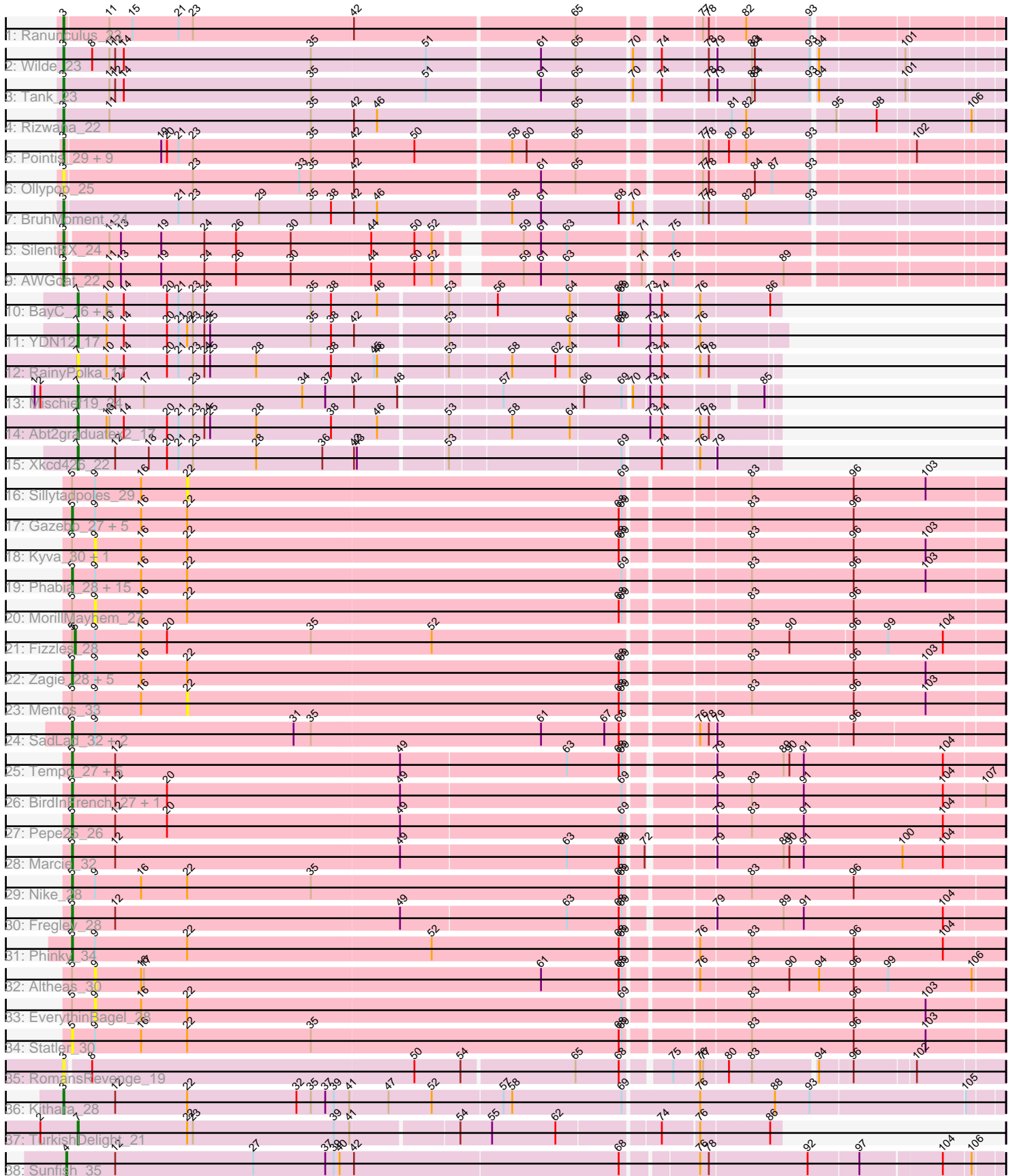


Pham 216077



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 216077 Report

This analysis was run 02/22/25 on database version 588.

Pham number 216077 has 86 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Ranunculus_23
- Track 2 : Wilde_23
- Track 3 : Tank_23
- Track 4 : Rizwana_22
- Track 5 : Pointis_29, Odyssey395_31, NyleyClemson_25, Forrestell_25, Beagle_30, RazzB_24, MellowYellow_26, DogYard_28, Pureglobe5_31, Kubulix_28
- Track 6 : Ollypop_25
- Track 7 : BruhMoment_24
- Track 8 : SilentRX_24
- Track 9 : AWGoat_22
- Track 10 : BayC_16, TP1604_16, Salete_16, BabyGotBac_16, Maih_16, Asis_16
- Track 11 : YDN12_17
- Track 12 : RainyPolka_17
- Track 13 : Mischief19_24
- Track 14 : Abt2graduatex2_17
- Track 15 : Xkcd426_22
- Track 16 : Sillytadpoles_29
- Track 17 : Gazebo_27, Mashley_26, BabyDotz_27, Hyperion_27, Blab_26, AluminumJesus_26
- Track 18 : Kyva_30, FrankDeliGuy_26
- Track 19 : Phabia_28, Quammi_26, Zhafia_31, Llemily_28, Jehoshaphat_30, Casend_29, Wheelie_27, Teehee_29, Viceroy_27, Squash_30, StrawberryJamm_30, DonaldDuck_28, Lonelysoil_27, SallyK_29, Wayne3_29, Rudy_26
- Track 20 : MorillMayhem_27
- Track 21 : Fizzles_28
- Track 22 : Zagie_28, Rowlf_24, Tissue_28, Judebell_30, Grassboy_29, Namago_28
- Track 23 : Mentos_33
- Track 24 : SadLad_32, Fransoyer_30, RubyRalph_30
- Track 25 : Tempo_27, Kelcole_26, RobinRose_29, OneinaGillian_27, Romm_29, CandC_26
- Track 26 : BirdInFrench_27, Wilca_27
- Track 27 : Pepe25_26
- Track 28 : Marcie_32
- Track 29 : Nike_28
- Track 30 : Fregley_28
- Track 31 : Phinky_34
- Track 32 : Altheas_30

