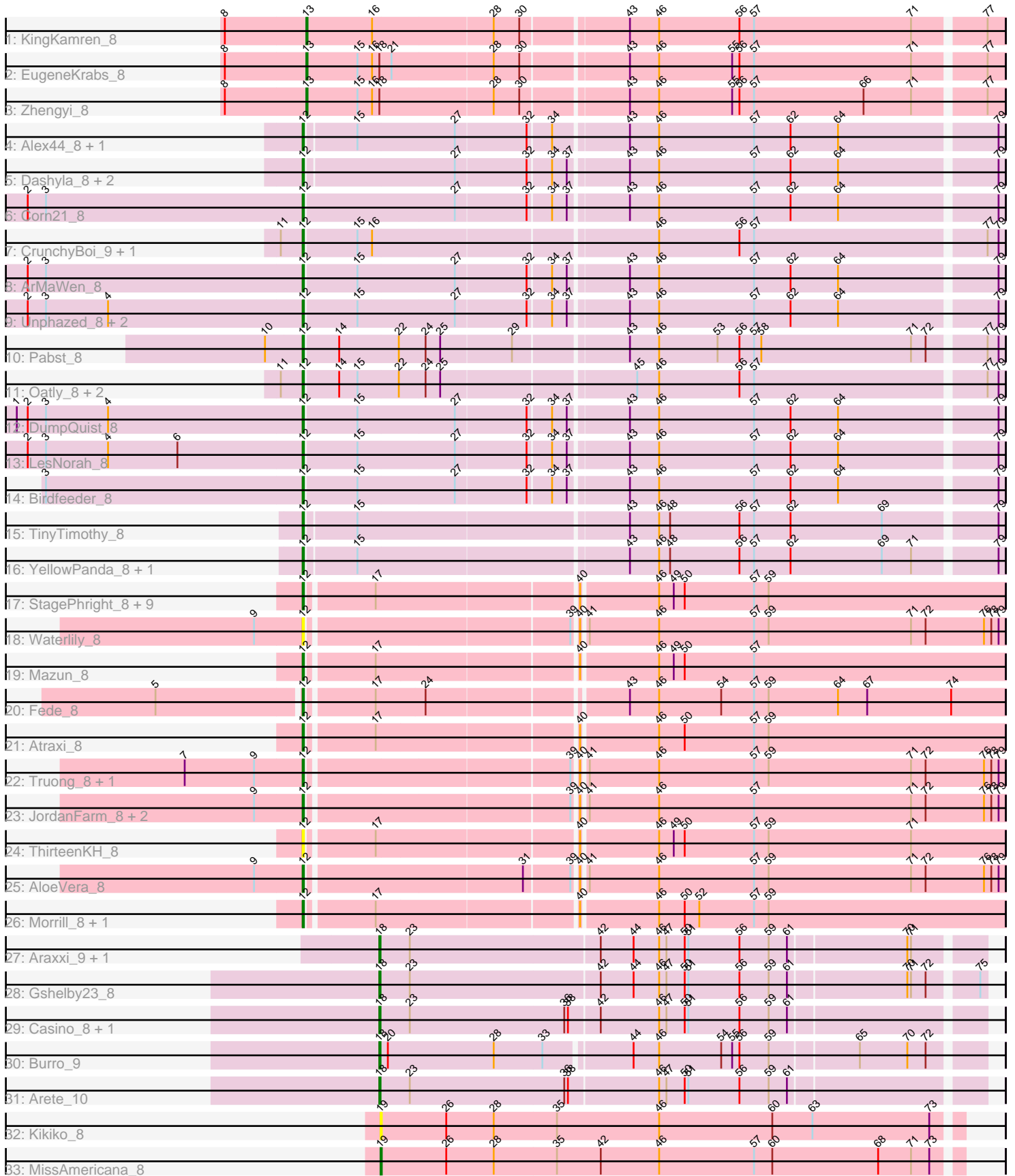


Pham 174832



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 174832 Report

This analysis was run 11/02/24 on database version 579.

