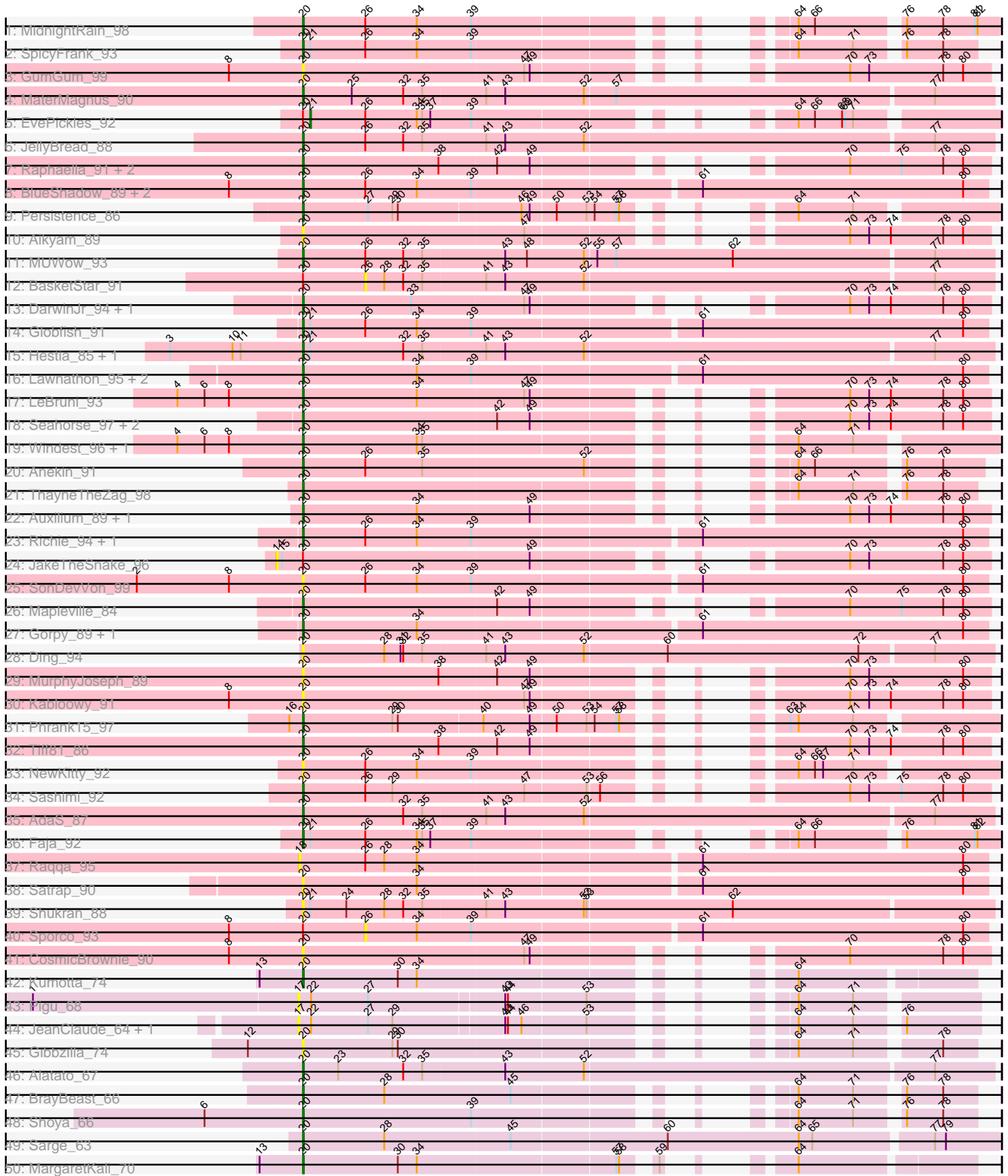


Pham 300045



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 300045 Report

This analysis was run 06/08/26 on database version 649.

Pham number 300045 has 70 members, 24 are drafts.

