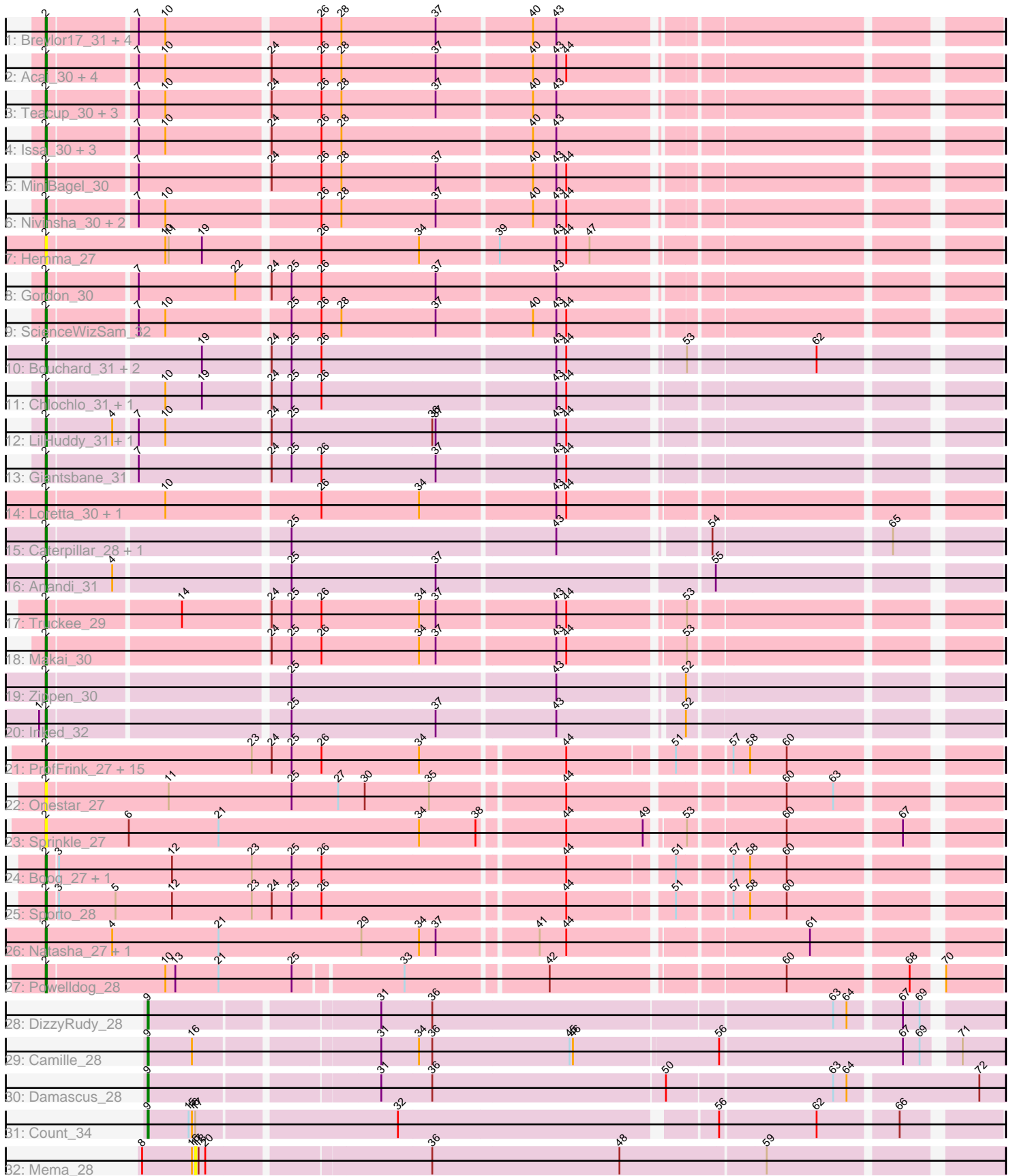


Pham 311552



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 311552 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311552 has 71 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Breylor17_31, Trustiboi_31, CastorTray_32, Synepsis_29, Darby_30
- Track 2 : Acai_30, Dinallo_31, LucySwiss_30, CapnMurica_30, Tenno_31
- Track 3 : Teacup_30, ElephantMan_30, Niktson_30, Brunswick_30
- Track 4 : Issa_30, DevitoJr_30, Nightmare_31, Westerlin_31
- Track 5 : MiniBagel_30
- Track 6 : Nivinsha_30, Tatanka_30, AreFloNak_30
- Track 7 : Hemma_27
- Track 8 : Gordon_30
- Track 9 : ScienceWizSam_32
- Track 10 : Bouchard_31, Phaby_31, Tokki_31
- Track 11 : Chlochlo_31, Tipton_31
- Track 12 : LilHuddy_31, Shepard_31
- Track 13 : Giantsbane_31
- Track 14 : Loretta_30, Ingrid_30
- Track 15 : Caterpillar_28, MediumFry_28
- Track 16 : Anandi_31
- Track 17 : Truckee_29
- Track 18 : Makai_30
- Track 19 : Zippen_30
- Track 20 : Inked_32
- Track 21 : ProfFrink_27, Jeremy4pt0_27, Raunak_27, Egad_27, Stayer_27, Salk_27, BronxBay_27, Linda_27, StarLord_27, Djungelskog_27, Shiba_27, MrAaronian_27, Sloopyjoe_27, DoctorPepper_27, Michelle_27, Spain_26
- Track 22 : Onestar_27
- Track 23 : Sprinkle_27
- Track 24 : Boog_27, HerbBucket_26
- Track 25 : Sporto_28
- Track 26 : Natasha_27, RustyBoy_27
- Track 27 : PowellDog_28
- Track 28 : DizzyRudy_28
- Track 29 : Camille_28
- Track 30 : Damascus_28
- Track 31 : Count_34
- Track 32 : Mema_28

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

The start number called the most often in the published annotations is 2, it was called in 55 of the 59 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acai_30, Anandi_31, AreFloNak_30, Boog_27, Bouchard_31, Breylor17_31, BronxBay_27, Brunswick_30, CapnMurica_30, CastorTray_32, Caterpillar_28, Chlochlo_31, Darby_30, DevitoJr_30, Dinallo_31, Djungelskog_27, DoctorPepper_27, Egad_27, ElephantMan_30, Giantsbane_31, Gordon_30, Hemma_27, HerbBucket_26, Ingrid_30, Inked_32, Issa_30, Jeremy