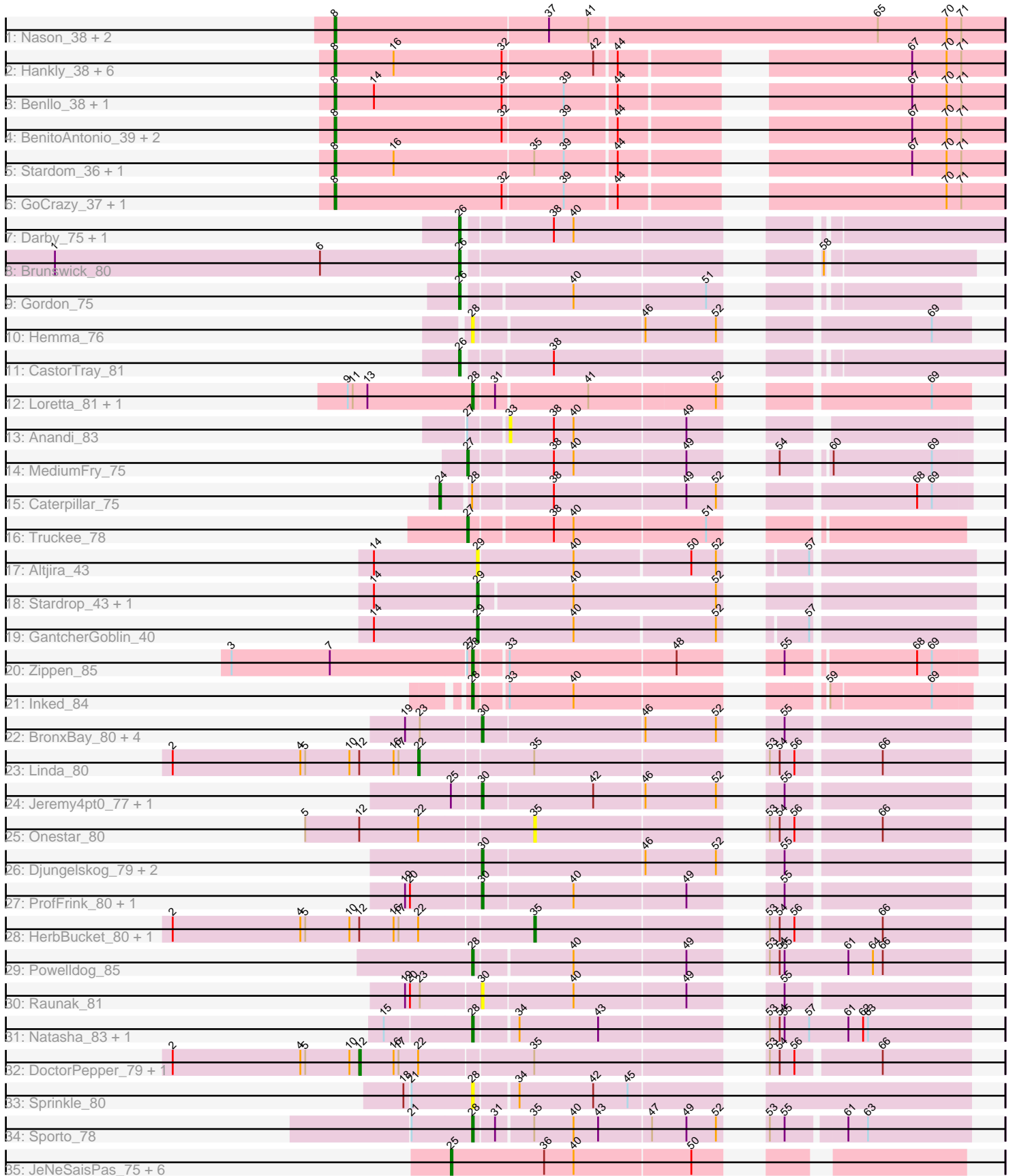


Pham 296546



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 296546 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296546 has 68 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Nason_38, Elsa_38, Arcadia_38
- Track 2 : Hankly_38, JEGGS_38, Circum_40, Kardesai_40, Heisenberger_38, Cheesy_38, Mooshroom_41
- Track 3 : Benllo_38, YoshiYama_38
- Track 4 : BenitoAntonio_39, Tribby_38, Correa_36
- Track 5 : Stardom_36, Xenomorph_35
- Track 6 : GoCrazy_37, KeaneyLin_37
- Track 7 : Darby_75, Trustiboi_77
- Track 8 : Brunswick_80
- Track 9 : Gordon_75
- Track 10 : Hemma_76
- Track 11 : CastorTray_81
- Track 12 : Loretta_81, Ingrid_85
- Track 13 : Anandi_83
- Track 14 : MediumFry_75
- Track 15 : Caterpillar_75
- Track 16 : Truckee_78
- Track 17 : Altjira_43
- Track 18 : Stardrop_43, Navi1117_42
- Track 19 : GantcherGoblin_40
- Track 20 : Zippen_85
- Track 21 : Inked_84
- Track 22 : BronxBay_80, Stayer_80, Michelle_80, StarLord_80, Sloopyjoe_80
- Track 23 : Linda_80
- Track 24 : Jeremy4pt0_77, Shiba_79
- Track 25 : Onestar_80
- Track 26 : Djungelskog_79, MrAaronian_80, Spain_80
- Track 27 : ProfFrink_80, Salk_80
- Track 28 : HerbBucket_80, Egad_81
- Track 29 : PowellDog_85
- Track 30 : Raunak_81
- Track 31 : Natasha_83, RustyBoy_84
- Track 32 : DoctorPepper_79, Boog_79
- Track 33 : Sprinkle_80
- Track 34 : Sporto_78
- Track 35 : JeNeSaisPas_75, Kureo_78, Gandionco_76, Elver_77, Qui_79, Paella_79, Marianna39_78

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