Phages represented in each track:

- Track 1 : MidnightRain_98
- Track 2 : SpicyFrank_93
- Track 3 : GumGum_99
- Track 4 : MaterMagnus_90
- Track 5 : EvePickles_92
- Track 6 : JellyBread_88
- Track 7 : Raphaella_91, Lasker_93, Vopal_92
- Track 8 : BlueShadow_89, BillyTP_92, CookieBear_90
- Track 9 : Persistence_86
- Track 10 : Aikyam_89
- Track 11 : MUWow_93
- Track 12 : BasketStar_91
- Track 13 : DarwinJr_94, Isolde_92
- Track 14 : Globfish_91
- Track 15 : Hestia_85, Bauer_88
- Track 16 : Lawnathon_95, Hillester_95, RadFad_96
- Track 17 : LeBruni_93
- Track 18 : Seahorse_97, Crescenzo_92, Nyilah_98
- Track 19 : Windest_96, YoungHarleezy_92
- Track 20 : Anekin_91
- Track 21 : ThayneTheZag_98
- Track 22 : Auxilium_89, Bhageatrice_95
- Track 23 : Richie_94, BenchScraper_91
- Track 24 : JakeTheSnake_96
- Track 25 : SonDevVon_99
- Track 26 : Mapleville_84
- Track 27 : Gorpy_89, Sakai_88
- Track 28 : Ding_94
- Track 29 : MurphyJoseph_89
- Track 30 : Kabloowy_91
- Track 31 : Phrank15_97
- Track 32 : Tiff81_86
- Track 33 : NewKitty_92
- Track 34 : Sashimi_92
- Track 35 : AdaS_87
- Track 36 : Faja_92
- Track 37 : Raqqa_95

- Track 38 : Satrap_90
- Track 39 : Shukran_88
- Track 40 : Sporco_93
- Track 41 : CosmicBrownie_90
- Track 42 : Kumotta_74
- Track 43 : Pigu_68
- Track 44 : JeanClaude_64, Rooter_74
- Track 45 : Gibbzilla_74
- Track 46 : Alatato_67
- Track 47 : BrayBeast_66
- Track 48 : Shoya_66
- Track 49 : Sarge_63
- Track 50 : MargaretKali_70
- Track 51 : Zucker_91
- Track 52 : Cassini_90
- Track 53 : BlackSpider_80
- Track 54 : BellaJr_91
- Track 55 : ArV2_66

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

The start number called the most often in the published annotations is 20, it was called in 45 of the 46 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AdaS_87, Aikyam_89, Alatato_67, Anekin_91, Auxilium_89, Bauer_88, BellaJr_91, BenchScraper_91, Bhageatrice_95, BillyTP_92, BlackSpider_80, BlueShadow_89, BrayBeast_66, Cassini_90, CookieBear_90, CosmicBrownie_90, Crescenzo_92, DarwinJr_94, Ding_94, Faja_92, Gibbzilla_74, Globfish_91, Gorpy_89, GumGum_99, Hestia_85, Hillester_95, Isolde_92, JellyBread_88, Kabloowy_91, Kumotta_74, Lasker_93, Lawnathon_95, LeBruni_93, MUWow_93, Mapleville_84, MargaretKali_70, MaterMagnus_90, MidnightRain_98, MurphyJoseph_89, NewKitty_92, Nyilah_98, Persistence_86, Phrank15_97, RadFad_96, Raphaella_91, Richie_94, Sakai_88, Sarge_63, Sashimi_92, Satrap_90, Seahorse_97, Shoya_66, Shukran_88, SonDevVon_99, SpicyFrank_93, ThayneTheZag_98, Tiff81_86, Vopal_92, Windest_96, YoungHarleezy_92, Zucker_91,

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

- BasketStar_91, EvePickles_92, JakeTheSnake_96, Sporco_93,

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

- ArV2_66, JeanClaude_64, Pigu_68, Raqqa_95, Rooter_74,

Summary by start number:

Start 14:

- Found in 1 of 70 (1.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JakeTheSnake_96 (AY),

Start 17:

- Found in 3 of 70 (4.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JeanClaude_64 (FB), Pigu_68 (FB), Rooter_74 (FB),

Start 18:

- Found in 1 of 70 (1.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Raqqa_95 (AY),

