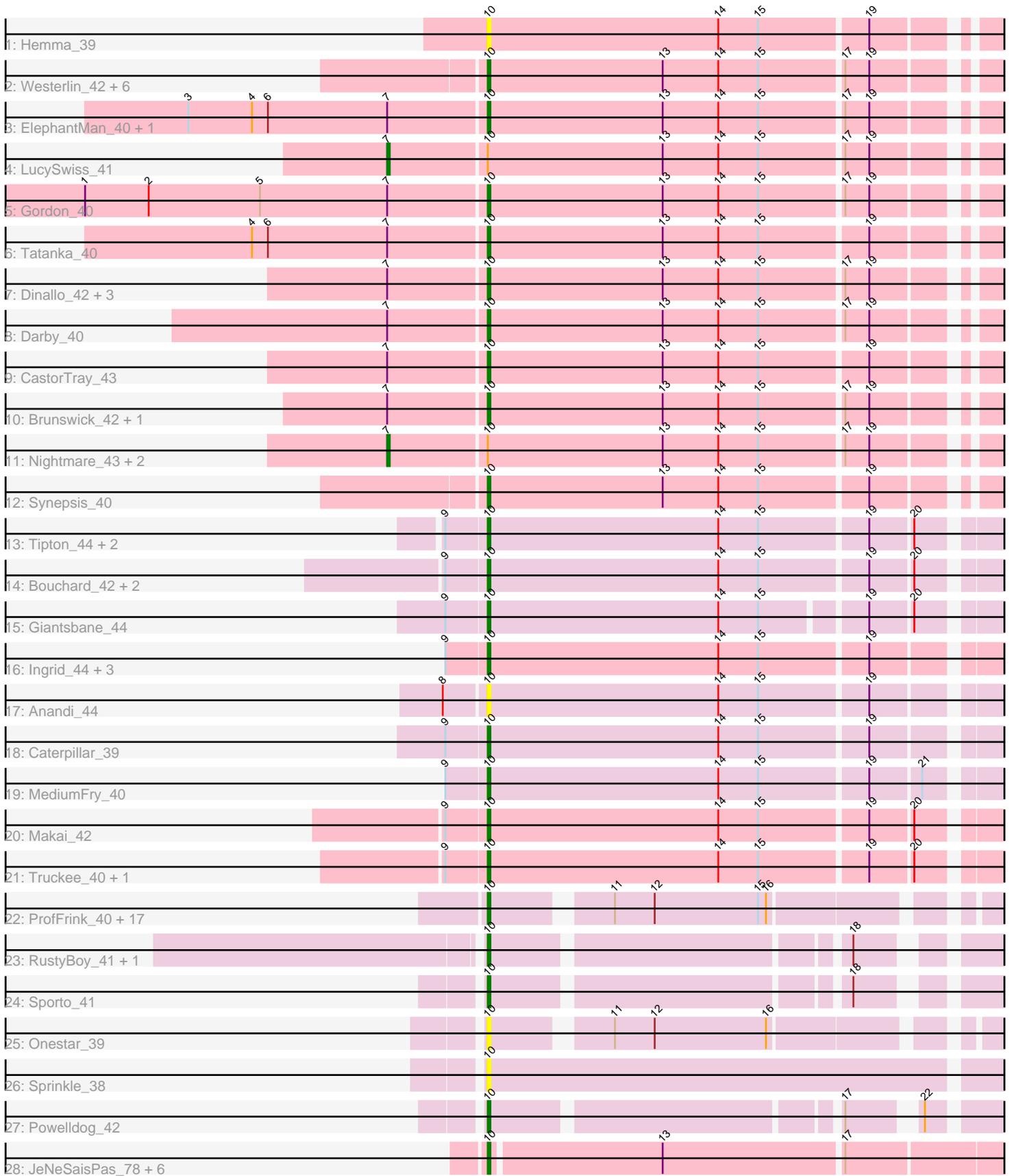


Pham 283761



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 283761 Report

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

Pham number 283761 has 73 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Hemma_39
- Track 2 : Westerlin_42, AreFloNak_43, Breylor17_43, DevitoJr_41, ScienceWizSam_43, Nivinsha_43, Trustiboi_42
- Track 3 : ElephantMan_40, Niktson_40
- Track 4 : LucySwiss_41
- Track 5 : Gordon_40
- Track 6 : Tatanka_40
- Track 7 : Dinallo_42, Tenno_43, Teacup_42, Acai_43
- Track 8 : Darby_40
- Track 9 : CastorTray_43
- Track 10 : Brunswick_42, Issa_42
- Track 11 : Nightmare_43, MiniBagel_42, CapnMurica_40
- Track 12 : Synopsis_40
- Track 13 : Tipton_44, Chlochlo_44, Tokki_45
- Track 14 : Bouchard_42, LilHuddy_43, Shepard_46
- Track 15 : Giantsbane_44
- Track 16 : Ingrid_44, Inked_45, Zippen_44, Loretta_44
- Track 17 : Anandi_44
- Track 18 : Caterpillar_39
- Track 19 : MediumFry_40
- Track 20 : Makai_42
- Track 21 : Truckee_40, Phaby_43
- Track 22 : ProfFrink_40, Egad_40, Shiba_39, Stayer_40, Sloopyjoe_40, Raunak_41, Linda_40, StarLord_40, BronxBay_40, HerbBucket_39, DoctorPepper_39, Michelle_40, Jeremy4pt0_40, MrAaronian_40, Boog_39, Djungelskog_40, Spain_41, Salk_40
- Track 23 : RustyBoy_41, Natasha_41
- Track 24 : Sporto_41
- Track 25 : Onestar_39
- Track 26 : Sprinkle_38
- Track 27 : Powelldog_42
- Track 28 : JeNeSaisPas_78, Qui_83, Elver_81, Paella_83, Gandionco_79, Marianna39_81, Kureo_82

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