The start number called the most often in the published annotations is 8, it was called in 17 of the 52 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arcadia_38, BenitoAntonio_39, Benllo_38, Cheesy_38, Circum_40, Correa_36, Elsa_38, GoCrazy_37, Hankly_38, Heisenberger_38, JEGGS_38, Kardesai_40, KeaneyLin_37, Mooshroom_41, Nason_38, Stardom_36, Tribby_38, Xenomorph_35, YoshiYama_38,

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

-

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

- Altjira_43, Anandi_83, Boog_79, BronxBay_80, Brunswick_80, CastorTray_81, Caterpillar_75, Darby_75, Djungelskog_79, DoctorPepper_79, Egad_81, Elver_77, Gandionco_76, GantcherGoblin_40, Gordon_75, Hemma_76, HerbBucket_80, Ingrid_85, Inked_84, JeNeSaisPas_75, Jeremy4pt0_77, Kureo_78, Linda_80, Loretta_81, Marianna39_78, MediumFry_75, Michelle_80, MrAaronian_80, Natasha_83, Navi1117_42, Onestar_80, Paella_79, Powelldog_85, ProfFrink_80, Qui_79, Raunak_81, RustyBoy_84, Salk_80, Shiba_79, Sloopyjoe_80, Spain_80, Sporto_78, Sprinkle_80, StarLord_80, Stardrop_43, Stayer_80, Truckee_78, Trustiboi_77, Zippen_85,

Summary by start number:

Start 8:

- Found in 19 of 68 (27.9%) 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: Arcadia_38 (AM), BenitoAntonio_39 (AM), Benllo_38 (AM), Cheesy_38 (AM), Circum_40 (AM), Correa_36 (AM), Elsa_38 (AM), GoCrazy_37 (AM), Hankly_38 (AM), Heisenberger_38 (AM), JEGGS_38 (AM), Kardesai_40 (AM), KeaneyLin_37 (AM), Mooshroom_41 (AM), Nason_38 (AM), Stardom_36 (AM), Tribby_38 (AM), Xenomorph_35 (AM), YoshiYama_38 (AM),