Start 19:

- Found in 1 of 70 (1.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArV2_66 (singleton),

Start 20:

- Found in 65 of 70 (92.9%) of genes in pham
- Manual Annotations of this start: 45 of 46
- Called 93.8% of time when present
- Phage (with cluster) where this start called: AdaS_87 (AY), Aikyam_89 (AY), Alatato_67 (FB), Aekin_91 (AY), Auxilium_89 (AY), Bauer_88 (FN), BellaJr_91 (FN), BenchScraper_91 (AY), Bhageatrice_95 (AY), BillyTP_92 (AY), BlackSpider_80 (FN), BlueShadow_89 (AY), BrayBeast_66 (FB), Cassini_90 (FN), CookieBear_90 (AY), CosmicBrownie_90 (AY), Crescenzo_92 (AY), DarwinJr_94 (AY), Ding_94 (AY), Faja_92 (AY), Gibbzilla_74 (FB), Globfish_91 (AY), Gorpy_89 (AY), GumGum_99 (AY), Hestia_85 (AY), Hillester_95 (AY), Isolde_92 (AY), JellyBread_88 (AY), Kabloowy_91 (AY), Kumotta_74 (FB), Lasker_93 (AY), Lawnathon_95 (AY), LeBruni_93 (AY), MUWow_93 (AY), Mapleville_84 (AY), MargaretKali_70 (FB), MaterMagnus_90 (AY), MidnightRain_98 (AY), MurphyJoseph_89 (AY), NewKitty_92 (AY), Nyilah_98 (AY), Persistence_86 (AY), Phrank15_97 (AY), RadFad_96 (AY), Raphaella_91 (AY), Richie_94 (AY), Sakai_88 (AY), Sarge_63 (FB), Sashimi_92 (AY), Satrap_90 (AY), Seahorse_97 (AY), Shoya_66 (FB), Shukran_88 (AY), SonDevVon_99 (AY), SpicyFrank_93 (AY), ThayneTheZag_98 (AY), Tiff81_86 (AY), Vopal_92 (AY), Windest_96 (AY), YoungHarleezy_92 (AY), Zucker_91 (FN),

Start 21:

- Found in 7 of 70 (10.0%) of genes in pham
- Manual Annotations of this start: 1 of 46
- Called 14.3% of time when present
- Phage (with cluster) where this start called: EvePickles_92 (AY),

Start 26:

- Found in 21 of 70 (30.0%) of genes in pham
- No Manual Annotations of this start.
- Called 9.5% of time when present
- Phage (with cluster) where this start called: BasketStar_91 (AY), Sporco_93 (AY),

Summary by clusters:

There are 4 clusters represented in this pham: AY, FB, singleton, FN,

Info for manual annotations of cluster AY:

- Start number 20 was manually annotated 36 times for cluster AY.
- Start number 21 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster FB:

- Start number 20 was manually annotated 6 times for cluster FB.

Info for manual annotations of cluster FN:

- Start number 20 was manually annotated 3 times for cluster FN.

Gene Information:

Gene: AdaS_87 Start: 47624, Stop: 48373, Start Num: 20

Candidate Starts for AdaS_87:

(Start: 20 @47624 has 45 MA's), (32, 47732), (35, 47753), (41, 47822), (43, 47843), (52, 47930), (77, 48308),

Gene: Aikyam_89 Start: 48484, Stop: 49107, Start Num: 20

Candidate Starts for Aikyam_89:

(Start: 20 @48484 has 45 MA's), (47, 48724), (70, 48955), (73, 48976), (74, 49000), (78, 49057), (80, 49078),

Gene: Alatato_67 Start: 36915, Stop: 37664, Start Num: 20

Candidate Starts for Alatato_67:

(Start: 20 @36915 has 45 MA's), (23, 36951), (32, 37023), (35, 37044), (43, 37134), (52, 37221), (77, 37599),

Gene: Anekin_91 Start: 50412, Stop: 51011, Start Num: 20

Candidate Starts for Anekin_91:

(Start: 20 @50412 has 45 MA's), (26, 50478), (35, 50541), (52, 50718), (64, 50826), (66, 50844), (76, 50928), (78, 50967),