Pham number 174832 has 57 members, 6 are drafts.

Phages represented in each track:

- Track 1 : KingKamren_8
- Track 2 : EugeneKrabs_8
- Track 3 : Zhengyi_8
- Track 4 : Alex44_8, Stormbreaker_8
- Track 5 : Dashyla_8, Phogo_8, Xitlalli_8
- Track 6 : Corn21_8
- Track 7 : CrunchyBoi_9, PineapplePluto_9
- Track 8 : ArMaWen_8
- Track 9 : Unphazed_8, LilyLou_8, BlueRugrat_8
- Track 10 : Pabst_8
- Track 11 : Oatly_8, Biozilla_8, HitchHiker_9
- Track 12 : DumpQuist_8
- Track 13 : LesNorah_8
- Track 14 : Birdfeeder_8
- Track 15 : TinyTimothy_8
- Track 16 : YellowPanda_8, Wesak_8
- Track 17 : StagePhright_8, RicoCaldo_8, Phractured_8, TrippleS_8, Phedro_8, Astartes_8, PhriedRice_8, Pharky_8, Fullmetal_8, Moleficient_8
- Track 18 : Waterlily_8
- Track 19 : Mazun_8
- Track 20 : Fede_8
- Track 21 : Atraxi_8
- Track 22 : Truong_8, Barroma_8
- Track 23 : JordanFarm_8, Akoni_8, Ashton_8
- Track 24 : ThirteenKH_8
- Track 25 : AloeVera_8
- Track 26 : Morrill_8, Yafa_8
- Track 27 : Araxxi_9, DoTi_9
- Track 28 : Gshelby23_8
- Track 29 : Casino_8, Hannabella_9
- Track 30 : Burro_9
- Track 31 : Arete_10
- Track 32 : Kikiko_8
- Track 33 : MissAmericana_8

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

The start number called the most often in the published annotations is 12, it was called in 40 of the 51 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akoni_8, Alex44_8, AloeVera_8, ArMaWen_8, Ashton_8, Astartes_8, Atraxi_8, Barroma_8, Biozilla_8, Birdfeeder_8, BlueRugrat_8, Corn21_8, CrunchyBoi_9, Dashyla_8, DumpQuist_8, Fede_8, Fullmetal_8, HitchHiker_9, JordanFarm_8, LesNorah_8, LilyLou_8, Mazun_8, Moleficent_8, Morrill_8, Oatly_8, Pabst_8, Pharky_8, Phedro_8, Phogo_8, Phracted_8, PhriedRice_8, PineapplePluto_9, RicoCaldo_8, StagePhright_8, Stormbreaker_8, ThirteenKH_8, TinyTimothy_8, TrippleS_8, Truong_8, Unphazed_8, Waterlily_8, Wesak_8, Xitlalli_8, Yafa_8, YellowPanda_8,

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

-

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

- Araxxi_9, Arete_10, Burro_9, Casino_8, DoTi_9, EugeneKrabs_8, Gshelby23_8, Hannabella_9, Kikiko_8, KingKamren_8, MissAmericana_8, Zhengyi_8,

Summary by start number:

Start 12:

- Found in 45 of 57 (78.9%) of genes in pham
- Manual Annotations of this start: 40 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akoni_8 (EK2), Alex44_8 (EK1), AloeVera_8 (EK2), ArMaWen_8 (EK1), Ashton_8 (EK2), Astartes_8 (EK2), Atraxi_8 (EK2), Barroma_8 (EK2), Biozilla_8 (EK1), Birdfeeder_8 (EK1), BlueRugrat_8 (EK1), Corn21_8 (EK1), CrunchyBoi_9 (EK1), Dashyla_8 (EK1), DumpQuist_8 (EK1), Fede_8 (EK2), Fullmetal_8 (EK2), HitchHiker_9 (EK1), JordanFarm_8 (EK2), LesNorah_8 (EK1), LilyLou_8 (EK1), Mazun_8 (EK2), Moleficent_8 (EK2), Morrill_8 (EK2), Oatly_8 (EK1), Pabst_8 (EK1), Pharky_8 (EK2), Phedro_8 (EK2), Phogo_8 (EK1), Phracted_8 (EK2), PhriedRice_8 (EK2), PineapplePluto_9 (EK1), RicoCaldo_8 (EK2), StagePhright_8 (EK2), Stormbreaker_8 (EK1), ThirteenKH_8 (EK2), TinyTimothy_8 (EK1), TrippleS_8 (EK2), Truong_8 (EK2), Unphazed_8 (EK1), Waterlily_8 (EK2), Wesak_8 (EK1), Xitlalli_8 (EK1), Yafa_8 (EK2), YellowPanda_8 (EK1),

Start 13:

- Found in 3 of 57 (5.3%) of genes in pham
- Manual Annotations of this start: 3 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EugeneKrabs_8 (EK), KingKamren_8 (EK), Zhengyi_8 (EK),

Start 18:

- Found in 9 of 57 (15.8%) of genes in pham
- Manual Annotations of this start: 7 of 51
- Called 77.8% of time when present

- Phage (with cluster) where this start called: Araxxi_9 (EM1), Arete_10 (EM1), Burro_9 (EM1), Casino_8 (EM1), DoTi_9 (EM1), Gshelby23_8 (EM1), Hannabella_9 (EM1),

Start 19:

- Found in 2 of 57 (3.5%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kikiko_8 (EM2), MissAmericana_8 (EM2),

Summary by clusters:

There are 5 clusters represented in this pham: EK, EM1, EK2, EK1, EM2,

Info for manual annotations of cluster EK:

- Start number 13 was manually annotated 3 times for cluster EK.

Info for manual annotations of cluster EK1:

- Start number 12 was manually annotated 20 times for cluster EK1.

Info for manual annotations of cluster EK2:

- Start number 12 was manually annotated 20 times for cluster EK2.

Info for manual annotations of cluster EM1:

- Start number 18 was manually annotated 7 times for cluster EM1.

Info for manual annotations of cluster EM2:

- Start number 19 was manually annotated 1 time for cluster EM2.

Gene Information:

Gene: Akoni_8 Start: 5776, Stop: 5225, Start Num: 12

Candidate Starts for Akoni_8:

(9, 5815), (Start: 12 @5776 has 40 MA's), (39, 5572), (40, 5569), (41, 5566), (46, 5509), (57, 5431), (71, 5302), (72, 5290), (76, 5242), (78, 5236), (79, 5230),

Gene: Alex44_8 Start: 6043, Stop: 5495, Start Num: 12

Candidate Starts for Alex44_8:

(Start: 12 @6043 has 40 MA's), (15, 6004), (27, 5926), (32, 5869), (34, 5851), (43, 5794), (46, 5770), (57, 5692), (62, 5662), (64, 5623), (79, 5500),

Gene: AloeVera_8 Start: 5776, Stop: 5225, Start Num: 12

Candidate Starts for AloeVera_8:

(9, 5815), (Start: 12 @5776 has 40 MA's), (31, 5608), (39, 5572), (40, 5569), (41, 5566), (46, 5509), (57, 5431), (59, 5419), (71, 5302), (72, 5290), (76, 5242), (78, 5236), (79, 5230),

Gene: ArMaWen_8 Start: 6043, Stop: 5492, Start Num: 12

Candidate Starts for ArMaWen_8:

(2, 6268), (3, 6253), (Start: 12 @6043 has 40 MA's), (15, 6001), (27, 5923), (32, 5866), (34, 5848), (37, 5836), (43, 5791), (46, 5767), (57, 5689), (62, 5659), (64, 5620), (79, 5497),