4pt0_27, LilHuddy_31, Linda_27, Loretta_30, LucySwiss_30, Makai_30, MediumFry_28, Michelle_27, MiniBagel_30, MrAaronian_27, Natasha_27, Nightmare_31, Niktson_30, Nivinsha_30, Onestar_27, Phaby_31, Powelldog_28, ProfFrink_27, Raunak_27, RustyBoy_27, Salk_27, ScienceWizSam_32, Shepard_31, Shiba_27, Sloopyjoe_27, Spain_26, Sporto_28, Sprinkle_27, StarLord_27, Stayer_27, Synopsis_29, Tatanka_30, Teacup_30, Tenno_31, Tipton_31, Tokki_31, Truckee_29, Trustiboi_31, Westerlin_31, Zippen_30,

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

-

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

- Camille_28, Count_34, Damascus_28, DizzyRudy_28, Mema_28,

Summary by start number:

Start 2:

- Found in 66 of 71 (93.0%) of genes in pham
- Manual Annotations of this start: 55 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acai_30 (AU1), Anandi_31 (AU4), AreFloNak_30 (AU1), Boog_27 (AW), Bouchard_31 (AU2), Breylor17_31 (AU1), BronxBay_27 (AW), Brunswick_30 (AU1), CapnMurica_30 (AU1), CastorTray_32 (AU1), Caterpillar_28 (AU4), Chlochlo_31 (AU2), Darby_30 (AU1), DevitoJr_30 (AU1), Dinallo_31 (AU1), Djungelskog_27 (AW), DoctorPepper_27 (AW), Egad_27 (AW), ElephantMan_30 (AU1), Giantsbane_31 (AU2), Gordon_30 (AU1), Hemma_27 (AU1), HerbBucket_26 (AW), Ingrid_30 (AU3), Inked_32 (AU7), Issa_30 (AU1), Jeremy4pt0_27 (AW), LilHuddy_31 (AU2), Linda_27 (AW), Loretta_30 (AU3), LucySwiss_30 (AU1), Makai_30 (AU5), MediumFry_28 (AU4), Michelle_27 (AW), MiniBagel_30 (AU1), MrAaronian_27 (AW), Natasha_27 (AW), Nightmare_31 (AU1), Niktson_30 (AU1), Nivinsha_30 (AU1), Onestar_27 (AW), Phaby_31 (AU2), Powelldog_28 (AW), ProfFrink_27 (AW), Raunak_27 (AW), RustyBoy_27 (AW), Salk_27 (AW), ScienceWizSam_32 (AU1), Shepard_31 (AU2), Shiba_27 (AW), Sloopyjoe_27 (AW), Spain_26 (AW), Sporto_28 (AW), Sprinkle_27 (AW), StarLord_27 (AW), Stayer_27 (AW), Synopsis_29 (AU1), Tatanka_30 (AU1), Teacup_30 (AU1), Tenno_31 (AU1), Tipton_31 (AU2), Tokki_31 (AU2), Truckee_29 (AU5), Trustiboi_31 (AU1), Westerlin_31 (AU1), Zippen_30 (AU7),