The start number called the most often in the published annotations is 10, it was called in 51 of the 55 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acai_43, Anandi_44, AreFloNak_43, Boog_39, Bouchard_42, Breylor17_43, BronxBay_40, Brunswick_42, CastorTray_43, Caterpillar_39, Chlochlo_44, Darby_40, DevitoJr_41, Dinallo_42, Djungelskog_40, DoctorPepper_39, Egad_40, ElephantMan_40, Elver_81, Gandionco_79, Giantsbane_44, Gordon_40, Hemma_39, HerbBucket_39, Ingrid_44, Inked_45, Issa_42, JeNeSaisPas_78, Jeremy4pt0_40, Kureo_82, LilHuddy_43, Linda_40, Loretta_44, Makai_42, Marianna39_81, MediumFry_40, Michelle_40, MrAaronian_40, Natasha_41, Niktson_40, Nivinsha_43, Onestar_39, Paella_83, Phaby_43, Powellldog_42, ProfFrink_40, Qui_83, Raunak_41, RustyBoy_41, Salk_40, ScienceWizSam_43, Shepard_46, Shiba_39, Sloopyjoe_40, Spain_41, Sporto_41, Sprinkle_38, StarLord_40, Stayer_40, Synopsis_40, Tatanka_40, Teacup_42, Tenno_43, Tipton_44, Tokki_45, Truckee_40, Trustiboi_42, Westerlin_42, Zippen_44,

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

- CapnMurica_40, LucySwiss_41, MiniBagel_42, Nightmare_43,

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

-

Summary by start number:

Start 7:

- Found in 16 of 73 (21.9%) of genes in pham
- Manual Annotations of this start: 4 of 55
- Called 25.0% of time when present
- Phage (with cluster) where this start called: CapnMurica_40 (AU1), LucySwiss_41 (AU1), MiniBagel_42 (AU1), Nightmare_43 (AU1),

Start 10:

- Found in 73 of 73 (100.0%) of genes in pham
- Manual Annotations of this start: 51 of 55
- Called 94.5% of time when present
- Phage (with cluster) where this start called: Acai_43 (AU1), Anandi_44 (AU4), AreFloNak_43 (AU1), Boog_39 (AW), Bouchard_42 (AU2), Breylor17_43 (AU1), BronxBay_40 (AW), Brunswick_42 (AU1), CastorTray_43 (AU1), Caterpillar_39 (AU4), Chlochlo_44 (AU2), Darby_40 (AU1), DevitoJr_41 (AU1), Dinallo_42 (AU1), Djungelskog_40 (AW), DoctorPepper_39 (AW), Egad_40 (AW), ElephantMan_40 (AU1), Elver_81 (FK), Gandionco_79 (FK), Giantsbane_44 (AU2), Gordon_40 (AU1), Hemma_39 (AU1), HerbBucket_39 (AW), Ingrid_44 (AU3), Inked_45 (AU7), Issa_42 (AU1), JeNeSaisPas_78 (FK), Jeremy4pt0_40 (AW), Kureo_82 (FK), LilHuddy_43 (AU2), Linda_40 (AW), Loretta_44 (AU3), Makai_42 (AU5), Marianna39_81 (FK), MediumFry_40 (AU4), Michelle_40 (AW), MrAaronian_40 (AW), Natasha_41 (AW), Niktson_40 (AU1), Nivinsha_43 (AU1), Onestar_39 (AW), Paella_83 (FK), Phaby_43 (AU2), Powellldog_42 (AW), ProfFrink_40 (AW), Qui_83 (FK), Raunak_41 (AW), RustyBoy_41 (AW), Salk_40 (AW), ScienceWizSam_43 (AU1), Shepard_46 (AU2), Shiba_39 (AW), Sloopyjoe_40 (AW), Spain_41 (AW), Sporto_41 (AW), Sprinkle_38 (AW), StarLord_40 (AW), Stayer_40 (AW), Synopsis_40 (AU1), Tatanka_40 (AU1), Teacup_42 (AU1), Tenno_43 (AU1), Tipton_44 (AU2), Tokki_45 (AU2), Truckee_40

(AU5), Trustiboi_42 (AU1), Westerlin_42 (AU1), Zippen_44 (AU7),

Summary by clusters:

There are 8 clusters represented in this pham: AW, AU1, AU3, AU2, AU5, AU4, AU7, FK,

Info for manual annotations of cluster AU1:

- Start number 7 was manually annotated 4 times for cluster AU1.
- Start number 10 was manually annotated 15 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 10 was manually annotated 7 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 10 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 10 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 10 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU7:

- Start number 10 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:

- Start number 10 was manually annotated 18 times for cluster AW.

Info for manual annotations of cluster FK:

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

Gene Information:

Gene: Acai_43 Start: 32484, Stop: 32693, Start Num: 10

Candidate Starts for Acai_43:

(Start: 7 @32448 has 4 MA's), (Start: 10 @32484 has 51 MA's), (13, 32550), (14, 32571), (15, 32586), (17, 32616), (19, 32625),

Gene: Anandi_44 Start: 32950, Stop: 33162, Start Num: 10

Candidate Starts for Anandi_44:

(8, 32935), (Start: 10 @32950 has 51 MA's), (14, 33037), (15, 33052), (19, 33091),

Gene: AreFloNak_43 Start: 32435, Stop: 32644, Start Num: 10

Candidate Starts for AreFloNak_43:

(Start: 10 @32435 has 51 MA's), (13, 32501), (14, 32522), (15, 32537), (17, 32567), (19, 32576),

Gene: Boog_39 Start: 29708, Stop: 29905, Start Num: 10

Candidate Starts for Boog_39:

(Start: 10 @29708 has 51 MA's), (11, 29747), (12, 29762), (15, 29801), (16, 29804),

Gene: Bouchard_42 Start: 32501, Stop: 32713, Start Num: 10
Candidate Starts for Bouchard_42:
(9, 32486), (Start: 10 @32501 has 51 MA's), (14, 32588), (15, 32603), (19, 32642), (20, 32657),

Gene: Breylor17_43 Start: 33215, Stop: 33424, Start Num: 10
Candidate Starts for Breylor17_43:
(Start: 10 @33215 has 51 MA's), (13, 33281), (14, 33302), (15, 33317), (17, 33347), (19, 33356),

Gene: BronxBay_40 Start: 30005, Stop: 30202, Start Num: 10
Candidate Starts for BronxBay_40:
(Start: 10 @30005 has 51 MA's), (11, 30044), (12, 30059), (15, 30098), (16, 30101),

Gene: Brunswick_42 Start: 32039, Stop: 32248, Start Num: 10
Candidate Starts for Brunswick_42:
(Start: 7 @32003 has 4 MA's), (Start: 10 @32039 has 51 MA's), (13, 32105), (14, 32126), (15, 32141),
(17, 32171), (19, 32180),