- Track 33 : EverythinBagel_28
- Track 34 : Statler_30
- Track 35 : RomansRevenge_19
- Track 36 : Kithara_28
- Track 37 : TurkishDelight_21
- Track 38 : Sunfish_35

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

The start number called the most often in the published annotations is 5, it was called in 39 of the 65 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AluminumJesus_26, BabyDotz_27, BirdInFrench_27, Blab_26, CandC_26, Casend_29, DonaldDuck_28, Fransoyer_30, Fregley_28, Gazebo_27, Grassboy_29, Hyperion_27, Jehoshaphat_30, Judebell_30, Kelcole_26, Llemily_28, Lonelysoil_27, Marcie_32, Mashley_26, Namago_28, Nike_28, OneinaGillian_27, Pepe25_26, Phabia_28, Phinky_34, Quammi_26, RobinRose_29, Romm_29, Rowlf_24, RubyRalph_30, Rudy_26, SadLad_32, SallyK_29, Squash_30, Statler_30, StrawberryJamm_30, Teehee_29, Tempo_27, Tissue_28, Viceroy_27, Wayne3_29, Wheelie_27, Wilca_27, Zagie_28, Zhafia_31,

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

- Altheas_30, EverythinBagel_28, Fizzles_28, FrankDeliGuy_26, Kyva_30, Mentos_33, MorillMayhem_27, Sillytadpoles_29,

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

- AWGoat_22, Abt2graduatex2_17, Asis_16, BabyGotBac_16, BayC_16, Beagle_30, BruhMoment_24, DogYard_28, Forrestell_25, Kithara_28, Kubulix_28, Maih_16, MellowYellow_26, Mischief19_24, NyleyClemson_25, Odyssey395_31, Ollypop_25, Pointis_29, Pureglobe5_31, RainyPolka_17, Ranunculus_23, RazzB_24, Rizwana_22, RomansRevenge_19, Salete_16, SilentRX_24, Sunfish_35, TP1604_16, Tank_23, TurkishDelight_21, Wilde_23, Xkcd426_22, YDN12_17,

Summary by start number:

Start 3:

- Found in 20 of 86 (23.3%) of genes in pham
- Manual Annotations of this start: 13 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AWGoat_22 (AP4), Beagle_30 (AP2), BruhMoment_24 (AP3), DogYard_28 (AP2), Forrestell_25 (AP2), Kithara_28 (singleton), Kubulix_28 (AP2), MellowYellow_26 (AP2), NyleyClemson_25 (AP2), Odyssey395_31 (AP2), Ollypop_25 (AP2), Pointis_29 (AP2), Pureglobe5_31 (AP2), Ranunculus_23 (AP), RazzB_24 (AP2), Rizwana_22 (AP1), RomansRevenge_19 (singleton), SilentRX_24 (AP4), Tank_23 (AP1), Wilde_23 (AP1),

Start 4:

- Found in 1 of 86 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 65

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sunfish_35 (singleton),

Start 5:

- Found in 53 of 86 (61.6%) of genes in pham
- Manual Annotations of this start: 39 of 65
- Called 84.9% of time when present
- Phage (with cluster) where this start called: AluminumJesus_26 (EG), BabyDotz_27 (EG), BirdInFrench_27 (EG), Blab_26 (EG), CandC_26 (EG), Casend_29 (EG), DonaldDuck_28 (EG), Fransoyer_30 (EG), Fregley_28 (EG), Gazebo_27 (EG), Grassboy_29 (EG), Hyperion_27 (EG), Jehoshaphat_30 (EG), Judebell_30 (EG), Kelcole_26 (EG), Llemily_28 (EG), Lonelysoil_27 (EG), Marcie_32 (EG), Mashley_26 (EG), Namago_28 (EG), Nike_28 (EG), OneinaGillian_27 (EG), Pepe25_26 (EG), Phabia_28 (EG), Phinky_34 (EG), Quammi_26 (EG), RobinRose_29 (EG), Romm_29 (EG), Rowlf_24 (EG), RubyRalph_30 (EG), Rudy_26 (EG), SadLad_32 (EG), SallyK_29 (EG), Squash_30 (EG), Statler_30 (EG), StrawberryJamm_30 (EG), Teehee_29 (EG), Tempo_27 (EG), Tissue_28 (EG), Viceroy_27 (EG), Wayne3_29 (EG), Wheelie_27 (EG), Wilca_27 (EG), Zagie_28 (EG), Zhafia_31 (EG),

Start 6:

- Found in 1 of 86 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fizzles_28 (EG),

Start 7:

- Found in 12 of 86 (14.0%) of genes in pham
- Manual Annotations of this start: 11 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abt2graduatex2_17 (BG), Asis_16 (BG), BabyGotBac_16 (BG), BayC_16 (BG), Maih_16 (BG), Mischief19_24 (BG), RainyPolka_17 (BG), Salete_16 (BG), TP1604_16 (BG), TurkishDelight_21 (singleton), Xkcd426_22 (BG), YDN12_17 (BG),