Start 9:

- Found in 4 of 71 (5.6%) of genes in pham
- Manual Annotations of this start: 4 of 59

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Camille_28 (EL), Count_34 (EL), Damascus_28 (EL), DizzyRudy_28 (EL),

Start 17:

- Found in 2 of 71 (2.8%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Mema_28 (EL),

Summary by clusters:

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

Info for manual annotations of cluster AU1:

- Start number 2 was manually annotated 19 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 2 was manually annotated 8 times for cluster AU2.

Info for manual annotations of cluster AU3:

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

Info for manual annotations of cluster AU4:

- Start number 2 was manually annotated 3 times for cluster AU4.

Info for manual annotations of cluster AU5:

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

Info for manual annotations of cluster AU7:

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

Info for manual annotations of cluster AW:

- Start number 2 was manually annotated 19 times for cluster AW.

Info for manual annotations of cluster EL:

- Start number 9 was manually annotated 4 times for cluster EL.

Gene Information:

Gene: Acai_30 Start: 26931, Stop: 27719, Start Num: 2

Candidate Starts for Acai_30:

(Start: 2 @26931 has 55 MA's), (7, 27006), (10, 27030), (24, 27117), (26, 27162), (28, 27180), (37, 27264), (40, 27345), (43, 27366), (44, 27375),

Gene: Anandi_31 Start: 27487, Stop: 28284, Start Num: 2

Candidate Starts for Anandi_31:

(Start: 2 @27487 has 55 MA's), (4, 27544), (25, 27691), (37, 27820), (55, 28051),

Gene: AreFloNak_30 Start: 26892, Stop: 27680, Start Num: 2

Candidate Starts for AreFloNak_30:

(Start: 2 @26892 has 55 MA's), (7, 26967), (10, 26991), (26, 27123), (28, 27141), (37, 27225), (40, 27306), (43, 27327), (44, 27336),

Gene: Boog_27 Start: 24030, Stop: 24830, Start Num: 2

Candidate Starts for Boog_27:

(Start: 2 @24030 has 55 MA's), (3, 24039), (12, 24141), (23, 24213), (25, 24249), (26, 24276), (44, 24483), (51, 24570), (57, 24612), (58, 24627), (60, 24660),

Gene: Bouchard_31 Start: 27071, Stop: 27862, Start Num: 2

Candidate Starts for Bouchard_31:

(Start: 2 @27071 has 55 MA's), (19, 27203), (24, 27257), (25, 27275), (26, 27302), (43, 27506), (44, 27515), (53, 27611), (62, 27719),

Gene: Breylor17_31 Start: 27498, Stop: 28286, Start Num: 2

Candidate Starts for Breylor17_31:

(Start: 2 @27498 has 55 MA's), (7, 27573), (10, 27597), (26, 27729), (28, 27747), (37, 27831), (40, 27912), (43, 27933),

Gene: BronxBay_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for BronxBay_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: Brunswick_30 Start: 26964, Stop: 27752, Start Num: 2

Candidate Starts for Brunswick_30:

(Start: 2 @26964 has 55 MA's), (7, 27039), (10, 27063), (24, 27150), (26, 27195), (28, 27213), (37, 27297), (40, 27378), (43, 27399),

