





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 308173 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308173 has 164 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Fowlmouth\_3, MrMiyagi\_3
- Track 2 : Cuke\_3
- Track 3 : Indlulamithi\_2
- Track 4 : Onyinye\_20, Aikoy\_19, Leopard\_19
- Track 5 : SirHarley\_8, Adjutor\_9, Erk16\_9, PBI1\_9, Gumball\_8
- Track 6 : Helpful\_9, Delton\_9, SuperheroCarly\_9, Penelope2018\_9, Visconti\_9, Thoth\_9, PLOT\_9, BigMama\_8, Chill\_9, Prager\_9, WaldoWhy\_9
- Track 7 : Butterscotch\_9
- Track 8 : Nova\_9
- Track 9 : Phalaborwa\_9
- Track 10 : Mopey\_9, Giuseppe\_9
- Track 11 : KandZ\_9
- Track 12 : Troll4\_9
- Track 13 : Hawkeye\_10
- Track 14 : BiteSize\_2, Djokovic\_2, Madi\_2, Beyoncage\_2, Sienna\_2, Terapin\_2
- Track 15 : Suzy\_2
- Track 16 : LilyPad\_2
- Track 17 : LittleFella\_2
- Track 18 : Rumi\_3, Genamy16\_3, Stormer\_3, NovaSharks\_3, Avian\_3, Astralis\_3, Alyssamiracle\_3, Charminar\_3
- Track 19 : Riduram\_3
- Track 20 : Zany\_3
- Track 21 : Jalebi\_3, Lila22\_3, Sampudon\_3
- Track 22 : Sadboi\_3, GretelLyn\_3
- Track 23 : DaviePasture\_3
- Track 24 : Apeppi\_2, LuckyLeo\_2
- Track 25 : BirthdayBoy\_3
- Track 26 : Rukungu\_3
- Track 27 : OtterstedtS21\_3
- Track 28 : LavAbarElk\_3, Pywacket\_3
- Track 29 : RazorC\_3, Jamemuya19\_3
- Track 30 : Rota\_3
- Track 31 : Lambo\_3
- Track 32 : Ranch\_3
- Track 33 : NorManre\_3
- Track 34 : Tillicus\_3
- Track 35 : Xenia2\_3

- Track 36 : Patos\_3
- Track 37 : Alephlan\_3
- Track 38 : DumpTruck\_3
- Track 39 : Yikes\_3
- Track 40 : Fulcrum\_3, GOATification\_3
- Track 41 : DoobyDoo\_3
- Track 42 : Mima20\_3
- Track 43 : Erutan\_3
- Track 44 : Gibbin\_3
- Track 45 : ParvusTarda\_3
- Track 46 : MoiGyank\_3
- Track 47 : Wojtek\_3
- Track 48 : NarutoRun\_13, Anakin\_13
- Track 49 : Cybele\_13, Kate\_13, OhDear\_13, PhunaPhoke\_13, Neptune\_13, Artiphact\_13, Pharpay\_13, Gilda\_13, SilentWarrior\_12, AnnaSerena\_13
- Track 50 : CoolCookie\_13, Karate\_12
- Track 51 : Tedro\_13
- Track 52 : Krampus\_13, JingleBells\_12
- Track 53 : OverHedge\_13, Chivey\_12, Annapurna\_12, Poultruss\_12, Hiddenleaf\_12
- Track 54 : Rachella\_13
- Track 55 : Dauntless\_12, Erudite\_12
- Track 56 : FreddieHg\_12, Haunter\_13
- Track 57 : Hager\_13
- Track 58 : Bramble\_13, Kors\_13
- Track 59 : TinyMiny\_13
- Track 60 : Potty\_13
- Track 61 : DannyDe\_12
- Track 62 : Ajin\_13
- Track 63 : Snakehole\_14
- Track 64 : Rie18\_13
- Track 65 : Aesir\_12
- Track 66 : Crestdrop\_12
- Track 67 : MortySmith\_12, JDawG\_12
- Track 68 : FountainFog\_12
- Track 69 : RikSengupta\_13, Sparcetus\_13
- Track 70 : Tiggy93\_13
- Track 71 : Tongui\_12
- Track 72 : LordBart\_13
- Track 73 : Huwbert\_36
- Track 74 : Triscuit\_35
- Track 75 : Konstantine\_7
- Track 76 : Puissant\_6
- Track 77 : BobtimousPrime\_5, Beckerton\_6
- Track 78 : Predator\_8
- Track 79 : Damien\_5, Nish23\_5
- Track 80 : Thumb\_5
- Track 81 : Phreeze\_5
- Track 82 : Oaker\_6
- Track 83 : Cborch11\_5
- Track 84 : Megatron06\_6
- Track 85 : DrLupo\_7
- Track 86 : Barnyard\_7
- Track 87 : Zenon\_7, Nilo\_7, Candle\_6, Send513\_6

- Track 88 : Riparian\_6
- Track 89 : Papyrus\_7
- Track 90 : MontyDev\_7
- Track 91 : Rope\_7
- Track 92 : Weiss13\_6
- Track 93 : Yelo\_6
- Track 94 : Patience\_8
- Track 95 : Demikore\_7
- Track 96 : Madruga\_6, SuperSonics\_8
- Track 97 : Labelle\_7
- Track 98 : Shrew\_47
- Track 99 : pZL12\_66c
- Track 100 : Wollypog\_2

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

The start number called the most often in the published annotations is 11, it was called in 94 of the 150 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adjutor\_9, Aesir\_12, Ajin\_13, Anakin\_13, AnnaSerena\_13, Annapurna\_12, Artiphact\_13, Barnyard\_7, Beckerton\_6, BigMama\_8, BobtimousPrime\_5, Bramble\_13, Butterscotch\_9, Candle\_6, Chill\_9, Chivey\_12, CoolCookie\_13, Crestdrop\_12, Cuke\_3, Cybele\_13, Damien\_5, DannyDe\_12, Dauntless\_12, Delton\_9, Demikore\_7, DrLupo\_7, Erk16\_9, Erudite\_12, FountainFog\_12, Fowlmouth\_3, FreddieHg\_12, Gilda\_13, Giuseppe\_9, Gumball\_8, Hager\_13, Haunter\_13, Hawkeye\_10, Helpful\_9, Hiddenleaf\_12, Indlulamithi\_2, JDawG\_12, JingleBells\_12, KandZ\_9, Karate\_12, Kate\_13, Kors\_13, Krampus\_13, Labelle\_7, LordBart\_13, Madruga\_6, Megatron06\_6, MontyDev\_7, Mopey\_9, MortySmith\_12, MrMiyagi\_3, NarutoRun\_13, Neptune\_13, Nilo\_7, Nish23\_5, Nova\_9, Oaker\_6, OhDear\_13, OverHedge\_13, PBI1\_9, PLOT\_9, Papyrus\_7, Patience\_8, Penelope2018\_9, Phalaborwa\_9, Pharpay\_13, Phreeze\_5, PhunaPhoke\_13, Potty\_13, Poultruss\_12, Prager\_9, Predator\_8, Puissant\_6, Rachella\_13, Rie18\_13, RikSengupta\_13, Riparian\_6, Rope\_7, Send513\_6, SilentWarrior\_12, SirHarley\_8, Snakehole\_14, Sparcetus\_13, SuperSonics\_8, SuperheroCarly\_9, Tedro\_13, Thoth\_9, Thumb\_5, Tiggy93\_13, TinyMiny\_13, Tongui\_12, Troll4\_9, Visconti\_9, WaldoWhy\_9, Weiss13\_6, Wollypog\_2, Yelo\_6, Zenon\_7,

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

- Cborch11\_5,

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

- Aikoy\_19, Alephilan\_3, Alyssamiracle\_3, Apeppi\_2, Astralis\_3, Avian\_3, Beyoncage\_2, BirthdayBoy\_3, BiteSize\_2, Charminar\_3, DaviePasture\_3, Djokovic\_2, DoobyDoo\_3, DumpTruck\_3, Erutan\_3, Fulcrum\_3, GOATification\_3, Genamy16\_3, Gibbin\_3, Gretellyn\_3, Huwbert\_36, Jalebi\_3, Jamemuya19\_3, Konstantine\_7, Lambo\_3, LavAbarElk\_3, Leopard\_19, Lila22\_3, LilyPad\_2, LittleFella\_2, LuckyLeo\_2, Madi\_2, Mima20\_3, MoiGyank\_3, NorManre\_3, NovaSharks\_3, Onyinye\_20, OtterstedtS21\_3, ParvusTarda\_3, Patos\_3, Pywacket\_3, Ranch\_3, RazorC\_3, Riduram\_3, Rota\_3, Rukungu\_3, Rumi\_3,

Sadboi\_3, Sampudon\_3, Shrew\_47, Sienna\_2, Stormer\_3, Suzy\_2, Terapin\_2, Tillicus\_3, Triscuit\_35, Wojtek\_3, Xenia2\_3, Yikes\_3, Zany\_3, pZL12\_66c,

### Summary by start number:

#### Start 3:

- Found in 1 of 164 ( 0.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: pZL12\_66c (singleton),

#### Start 5:

- Found in 11 of 164 ( 6.7% ) of genes in pham
- Manual Annotations of this start: 1 of 150
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Cborch11\_5 (H1),

#### Start 8:

- Found in 47 of 164 ( 28.7% ) of genes in pham
- Manual Annotations of this start: 42 of 150
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aikoy\_19 (AE), Alephlan\_3 (DV), Alyssamiracle\_3 (DV), Apeppi\_2 (DV), Astralis\_3 (DV), Avian\_3 (DV), BirthdayBoy\_3 (DV), Charminar\_3 (DV), DaviePasture\_3 (DV), DoobyDoo\_3 (DV), DumpTruck\_3 (DV), Erutan\_3 (DV), Fulcrum\_3 (DV), GOATification\_3 (DV), Genamy16\_3 (DV), Gibbin\_3 (DV), GretelLyn\_3 (DV), Jalebi\_3 (DV), Jamemuya19\_3 (DV), Lambo\_3 (DV), LavAbarElk\_3 (DV), Leopard\_19 (AE), Lila22\_3 (DV), LuckyLeo\_2 (DV), Mima20\_3 (DV), MoiGyank\_3 (DV), NorManre\_3 (DV), NovaSharks\_3 (DV), Onyinye\_20 (AE), OtterstedtS21\_3 (DV), ParvusTarda\_3 (DV), Patos\_3 (DV), Pywacket\_3 (DV), Ranch\_3 (DV), RazorC\_3 (DV), Riduram\_3 (DV), Rota\_3 (DV), Rukungu\_3 (DV), Rumi\_3 (DV), Sadboi\_3 (DV), Sampudon\_3 (DV), Stormer\_3 (DV), Tillicus\_3 (DV), Wojtek\_3 (DV), Xenia2\_3 (DV), Yikes\_3 (DV), Zany\_3 (DV),

#### Start 9:

- Found in 9 of 164 ( 5.5% ) of genes in pham
- Manual Annotations of this start: 9 of 150
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beyoncage\_2 (DG1), BiteSize\_2 (DG1), Djokovic\_2 (DG1), LilyPad\_2 (DG1), LittleFella\_2 (DG2), Madi\_2 (DG1), Sienna\_2 (DG1), Suzy\_2 (DG1), Terapin\_2 (DG1),

#### Start 10:

- Found in 1 of 164 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 150
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Konstantine\_7 (H1),

#### Start 11:

- Found in 103 of 164 ( 62.8% ) of genes in pham
- Manual Annotations of this start: 94 of 150
- Called 99.0% of time when present
- Phage (with cluster) where this start called: Adjutor\_9 (D1), Aesir\_12 (EF), Ajin\_13 (EF), Anakin\_13 (EF), AnnaSerena\_13 (EF), Annapurna\_12 (EF), Artiphact\_13 (EF),

