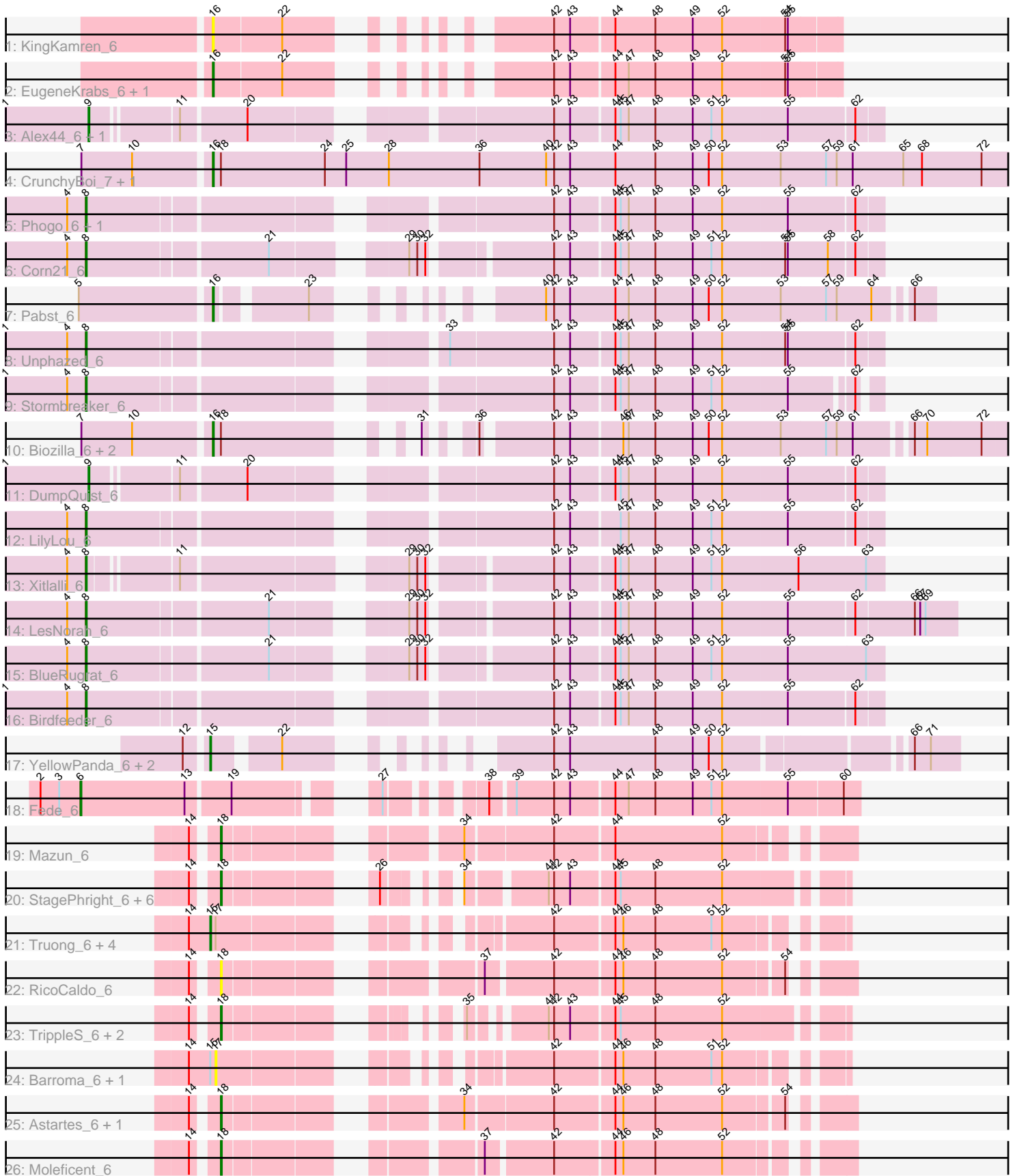


Pham 163682



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 163682 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163682 has 48 members, 11 are drafts.