Gene: ArV2_66 Start: 35893, Stop: 36489, Start Num: 19

Candidate Starts for ArV2_66:

(19, 35893), (22, 35905), (43, 36115), (53, 36202), (64, 36310), (71, 36370),

Gene: Auxilium_89 Start: 47474, Stop: 48097, Start Num: 20

Candidate Starts for Auxilium_89:

(Start: 20 @47474 has 45 MA's), (34, 47597), (49, 47720), (70, 47945), (73, 47966), (74, 47990), (78, 48047), (80, 48068),

Gene: BasketStar_91 Start: 50098, Stop: 50781, Start Num: 26

Candidate Starts for BasketStar_91:

(Start: 20 @50032 has 45 MA's), (26, 50098), (28, 50119), (32, 50140), (35, 50161), (41, 50230), (43, 50251), (52, 50338), (77, 50716),

Gene: Bauer_88 Start: 46653, Stop: 47402, Start Num: 20

Candidate Starts for Bauer_88:

(3, 46506), (10, 46575), (11, 46584), (Start: 20 @46653 has 45 MA's), (Start: 21 @46659 has 1 MA's), (32, 46761), (35, 46782), (41, 46851), (43, 46872), (52, 46959), (77, 47337),

Gene: BellaJr_91 Start: 50323, Stop: 50910, Start Num: 20

Candidate Starts for BellaJr_91:

(4, 50185), (6, 50215), (8, 50242), (Start: 20 @50323 has 45 MA's), (33, 50440), (35, 50452), (36, 50458), (51, 50617), (64, 50734), (71, 50794), (76, 50836), (78, 50875),

Gene: BenchScraper_91 Start: 48422, Stop: 49156, Start Num: 20

Candidate Starts for BenchScraper_91:

(Start: 20 @48422 has 45 MA's), (26, 48488), (34, 48545), (39, 48605), (61, 48845), (80, 49130),

Gene: Bhageatrice_95 Start: 52700, Stop: 53323, Start Num: 20

Candidate Starts for Bhageatrice_95:

(Start: 20 @52700 has 45 MA's), (34, 52823), (49, 52946), (70, 53171), (73, 53192), (74, 53216), (78, 53273), (80, 53294),

Gene: BillyTP_92 Start: 50623, Stop: 51357, Start Num: 20

Candidate Starts for BillyTP_92:

(8, 50542), (Start: 20 @50623 has 45 MA's), (26, 50689), (34, 50746), (39, 50806), (61, 51046), (80, 51331),

Gene: BlackSpider_80 Start: 47899, Stop: 48648, Start Num: 20

Candidate Starts for BlackSpider_80:

(5, 47761), (7, 47791), (9, 47818), (Start: 20 @47899 has 45 MA's), (26, 47965), (32, 48007), (35, 48028), (41, 48097), (43, 48118), (52, 48205), (77, 48583),

Gene: BlueShadow_89 Start: 50216, Stop: 50950, Start Num: 20

Candidate Starts for BlueShadow_89:

(8, 50135), (Start: 20 @50216 has 45 MA's), (26, 50282), (34, 50339), (39, 50399), (61, 50639), (80, 50924),

Gene: BrayBeast_66 Start: 36485, Stop: 37072, Start Num: 20

Candidate Starts for BrayBeast_66:

(Start: 20 @36485 has 45 MA's), (28, 36572), (45, 36710), (64, 36896), (71, 36956), (76, 36998), (78, 37037),

Gene: Cassini_90 Start: 49806, Stop: 50540, Start Num: 20

Candidate Starts for Cassini_90:

(Start: 20 @49806 has 45 MA's), (26, 49872), (34, 49929), (39, 49989), (61, 50229), (73, 50412), (80, 50514),

Gene: CookieBear_90 Start: 49831, Stop: 50565, Start Num: 20

Candidate Starts for CookieBear_90:

(8, 49750), (Start: 20 @49831 has 45 MA's), (26, 49897), (34, 49954), (39, 50014), (61, 50254), (80, 50539),

