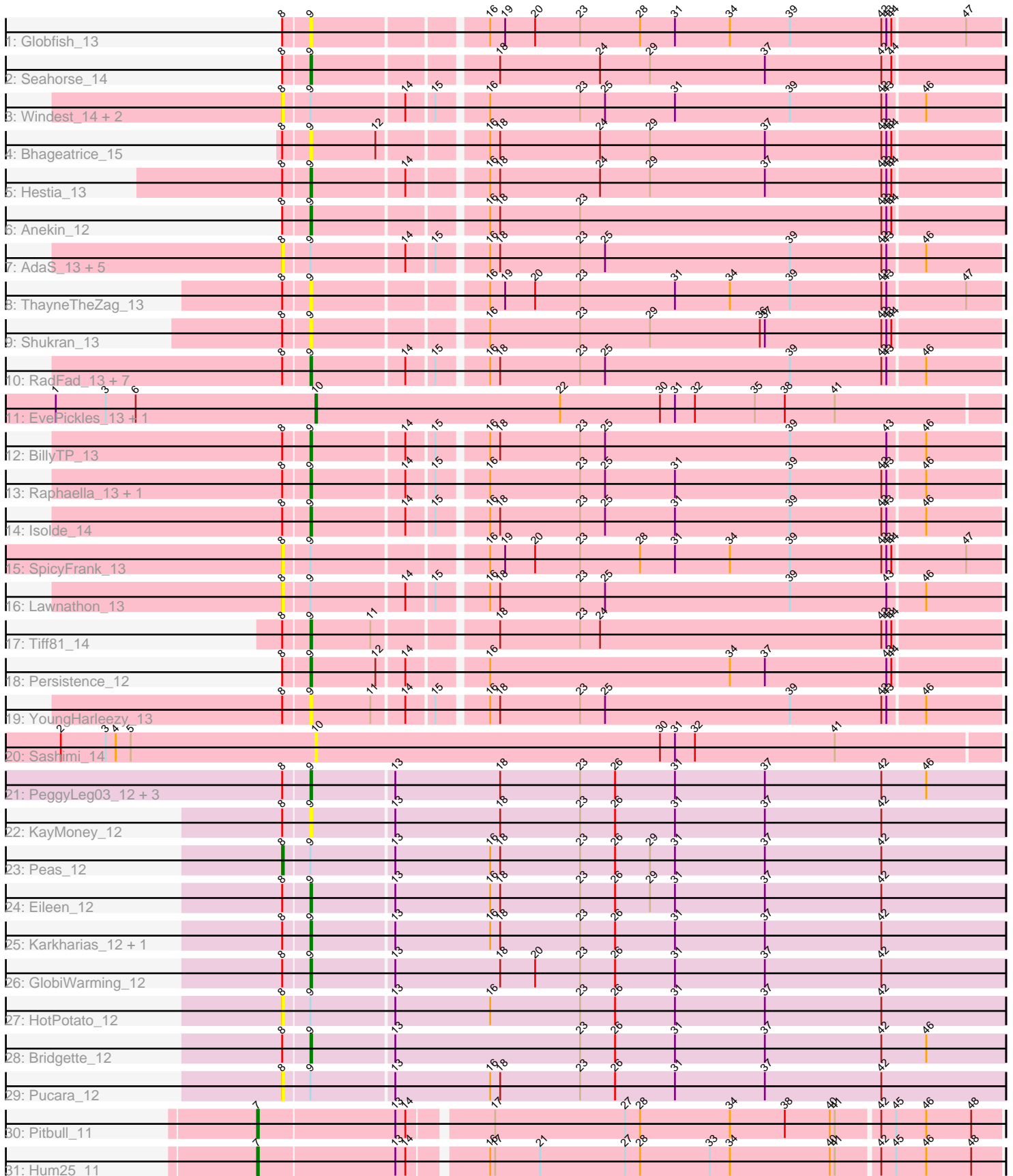


# Pham 208701



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 208701 Report

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

Pham number 208701 has 51 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Globfish\_13
- Track 2 : Seahorse\_14
- Track 3 : Windest\_14, CookieBear\_14, JellyBread\_13
- Track 4 : Bhageatrice\_15
- Track 5 : Hestia\_13
- Track 6 : Anekin\_12
- Track 7 : AdaS\_13, MaterMagnus\_13, Vopal\_14, Hillester\_13, Aikyam\_13, BlueShadow\_14
- Track 8 : ThayneTheZag\_13
- Track 9 : Shukran\_13
- Track 10 : RadFad\_13, MUWow\_12, BenchScraper\_13, Phrank15\_12, Sakai\_13, MidnightRain\_13, Richie\_13, Gorpy\_13
- Track 11 : EvePickles\_13, Faja\_13
- Track 12 : BillyTP\_13
- Track 13 : Raphaella\_13, Auxilium\_13
- Track 14 : Isolde\_14
- Track 15 : SpicyFrank\_13
- Track 16 : Lawnathon\_13
- Track 17 : Tiff81\_14
- Track 18 : Persistence\_12
- Track 19 : YoungHarleezy\_13
- Track 20 : Sashimi\_14
- Track 21 : PeggyLeg03\_12, Constance\_12, Judy\_12, FosterFrank\_12
- Track 22 : KayMoney\_12
- Track 23 : Peas\_12
- Track 24 : Eileen\_12
- Track 25 : Karkharias\_12, ChuckDuck\_12
- Track 26 : GlobiWarming\_12
- Track 27 : HotPotato\_12
- Track 28 : Bridgette\_12
- Track 29 : Pucara\_12
- Track 30 : Pitbull\_11
- Track 31 : Hum25\_11

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

The start number called the most often in the published annotations is 9, it was called in 24 of the 29 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anekin\_12, Auxilium\_13, BenchScraper\_13, Bhageatrice\_15, BillyTP\_13, Bridgette\_12, ChuckDuck\_12, Constance\_12, Eileen\_12, FosterFrank\_12, Globfish\_13, GlobiWarming\_12, Gorpy\_13, Hestia\_13, Isolde\_14, Judy\_12, Karkharias\_12, KayMoney\_12, MUWow\_12, MidnightRain\_13, PeggyLeg03\_12, Persistence\_12, Phrank15\_12, RadFad\_13, Raphaella\_13, Richie\_13, Sakai\_13, Seahorse\_14, Shukran\_13, ThayneTheZag\_13, Tiff81\_14, YoungHarleezy\_13,