Gene: Araxxi_9 Start: 5991, Stop: 5512, Start Num: 18

Candidate Starts for Araxxi_9:

(Start: 18 @5991 has 7 MA's), (23, 5967), (42, 5814), (44, 5787), (46, 5766), (47, 5760), (50, 5745), (51, 5742), (56, 5700), (59, 5676), (61, 5661), (70, 5568), (71, 5565),

Gene: Arete_10 Start: 5882, Stop: 5403, Start Num: 18

Candidate Starts for Arete_10:

(Start: 18 @5882 has 7 MA's), (23, 5858), (36, 5732), (38, 5729), (46, 5657), (47, 5651), (50, 5636), (51, 5633), (56, 5591), (59, 5567), (61, 5552),

Gene: Ashton_8 Start: 5780, Stop: 5229, Start Num: 12

Candidate Starts for Ashton_8:

(9, 5819), (Start: 12 @5780 has 40 MA's), (39, 5576), (40, 5573), (41, 5570), (46, 5513), (57, 5435), (71, 5306), (72, 5294), (76, 5246), (78, 5240), (79, 5234),

Gene: Astartes_8 Start: 5800, Stop: 5249, Start Num: 12

Candidate Starts for Astartes_8:

(Start: 12 @5800 has 40 MA's), (17, 5749), (40, 5593), (46, 5533), (49, 5521), (50, 5512), (57, 5455), (59, 5443),

Gene: Atraxi_8 Start: 5765, Stop: 5214, Start Num: 12

Candidate Starts for Atraxi_8:

(Start: 12 @5765 has 40 MA's), (17, 5714), (40, 5558), (46, 5498), (50, 5477), (57, 5420), (59, 5408),

Gene: Barroma_8 Start: 5776, Stop: 5225, Start Num: 12

Candidate Starts for Barroma_8:

(7, 5872), (9, 5815), (Start: 12 @5776 has 40 MA's), (39, 5572), (40, 5569), (41, 5566), (46, 5509), (57, 5431), (59, 5419), (71, 5302), (72, 5290), (76, 5242), (78, 5236), (79, 5230),

Gene: Biozilla_8 Start: 5997, Stop: 5446, Start Num: 12

Candidate Starts for Biozilla_8:

(11, 6015), (Start: 12 @5997 has 40 MA's), (14, 5970), (15, 5955), (22, 5922), (24, 5901), (25, 5889), (45, 5739), (46, 5721), (56, 5655), (57, 5643), (77, 5460), (79, 5451),

Gene: Birdfeeder_8 Start: 6055, Stop: 5504, Start Num: 12

Candidate Starts for Birdfeeder_8:

(3, 6265), (Start: 12 @6055 has 40 MA's), (15, 6013), (27, 5935), (32, 5878), (34, 5860), (37, 5848), (43, 5803), (46, 5779), (57, 5701), (62, 5671), (64, 5632), (79, 5509),

Gene: BlueRugrat_8 Start: 6052, Stop: 5501, Start Num: 12

Candidate Starts for BlueRugrat_8:

(2, 6277), (3, 6262), (4, 6211), (Start: 12 @6052 has 40 MA's), (15, 6010), (27, 5932), (32, 5875), (34, 5857), (37, 5845), (43, 5800), (46, 5776), (57, 5698), (62, 5668), (64, 5629), (79, 5506),

Gene: Burro_9 Start: 5680, Stop: 5207, Start Num: 18

Candidate Starts for Burro_9:

(Start: 18 @5680 has 7 MA's), (20, 5674), (28, 5587), (33, 5548), (44, 5482), (46, 5461), (54, 5410), (55, 5401), (56, 5395), (59, 5371), (65, 5302), (70, 5263), (72, 5248),

Gene: Casino_8 Start: 5711, Stop: 5232, Start Num: 18

Candidate Starts for Casino_8:

(Start: 18 @5711 has 7 MA's), (23, 5687), (36, 5561), (38, 5558), (42, 5534), (46, 5486), (47, 5480), (50, 5465), (51, 5462), (56, 5420), (59, 5396), (61, 5381),

Gene: Corn21_8 Start: 6071, Stop: 5520, Start Num: 12

Candidate Starts for Corn21_8:

(2, 6296), (3, 6281), (Start: 12 @6071 has 40 MA's), (27, 5951), (32, 5894), (34, 5876), (37, 5864), (43, 5819), (46, 5795), (57, 5717), (62, 5687), (64, 5648), (79, 5525),

Gene: CrunchyBoi_9 Start: 6132, Stop: 5581, Start Num: 12

Candidate Starts for CrunchyBoi_9:

(11, 6150), (Start: 12 @6132 has 40 MA's), (15, 6090), (16, 6078), (46, 5856), (56, 5790), (57, 5778), (77, 5595), (79, 5586),

Gene: Dashyla_8 Start: 6049, Stop: 5501, Start Num: 12

Candidate Starts for Dashyla_8:

(Start: 12 @6049 has 40 MA's), (27, 5932), (32, 5875), (34, 5857), (37, 5845), (43, 5800), (46, 5776), (57, 5698), (62, 5668), (64, 5629), (79, 5506),

Gene: DoTi_9 Start: 5976, Stop: 5497, Start Num: 18

Candidate Starts for DoTi_9:

(Start: 18 @5976 has 7 MA's), (23, 5952), (42, 5799), (44, 5772), (46, 5751), (47, 5745), (50, 5730), (51, 5727), (56, 5685), (59, 5661), (61, 5646), (70, 5553), (71, 5550),

Gene: DumpQuist_8 Start: 6046, Stop: 5495, Start Num: 12

Candidate Starts for DumpQuist_8:

(1, 6280), (2, 6271), (3, 6256), (4, 6205), (Start: 12 @6046 has 40 MA's), (15, 6004), (27, 5926), (32, 5869), (34, 5851), (37, 5839), (43, 5794), (46, 5770), (57, 5692), (62, 5662), (64, 5623), (79, 5500),

Gene: EugeneKrabs_8 Start: 5808, Stop: 5257, Start Num: 13

Candidate Starts for EugeneKrabs_8:

(8, 5874), (Start: 13 @5808 has 3 MA's), (15, 5766), (16, 5754), (Start: 18 @5748 has 7 MA's), (21, 5739), (28, 5658), (30, 5637), (43, 5556), (46, 5532), (55, 5472), (56, 5466), (57, 5454), (71, 5325), (77, 5271),

Gene: Fede_8 Start: 6035, Stop: 5484, Start Num: 12

Candidate Starts for Fede_8:

(5, 6149), (Start: 12 @6035 has 40 MA's), (17, 5984), (24, 5945), (43, 5792), (46, 5768), (54, 5717), (57, 5690), (59, 5678), (64, 5621), (67, 5597), (74, 5528),

Gene: Fullmetal_8 Start: 5797, Stop: 5246, Start Num: 12

Candidate Starts for Fullmetal_8:

(Start: 12 @5797 has 40 MA's), (17, 5746), (40, 5590), (46, 5530), (49, 5518), (50, 5509), (57, 5452), (59, 5440),

Gene: Gshelby23_8 Start: 5825, Stop: 5346, Start Num: 18

Candidate Starts for Gshelby23_8:

(Start: 18 @5825 has 7 MA's), (23, 5801), (42, 5648), (44, 5621), (46, 5600), (47, 5594), (50, 5579), (51, 5576), (56, 5534), (59, 5510), (61, 5495), (70, 5402), (71, 5399), (72, 5387), (75, 5351),

Gene: Hannabella_9 Start: 5708, Stop: 5229, Start Num: 18

Candidate Starts for Hannabella_9:

(Start: 18 @5708 has 7 MA's), (23, 5684), (36, 5558), (38, 5555), (42, 5531), (46, 5483), (47, 5477), (50, 5462), (51, 5459), (56, 5417), (59, 5393), (61, 5378),

Gene: HitchHiker_9 Start: 5997, Stop: 5446, Start Num: 12

Candidate Starts for HitchHiker_9:

(11, 6015), (Start: 12 @5997 has 40 MA's), (14, 5970), (15, 5955), (22, 5922), (24, 5901), (25, 5889), (45, 5739), (46, 5721), (56, 5655), (57, 5643), (77, 5460), (79, 5451),

Gene: JordanFarm_8 Start: 5776, Stop: 5225, Start Num: 12

Candidate Starts for JordanFarm_8:

(9, 5815), (Start: 12 @5776 has 40 MA's), (39, 5572), (40, 5569), (41, 5566), (46, 5509), (57, 5431), (71, 5302), (72, 5290), (76, 5242), (78, 5236), (79, 5230),

Gene: Kikiko_8 Start: 5758, Stop: 5288, Start Num: 19

Candidate Starts for Kikiko_8:

(Start: 19 @5758 has 1 MA's), (26, 5704), (28, 5665), (35, 5614), (46, 5530), (60, 5437), (63, 5404), (73, 5308),

Gene: KingKamren_8 Start: 5808, Stop: 5257, Start Num: 13

Candidate Starts for KingKamren_8:

(8, 5874), (Start: 13 @5808 has 3 MA's), (16, 5754), (28, 5658), (30, 5637), (43, 5556), (46, 5532), (56, 5466), (57, 5454), (71, 5325), (77, 5271),

Gene: LesNorah_8 Start: 6127, Stop: 5576, Start Num: 12

Candidate Starts for LesNorah_8:

(2, 6352), (3, 6337), (4, 6286), (6, 6229), (Start: 12 @6127 has 40 MA's), (15, 6085), (27, 6007), (32, 5950), (34, 5932), (37, 5920), (43, 5875), (46, 5851), (57, 5773), (62, 5743), (64, 5704), (79, 5581),

Gene: LilyLou_8 Start: 6055, Stop: 5504, Start Num: 12

Candidate Starts for LilyLou_8:

(2, 6280), (3, 6265), (4, 6214), (Start: 12 @6055 has 40 MA's), (15, 6013), (27, 5935), (32, 5878), (34, 5860), (37, 5848), (43, 5803), (46, 5779), (57, 5701), (62, 5671), (64, 5632), (79, 5509),

Gene: Mazun_8 Start: 5800, Stop: 5249, Start Num: 12

Candidate Starts for Mazun_8:

(Start: 12 @5800 has 40 MA's), (17, 5749), (40, 5593), (46, 5533), (49, 5521), (50, 5512), (57, 5455),

Gene: MissAmericana_8 Start: 5800, Stop: 5330, Start Num: 19

Candidate Starts for MissAmericana_8:

(Start: 19 @5800 has 1 MA's), (26, 5746), (28, 5707), (35, 5656), (42, 5620), (46, 5572), (57, 5494), (60, 5479), (68, 5392), (71, 5365), (73, 5350),

Gene: Moleficent_8 Start: 5794, Stop: 5243, Start Num: 12

Candidate Starts for Moleficent_8:

(Start: 12 @5794 has 40 MA's), (17, 5743), (40, 5587), (46, 5527), (49, 5515), (50, 5506), (57, 5449), (59, 5437),

Gene: Morrill_8 Start: 5749, Stop: 5198, Start Num: 12

Candidate Starts for Morrill_8:

(Start: 12 @5749 has 40 MA's), (17, 5698), (40, 5542), (46, 5482), (50, 5461), (52, 5449), (57, 5404), (59, 5392),

