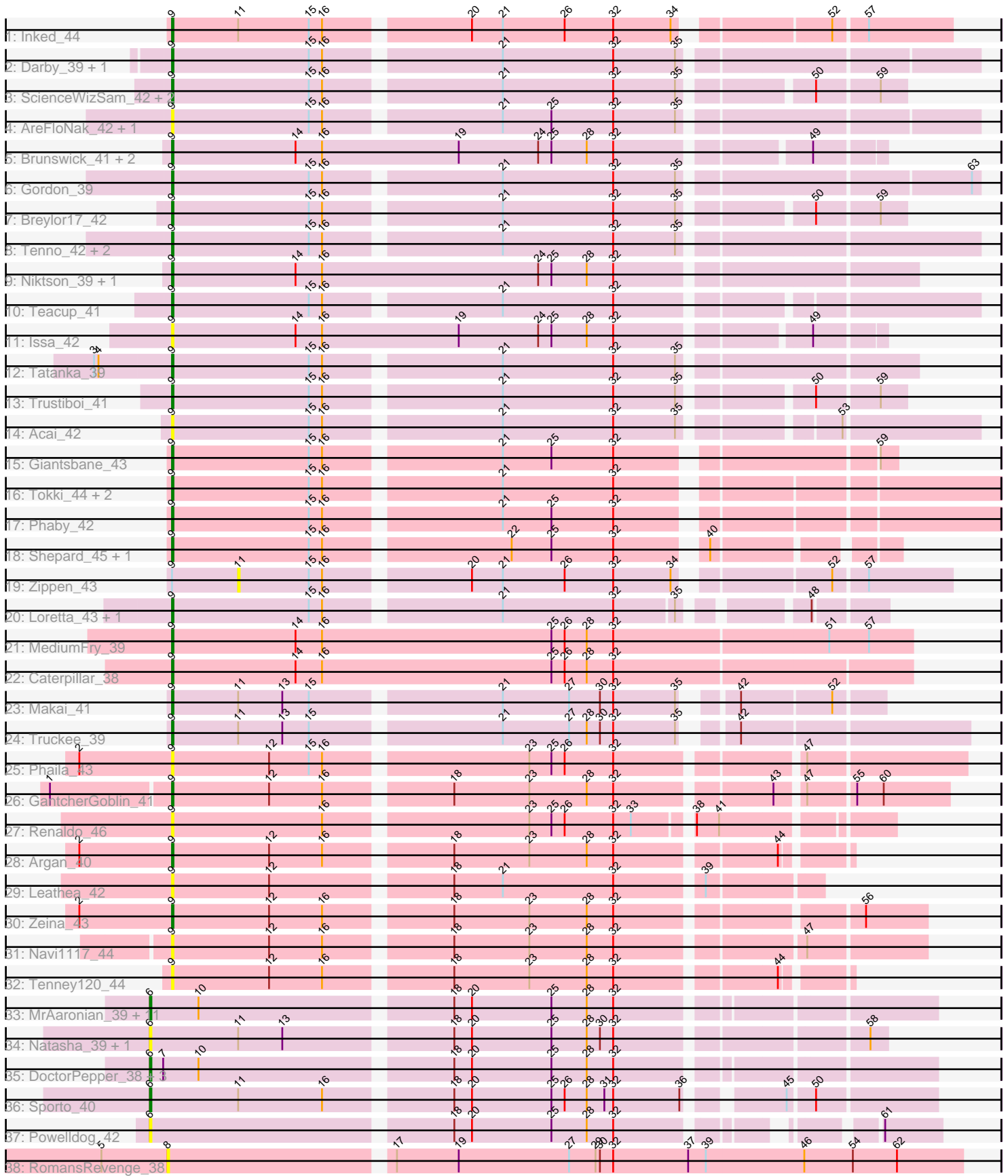


Pham 224569



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 224569 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224569 has 66 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Inked_44
- Track 2 : Darby_39, Nightmare_42
- Track 3 : ScienceWizSam_42, Synopsis_39, DevitoJr_40
- Track 4 : AreFloNak_42, Nivinsha_42
- Track 5 : Brunswick_41, LucySwiss_42, CastorTray_42
- Track 6 : Gordon_39
- Track 7 : Breylor17_42
- Track 8 : Tenno_42, CapnMurica_39, MiniBagel_41
- Track 9 : Niktson_39, ElephantMan_39
- Track 10 : Teacup_41
- Track 11 : Issa_42
- Track 12 : Tatanka_39
- Track 13 : Trustiboi_41
- Track 14 : Acai_42
- Track 15 : Giantsbane_43
- Track 16 : Tokki_44, Bouchard_41, Chlochlo_41
- Track 17 : Phaby_42
- Track 18 : Shepard_45, LilHuddy_42
- Track 19 : Zippen_43
- Track 20 : Loretta_43, Ingrid_43
- Track 21 : MediumFry_39
- Track 22 : Caterpillar_38
- Track 23 : Makai_41
- Track 24 : Truckee_39
- Track 25 : Phaila_43
- Track 26 : GantcherGoblin_41
- Track 27 : Renaldo_46
- Track 28 : Argan_40
- Track 29 : Leathea_42
- Track 30 : Zeina_43
- Track 31 : Navi1117_44
- Track 32 : Tenney120_44
- Track 33 : MrAaronian_39, Shiba_38, ProfFrink_39, Raunak_40, Djungelskog_39, HerbBucket_38, Sloopyjoe_39, Boog_38, Egad_39, Michelle_39, BronxBay_39, StarLord_39
- Track 34 : Natasha_39, RustyBoy_39
- Track 35 : DoctorPepper_38, Salk_39, Stayer_39, Linda_39

- Track 36 : Sporto_40
- Track 37 : Powelldog_42
- Track 38 : RomansRevenge_38

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