Start 12:

- Found in 6 of 68 (8.8%) of genes in pham
- Manual Annotations of this start: 2 of 52
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Boog_79 (AW), DoctorPepper_79 (AW),

Start 22:

- Found in 6 of 68 (8.8%) of genes in pham
- Manual Annotations of this start: 1 of 52
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Linda_80 (AW),

Start 24:

- Found in 1 of 68 (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: Caterpillar_75 (AU4),

Start 25:

- Found in 9 of 68 (13.2%) of genes in pham
- Manual Annotations of this start: 3 of 52
- Called 77.8% of time when present
- Phage (with cluster) where this start called: Elver_77 (FK), Gandionco_76 (FK), JeNeSaisPas_75 (FK), Kureo_78 (FK), Marianna39_78 (FK), Paella_79 (FK), Qui_79 (FK),

Start 26:

- Found in 5 of 68 (7.4%) of genes in pham
- Manual Annotations of this start: 5 of 52
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Brunswick_80 (AU1), CastorTray_81 (AU1), Darby_75 (AU1), Gordon_75 (AU1), Trustiboi_77 (AU1),

Start 27:

- Found in 4 of 68 (5.9%) of genes in pham
- Manual Annotations of this start: 2 of 52
- Called 50.0% of time when present
- Phage (with cluster) where this start called: MediumFry_75 (AU4), Truckee_78 (AU5),

Start 28:

- Found in 11 of 68 (16.2%) of genes in pham
- Manual Annotations of this start: 8 of 52
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Hemma_76 (AU1), Ingrid_85 (AU3), Inked_84 (AU7), Loretta_81 (AU3), Natasha_83 (AW), Powelldog_85 (AW), RustyBoy_84 (AW), Sporto_78 (AW), Sprinkle_80 (AW), Zippen_85 (AU7),

Start 29:

- Found in 4 of 68 (5.9%) 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: Altjira_43 (AU6), GantcherGoblin_40 (AU6), Navi1117_42 (AU6), Stardrop_43 (AU6),

Start 30:

- Found in 13 of 68 (19.1%) 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: BronxBay_80 (AW), Djungelskog_79 (AW), Jeremy4pt0_77 (AW), Michelle_80 (AW), MrAaronian_80 (AW), ProfFrink_80 (AW), Raunak_81 (AW), Salk_80 (AW), Shiba_79 (AW), Sloopyjoe_80 (AW), Spain_80 (AW), StarLord_80 (AW), Stayer_80 (AW),

Start 33:

- Found in 3 of 68 (4.4%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Anandi_83 (AU4),

Start 35:

- Found in 9 of 68 (13.2%) 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: Egad_81 (AW), HerbBucket_80 (AW), Onestar_80 (AW),

Summary by clusters:

There are 9 clusters represented in this pham: AW, AM, AU1, AU3, AU5, AU4, AU7, AU6, FK,

Info for manual annotations of cluster AM:

- Start number 8 was manually annotated 17 times for cluster AM.

Info for manual annotations of cluster AU1:

- Start number 26 was manually annotated 5 times for cluster AU1.

Info for manual annotations of cluster AU3:

- Start number 28 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 24 was manually annotated 1 time for cluster AU4.
- Start number 27 was manually annotated 1 time for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 27 was manually annotated 1 time for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 29 was manually annotated 2 times for cluster AU6.

Info for manual annotations of cluster AU7:

- Start number 28 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:

- Start number 12 was manually annotated 2 times for cluster AW.
- Start number 22 was manually annotated 1 time for cluster AW.
- Start number 28 was manually annotated 4 times for cluster AW.
- Start number 30 was manually annotated 10 times for cluster AW.
- Start number 35 was manually annotated 1 time for cluster AW.

Info for manual annotations of cluster FK:

- Start number 25 was manually annotated 3 times for cluster FK.