Phages represented in each track:

- Track 1 : KingKamren\_6
- Track 2 : EugeneKrabs\_6, Zhengyi\_6
- Track 3 : Alex44\_6, ArMaWen\_6
- Track 4 : CrunchyBoi\_7, PineapplePluto\_7
- Track 5 : Phogo\_6, Dashyla\_7
- Track 6 : Corn21\_6
- Track 7 : Pabst\_6
- Track 8 : Unphazed\_6
- Track 9 : Stormbreaker\_6
- Track 10 : Biozilla\_6, Oatly\_6, HitchHiker\_7
- Track 11 : DumpQuist\_6
- Track 12 : LilyLou\_6
- Track 13 : Xitlalli\_6
- Track 14 : LesNorah\_6
- Track 15 : BlueRugrat\_6
- Track 16 : Birdfeeder\_6
- Track 17 : YellowPanda\_6, TinyTimothy\_6, Wesak\_6
- Track 18 : Fede\_6
- Track 19 : Mazun\_6
- Track 20 : StagePhright\_6, Phracted\_6, Pharky\_6, Phedro\_6, Atraxi\_6, PhriedRice\_6, Yafa\_6
- Track 21 : Truong\_6, JordanFarm\_6, AloeVera\_6, Akoni\_6, Ashton\_6
- Track 22 : RicoCaldo\_6
- Track 23 : TrippleS\_6, ThirteenKH\_6, Morrill\_6
- Track 24 : Barroma\_6, Waterlily\_6
- Track 25 : Astartes\_6, Fullmetal\_6
- Track 26 : Moleficent\_6

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

The start number called the most often in the published annotations is 18, it was called in 10 of the 37 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Astartes\_6, Atraxi\_6, Fullmetal\_6, Mazun\_6, Moleficent\_6, Morrill\_6, Pharky\_6, Phedro\_6, Phracted\_6, PhriedRice\_6, RicoCaldo\_6, StagePhright\_6, ThirteenKH\_6, TrippeS\_6, Yafa\_6,

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

- Biozilla\_6, CrunchyBoi\_7, HitchHiker\_7, Oatly\_6, PineapplePluto\_7,

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

- Akoni\_6, Alex44\_6, AloeVera\_6, ArMaWen\_6, Ashton\_6, Barroma\_6, Birdfeeder\_6, BlueRugrat\_6, Corn21\_6, Dashyla\_7, DumpQuist\_6, EugeneKrabs\_6, Fede\_6, JordanFarm\_6, KingKamren\_6, LesNorah\_6, LilyLou\_6, Pabst\_6, Phogo\_6, Stormbreaker\_6, TinyTimothy\_6, Truong\_6, Unphazed\_6, Waterlily\_6, Wesak\_6, Xitlalli\_6, YellowPanda\_6, Zhengyi\_6,

### Summary by start number:

Start 6:

- Found in 1 of 48 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 1 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fede\_6 (EK2),

Start 8:

- Found in 10 of 48 ( 20.8% ) of genes in pham
- Manual Annotations of this start: 9 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Birdfeeder\_6 (EK1), BlueRugrat\_6 (EK1), Corn21\_6 (EK1), Dashyla\_7 (EK1), LesNorah\_6 (EK1), LilyLou\_6 (EK1), Phogo\_6 (EK1), Stormbreaker\_6 (EK1), Unphazed\_6 (EK1), Xitlalli\_6 (EK1),

Start 9:

- Found in 3 of 48 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 3 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alex44\_6 (EK1), ArMaWen\_6 (EK1), DumpQuist\_6 (EK1),

Start 15:

- Found in 10 of 48 ( 20.8% ) of genes in pham
- Manual Annotations of this start: 8 of 37
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Akoni\_6 (EK2), AloeVera\_6 (EK2), Ashton\_6 (EK2), JordanFarm\_6 (EK2), TinyTimothy\_6 (EK1), Truong\_6 (EK2), Wesak\_6 (EK1), YellowPanda\_6 (EK1),

Start 16:

- Found in 9 of 48 ( 18.8% ) of genes in pham
- Manual Annotations of this start: 6 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Biozilla\_6 (EK1), CrunchyBoi\_7 (EK1), EugeneKrabs\_6 (EK), HitchHiker\_7 (EK1), KingKamren\_6 (EK), Oatly\_6 (EK1), Pabst\_6 (EK1), PineapplePluto\_7 (EK1), Zhengyi\_6 (EK),