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

- AdaS\_13, Aikyam\_13, BlueShadow\_14, CookieBear\_14, Hillester\_13, HotPotato\_12, JellyBread\_13, Lawnathon\_13, MaterMagnus\_13, Peas\_12, Pucara\_12, SpicyFrank\_13, Vopal\_14, Windest\_14,

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

- EvePickles\_13, Faja\_13, Hum25\_11, Pitbull\_11, Sashimi\_14,

### Summary by start number:

Start 7:

- Found in 2 of 51 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 2 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hum25\_11 (FQ), Pitbull\_11 (FQ),

Start 8:

- Found in 46 of 51 ( 90.2% ) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 30.4% of time when present
- Phage (with cluster) where this start called: AdaS\_13 (AY), Aikyam\_13 (AY), BlueShadow\_14 (AY), CookieBear\_14 (AY), Hillester\_13 (AY), HotPotato\_12 (FA), JellyBread\_13 (AY), Lawnathon\_13 (AY), MaterMagnus\_13 (AY), Peas\_12 (FA), Pucara\_12 (FA), SpicyFrank\_13 (AY), Vopal\_14 (AY), Windest\_14 (AY),

Start 9:

- Found in 46 of 51 ( 90.2% ) of genes in pham
- Manual Annotations of this start: 24 of 29
- Called 69.6% of time when present
- Phage (with cluster) where this start called: Anekin\_12 (AY), Auxilium\_13 (AY), BenchScraper\_13 (AY), Bhageatrice\_15 (AY), BillyTP\_13 (AY), Bridgette\_12 (FA), ChuckDuck\_12 (FA), Constance\_12 (FA), Eileen\_12 (FA), FosterFrank\_12 (FA), Globfish\_13 (AY), GlobiWarming\_12 (FA), Gorpy\_13 (AY), Hestia\_13 (AY), Isolde\_14 (AY), Judy\_12 (FA), Karkharias\_12 (FA), KayMoney\_12 (FA), MUWow\_12 (AY), MidnightRain\_13 (AY), PeggyLeg03\_12 (FA), Persistence\_12 (AY), Phrank15\_12 (AY), RadFad\_13 (AY), Raphaella\_13 (AY), Richie\_13 (AY), Sakai\_13 (AY), Seahorse\_14 (AY), Shukran\_13 (AY), ThayneTheZag\_13 (AY), Tiff81\_14 (AY), YoungHarleezy\_13 (AY),