The start number called the most often in the published annotations is 9, it was called in 32 of the 46 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acai_42, AreFloNak_42, Argan_40, Bouchard_41, Breylor17_42, Brunswick_41, CapnMurica_39, CastorTray_42, Caterpillar_38, Chlochlo_41, Darby_39, DevitoJr_40, ElephantMan_39, GantcherGoblin_41, Giantsbane_43, Gordon_39, Ingrid_43, Inked_44, Issa_42, Leathea_42, LilHuddy_42, Loretta_43, LucySwiss_42, Makai_41, MediumFry_39, MiniBagel_41, Navi1117_44, Nightmare_42, Niktson_39, Nivinsha_42, Phaby_42, Phaila_43, Renaldo_46, ScienceWizSam_42, Shepard_45, Synopsis_39, Tatanka_39, Teacup_41, Tenney120_44, Tenno_42, Tokki_44, Truckee_39, Trustiboi_41, Zeina_43,

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

- Zippen_43,

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

- Boog_38, BronxBay_39, Djungelskog_39, DoctorPepper_38, Egad_39, HerbBucket_38, Linda_39, Michelle_39, MrAaronian_39, Natasha_39, Powelldog_42, ProfFrink_39, Raunak_40, RomansRevenge_38, RustyBoy_39, Salk_39, Shiba_38, Sloopyjoe_39, Sporto_40, StarLord_39, Stayer_39,

Summary by start number:

Start 6:

- Found in 20 of 66 (30.3%) of genes in pham
- Manual Annotations of this start: 14 of 46
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boog_38 (AW), BronxBay_39 (AW), Djungelskog_39 (AW), DoctorPepper_38 (AW), Egad_39 (AW), HerbBucket_38 (AW), Linda_39 (AW), Michelle_39 (AW), MrAaronian_39 (AW), Natasha_39 (AW), Powelldog_42 (AW), ProfFrink_39 (AW), Raunak_40 (AW), RustyBoy_39 (AW), Salk_39 (AW), Shiba_38 (AW), Sloopyjoe_39 (AW), Sporto_40 (AW), StarLord_39 (AW), Stayer_39 (AW),

Start 8:

- 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: RomansRevenge_38 (singleton),

Start 9:

- Found in 45 of 66 (68.2%) of genes in pham
- Manual Annotations of this start: 32 of 46