Gene: Camille_28 Start: 22751, Stop: 23479, Start Num: 9

Candidate Starts for Camille_28:

(Start: 9 @22751 has 4 MA's), (16, 22790), (31, 22943), (34, 22976), (36, 22988), (45, 23111), (46, 23114), (56, 23240), (67, 23402), (69, 23417), (71, 23441),

Gene: CapnMurica_30 Start: 28050, Stop: 28838, Start Num: 2

Candidate Starts for CapnMurica_30:

(Start: 2 @28050 has 55 MA's), (7, 28125), (10, 28149), (24, 28236), (26, 28281), (28, 28299), (37, 28383), (40, 28464), (43, 28485), (44, 28494),

Gene: CastorTray_32 Start: 27356, Stop: 28144, Start Num: 2

Candidate Starts for CastorTray_32:

(Start: 2 @27356 has 55 MA's), (7, 27431), (10, 27455), (26, 27587), (28, 27605), (37, 27689), (40, 27770), (43, 27791),

Gene: Caterpillar_28 Start: 26130, Stop: 26918, Start Num: 2

Candidate Starts for Caterpillar_28:

(Start: 2 @26130 has 55 MA's), (25, 26334), (43, 26565), (54, 26685), (65, 26835),

Gene: Chlochlo_31 Start: 27107, Stop: 27898, Start Num: 2

Candidate Starts for Chlochlo_31:

(Start: 2 @27107 has 55 MA's), (10, 27206), (19, 27239), (24, 27293), (25, 27311), (26, 27338), (43, 27542), (44, 27551),

Gene: Count_34 Start: 30151, Stop: 30861, Start Num: 9

Candidate Starts for Count_34:

(Start: 9 @30151 has 4 MA's), (15, 30187), (16, 30190), (17, 30193), (32, 30364), (56, 30634), (62, 30718), (66, 30784),

Gene: Damascus_28 Start: 23652, Stop: 24386, Start Num: 9

Candidate Starts for Damascus_28:

(Start: 9 @23652 has 4 MA's), (31, 23844), (36, 23889), (50, 24096), (63, 24240), (64, 24252), (72, 24363),

Gene: Darby_30 Start: 26802, Stop: 27590, Start Num: 2

Candidate Starts for Darby_30:

(Start: 2 @26802 has 55 MA's), (7, 26877), (10, 26901), (26, 27033), (28, 27051), (37, 27135), (40, 27216), (43, 27237),

Gene: DevitoJr_30 Start: 26973, Stop: 27761, Start Num: 2

Candidate Starts for DevitoJr_30:

(Start: 2 @26973 has 55 MA's), (7, 27048), (10, 27072), (24, 27159), (26, 27204), (28, 27222), (40, 27387), (43, 27408),

Gene: Dinallo_31 Start: 28038, Stop: 28826, Start Num: 2

Candidate Starts for Dinallo_31:

(Start: 2 @28038 has 55 MA's), (7, 28113), (10, 28137), (24, 28224), (26, 28269), (28, 28287), (37, 28371), (40, 28452), (43, 28473), (44, 28482),

Gene: DizzyRudy_28 Start: 23581, Stop: 24300, Start Num: 9

Candidate Starts for DizzyRudy_28:

(Start: 9 @23581 has 4 MA's), (31, 23773), (36, 23818), (63, 24169), (64, 24181), (67, 24223), (69, 24238),

Gene: Djungelskog_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for Djungelskog_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: DoctorPepper_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for DoctorPepper_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: Egad_27 Start: 24030, Stop: 24830, Start Num: 2

Candidate Starts for Egad_27:

(Start: 2 @24030 has 55 MA's), (23, 24213), (24, 24231), (25, 24249), (26, 24276), (34, 24363), (44, 24483), (51, 24570), (57, 24612), (58, 24627), (60, 24660),

Gene: ElephantMan_30 Start: 27504, Stop: 28292, Start Num: 2

Candidate Starts for ElephantMan_30:

(Start: 2 @27504 has 55 MA's), (7, 27579), (10, 27603), (24, 27690), (26, 27735), (28, 27753), (37, 27837), (40, 27918), (43, 27939),

Gene: Giantsbane_31 Start: 25967, Stop: 26758, Start Num: 2

Candidate Starts for Giantsbane_31:

(Start: 2 @25967 has 55 MA's), (7, 26042), (24, 26153), (25, 26171), (26, 26198), (37, 26300), (43, 26402), (44, 26411),

Gene: Gordon_30 Start: 28078, Stop: 28866, Start Num: 2

Candidate Starts for Gordon_30:

(Start: 2 @28078 has 55 MA's), (7, 28153), (22, 28240), (24, 28264), (25, 28282), (26, 28309), (37, 28411), (43, 28513),

Gene: Hemma_27 Start: 23412, Stop: 24209, Start Num: 2

Candidate Starts for Hemma_27:

(Start: 2 @23412 has 55 MA's), (10, 23517), (11, 23520), (19, 23550), (26, 23649), (34, 23736), (39, 23802), (43, 23853), (44, 23862), (47, 23883),

Gene: HerbBucket_26 Start: 24030, Stop: 24830, Start Num: 2

Candidate Starts for HerbBucket_26:

(Start: 2 @24030 has 55 MA's), (3, 24039), (12, 24141), (23, 24213), (25, 24249), (26, 24276), (44, 24483), (51, 24570), (57, 24612), (58, 24627), (60, 24660),

Gene: Ingrid_30 Start: 26692, Stop: 27489, Start Num: 2

Candidate Starts for Ingrid_30:

(Start: 2 @26692 has 55 MA's), (10, 26797), (26, 26929), (34, 27016), (43, 27133), (44, 27142),

Gene: Inked_32 Start: 27706, Stop: 28497, Start Num: 2

Candidate Starts for Inked_32:

(1, 27703), (Start: 2 @27706 has 55 MA's), (25, 27910), (37, 28039), (43, 28141), (52, 28243),

Gene: Issa_30 Start: 26782, Stop: 27570, Start Num: 2

Candidate Starts for Issa_30:

(Start: 2 @26782 has 55 MA's), (7, 26857), (10, 26881), (24, 26968), (26, 27013), (28, 27031), (40, 27196), (43, 27217),

Gene: Jeremy4pt0_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for Jeremy4pt0_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: LilHuddy_31 Start: 27150, Stop: 27941, Start Num: 2

Candidate Starts for LilHuddy_31:

(Start: 2 @27150 has 55 MA's), (4, 27207), (7, 27225), (10, 27249), (24, 27336), (25, 27354), (36, 27480), (37, 27483), (43, 27585), (44, 27594),

Gene: Linda_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for Linda_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: Loretta_30 Start: 26692, Stop: 27489, Start Num: 2

Candidate Starts for Loretta_30:

(Start: 2 @26692 has 55 MA's), (10, 26797), (26, 26929), (34, 27016), (43, 27133), (44, 27142),

Gene: LucySwiss_30 Start: 26807, Stop: 27595, Start Num: 2

Candidate Starts for LucySwiss_30:

(Start: 2 @26807 has 55 MA's), (7, 26882), (10, 26906), (24, 26993), (26, 27038), (28, 27056), (37, 27140), (40, 27221), (43, 27242), (44, 27251),

Gene: Makai_30 Start: 26936, Stop: 27727, Start Num: 2

Candidate Starts for Makai_30:

(Start: 2 @26936 has 55 MA's), (24, 27122), (25, 27140), (26, 27167), (34, 27254), (37, 27269), (43, 27371), (44, 27380), (53, 27476),

Gene: MediumFry_28 Start: 26132, Stop: 26920, Start Num: 2

Candidate Starts for MediumFry_28:

(Start: 2 @26132 has 55 MA's), (25, 26336), (43, 26567), (54, 26687), (65, 26837),

Gene: Mema_28 Start: 25913, Stop: 26596, Start Num: 17

Candidate Starts for Mema_28:

(8, 25865), (16, 25910), (17, 25913), (18, 25916), (20, 25922), (36, 26111), (48, 26279), (59, 26405),

Gene: Michelle_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for Michelle_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: MiniBagel_30 Start: 28029, Stop: 28817, Start Num: 2

Candidate Starts for MiniBagel_30:

(Start: 2 @28029 has 55 MA's), (7, 28104), (24, 28215), (26, 28260), (28, 28278), (37, 28362), (40, 28443), (43, 28464), (44, 28473),