Gene Information:

Gene: Altjira_43 Start: 31618, Stop: 31881, Start Num: 29
Candidate Starts for Altjira_43:
(14, 31555), (Start: 29 @31618 has 2 MA's), (40, 31675), (50, 31744), (52, 31759), (57, 31786),

Gene: Anandi_83 Start: 51330, Stop: 51569, Start Num: 33
Candidate Starts for Anandi_83:
(Start: 27 @51309 has 2 MA's), (33, 51330), (38, 51357), (40, 51369), (49, 51435),

Gene: Arcadia_38 Start: 28208, Stop: 28612, Start Num: 8
Candidate Starts for Arcadia_38:
(Start: 8 @28208 has 17 MA's), (37, 28337), (41, 28361), (65, 28535), (70, 28577), (71, 28586),

Gene: BenitoAntonio_39 Start: 28046, Stop: 28417, Start Num: 8
Candidate Starts for BenitoAntonio_39:
(Start: 8 @28046 has 17 MA's), (32, 28148), (39, 28184), (44, 28214), (67, 28361), (70, 28382), (71, 28391),

Gene: Benllo_38 Start: 28724, Stop: 29095, Start Num: 8
Candidate Starts for Benllo_38:
(Start: 8 @28724 has 17 MA's), (14, 28748), (32, 28826), (39, 28862), (44, 28892), (67, 29039), (70, 29060), (71, 29069),

Gene: Boog_79 Start: 48864, Stop: 49196, Start Num: 12
Candidate Starts for Boog_79:
(2, 48750), (4, 48828), (5, 48831), (10, 48858), (Start: 12 @48864 has 2 MA's), (16, 48885), (17, 48888), (Start: 22 @48900 has 1 MA's), (Start: 35 @48966 has 1 MA's), (53, 49080), (54, 49086), (56, 49095), (66, 49143),

Gene: BronxBay_80 Start: 49187, Stop: 49447, Start Num: 30
Candidate Starts for BronxBay_80:
(19, 49145), (23, 49154), (Start: 30 @49187 has 10 MA's), (46, 49283), (52, 49325), (55, 49340),

Gene: Brunswick_80 Start: 51050, Stop: 51316, Start Num: 26
Candidate Starts for Brunswick_80:
(1, 50804), (6, 50966), (Start: 26 @51050 has 5 MA's), (58, 51230),

Gene: CastorTray_81 Start: 51434, Stop: 51715, Start Num: 26
Candidate Starts for CastorTray_81:
(Start: 26 @51434 has 5 MA's), (38, 51482),

Gene: Caterpillar_75 Start: 50096, Stop: 50374, Start Num: 24
Candidate Starts for Caterpillar_75:
(Start: 24 @50096 has 1 MA's), (Start: 28 @50111 has 8 MA's), (38, 50156), (49, 50234), (52, 50252), (68, 50342), (69, 50351),

Gene: Cheesy_38 Start: 27895, Stop: 28266, Start Num: 8
Candidate Starts for Cheesy_38:
(Start: 8 @27895 has 17 MA's), (16, 27931), (32, 27997), (42, 28051), (44, 28063), (67, 28210), (70, 28231), (71, 28240),

Gene: Circum_40 Start: 28555, Stop: 28926, Start Num: 8
Candidate Starts for Circum_40:

(Start: 8 @28555 has 17 MA's), (16, 28591), (32, 28657), (42, 28711), (44, 28723), (67, 28870), (70, 28891), (71, 28900),

Gene: Correa_36 Start: 27083, Stop: 27454, Start Num: 8

Candidate Starts for Correa_36:

(Start: 8 @27083 has 17 MA's), (32, 27185), (39, 27221), (44, 27251), (67, 27398), (70, 27419), (71, 27428),

Gene: Darby_75 Start: 50480, Stop: 50761, Start Num: 26

Candidate Starts for Darby_75:

(Start: 26 @50480 has 5 MA's), (38, 50528), (40, 50540),

Gene: Djungelskog_79 Start: 49189, Stop: 49449, Start Num: 30

Candidate Starts for Djungelskog_79:

(Start: 30 @49189 has 10 MA's), (46, 49285), (52, 49327), (55, 49342),

Gene: DoctorPepper_79 Start: 48848, Stop: 49180, Start Num: 12

Candidate Starts for DoctorPepper_79:

(2, 48734), (4, 48812), (5, 48815), (10, 48842), (Start: 12 @48848 has 2 MA's), (16, 48869), (17, 48872), (Start: 22 @48884 has 1 MA's), (Start: 35 @48950 has 1 MA's), (53, 49064), (54, 49070), (56, 49079), (66, 49127),

Gene: Egad_81 Start: 49224, Stop: 49454, Start Num: 35

Candidate Starts for Egad_81:

(2, 49008), (4, 49086), (5, 49089), (10, 49116), (Start: 12 @49122 has 2 MA's), (16, 49143), (17, 49146), (Start: 22 @49158 has 1 MA's), (Start: 35 @49224 has 1 MA's), (53, 49338), (54, 49344), (56, 49353), (66, 49401),

Gene: Elsa_38 Start: 28208, Stop: 28612, Start Num: 8

Candidate Starts for Elsa_38:

(Start: 8 @28208 has 17 MA's), (37, 28337), (41, 28361), (65, 28535), (70, 28577), (71, 28586),

Gene: Elver_77 Start: 46880, Stop: 47149, Start Num: 25

Candidate Starts for Elver_77:

(Start: 25 @46880 has 3 MA's), (36, 46937), (40, 46955), (50, 47024),

Gene: Gandionco_76 Start: 46778, Stop: 47047, Start Num: 25

Candidate Starts for Gandionco_76:

(Start: 25 @46778 has 3 MA's), (36, 46835), (40, 46853), (50, 46922),

Gene: GantcherGoblin_40 Start: 30430, Stop: 30693, Start Num: 29

Candidate Starts for GantcherGoblin_40:

(14, 30367), (Start: 29 @30430 has 2 MA's), (40, 30487), (52, 30571), (57, 30598),

Gene: GoCrazy_37 Start: 28033, Stop: 28404, Start Num: 8

Candidate Starts for GoCrazy_37:

(Start: 8 @28033 has 17 MA's), (32, 28135), (39, 28171), (44, 28201), (70, 28369), (71, 28378),

Gene: Gordon_75 Start: 51276, Stop: 51530, Start Num: 26

Candidate Starts for Gordon_75:

(Start: 26 @51276 has 5 MA's), (40, 51336), (51, 51414),

Gene: Hankly_38 Start: 27578, Stop: 27949, Start Num: 8

Candidate Starts for Hankly_38:

(Start: 8 @27578 has 17 MA's), (16, 27614), (32, 27680), (42, 27734), (44, 27746), (67, 27893), (70, 27914), (71, 27923),

Gene: Heisenberger_38 Start: 27888, Stop: 28259, Start Num: 8

Candidate Starts for Heisenberger_38:

(Start: 8 @27888 has 17 MA's), (16, 27924), (32, 27990), (42, 28044), (44, 28056), (67, 28203), (70, 28224), (71, 28233),

Gene: Hemma_76 Start: 48693, Stop: 48956, Start Num: 28

Candidate Starts for Hemma_76:

(Start: 28 @48693 has 8 MA's), (46, 48792), (52, 48834), (69, 48933),

Gene: HerbBucket_80 Start: 48950, Stop: 49180, Start Num: 35

Candidate Starts for HerbBucket_80:

(2, 48734), (4, 48812), (5, 48815), (10, 48842), (Start: 12 @48848 has 2 MA's), (16, 48869), (17, 48872), (Start: 22 @48884 has 1 MA's), (Start: 35 @48950 has 1 MA's), (53, 49064), (54, 49070), (56, 49079), (66, 49127),