Start 10:

- Found in 3 of 51 ( 5.9% ) of genes in pham

- Manual Annotations of this start: 2 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EvePickles\_13 (AY), Faja\_13 (AY), Sashimi\_14 (AY),

### Summary by clusters:

There are 3 clusters represented in this pham: AY, FA, FQ,

Info for manual annotations of cluster AY:

- Start number 9 was manually annotated 16 times for cluster AY.
- Start number 10 was manually annotated 2 times for cluster AY.

Info for manual annotations of cluster FA:

- Start number 8 was manually annotated 1 time for cluster FA.
- Start number 9 was manually annotated 8 times for cluster FA.

Info for manual annotations of cluster FQ:

- Start number 7 was manually annotated 2 times for cluster FQ.

### Gene Information:

Gene: AdaS\_13 Start: 8408, Stop: 8821, Start Num: 8

Candidate Starts for AdaS\_13:

(Start: 8 @8408 has 1 MA's), (Start: 9 @8423 has 24 MA's), (14, 8477), (15, 8492), (16, 8519), (18, 8525), (23, 8573), (25, 8588), (39, 8699), (42, 8753), (43, 8756), (46, 8777),

Gene: Aikyam\_13 Start: 8409, Stop: 8822, Start Num: 8

Candidate Starts for Aikyam\_13:

(Start: 8 @8409 has 1 MA's), (Start: 9 @8424 has 24 MA's), (14, 8478), (15, 8493), (16, 8520), (18, 8526), (23, 8574), (25, 8589), (39, 8700), (42, 8754), (43, 8757), (46, 8778),

Gene: Anekin\_12 Start: 8536, Stop: 8937, Start Num: 9

Candidate Starts for Anekin\_12:

(Start: 8 @8521 has 1 MA's), (Start: 9 @8536 has 24 MA's), (16, 8632), (18, 8638), (23, 8686), (42, 8866), (43, 8869), (44, 8872),

Gene: Auxilium\_13 Start: 8423, Stop: 8821, Start Num: 9

Candidate Starts for Auxilium\_13:

(Start: 8 @8408 has 1 MA's), (Start: 9 @8423 has 24 MA's), (14, 8477), (15, 8492), (16, 8519), (23, 8573), (25, 8588), (31, 8630), (39, 8699), (42, 8753), (43, 8756), (46, 8777),

Gene: BenchScraper\_13 Start: 8438, Stop: 8836, Start Num: 9

Candidate Starts for BenchScraper\_13:

(Start: 8 @8423 has 1 MA's), (Start: 9 @8438 has 24 MA's), (14, 8492), (15, 8507), (16, 8534), (18, 8540), (23, 8588), (25, 8603), (39, 8714), (42, 8768), (43, 8771), (46, 8792),

Gene: Bhageatrice\_15 Start: 9633, Stop: 10031, Start Num: 9

Candidate Starts for Bhageatrice\_15:

(Start: 8 @9618 has 1 MA's), (Start: 9 @9633 has 24 MA's), (12, 9672), (16, 9729), (18, 9735), (24, 9795), (29, 9825), (37, 9894), (42, 9963), (43, 9966), (44, 9969),

Gene: BillyTP\_13 Start: 8429, Stop: 8827, Start Num: 9

Candidate Starts for BillyTP\_13:

(Start: 8 @8414 has 1 MA's), (Start: 9 @8429 has 24 MA's), (14, 8483), (15, 8498), (16, 8525), (18, 8531), (23, 8579), (25, 8594), (39, 8705), (43, 8762), (46, 8783),

Gene: BlueShadow\_14 Start: 8408, Stop: 8821, Start Num: 8

Candidate Starts for BlueShadow\_14:

(Start: 8 @8408 has 1 MA's), (Start: 9 @8423 has 24 MA's), (14, 8477), (15, 8492), (16, 8519), (18, 8525), (23, 8573), (25, 8588), (39, 8699), (42, 8753), (43, 8756), (46, 8777),