Start 9:

- Found in 42 of 86 (48.8%) of genes in pham
- No Manual Annotations of this start.
- Called 11.9% of time when present
- Phage (with cluster) where this start called: Altheas_30 (EG), EverythinBagel_28 (EG), FrankDeliGuy_26 (EG), Kyva_30 (EG), MorillMayhem_27 (EG),

Start 22:

- Found in 40 of 86 (46.5%) of genes in pham
- No Manual Annotations of this start.
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Mentos_33 (EG), Sillytadpoles_29 (EG),

Summary by clusters:

There are 8 clusters represented in this pham: singleton, BG, AP2, AP3, EG, AP1, AP4, AP,

Info for manual annotations of cluster AP:

- Start number 3 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP1:

- Start number 3 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 3 was manually annotated 5 times for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 3 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:

- Start number 3 was manually annotated 2 times for cluster AP4.

Info for manual annotations of cluster BG:

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

Info for manual annotations of cluster EG:

- Start number 5 was manually annotated 39 times for cluster EG.
- Start number 6 was manually annotated 1 time for cluster EG.

Gene Information:

Gene: AWGoat_22 Start: 16832, Stop: 17728, Start Num: 3

Candidate Starts for AWGoat_22:

(Start: 3 @16832 has 13 MA's), (11, 16874), (13, 16886), (19, 16928), (24, 16973), (26, 17006), (30, 17063), (44, 17144), (50, 17189), (52, 17207), (59, 17273), (61, 17291), (63, 17318), (71, 17390), (75, 17414), (89, 17522),

Gene: Abt2graduatex2_17 Start: 17436, Stop: 18131, Start Num: 7

Candidate Starts for Abt2graduatex2_17:

(Start: 7 @17436 has 11 MA's), (10, 17466), (11, 17469), (14, 17484), (20, 17526), (21, 17538), (23, 17553), (24, 17565), (25, 17571), (28, 17619), (38, 17697), (46, 17742), (53, 17808), (58, 17868), (64, 17928), (73, 18009), (74, 18021), (76, 18057), (78, 18066),

Gene: Altheas_30 Start: 17688, Stop: 18611, Start Num: 9

Candidate Starts for Altheas_30:

(Start: 5 @17664 has 39 MA's), (9, 17688), (16, 17736), (17, 17739), (61, 18150), (68, 18231), (69, 18234), (76, 18300), (83, 18351), (90, 18390), (94, 18420), (96, 18456), (99, 18492), (106, 18579),

Gene: AluminumJesus_26 Start: 17022, Stop: 17969, Start Num: 5

Candidate Starts for AluminumJesus_26:

(Start: 5 @17022 has 39 MA's), (9, 17046), (16, 17094), (22, 17142), (68, 17589), (69, 17592), (83, 17709), (96, 17814),

Gene: Asis_16 Start: 16946, Stop: 17644, Start Num: 7

Candidate Starts for Asis_16:

(Start: 7 @16946 has 11 MA's), (10, 16976), (14, 16994), (20, 17036), (21, 17048), (23, 17063), (24, 17075), (35, 17186), (38, 17207), (46, 17252), (53, 17318), (56, 17363), (64, 17438), (68, 17486), (69, 17489), (73, 17519), (74, 17531), (76, 17567), (86, 17633),

Gene: BabyDotz_27 Start: 17291, Stop: 18238, Start Num: 5

Candidate Starts for BabyDotz_27:

(Start: 5 @17291 has 39 MA's), (9, 17315), (16, 17363), (22, 17411), (68, 17858), (69, 17861), (83, 17978), (96, 18083),

Gene: BabyGotBac_16 Start: 16946, Stop: 17644, Start Num: 7

Candidate Starts for BabyGotBac_16:

(Start: 7 @16946 has 11 MA's), (10, 16976), (14, 16994), (20, 17036), (21, 17048), (23, 17063), (24, 17075), (35, 17186), (38, 17207), (46, 17252), (53, 17318), (56, 17363), (64, 17438), (68, 17486), (69, 17489), (73, 17519), (74, 17531), (76, 17567), (86, 17633),

Gene: BayC_16 Start: 16946, Stop: 17644, Start Num: 7

Candidate Starts for BayC_16:

(Start: 7 @16946 has 11 MA's), (10, 16976), (14, 16994), (20, 17036), (21, 17048), (23, 17063), (24, 17075), (35, 17186), (38, 17207), (46, 17252), (53, 17318), (56, 17363), (64, 17438), (68, 17486), (69, 17489), (73, 17519), (74, 17531), (76, 17567), (86, 17633),

Gene: Beagle_30 Start: 17252, Stop: 18172, Start Num: 3

Candidate Starts for Beagle_30:

(Start: 3 @17252 has 13 MA's), (19, 17351), (20, 17357), (21, 17369), (23, 17384), (35, 17507), (42, 17549), (50, 17612), (58, 17708), (60, 17723), (65, 17774), (77, 17888), (78, 17894), (80, 17912), (82, 17930), (93, 17996), (102, 18092),

Gene: BirdInFrench_27 Start: 16100, Stop: 17041, Start Num: 5

Candidate Starts for BirdInFrench_27:

(Start: 5 @16100 has 39 MA's), (12, 16145), (20, 16199), (49, 16439), (69, 16667), (79, 16745), (83, 16781), (91, 16835), (104, 16979), (107, 17021),

Gene: Blab_26 Start: 16947, Stop: 17894, Start Num: 5

Candidate Starts for Blab_26:

(Start: 5 @16947 has 39 MA's), (9, 16971), (16, 17019), (22, 17067), (68, 17514), (69, 17517), (83, 17634), (96, 17739),

Gene: BruhMoment_24 Start: 16745, Stop: 17665, Start Num: 3

Candidate Starts for BruhMoment_24:

(Start: 3 @16745 has 13 MA's), (21, 16862), (23, 16877), (29, 16946), (35, 17000), (38, 17021), (42, 17042), (46, 17066), (58, 17201), (61, 17231), (68, 17312), (70, 17321), (77, 17381), (78, 17387), (82, 17423), (93, 17489),

Gene: CandC_26 Start: 15681, Stop: 16622, Start Num: 5

Candidate Starts for CandC_26:

(Start: 5 @15681 has 39 MA's), (12, 15726), (49, 16020), (63, 16191), (68, 16245), (69, 16248), (79, 16326), (89, 16395), (90, 16401), (91, 16416), (104, 16560),

Gene: Casend_29 Start: 17700, Stop: 18647, Start Num: 5

Candidate Starts for Casend_29:

(Start: 5 @17700 has 39 MA's), (9, 17724), (16, 17772), (22, 17820), (69, 18270), (83, 18387), (96, 18492), (103, 18567),

Gene: DogYard_28 Start: 17322, Stop: 18242, Start Num: 3

Candidate Starts for DogYard_28:

(Start: 3 @17322 has 13 MA's), (19, 17421), (20, 17427), (21, 17439), (23, 17454), (35, 17577), (42, 17619), (50, 17682), (58, 17778), (60, 17793), (65, 17844), (77, 17958), (78, 17964), (80, 17982), (82,

18000), (93, 18066), (102, 18162),

Gene: DonaldDuck_28 Start: 17046, Stop: 17993, Start Num: 5

Candidate Starts for DonaldDuck_28:

(Start: 5 @17046 has 39 MA's), (9, 17070), (16, 17118), (22, 17166), (69, 17616), (83, 17733), (96, 17838), (103, 17913),

Gene: EverythinBagel_28 Start: 17458, Stop: 18381, Start Num: 9

Candidate Starts for EverythinBagel_28:

(Start: 5 @17434 has 39 MA's), (9, 17458), (16, 17506), (22, 17554), (69, 18004), (83, 18121), (96, 18226), (103, 18301),

Gene: Fizzles_28 Start: 16958, Stop: 17899, Start Num: 6

Candidate Starts for Fizzles_28:

(Start: 5 @16955 has 39 MA's), (Start: 6 @16958 has 1 MA's), (9, 16979), (16, 17027), (20, 17054), (35, 17204), (52, 17327), (83, 17642), (90, 17681), (96, 17744), (99, 17780), (104, 17837),

Gene: Forrestell_25 Start: 15960, Stop: 16880, Start Num: 3

Candidate Starts for Forrestell_25:

(Start: 3 @15960 has 13 MA's), (19, 16059), (20, 16065), (21, 16077), (23, 16092), (35, 16215), (42, 16257), (50, 16320), (58, 16416), (60, 16431), (65, 16482), (77, 16596), (78, 16602), (80, 16620), (82, 16638), (93, 16704), (102, 16800),

Gene: FrankDeliGuy_26 Start: 17032, Stop: 17955, Start Num: 9

Candidate Starts for FrankDeliGuy_26:

(Start: 5 @17008 has 39 MA's), (9, 17032), (16, 17080), (22, 17128), (68, 17575), (69, 17578), (83, 17695), (96, 17800), (103, 17875),

Gene: Fransoyer_30 Start: 17064, Stop: 18002, Start Num: 5

Candidate Starts for Fransoyer_30:

(Start: 5 @17064 has 39 MA's), (9, 17088), (31, 17295), (35, 17313), (61, 17550), (67, 17616), (68, 17631), (76, 17700), (78, 17709), (79, 17715), (96, 17853),

Gene: Fregley_28 Start: 16254, Stop: 17195, Start Num: 5

Candidate Starts for Fregley_28:

(Start: 5 @16254 has 39 MA's), (12, 16299), (49, 16593), (63, 16764), (68, 16818), (69, 16821), (79, 16899), (89, 16968), (91, 16989), (104, 17133),

Gene: Gazebo_27 Start: 17486, Stop: 18433, Start Num: 5

Candidate Starts for Gazebo_27:

(Start: 5 @17486 has 39 MA's), (9, 17510), (16, 17558), (22, 17606), (68, 18053), (69, 18056), (83, 18173), (96, 18278),

Gene: Grassboy_29 Start: 17659, Stop: 18606, Start Num: 5

Candidate Starts for Grassboy_29:

(Start: 5 @17659 has 39 MA's), (9, 17683), (16, 17731), (22, 17779), (68, 18226), (69, 18229), (83, 18346), (96, 18451), (103, 18526),

Gene: Hyperion_27 Start: 17443, Stop: 18390, Start Num: 5

Candidate Starts for Hyperion_27:

(Start: 5 @17443 has 39 MA's), (9, 17467), (16, 17515), (22, 17563), (68, 18010), (69, 18013), (83, 18130), (96, 18235),

Gene: Jehoshaphat_30 Start: 17965, Stop: 18912, Start Num: 5

Candidate Starts for Jehoshaphat_30:

(Start: 5 @17965 has 39 MA's), (9, 17989), (16, 18037), (22, 18085), (69, 18535), (83, 18652), (96, 18757), (103, 18832),

Gene: Judebell_30 Start: 17473, Stop: 18420, Start Num: 5

Candidate Starts for Judebell_30:

(Start: 5 @17473 has 39 MA's), (9, 17497), (16, 17545), (22, 17593), (68, 18040), (69, 18043), (83, 18160), (96, 18265), (103, 18340),

Gene: Kelcole_26 Start: 16133, Stop: 17074, Start Num: 5

Candidate Starts for Kelcole_26:

(Start: 5 @16133 has 39 MA's), (12, 16178), (49, 16472), (63, 16643), (68, 16697), (69, 16700), (79, 16778), (89, 16847), (90, 16853), (91, 16868), (104, 17012),

Gene: Kithara_28 Start: 17876, Stop: 18832, Start Num: 3

Candidate Starts for Kithara_28:

(Start: 3 @17876 has 13 MA's), (12, 17930), (22, 18005), (32, 18119), (35, 18134), (37, 18149), (39, 18158), (41, 18173), (47, 18212), (52, 18257), (57, 18329), (58, 18338), (69, 18452), (76, 18527), (88, 18605), (93, 18641), (105, 18797),

Gene: Kubulix_28 Start: 17445, Stop: 18365, Start Num: 3

Candidate Starts for Kubulix_28:

(Start: 3 @17445 has 13 MA's), (19, 17544), (20, 17550), (21, 17562), (23, 17577), (35, 17700), (42, 17742), (50, 17805), (58, 17901), (60, 17916), (65, 17967), (77, 18081), (78, 18087), (80, 18105), (82, 18123), (93, 18189), (102, 18285),

Gene: Kyva_30 Start: 17718, Stop: 18641, Start Num: 9

Candidate Starts for Kyva_30:

(Start: 5 @17694 has 39 MA's), (9, 17718), (16, 17766), (22, 17814), (68, 18261), (69, 18264), (83, 18381), (96, 18486), (103, 18561),

Gene: Llemily_28 Start: 16741, Stop: 17688, Start Num: 5

Candidate Starts for Llemily_28:

(Start: 5 @16741 has 39 MA's), (9, 16765), (16, 16813), (22, 16861), (69, 17311), (83, 17428), (96, 17533), (103, 17608),

Gene: Lonelysoil_27 Start: 16986, Stop: 17933, Start Num: 5

Candidate Starts for Lonelysoil_27:

(Start: 5 @16986 has 39 MA's), (9, 17010), (16, 17058), (22, 17106), (69, 17556), (83, 17673), (96, 17778), (103, 17853),

Gene: Maih_16 Start: 16945, Stop: 17643, Start Num: 7

Candidate Starts for Maih_16:

(Start: 7 @16945 has 11 MA's), (10, 16975), (14, 16993), (20, 17035), (21, 17047), (23, 17062), (24, 17074), (35, 17185), (38, 17206), (46, 17251), (53, 17317), (56, 17362), (64, 17437), (68, 17485), (69, 17488), (73, 17518), (74, 17530), (76, 17566), (86, 17632),

Gene: Marcie_32 Start: 16766, Stop: 17707, Start Num: 5

Candidate Starts for Marcie_32:

(Start: 5 @16766 has 39 MA's), (12, 16811), (49, 17105), (63, 17276), (68, 17330), (69, 17333), (72, 17351), (79, 17411), (89, 17480), (90, 17486), (91, 17501), (100, 17603), (104, 17645),

Gene: Mashley_26 Start: 17257, Stop: 18204, Start Num: 5

Candidate Starts for Mashley_26:

(Start: 5 @17257 has 39 MA's), (9, 17281), (16, 17329), (22, 17377), (68, 17824), (69, 17827), (83, 17944), (96, 18049),

Gene: MellowYellow_26 Start: 15987, Stop: 16907, Start Num: 3

Candidate Starts for MellowYellow_26:

(Start: 3 @15987 has 13 MA's), (19, 16086), (20, 16092), (21, 16104), (23, 16119), (35, 16242), (42, 16284), (50, 16347), (58, 16443), (60, 16458), (65, 16509), (77, 16623), (78, 16629), (80, 16647), (82, 16665), (93, 16731), (102, 16827),

Gene: Mentos_33 Start: 18464, Stop: 19291, Start Num: 22

Candidate Starts for Mentos_33:

(Start: 5 @18344 has 39 MA's), (9, 18368), (16, 18416), (22, 18464), (68, 18911), (69, 18914), (83, 19031), (96, 19136), (103, 19211),

Gene: Mischief19_24 Start: 26870, Stop: 27550, Start Num: 7

Candidate Starts for Mischief19_24:

(1, 26825), (2, 26831), (Start: 7 @26870 has 11 MA's), (12, 26909), (17, 26939), (23, 26990), (34, 27104), (37, 27128), (42, 27155), (48, 27200), (57, 27296), (66, 27377), (69, 27416), (70, 27422), (73, 27437), (74, 27449), (85, 27539),

Gene: MorillMayhem_27 Start: 17280, Stop: 18203, Start Num: 9

Candidate Starts for MorillMayhem_27:

(Start: 5 @17256 has 39 MA's), (9, 17280), (16, 17328), (22, 17376), (68, 17823), (69, 17826), (83, 17943), (96, 18048),

Gene: Namago_28 Start: 16824, Stop: 17771, Start Num: 5

Candidate Starts for Namago_28:

(Start: 5 @16824 has 39 MA's), (9, 16848), (16, 16896), (22, 16944), (68, 17391), (69, 17394), (83, 17511), (96, 17616), (103, 17691),

Gene: Nike_28 Start: 17776, Stop: 18723, Start Num: 5

Candidate Starts for Nike_28:

(Start: 5 @17776 has 39 MA's), (9, 17800), (16, 17848), (22, 17896), (35, 18025), (68, 18343), (69, 18346), (83, 18463), (96, 18568),

Gene: NyleyClemson_25 Start: 15932, Stop: 16852, Start Num: 3

Candidate Starts for NyleyClemson_25:

(Start: 3 @15932 has 13 MA's), (19, 16031), (20, 16037), (21, 16049), (23, 16064), (35, 16187), (42, 16229), (50, 16292), (58, 16388), (60, 16403), (65, 16454), (77, 16568), (78, 16574), (80, 16592), (82, 16610), (93, 16676), (102, 16772),

Gene: Odyssey395_31 Start: 17447, Stop: 18367, Start Num: 3

Candidate Starts for Odyssey395_31:

(Start: 3 @17447 has 13 MA's), (19, 17546), (20, 17552), (21, 17564), (23, 17579), (35, 17702), (42, 17744), (50, 17807), (58, 17903), (60, 17918), (65, 17969), (77, 18083), (78, 18089), (80, 18107), (82, 18125), (93, 18191), (102, 18287),

Gene: Ollypop_25 Start: 16525, Stop: 17445, Start Num: 3

Candidate Starts for Ollypop_25:

(Start: 3 @16525 has 13 MA's), (23, 16657), (33, 16768), (35, 16780), (42, 16822), (61, 17011), (65, 17047), (77, 17161), (78, 17167), (84, 17212), (87, 17230), (93, 17269),

Gene: OneinaGillian_27 Start: 15783, Stop: 16724, Start Num: 5

Candidate Starts for OneinaGillian_27:

(Start: 5 @15783 has 39 MA's), (12, 15828), (49, 16122), (63, 16293), (68, 16347), (69, 16350), (79, 16428), (89, 16497), (90, 16503), (91, 16518), (104, 16662),

Gene: Pepe25_26 Start: 16117, Stop: 17058, Start Num: 5

Candidate Starts for Pepe25_26:

(Start: 5 @16117 has 39 MA's), (12, 16162), (20, 16216), (49, 16456), (69, 16684), (79, 16762), (83, 16798), (91, 16852), (104, 16996),

Gene: Phabia_28 Start: 17159, Stop: 18106, Start Num: 5

Candidate Starts for Phabia_28:

(Start: 5 @17159 has 39 MA's), (9, 17183), (16, 17231), (22, 17279), (69, 17729), (83, 17846), (96, 17951), (103, 18026),

Gene: Phinky_34 Start: 17968, Stop: 18915, Start Num: 5

Candidate Starts for Phinky_34:

(Start: 5 @17968 has 39 MA's), (9, 17992), (22, 18088), (52, 18340), (68, 18535), (69, 18538), (76, 18604), (83, 18655), (96, 18760), (104, 18853),

Gene: Pointis_29 Start: 17451, Stop: 18371, Start Num: 3

Candidate Starts for Pointis_29:

(Start: 3 @17451 has 13 MA's), (19, 17550), (20, 17556), (21, 17568), (23, 17583), (35, 17706), (42, 17748), (50, 17811), (58, 17907), (60, 17922), (65, 17973), (77, 18087), (78, 18093), (80, 18111), (82, 18129), (93, 18195), (102, 18291),

Gene: Pureglobe5_31 Start: 17461, Stop: 18381, Start Num: 3

Candidate Starts for Pureglobe5_31:

(Start: 3 @17461 has 13 MA's), (19, 17560), (20, 17566), (21, 17578), (23, 17593), (35, 17716), (42, 17758), (50, 17821), (58, 17917), (60, 17932), (65, 17983), (77, 18097), (78, 18103), (80, 18121), (82, 18139), (93, 18205), (102, 18301),

Gene: Quammi_26 Start: 16730, Stop: 17677, Start Num: 5

Candidate Starts for Quammi_26:

(Start: 5 @16730 has 39 MA's), (9, 16754), (16, 16802), (22, 16850), (69, 17300), (83, 17417), (96, 17522), (103, 17597),

Gene: RainyPolka_17 Start: 17299, Stop: 17994, Start Num: 7

Candidate Starts for RainyPolka_17:

(Start: 7 @17299 has 11 MA's), (10, 17329), (14, 17347), (20, 17389), (21, 17401), (23, 17416), (24, 17428), (25, 17434), (28, 17482), (38, 17560), (45, 17602), (46, 17605), (53, 17671), (58, 17731), (62, 17776), (64, 17791), (73, 17872), (74, 17884), (76, 17920), (78, 17929),

Gene: Ranunculus_23 Start: 16352, Stop: 17272, Start Num: 3

Candidate Starts for Ranunculus_23:

(Start: 3 @16352 has 13 MA's), (11, 16397), (15, 16421), (21, 16469), (23, 16484), (42, 16649), (65, 16874), (77, 16988), (78, 16994), (82, 17030), (93, 17096),

Gene: RazzB_24 Start: 15760, Stop: 16680, Start Num: 3

Candidate Starts for RazzB_24:

(Start: 3 @15760 has 13 MA's), (19, 15859), (20, 15865), (21, 15877), (23, 15892), (35, 16015), (42, 16057), (50, 16120), (58, 16216), (60, 16231), (65, 16282), (77, 16396), (78, 16402), (80, 16420), (82,

16438), (93, 16504), (102, 16600),

Gene: Rizwana_22 Start: 16262, Stop: 17188, Start Num: 3

Candidate Starts for Rizwana_22:

(Start: 3 @16262 has 13 MA's), (11, 16310), (35, 16520), (42, 16562), (46, 16586), (65, 16787), (81, 16928), (82, 16943), (95, 17030), (98, 17069), (106, 17159),

Gene: RobinRose_29 Start: 16284, Stop: 17225, Start Num: 5

Candidate Starts for RobinRose_29:

(Start: 5 @16284 has 39 MA's), (12, 16329), (49, 16623), (63, 16794), (68, 16848), (69, 16851), (79, 16929), (89, 16998), (90, 17004), (91, 17019), (104, 17163),

Gene: RomansRevenge_19 Start: 14509, Stop: 15429, Start Num: 3

Candidate Starts for RomansRevenge_19:

(Start: 3 @14509 has 13 MA's), (8, 14533), (50, 14866), (54, 14914), (65, 15028), (68, 15073), (75, 15115), (76, 15139), (77, 15142), (80, 15166), (83, 15190), (94, 15253), (96, 15283), (102, 15343),

Gene: Romm_29 Start: 16284, Stop: 17225, Start Num: 5

Candidate Starts for Romm_29:

(Start: 5 @16284 has 39 MA's), (12, 16329), (49, 16623), (63, 16794), (68, 16848), (69, 16851), (79, 16929), (89, 16998), (90, 17004), (91, 17019), (104, 17163),

Gene: Rowlf_24 Start: 16422, Stop: 17369, Start Num: 5

Candidate Starts for Rowlf_24:

(Start: 5 @16422 has 39 MA's), (9, 16446), (16, 16494), (22, 16542), (68, 16989), (69, 16992), (83, 17109), (96, 17214), (103, 17289),

Gene: RubyRalph_30 Start: 16992, Stop: 17930, Start Num: 5

Candidate Starts for RubyRalph_30:

(Start: 5 @16992 has 39 MA's), (9, 17016), (31, 17223), (35, 17241), (61, 17478), (67, 17544), (68, 17559), (76, 17628), (78, 17637), (79, 17643), (96, 17781),

Gene: Rudy_26 Start: 16763, Stop: 17710, Start Num: 5

Candidate Starts for Rudy_26:

(Start: 5 @16763 has 39 MA's), (9, 16787), (16, 16835), (22, 16883), (69, 17333), (83, 17450), (96, 17555), (103, 17630),

Gene: SadLad_32 Start: 17935, Stop: 18873, Start Num: 5

Candidate Starts for SadLad_32:

(Start: 5 @17935 has 39 MA's), (9, 17959), (31, 18166), (35, 18184), (61, 18421), (67, 18487), (68, 18502), (76, 18571), (78, 18580), (79, 18586), (96, 18724),

Gene: Salete_16 Start: 16946, Stop: 17644, Start Num: 7

Candidate Starts for Salete_16:

(Start: 7 @16946 has 11 MA's), (10, 16976), (14, 16994), (20, 17036), (21, 17048), (23, 17063), (24, 17075), (35, 17186), (38, 17207), (46, 17252), (53, 17318), (56, 17363), (64, 17438), (68, 17486), (69, 17489), (73, 17519), (74, 17531), (76, 17567), (86, 17633),

Gene: SallyK_29 Start: 17813, Stop: 18760, Start Num: 5

Candidate Starts for SallyK_29:

(Start: 5 @17813 has 39 MA's), (9, 17837), (16, 17885), (22, 17933), (69, 18383), (83, 18500), (96, 18605), (103, 18680),

Gene: SilentRX_24 Start: 16580, Stop: 17476, Start Num: 3

Candidate Starts for SilentRX_24:

(Start: 3 @16580 has 13 MA's), (11, 16622), (13, 16634), (19, 16676), (24, 16721), (26, 16754), (30, 16811), (44, 16892), (50, 16937), (52, 16955), (59, 17021), (61, 17039), (63, 17066), (71, 17138), (75, 17162),

Gene: Sillytadpoles_29 Start: 16848, Stop: 17675, Start Num: 22

Candidate Starts for Sillytadpoles_29:

(Start: 5 @16728 has 39 MA's), (9, 16752), (16, 16800), (22, 16848), (69, 17298), (83, 17415), (96, 17520), (103, 17595),

Gene: Squash_30 Start: 17789, Stop: 18736, Start Num: 5

Candidate Starts for Squash_30:

(Start: 5 @17789 has 39 MA's), (9, 17813), (16, 17861), (22, 17909), (69, 18359), (83, 18476), (96, 18581), (103, 18656),

Gene: Statler_30 Start: 17647, Stop: 18594, Start Num: 5

Candidate Starts for Statler_30:

(Start: 5 @17647 has 39 MA's), (9, 17671), (16, 17719), (22, 17767), (35, 17896), (68, 18214), (69, 18217), (83, 18334), (96, 18439), (103, 18514),

Gene: StrawberryJamm_30 Start: 16967, Stop: 17914, Start Num: 5

Candidate Starts for StrawberryJamm_30:

(Start: 5 @16967 has 39 MA's), (9, 16991), (16, 17039), (22, 17087), (69, 17537), (83, 17654), (96, 17759), (103, 17834),

Gene: Sunfish_35 Start: 18236, Stop: 19171, Start Num: 4

Candidate Starts for Sunfish_35:

(Start: 4 @18236 has 1 MA's), (12, 18287), (27, 18431), (37, 18506), (39, 18515), (40, 18521), (42, 18536), (68, 18809), (76, 18878), (78, 18887), (92, 18986), (97, 19037), (104, 19118), (106, 19145),