Gene: Ingrid_85 Start: 51217, Stop: 51480, Start Num: 28

Candidate Starts for Ingrid_85:

(9, 51142), (11, 51145), (13, 51154), (Start: 28 @51217 has 8 MA's), (31, 51229), (41, 51283), (52, 51358), (69, 51457),

Gene: Inked_84 Start: 51766, Stop: 52023, Start Num: 28

Candidate Starts for Inked_84:

(Start: 28 @51766 has 8 MA's), (33, 51784), (40, 51823), (59, 51940), (69, 52000),

Gene: JEGGS_38 Start: 27942, Stop: 28313, Start Num: 8

Candidate Starts for JEGGS_38:

(Start: 8 @27942 has 17 MA's), (16, 27978), (32, 28044), (42, 28098), (44, 28110), (67, 28257), (70, 28278), (71, 28287),

Gene: JeNeSaisPas_75 Start: 47358, Stop: 47627, Start Num: 25

Candidate Starts for JeNeSaisPas_75:

(Start: 25 @47358 has 3 MA's), (36, 47415), (40, 47433), (50, 47502),

Gene: Jeremy4pt0_77 Start: 48874, Stop: 49134, Start Num: 30

Candidate Starts for Jeremy4pt0_77:

(Start: 25 @48859 has 3 MA's), (Start: 30 @48874 has 10 MA's), (42, 48940), (46, 48970), (52, 49012), (55, 49027),

Gene: Kardesai_40 Start: 28608, Stop: 28979, Start Num: 8

Candidate Starts for Kardesai_40:

(Start: 8 @28608 has 17 MA's), (16, 28644), (32, 28710), (42, 28764), (44, 28776), (67, 28923), (70, 28944), (71, 28953),

Gene: KeaneyLin_37 Start: 28033, Stop: 28404, Start Num: 8

Candidate Starts for KeaneyLin_37:

(Start: 8 @28033 has 17 MA's), (32, 28135), (39, 28171), (44, 28201), (70, 28369), (71, 28378),

Gene: Kureo_78 Start: 46178, Stop: 46447, Start Num: 25

Candidate Starts for Kureo_78:

(Start: 25 @46178 has 3 MA's), (36, 46235), (40, 46253), (50, 46322),

Gene: Linda_80 Start: 49171, Stop: 49467, Start Num: 22

Candidate Starts for Linda_80:

(2, 49021), (4, 49099), (5, 49102), (10, 49129), (Start: 12 @49135 has 2 MA's), (16, 49156), (17, 49159), (Start: 22 @49171 has 1 MA's), (Start: 35 @49237 has 1 MA's), (53, 49351), (54, 49357), (56, 49366), (66, 49414),

Gene: Loretta_81 Start: 51217, Stop: 51480, Start Num: 28

Candidate Starts for Loretta_81:

(9, 51142), (11, 51145), (13, 51154), (Start: 28 @51217 has 8 MA's), (31, 51229), (41, 51283), (52, 51358), (69, 51457),

Gene: Marianna39_78 Start: 47353, Stop: 47622, Start Num: 25

Candidate Starts for Marianna39_78:

(Start: 25 @47353 has 3 MA's), (36, 47410), (40, 47428), (50, 47497),

Gene: MediumFry_75 Start: 50571, Stop: 50834, Start Num: 27

Candidate Starts for MediumFry_75:

(Start: 27 @50571 has 2 MA's), (38, 50619), (40, 50631), (49, 50697), (54, 50727), (60, 50751), (69, 50811),

Gene: Michelle_80 Start: 49186, Stop: 49446, Start Num: 30

Candidate Starts for Michelle_80:

(19, 49144), (23, 49153), (Start: 30 @49186 has 10 MA's), (46, 49282), (52, 49324), (55, 49339),

Gene: Mooshroom_41 Start: 28608, Stop: 28979, Start Num: 8

Candidate Starts for Mooshroom_41:

(Start: 8 @28608 has 17 MA's), (16, 28644), (32, 28710), (42, 28764), (44, 28776), (67, 28923), (70, 28944), (71, 28953),

Gene: MrAaronian_80 Start: 49186, Stop: 49446, Start Num: 30

Candidate Starts for MrAaronian_80:

(Start: 30 @49186 has 10 MA's), (46, 49282), (52, 49324), (55, 49339),

Gene: Nason_38 Start: 28208, Stop: 28612, Start Num: 8

Candidate Starts for Nason_38:

(Start: 8 @28208 has 17 MA's), (37, 28337), (41, 28361), (65, 28535), (70, 28577), (71, 28586),

Gene: Natasha_83 Start: 49509, Stop: 49778, Start Num: 28

Candidate Starts for Natasha_83:

(15, 49458), (Start: 28 @49509 has 8 MA's), (34, 49533), (43, 49581), (53, 49656), (54, 49662), (55, 49665), (57, 49680), (61, 49704), (62, 49713), (63, 49716),

Gene: Navi1117_42 Start: 30843, Stop: 31109, Start Num: 29

Candidate Starts for Navi1117_42:

(14, 30780), (Start: 29 @30843 has 2 MA's), (40, 30897), (52, 30984),

Gene: Onestar_80 Start: 49456, Stop: 49686, Start Num: 35

Candidate Starts for Onestar_80:

(5, 49321), (Start: 12 @49354 has 2 MA's), (Start: 22 @49390 has 1 MA's), (Start: 35 @49456 has 1 MA's), (53, 49570), (54, 49576), (56, 49585), (66, 49633),

Gene: Paella_79 Start: 47473, Stop: 47742, Start Num: 25
Candidate Starts for Paella_79:
(Start: 25 @47473 has 3 MA's), (36, 47530), (40, 47548), (50, 47617),

Gene: Powelldog_85 Start: 50422, Stop: 50691, Start Num: 28
Candidate Starts for Powelldog_85:
(Start: 28 @50422 has 8 MA's), (40, 50479), (49, 50545), (53, 50569), (54, 50575), (55, 50578), (61, 50617), (64, 50632), (66, 50638),

Gene: ProfFrink_80 Start: 49155, Stop: 49415, Start Num: 30
Candidate Starts for ProfFrink_80:
(19, 49113), (20, 49116), (Start: 30 @49155 has 10 MA's), (40, 49209), (49, 49275), (55, 49308),

Gene: Qui_79 Start: 47473, Stop: 47742, Start Num: 25
Candidate Starts for Qui_79:
(Start: 25 @47473 has 3 MA's), (36, 47530), (40, 47548), (50, 47617),

Gene: Raunak_81 Start: 48865, Stop: 49125, Start Num: 30
Candidate Starts for Raunak_81:
(19, 48823), (20, 48826), (23, 48832), (Start: 30 @48865 has 10 MA's), (40, 48919), (49, 48985), (55, 49018),

Gene: RustyBoy_84 Start: 49708, Stop: 49977, Start Num: 28
Candidate Starts for RustyBoy_84:
(15, 49657), (Start: 28 @49708 has 8 MA's), (34, 49732), (43, 49780), (53, 49855), (54, 49861), (55, 49864), (57, 49879), (61, 49903), (62, 49912), (63, 49915),

Gene: Salk_80 Start: 49169, Stop: 49429, Start Num: 30
Candidate Starts for Salk_80:
(19, 49127), (20, 49130), (Start: 30 @49169 has 10 MA's), (40, 49223), (49, 49289), (55, 49322),

Gene: Shiba_79 Start: 48881, Stop: 49141, Start Num: 30
Candidate Starts for Shiba_79:
(Start: 25 @48866 has 3 MA's), (Start: 30 @48881 has 10 MA's), (42, 48947), (46, 48977), (52, 49019), (55, 49034),