Barnyard\_7 (H2), Beckerton\_6 (H1), BigMama\_8 (D1), BobtimousPrime\_5 (H1), Bramble\_13 (EF), Butterscotch\_9 (D1), Candle\_6 (R), Chill\_9 (D1), Chivey\_12 (EF), CoolCookie\_13 (EF), Crestdrop\_12 (EF), Cuke\_3 (AC), Cybele\_13 (EF), Damien\_5 (H1), DannyDe\_12 (EF), Dauntless\_12 (EF), Delton\_9 (D1), Demikore\_7 (U), DrLupo\_7 (H2), Erk16\_9 (D1), Erudite\_12 (EF), FountainFog\_12 (EF), Fowlmouth\_3 (AC), FreddieHg\_12 (EF), Gilda\_13 (EF), Giuseppe\_9 (D1), Gumball\_8 (D1), Hager\_13 (EF), Haunter\_13 (EF), Hawkeye\_10 (D2), Helpful\_9 (D1), Hiddenleaf\_12 (EF), Indulamithi\_2 (AC), JDawG\_12 (EF), JingleBells\_12 (EF), KandZ\_9 (D1), Karate\_12 (EF), Kate\_13 (EF), Kors\_13 (EF), Krampus\_13 (EF), Labelle\_7 (U), LordBart\_13 (EF), Madruga\_6 (U), Megatron06\_6 (H1), MontyDev\_7 (R), Mopey\_9 (D1), MortySmith\_12 (EF), MrMiyagi\_3 (AC), NarutoRun\_13 (EF), Neptune\_13 (EF), Nilo\_7 (R), Nish23\_5 (H1), Nova\_9 (D1), Oaker\_6 (H1), OhDear\_13 (EF), OverHedge\_13 (EF), PBI1\_9 (D1), PLOT\_9 (D1), Papyrus\_7 (R), Patience\_8 (U), Penelope2018\_9 (D1), Phalaborwa\_9 (D1), Pharpay\_13 (EF), Phreeze\_5 (H1), PhunaPhoke\_13 (EF), Potty\_13 (EF), Poultruss\_12 (EF), Prager\_9 (D1), Predator\_8 (H1), Puissant\_6 (H1), Rachella\_13 (EF), Rie18\_13 (EF), RikSengupta\_13 (EF), Riparian\_6 (R), Rope\_7 (R), Send513\_6 (R), SilentWarrior\_12 (EF), SirHarley\_8 (D1), Snakehole\_14 (EF), Sparcetus\_13 (EF), SuperSonics\_8 (U), SuperheroCarly\_9 (D1), Tedro\_13 (EF), Thoth\_9 (D1), Thumb\_5 (H1), Tiggy93\_13 (EF), TinyMiny\_13 (EF), Tongui\_12 (EF), Troll4\_9 (D1), Visconti\_9 (D1), WaldoWhy\_9 (D1), Weiss13\_6 (R), Wollypog\_2 (singleton), Yelo\_6 (R), Zenon\_7 (R),

#### Start 12:

- Found in 2 of 164 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 2 of 150
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Huwbert\_36 (GG), Triscuit\_35 (GG),

#### Start 14:

- Found in 1 of 164 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 150
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shrew\_47 (singleton),

### Summary by clusters:

There are 14 clusters represented in this pham: DG2, singleton, H1, AE, H2, EF, AC, GG, R, U, DV, DG1, D2, D1,

#### Info for manual annotations of cluster AC:

- Start number 11 was manually annotated 4 times for cluster AC.

#### Info for manual annotations of cluster AE:

- Start number 8 was manually annotated 3 times for cluster AE.

#### Info for manual annotations of cluster D1:

- Start number 11 was manually annotated 22 times for cluster D1.

#### Info for manual annotations of cluster D2:

- Start number 11 was manually annotated 1 time for cluster D2.

#### Info for manual annotations of cluster DG1:

- Start number 9 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 9 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

- Start number 8 was manually annotated 39 times for cluster DV.

Info for manual annotations of cluster EF:

- Start number 11 was manually annotated 42 times for cluster EF.

Info for manual annotations of cluster GG:

- Start number 12 was manually annotated 2 times for cluster GG.

Info for manual annotations of cluster H1:

- Start number 5 was manually annotated 1 time for cluster H1.
- Start number 10 was manually annotated 1 time for cluster H1.
- Start number 11 was manually annotated 9 times for cluster H1.

Info for manual annotations of cluster H2:

- Start number 11 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster R:

- Start number 11 was manually annotated 10 times for cluster R.

Info for manual annotations of cluster U:

- Start number 11 was manually annotated 3 times for cluster U.

### ***Gene Information:***

Gene: Adjutor\_9 Start: 6328, Stop: 7914, Start Num: 11

Candidate Starts for Adjutor\_9:

(Start: 11 @6328 has 94 MA's), (32, 6451), (34, 6481), (36, 6487), (38, 6526), (42, 6559), (74, 6706), (79, 6757), (82, 6766), (88, 6817), (90, 6826), (92, 6832), (93, 6835), (107, 6901), (137, 7084), (139, 7111), (140, 7120), (144, 7156), (148, 7180), (150, 7201), (151, 7204), (159, 7267), (160, 7270), (163, 7297), (172, 7372), (175, 7393), (181, 7432), (182, 7435), (201, 7531), (206, 7558), (210, 7588), (229, 7681), (231, 7687), (245, 7744), (270, 7846), (278, 7909),

Gene: Aesir\_12 Start: 4606, Stop: 6207, Start Num: 11

Candidate Starts for Aesir\_12:

(Start: 11 @4606 has 94 MA's), (17, 4639), (32, 4729), (35, 4762), (47, 4864), (50, 4873), (69, 4990), (77, 5029), (95, 5161), (97, 5164), (102, 5191), (115, 5284), (144, 5464), (145, 5467), (153, 5518), (155, 5530), (158, 5557), (170, 5662), (174, 5692), (179, 5731), (184, 5755), (201, 5842), (203, 5854), (214, 5911), (229, 5983), (247, 6055),

Gene: Aikoy\_19 Start: 11889, Stop: 13550, Start Num: 8

Candidate Starts for Aikoy\_19:

(Start: 8 @11889 has 42 MA's), (38, 12096), (56, 12195), (63, 12225), (66, 12246), (68, 12285), (70, 12297), (72, 12303), (82, 12378), (85, 12411), (93, 12444), (104, 12507), (110, 12534), (116, 12603), (120, 12639), (122, 12645), (131, 12672), (136, 12696), (147, 12786), (149, 12813), (165, 12924), (169, 12960), (175, 13011), (177, 13023), (178, 13029), (181, 13050), (182, 13053), (201, 13149), (204, 13164), (216, 13221), (224, 13248), (243, 13338), (255, 13389), (261, 13401), (274, 13461),

(275, 13473),

Gene: Ajin\_13 Start: 4650, Stop: 6251, Start Num: 11

Candidate Starts for Ajin\_13:

(Start: 11 @4650 has 94 MA's), (17, 4689), (21, 4707), (29, 4749), (32, 4776), (35, 4809), (62, 4977), (63, 4980), (69, 5037), (77, 5076), (79, 5118), (88, 5181), (96, 5211), (102, 5244), (111, 5295), (114, 5331), (122, 5391), (153, 5565), (155, 5577), (167, 5691), (172, 5730), (177, 5763), (179, 5778), (194, 5859), (201, 5889), (203, 5901), (229, 6030), (239, 6072), (241, 6078),

Gene: Alephilan\_3 Start: 1709, Stop: 3340, Start Num: 8

Candidate Starts for Alephilan\_3:

(Start: 8 @1709 has 42 MA's), (54, 2027), (59, 2051), (71, 2135), (74, 2153), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (240, 3134), (254, 3194), (258, 3206), (268, 3242), (282, 3332),

Gene: Alyssamiracle\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for Alyssamiracle\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: Anakin\_13 Start: 4820, Stop: 6421, Start Num: 11

Candidate Starts for Anakin\_13:

(Start: 11 @4820 has 94 MA's), (17, 4853), (32, 4943), (35, 4976), (47, 5078), (50, 5087), (69, 5204), (77, 5243), (95, 5375), (97, 5378), (115, 5498), (144, 5678), (145, 5681), (153, 5732), (155, 5744), (158, 5771), (170, 5876), (174, 5906), (179, 5945), (180, 5951), (184, 5969), (201, 6056), (203, 6068), (205, 6080), (214, 6125), (229, 6197), (247, 6269),

Gene: AnnaSerena\_13 Start: 4817, Stop: 6418, Start Num: 11

Candidate Starts for AnnaSerena\_13:

(Start: 11 @4817 has 94 MA's), (17, 4850), (32, 4940), (35, 4973), (47, 5075), (50, 5084), (69, 5201), (95, 5372), (97, 5375), (102, 5402), (115, 5495), (144, 5675), (145, 5678), (153, 5729), (155, 5741), (158, 5768), (170, 5873), (174, 5903), (179, 5942), (184, 5966), (203, 6065), (214, 6122), (229, 6194), (247, 6266),

Gene: Annapurna\_12 Start: 4550, Stop: 6151, Start Num: 11

Candidate Starts for Annapurna\_12:

(Start: 11 @4550 has 94 MA's), (17, 4583), (32, 4673), (35, 4706), (47, 4808), (50, 4817), (69, 4934), (95, 5105), (97, 5108), (102, 5135), (115, 5228), (144, 5408), (145, 5411), (153, 5462), (155, 5474), (158, 5501), (170, 5606), (174, 5636), (179, 5675), (180, 5681), (203, 5798), (214, 5855), (229, 5927), (247, 5999),

Gene: Apeppi\_2 Start: 1553, Stop: 3178, Start Num: 8

Candidate Starts for Apeppi\_2:

(Start: 8 @1553 has 42 MA's), (41, 1793), (59, 1895), (67, 1943), (71, 1979), (110, 2195), (135, 2342), (144, 2423), (149, 2462), (150, 2468), (151, 2471), (152, 2474), (155, 2489), (158, 2516), (161, 2549), (163, 2564), (173, 2645), (179, 2687), (186, 2717), (187, 2735), (188, 2741), (195, 2774), (203, 2810), (207, 2828), (219, 2882), (224, 2900), (226, 2906), (229, 2936), (240, 2978), (246, 3002), (258, 3050), (264, 3071), (275, 3128),

Gene: Artiphact\_13 Start: 4809, Stop: 6410, Start Num: 11

Candidate Starts for Artiphact\_13:

(Start: 11 @4809 has 94 MA's), (17, 4842), (32, 4932), (35, 4965), (47, 5067), (50, 5076), (69, 5193), (95, 5364), (97, 5367), (102, 5394), (115, 5487), (144, 5667), (145, 5670), (153, 5721), (155, 5733), (158, 5760), (170, 5865), (174, 5895), (179, 5934), (184, 5958), (203, 6057), (214, 6114), (229, 6186), (247, 6258),

Gene: Astralis\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for Astralis\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: Avian\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for Avian\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: Barnyard\_7 Start: 4414, Stop: 6105, Start Num: 11

Candidate Starts for Barnyard\_7:

(Start: 11 @4414 has 94 MA's), (34, 4561), (38, 4597), (53, 4675), (71, 4777), (79, 4846), (86, 4897), (87, 4900), (92, 4912), (95, 4924), (111, 5008), (142, 5227), (143, 5236), (155, 5311), (162, 5383), (164, 5392), (170, 5452), (172, 5473), (182, 5539), (183, 5545), (198, 5626), (200, 5632), (202, 5638), (206, 5662), (208, 5668), (218, 5740), (221, 5755), (224, 5779), (229, 5815), (231, 5821), (234, 5836), (237, 5851), (248, 5896), (258, 5941), (260, 5947), (271, 5989),

Gene: Beckerton\_6 Start: 4407, Stop: 6020, Start Num: 11

Candidate Starts for Beckerton\_6:

(Start: 5 @4359 has 1 MA's), (Start: 11 @4407 has 94 MA's), (15, 4431), (26, 4479), (45, 4641), (60, 4701), (61, 4707), (74, 4800), (76, 4806), (92, 4926), (95, 4938), (106, 4998), (121, 5103), (128, 5133), (142, 5229), (152, 5298), (154, 5307), (155, 5313), (160, 5364), (163, 5391), (167, 5427), (169, 5436), (172, 5466), (174, 5475), (179, 5517), (182, 5532), (185, 5544), (189, 5577), (197, 5613), (198, 5619), (202, 5631), (203, 5640), (208, 5661), (210, 5685), (224, 5730), (228, 5763), (229, 5766), (230, 5769), (237, 5802), (240, 5808), (249, 5850), (253, 5856), (256, 5868), (266, 5907), (283, 6006), (286, 6012),

Gene: Beyoncage\_2 Start: 1538, Stop: 3241, Start Num: 9

Candidate Starts for Beyoncage\_2:

(Start: 9 @1538 has 9 MA's), (24, 1619), (27, 1640), (32, 1676), (38, 1748), (40, 1769), (41, 1778), (63, 1871), (65, 1877), (67, 1904), (108, 2177), (113, 2225), (119, 2276), (128, 2324), (147, 2450), (152, 2489), (164, 2582), (175, 2675), (202, 2816), (203, 2825), (205, 2837), (223, 2903), (224, 2915),

Gene: BigMama\_8 Start: 6404, Stop: 7987, Start Num: 11

Candidate Starts for BigMama\_8:

(Start: 11 @6404 has 94 MA's), (32, 6527), (34, 6557), (36, 6563), (38, 6602), (42, 6635), (74, 6782), (79, 6833), (82, 6842), (88, 6893), (90, 6902), (92, 6908), (93, 6911), (107, 6977), (137, 7160), (139, 7187), (140, 7196), (144, 7232), (148, 7256), (150, 7277), (151, 7280), (159, 7343), (160, 7346), (163, 7373), (172, 7448), (175, 7469), (181, 7508), (182, 7511), (201, 7607), (206, 7634), (210, 7664), (228, 7754), (229, 7757), (245, 7820), (270, 7922), (278, 7982),

Gene: BirthdayBoy\_3 Start: 1709, Stop: 3328, Start Num: 8

Candidate Starts for BirthdayBoy\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (178, 2834), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (203, 2966), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206),

Gene: BiteSize\_2 Start: 1538, Stop: 3241, Start Num: 9

Candidate Starts for BiteSize\_2:

(Start: 9 @1538 has 9 MA's), (24, 1619), (27, 1640), (32, 1676), (38, 1748), (40, 1769), (41, 1778), (63, 1871), (65, 1877), (67, 1904), (108, 2177), (113, 2225), (119, 2276), (128, 2324), (147, 2450), (152, 2489), (164, 2582), (175, 2675), (202, 2816), (203, 2825), (205, 2837), (223, 2903), (224, 2915),

Gene: BobtimousPrime\_5 Start: 3872, Stop: 5485, Start Num: 11

Candidate Starts for BobtimousPrime\_5:

(Start: 5 @3824 has 1 MA's), (Start: 11 @3872 has 94 MA's), (15, 3896), (26, 3944), (45, 4106), (60, 4166), (61, 4172), (74, 4265), (76, 4271), (92, 4391), (95, 4403), (106, 4463), (121, 4568), (128, 4598), (142, 4694), (152, 4763), (154, 4772), (155, 4778), (160, 4829), (163, 4856), (167, 4892), (169, 4901), (172, 4931), (174, 4940), (179, 4982), (182, 4997), (185, 5009), (189, 5042), (197, 5078), (198, 5084), (202, 5096), (203, 5105), (208, 5126), (210, 5150), (224, 5195), (228, 5228), (229, 5231), (230, 5234), (237, 5267), (240, 5273), (249, 5315), (253, 5321), (256, 5333), (266, 5372), (283, 5471), (286, 5477),

Gene: Bramble\_13 Start: 4617, Stop: 6218, Start Num: 11

Candidate Starts for Bramble\_13:

(Start: 11 @4617 has 94 MA's), (17, 4656), (21, 4674), (29, 4716), (32, 4743), (35, 4776), (62, 4944), (63, 4947), (69, 5004), (77, 5043), (79, 5085), (88, 5148), (96, 5178), (102, 5211), (114, 5298), (122, 5358), (153, 5532), (155, 5544), (168, 5661), (172, 5697), (177, 5730), (179, 5745), (194, 5826), (201, 5856), (203, 5868), (229, 5997), (239, 6039), (241, 6045),

Gene: Butterscotch\_9 Start: 6391, Stop: 7974, Start Num: 11

Candidate Starts for Butterscotch\_9:

(Start: 11 @6391 has 94 MA's), (32, 6514), (34, 6544), (38, 6589), (42, 6622), (74, 6769), (79, 6820), (82, 6829), (88, 6880), (90, 6889), (92, 6895), (93, 6898), (107, 6964), (137, 7147), (139, 7174), (140, 7183), (148, 7243), (150, 7264), (151, 7267), (159, 7330), (160, 7333), (163, 7360), (172, 7435), (175, 7456), (180, 7489), (181, 7495), (182, 7498), (201, 7594), (206, 7621), (210, 7651), (228, 7741), (229, 7744), (245, 7807), (270, 7909), (278, 7969),

Gene: Candle\_6 Start: 3650, Stop: 5191, Start Num: 11

Candidate Starts for Candle\_6:

(Start: 11 @3650 has 94 MA's), (26, 3734), (29, 3749), (36, 3812), (71, 4007), (82, 4085), (88, 4127), (93, 4145), (95, 4154), (105, 4205), (123, 4319), (124, 4328), (128, 4340), (137, 4382), (142, 4436), (151, 4502), (155, 4520), (156, 4526), (163, 4595), (164, 4598), (169, 4640), (170, 4649), (172, 4670), (174, 4679), (179, 4718), (183, 4739), (189, 4778), (209, 4868), (220, 4916), (224, 4931), (228, 4964), (242, 5018), (270, 5099), (285, 5186),

Gene: Cborch11\_5 Start: 3824, Stop: 5485, Start Num: 5

Candidate Starts for Cborch11\_5:

(Start: 5 @3824 has 1 MA's), (Start: 11 @3872 has 94 MA's), (15, 3896), (26, 3944), (45, 4106), (60, 4166), (61, 4172), (74, 4265), (76, 4271), (92, 4391), (95, 4403), (106, 4463), (118, 4550), (121, 4568), (128, 4598), (142, 4694), (152, 4763), (154, 4772), (155, 4778), (160, 4829), (163, 4856), (167, 4892), (169, 4901), (172, 4931), (174, 4940), (179, 4982), (182, 4997), (185, 5009), (189, 5042), (197, 5078), (198, 5084), (202, 5096), (203, 5105), (208, 5126), (210, 5150), (224, 5195), (228, 5228), (229, 5231), (230, 5234), (237, 5267), (240, 5273), (249, 5315), (253, 5321), (256, 5333), (266, 5372), (283, 5471), (286, 5477),

Gene: Charminar\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for Charminar\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: Chill\_9 Start: 6394, Stop: 7977, Start Num: 11

Candidate Starts for Chill\_9:

(Start: 11 @6394 has 94 MA's), (32, 6517), (34, 6547), (36, 6553), (38, 6592), (42, 6625), (74, 6772), (79, 6823), (82, 6832), (88, 6883), (90, 6892), (92, 6898), (93, 6901), (107, 6967), (137, 7150), (139, 7177), (140, 7186), (144, 7222), (148, 7246), (150, 7267), (151, 7270), (159, 7333), (160, 7336), (163, 7363), (172, 7438), (175, 7459), (181, 7498), (182, 7501), (201, 7597), (206, 7624), (210, 7654), (228, 7744), (229, 7747), (245, 7810), (270, 7912), (278, 7972),

Gene: Chivey\_12 Start: 4543, Stop: 6144, Start Num: 11

Candidate Starts for Chivey\_12:

(Start: 11 @4543 has 94 MA's), (17, 4576), (32, 4666), (35, 4699), (47, 4801), (50, 4810), (69, 4927), (95, 5098), (97, 5101), (102, 5128), (115, 5221), (144, 5401), (145, 5404), (153, 5455), (155, 5467), (158, 5494), (170, 5599), (174, 5629), (179, 5668), (180, 5674), (203, 5791), (214, 5848), (229, 5920), (247, 5992),

Gene: CoolCookie\_13 Start: 4812, Stop: 6413, Start Num: 11

Candidate Starts for CoolCookie\_13:

(Start: 11 @4812 has 94 MA's), (17, 4845), (32, 4935), (35, 4968), (47, 5070), (50, 5079), (69, 5196), (95, 5367), (97, 5370), (102, 5397), (115, 5490), (144, 5670), (145, 5673), (153, 5724), (155, 5736), (158, 5763), (170, 5868), (174, 5898), (179, 5937), (184, 5961), (201, 6048), (203, 6060), (214, 6117), (229, 6189), (247, 6261),

Gene: Crestdrop\_12 Start: 4416, Stop: 6017, Start Num: 11

Candidate Starts for Crestdrop\_12:

(Start: 11 @4416 has 94 MA's), (17, 4449), (32, 4539), (35, 4572), (47, 4674), (50, 4683), (69, 4800), (95, 4971), (97, 4974), (102, 5001), (115, 5094), (144, 5274), (145, 5277), (153, 5328), (155, 5340), (158, 5367), (170, 5472), (174, 5502), (179, 5541), (184, 5565), (203, 5664), (213, 5712), (214, 5721), (220, 5736), (229, 5793), (241, 5841), (247, 5865),

Gene: Cuke\_3 Start: 1876, Stop: 3432, Start Num: 11

Candidate Starts for Cuke\_3:

(4, 1795), (Start: 5 @1828 has 1 MA's), (6, 1849), (Start: 11 @1876 has 94 MA's), (26, 1960), (29, 1975), (36, 2038), (38, 2068), (64, 2167), (70, 2230), (93, 2380), (128, 2557), (131, 2569), (143, 2662), (147, 2683), (148, 2695), (151, 2719), (161, 2800), (174, 2899), (175, 2914), (178, 2929), (179, 2938), (183, 2959), (185, 2965), (187, 2986), (189, 2998), (209, 3088), (210, 3106), (224, 3151), (226, 3157), (231, 3193), (234, 3208), (256, 3286), (283, 3415), (284, 3418), (286, 3421),

Gene: Cybele\_13 Start: 4785, Stop: 6386, Start Num: 11

Candidate Starts for Cybele\_13:

(Start: 11 @4785 has 94 MA's), (17, 4818), (32, 4908), (35, 4941), (47, 5043), (50, 5052), (69, 5169), (95, 5340), (97, 5343), (102, 5370), (115, 5463), (144, 5643), (145, 5646), (153, 5697), (155, 5709), (158, 5736), (170, 5841), (174, 5871), (179, 5910), (184, 5934), (203, 6033), (214, 6090), (229, 6162), (247, 6234),

Gene: Damien\_5 Start: 3872, Stop: 5485, Start Num: 11

Candidate Starts for Damien\_5:

(Start: 5 @3824 has 1 MA's), (Start: 11 @3872 has 94 MA's), (15, 3896), (26, 3944), (45, 4106), (60, 4166), (61, 4172), (74, 4265), (76, 4271), (92, 4391), (95, 4403), (106, 4463), (118, 4550), (121, 4568), (128, 4598), (142, 4694), (152, 4763), (154, 4772), (155, 4778), (160, 4829), (163, 4856), (167, 4892), (169, 4901), (172, 4931), (174, 4940), (179, 4982), (182, 4997), (185, 5009), (189, 5042), (197, 5078), (198, 5084), (202, 5096), (203, 5105), (208, 5126), (210, 5150), (224, 5195), (228, 5228), (229, 5231), (230, 5234), (237, 5267), (240, 5273), (249, 5315), (253, 5321), (256, 5333), (266, 5372), (283, 5471), (286, 5477),

Gene: DannyDe\_12 Start: 4534, Stop: 6135, Start Num: 11

Candidate Starts for DannyDe\_12:

(Start: 11 @4534 has 94 MA's), (17, 4567), (32, 4657), (35, 4690), (47, 4792), (50, 4801), (69, 4918), (95, 5089), (97, 5092), (102, 5119), (115, 5212), (144, 5392), (145, 5395), (153, 5446), (155, 5458), (158, 5485), (170, 5590), (174, 5620), (179, 5659), (180, 5665), (184, 5683), (202, 5773), (203, 5782), (214, 5839), (225, 5875), (229, 5911), (247, 5983),

Gene: Dauntless\_12 Start: 4535, Stop: 6136, Start Num: 11

Candidate Starts for Dauntless\_12:

(Start: 11 @4535 has 94 MA's), (17, 4568), (32, 4658), (35, 4691), (47, 4793), (50, 4802), (69, 4919), (95, 5090), (97, 5093), (102, 5120), (115, 5213), (144, 5393), (145, 5396), (153, 5447), (155, 5459), (158, 5486), (170, 5591), (174, 5621), (179, 5660), (180, 5666), (184, 5684), (201, 5771), (203, 5783), (214, 5840), (229, 5912), (247, 5984),

Gene: DaviePasture\_3 Start: 1709, Stop: 3334, Start Num: 8

Candidate Starts for DaviePasture\_3:

(Start: 8 @1709 has 42 MA's), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (240, 3134), (246, 3158), (258, 3206), (264, 3227), (275, 3284),

Gene: Delton\_9 Start: 6400, Stop: 7983, Start Num: 11

Candidate Starts for Delton\_9:

(Start: 11 @6400 has 94 MA's), (32, 6523), (34, 6553), (36, 6559), (38, 6598), (42, 6631), (74, 6778), (79, 6829), (82, 6838), (88, 6889), (90, 6898), (92, 6904), (93, 6907), (107, 6973), (137, 7156), (139, 7183), (140, 7192), (144, 7228), (148, 7252), (150, 7273), (151, 7276), (159, 7339), (160, 7342), (163, 7369), (172, 7444), (175, 7465), (181, 7504), (182, 7507), (201, 7603), (206, 7630), (210, 7660), (228, 7750), (229, 7753), (245, 7816), (270, 7918), (278, 7978),