Gene: CapnMurica_40 Start: 33166, Stop: 33411, Start Num: 7
Candidate Starts for CapnMurica_40:
(Start: 7 @33166 has 4 MA's), (Start: 10 @33202 has 51 MA's), (13, 33268), (14, 33289), (15, 33304),
(17, 33334), (19, 33343),

Gene: CastorTray_43 Start: 32764, Stop: 32973, Start Num: 10
Candidate Starts for CastorTray_43:
(Start: 7 @32728 has 4 MA's), (Start: 10 @32764 has 51 MA's), (13, 32830), (14, 32851), (15, 32866),
(19, 32905),

Gene: Caterpillar_39 Start: 31584, Stop: 31799, Start Num: 10
Candidate Starts for Caterpillar_39:
(9, 31569), (Start: 10 @31584 has 51 MA's), (14, 31671), (15, 31686), (19, 31725),

Gene: Chlochlo_44 Start: 32566, Stop: 32778, Start Num: 10
Candidate Starts for Chlochlo_44:
(9, 32551), (Start: 10 @32566 has 51 MA's), (14, 32653), (15, 32668), (19, 32707), (20, 32722),

Gene: Darby_40 Start: 31942, Stop: 32151, Start Num: 10
Candidate Starts for Darby_40:
(Start: 7 @31906 has 4 MA's), (Start: 10 @31942 has 51 MA's), (13, 32008), (14, 32029), (15, 32044),
(17, 32074), (19, 32083),

Gene: DevitoJr_41 Start: 32385, Stop: 32594, Start Num: 10
Candidate Starts for DevitoJr_41:
(Start: 10 @32385 has 51 MA's), (13, 32451), (14, 32472), (15, 32487), (17, 32517), (19, 32526),

Gene: Dinallo_42 Start: 33511, Stop: 33720, Start Num: 10
Candidate Starts for Dinallo_42:
(Start: 7 @33475 has 4 MA's), (Start: 10 @33511 has 51 MA's), (13, 33577), (14, 33598), (15, 33613),
(17, 33643), (19, 33652),

Gene: Djungelskog_40 Start: 30005, Stop: 30202, Start Num: 10
Candidate Starts for Djungelskog_40:
(Start: 10 @30005 has 51 MA's), (11, 30044), (12, 30059), (15, 30098), (16, 30101),

Gene: DoctorPepper_39 Start: 29707, Stop: 29904, Start Num: 10
Candidate Starts for DoctorPepper_39:
(Start: 10 @29707 has 51 MA's), (11, 29746), (12, 29761), (15, 29800), (16, 29803),

Gene: Egad_40 Start: 30006, Stop: 30203, Start Num: 10
Candidate Starts for Egad_40:
(Start: 10 @30006 has 51 MA's), (11, 30045), (12, 30060), (15, 30099), (16, 30102),

Gene: ElephantMan_40 Start: 32612, Stop: 32821, Start Num: 10
Candidate Starts for ElephantMan_40:
(3, 32501), (4, 32525), (6, 32531), (Start: 7 @32576 has 4 MA's), (Start: 10 @32612 has 51 MA's), (13, 32678), (14, 32699), (15, 32714), (17, 32744), (19, 32753),

Gene: Elver_81 Start: 49310, Stop: 49537, Start Num: 10
Candidate Starts for Elver_81:
(Start: 10 @49310 has 51 MA's), (13, 49373), (17, 49439),

Gene: Gandionco_79 Start: 48455, Stop: 48682, Start Num: 10
Candidate Starts for Gandionco_79:
(Start: 10 @48455 has 51 MA's), (13, 48518), (17, 48584),

Gene: Giantsbane_44 Start: 31755, Stop: 31964, Start Num: 10
Candidate Starts for Giantsbane_44:
(9, 31740), (Start: 10 @31755 has 51 MA's), (14, 31842), (15, 31857), (19, 31893), (20, 31908),

Gene: Gordon_40 Start: 33227, Stop: 33436, Start Num: 10
Candidate Starts for Gordon_40:
(1, 33077), (2, 33101), (5, 33143), (Start: 7 @33191 has 4 MA's), (Start: 10 @33227 has 51 MA's), (13, 33293), (14, 33314), (15, 33329), (17, 33359), (19, 33368),