Gene: Bridgette\_12 Start: 8575, Stop: 8988, Start Num: 9

Candidate Starts for Bridgette\_12:

(Start: 8 @8560 has 1 MA's), (Start: 9 @8575 has 24 MA's), (13, 8623), (23, 8734), (26, 8755), (31, 8791), (37, 8845), (42, 8914), (46, 8941),

Gene: ChuckDuck\_12 Start: 8531, Stop: 8944, Start Num: 9

Candidate Starts for ChuckDuck\_12:

(Start: 8 @8516 has 1 MA's), (Start: 9 @8531 has 24 MA's), (13, 8579), (16, 8636), (18, 8642), (23, 8690), (26, 8711), (31, 8747), (37, 8801), (42, 8870),

Gene: Constance\_12 Start: 8577, Stop: 8990, Start Num: 9

Candidate Starts for Constance\_12:

(Start: 8 @8562 has 1 MA's), (Start: 9 @8577 has 24 MA's), (13, 8625), (18, 8688), (23, 8736), (26, 8757), (31, 8793), (37, 8847), (42, 8916), (46, 8943),

Gene: CookieBear\_14 Start: 8408, Stop: 8821, Start Num: 8

Candidate Starts for CookieBear\_14:

(Start: 8 @8408 has 1 MA's), (Start: 9 @8423 has 24 MA's), (14, 8477), (15, 8492), (16, 8519), (23, 8573), (25, 8588), (31, 8630), (39, 8699), (42, 8753), (43, 8756), (46, 8777),

Gene: Eileen\_12 Start: 8540, Stop: 8953, Start Num: 9

Candidate Starts for Eileen\_12:

(Start: 8 @8525 has 1 MA's), (Start: 9 @8540 has 24 MA's), (13, 8588), (16, 8645), (18, 8651), (23, 8699), (26, 8720), (29, 8741), (31, 8756), (37, 8810), (42, 8879),

Gene: EvePickles\_13 Start: 8481, Stop: 8888, Start Num: 10

Candidate Starts for EvePickles\_13:

(1, 8325), (3, 8355), (6, 8373), (Start: 10 @8481 has 2 MA's), (22, 8628), (30, 8688), (31, 8697), (32, 8709), (35, 8745), (38, 8763), (41, 8793),

Gene: Faja\_13 Start: 8425, Stop: 8832, Start Num: 10

Candidate Starts for Faja\_13:

(1, 8269), (3, 8299), (6, 8317), (Start: 10 @8425 has 2 MA's), (22, 8572), (30, 8632), (31, 8641), (32, 8653), (35, 8689), (38, 8707), (41, 8737),

Gene: FosterFrank\_12 Start: 8535, Stop: 8948, Start Num: 9

Candidate Starts for FosterFrank\_12:

(Start: 8 @8520 has 1 MA's), (Start: 9 @8535 has 24 MA's), (13, 8583), (18, 8646), (23, 8694), (26, 8715), (31, 8751), (37, 8805), (42, 8874), (46, 8901),

Gene: Globfish\_13 Start: 8486, Stop: 8884, Start Num: 9

Candidate Starts for Globfish\_13:

(Start: 8 @8471 has 1 MA's), (Start: 9 @8486 has 24 MA's), (16, 8582), (19, 8591), (20, 8609), (23, 8636), (28, 8672), (31, 8693), (34, 8726), (39, 8762), (42, 8816), (43, 8819), (44, 8822), (47, 8864),

Gene: GlobiWarming\_12 Start: 8532, Stop: 8945, Start Num: 9

Candidate Starts for GlobiWarming\_12:

(Start: 8 @8517 has 1 MA's), (Start: 9 @8532 has 24 MA's), (13, 8580), (18, 8643), (20, 8664), (23, 8691), (26, 8712), (31, 8748), (37, 8802), (42, 8871),

Gene: Gorpy\_13 Start: 8432, Stop: 8830, Start Num: 9

Candidate Starts for Gorpy\_13:

(Start: 8 @8417 has 1 MA's), (Start: 9 @8432 has 24 MA's), (14, 8486), (15, 8501), (16, 8528), (18, 8534), (23, 8582), (25, 8597), (39, 8708), (42, 8762), (43, 8765), (46, 8786),