- Called 97.8% of time when present
- Phage (with cluster) where this start called: Acai_42 (AU1), AreFloNak_42 (AU1), Argan_40 (AU6), Bouchard_41 (AU2), Breylor17_42 (AU1), Brunswick_41 (AU1), CapnMurica_39 (AU1), CastorTray_42 (AU1), Caterpillar_38 (AU4), Chlochlo_41 (AU2), Darby_39 (AU1), DevitoJr_40 (AU1), ElephantMan_39 (AU1), GantcherGoblin_41 (AU6), Giantsbane_43 (AU2), Gordon_39 (AU1), Ingrid_43 (AU3), Inked_44 (AU), Issa_42 (AU1), Leathea_42 (AU6), LilHuddy_42 (AU2), Loretta_43 (AU3), LucySwiss_42 (AU1), Makai_41 (AU5), MediumFry_39 (AU4), MiniBagel_41 (AU1), Navi1117_44 (AU6), Nightmare_42 (AU1), Niktson_39 (AU1), Nivinsha_42 (AU1), Phaby_42 (AU2), Phaila_43 (AU6), Renaldo_46 (AU6), ScienceWizSam_42 (AU1), Shepard_45 (AU2), Synopsis_39 (AU1), Tatanka_39 (AU1), Teacup_41 (AU1), Tenney120_44 (AU6), Tenno_42 (AU1), Tokki_44 (AU2), Truckee_39 (AU5), Trustiboi_41 (AU1), Zeina_43 (AU6),

Start 11:

- Found in 7 of 66 (10.6%) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Zippen_43 (AU3),

Summary by clusters:

There are 9 clusters represented in this pham: singleton, AU1, AU3, AU2, AU5, AU4, AW, AU6, AU,

Info for manual annotations of cluster AU:

- Start number 9 was manually annotated 1 time for cluster AU.

Info for manual annotations of cluster AU1:

- Start number 9 was manually annotated 17 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 9 was manually annotated 5 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 9 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 9 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 9 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 9 was manually annotated 3 times for cluster AU6.

Info for manual annotations of cluster AW:

- Start number 6 was manually annotated 14 times for cluster AW.

Gene Information:

Gene: Acai_42 Start: 31913, Stop: 32422, Start Num: 9
Candidate Starts for Acai_42:
(Start: 9 @31913 has 32 MA's), (15, 32006), (16, 32015), (21, 32126), (32, 32201), (35, 32243), (53, 32333),

Gene: AreFloNak_42 Start: 31859, Stop: 32374, Start Num: 9
Candidate Starts for AreFloNak_42:
(Start: 9 @31859 has 32 MA's), (15, 31952), (16, 31961), (21, 32072), (25, 32105), (32, 32147), (35, 32189),

Gene: Argan_40 Start: 30235, Stop: 30660, Start Num: 9
Candidate Starts for Argan_40:
(2, 30172), (Start: 9 @30235 has 32 MA's), (12, 30301), (16, 30337), (18, 30415), (23, 30466), (28, 30505), (32, 30523), (44, 30622),

Gene: Boog_38 Start: 29150, Stop: 29647, Start Num: 6
Candidate Starts for Boog_38:
(Start: 6 @29150 has 14 MA's), (10, 29183), (18, 29345), (20, 29357), (25, 29411), (28, 29435), (32, 29453),

Gene: Bouchard_41 Start: 32020, Stop: 32466, Start Num: 9
Candidate Starts for Bouchard_41:
(Start: 9 @32020 has 32 MA's), (15, 32113), (16, 32122), (21, 32233), (32, 32308),

Gene: Breylor17_42 Start: 32693, Stop: 33154, Start Num: 9
Candidate Starts for Breylor17_42:
(Start: 9 @32693 has 32 MA's), (15, 32786), (16, 32795), (21, 32906), (32, 32981), (35, 33023), (50, 33098), (59, 33137),

Gene: BronxBay_39 Start: 29447, Stop: 29944, Start Num: 6
Candidate Starts for BronxBay_39:
(Start: 6 @29447 has 14 MA's), (10, 29480), (18, 29642), (20, 29654), (25, 29708), (28, 29732), (32, 29750),

Gene: Brunswick_41 Start: 31519, Stop: 31977, Start Num: 9
Candidate Starts for Brunswick_41:
(Start: 9 @31519 has 32 MA's), (14, 31603), (16, 31621), (19, 31714), (24, 31768), (25, 31777), (28, 31801), (32, 31819), (49, 31933),

Gene: CapnMurica_39 Start: 32622, Stop: 33140, Start Num: 9
Candidate Starts for CapnMurica_39:
(Start: 9 @32622 has 32 MA's), (15, 32715), (16, 32724), (21, 32835), (32, 32910), (35, 32952),