Gene: Hemma_39 Start: 29251, Stop: 29463, Start Num: 10
Candidate Starts for Hemma_39:
(Start: 10 @29251 has 51 MA's), (14, 29338), (15, 29353), (19, 29392),

Gene: HerbBucket_39 Start: 29707, Stop: 29904, Start Num: 10
Candidate Starts for HerbBucket_39:
(Start: 10 @29707 has 51 MA's), (11, 29746), (12, 29761), (15, 29800), (16, 29803),

Gene: Ingrid_44 Start: 32497, Stop: 32712, Start Num: 10
Candidate Starts for Ingrid_44:
(9, 32482), (Start: 10 @32497 has 51 MA's), (14, 32584), (15, 32599), (19, 32638),

Gene: Inked_45 Start: 33465, Stop: 33680, Start Num: 10
Candidate Starts for Inked_45:
(9, 33450), (Start: 10 @33465 has 51 MA's), (14, 33552), (15, 33567), (19, 33606),

Gene: Issa_42 Start: 32494, Stop: 32703, Start Num: 10
Candidate Starts for Issa_42:
(Start: 7 @32458 has 4 MA's), (Start: 10 @32494 has 51 MA's), (13, 32560), (14, 32581), (15, 32596), (17, 32626), (19, 32635),

Gene: JeNeSaisPas_78 Start: 49036, Stop: 49263, Start Num: 10
Candidate Starts for JeNeSaisPas_78:

(Start: 10 @49036 has 51 MA's), (13, 49099), (17, 49165),

Gene: Jeremy4pt0_40 Start: 29702, Stop: 29899, Start Num: 10

Candidate Starts for Jeremy4pt0_40:

(Start: 10 @29702 has 51 MA's), (11, 29741), (12, 29756), (15, 29795), (16, 29798),

Gene: Kureo_82 Start: 48608, Stop: 48835, Start Num: 10

Candidate Starts for Kureo_82:

(Start: 10 @48608 has 51 MA's), (13, 48671), (17, 48737),

Gene: LilHuddy_43 Start: 32486, Stop: 32698, Start Num: 10

Candidate Starts for LilHuddy_43:

(9, 32471), (Start: 10 @32486 has 51 MA's), (14, 32573), (15, 32588), (19, 32627), (20, 32642),

Gene: Linda_40 Start: 30000, Stop: 30197, Start Num: 10

Candidate Starts for Linda_40:

(Start: 10 @30000 has 51 MA's), (11, 30039), (12, 30054), (15, 30093), (16, 30096),

Gene: Loretta_44 Start: 32497, Stop: 32712, Start Num: 10

Candidate Starts for Loretta_44:

(9, 32482), (Start: 10 @32497 has 51 MA's), (14, 32584), (15, 32599), (19, 32638),

Gene: LucySwiss_41 Start: 31918, Stop: 32163, Start Num: 7

Candidate Starts for LucySwiss_41:

(Start: 7 @31918 has 4 MA's), (Start: 10 @31954 has 51 MA's), (13, 32020), (14, 32041), (15, 32056), (17, 32086), (19, 32095),

Gene: Makai_42 Start: 32695, Stop: 32904, Start Num: 10

Candidate Starts for Makai_42:

(9, 32680), (Start: 10 @32695 has 51 MA's), (14, 32782), (15, 32797), (19, 32836), (20, 32851),

Gene: Marianna39_81 Start: 49030, Stop: 49257, Start Num: 10

Candidate Starts for Marianna39_81:

(Start: 10 @49030 has 51 MA's), (13, 49093), (17, 49159),

Gene: MediumFry_40 Start: 31899, Stop: 32114, Start Num: 10

Candidate Starts for MediumFry_40:

(9, 31884), (Start: 10 @31899 has 51 MA's), (14, 31986), (15, 32001), (19, 32040), (21, 32058),

Gene: Michelle_40 Start: 30005, Stop: 30202, Start Num: 10

Candidate Starts for Michelle_40:

(Start: 10 @30005 has 51 MA's), (11, 30044), (12, 30059), (15, 30098), (16, 30101),

Gene: MiniBagel_42 Start: 33148, Stop: 33393, Start Num: 7

Candidate Starts for MiniBagel_42:

(Start: 7 @33148 has 4 MA's), (Start: 10 @33184 has 51 MA's), (13, 33250), (14, 33271), (15, 33286), (17, 33316), (19, 33325),

Gene: MrAaronian_40 Start: 30005, Stop: 30202, Start Num: 10

Candidate Starts for MrAaronian_40:

(Start: 10 @30005 has 51 MA's), (11, 30044), (12, 30059), (15, 30098), (16, 30101),

Gene: Natasha_41 Start: 29496, Stop: 29687, Start Num: 10

Candidate Starts for Natasha_41:
(Start: 10 @29496 has 51 MA's), (18, 29619),

Gene: Nightmare_43 Start: 33078, Stop: 33323, Start Num: 7
Candidate Starts for Nightmare_43:
(Start: 7 @33078 has 4 MA's), (Start: 10 @33114 has 51 MA's), (13, 33180), (14, 33201), (15, 33216),
(17, 33246), (19, 33255),

Gene: Niktson_40 Start: 32612, Stop: 32821, Start Num: 10
Candidate Starts for Niktson_40:
(3, 32501), (4, 32525), (6, 32531), (Start: 7 @32576 has 4 MA's), (Start: 10 @32612 has 51 MA's), (13,
32678), (14, 32699), (15, 32714), (17, 32744), (19, 32753),

Gene: Nivinsha_43 Start: 32435, Stop: 32644, Start Num: 10
Candidate Starts for Nivinsha_43:
(Start: 10 @32435 has 51 MA's), (13, 32501), (14, 32522), (15, 32537), (17, 32567), (19, 32576),

Gene: Onestar_39 Start: 29474, Stop: 29668, Start Num: 10
Candidate Starts for Onestar_39:
(Start: 10 @29474 has 51 MA's), (11, 29513), (12, 29528), (16, 29570),

Gene: Paella_83 Start: 49903, Stop: 50130, Start Num: 10
Candidate Starts for Paella_83:
(Start: 10 @49903 has 51 MA's), (13, 49966), (17, 50032),

Gene: Phaby_43 Start: 32611, Stop: 32823, Start Num: 10
Candidate Starts for Phaby_43:
(9, 32596), (Start: 10 @32611 has 51 MA's), (14, 32698), (15, 32713), (19, 32752), (20, 32767),

Gene: Powelldog_42 Start: 30016, Stop: 30207, Start Num: 10
Candidate Starts for Powelldog_42:
(Start: 10 @30016 has 51 MA's), (17, 30136), (22, 30157),

Gene: ProfFrink_40 Start: 30005, Stop: 30202, Start Num: 10
Candidate Starts for ProfFrink_40:
(Start: 10 @30005 has 51 MA's), (11, 30044), (12, 30059), (15, 30098), (16, 30101),

Gene: Qui_83 Start: 49903, Stop: 50130, Start Num: 10
Candidate Starts for Qui_83:
(Start: 10 @49903 has 51 MA's), (13, 49966), (17, 50032),

Gene: Raunak_41 Start: 29702, Stop: 29899, Start Num: 10
Candidate Starts for Raunak_41:
(Start: 10 @29702 has 51 MA's), (11, 29741), (12, 29756), (15, 29795), (16, 29798),

Gene: RustyBoy_41 Start: 29477, Stop: 29668, Start Num: 10
Candidate Starts for RustyBoy_41:
(Start: 10 @29477 has 51 MA's), (18, 29600),

Gene: Salk_40 Start: 30000, Stop: 30197, Start Num: 10
Candidate Starts for Salk_40:
(Start: 10 @30000 has 51 MA's), (11, 30039), (12, 30054), (15, 30093), (16, 30096),

Gene: ScienceWizSam_43 Start: 32704, Stop: 32913, Start Num: 10
Candidate Starts for ScienceWizSam_43:
(Start: 10 @32704 has 51 MA's), (13, 32770), (14, 32791), (15, 32806), (17, 32836), (19, 32845),

Gene: Shepard_46 Start: 32770, Stop: 32982, Start Num: 10
Candidate Starts for Shepard_46:
(9, 32755), (Start: 10 @32770 has 51 MA's), (14, 32857), (15, 32872), (19, 32911), (20, 32926),

Gene: Shiba_39 Start: 29702, Stop: 29899, Start Num: 10
Candidate Starts for Shiba_39:
(Start: 10 @29702 has 51 MA's), (11, 29741), (12, 29756), (15, 29795), (16, 29798),