Gene: MrAaronian_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for MrAaronian_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: Natasha_27 Start: 23449, Stop: 24252, Start Num: 2

Candidate Starts for Natasha_27:

(Start: 2 @23449 has 55 MA's), (4, 23509), (21, 23605), (29, 23734), (34, 23785), (37, 23800), (41, 23881), (44, 23905), (61, 24103),

Gene: Nightmare_31 Start: 27342, Stop: 28130, Start Num: 2

Candidate Starts for Nightmare_31:

(Start: 2 @27342 has 55 MA's), (7, 27417), (10, 27441), (24, 27528), (26, 27573), (28, 27591), (40, 27756), (43, 27777),

Gene: Niktson_30 Start: 27504, Stop: 28292, Start Num: 2

Candidate Starts for Niktson_30:

(Start: 2 @27504 has 55 MA's), (7, 27579), (10, 27603), (24, 27690), (26, 27735), (28, 27753), (37, 27837), (40, 27918), (43, 27939),

Gene: Nivinsha_30 Start: 26892, Stop: 27680, Start Num: 2

Candidate Starts for Nivinsha_30:

(Start: 2 @26892 has 55 MA's), (7, 26967), (10, 26991), (26, 27123), (28, 27141), (37, 27225), (40, 27306), (43, 27327), (44, 27336),

Gene: Onestar_27 Start: 23812, Stop: 24612, Start Num: 2

Candidate Starts for Onestar_27:

(Start: 2 @23812 has 55 MA's), (11, 23920), (25, 24031), (27, 24073), (30, 24097), (35, 24154), (44, 24265), (60, 24442), (63, 24484),

Gene: Phaby_31 Start: 27082, Stop: 27873, Start Num: 2

Candidate Starts for Phaby_31:

(Start: 2 @27082 has 55 MA's), (19, 27214), (24, 27268), (25, 27286), (26, 27313), (43, 27517), (44, 27526), (53, 27622), (62, 27730),

Gene: Powelldog_28 Start: 23735, Stop: 24526, Start Num: 2

Candidate Starts for Powelldog_28:

(Start: 2 @23735 has 55 MA's), (10, 23840), (13, 23849), (21, 23888), (25, 23954), (33, 24047), (42, 24164), (60, 24356), (68, 24458), (70, 24476),

Gene: ProfFrink_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for ProfFrink_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: Raunak_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for Raunak_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: RustyBoy_27 Start: 23431, Stop: 24234, Start Num: 2

Candidate Starts for RustyBoy_27:

(Start: 2 @23431 has 55 MA's), (4, 23491), (21, 23587), (29, 23716), (34, 23767), (37, 23782), (41, 23863), (44, 23887), (61, 24085),

Gene: Salk_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for Salk_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: ScienceWizSam_32 Start: 27293, Stop: 28081, Start Num: 2

Candidate Starts for ScienceWizSam_32:

(Start: 2 @27293 has 55 MA's), (7, 27368), (10, 27392), (25, 27497), (26, 27524), (28, 27542), (37, 27626), (40, 27707), (43, 27728), (44, 27737),

Gene: Shepard_31 Start: 27147, Stop: 27938, Start Num: 2

Candidate Starts for Shepard_31:

(Start: 2 @27147 has 55 MA's), (4, 27204), (7, 27222), (10, 27246), (24, 27333), (25, 27351), (36, 27477), (37, 27480), (43, 27582), (44, 27591),

Gene: Shiba_27 Start: 24029, Stop: 24829, Start Num: 2

Candidate Starts for Shiba_27:

(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: Sloopyjoe_27 Start: 24030, Stop: 24830, Start Num: 2

Candidate Starts for Sloopyjoe_27:

(Start: 2 @24030 has 55 MA's), (23, 24213), (24, 24231), (25, 24249), (26, 24276), (34, 24363), (44, 24483), (51, 24570), (57, 24612), (58, 24627), (60, 24660),

Gene: Spain_26 Start: 24029, Stop: 24829, Start Num: 2
Candidate Starts for Spain_26:
(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: Sporto_28 Start: 25240, Stop: 26040, Start Num: 2
Candidate Starts for Sporto_28:
(Start: 2 @25240 has 55 MA's), (3, 25249), (5, 25300), (12, 25351), (23, 25423), (24, 25441), (25, 25459), (26, 25486), (44, 25693), (51, 25780), (57, 25822), (58, 25837), (60, 25870),