Gene: CosmicBrownie_90 Start: 48881, Stop: 49504, Start Num: 20

Candidate Starts for CosmicBrownie_90:

(8, 48800), (Start: 20 @48881 has 45 MA's), (47, 49121), (49, 49127), (70, 49352), (78, 49454), (80, 49475),

Gene: Crescenzo_92 Start: 51426, Stop: 52049, Start Num: 20

Candidate Starts for Crescenzo_92:

(Start: 20 @51426 has 45 MA's), (42, 51636), (49, 51672), (70, 51897), (73, 51918), (74, 51942), (78, 51999), (80, 52020),

Gene: DarwinJr_94 Start: 51555, Stop: 52178, Start Num: 20

Candidate Starts for DarwinJr_94:

(Start: 20 @51555 has 45 MA's), (33, 51672), (47, 51795), (49, 51801), (70, 52026), (73, 52047), (74, 52071), (78, 52128), (80, 52149),

Gene: Ding_94 Start: 49903, Stop: 50652, Start Num: 20

Candidate Starts for Ding_94:

(Start: 20 @49903 has 45 MA's), (28, 49990), (31, 50008), (32, 50011), (35, 50032), (41, 50101), (43, 50122), (52, 50209), (60, 50299), (72, 50509), (77, 50587),

Gene: EvePickles_92 Start: 51186, Stop: 51797, Start Num: 21

Candidate Starts for EvePickles_92:

(Start: 20 @51180 has 45 MA's), (Start: 21 @51186 has 1 MA's), (26, 51246), (34, 51303), (35, 51309), (37, 51318), (39, 51363), (64, 51594), (66, 51612), (68, 51642), (69, 51645), (71, 51654),

Gene: Faja_92 Start: 50399, Stop: 51010, Start Num: 20

Candidate Starts for Faja_92:

(Start: 20 @50399 has 45 MA's), (Start: 21 @50405 has 1 MA's), (26, 50465), (34, 50522), (35, 50528), (37, 50537), (39, 50582), (64, 50810), (66, 50828), (76, 50912), (81, 50984), (82, 50987),

Gene: Gibbzilla_74 Start: 37050, Stop: 37637, Start Num: 20

Candidate Starts for Gibbzilla_74:

(12, 36990), (Start: 20 @37050 has 45 MA's), (29, 37146), (30, 37152), (64, 37461), (71, 37521), (78, 37602),

Gene: Globfish_91 Start: 49142, Stop: 49876, Start Num: 20

Candidate Starts for Globfish_91:

(Start: 20 @49142 has 45 MA's), (Start: 21 @49148 has 1 MA's), (26, 49208), (34, 49265), (39, 49325), (61, 49565), (80, 49850),

Gene: Gorpy_89 Start: 51150, Stop: 51884, Start Num: 20

Candidate Starts for Gorpy_89:

(Start: 20 @51150 has 45 MA's), (34, 51273), (61, 51573), (80, 51858),

Gene: GumGum_99 Start: 51583, Stop: 52206, Start Num: 20

Candidate Starts for GumGum_99:

(8, 51502), (Start: 20 @51583 has 45 MA's), (47, 51823), (49, 51829), (70, 52054), (73, 52075), (78, 52156), (80, 52177),

Gene: Hestia_85 Start: 47670, Stop: 48419, Start Num: 20

Candidate Starts for Hestia_85:

(3, 47523), (10, 47592), (11, 47601), (Start: 20 @47670 has 45 MA's), (Start: 21 @47676 has 1 MA's), (32, 47778), (35, 47799), (41, 47868), (43, 47889), (52, 47976), (77, 48354),

Gene: Hillester_95 Start: 50345, Stop: 51079, Start Num: 20

Candidate Starts for Hillester_95:

(Start: 20 @50345 has 45 MA's), (34, 50468), (39, 50528), (61, 50768), (80, 51053),

Gene: Isolde_92 Start: 51007, Stop: 51630, Start Num: 20

Candidate Starts for Isolde_92:

(Start: 20 @51007 has 45 MA's), (33, 51124), (47, 51247), (49, 51253), (70, 51478), (73, 51499), (74, 51523), (78, 51580), (80, 51601),