Gene: Sloopyjoe_40 Start: 30006, Stop: 30203, Start Num: 10
Candidate Starts for Sloopyjoe_40:
(Start: 10 @30006 has 51 MA's), (11, 30045), (12, 30060), (15, 30099), (16, 30102),

Gene: Spain_41 Start: 30005, Stop: 30202, Start Num: 10
Candidate Starts for Spain_41:
(Start: 10 @30005 has 51 MA's), (11, 30044), (12, 30059), (15, 30098), (16, 30101),

Gene: Sporto_41 Start: 31241, Stop: 31432, Start Num: 10
Candidate Starts for Sporto_41:
(Start: 10 @31241 has 51 MA's), (18, 31364),

Gene: Sprinkle_38 Start: 29571, Stop: 29786, Start Num: 10
Candidate Starts for Sprinkle_38:
(Start: 10 @29571 has 51 MA's),

Gene: StarLord_40 Start: 30006, Stop: 30203, Start Num: 10
Candidate Starts for StarLord_40:
(Start: 10 @30006 has 51 MA's), (11, 30045), (12, 30060), (15, 30099), (16, 30102),

Gene: Stayer_40 Start: 30000, Stop: 30197, Start Num: 10
Candidate Starts for Stayer_40:
(Start: 10 @30000 has 51 MA's), (11, 30039), (12, 30054), (15, 30093), (16, 30096),

Gene: Synopsis_40 Start: 32370, Stop: 32579, Start Num: 10
Candidate Starts for Synopsis_40:
(Start: 10 @32370 has 51 MA's), (13, 32436), (14, 32457), (15, 32472), (19, 32511),

Gene: Tatanka_40 Start: 32543, Stop: 32752, Start Num: 10
Candidate Starts for Tatanka_40:
(4, 32456), (6, 32462), (Start: 7 @32507 has 4 MA's), (Start: 10 @32543 has 51 MA's), (13, 32609),
(14, 32630), (15, 32645), (19, 32684),

Gene: Teacup_42 Start: 32559, Stop: 32768, Start Num: 10
Candidate Starts for Teacup_42:
(Start: 7 @32523 has 4 MA's), (Start: 10 @32559 has 51 MA's), (13, 32625), (14, 32646), (15, 32661),
(17, 32691), (19, 32700),

Gene: Tenno_43 Start: 33192, Stop: 33401, Start Num: 10
Candidate Starts for Tenno_43:

(Start: 7 @33156 has 4 MA's), (Start: 10 @33192 has 51 MA's), (13, 33258), (14, 33279), (15, 33294), (17, 33324), (19, 33333),

Gene: Tipton_44 Start: 32904, Stop: 33116, Start Num: 10

Candidate Starts for Tipton_44:

(9, 32889), (Start: 10 @32904 has 51 MA's), (14, 32991), (15, 33006), (19, 33045), (20, 33060),

Gene: Tokki_45 Start: 32556, Stop: 32768, Start Num: 10

Candidate Starts for Tokki_45:

(9, 32541), (Start: 10 @32556 has 51 MA's), (14, 32643), (15, 32658), (19, 32697), (20, 32712),

Gene: Truckee_40 Start: 32484, Stop: 32693, Start Num: 10

Candidate Starts for Truckee_40:

(9, 32469), (Start: 10 @32484 has 51 MA's), (14, 32571), (15, 32586), (19, 32625), (20, 32640),

Gene: Trustiboi_42 Start: 32921, Stop: 33130, Start Num: 10

Candidate Starts for Trustiboi_42:

(Start: 10 @32921 has 51 MA's), (13, 32987), (14, 33008), (15, 33023), (17, 33053), (19, 33062),

Gene: Westerlin_42 Start: 34012, Stop: 34221, Start Num: 10

Candidate Starts for Westerlin_42:

(Start: 10 @34012 has 51 MA's), (13, 34078), (14, 34099), (15, 34114), (17, 34144), (19, 34153),

Gene: Zippen_44 Start: 33342, Stop: 33557, Start Num: 10

Candidate Starts for Zippen_44:

(9, 33327), (Start: 10 @33342 has 51 MA's), (14, 33429), (15, 33444), (19, 33483),