Gene: TP1604_16 Start: 16946, Stop: 17644, Start Num: 7

Candidate Starts for TP1604_16:

(Start: 7 @16946 has 11 MA's), (10, 16976), (14, 16994), (20, 17036), (21, 17048), (23, 17063), (24, 17075), (35, 17186), (38, 17207), (46, 17252), (53, 17318), (56, 17363), (64, 17438), (68, 17486), (69, 17489), (73, 17519), (74, 17531), (76, 17567), (86, 17633),

Gene: Tank_23 Start: 16142, Stop: 17065, Start Num: 3

Candidate Starts for Tank_23:

(Start: 3 @16142 has 13 MA's), (11, 16190), (12, 16196), (14, 16205), (35, 16400), (51, 16517), (61, 16631), (65, 16667), (70, 16721), (74, 16742), (78, 16787), (79, 16793), (83, 16829), (84, 16832), (93, 16889), (94, 16892), (101, 16976),

Gene: Teehee_29 Start: 17965, Stop: 18912, Start Num: 5

Candidate Starts for Teehee_29:

(Start: 5 @17965 has 39 MA's), (9, 17989), (16, 18037), (22, 18085), (69, 18535), (83, 18652), (96, 18757), (103, 18832),

Gene: Tempo_27 Start: 16160, Stop: 17101, Start Num: 5

Candidate Starts for Tempo_27:

(Start: 5 @16160 has 39 MA's), (12, 16205), (49, 16499), (63, 16670), (68, 16724), (69, 16727), (79, 16805), (89, 16874), (90, 16880), (91, 16895), (104, 17039),

Gene: Tissue_28 Start: 17458, Stop: 18405, Start Num: 5

Candidate Starts for Tissue_28:

(Start: 5 @17458 has 39 MA's), (9, 17482), (16, 17530), (22, 17578), (68, 18025), (69, 18028), (83, 18145), (96, 18250), (103, 18325),

Gene: TurkishDelight_21 Start: 18601, Stop: 19302, Start Num: 7

Candidate Starts for TurkishDelight_21:

(2, 18562), (Start: 7 @18601 has 11 MA's), (22, 18715), (23, 18721), (39, 18868), (41, 18883), (54, 18988), (55, 19021), (62, 19087), (74, 19186), (76, 19222), (86, 19291),

Gene: Viceroy_27 Start: 16730, Stop: 17677, Start Num: 5

Candidate Starts for Viceroy_27:

(Start: 5 @16730 has 39 MA's), (9, 16754), (16, 16802), (22, 16850), (69, 17300), (83, 17417), (96, 17522), (103, 17597),

Gene: Wayne3_29 Start: 17728, Stop: 18675, Start Num: 5

Candidate Starts for Wayne3_29:

(Start: 5 @17728 has 39 MA's), (9, 17752), (16, 17800), (22, 17848), (69, 18298), (83, 18415), (96, 18520), (103, 18595),

Gene: Wheelie_27 Start: 17046, Stop: 17993, Start Num: 5

Candidate Starts for Wheelie_27:

(Start: 5 @17046 has 39 MA's), (9, 17070), (16, 17118), (22, 17166), (69, 17616), (83, 17733), (96, 17838), (103, 17913),

Gene: Wilca_27 Start: 16100, Stop: 17041, Start Num: 5

Candidate Starts for Wilca_27:

(Start: 5 @16100 has 39 MA's), (12, 16145), (20, 16199), (49, 16439), (69, 16667), (79, 16745), (83, 16781), (91, 16835), (104, 16979), (107, 17021),

Gene: Wilde_23 Start: 16071, Stop: 16994, Start Num: 3

Candidate Starts for Wilde_23:

(Start: 3 @16071 has 13 MA's), (8, 16101), (11, 16119), (12, 16125), (14, 16134), (35, 16329), (51, 16446), (61, 16560), (65, 16596), (70, 16650), (74, 16671), (78, 16716), (79, 16722), (83, 16758), (84, 16761), (93, 16818), (94, 16821), (101, 16905),

Gene: Xkcd426_22 Start: 24333, Stop: 25025, Start Num: 7

Candidate Starts for Xkcd426_22:

(Start: 7 @24333 has 11 MA's), (12, 24372), (18, 24405), (20, 24423), (21, 24435), (23, 24450), (28, 24516), (36, 24585), (42, 24615), (43, 24618), (53, 24705), (69, 24876), (74, 24912), (76, 24948), (79, 24963),

Gene: YDN12_17 Start: 16883, Stop: 17587, Start Num: 7

Candidate Starts for YDN12_17:

(Start: 7 @16883 has 11 MA's), (10, 16913), (14, 16931), (20, 16973), (21, 16985), (22, 16994), (23, 17000), (24, 17012), (25, 17018), (35, 17123), (38, 17144), (42, 17165), (53, 17255), (64, 17375), (68, 17423), (69, 17426), (73, 17456), (74, 17468), (76, 17504),

Gene: Zagie_28 Start: 17168, Stop: 18115, Start Num: 5

Candidate Starts for Zagie_28:

(Start: 5 @17168 has 39 MA's), (9, 17192), (16, 17240), (22, 17288), (68, 17735), (69, 17738), (83, 17855), (96, 17960), (103, 18035),

Gene: Zhafia_31 Start: 17524, Stop: 18471, Start Num: 5

Candidate Starts for Zhafia_31:

(Start: 5 @17524 has 39 MA's), (9, 17548), (16, 17596), (22, 17644), (69, 18094), (83, 18211), (96, 18316), (103, 18391),