Gene: Sprinkle_27 Start: 24153, Stop: 24956, Start Num: 2
Candidate Starts for Sprinkle_27:
(Start: 2 @24153 has 55 MA's), (6, 24228), (21, 24309), (34, 24489), (38, 24540), (44, 24609), (49, 24678), (53, 24705), (60, 24786), (67, 24882),

Gene: StarLord_27 Start: 24030, Stop: 24830, Start Num: 2
Candidate Starts for StarLord_27:
(Start: 2 @24030 has 55 MA's), (23, 24213), (24, 24231), (25, 24249), (26, 24276), (34, 24363), (44, 24483), (51, 24570), (57, 24612), (58, 24627), (60, 24660),

Gene: Stayer_27 Start: 24029, Stop: 24829, Start Num: 2
Candidate Starts for Stayer_27:
(Start: 2 @24029 has 55 MA's), (23, 24212), (24, 24230), (25, 24248), (26, 24275), (34, 24362), (44, 24482), (51, 24569), (57, 24611), (58, 24626), (60, 24659),

Gene: Synopsis_29 Start: 26956, Stop: 27744, Start Num: 2
Candidate Starts for Synopsis_29:
(Start: 2 @26956 has 55 MA's), (7, 27031), (10, 27055), (26, 27187), (28, 27205), (37, 27289), (40, 27370), (43, 27391),

Gene: Tatanka_30 Start: 27440, Stop: 28228, Start Num: 2
Candidate Starts for Tatanka_30:
(Start: 2 @27440 has 55 MA's), (7, 27515), (10, 27539), (26, 27671), (28, 27689), (37, 27773), (40, 27854), (43, 27875), (44, 27884),

Gene: Teacup_30 Start: 26812, Stop: 27600, Start Num: 2
Candidate Starts for Teacup_30:
(Start: 2 @26812 has 55 MA's), (7, 26887), (10, 26911), (24, 26998), (26, 27043), (28, 27061), (37, 27145), (40, 27226), (43, 27247),

Gene: Tenno_31 Start: 28038, Stop: 28826, Start Num: 2
Candidate Starts for Tenno_31:
(Start: 2 @28038 has 55 MA's), (7, 28113), (10, 28137), (24, 28224), (26, 28269), (28, 28287), (37, 28371), (40, 28452), (43, 28473), (44, 28482),

Gene: Tipton_31 Start: 27143, Stop: 27934, Start Num: 2
Candidate Starts for Tipton_31:
(Start: 2 @27143 has 55 MA's), (10, 27242), (19, 27275), (24, 27329), (25, 27347), (26, 27374), (43, 27578), (44, 27587),

Gene: Tokki_31 Start: 27098, Stop: 27889, Start Num: 2
Candidate Starts for Tokki_31:

(Start: 2 @27098 has 55 MA's), (19, 27230), (24, 27284), (25, 27302), (26, 27329), (43, 27533), (44, 27542), (53, 27638), (62, 27746),

Gene: Truckee_29 Start: 26981, Stop: 27772, Start Num: 2

Candidate Starts for Truckee_29:

(Start: 2 @26981 has 55 MA's), (14, 27095), (24, 27167), (25, 27185), (26, 27212), (34, 27299), (37, 27314), (43, 27416), (44, 27425), (53, 27521),

Gene: Trustiboi_31 Start: 27509, Stop: 28297, Start Num: 2

Candidate Starts for Trustiboi_31:

(Start: 2 @27509 has 55 MA's), (7, 27584), (10, 27608), (26, 27740), (28, 27758), (37, 27842), (40, 27923), (43, 27944),

Gene: Westerlin_31 Start: 28621, Stop: 29409, Start Num: 2

Candidate Starts for Westerlin_31:

(Start: 2 @28621 has 55 MA's), (7, 28696), (10, 28720), (24, 28807), (26, 28852), (28, 28870), (40, 29035), (43, 29056),

Gene: Zippen_30 Start: 27285, Stop: 28076, Start Num: 2

Candidate Starts for Zippen_30:

(Start: 2 @27285 has 55 MA's), (25, 27489), (43, 27720), (52, 27822),