Gene: JakeTheSnake_96 Start: 52322, Stop: 52972, Start Num: 14

Candidate Starts for JakeTheSnake_96:

(14, 52322), (15, 52328), (Start: 20 @52349 has 45 MA's), (49, 52595), (70, 52820), (73, 52841), (78, 52922), (80, 52943),

Gene: JeanClaude_64 Start: 35416, Stop: 36009, Start Num: 17

Candidate Starts for JeanClaude_64:

(17, 35416), (22, 35428), (27, 35491), (29, 35518), (43, 35635), (44, 35638), (46, 35653), (53, 35722), (64, 35830), (71, 35890), (76, 35932),

Gene: JellyBread_88 Start: 50339, Stop: 51088, Start Num: 20

Candidate Starts for JellyBread_88:

(Start: 20 @50339 has 45 MA's), (26, 50405), (32, 50447), (35, 50468), (41, 50537), (43, 50558), (52, 50645), (77, 51023),

Gene: Kabloowy_91 Start: 50496, Stop: 51119, Start Num: 20

Candidate Starts for Kabloowy_91:

(8, 50415), (Start: 20 @50496 has 45 MA's), (47, 50736), (49, 50742), (70, 50967), (73, 50988), (74, 51012), (78, 51069), (80, 51090),

Gene: Kumotta_74 Start: 38724, Stop: 39317, Start Num: 20

Candidate Starts for Kumotta_74:

(13, 38676), (Start: 20 @38724 has 45 MA's), (30, 38826), (34, 38847), (64, 39138),

Gene: Lasker_93 Start: 51177, Stop: 51800, Start Num: 20

Candidate Starts for Lasker_93:

(Start: 20 @51177 has 45 MA's), (38, 51324), (42, 51387), (49, 51423), (70, 51648), (75, 51705), (78, 51750), (80, 51771),

Gene: Lawnathon_95 Start: 50695, Stop: 51429, Start Num: 20

Candidate Starts for Lawnathon_95:

(Start: 20 @50695 has 45 MA's), (34, 50818), (39, 50878), (61, 51118), (80, 51403),

Gene: LeBruni_93 Start: 50382, Stop: 51005, Start Num: 20

Candidate Starts for LeBruni_93:

(4, 50244), (6, 50274), (8, 50301), (Start: 20 @50382 has 45 MA's), (34, 50505), (47, 50622), (49, 50628), (70, 50853), (73, 50874), (74, 50898), (78, 50955), (80, 50976),

Gene: MUWow_93 Start: 51176, Stop: 51925, Start Num: 20

Candidate Starts for MUWow_93:

(Start: 20 @51176 has 45 MA's), (26, 51242), (32, 51284), (35, 51305), (43, 51395), (48, 51419), (52, 51482), (55, 51494), (57, 51515), (62, 51644), (77, 51860),

Gene: Mapleville_84 Start: 48636, Stop: 49259, Start Num: 20

Candidate Starts for Mapleville_84:

(Start: 20 @48636 has 45 MA's), (42, 48846), (49, 48882), (70, 49107), (75, 49164), (78, 49209), (80, 49230),

Gene: MargaretKali_70 Start: 37342, Stop: 37935, Start Num: 20

Candidate Starts for MargaretKali_70:

(13, 37294), (Start: 20 @37342 has 45 MA's), (30, 37444), (34, 37465), (57, 37678), (58, 37681), (59, 37705), (64, 37756),

Gene: MaterMagnus_90 Start: 50388, Stop: 51137, Start Num: 20

Candidate Starts for MaterMagnus_90:

(Start: 20 @50388 has 45 MA's), (25, 50439), (32, 50496), (35, 50517), (41, 50586), (43, 50607), (52, 50694), (57, 50727), (77, 51072),

Gene: MidnightRain_98 Start: 51625, Stop: 52236, Start Num: 20

Candidate Starts for MidnightRain_98:

(Start: 20 @51625 has 45 MA's), (26, 51691), (34, 51748), (39, 51808), (64, 52036), (66, 52054), (76, 52138), (78, 52177), (81, 52210), (82, 52213),