Gene: Demikore\_7 Start: 4313, Stop: 5941, Start Num: 11

Candidate Starts for Demikore\_7:

(Start: 11 @4313 has 94 MA's), (16, 4343), (38, 4493), (71, 4670), (81, 4742), (95, 4817), (121, 4982), (125, 5012), (131, 5033), (134, 5051), (155, 5201), (159, 5249), (170, 5333), (172, 5354), (175, 5375), (183, 5423), (188, 5456), (191, 5471), (203, 5525), (208, 5546), (218, 5594), (222, 5612), (224, 5633), (231, 5675), (237, 5705), (242, 5720), (244, 5729), (251, 5771), (259, 5795), (260, 5798), (269, 5831), (286, 5930),

Gene: Djokovic\_2 Start: 1538, Stop: 3241, Start Num: 9

Candidate Starts for Djokovic\_2:

(Start: 9 @1538 has 9 MA's), (24, 1619), (27, 1640), (32, 1676), (38, 1748), (40, 1769), (41, 1778), (63, 1871), (65, 1877), (67, 1904), (108, 2177), (113, 2225), (119, 2276), (128, 2324), (147, 2450), (152, 2489), (164, 2582), (175, 2675), (202, 2816), (203, 2825), (205, 2837), (223, 2903), (224, 2915),

Gene: DoobyDoo\_3 Start: 1706, Stop: 3328, Start Num: 8

Candidate Starts for DoobyDoo\_3:

(Start: 8 @1706 has 42 MA's), (41, 1946), (59, 2048), (110, 2348), (128, 2462), (135, 2495), (144, 2576), (149, 2615), (150, 2621), (151, 2624), (152, 2627), (155, 2642), (158, 2669), (161, 2702), (169, 2762), (170, 2771), (173, 2798), (174, 2801), (179, 2840), (186, 2870), (187, 2888), (188, 2894), (195, 2927), (203, 2963), (207, 2981), (224, 3053), (226, 3059), (229, 3089), (231, 3095), (240, 3131), (258, 3203),

Gene: DrLupo\_7 Start: 4322, Stop: 6010, Start Num: 11

Candidate Starts for DrLupo\_7:

(Start: 11 @4322 has 94 MA's), (34, 4469), (38, 4505), (63, 4616), (71, 4685), (92, 4820), (136, 5075), (137, 5081), (142, 5135), (143, 5144), (155, 5219), (162, 5291), (169, 5351), (172, 5381), (201, 5543), (202, 5546), (203, 5555), (208, 5576), (221, 5666), (224, 5690), (229, 5726), (234, 5747), (237, 5762), (258, 5852), (259, 5855), (266, 5885), (269, 5891), (286, 5999),

Gene: DumpTruck\_3 Start: 1712, Stop: 3340, Start Num: 8

Candidate Starts for DumpTruck\_3:

(Start: 8 @1712 has 42 MA's), (37, 1910), (54, 2030), (59, 2054), (67, 2102), (71, 2138), (109, 2351), (147, 2594), (152, 2633), (155, 2648), (167, 2759), (169, 2768), (173, 2804), (179, 2846), (185, 2873), (188, 2900), (195, 2933), (203, 2969), (214, 3029), (218, 3038), (224, 3059), (226, 3065), (240, 3137), (243, 3152), (246, 3161), (258, 3209), (275, 3287),

Gene: Erk16\_9 Start: 6400, Stop: 7983, Start Num: 11

Candidate Starts for Erk16\_9:

(Start: 11 @6400 has 94 MA's), (32, 6523), (34, 6553), (36, 6559), (38, 6598), (42, 6631), (74, 6778), (79, 6829), (82, 6838), (88, 6889), (90, 6898), (92, 6904), (93, 6907), (107, 6973), (137, 7156), (139, 7183), (140, 7192), (144, 7228), (148, 7252), (150, 7273), (151, 7276), (159, 7339), (160, 7342), (163, 7369), (172, 7444), (175, 7465), (181, 7504), (182, 7507), (201, 7603), (206, 7630), (210, 7660), (229, 7753), (231, 7759), (245, 7816), (270, 7918), (278, 7978),

Gene: Erudite\_12 Start: 4535, Stop: 6136, Start Num: 11

Candidate Starts for Erudite\_12:

(Start: 11 @4535 has 94 MA's), (17, 4568), (32, 4658), (35, 4691), (47, 4793), (50, 4802), (69, 4919), (95, 5090), (97, 5093), (102, 5120), (115, 5213), (144, 5393), (145, 5396), (153, 5447), (155, 5459), (158, 5486), (170, 5591), (174, 5621), (179, 5660), (180, 5666), (184, 5684), (201, 5771), (203, 5783), (214, 5840), (229, 5912), (247, 5984),

Gene: Erutan\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Erutan\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206),

Gene: FountainFog\_12 Start: 4542, Stop: 6143, Start Num: 11

Candidate Starts for FountainFog\_12:

(Start: 11 @4542 has 94 MA's), (17, 4575), (32, 4665), (35, 4698), (43, 4773), (50, 4809), (79, 5007), (88, 5070), (97, 5100), (115, 5220), (144, 5400), (145, 5403), (153, 5454), (155, 5466), (158, 5493), (164, 5547), (170, 5598), (174, 5628), (179, 5667), (184, 5691), (203, 5790), (214, 5847), (229, 5919), (247, 5991),

Gene: Fowlmouth\_3 Start: 1861, Stop: 3411, Start Num: 11

Candidate Starts for Fowlmouth\_3:

(Start: 11 @1861 has 94 MA's), (26, 1945), (36, 2023), (43, 2095), (64, 2152), (73, 2233), (131, 2554), (143, 2647), (148, 2680), (151, 2704), (152, 2707), (154, 2716), (165, 2809), (174, 2884), (175, 2899),

(179, 2923), (187, 2971), (189, 2983), (197, 3019), (205, 3058), (210, 3091), (224, 3136), (235, 3199), (283, 3394), (284, 3397),

Gene: FreddieHg\_12 Start: 4556, Stop: 6157, Start Num: 11

Candidate Starts for FreddieHg\_12:

(Start: 11 @4556 has 94 MA's), (17, 4589), (32, 4679), (35, 4712), (47, 4814), (50, 4823), (69, 4940), (95, 5111), (97, 5114), (102, 5141), (115, 5234), (144, 5414), (145, 5417), (153, 5468), (155, 5480), (158, 5507), (170, 5612), (174, 5642), (179, 5681), (180, 5687), (184, 5705), (203, 5804), (214, 5861), (229, 5933), (241, 5981), (247, 6005),

Gene: Fulcrum\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Fulcrum\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (178, 2834), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (268, 3242),

Gene: GOATification\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for GOATification\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (178, 2834), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (268, 3242),

Gene: Genamy16\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for Genamy16\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: Gibbin\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Gibbin\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (74, 2153), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (243, 3149), (258, 3206),

Gene: Gilda\_13 Start: 4809, Stop: 6410, Start Num: 11

Candidate Starts for Gilda\_13:

(Start: 11 @4809 has 94 MA's), (17, 4842), (32, 4932), (35, 4965), (47, 5067), (50, 5076), (69, 5193), (95, 5364), (97, 5367), (102, 5394), (115, 5487), (144, 5667), (145, 5670), (153, 5721), (155, 5733), (158, 5760), (170, 5865), (174, 5895), (179, 5934), (184, 5958), (203, 6057), (214, 6114), (229, 6186), (247, 6258),

Gene: Giuseppe\_9 Start: 6383, Stop: 7966, Start Num: 11

Candidate Starts for Giuseppe\_9:

(Start: 11 @6383 has 94 MA's), (32, 6506), (34, 6536), (36, 6542), (38, 6581), (42, 6614), (74, 6761), (79, 6812), (82, 6821), (88, 6872), (90, 6881), (92, 6887), (93, 6890), (107, 6956), (137, 7139), (139, 7166), (140, 7175), (148, 7235), (150, 7256), (151, 7259), (159, 7322), (160, 7325), (163, 7352), (172, 7427), (175, 7448), (181, 7487), (182, 7490), (201, 7586), (206, 7613), (210, 7643), (228, 7733), (229, 7736), (245, 7799), (270, 7901), (278, 7961),

Gene: Gretellyn\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Gretellyn\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (74, 2153), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (178, 2834), (179, 2843), (180, 2849), (182, 2858), (187, 2891), (188, 2897), (195, 2930), (207, 2984), (224, 3056), (229, 3092), (235, 3119), (240, 3134), (258, 3206),

Gene: Gumball\_8 Start: 6338, Stop: 7921, Start Num: 11

Candidate Starts for Gumball\_8:

(Start: 11 @6338 has 94 MA's), (32, 6461), (34, 6491), (36, 6497), (38, 6536), (42, 6569), (74, 6716), (79, 6767), (82, 6776), (88, 6827), (90, 6836), (92, 6842), (93, 6845), (107, 6911), (137, 7094), (139, 7121), (140, 7130), (144, 7166), (148, 7190), (150, 7211), (151, 7214), (159, 7277), (160, 7280), (163, 7307), (172, 7382), (175, 7403), (181, 7442), (182, 7445), (201, 7541), (206, 7568), (210, 7598), (229, 7691), (231, 7697), (245, 7754), (270, 7856), (278, 7916),

Gene: Hager\_13 Start: 4798, Stop: 6405, Start Num: 11

Candidate Starts for Hager\_13:

(Start: 11 @4798 has 94 MA's), (17, 4831), (32, 4921), (35, 4954), (43, 5029), (50, 5065), (69, 5182), (77, 5221), (79, 5263), (88, 5326), (97, 5356), (115, 5476), (144, 5656), (145, 5659), (153, 5710), (155, 5722), (158, 5749), (170, 5854), (174, 5884), (179, 5923), (203, 6046), (214, 6103), (220, 6118), (229, 6175), (239, 6217), (247, 6247), (262, 6301),

Gene: Haunter\_13 Start: 4759, Stop: 6360, Start Num: 11

Candidate Starts for Haunter\_13:

(Start: 11 @4759 has 94 MA's), (17, 4792), (32, 4882), (35, 4915), (47, 5017), (50, 5026), (69, 5143), (95, 5314), (97, 5317), (102, 5344), (115, 5437), (144, 5617), (145, 5620), (153, 5671), (155, 5683), (158, 5710), (170, 5815), (174, 5845), (179, 5884), (180, 5890), (184, 5908), (203, 6007), (214, 6064), (229, 6136), (241, 6184), (247, 6208),

Gene: Hawkeye\_10 Start: 6069, Stop: 7664, Start Num: 11

Candidate Starts for Hawkeye\_10:

(Start: 11 @6069 has 94 MA's), (38, 6267), (42, 6300), (45, 6321), (76, 6453), (80, 6501), (89, 6561), (107, 6639), (126, 6774), (139, 6849), (144, 6894), (147, 6906), (148, 6918), (150, 6939), (163, 7035), (166, 7062), (170, 7089), (172, 7110), (175, 7131), (185, 7185), (189, 7218), (197, 7254), (206, 7296), (209, 7308), (219, 7353), (221, 7365), (228, 7416), (229, 7419), (231, 7425), (245, 7482), (257, 7539), (270, 7572), (272, 7590), (279, 7638), (281, 7653),

Gene: Helpful\_9 Start: 6391, Stop: 7974, Start Num: 11

Candidate Starts for Helpful\_9:

(Start: 11 @6391 has 94 MA's), (32, 6514), (34, 6544), (36, 6550), (38, 6589), (42, 6622), (74, 6769), (79, 6820), (82, 6829), (88, 6880), (90, 6889), (92, 6895), (93, 6898), (107, 6964), (137, 7147), (139, 7174), (140, 7183), (144, 7219), (148, 7243), (150, 7264), (151, 7267), (159, 7330), (160, 7333), (163, 7360), (172, 7435), (175, 7456), (181, 7495), (182, 7498), (201, 7594), (206, 7621), (210, 7651), (228, 7741), (229, 7744), (245, 7807), (270, 7909), (278, 7969),

Gene: Hiddenleaf\_12 Start: 4543, Stop: 6144, Start Num: 11

Candidate Starts for Hiddenleaf\_12:

(Start: 11 @4543 has 94 MA's), (17, 4576), (32, 4666), (35, 4699), (47, 4801), (50, 4810), (69, 4927), (95, 5098), (97, 5101), (102, 5128), (115, 5221), (144, 5401), (145, 5404), (153, 5455), (155, 5467), (158, 5494), (170, 5599), (174, 5629), (179, 5668), (180, 5674), (203, 5791), (214, 5848), (229, 5920), (247, 5992),

Gene: Huwburt\_36 Start: 17137, Stop: 18726, Start Num: 12

Candidate Starts for Huwbert\_36:

(Start: 12 @17137 has 2 MA's), (23, 17197), (25, 17206), (32, 17257), (36, 17293), (38, 17320), (77, 17503), (79, 17545), (88, 17605), (117, 17767), (146, 17938), (161, 18067), (163, 18082), (164, 18085), (167, 18118), (169, 18127), (171, 18148), (175, 18178), (190, 18268), (203, 18328), (209, 18352), (226, 18418), (232, 18454), (242, 18499), (263, 18580), (265, 18589),

Gene: Indlulamithi\_2 Start: 1710, Stop: 3257, Start Num: 11

Candidate Starts for Indlulamithi\_2:

(Start: 11 @1710 has 94 MA's), (28, 1800), (30, 1809), (44, 1947), (71, 2064), (73, 2079), (83, 2157), (92, 2208), (95, 2220), (105, 2271), (121, 2376), (127, 2394), (137, 2439), (141, 2484), (142, 2493), (147, 2523), (151, 2559), (152, 2562), (154, 2571), (156, 2583), (163, 2655), (165, 2664), (174, 2739), (178, 2763), (179, 2772), (187, 2820), (189, 2832), (210, 2940), (224, 2985), (234, 3042), (238, 3060), (256, 3120), (276, 3195), (279, 3219), (283, 3246), (284, 3249),

Gene: JDawG\_12 Start: 4600, Stop: 6201, Start Num: 11

Candidate Starts for JDawG\_12:

(Start: 11 @4600 has 94 MA's), (17, 4633), (32, 4723), (35, 4756), (47, 4858), (50, 4867), (69, 4984), (95, 5155), (97, 5158), (101, 5179), (102, 5185), (115, 5278), (144, 5458), (145, 5461), (153, 5512), (155, 5524), (158, 5551), (170, 5656), (174, 5686), (179, 5725), (184, 5749), (201, 5836), (203, 5848), (214, 5905), (229, 5977), (247, 6049),

Gene: Jalebi\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Jalebi\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (246, 3158), (258, 3206), (268, 3242),

Gene: Jamemuya19\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for Jamemuya19\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206),

Gene: JingleBells\_12 Start: 4612, Stop: 6213, Start Num: 11

Candidate Starts for JingleBells\_12:

(Start: 11 @4612 has 94 MA's), (17, 4645), (32, 4735), (35, 4768), (47, 4870), (50, 4879), (69, 4996), (95, 5167), (97, 5170), (102, 5197), (115, 5290), (144, 5470), (145, 5473), (153, 5524), (155, 5536), (158, 5563), (170, 5668), (174, 5698), (179, 5737), (180, 5743), (184, 5761), (203, 5860), (214, 5917), (229, 5989), (247, 6061),

Gene: KandZ\_9 Start: 6488, Stop: 8071, Start Num: 11

Candidate Starts for KandZ\_9:

(Start: 11 @6488 has 94 MA's), (32, 6611), (34, 6641), (36, 6647), (38, 6686), (42, 6719), (79, 6917), (82, 6926), (88, 6977), (90, 6986), (92, 6992), (93, 6995), (107, 7061), (137, 7244), (139, 7271), (140, 7280), (144, 7316), (148, 7340), (150, 7361), (151, 7364), (159, 7427), (160, 7430), (163, 7457), (172, 7532), (175, 7553), (181, 7592), (182, 7595), (201, 7691), (205, 7715), (206, 7718), (210, 7748), (229, 7841), (231, 7847), (245, 7904), (270, 8006), (278, 8066),

Gene: Karate\_12 Start: 4764, Stop: 6365, Start Num: 11

Candidate Starts for Karate\_12:

(Start: 11 @4764 has 94 MA's), (17, 4797), (32, 4887), (35, 4920), (47, 5022), (50, 5031), (69, 5148), (95, 5319), (97, 5322), (102, 5349), (115, 5442), (144, 5622), (145, 5625), (153, 5676), (155, 5688), (158, 5715), (170, 5820), (174, 5850), (179, 5889), (184, 5913), (201, 6000), (203, 6012), (214, 6069), (229, 6141), (247, 6213),

Gene: Kate\_13 Start: 4817, Stop: 6418, Start Num: 11

Candidate Starts for Kate\_13:

(Start: 11 @4817 has 94 MA's), (17, 4850), (32, 4940), (35, 4973), (47, 5075), (50, 5084), (69, 5201), (95, 5372), (97, 5375), (102, 5402), (115, 5495), (144, 5675), (145, 5678), (153, 5729), (155, 5741), (158, 5768), (170, 5873), (174, 5903), (179, 5942), (184, 5966), (203, 6065), (214, 6122), (229, 6194), (247, 6266),

Gene: Konstantine\_7 Start: 4636, Stop: 6252, Start Num: 10

Candidate Starts for Konstantine\_7:

(Start: 10 @4636 has 1 MA's), (26, 4711), (45, 4873), (60, 4933), (61, 4939), (74, 5032), (76, 5038), (92, 5158), (95, 5170), (121, 5335), (128, 5365), (142, 5461), (152, 5530), (154, 5539), (155, 5545), (160, 5596), (163, 5623), (167, 5659), (169, 5668), (172, 5698), (174, 5707), (179, 5749), (182, 5764), (185, 5776), (189, 5809), (197, 5845), (198, 5851), (202, 5863), (203, 5872), (208, 5893), (210, 5917), (224, 5962), (228, 5995), (229, 5998), (237, 6034), (240, 6040), (249, 6082), (253, 6088), (256, 6100), (266, 6139), (283, 6238), (286, 6244),

Gene: Kors\_13 Start: 4683, Stop: 6284, Start Num: 11

Candidate Starts for Kors\_13:

(Start: 11 @4683 has 94 MA's), (17, 4722), (21, 4740), (29, 4782), (32, 4809), (35, 4842), (62, 5010), (63, 5013), (69, 5070), (77, 5109), (79, 5151), (88, 5214), (96, 5244), (102, 5277), (114, 5364), (122, 5424), (153, 5598), (155, 5610), (168, 5727), (172, 5763), (177, 5796), (179, 5811), (194, 5892), (201, 5922), (203, 5934), (229, 6063), (239, 6105), (241, 6111),

Gene: Krampus\_13 Start: 4815, Stop: 6416, Start Num: 11

Candidate Starts for Krampus\_13:

(Start: 11 @4815 has 94 MA's), (17, 4848), (32, 4938), (35, 4971), (47, 5073), (50, 5082), (69, 5199), (95, 5370), (97, 5373), (102, 5400), (115, 5493), (144, 5673), (145, 5676), (153, 5727), (155, 5739), (158, 5766), (170, 5871), (174, 5901), (179, 5940), (180, 5946), (184, 5964), (203, 6063), (214, 6120), (229, 6192), (247, 6264),

Gene: Labelle\_7 Start: 4712, Stop: 6340, Start Num: 11

Candidate Starts for Labelle\_7:

(Start: 11 @4712 has 94 MA's), (16, 4742), (31, 4814), (38, 4892), (71, 5069), (81, 5141), (95, 5216), (121, 5381), (125, 5411), (131, 5432), (134, 5450), (155, 5600), (159, 5648), (170, 5732), (172, 5753), (175, 5774), (188, 5855), (191, 5870), (203, 5924), (208, 5945), (218, 5993), (222, 6011), (224, 6032), (231, 6074), (237, 6104), (242, 6119), (244, 6128), (251, 6170), (259, 6194), (260, 6197), (269, 6230), (286, 6329),

Gene: Lambo\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Lambo\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: LavAbarElk\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for LavAbarElk\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (268, 3242),

Gene: Leopard\_19 Start: 12174, Stop: 13835, Start Num: 8

Candidate Starts for Leopard\_19:

(Start: 8 @12174 has 42 MA's), (38, 12381), (56, 12480), (63, 12510), (66, 12531), (68, 12570), (70, 12582), (72, 12588), (82, 12663), (85, 12696), (93, 12729), (104, 12792), (110, 12819), (116, 12888), (120, 12924), (122, 12930), (131, 12957), (136, 12981), (147, 13071), (149, 13098), (165, 13209), (169, 13245), (175, 13296), (177, 13308), (178, 13314), (181, 13335), (182, 13338), (201, 13434), (204, 13449), (216, 13506), (224, 13533), (243, 13623), (255, 13674), (261, 13686), (274, 13746), (275, 13758),

Gene: Lila22\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Lila22\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (246, 3158), (258, 3206), (268, 3242),

Gene: LilyPad\_2 Start: 1521, Stop: 3209, Start Num: 9

Candidate Starts for LilyPad\_2:

(Start: 9 @1521 has 9 MA's), (32, 1659), (38, 1731), (41, 1761), (63, 1845), (65, 1851), (74, 1932), (84, 2019), (88, 2043), (94, 2067), (99, 2106), (108, 2151), (111, 2178), (119, 2253), (128, 2301), (147, 2427), (152, 2466), (155, 2481), (156, 2487), (163, 2556), (167, 2592), (170, 2610), (175, 2652), (182, 2694), (202, 2793), (210, 2847), (223, 2880), (224, 2892), (231, 2934), (234, 2949), (251, 3024),

Gene: LittleFella\_2 Start: 1591, Stop: 3249, Start Num: 9

Candidate Starts for LittleFella\_2:

(Start: 9 @1591 has 9 MA's), (13, 1603), (19, 1651), (32, 1729), (38, 1795), (40, 1816), (41, 1825), (48, 1861), (51, 1864), (63, 1903), (74, 1990), (93, 2119), (94, 2125), (95, 2128), (119, 2305), (128, 2353), (129, 2359), (132, 2368), (137, 2395), (138, 2419), (150, 2509), (151, 2512), (152, 2515), (155, 2530), (158, 2557), (163, 2605), (164, 2608), (167, 2641), (169, 2650), (170, 2659), (182, 2743), (183, 2749), (185, 2755), (202, 2842), (203, 2851), (206, 2866), (208, 2872), (215, 2914), (224, 2944), (236, 3010), (277, 3196), (287, 3244),

Gene: LordBart\_13 Start: 4656, Stop: 6257, Start Num: 11

Candidate Starts for LordBart\_13:

(Start: 11 @4656 has 94 MA's), (17, 4695), (21, 4713), (29, 4755), (32, 4782), (35, 4815), (62, 4983), (63, 4986), (69, 5043), (77, 5082), (79, 5124), (88, 5187), (96, 5217), (102, 5250), (111, 5301), (114, 5337), (122, 5397), (148, 5541), (150, 5562), (153, 5571), (155, 5583), (172, 5736), (177, 5769), (179, 5784), (194, 5865), (201, 5895), (203, 5907), (229, 6036), (239, 6078), (241, 6084), (250, 6126),

Gene: LuckyLeo\_2 Start: 1553, Stop: 3178, Start Num: 8

Candidate Starts for LuckyLeo\_2:

(Start: 8 @1553 has 42 MA's), (41, 1793), (59, 1895), (67, 1943), (71, 1979), (110, 2195), (135, 2342), (144, 2423), (149, 2462), (150, 2468), (151, 2471), (152, 2474), (155, 2489), (158, 2516), (161, 2549), (163, 2564), (173, 2645), (179, 2687), (186, 2717), (187, 2735), (188, 2741), (195, 2774), (203, 2810), (207, 2828), (219, 2882), (224, 2900), (226, 2906), (229, 2936), (240, 2978), (246, 3002), (258, 3050), (264, 3071), (275, 3128),

Gene: Madi\_2 Start: 1538, Stop: 3241, Start Num: 9

Candidate Starts for Madi\_2:

(Start: 9 @1538 has 9 MA's), (24, 1619), (27, 1640), (32, 1676), (38, 1748), (40, 1769), (41, 1778), (63, 1871), (65, 1877), (67, 1904), (108, 2177), (113, 2225), (119, 2276), (128, 2324), (147, 2450), (152, 2489), (164, 2582), (175, 2675), (202, 2816), (203, 2825), (205, 2837), (223, 2903), (224, 2915),

Gene: Madruga\_6 Start: 4313, Stop: 5944, Start Num: 11

Candidate Starts for Madruga\_6:

(Start: 11 @4313 has 94 MA's), (16, 4346), (38, 4496), (44, 4544), (71, 4673), (81, 4745), (95, 4820), (121, 4985), (125, 5015), (131, 5036), (134, 5054), (136, 5060), (155, 5204), (159, 5252), (170, 5336), (172, 5357), (175, 5378), (183, 5426), (188, 5459), (191, 5474), (203, 5528), (208, 5549), (218, 5597), (222, 5615), (224, 5636), (231, 5678), (237, 5708), (242, 5723), (244, 5732), (251, 5774), (259, 5798), (260, 5801), (269, 5834), (286, 5933),

Gene: Megatron06\_6 Start: 4407, Stop: 6020, Start Num: 11

Candidate Starts for Megatron06\_6:

(Start: 5 @4359 has 1 MA's), (Start: 11 @4407 has 94 MA's), (15, 4431), (26, 4479), (45, 4641), (60, 4701), (61, 4707), (74, 4800), (76, 4806), (92, 4926), (95, 4938), (121, 5103), (128, 5133), (142, 5229), (152, 5298), (154, 5307), (155, 5313), (160, 5364), (163, 5391), (167, 5427), (169, 5436), (172, 5466), (174, 5475), (179, 5517), (182, 5532), (185, 5544), (189, 5577), (197, 5613), (198, 5619), (202, 5631), (203, 5640), (208, 5661), (210, 5685), (224, 5730), (228, 5763), (229, 5766), (230, 5769), (237, 5802), (240, 5808), (249, 5850), (253, 5856), (256, 5868), (266, 5907), (283, 6006), (286, 6012),

Gene: Mima20\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Mima20\_3:

(Start: 8 @1709 has 42 MA's), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (240, 3134), (246, 3158), (258, 3206),

Gene: MoiGyank\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for MoiGyank\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (228, 3089), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (268, 3242),

Gene: MontyDev\_7 Start: 3649, Stop: 5190, Start Num: 11

Candidate Starts for MontyDev\_7:

(Start: 11 @3649 has 94 MA's), (26, 3733), (29, 3748), (36, 3811), (71, 4006), (82, 4084), (88, 4126), (93, 4144), (95, 4153), (105, 4204), (123, 4318), (124, 4327), (128, 4339), (137, 4381), (142, 4435), (151, 4501), (155, 4519), (156, 4525), (163, 4594), (164, 4597), (169, 4639), (170, 4648), (172, 4669), (174, 4678), (179, 4717), (183, 4738), (189, 4777), (209, 4867), (220, 4915), (224, 4930), (242, 5017), (270, 5098), (285, 5185),

Gene: Mopey\_9 Start: 6391, Stop: 7974, Start Num: 11

Candidate Starts for Mopey\_9:

(Start: 11 @6391 has 94 MA's), (32, 6514), (34, 6544), (36, 6550), (38, 6589), (42, 6622), (74, 6769), (79, 6820), (82, 6829), (88, 6880), (90, 6889), (92, 6895), (93, 6898), (107, 6964), (137, 7147), (139, 7174), (140, 7183), (148, 7243), (150, 7264), (151, 7267), (159, 7330), (160, 7333), (163, 7360), (172, 7435), (175, 7456), (181, 7495), (182, 7498), (201, 7594), (206, 7621), (210, 7651), (228, 7741), (229, 7744), (245, 7807), (270, 7909), (278, 7969),

Gene: MortySmith\_12 Start: 4517, Stop: 6118, Start Num: 11

Candidate Starts for MortySmith\_12:

(Start: 11 @4517 has 94 MA's), (17, 4550), (32, 4640), (35, 4673), (47, 4775), (50, 4784), (69, 4901), (95, 5072), (97, 5075), (101, 5096), (102, 5102), (115, 5195), (144, 5375), (145, 5378), (153, 5429), (155, 5441), (158, 5468), (170, 5573), (174, 5603), (179, 5642), (184, 5666), (201, 5753), (203, 5765), (214, 5822), (229, 5894), (247, 5966),

Gene: MrMiyagi\_3 Start: 1861, Stop: 3411, Start Num: 11

Candidate Starts for MrMiyagi\_3:

(Start: 11 @1861 has 94 MA's), (26, 1945), (36, 2023), (43, 2095), (64, 2152), (73, 2233), (131, 2554), (143, 2647), (148, 2680), (151, 2704), (152, 2707), (154, 2716), (165, 2809), (174, 2884), (175, 2899), (179, 2923), (187, 2971), (189, 2983), (197, 3019), (205, 3058), (210, 3091), (224, 3136), (235, 3199), (283, 3394), (284, 3397),

Gene: NarutoRun\_13 Start: 4820, Stop: 6421, Start Num: 11

Candidate Starts for NarutoRun\_13:

(Start: 11 @4820 has 94 MA's), (17, 4853), (32, 4943), (35, 4976), (47, 5078), (50, 5087), (69, 5204), (77, 5243), (95, 5375), (97, 5378), (115, 5498), (144, 5678), (145, 5681), (153, 5732), (155, 5744), (158, 5771), (170, 5876), (174, 5906), (179, 5945), (180, 5951), (184, 5969), (201, 6056), (203, 6068), (205, 6080), (214, 6125), (229, 6197), (247, 6269),

Gene: Neptune\_13 Start: 4785, Stop: 6386, Start Num: 11

Candidate Starts for Neptune\_13:

(Start: 11 @4785 has 94 MA's), (17, 4818), (32, 4908), (35, 4941), (47, 5043), (50, 5052), (69, 5169), (95, 5340), (97, 5343), (102, 5370), (115, 5463), (144, 5643), (145, 5646), (153, 5697), (155, 5709), (158, 5736), (170, 5841), (174, 5871), (179, 5910), (184, 5934), (203, 6033), (214, 6090), (229, 6162), (247, 6234),

Gene: Nilo\_7 Start: 3650, Stop: 5191, Start Num: 11

Candidate Starts for Nilo\_7:

(Start: 11 @3650 has 94 MA's), (26, 3734), (29, 3749), (36, 3812), (71, 4007), (82, 4085), (88, 4127), (93, 4145), (95, 4154), (105, 4205), (123, 4319), (124, 4328), (128, 4340), (137, 4382), (142, 4436), (151, 4502), (155, 4520), (156, 4526), (163, 4595), (164, 4598), (169, 4640), (170, 4649), (172, 4670), (174, 4679), (179, 4718), (183, 4739), (189, 4778), (209, 4868), (220, 4916), (224, 4931), (228, 4964), (242, 5018), (270, 5099), (285, 5186),

Gene: Nish23\_5 Start: 3872, Stop: 5485, Start Num: 11

Candidate Starts for Nish23\_5:

(Start: 5 @3824 has 1 MA's), (Start: 11 @3872 has 94 MA's), (15, 3896), (26, 3944), (45, 4106), (60, 4166), (61, 4172), (74, 4265), (76, 4271), (92, 4391), (95, 4403), (106, 4463), (118, 4550), (121, 4568), (128, 4598), (142, 4694), (152, 4763), (154, 4772), (155, 4778), (160, 4829), (163, 4856), (167, 4892), (169, 4901), (172, 4931), (174, 4940), (179, 4982), (182, 4997), (185, 5009), (189, 5042), (197, 5078), (198, 5084), (202, 5096), (203, 5105), (208, 5126), (210, 5150), (224, 5195), (228, 5228), (229, 5231), (230, 5234), (237, 5267), (240, 5273), (249, 5315), (253, 5321), (256, 5333), (266, 5372), (283, 5471), (286, 5477),

Gene: NorManre\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for NorManre\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (74, 2153), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (240, 3134), (246, 3158), (252, 3185), (258, 3206),

Gene: Nova\_9 Start: 6815, Stop: 8398, Start Num: 11

Candidate Starts for Nova\_9:

(Start: 11 @6815 has 94 MA's), (32, 6938), (34, 6968), (36, 6974), (38, 7013), (42, 7046), (74, 7193), (79, 7244), (88, 7304), (90, 7313), (92, 7319), (93, 7322), (107, 7388), (137, 7571), (139, 7598), (140, 7607), (144, 7643), (148, 7667), (150, 7688), (151, 7691), (159, 7754), (160, 7757), (163, 7784), (172, 7859), (175, 7880), (181, 7919), (182, 7922), (201, 8018), (206, 8045), (210, 8075), (229, 8168), (231, 8174), (245, 8231), (270, 8333), (278, 8393),

Gene: NovaSharks\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for NovaSharks\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: Oaker\_6 Start: 4128, Stop: 5741, Start Num: 11

Candidate Starts for Oaker\_6:

(Start: 5 @4080 has 1 MA's), (Start: 11 @4128 has 94 MA's), (15, 4152), (26, 4200), (45, 4362), (60, 4422), (61, 4428), (74, 4521), (76, 4527), (92, 4647), (95, 4659), (118, 4806), (121, 4824), (128, 4854), (142, 4950), (152, 5019), (154, 5028), (155, 5034), (160, 5085), (163, 5112), (167, 5148), (169, 5157), (172, 5187), (174, 5196), (179, 5238), (182, 5253), (185, 5265), (189, 5298), (197, 5334), (198, 5340), (202, 5352), (203, 5361), (208, 5382), (210, 5406), (224, 5451), (228, 5484), (229, 5487), (230, 5490), (237, 5523), (240, 5529), (249, 5571), (253, 5577), (256, 5589), (266, 5628), (283, 5727), (286, 5733),

Gene: OhDear\_13 Start: 4814, Stop: 6415, Start Num: 11

Candidate Starts for OhDear\_13:

(Start: 11 @4814 has 94 MA's), (17, 4847), (32, 4937), (35, 4970), (47, 5072), (50, 5081), (69, 5198), (95, 5369), (97, 5372), (102, 5399), (115, 5492), (144, 5672), (145, 5675), (153, 5726), (155, 5738), (158, 5765), (170, 5870), (174, 5900), (179, 5939), (184, 5963), (203, 6062), (214, 6119), (229, 6191), (247, 6263),

Gene: Onyinye\_20 Start: 12055, Stop: 13716, Start Num: 8

Candidate Starts for Onyinye\_20:

(Start: 8 @12055 has 42 MA's), (38, 12262), (56, 12361), (63, 12391), (66, 12412), (68, 12451), (70, 12463), (72, 12469), (82, 12544), (85, 12577), (93, 12610), (104, 12673), (110, 12700), (116, 12769), (120, 12805), (122, 12811), (131, 12838), (136, 12862), (147, 12952), (149, 12979), (165, 13090), (169, 13126), (175, 13177), (177, 13189), (178, 13195), (181, 13216), (182, 13219), (201, 13315), (204, 13330), (216, 13387), (224, 13414), (243, 13504), (255, 13555), (261, 13567), (274, 13627), (275, 13639),

Gene: OtterstedtS21\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for OtterstedtS21\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (228, 3089), (229, 3092), (235, 3119), (240, 3134), (258, 3206),

Gene: OverHedge\_13 Start: 4782, Stop: 6383, Start Num: 11

Candidate Starts for OverHedge\_13:

(Start: 11 @4782 has 94 MA's), (17, 4815), (32, 4905), (35, 4938), (47, 5040), (50, 5049), (69, 5166), (95, 5337), (97, 5340), (102, 5367), (115, 5460), (144, 5640), (145, 5643), (153, 5694), (155, 5706), (158, 5733), (170, 5838), (174, 5868), (179, 5907), (180, 5913), (203, 6030), (214, 6087), (229, 6159), (247, 6231),

Gene: PBI1\_9 Start: 6328, Stop: 7911, Start Num: 11

Candidate Starts for PBI1\_9:

(Start: 11 @6328 has 94 MA's), (32, 6451), (34, 6481), (36, 6487), (38, 6526), (42, 6559), (74, 6706), (79, 6757), (82, 6766), (88, 6817), (90, 6826), (92, 6832), (93, 6835), (107, 6901), (137, 7084), (139, 7111), (140, 7120), (144, 7156), (148, 7180), (150, 7201), (151, 7204), (159, 7267), (160, 7270), (163, 7297), (172, 7372), (175, 7393), (181, 7432), (182, 7435), (201, 7531), (206, 7558), (210, 7588), (229, 7681), (231, 7687), (245, 7744), (270, 7846), (278, 7906),

Gene: PLOT\_9 Start: 6400, Stop: 7983, Start Num: 11

Candidate Starts for PLOT\_9:

(Start: 11 @6400 has 94 MA's), (32, 6523), (34, 6553), (36, 6559), (38, 6598), (42, 6631), (74, 6778), (79, 6829), (82, 6838), (88, 6889), (90, 6898), (92, 6904), (93, 6907), (107, 6973), (137, 7156), (139, 7183), (140, 7192), (144, 7228), (148, 7252), (150, 7273), (151, 7276), (159, 7339), (160, 7342), (163, 7369), (172, 7444), (175, 7465), (181, 7504), (182, 7507), (201, 7603), (206, 7630), (210, 7660), (228, 7750), (229, 7753), (245, 7816), (270, 7918), (278, 7978),

Gene: Papyrus\_7 Start: 3650, Stop: 5191, Start Num: 11

Candidate Starts for Papyrus\_7:

(Start: 11 @3650 has 94 MA's), (22, 3713), (26, 3734), (29, 3749), (36, 3812), (71, 4007), (82, 4085), (88, 4127), (93, 4145), (95, 4154), (105, 4205), (123, 4319), (124, 4328), (128, 4340), (137, 4382), (142, 4436), (151, 4502), (155, 4520), (156, 4526), (163, 4595), (164, 4598), (169, 4640), (170, 4649), (172, 4670), (174, 4679), (177, 4703), (179, 4718), (183, 4739), (187, 4766), (188, 4772), (189, 4778), (209, 4868), (220, 4916), (224, 4931), (228, 4964), (242, 5018), (270, 5099), (285, 5186),

Gene: ParvusTarda\_3 Start: 1709, Stop: 3334, Start Num: 8

Candidate Starts for ParvusTarda\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (240, 3134), (246, 3158), (252, 3185), (258, 3206), (273, 3266), (275, 3284),

Gene: Patience\_8 Start: 5239, Stop: 6870, Start Num: 11

Candidate Starts for Patience\_8:

(Start: 11 @5239 has 94 MA's), (16, 5272), (38, 5422), (44, 5470), (71, 5599), (81, 5671), (95, 5746), (121, 5911), (125, 5941), (131, 5962), (134, 5980), (136, 5986), (155, 6130), (159, 6178), (170, 6262), (172, 6283), (175, 6304), (183, 6352), (188, 6385), (191, 6400), (203, 6454), (208, 6475), (218, 6523), (222, 6541), (224, 6562), (231, 6604), (237, 6634), (242, 6649), (244, 6658), (251, 6700), (259, 6724), (260, 6727), (269, 6760), (286, 6859),

Gene: Patos\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Patos\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (228, 3089), (229, 3092), (235, 3119), (240, 3134), (252, 3185), (258, 3206),

Gene: Penelope2018\_9 Start: 6391, Stop: 7974, Start Num: 11

Candidate Starts for Penelope2018\_9:

(Start: 11 @6391 has 94 MA's), (32, 6514), (34, 6544), (36, 6550), (38, 6589), (42, 6622), (74, 6769), (79, 6820), (82, 6829), (88, 6880), (90, 6889), (92, 6895), (93, 6898), (107, 6964), (137, 7147), (139, 7174), (140, 7183), (144, 7219), (148, 7243), (150, 7264), (151, 7267), (159, 7330), (160, 7333), (163, 7360), (172, 7435), (175, 7456), (181, 7495), (182, 7498), (201, 7594), (206, 7621), (210, 7651), (228, 7741), (229, 7744), (245, 7807), (270, 7909), (278, 7969),

Gene: Phalaborwa\_9 Start: 6433, Stop: 8016, Start Num: 11

Candidate Starts for Phalaborwa\_9:

(Start: 11 @6433 has 94 MA's), (32, 6556), (34, 6586), (36, 6592), (38, 6631), (42, 6664), (74, 6811), (82, 6871), (88, 6922), (90, 6931), (92, 6937), (93, 6940), (107, 7006), (137, 7189), (139, 7216), (140, 7225), (144, 7261), (148, 7285), (150, 7306), (151, 7309), (160, 7375), (163, 7402), (172, 7477), (175, 7498), (180, 7531), (181, 7537), (182, 7540), (201, 7636), (206, 7663), (210, 7693), (228, 7783), (234, 7807), (245, 7849), (270, 7951), (278, 8011),

Gene: Pharpay\_13 Start: 4830, Stop: 6431, Start Num: 11

Candidate Starts for Pharpay\_13:

(Start: 11 @4830 has 94 MA's), (17, 4863), (32, 4953), (35, 4986), (47, 5088), (50, 5097), (69, 5214), (95, 5385), (97, 5388), (102, 5415), (115, 5508), (144, 5688), (145, 5691), (153, 5742), (155, 5754), (158, 5781), (170, 5886), (174, 5916), (179, 5955), (184, 5979), (203, 6078), (214, 6135), (229, 6207), (247, 6279),

Gene: Phreeze\_5 Start: 3872, Stop: 5485, Start Num: 11

Candidate Starts for Phreeze\_5:

(Start: 5 @3824 has 1 MA's), (Start: 11 @3872 has 94 MA's), (15, 3896), (26, 3944), (45, 4106), (60, 4166), (61, 4172), (74, 4265), (76, 4271), (92, 4391), (95, 4403), (118, 4550), (121, 4568), (128, 4598), (142, 4694), (152, 4763), (154, 4772), (155, 4778), (160, 4829), (163, 4856), (167, 4892), (169, 4901), (172, 4931), (174, 4940), (179, 4982), (182, 4997), (185, 5009), (189, 5042), (197, 5078), (198, 5084), (202, 5096), (203, 5105), (208, 5126), (210, 5150), (224, 5195), (228, 5228), (237, 5267), (240, 5273), (249, 5315), (253, 5321), (256, 5333), (266, 5372), (283, 5471), (286, 5477),

Gene: PhunaPhoke\_13 Start: 4803, Stop: 6404, Start Num: 11

Candidate Starts for PhunaPhoke\_13:

(Start: 11 @4803 has 94 MA's), (17, 4836), (32, 4926), (35, 4959), (47, 5061), (50, 5070), (69, 5187), (95, 5358), (97, 5361), (102, 5388), (115, 5481), (144, 5661), (145, 5664), (153, 5715), (155, 5727), (158, 5754), (170, 5859), (174, 5889), (179, 5928), (184, 5952), (203, 6051), (214, 6108), (229, 6180), (247, 6252),

Gene: Potty\_13 Start: 4808, Stop: 6409, Start Num: 11

Candidate Starts for Potty\_13:

(Start: 11 @4808 has 94 MA's), (17, 4841), (32, 4931), (35, 4964), (47, 5066), (50, 5075), (69, 5192), (95, 5363), (97, 5366), (102, 5393), (115, 5486), (144, 5666), (145, 5669), (153, 5720), (155, 5732), (158, 5759), (170, 5864), (174, 5894), (179, 5933), (203, 6056), (214, 6113), (229, 6185), (247, 6257),

Gene: Poultruss\_12 Start: 4582, Stop: 6183, Start Num: 11

Candidate Starts for Poultruss\_12:

(Start: 11 @4582 has 94 MA's), (17, 4615), (32, 4705), (35, 4738), (47, 4840), (50, 4849), (69, 4966), (95, 5137), (97, 5140), (102, 5167), (115, 5260), (144, 5440), (145, 5443), (153, 5494), (155, 5506), (158, 5533), (170, 5638), (174, 5668), (179, 5707), (180, 5713), (203, 5830), (214, 5887), (229, 5959), (247, 6031),

Gene: Prager\_9 Start: 6400, Stop: 7983, Start Num: 11

Candidate Starts for Prager\_9:

(Start: 11 @6400 has 94 MA's), (32, 6523), (34, 6553), (36, 6559), (38, 6598), (42, 6631), (74, 6778), (79, 6829), (82, 6838), (88, 6889), (90, 6898), (92, 6904), (93, 6907), (107, 6973), (137, 7156), (139, 7183), (140, 7192), (144, 7228), (148, 7252), (150, 7273), (151, 7276), (159, 7339), (160, 7342), (163, 7369), (172, 7444), (175, 7465), (181, 7504), (182, 7507), (201, 7603), (206, 7630), (210, 7660), (228, 7750), (229, 7753), (245, 7816), (270, 7918), (278, 7978),

Gene: Predator\_8 Start: 4868, Stop: 6496, Start Num: 11

Candidate Starts for Predator\_8:

(Start: 11 @4868 has 94 MA's), (15, 4895), (26, 4943), (45, 5105), (56, 5147), (60, 5165), (61, 5171), (67, 5210), (71, 5246), (76, 5270), (79, 5315), (92, 5390), (106, 5465), (113, 5504), (128, 5606), (142, 5702), (152, 5771), (154, 5780), (155, 5786), (169, 5909), (172, 5939), (182, 6005), (183, 6011), (189, 6050), (192, 6062), (197, 6086), (202, 6104), (203, 6113), (208, 6134), (216, 6176), (224, 6203), (227, 6224), (228, 6236), (230, 6242), (231, 6245), (237, 6275), (240, 6281), (249, 6323), (253, 6329), (256, 6341), (259, 6350), (283, 6482), (286, 6488),

Gene: Puissant\_6 Start: 4221, Stop: 5834, Start Num: 11

Candidate Starts for Puissant\_6:

(Start: 5 @4173 has 1 MA's), (Start: 11 @4221 has 94 MA's), (15, 4245), (26, 4293), (45, 4455), (61, 4521), (76, 4620), (78, 4626), (93, 4743), (142, 5043), (143, 5052), (144, 5061), (152, 5112), (155, 5127), (160, 5178), (163, 5205), (172, 5280), (176, 5307), (182, 5346), (197, 5427), (198, 5433), (202, 5445), (208, 5475), (210, 5499), (216, 5517), (217, 5520), (220, 5529), (224, 5544), (229, 5580), (235, 5607), (237, 5616), (240, 5622), (249, 5664), (280, 5796), (286, 5826),

Gene: Pywacket\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Pywacket\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (268, 3242),

Gene: Rachella\_13 Start: 4814, Stop: 6415, Start Num: 11

Candidate Starts for Rachella\_13:

(Start: 11 @4814 has 94 MA's), (17, 4847), (32, 4937), (35, 4970), (47, 5072), (50, 5081), (69, 5198), (95, 5369), (97, 5372), (102, 5399), (115, 5492), (144, 5672), (153, 5726), (155, 5738), (158, 5765), (170, 5870), (174, 5900), (179, 5939), (184, 5963), (203, 6062), (214, 6119), (229, 6191), (247, 6263),

Gene: Ranch\_3 Start: 1709, Stop: 3334, Start Num: 8

Candidate Starts for Ranch\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (74, 2153), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (161, 2705), (163, 2720), (173, 2801), (179, 2843), (187, 2891), (188, 2897), (195, 2930), (203, 2966), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (231, 3098), (240, 3134), (246, 3158), (252, 3185), (258, 3206), (264, 3227), (275, 3284),

Gene: RazorC\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for RazorC\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206),

Gene: Riduram\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for Riduram\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (132, 2480), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: Rie18\_13 Start: 4690, Stop: 6300, Start Num: 11

Candidate Starts for Rie18\_13:

(Start: 11 @4690 has 94 MA's), (17, 4723), (32, 4813), (35, 4846), (43, 4921), (50, 4957), (69, 5074), (79, 5155), (88, 5218), (95, 5245), (97, 5248), (102, 5275), (115, 5368), (144, 5548), (145, 5551), (153, 5602), (155, 5614), (158, 5641), (170, 5746), (174, 5776), (179, 5815), (201, 5926), (203, 5938), (214, 5995), (220, 6010), (229, 6067), (239, 6109), (247, 6139), (262, 6196),

Gene: RikSengupta\_13 Start: 4753, Stop: 6354, Start Num: 11

Candidate Starts for RikSengupta\_13:

(Start: 11 @4753 has 94 MA's), (17, 4792), (21, 4810), (29, 4852), (32, 4879), (35, 4912), (62, 5080), (63, 5083), (69, 5140), (77, 5179), (79, 5221), (88, 5284), (96, 5314), (102, 5347), (111, 5398), (114, 5434), (122, 5494), (153, 5668), (155, 5680), (168, 5797), (172, 5833), (177, 5866), (179, 5881), (194, 5962), (201, 5992), (203, 6004), (229, 6133), (239, 6175), (241, 6181),

Gene: Riparian\_6 Start: 3347, Stop: 4888, Start Num: 11

Candidate Starts for Riparian\_6:

(Start: 11 @3347 has 94 MA's), (26, 3431), (29, 3446), (36, 3509), (71, 3704), (82, 3782), (88, 3824), (93, 3842), (95, 3851), (105, 3902), (121, 4007), (123, 4016), (124, 4025), (128, 4037), (137, 4079), (142, 4133), (151, 4199), (155, 4217), (156, 4223), (163, 4292), (164, 4295), (169, 4337), (170, 4346), (172, 4367), (174, 4376), (179, 4415), (183, 4436), (189, 4475), (209, 4565), (220, 4613), (224, 4628), (242, 4715), (270, 4796), (285, 4883),