#### Start 17:

- Found in 7 of 48 ( 14.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 28.6% of time when present
- Phage (with cluster) where this start called: Barroma\_6 (EK2), Waterlily\_6 (EK2),

#### Start 18:

- Found in 20 of 48 ( 41.7% ) of genes in pham
- Manual Annotations of this start: 10 of 37
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Astartes\_6 (EK2), Atraxi\_6 (EK2), Fullmetal\_6 (EK2), Mazun\_6 (EK2), Moleficent\_6 (EK2), Morrill\_6 (EK2), Pharky\_6 (EK2), Phedro\_6 (EK2), Phracted\_6 (EK2), PhriedRice\_6 (EK2), RicoCaldo\_6 (EK2), StagePhright\_6 (EK2), ThirteenKH\_6 (EK2), TrippleS\_6 (EK2), Yafa\_6 (EK2),

### Summary by clusters:

There are 3 clusters represented in this pham: EK, EK2, EK1,

Info for manual annotations of cluster EK:

- Start number 16 was manually annotated 2 times for cluster EK.

Info for manual annotations of cluster EK1:

- Start number 8 was manually annotated 9 times for cluster EK1.
- Start number 9 was manually annotated 3 times for cluster EK1.
- Start number 15 was manually annotated 3 times for cluster EK1.
- Start number 16 was manually annotated 4 times for cluster EK1.

Info for manual annotations of cluster EK2:

- Start number 6 was manually annotated 1 time for cluster EK2.
- Start number 15 was manually annotated 5 times for cluster EK2.
- Start number 18 was manually annotated 10 times for cluster EK2.

### Gene Information:

Gene: Akoni\_6 Start: 4942, Stop: 4379, Start Num: 15

Candidate Starts for Akoni\_6:

(14, 4966), (Start: 15 @4942 has 8 MA's), (17, 4936), (42, 4666), (44, 4603), (46, 4594), (48, 4558), (51, 4495), (52, 4483),

Gene: Alex44\_6 Start: 5200, Stop: 4403, Start Num: 9

Candidate Starts for Alex44\_6:

(1, 5293), (Start: 9 @5200 has 3 MA's), (11, 5113), (20, 5044), (42, 4759), (43, 4741), (44, 4696), (45, 4690), (47, 4681), (48, 4651), (49, 4609), (51, 4588), (52, 4576), (55, 4504), (62, 4432),

Gene: AloeVera\_6 Start: 4942, Stop: 4379, Start Num: 15

Candidate Starts for AloeVera\_6:

(14, 4966), (Start: 15 @4942 has 8 MA's), (17, 4936), (42, 4666), (44, 4603), (46, 4594), (48, 4558), (51, 4495), (52, 4483),

Gene: ArMaWen\_6 Start: 5197, Stop: 4400, Start Num: 9

Candidate Starts for ArMaWen\_6:

(1, 5290), (Start: 9 @5197 has 3 MA's), (11, 5110), (20, 5041), (42, 4756), (43, 4738), (44, 4693), (45, 4687), (47, 4678), (48, 4648), (49, 4606), (51, 4585), (52, 4573), (55, 4501), (62, 4429),

Gene: Ashton\_6 Start: 4946, Stop: 4383, Start Num: 15

Candidate Starts for Ashton\_6:

(14, 4970), (Start: 15 @4946 has 8 MA's), (17, 4940), (42, 4670), (44, 4607), (46, 4598), (48, 4562), (51, 4499), (52, 4487),

Gene: Astartes\_6 Start: 4969, Stop: 4373, Start Num: 18

Candidate Starts for Astartes\_6:

(14, 4990), (Start: 18 @4969 has 10 MA's), (34, 4762), (42, 4669), (44, 4606), (46, 4597), (48, 4561), (52, 4486), (54, 4426),

Gene: Atraxi\_6 Start: 4934, Stop: 4374, Start Num: 18

Candidate Starts for Atraxi\_6:

(14, 4955), (Start: 18 @4934 has 10 MA's), (26, 4805), (34, 4760), (41, 4682), (42, 4676), (43, 4658), (44, 4613), (45, 4607), (48, 4568), (52, 4493),