Gene: MurphyJoseph_89 Start: 48790, Stop: 49413, Start Num: 20

Candidate Starts for MurphyJoseph_89:

(Start: 20 @48790 has 45 MA's), (38, 48937), (42, 49000), (49, 49036), (70, 49261), (73, 49282), (80, 49384),

Gene: NewKitty_92 Start: 50619, Stop: 51233, Start Num: 20

Candidate Starts for NewKitty_92:

(Start: 20 @50619 has 45 MA's), (26, 50685), (34, 50742), (39, 50802), (64, 51033), (66, 51051), (67, 51060), (71, 51093),

Gene: Nyilah_98 Start: 50104, Stop: 50727, Start Num: 20

Candidate Starts for Nyilah_98:

(Start: 20 @50104 has 45 MA's), (42, 50314), (49, 50350), (70, 50575), (73, 50596), (74, 50620), (78, 50677), (80, 50698),

Gene: Persistence_86 Start: 47784, Stop: 48398, Start Num: 20

Candidate Starts for Persistence_86:

(Start: 20 @47784 has 45 MA's), (27, 47853), (29, 47880), (30, 47886), (46, 48018), (49, 48027), (50, 48054), (53, 48087), (54, 48096), (57, 48120), (58, 48123), (64, 48198), (71, 48258),

Gene: Phrank15_97 Start: 50774, Stop: 51388, Start Num: 20

Candidate Starts for Phrank15_97:

(16, 50759), (Start: 20 @50774 has 45 MA's), (29, 50870), (30, 50876), (40, 50966), (49, 51017), (50, 51044), (53, 51077), (54, 51086), (57, 51110), (58, 51113), (63, 51179), (64, 51188), (71, 51248),

Gene: Pigu_68 Start: 35327, Stop: 35920, Start Num: 17

Candidate Starts for Pigu_68:

(1, 35036), (17, 35327), (22, 35339), (27, 35402), (43, 35546), (44, 35549), (53, 35633), (64, 35741), (71, 35801),

Gene: RadFad_96 Start: 50345, Stop: 51079, Start Num: 20

Candidate Starts for RadFad_96:

(Start: 20 @50345 has 45 MA's), (34, 50468), (39, 50528), (61, 50768), (80, 51053),

Gene: Raphaella_91 Start: 49416, Stop: 50039, Start Num: 20

Candidate Starts for Raphaella_91:

(Start: 20 @49416 has 45 MA's), (38, 49563), (42, 49626), (49, 49662), (70, 49887), (75, 49944), (78, 49989), (80, 50010),

Gene: Raqqa_95 Start: 51202, Stop: 51939, Start Num: 18
Candidate Starts for Raqqa_95:
(18, 51202), (26, 51271), (28, 51292), (34, 51328), (61, 51628), (80, 51913),

Gene: Richie_94 Start: 50994, Stop: 51728, Start Num: 20
Candidate Starts for Richie_94:
(Start: 20 @50994 has 45 MA's), (26, 51060), (34, 51117), (39, 51177), (61, 51417), (80, 51702),

Gene: Rooter_74 Start: 37379, Stop: 37972, Start Num: 17
Candidate Starts for Rooter_74:
(17, 37379), (22, 37391), (27, 37454), (29, 37481), (43, 37598), (44, 37601), (46, 37616), (53, 37685),
(64, 37793), (71, 37853), (76, 37895),

Gene: Sakai_88 Start: 49861, Stop: 50595, Start Num: 20
Candidate Starts for Sakai_88:
(Start: 20 @49861 has 45 MA's), (34, 49984), (61, 50284), (80, 50569),

Gene: Sarge_63 Start: 34201, Stop: 34944, Start Num: 20
Candidate Starts for Sarge_63:
(Start: 20 @34201 has 45 MA's), (28, 34288), (45, 34426), (60, 34594), (64, 34738), (65, 34753), (77,
34876), (79, 34888),

