: 41878, Start Num: 12

Candidate Starts for StarLord_63:

(6, 41510), (Start: 12 @41552 has 17 MA's), (23, 41615), (31, 41690), (42, 41843),

Gene: Stayer_63 Start: 41549, Stop: 41881, Start Num: 12

Candidate Starts for Stayer_63:

(Start: 12 @41549 has 17 MA's), (22, 41615), (31, 41693), (42, 41846),

Gene: Synopsis_57 Start: 43026, Stop: 43349, Start Num: 9

Candidate Starts for Synopsis_57:

(Start: 9 @43026 has 7 MA's), (26, 43125), (31, 43170), (36, 43233), (39, 43293), (40, 43296),

Gene: Tatanka_55 Start: 43155, Stop: 43481, Start Num: 9

Candidate Starts for Tatanka_55:

(Start: 9 @43155 has 7 MA's), (26, 43254), (31, 43299), (36, 43362), (39, 43422), (40, 43425),

Gene: Teacup_59 Start: 43381, Stop: 43764, Start Num: 5

Candidate Starts for Teacup_59:

(Start: 5 @43381 has 10 MA's), (16, 43459), (24, 43528), (26, 43540), (31, 43585), (35, 43624), (36, 43648), (39, 43708), (40, 43711), (42, 43738),

Gene: Tenno_59 Start: 43640, Stop: 44002, Start Num: 5

Candidate Starts for Tenno_59:

(Start: 5 @43640 has 10 MA's), (8, 43679), (26, 43778), (31, 43823), (35, 43862), (36, 43886), (39, 43946), (40, 43949), (42, 43976),

Gene: Tipton_63 Start: 43711, Stop: 43998, Start Num: 18

Candidate Starts for Tipton_63:

(Start: 18 @43711 has 1 MA's), (29, 43792), (31, 43810), (36, 43873), (39, 43933), (42, 43963),

Gene: Tokki_67 Start: 43544, Stop: 43864, Start Num: 11

Candidate Starts for Tokki_67:

(Start: 11 @43544 has 6 MA's), (Start: 18 @43574 has 1 MA's), (31, 43676), (36, 43739), (39, 43799), (42, 43829),

Gene: Truckee_60 Start: 43213, Stop: 43593, Start Num: 4

Candidate Starts for Truckee_60:

(Start: 4 @43213 has 2 MA's), (8, 43267), (Start: 11 @43285 has 6 MA's), (21, 43330), (31, 43408), (36, 43477), (39, 43537), (40, 43540), (42, 43567),

Gene: Trustiboi_58 Start: 43218, Stop: 43604, Start Num: 2

Candidate Starts for Trustiboi_58:

(Start: 2 @43218 has 2 MA's), (14, 43296), (26, 43377), (31, 43422), (36, 43485), (39, 43545), (40, 43548),

Gene: Westerlin_58 Start: 44358, Stop: 44684, Start Num: 9

Candidate Starts for Westerlin_58:

(Start: 9 @44358 has 7 MA's), (26, 44457), (31, 44502), (36, 44565), (39, 44625), (40, 44628),

Gene: Zippen_64 Start: 43993, Stop: 44277, Start Num: 17

Candidate Starts for Zippen_64:

(Start: 17 @43993 has 2 MA's), (28, 44068), (31, 44107), (36, 44170), (39, 44230), (42, 44260),