Gene: Barroma\_6 Start: 4936, Stop: 4379, Start Num: 17

Candidate Starts for Barroma\_6:

(14, 4966), (Start: 15 @4942 has 8 MA's), (17, 4936), (42, 4666), (44, 4603), (46, 4594), (48, 4558), (51, 4495), (52, 4483),

Gene: Biozilla\_6 Start: 5151, Stop: 4411, Start Num: 16

Candidate Starts for Biozilla\_6:

(7, 5289), (10, 5232), (Start: 16 @5151 has 6 MA's), (Start: 18 @5142 has 10 MA's), (31, 4995), (36, 4965), (42, 4896), (43, 4878), (46, 4824), (47, 4818), (48, 4788), (49, 4746), (50, 4728), (52, 4713), (53, 4647), (57, 4599), (59, 4587), (61, 4569), (66, 4515), (70, 4503), (72, 4443),

Gene: Birdfeeder\_6 Start: 5212, Stop: 4403, Start Num: 8

Candidate Starts for Birdfeeder\_6:

(1, 5302), (4, 5233), (Start: 8 @5212 has 9 MA's), (42, 4759), (43, 4741), (44, 4696), (45, 4690), (47, 4681), (48, 4651), (49, 4609), (52, 4576), (55, 4504), (62, 4432),

Gene: BlueRugrat\_6 Start: 5209, Stop: 4403, Start Num: 8

Candidate Starts for BlueRugrat\_6:

(4, 5230), (Start: 8 @5209 has 9 MA's), (21, 5017), (29, 4903), (30, 4894), (32, 4885), (42, 4765), (43, 4747), (44, 4702), (45, 4696), (47, 4687), (48, 4657), (49, 4615), (51, 4594), (52, 4582), (55, 4510), (63, 4423),

Gene: Corn21\_6 Start: 5228, Stop: 4425, Start Num: 8

Candidate Starts for Corn21\_6:

(4, 5249), (Start: 8 @5228 has 9 MA's), (21, 5036), (29, 4919), (30, 4910), (32, 4901), (42, 4781), (43, 4763), (44, 4718), (45, 4712), (47, 4703), (48, 4673), (49, 4631), (51, 4610), (52, 4598), (54, 4529), (55, 4526), (58, 4481), (62, 4454),

Gene: CrunchyBoi\_7 Start: 5286, Stop: 4387, Start Num: 16

Candidate Starts for CrunchyBoi\_7:

(7, 5424), (10, 5367), (Start: 16 @5286 has 6 MA's), (Start: 18 @5277 has 10 MA's), (24, 5160), (25, 5136), (28, 5088), (36, 4986), (40, 4911), (42, 4902), (43, 4884), (44, 4833), (48, 4788), (49, 4746), (50, 4728), (52, 4713), (53, 4647), (57, 4599), (59, 4587), (61, 4569), (65, 4512), (68, 4491), (72, 4425),

Gene: Dashyla\_7 Start: 5209, Stop: 4400, Start Num: 8

Candidate Starts for Dashyla\_7:

(4, 5230), (Start: 8 @5209 has 9 MA's), (42, 4756), (43, 4738), (44, 4693), (45, 4687), (47, 4678), (48, 4648), (49, 4606), (52, 4573), (55, 4501), (62, 4429),

Gene: DumpQuist\_6 Start: 5200, Stop: 4403, Start Num: 9

Candidate Starts for DumpQuist\_6:

(1, 5293), (Start: 9 @5200 has 3 MA's), (11, 5113), (20, 5044), (42, 4759), (43, 4741), (44, 4696), (45, 4690), (47, 4681), (48, 4651), (49, 4609), (52, 4576), (55, 4504), (62, 4432),

Gene: EugeneKrabs\_6 Start: 4962, Stop: 4408, Start Num: 16

Candidate Starts for EugeneKrabs\_6:

(Start: 16 @4962 has 6 MA's), (22, 4887), (42, 4719), (43, 4701), (44, 4656), (47, 4641), (48, 4611), (49, 4569), (52, 4536), (54, 4467), (55, 4464),