Gene: CastorTray_42 Start: 32244, Stop: 32702, Start Num: 9
Candidate Starts for CastorTray_42:
(Start: 9 @32244 has 32 MA's), (14, 32328), (16, 32346), (19, 32439), (24, 32493), (25, 32502), (28, 32526), (32, 32544), (49, 32658),

Gene: Caterpillar_38 Start: 31053, Stop: 31547, Start Num: 9
Candidate Starts for Caterpillar_38:
(Start: 9 @31053 has 32 MA's), (14, 31137), (16, 31155), (25, 31311), (26, 31320), (28, 31335), (32, 31353),

Gene: Chlochlo_41 Start: 32054, Stop: 32506, Start Num: 9
Candidate Starts for Chlochlo_41:
(Start: 9 @32054 has 32 MA's), (15, 32147), (16, 32156), (21, 32267), (32, 32342),

Gene: Darby_39 Start: 31365, Stop: 31880, Start Num: 9
Candidate Starts for Darby_39:
(Start: 9 @31365 has 32 MA's), (15, 31458), (16, 31467), (21, 31578), (32, 31653), (35, 31695),

Gene: DevitoJr_40 Start: 31863, Stop: 32324, Start Num: 9
Candidate Starts for DevitoJr_40:
(Start: 9 @31863 has 32 MA's), (15, 31956), (16, 31965), (21, 32076), (32, 32151), (35, 32193), (50, 32268), (59, 32307),

Gene: Djungelskog_39 Start: 29447, Stop: 29944, Start Num: 6
Candidate Starts for Djungelskog_39:
(Start: 6 @29447 has 14 MA's), (10, 29480), (18, 29642), (20, 29654), (25, 29708), (28, 29732), (32, 29750),

Gene: DoctorPepper_38 Start: 29149, Stop: 29646, Start Num: 6
Candidate Starts for DoctorPepper_38:
(Start: 6 @29149 has 14 MA's), (7, 29158), (10, 29182), (18, 29344), (20, 29356), (25, 29410), (28, 29434), (32, 29452),

Gene: Egad_39 Start: 29448, Stop: 29945, Start Num: 6
Candidate Starts for Egad_39:
(Start: 6 @29448 has 14 MA's), (10, 29481), (18, 29643), (20, 29655), (25, 29709), (28, 29733), (32, 29751),

Gene: ElephantMan_39 Start: 32062, Stop: 32550, Start Num: 9
Candidate Starts for ElephantMan_39:
(Start: 9 @32062 has 32 MA's), (14, 32146), (16, 32164), (24, 32311), (25, 32320), (28, 32344), (32, 32362),

Gene: GantcherGoblin_41 Start: 30686, Stop: 31177, Start Num: 9
Candidate Starts for GantcherGoblin_41:
(1, 30608), (Start: 9 @30686 has 32 MA's), (12, 30752), (16, 30788), (18, 30866), (23, 30917), (28, 30956), (32, 30974), (43, 31070), (47, 31085), (55, 31115), (60, 31133),

Gene: Giantsbane_43 Start: 31240, Stop: 31692, Start Num: 9
Candidate Starts for Giantsbane_43:
(Start: 9 @31240 has 32 MA's), (15, 31333), (16, 31342), (21, 31453), (25, 31486), (32, 31528), (59, 31681),

Gene: Gordon_39 Start: 32650, Stop: 33165, Start Num: 9
Candidate Starts for Gordon_39:
(Start: 9 @32650 has 32 MA's), (15, 32743), (16, 32752), (21, 32863), (32, 32938), (35, 32980), (63, 33160),

Gene: HerbBucket_38 Start: 29149, Stop: 29646, Start Num: 6
Candidate Starts for HerbBucket_38:
(Start: 6 @29149 has 14 MA's), (10, 29182), (18, 29344), (20, 29356), (25, 29410), (28, 29434), (32, 29452),

Gene: Ingrid_43 Start: 31998, Stop: 32435, Start Num: 9
Candidate Starts for Ingrid_43:
(Start: 9 @31998 has 32 MA's), (15, 32091), (16, 32100), (21, 32211), (32, 32286), (35, 32325), (48, 32391),