Gene: Oatly_8 Start: 5997, Stop: 5446, Start Num: 12

Candidate Starts for Oatly_8:

(11, 6015), (Start: 12 @5997 has 40 MA's), (14, 5970), (15, 5955), (22, 5922), (24, 5901), (25, 5889), (45, 5739), (46, 5721), (56, 5655), (57, 5643), (77, 5460), (79, 5451),

Gene: Pabst_8 Start: 5858, Stop: 5307, Start Num: 12

Candidate Starts for Pabst_8:

(10, 5888), (Start: 12 @5858 has 40 MA's), (14, 5831), (22, 5783), (24, 5762), (25, 5750), (29, 5693), (43, 5606), (46, 5582), (53, 5534), (56, 5516), (57, 5504), (58, 5498), (71, 5375), (72, 5363), (77, 5321), (79, 5312),

Gene: Pharky_8 Start: 5761, Stop: 5210, Start Num: 12

Candidate Starts for Pharky_8:

(Start: 12 @5761 has 40 MA's), (17, 5710), (40, 5554), (46, 5494), (49, 5482), (50, 5473), (57, 5416), (59, 5404),

Gene: Phedro_8 Start: 5761, Stop: 5210, Start Num: 12

Candidate Starts for Phedro_8:

(Start: 12 @5761 has 40 MA's), (17, 5710), (40, 5554), (46, 5494), (49, 5482), (50, 5473), (57, 5416), (59, 5404),

Gene: Phogo_8 Start: 6052, Stop: 5504, Start Num: 12

Candidate Starts for Phogo_8:

(Start: 12 @6052 has 40 MA's), (27, 5935), (32, 5878), (34, 5860), (37, 5848), (43, 5803), (46, 5779), (57, 5701), (62, 5671), (64, 5632), (79, 5509),

Gene: Phractured_8 Start: 5761, Stop: 5210, Start Num: 12

Candidate Starts for Phractured_8:

(Start: 12 @5761 has 40 MA's), (17, 5710), (40, 5554), (46, 5494), (49, 5482), (50, 5473), (57, 5416), (59, 5404),

Gene: PhriedRice_8 Start: 5761, Stop: 5210, Start Num: 12

Candidate Starts for PhriedRice_8:

(Start: 12 @5761 has 40 MA's), (17, 5710), (40, 5554), (46, 5494), (49, 5482), (50, 5473), (57, 5416), (59, 5404),

Gene: PineapplePluto_9 Start: 6141, Stop: 5590, Start Num: 12

Candidate Starts for PineapplePluto_9:

(11, 6159), (Start: 12 @6141 has 40 MA's), (15, 6099), (16, 6087), (46, 5865), (56, 5799), (57, 5787), (77, 5604), (79, 5595),

Gene: RicoCaldo_8 Start: 5791, Stop: 5240, Start Num: 12

Candidate Starts for RicoCaldo_8:

(Start: 12 @5791 has 40 MA's), (17, 5740), (40, 5584), (46, 5524), (49, 5512), (50, 5503), (57, 5446), (59, 5434),

Gene: StagePhright_8 Start: 5761, Stop: 5210, Start Num: 12

Candidate Starts for StagePhright_8:

(Start: 12 @5761 has 40 MA's), (17, 5710), (40, 5554), (46, 5494), (49, 5482), (50, 5473), (57, 5416), (59, 5404),

Gene: Stormbreaker_8 Start: 6034, Stop: 5486, Start Num: 12

Candidate Starts for Stormbreaker_8:

(Start: 12 @6034 has 40 MA's), (15, 5995), (27, 5917), (32, 5860), (34, 5842), (43, 5785), (46, 5761), (57, 5683), (62, 5653), (64, 5614), (79, 5491),

Gene: ThirteenKH_8 Start: 5749, Stop: 5198, Start Num: 12

Candidate Starts for ThirteenKH_8:

(Start: 12 @5749 has 40 MA's), (17, 5698), (40, 5542), (46, 5482), (49, 5470), (50, 5461), (57, 5404), (59, 5392), (71, 5275),

Gene: TinyTimothy_8 Start: 5906, Stop: 5355, Start Num: 12

Candidate Starts for TinyTimothy_8:

(Start: 12 @5906 has 40 MA's), (15, 5867), (43, 5654), (46, 5630), (48, 5621), (56, 5564), (57, 5552), (62, 5522), (69, 5447), (79, 5360),

Gene: TrippleS_8 Start: 5749, Stop: 5198, Start Num: 12

Candidate Starts for TrippleS_8:

(Start: 12 @5749 has 40 MA's), (17, 5698), (40, 5542), (46, 5482), (49, 5470), (50, 5461), (57, 5404), (59, 5392),

Gene: Truong_8 Start: 5776, Stop: 5225, Start Num: 12

Candidate Starts for Truong_8:

(7, 5872), (9, 5815), (Start: 12 @5776 has 40 MA's), (39, 5572), (40, 5569), (41, 5566), (46, 5509), (57, 5431), (59, 5419), (71, 5302), (72, 5290), (76, 5242), (78, 5236), (79, 5230),

Gene: Unphazed_8 Start: 6055, Stop: 5504, Start Num: 12

Candidate Starts for Unphazed_8:

(2, 6280), (3, 6265), (4, 6214), (Start: 12 @6055 has 40 MA's), (15, 6013), (27, 5935), (32, 5878), (34, 5860), (37, 5848), (43, 5803), (46, 5779), (57, 5701), (62, 5671), (64, 5632), (79, 5509),

Gene: Waterlily_8 Start: 5776, Stop: 5225, Start Num: 12

Candidate Starts for Waterlily_8:

(9, 5815), (Start: 12 @5776 has 40 MA's), (39, 5572), (40, 5569), (41, 5566), (46, 5509), (57, 5431), (59, 5419), (71, 5302), (72, 5290), (76, 5242), (78, 5236), (79, 5230),

Gene: Wesak_8 Start: 5906, Stop: 5355, Start Num: 12

Candidate Starts for Wesak_8:

(Start: 12 @5906 has 40 MA's), (15, 5867), (43, 5654), (46, 5630), (48, 5621), (56, 5564), (57, 5552), (62, 5522), (69, 5447), (71, 5423), (79, 5360),

Gene: Xitlalli_8 Start: 6040, Stop: 5492, Start Num: 12

Candidate Starts for Xitlalli_8:

(Start: 12 @6040 has 40 MA's), (27, 5923), (32, 5866), (34, 5848), (37, 5836), (43, 5791), (46, 5767), (57, 5689), (62, 5659), (64, 5620), (79, 5497),

Gene: Yafa_8 Start: 5764, Stop: 5213, Start Num: 12

Candidate Starts for Yafa_8:

(Start: 12 @5764 has 40 MA's), (17, 5713), (40, 5557), (46, 5497), (50, 5476), (52, 5464), (57, 5419), (59, 5407),

Gene: YellowPanda_8 Start: 5906, Stop: 5355, Start Num: 12

Candidate Starts for YellowPanda_8:

(Start: 12 @5906 has 40 MA's), (15, 5867), (43, 5654), (46, 5630), (48, 5621), (56, 5564), (57, 5552), (62, 5522), (69, 5447), (71, 5423), (79, 5360),

Gene: Zhengyi_8 Start: 5808, Stop: 5257, Start Num: 13

Candidate Starts for Zhengyi_8:

(8, 5874), (Start: 13 @5808 has 3 MA's), (15, 5766), (16, 5754), (Start: 18 @5748 has 7 MA's), (28, 5658), (30, 5637), (43, 5556), (46, 5532), (55, 5472), (56, 5466), (57, 5454), (66, 5364), (71, 5325), (77, 5271),