Gene: Fede\_6 Start: 5153, Stop: 4401, Start Num: 6

Candidate Starts for Fede\_6:

(2, 5198), (3, 5177), (Start: 6 @5153 has 1 MA's), (13, 5036), (19, 4991), (27, 4877), (38, 4799), (39, 4775), (42, 4733), (43, 4715), (44, 4670), (47, 4655), (48, 4625), (49, 4583), (51, 4562), (52, 4550), (55, 4478), (60, 4418),

Gene: Fullmetal\_6 Start: 4966, Stop: 4370, Start Num: 18

Candidate Starts for Fullmetal\_6:

(14, 4987), (Start: 18 @4966 has 10 MA's), (34, 4759), (42, 4666), (44, 4603), (46, 4594), (48, 4558), (52, 4483), (54, 4423),

Gene: HitchHiker\_7 Start: 5151, Stop: 4411, Start Num: 16

Candidate Starts for HitchHiker\_7:

(7, 5289), (10, 5232), (Start: 16 @5151 has 6 MA's), (Start: 18 @5142 has 10 MA's), (31, 4995), (36, 4965), (42, 4896), (43, 4878), (46, 4824), (47, 4818), (48, 4788), (49, 4746), (50, 4728), (52, 4713), (53, 4647), (57, 4599), (59, 4587), (61, 4569), (66, 4515), (70, 4503), (72, 4443),

Gene: JordanFarm\_6 Start: 4942, Stop: 4379, Start Num: 15

Candidate Starts for JordanFarm\_6:

(14, 4966), (Start: 15 @4942 has 8 MA's), (17, 4936), (42, 4666), (44, 4603), (46, 4594), (48, 4558), (51, 4495), (52, 4483),

Gene: KingKamren\_6 Start: 4962, Stop: 4408, Start Num: 16

Candidate Starts for KingKamren\_6:

(Start: 16 @4962 has 6 MA's), (22, 4887), (42, 4719), (43, 4701), (44, 4656), (48, 4611), (49, 4569), (52, 4536), (54, 4467), (55, 4464),

Gene: LesNorah\_6 Start: 5284, Stop: 4403, Start Num: 8

Candidate Starts for LesNorah\_6:

(4, 5305), (Start: 8 @5284 has 9 MA's), (21, 5092), (29, 4978), (30, 4969), (32, 4960), (42, 4840), (43, 4822), (44, 4777), (45, 4771), (47, 4762), (48, 4732), (49, 4690), (52, 4657), (55, 4585), (62, 4513), (66, 4450), (67, 4444), (69, 4438),

Gene: LilyLou\_6 Start: 5212, Stop: 4403, Start Num: 8

Candidate Starts for LilyLou\_6:

(4, 5233), (Start: 8 @5212 has 9 MA's), (42, 4759), (43, 4741), (45, 4690), (47, 4681), (48, 4651), (49, 4609), (51, 4588), (52, 4576), (55, 4504), (62, 4432),

Gene: Mazun\_6 Start: 4969, Stop: 4373, Start Num: 18

Candidate Starts for Mazun\_6:

(14, 4990), (Start: 18 @4969 has 10 MA's), (34, 4762), (42, 4669), (44, 4606), (52, 4486),

Gene: Moleficient\_6 Start: 4963, Stop: 4373, Start Num: 18

Candidate Starts for Moleficient\_6:

(14, 4984), (Start: 18 @4963 has 10 MA's), (37, 4738), (42, 4669), (44, 4606), (46, 4597), (48, 4561), (52, 4486),

Gene: Morrill\_6 Start: 4918, Stop: 4373, Start Num: 18

Candidate Starts for Morrill\_6:

(14, 4939), (Start: 18 @4918 has 10 MA's), (35, 4744), (41, 4681), (42, 4675), (43, 4657), (44, 4612), (45, 4606), (48, 4567), (52, 4492),

Gene: Oatly\_6 Start: 5151, Stop: 4411, Start Num: 16

Candidate Starts for Oatly\_6:

(7, 5289), (10, 5232), (Start: 16 @5151 has 6 MA's), (Start: 18 @5142 has 10 MA's), (31, 4995), (36, 4965), (42, 4896), (43, 4878), (46, 4824), (47, 4818), (48, 4788), (49, 4746), (50, 4728), (52, 4713), (53, 4647), (57, 4599), (59, 4587), (61, 4569), (66, 4515), (70, 4503), (72, 4443),

Gene: Pabst\_6 Start: 5012, Stop: 4383, Start Num: 16

Candidate Starts for Pabst\_6:

(5, 5153), (Start: 16 @5012 has 6 MA's), (23, 4925), (40, 4799), (42, 4790), (43, 4772), (44, 4721), (47, 4706), (48, 4676), (49, 4634), (50, 4616), (52, 4601), (53, 4535), (57, 4487), (59, 4475), (64, 4436), (66, 4403),

Gene: Pharky\_6 Start: 4930, Stop: 4370, Start Num: 18

Candidate Starts for Pharky\_6:

(14, 4951), (Start: 18 @4930 has 10 MA's), (26, 4801), (34, 4756), (41, 4678), (42, 4672), (43, 4654), (44, 4609), (45, 4603), (48, 4564), (52, 4489),

Gene: Phedro\_6 Start: 4930, Stop: 4370, Start Num: 18

Candidate Starts for Phedro\_6:

(14, 4951), (Start: 18 @4930 has 10 MA's), (26, 4801), (34, 4756), (41, 4678), (42, 4672), (43, 4654), (44, 4609), (45, 4603), (48, 4564), (52, 4489),

Gene: Phogo\_6 Start: 5212, Stop: 4403, Start Num: 8

Candidate Starts for Phogo\_6:

(4, 5233), (Start: 8 @5212 has 9 MA's), (42, 4759), (43, 4741), (44, 4696), (45, 4690), (47, 4681), (48, 4651), (49, 4609), (52, 4576), (55, 4504), (62, 4432),

Gene: Phracted\_6 Start: 4930, Stop: 4370, Start Num: 18

Candidate Starts for Phracted\_6:

(14, 4951), (Start: 18 @4930 has 10 MA's), (26, 4801), (34, 4756), (41, 4678), (42, 4672), (43, 4654), (44, 4609), (45, 4603), (48, 4564), (52, 4489),

Gene: PhriedRice\_6 Start: 4930, Stop: 4370, Start Num: 18

Candidate Starts for PhriedRice\_6:

(14, 4951), (Start: 18 @4930 has 10 MA's), (26, 4801), (34, 4756), (41, 4678), (42, 4672), (43, 4654), (44, 4609), (45, 4603), (48, 4564), (52, 4489),

Gene: PineapplePluto\_7 Start: 5295, Stop: 4399, Start Num: 16

Candidate Starts for PineapplePluto\_7:

(7, 5433), (10, 5376), (Start: 16 @5295 has 6 MA's), (Start: 18 @5286 has 10 MA's), (24, 5169), (25, 5145), (28, 5097), (36, 4995), (40, 4920), (42, 4911), (43, 4893), (44, 4842), (48, 4797), (49, 4755), (50, 4737), (52, 4722), (53, 4656), (57, 4608), (59, 4596), (61, 4578), (65, 4521), (68, 4500), (72, 4434),

Gene: RicoCaldo\_6 Start: 4960, Stop: 4370, Start Num: 18

Candidate Starts for RicoCaldo\_6:

(14, 4981), (Start: 18 @4960 has 10 MA's), (37, 4735), (42, 4666), (44, 4603), (46, 4594), (48, 4558), (52, 4483), (54, 4423),

Gene: StagePhright\_6 Start: 4930, Stop: 4370, Start Num: 18

Candidate Starts for StagePhright\_6:

(14, 4951), (Start: 18 @4930 has 10 MA's), (26, 4801), (34, 4756), (41, 4678), (42, 4672), (43, 4654), (44, 4609), (45, 4603), (48, 4564), (52, 4489),

Gene: Stormbreaker\_6 Start: 5194, Stop: 4403, Start Num: 8

Candidate Starts for Stormbreaker\_6:

(1, 5284), (4, 5215), (Start: 8 @5194 has 9 MA's), (42, 4741), (43, 4723), (44, 4678), (45, 4672), (47, 4663), (48, 4633), (49, 4591), (51, 4570), (52, 4558), (55, 4486), (62, 4423),