Gene: Inked_44 Start: 32908, Stop: 33399, Start Num: 9
Candidate Starts for Inked_44:
(Start: 9 @32908 has 32 MA's), (11, 32953), (15, 33001), (16, 33010), (20, 33100), (21, 33121), (26, 33163), (32, 33196), (34, 33235), (52, 33322), (57, 33343),

Gene: Issa_42 Start: 31974, Stop: 32432, Start Num: 9
Candidate Starts for Issa_42:
(Start: 9 @31974 has 32 MA's), (14, 32058), (16, 32076), (19, 32169), (24, 32223), (25, 32232), (28, 32256), (32, 32274), (49, 32388),

Gene: Leathea_42 Start: 30450, Stop: 30863, Start Num: 9
Candidate Starts for Leathea_42:
(Start: 9 @30450 has 32 MA's), (12, 30516), (18, 30630), (21, 30663), (32, 30738), (39, 30792),

Gene: LilHuddy_42 Start: 32005, Stop: 32451, Start Num: 9
Candidate Starts for LilHuddy_42:
(Start: 9 @32005 has 32 MA's), (15, 32098), (16, 32107), (22, 32224), (25, 32251), (32, 32293), (40, 32344),

Gene: Linda_39 Start: 29442, Stop: 29939, Start Num: 6
Candidate Starts for Linda_39:
(Start: 6 @29442 has 14 MA's), (7, 29451), (10, 29475), (18, 29637), (20, 29649), (25, 29703), (28, 29727), (32, 29745),

Gene: Loretta_43 Start: 31998, Stop: 32435, Start Num: 9
Candidate Starts for Loretta_43:
(Start: 9 @31998 has 32 MA's), (15, 32091), (16, 32100), (21, 32211), (32, 32286), (35, 32325), (48, 32391),

Gene: LucySwiss_42 Start: 31434, Stop: 31892, Start Num: 9
Candidate Starts for LucySwiss_42:
(Start: 9 @31434 has 32 MA's), (14, 31518), (16, 31536), (19, 31629), (24, 31683), (25, 31692), (28, 31716), (32, 31734), (49, 31848),

Gene: Makai_41 Start: 32217, Stop: 32660, Start Num: 9
Candidate Starts for Makai_41:
(Start: 9 @32217 has 32 MA's), (11, 32262), (13, 32292), (15, 32310), (21, 32430), (27, 32475), (30, 32496), (32, 32505), (35, 32547), (42, 32571), (52, 32628),

Gene: MediumFry_39 Start: 31366, Stop: 31863, Start Num: 9
Candidate Starts for MediumFry_39:
(Start: 9 @31366 has 32 MA's), (14, 31450), (16, 31468), (25, 31624), (26, 31633), (28, 31648), (32, 31666), (51, 31807), (57, 31834),

Gene: Michelle_39 Start: 29447, Stop: 29944, Start Num: 6
Candidate Starts for Michelle_39:
(Start: 6 @29447 has 14 MA's), (10, 29480), (18, 29642), (20, 29654), (25, 29708), (28, 29732), (32, 29750),

Gene: MiniBagel_41 Start: 32604, Stop: 33122, Start Num: 9
Candidate Starts for MiniBagel_41:
(Start: 9 @32604 has 32 MA's), (15, 32697), (16, 32706), (21, 32817), (32, 32892), (35, 32934),

Gene: MrAaronian_39 Start: 29447, Stop: 29944, Start Num: 6
Candidate Starts for MrAaronian_39:
(Start: 6 @29447 has 14 MA's), (10, 29480), (18, 29642), (20, 29654), (25, 29708), (28, 29732), (32, 29750),

Gene: Natasha_39 Start: 28972, Stop: 29439, Start Num: 6
Candidate Starts for Natasha_39:
(Start: 6 @28972 has 14 MA's), (11, 29032), (13, 29062), (18, 29167), (20, 29179), (25, 29233), (28, 29257), (30, 29266), (32, 29275), (58, 29428),

Gene: Navi1117_44 Start: 31102, Stop: 31581, Start Num: 9
Candidate Starts for Navi1117_44:
(Start: 9 @31102 has 32 MA's), (12, 31168), (16, 31204), (18, 31282), (23, 31333), (28, 31372), (32, 31390), (47, 31504),

Gene: Nightmare_42 Start: 32534, Stop: 33052, Start Num: 9
Candidate Starts for Nightmare_42:
(Start: 9 @32534 has 32 MA's), (15, 32627), (16, 32636), (21, 32747), (32, 32822), (35, 32864),