Gene: Sashimi_92 Start: 50240, Stop: 50863, Start Num: 20
Candidate Starts for Sashimi_92:
(Start: 20 @50240 has 45 MA's), (26, 50306), (29, 50336), (47, 50480), (53, 50546), (56, 50558), (70,
50711), (73, 50732), (75, 50768), (78, 50813), (80, 50834),

Gene: Satrap_90 Start: 49772, Stop: 50506, Start Num: 20
Candidate Starts for Satrap_90:
(Start: 20 @49772 has 45 MA's), (34, 49895), (61, 50195), (80, 50480),

Gene: Seahorse_97 Start: 54507, Stop: 55130, Start Num: 20
Candidate Starts for Seahorse_97:
(Start: 20 @54507 has 45 MA's), (42, 54717), (49, 54753), (70, 54978), (73, 54999), (74, 55023), (78,
55080), (80, 55101),

Gene: Shoya_66 Start: 36590, Stop: 37177, Start Num: 20
Candidate Starts for Shoya_66:
(6, 36482), (Start: 20 @36590 has 45 MA's), (39, 36773), (64, 37001), (71, 37061), (76, 37103), (78,
37142),

Gene: Shukran_88 Start: 48250, Stop: 48999, Start Num: 20
Candidate Starts for Shukran_88:
(Start: 20 @48250 has 45 MA's), (Start: 21 @48256 has 1 MA's), (24, 48295), (28, 48337), (32, 48358),
(35, 48379), (41, 48448), (43, 48469), (52, 48556), (53, 48559), (62, 48718),

Gene: SonDevVon_99 Start: 50820, Stop: 51554, Start Num: 20
Candidate Starts for SonDevVon_99:
(2, 50637), (8, 50739), (Start: 20 @50820 has 45 MA's), (26, 50886), (34, 50943), (39, 51003), (61,
51243), (80, 51528),

Gene: SpicyFrank_93 Start: 49913, Stop: 50500, Start Num: 20
Candidate Starts for SpicyFrank_93:

(Start: 20 @49913 has 45 MA's), (Start: 21 @49919 has 1 MA's), (26, 49979), (34, 50036), (39, 50096), (64, 50324), (71, 50384), (76, 50426), (78, 50465),

Gene: Sporco_93 Start: 51649, Stop: 52317, Start Num: 26

Candidate Starts for Sporco_93:

(8, 51502), (Start: 20 @51583 has 45 MA's), (26, 51649), (34, 51706), (39, 51766), (61, 52006), (80, 52291),

Gene: ThayneTheZag_98 Start: 51748, Stop: 52335, Start Num: 20

Candidate Starts for ThayneTheZag_98:

(Start: 20 @51748 has 45 MA's), (64, 52159), (71, 52219), (76, 52261), (78, 52300),

Gene: Tiff81_86 Start: 48536, Stop: 49159, Start Num: 20

Candidate Starts for Tiff81_86:

(Start: 20 @48536 has 45 MA's), (38, 48683), (42, 48746), (49, 48782), (70, 49007), (73, 49028), (74, 49052), (78, 49109), (80, 49130),

Gene: Vopal_92 Start: 51482, Stop: 52105, Start Num: 20

Candidate Starts for Vopal_92:

(Start: 20 @51482 has 45 MA's), (38, 51629), (42, 51692), (49, 51728), (70, 51953), (75, 52010), (78, 52055), (80, 52076),

Gene: Windest_96 Start: 49507, Stop: 50121, Start Num: 20

Candidate Starts for Windest_96:

(4, 49369), (6, 49399), (8, 49426), (Start: 20 @49507 has 45 MA's), (34, 49630), (35, 49636), (64, 49921), (71, 49981),

Gene: YoungHarleezy_92 Start: 50740, Stop: 51354, Start Num: 20

Candidate Starts for YoungHarleezy_92:

(4, 50602), (6, 50632), (8, 50659), (Start: 20 @50740 has 45 MA's), (34, 50863), (35, 50869), (64, 51154), (71, 51214),

Gene: Zucker_91 Start: 51104, Stop: 51700, Start Num: 20

Candidate Starts for Zucker_91:

(Start: 20 @51104 has 45 MA's), (31, 51209), (34, 51227), (38, 51251), (52, 51407), (64, 51515),