Gene: Hestia\_13 Start: 8536, Stop: 8934, Start Num: 9

Candidate Starts for Hestia\_13:

(Start: 8 @8521 has 1 MA's), (Start: 9 @8536 has 24 MA's), (14, 8590), (16, 8632), (18, 8638), (24, 8698), (29, 8728), (37, 8797), (42, 8866), (43, 8869), (44, 8872),

Gene: Hillester\_13 Start: 8408, Stop: 8821, Start Num: 8

Candidate Starts for Hillester\_13:

(Start: 8 @8408 has 1 MA's), (Start: 9 @8423 has 24 MA's), (14, 8477), (15, 8492), (16, 8519), (18, 8525), (23, 8573), (25, 8588), (39, 8699), (42, 8753), (43, 8756), (46, 8777),

Gene: HotPotato\_12 Start: 8525, Stop: 8953, Start Num: 8

Candidate Starts for HotPotato\_12:

(Start: 8 @8525 has 1 MA's), (Start: 9 @8540 has 24 MA's), (13, 8588), (16, 8645), (23, 8699), (26, 8720), (31, 8756), (37, 8810), (42, 8879),

Gene: Hum25\_11 Start: 7272, Stop: 7703, Start Num: 7

Candidate Starts for Hum25\_11:

(Start: 7 @7272 has 2 MA's), (13, 7353), (14, 7359), (16, 7401), (17, 7404), (21, 7431), (27, 7482), (28, 7491), (33, 7533), (34, 7545), (40, 7605), (41, 7608), (42, 7632), (45, 7641), (46, 7659), (48, 7686),

Gene: Isolde\_14 Start: 8494, Stop: 8892, Start Num: 9

Candidate Starts for Isolde\_14:

(Start: 8 @8479 has 1 MA's), (Start: 9 @8494 has 24 MA's), (14, 8548), (15, 8563), (16, 8590), (18, 8596), (23, 8644), (25, 8659), (31, 8701), (39, 8770), (42, 8824), (43, 8827), (46, 8848),

Gene: JellyBread\_13 Start: 8401, Stop: 8814, Start Num: 8

Candidate Starts for JellyBread\_13:

(Start: 8 @8401 has 1 MA's), (Start: 9 @8416 has 24 MA's), (14, 8470), (15, 8485), (16, 8512), (23, 8566), (25, 8581), (31, 8623), (39, 8692), (42, 8746), (43, 8749), (46, 8770),

Gene: Judy\_12 Start: 8576, Stop: 8989, Start Num: 9

Candidate Starts for Judy\_12:

(Start: 8 @8561 has 1 MA's), (Start: 9 @8576 has 24 MA's), (13, 8624), (18, 8687), (23, 8735), (26, 8756), (31, 8792), (37, 8846), (42, 8915), (46, 8942),

Gene: Karkharias\_12 Start: 8536, Stop: 8949, Start Num: 9

Candidate Starts for Karkharias\_12:

(Start: 8 @8521 has 1 MA's), (Start: 9 @8536 has 24 MA's), (13, 8584), (16, 8641), (18, 8647), (23, 8695), (26, 8716), (31, 8752), (37, 8806), (42, 8875),

Gene: KayMoney\_12 Start: 8533, Stop: 8946, Start Num: 9

Candidate Starts for KayMoney\_12:

(Start: 8 @8518 has 1 MA's), (Start: 9 @8533 has 24 MA's), (13, 8581), (18, 8644), (23, 8692), (26, 8713), (31, 8749), (37, 8803), (42, 8872),

Gene: Lawnathon\_13 Start: 8559, Stop: 8972, Start Num: 8

Candidate Starts for Lawnathon\_13:

(Start: 8 @8559 has 1 MA's), (Start: 9 @8574 has 24 MA's), (14, 8628), (15, 8643), (16, 8670), (18, 8676), (23, 8724), (25, 8739), (39, 8850), (43, 8907), (46, 8928),

Gene: MUWow\_12 Start: 8516, Stop: 8914, Start Num: 9

Candidate Starts for MUWow\_12:

(Start: 8 @8501 has 1 MA's), (Start: 9 @8516 has 24 MA's), (14, 8570), (15, 8585), (16, 8612), (18, 8618), (23, 8666), (25, 8681), (39, 8792), (42, 8846), (43, 8849), (46, 8870),

Gene: MaterMagnus\_13 Start: 8409, Stop: 8822, Start Num: 8

Candidate Starts for MaterMagnus\_13:

(Start: 8 @8409 has 1 MA's), (Start: 9 @8424 has 24 MA's), (14, 8478), (15, 8493), (16, 8520), (18, 8526), (23, 8574), (25, 8589), (39, 8700), (42, 8754), (43, 8757), (46, 8778),

Gene: MidnightRain\_13 Start: 8423, Stop: 8821, Start Num: 9

Candidate Starts for MidnightRain\_13:

(Start: 8 @8408 has 1 MA's), (Start: 9 @8423 has 24 MA's), (14, 8477), (15, 8492), (16, 8519), (18, 8525), (23, 8573), (25, 8588), (39, 8699), (42, 8753), (43, 8756), (46, 8777),

Gene: Peas\_12 Start: 8525, Stop: 8953, Start Num: 8

Candidate Starts for Peas\_12:

(Start: 8 @8525 has 1 MA's), (Start: 9 @8540 has 24 MA's), (13, 8588), (16, 8645), (18, 8651), (23, 8699), (26, 8720), (29, 8741), (31, 8756), (37, 8810), (42, 8879),

Gene: PeggyLeg03\_12 Start: 8577, Stop: 8990, Start Num: 9

Candidate Starts for PeggyLeg03\_12:

(Start: 8 @8562 has 1 MA's), (Start: 9 @8577 has 24 MA's), (13, 8625), (18, 8688), (23, 8736), (26, 8757), (31, 8793), (37, 8847), (42, 8916), (46, 8943),

Gene: Persistence\_12 Start: 8494, Stop: 8892, Start Num: 9

Candidate Starts for Persistence\_12:

(Start: 8 @8479 has 1 MA's), (Start: 9 @8494 has 24 MA's), (12, 8533), (14, 8548), (16, 8590), (34, 8734), (37, 8755), (43, 8827), (44, 8830),

Gene: Phrank15\_12 Start: 8576, Stop: 8974, Start Num: 9

Candidate Starts for Phrank15\_12:

(Start: 8 @8561 has 1 MA's), (Start: 9 @8576 has 24 MA's), (14, 8630), (15, 8645), (16, 8672), (18, 8678), (23, 8726), (25, 8741), (39, 8852), (42, 8906), (43, 8909), (46, 8930),

Gene: Pitbull\_11 Start: 6902, Stop: 7333, Start Num: 7

Candidate Starts for Pitbull\_11:

(Start: 7 @6902 has 2 MA's), (13, 6983), (14, 6989), (17, 7034), (27, 7112), (28, 7121), (34, 7175), (38, 7208), (40, 7235), (41, 7238), (42, 7262), (45, 7271), (46, 7289), (48, 7316),

Gene: Pucara\_12 Start: 8524, Stop: 8952, Start Num: 8

Candidate Starts for Pucara\_12:

(Start: 8 @8524 has 1 MA's), (Start: 9 @8539 has 24 MA's), (13, 8587), (16, 8644), (18, 8650), (23, 8698), (26, 8719), (31, 8755), (37, 8809), (42, 8878),

Gene: RadFad\_13 Start: 8423, Stop: 8821, Start Num: 9

Candidate Starts for RadFad\_13:

(Start: 8 @8408 has 1 MA's), (Start: 9 @8423 has 24 MA's), (14, 8477), (15, 8492), (16, 8519), (18, 8525), (23, 8573), (25, 8588), (39, 8699), (42, 8753), (43, 8756), (46, 8777),

Gene: Raphaella\_13 Start: 8423, Stop: 8821, Start Num: 9

Candidate Starts for Raphaella\_13:

(Start: 8 @8408 has 1 MA's), (Start: 9 @8423 has 24 MA's), (14, 8477), (15, 8492), (16, 8519), (23, 8573), (25, 8588), (31, 8630), (39, 8699), (42, 8753), (43, 8756), (46, 8777),

Gene: Richie\_13 Start: 8438, Stop: 8836, Start Num: 9

Candidate Starts for Richie\_13:

(Start: 8 @8423 has 1 MA's), (Start: 9 @8438 has 24 MA's), (14, 8492), (15, 8507), (16, 8534), (18, 8540), (23, 8588), (25, 8603), (39, 8714), (42, 8768), (43, 8771), (46, 8792),

Gene: Sakai\_13 Start: 8432, Stop: 8830, Start Num: 9

Candidate Starts for Sakai\_13:

(Start: 8 @8417 has 1 MA's), (Start: 9 @8432 has 24 MA's), (14, 8486), (15, 8501), (16, 8528), (18, 8534), (23, 8582), (25, 8597), (39, 8708), (42, 8762), (43, 8765), (46, 8786),

Gene: Sashimi\_14 Start: 8540, Stop: 8947, Start Num: 10

Candidate Starts for Sashimi\_14:

(2, 8387), (3, 8414), (4, 8420), (5, 8429), (Start: 10 @8540 has 2 MA's), (30, 8747), (31, 8756), (32, 8768), (41, 8852),

Gene: Seahorse\_14 Start: 8675, Stop: 9076, Start Num: 9

Candidate Starts for Seahorse\_14:

(Start: 8 @8660 has 1 MA's), (Start: 9 @8675 has 24 MA's), (18, 8777), (24, 8837), (29, 8867), (37, 8936), (42, 9005), (44, 9011),

Gene: Shukran\_13 Start: 8378, Stop: 8776, Start Num: 9

Candidate Starts for Shukran\_13:

(Start: 8 @8363 has 1 MA's), (Start: 9 @8378 has 24 MA's), (16, 8474), (23, 8528), (29, 8570), (36, 8636), (37, 8639), (42, 8708), (43, 8711), (44, 8714),

Gene: SpicyFrank\_13 Start: 8486, Stop: 8899, Start Num: 8

Candidate Starts for SpicyFrank\_13:

(Start: 8 @8486 has 1 MA's), (Start: 9 @8501 has 24 MA's), (16, 8597), (19, 8606), (20, 8624), (23, 8651), (28, 8687), (31, 8708), (34, 8741), (39, 8777), (42, 8831), (43, 8834), (44, 8837), (47, 8879),

Gene: ThayneTheZag\_13 Start: 8478, Stop: 8876, Start Num: 9

Candidate Starts for ThayneTheZag\_13:

(Start: 8 @8463 has 1 MA's), (Start: 9 @8478 has 24 MA's), (16, 8574), (19, 8583), (20, 8601), (23, 8628), (31, 8685), (34, 8718), (39, 8754), (42, 8808), (43, 8811), (47, 8856),

Gene: Tiff81\_14 Start: 8648, Stop: 9046, Start Num: 9

Candidate Starts for Tiff81\_14:

(Start: 8 @8633 has 1 MA's), (Start: 9 @8648 has 24 MA's), (11, 8684), (18, 8750), (23, 8798), (24, 8810), (42, 8978), (43, 8981), (44, 8984),



Gene: Vopal\_14 Start: 8480, Stop: 8893, Start Num: 8

Candidate Starts for Vopal\_14:

(Start: 8 @8480 has 1 MA's), (Start: 9 @8495 has 24 MA's), (14, 8549), (15, 8564), (16, 8591), (18, 8597), (23, 8645), (25, 8660), (39, 8771), (42, 8825), (43, 8828), (46, 8849),

Gene: Windest\_14 Start: 8465, Stop: 8878, Start Num: 8

Candidate Starts for Windest\_14:

(Start: 8 @8465 has 1 MA's), (Start: 9 @8480 has 24 MA's), (14, 8534), (15, 8549), (16, 8576), (23, 8630), (25, 8645), (31, 8687), (39, 8756), (42, 8810), (43, 8813), (46, 8834),

Gene: YoungHarleezy\_13 Start: 8436, Stop: 8834, Start Num: 9

Candidate Starts for YoungHarleezy\_13:

(Start: 8 @8421 has 1 MA's), (Start: 9 @8436 has 24 MA's), (11, 8472), (14, 8490), (15, 8505), (16, 8532), (18, 8538), (23, 8586), (25, 8601), (39, 8712), (42, 8766), (43, 8769), (46, 8790),