Gene: Niktson_39 Start: 32062, Stop: 32550, Start Num: 9
Candidate Starts for Niktson_39:
(Start: 9 @32062 has 32 MA's), (14, 32146), (16, 32164), (24, 32311), (25, 32320), (28, 32344), (32, 32362),

Gene: Nivinsha_42 Start: 31859, Stop: 32374, Start Num: 9
Candidate Starts for Nivinsha_42:
(Start: 9 @31859 has 32 MA's), (15, 31952), (16, 31961), (21, 32072), (25, 32105), (32, 32147), (35, 32189),

Gene: Phaby_42 Start: 32029, Stop: 32550, Start Num: 9
Candidate Starts for Phaby_42:
(Start: 9 @32029 has 32 MA's), (15, 32122), (16, 32131), (21, 32242), (25, 32275), (32, 32317),

Gene: Phaila_43 Start: 30560, Stop: 31063, Start Num: 9
Candidate Starts for Phaila_43:
(2, 30497), (Start: 9 @30560 has 32 MA's), (12, 30626), (15, 30653), (16, 30662), (23, 30791), (25, 30806), (26, 30815), (32, 30848), (47, 30959),

Gene: Powelldog_42 Start: 29507, Stop: 29983, Start Num: 6
Candidate Starts for Powelldog_42:
(Start: 6 @29507 has 14 MA's), (18, 29702), (20, 29714), (25, 29768), (28, 29792), (32, 29810), (61, 29945),

Gene: ProfFrink_39 Start: 29447, Stop: 29944, Start Num: 6
Candidate Starts for ProfFrink_39:
(Start: 6 @29447 has 14 MA's), (10, 29480), (18, 29642), (20, 29654), (25, 29708), (28, 29732), (32, 29750),

Gene: Raunak_40 Start: 29144, Stop: 29641, Start Num: 6
Candidate Starts for Raunak_40:
(Start: 6 @29144 has 14 MA's), (10, 29177), (18, 29339), (20, 29351), (25, 29405), (28, 29429), (32, 29447),

Gene: Renaldo_46 Start: 32321, Stop: 32773, Start Num: 9
Candidate Starts for Renaldo_46:
(Start: 9 @32321 has 32 MA's), (16, 32423), (23, 32552), (25, 32567), (26, 32576), (32, 32609), (33, 32621), (38, 32654), (41, 32669),

Gene: RomansRevenge_38 Start: 35285, Stop: 34758, Start Num: 8
Candidate Starts for RomansRevenge_38:
(5, 35330), (8, 35285), (17, 35141), (19, 35099), (27, 35024), (29, 35006), (30, 35003), (32, 34994), (37, 34943), (39, 34931), (46, 34865), (54, 34832), (62, 34802),

Gene: RustyBoy_39 Start: 28953, Stop: 29420, Start Num: 6
Candidate Starts for RustyBoy_39:
(Start: 6 @28953 has 14 MA's), (11, 29013), (13, 29043), (18, 29148), (20, 29160), (25, 29214), (28, 29238), (30, 29247), (32, 29256), (58, 29409),

Gene: Salk_39 Start: 29442, Stop: 29939, Start Num: 6
Candidate Starts for Salk_39:
(Start: 6 @29442 has 14 MA's), (7, 29451), (10, 29475), (18, 29637), (20, 29649), (25, 29703), (28, 29727), (32, 29745),

Gene: ScienceWizSam_42 Start: 32182, Stop: 32643, Start Num: 9
Candidate Starts for ScienceWizSam_42:
(Start: 9 @32182 has 32 MA's), (15, 32275), (16, 32284), (21, 32395), (32, 32470), (35, 32512), (50, 32587), (59, 32626),

Gene: Shepard_45 Start: 32289, Stop: 32735, Start Num: 9
Candidate Starts for Shepard_45:
(Start: 9 @32289 has 32 MA's), (15, 32382), (16, 32391), (22, 32508), (25, 32535), (32, 32577), (40, 32628),

Gene: Shiba_38 Start: 29144, Stop: 29641, Start Num: 6
Candidate Starts for Shiba_38:
(Start: 6 @29144 has 14 MA's), (10, 29177), (18, 29339), (20, 29351), (25, 29405), (28, 29429), (32, 29447),