Gene: Sloopyjoe_80 Start: 49188, Stop: 49448, Start Num: 30
Candidate Starts for Sloopyjoe_80:
(19, 49146), (23, 49155), (Start: 30 @49188 has 10 MA's), (46, 49284), (52, 49326), (55, 49341),

Gene: Spain_80 Start: 49186, Stop: 49446, Start Num: 30
Candidate Starts for Spain_80:
(Start: 30 @49186 has 10 MA's), (46, 49282), (52, 49324), (55, 49339),

Gene: Sporto_78 Start: 49862, Stop: 50125, Start Num: 28
Candidate Starts for Sporto_78:
(21, 49826), (Start: 28 @49862 has 8 MA's), (31, 49874), (Start: 35 @49895 has 1 MA's), (40, 49919), (43, 49934), (47, 49964), (49, 49985), (52, 50003), (53, 50009), (55, 50018), (61, 50051), (63, 50063),

Gene: Sprinkle_80 Start: 49799, Stop: 50068, Start Num: 28
Candidate Starts for Sprinkle_80:
(18, 49760), (21, 49763), (Start: 28 @49799 has 8 MA's), (34, 49823), (42, 49868), (45, 49889),

Gene: StarLord_80 Start: 49181, Stop: 49441, Start Num: 30
Candidate Starts for StarLord_80:
(19, 49139), (23, 49148), (Start: 30 @49181 has 10 MA's), (46, 49277), (52, 49319), (55, 49334),

Gene: Stardom_36 Start: 27087, Stop: 27458, Start Num: 8
Candidate Starts for Stardom_36:
(Start: 8 @27087 has 17 MA's), (16, 27123), (Start: 35 @27207 has 1 MA's), (39, 27225), (44, 27255),
(67, 27402), (70, 27423), (71, 27432),

Gene: Stardrop_43 Start: 30860, Stop: 31126, Start Num: 29
Candidate Starts for Stardrop_43:
(14, 30797), (Start: 29 @30860 has 2 MA's), (40, 30914), (52, 31001),

Gene: Stayer_80 Start: 49184, Stop: 49444, Start Num: 30
Candidate Starts for Stayer_80:
(19, 49142), (23, 49151), (Start: 30 @49184 has 10 MA's), (46, 49280), (52, 49322), (55, 49337),

Gene: Tribby_38 Start: 27916, Stop: 28287, Start Num: 8
Candidate Starts for Tribby_38:
(Start: 8 @27916 has 17 MA's), (32, 28018), (39, 28054), (44, 28084), (67, 28231), (70, 28252), (71,
28261),

Gene: Truckee_78 Start: 51261, Stop: 51521, Start Num: 27
Candidate Starts for Truckee_78:
(Start: 27 @51261 has 2 MA's), (38, 51309), (40, 51321), (51, 51399),

Gene: Trustiboi_77 Start: 51124, Stop: 51387, Start Num: 26
Candidate Starts for Trustiboi_77:
(Start: 26 @51124 has 5 MA's), (38, 51172), (40, 51184),

Gene: Xenomorph_35 Start: 27874, Stop: 28245, Start Num: 8
Candidate Starts for Xenomorph_35:
(Start: 8 @27874 has 17 MA's), (16, 27910), (Start: 35 @27994 has 1 MA's), (39, 28012), (44, 28042),
(67, 28189), (70, 28210), (71, 28219),

Gene: YoshiYama_38 Start: 28139, Stop: 28510, Start Num: 8
Candidate Starts for YoshiYama_38:
(Start: 8 @28139 has 17 MA's), (14, 28163), (32, 28241), (39, 28277), (44, 28307), (67, 28454), (70,
28475), (71, 28484),

Gene: Zippen_85 Start: 51805, Stop: 52068, Start Num: 28
Candidate Starts for Zippen_85:
(3, 51661), (7, 51721), (Start: 27 @51802 has 2 MA's), (Start: 28 @51805 has 8 MA's), (33, 51823),
(48, 51922), (55, 51961), (68, 52033), (69, 52042),