Gene: ThirteenKH\_6 Start: 4918, Stop: 4373, Start Num: 18

Candidate Starts for ThirteenKH\_6:

(14, 4939), (Start: 18 @4918 has 10 MA's), (35, 4744), (41, 4681), (42, 4675), (43, 4657), (44, 4612), (45, 4606), (48, 4567), (52, 4492),

Gene: TinyTimothy\_6 Start: 5051, Stop: 4404, Start Num: 15

Candidate Starts for TinyTimothy\_6:

(12, 5072), (Start: 15 @5051 has 8 MA's), (22, 4988), (42, 4826), (43, 4808), (48, 4712), (49, 4670), (50, 4652), (52, 4637), (66, 4454), (71, 4436),

Gene: TrippleS\_6 Start: 4918, Stop: 4373, Start Num: 18

Candidate Starts for TrippleS\_6:

(14, 4939), (Start: 18 @4918 has 10 MA's), (35, 4744), (41, 4681), (42, 4675), (43, 4657), (44, 4612), (45, 4606), (48, 4567), (52, 4492),

Gene: Truong\_6 Start: 4942, Stop: 4379, Start Num: 15

Candidate Starts for Truong\_6:

(14, 4966), (Start: 15 @4942 has 8 MA's), (17, 4936), (42, 4666), (44, 4603), (46, 4594), (48, 4558), (51, 4495), (52, 4483),

Gene: Unphazed\_6 Start: 5212, Stop: 4403, Start Num: 8

Candidate Starts for Unphazed\_6:

(1, 5302), (4, 5233), (Start: 8 @5212 has 9 MA's), (33, 4873), (42, 4759), (43, 4741), (44, 4696), (45, 4690), (47, 4681), (48, 4651), (49, 4609), (52, 4576), (54, 4507), (55, 4504), (62, 4432),

Gene: Waterlily\_6 Start: 4936, Stop: 4379, Start Num: 17

Candidate Starts for Waterlily\_6:

(14, 4966), (Start: 15 @4942 has 8 MA's), (17, 4936), (42, 4666), (44, 4603), (46, 4594), (48, 4558), (51, 4495), (52, 4483),

Gene: Wesak\_6 Start: 5051, Stop: 4404, Start Num: 15

Candidate Starts for Wesak\_6:



(12, 5072), (Start: 15 @5051 has 8 MA's), (22, 4988), (42, 4826), (43, 4808), (48, 4712), (49, 4670), (50, 4652), (52, 4637), (66, 4454), (71, 4436),

Gene: Xitlalli\_6 Start: 5200, Stop: 4403, Start Num: 8

Candidate Starts for Xitlalli\_6:

(4, 5221), (Start: 8 @5200 has 9 MA's), (11, 5113), (29, 4903), (30, 4894), (32, 4885), (42, 4765), (43, 4747), (44, 4702), (45, 4696), (47, 4687), (48, 4657), (49, 4615), (51, 4594), (52, 4582), (56, 4498), (63, 4423),

Gene: Yafa\_6 Start: 4933, Stop: 4373, Start Num: 18

Candidate Starts for Yafa\_6:

(14, 4954), (Start: 18 @4933 has 10 MA's), (26, 4804), (34, 4759), (41, 4681), (42, 4675), (43, 4657), (44, 4612), (45, 4606), (48, 4567), (52, 4492),

Gene: YellowPanda\_6 Start: 5051, Stop: 4404, Start Num: 15

Candidate Starts for YellowPanda\_6:

(12, 5072), (Start: 15 @5051 has 8 MA's), (22, 4988), (42, 4826), (43, 4808), (48, 4712), (49, 4670), (50, 4652), (52, 4637), (66, 4454), (71, 4436),

Gene: Zhengyi\_6 Start: 4962, Stop: 4408, Start Num: 16

Candidate Starts for Zhengyi\_6:

(Start: 16 @4962 has 6 MA's), (22, 4887), (42, 4719), (43, 4701), (44, 4656), (47, 4641), (48, 4611), (49, 4569), (52, 4536), (54, 4467), (55, 4464),