Gene: Sloopyjoe_39 Start: 29448, Stop: 29945, Start Num: 6
Candidate Starts for Sloopyjoe_39:
(Start: 6 @29448 has 14 MA's), (10, 29481), (18, 29643), (20, 29655), (25, 29709), (28, 29733), (32, 29751),

Gene: Sporto_40 Start: 30692, Stop: 31183, Start Num: 6
Candidate Starts for Sporto_40:
(Start: 6 @30692 has 14 MA's), (11, 30752), (16, 30809), (18, 30887), (20, 30899), (25, 30953), (26, 30962), (28, 30977), (31, 30989), (32, 30995), (36, 31040), (45, 31091), (50, 31106),

Gene: StarLord_39 Start: 29448, Stop: 29945, Start Num: 6
Candidate Starts for StarLord_39:

(Start: 6 @29448 has 14 MA's), (10, 29481), (18, 29643), (20, 29655), (25, 29709), (28, 29733), (32, 29751),

Gene: Stayer_39 Start: 29442, Stop: 29939, Start Num: 6

Candidate Starts for Stayer_39:

(Start: 6 @29442 has 14 MA's), (7, 29451), (10, 29475), (18, 29637), (20, 29649), (25, 29703), (28, 29727), (32, 29745),

Gene: Synopsis_39 Start: 31848, Stop: 32309, Start Num: 9

Candidate Starts for Synopsis_39:

(Start: 9 @31848 has 32 MA's), (15, 31941), (16, 31950), (21, 32061), (32, 32136), (35, 32178), (50, 32253), (59, 32292),

Gene: Tatanka_39 Start: 32005, Stop: 32481, Start Num: 9

Candidate Starts for Tatanka_39:

(3, 31954), (4, 31957), (Start: 9 @32005 has 32 MA's), (15, 32098), (16, 32107), (21, 32218), (32, 32293), (35, 32335),

Gene: Teacup_41 Start: 31988, Stop: 32497, Start Num: 9

Candidate Starts for Teacup_41:

(Start: 9 @31988 has 32 MA's), (15, 32081), (16, 32090), (21, 32201), (32, 32276),

Gene: Tenney120_44 Start: 31029, Stop: 31454, Start Num: 9

Candidate Starts for Tenney120_44:

(Start: 9 @31029 has 32 MA's), (12, 31095), (16, 31131), (18, 31209), (23, 31260), (28, 31299), (32, 31317), (44, 31416),

Gene: Tenno_42 Start: 32612, Stop: 33130, Start Num: 9

Candidate Starts for Tenno_42:

(Start: 9 @32612 has 32 MA's), (15, 32705), (16, 32714), (21, 32825), (32, 32900), (35, 32942),

Gene: Tokki_44 Start: 31975, Stop: 32496, Start Num: 9

Candidate Starts for Tokki_44:

(Start: 9 @31975 has 32 MA's), (15, 32068), (16, 32077), (21, 32188), (32, 32263),

Gene: Truckee_39 Start: 31923, Stop: 32423, Start Num: 9

Candidate Starts for Truckee_39:

(Start: 9 @31923 has 32 MA's), (11, 31968), (13, 31998), (15, 32016), (21, 32136), (27, 32181), (28, 32193), (30, 32202), (32, 32211), (35, 32253), (42, 32277),

Gene: Trustiboi_41 Start: 32399, Stop: 32860, Start Num: 9

Candidate Starts for Trustiboi_41:

(Start: 9 @32399 has 32 MA's), (15, 32492), (16, 32501), (21, 32612), (32, 32687), (35, 32729), (50, 32804), (59, 32843),

Gene: Zeina_43 Start: 31010, Stop: 31486, Start Num: 9

Candidate Starts for Zeina_43:

(2, 30947), (Start: 9 @31010 has 32 MA's), (12, 31076), (16, 31112), (18, 31190), (23, 31241), (28, 31280), (32, 31298), (56, 31445),

Gene: Zippen_43 Start: 32830, Stop: 33276, Start Num: 11

Candidate Starts for Zippen_43:

(Start: 9 @32785 has 32 MA's), (11, 32830), (15, 32878), (16, 32887), (20, 32977), (21, 32998), (26, 33040), (32, 33073), (34, 33112), (52, 33199), (57, 33220),