Gene: Rope\_7 Start: 3649, Stop: 5190, Start Num: 11

Candidate Starts for Rope\_7:

(Start: 11 @3649 has 94 MA's), (26, 3733), (29, 3748), (36, 3811), (71, 4006), (82, 4084), (88, 4126), (93, 4144), (95, 4153), (105, 4204), (123, 4318), (124, 4327), (128, 4339), (137, 4381), (142, 4435), (151, 4501), (155, 4519), (156, 4525), (163, 4594), (164, 4597), (169, 4639), (170, 4648), (172, 4669), (174, 4678), (177, 4702), (179, 4717), (183, 4738), (187, 4765), (188, 4771), (189, 4777), (209, 4867), (210, 4885), (220, 4915), (224, 4930), (228, 4963), (242, 5017), (270, 5098), (285, 5185),

Gene: Rota\_3 Start: 1709, Stop: 3334, Start Num: 8

Candidate Starts for Rota\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (74, 2153), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (178, 2834), (179, 2843), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (228, 3089), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (273, 3266), (275, 3284),

Gene: Rukungu\_3 Start: 1709, Stop: 3328, Start Num: 8

Candidate Starts for Rukungu\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (71, 2135), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (178, 2834), (179, 2843), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (229, 3092), (231, 3098), (237, 3128), (240, 3134), (246, 3158), (252, 3185), (258, 3206),

Gene: Rumi\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for Rumi\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: Sadboi\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Sadboi\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (74, 2153), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (178, 2834), (179, 2843), (180, 2849), (182, 2858), (187, 2891), (188, 2897), (195, 2930), (207, 2984), (224, 3056), (229, 3092), (235, 3119), (240, 3134), (258, 3206),

Gene: Sampudon\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Sampudon\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (246, 3158), (258, 3206), (268, 3242),

Gene: Send513\_6 Start: 3650, Stop: 5191, Start Num: 11

Candidate Starts for Send513\_6:

(Start: 11 @3650 has 94 MA's), (26, 3734), (29, 3749), (36, 3812), (71, 4007), (82, 4085), (88, 4127), (93, 4145), (95, 4154), (105, 4205), (123, 4319), (124, 4328), (128, 4340), (137, 4382), (142, 4436), (151, 4502), (155, 4520), (156, 4526), (163, 4595), (164, 4598), (169, 4640), (170, 4649), (172, 4670), (174, 4679), (179, 4718), (183, 4739), (189, 4778), (209, 4868), (220, 4916), (224, 4931), (228, 4964), (242, 5018), (270, 5099), (285, 5186),

Gene: Shrew\_47 Start: 21548, Stop: 23116, Start Num: 14

Candidate Starts for Shrew\_47:

(Start: 14 @21548 has 1 MA's), (32, 21659), (36, 21695), (39, 21740), (52, 21794), (77, 21905), (88, 22007), (94, 22031), (112, 22094), (159, 22421), (164, 22460), (165, 22466), (169, 22502), (194, 22661), (203, 22703), (232, 22829), (233, 22832), (242, 22874),

Gene: Sienna\_2 Start: 1538, Stop: 3241, Start Num: 9

Candidate Starts for Sienna\_2:

(Start: 9 @1538 has 9 MA's), (24, 1619), (27, 1640), (32, 1676), (38, 1748), (40, 1769), (41, 1778), (63, 1871), (65, 1877), (67, 1904), (108, 2177), (113, 2225), (119, 2276), (128, 2324), (147, 2450), (152, 2489), (164, 2582), (175, 2675), (202, 2816), (203, 2825), (205, 2837), (223, 2903), (224, 2915),

Gene: SilentWarrior\_12 Start: 4550, Stop: 6151, Start Num: 11

Candidate Starts for SilentWarrior\_12:

(Start: 11 @4550 has 94 MA's), (17, 4583), (32, 4673), (35, 4706), (47, 4808), (50, 4817), (69, 4934), (95, 5105), (97, 5108), (102, 5135), (115, 5228), (144, 5408), (145, 5411), (153, 5462), (155, 5474), (158, 5501), (170, 5606), (174, 5636), (179, 5675), (184, 5699), (203, 5798), (214, 5855), (229, 5927), (247, 5999),

Gene: SirHarley\_8 Start: 6320, Stop: 7903, Start Num: 11

Candidate Starts for SirHarley\_8:

(Start: 11 @6320 has 94 MA's), (32, 6443), (34, 6473), (36, 6479), (38, 6518), (42, 6551), (74, 6698), (79, 6749), (82, 6758), (88, 6809), (90, 6818), (92, 6824), (93, 6827), (107, 6893), (137, 7076), (139, 7103), (140, 7112), (144, 7148), (148, 7172), (150, 7193), (151, 7196), (159, 7259), (160, 7262), (163, 7289), (172, 7364), (175, 7385), (181, 7424), (182, 7427), (201, 7523), (206, 7550), (210, 7580), (229, 7673), (231, 7679), (245, 7736), (270, 7838), (278, 7898),

Gene: Snakehole\_14 Start: 4638, Stop: 6239, Start Num: 11

Candidate Starts for Snakehole\_14:

(Start: 11 @4638 has 94 MA's), (17, 4671), (32, 4761), (35, 4794), (43, 4869), (50, 4905), (69, 5022), (95, 5193), (97, 5196), (102, 5223), (115, 5316), (144, 5496), (145, 5499), (153, 5550), (155, 5562), (158, 5589), (170, 5694), (174, 5724), (179, 5763), (180, 5769), (203, 5886), (214, 5943), (229, 6015), (241, 6063), (247, 6087),

Gene: Sparcetus\_13 Start: 4632, Stop: 6233, Start Num: 11

Candidate Starts for Sparcetus\_13:

(Start: 11 @4632 has 94 MA's), (17, 4671), (21, 4689), (29, 4731), (32, 4758), (35, 4791), (62, 4959), (63, 4962), (69, 5019), (77, 5058), (79, 5100), (88, 5163), (96, 5193), (102, 5226), (111, 5277), (114, 5313), (122, 5373), (153, 5547), (155, 5559), (168, 5676), (172, 5712), (177, 5745), (179, 5760), (194, 5841), (201, 5871), (203, 5883), (229, 6012), (239, 6054), (241, 6060),

Gene: Stormer\_3 Start: 1709, Stop: 3337, Start Num: 8

Candidate Starts for Stormer\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (59, 2051), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (150, 2624), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (264, 3227),

Gene: SuperSonics\_8 Start: 4451, Stop: 6082, Start Num: 11

Candidate Starts for SuperSonics\_8:

(Start: 11 @4451 has 94 MA's), (16, 4484), (38, 4634), (44, 4682), (71, 4811), (81, 4883), (95, 4958), (121, 5123), (125, 5153), (131, 5174), (134, 5192), (136, 5198), (155, 5342), (159, 5390), (170, 5474), (172, 5495), (175, 5516), (183, 5564), (188, 5597), (191, 5612), (203, 5666), (208, 5687), (218, 5735), (222, 5753), (224, 5774), (231, 5816), (237, 5846), (242, 5861), (244, 5870), (251, 5912), (259, 5936), (260, 5939), (269, 5972), (286, 6071),

Gene: SuperheroCarly\_9 Start: 6253, Stop: 7836, Start Num: 11

Candidate Starts for SuperheroCarly\_9:

(Start: 11 @6253 has 94 MA's), (32, 6376), (34, 6406), (36, 6412), (38, 6451), (42, 6484), (74, 6631), (79, 6682), (82, 6691), (88, 6742), (90, 6751), (92, 6757), (93, 6760), (107, 6826), (137, 7009), (139, 7036), (140, 7045), (144, 7081), (148, 7105), (150, 7126), (151, 7129), (159, 7192), (160, 7195), (163, 7222), (172, 7297), (175, 7318), (181, 7357), (182, 7360), (201, 7456), (206, 7483), (210, 7513), (228, 7603), (229, 7606), (245, 7669), (270, 7771), (278, 7831),

Gene: Suzy\_2 Start: 1538, Stop: 3241, Start Num: 9

Candidate Starts for Suzy\_2:

(Start: 9 @1538 has 9 MA's), (24, 1619), (27, 1640), (32, 1676), (38, 1748), (40, 1769), (41, 1778), (63, 1871), (65, 1877), (67, 1904), (113, 2225), (119, 2276), (128, 2324), (152, 2489), (163, 2579), (175, 2675), (183, 2723), (202, 2816), (203, 2825), (214, 2885), (224, 2915), (276, 3155),

Gene: Tedro\_13 Start: 4815, Stop: 6416, Start Num: 11

Candidate Starts for Tedro\_13:

(Start: 11 @4815 has 94 MA's), (17, 4848), (32, 4938), (35, 4971), (47, 5073), (50, 5082), (69, 5199), (95, 5370), (97, 5373), (115, 5493), (144, 5673), (145, 5676), (153, 5727), (155, 5739), (158, 5766), (170, 5871), (174, 5901), (179, 5940), (180, 5946), (184, 5964), (201, 6051), (203, 6063), (205, 6075), (214, 6120), (229, 6192), (247, 6264),

Gene: Terapin\_2 Start: 1538, Stop: 3241, Start Num: 9

Candidate Starts for Terapin\_2:

(Start: 9 @1538 has 9 MA's), (24, 1619), (27, 1640), (32, 1676), (38, 1748), (40, 1769), (41, 1778), (63, 1871), (65, 1877), (67, 1904), (108, 2177), (113, 2225), (119, 2276), (128, 2324), (147, 2450), (152, 2489), (164, 2582), (175, 2675), (202, 2816), (203, 2825), (205, 2837), (223, 2903), (224, 2915),

Gene: Thoth\_9 Start: 6388, Stop: 7971, Start Num: 11

Candidate Starts for Thoth\_9:

(Start: 11 @6388 has 94 MA's), (32, 6511), (34, 6541), (36, 6547), (38, 6586), (42, 6619), (74, 6766), (79, 6817), (82, 6826), (88, 6877), (90, 6886), (92, 6892), (93, 6895), (107, 6961), (137, 7144), (139, 7171), (140, 7180), (144, 7216), (148, 7240), (150, 7261), (151, 7264), (159, 7327), (160, 7330), (163, 7357), (172, 7432), (175, 7453), (181, 7492), (182, 7495), (201, 7591), (206, 7618), (210, 7648), (228, 7738), (229, 7741), (245, 7804), (270, 7906), (278, 7966),

Gene: Thumb\_5 Start: 3872, Stop: 5485, Start Num: 11

Candidate Starts for Thumb\_5:

(Start: 5 @3824 has 1 MA's), (Start: 11 @3872 has 94 MA's), (15, 3896), (26, 3944), (45, 4106), (60, 4166), (61, 4172), (74, 4265), (76, 4271), (92, 4391), (95, 4403), (106, 4463), (118, 4550), (121, 4568), (128, 4598), (142, 4694), (152, 4763), (154, 4772), (155, 4778), (160, 4829), (163, 4856), (167, 4892), (169, 4901), (172, 4931), (174, 4940), (179, 4982), (182, 4997), (185, 5009), (189, 5042), (197, 5078), (198, 5084), (202, 5096), (203, 5105), (208, 5126), (210, 5150), (224, 5195), (228, 5228), (237, 5267), (240, 5273), (249, 5315), (253, 5321), (256, 5333), (266, 5372), (286, 5477),

Gene: Tiggy93\_13 Start: 4814, Stop: 6415, Start Num: 11

Candidate Starts for Tiggy93\_13:

(Start: 11 @4814 has 94 MA's), (17, 4847), (32, 4937), (35, 4970), (47, 5072), (50, 5081), (69, 5198), (95, 5369), (97, 5372), (102, 5399), (115, 5492), (144, 5672), (145, 5675), (153, 5726), (155, 5738), (158, 5765), (170, 5870), (174, 5900), (179, 5939), (180, 5945), (184, 5963), (201, 6050), (203, 6062), (205, 6074), (214, 6119), (229, 6191), (247, 6263),

Gene: Tillicus\_3 Start: 1706, Stop: 3331, Start Num: 8

Candidate Starts for Tillicus\_3:

(Start: 8 @1706 has 42 MA's), (41, 1946), (59, 2048), (67, 2096), (71, 2132), (110, 2348), (135, 2495), (144, 2576), (149, 2615), (150, 2621), (151, 2624), (152, 2627), (155, 2642), (158, 2669), (161, 2702), (163, 2717), (173, 2798), (179, 2840), (186, 2870), (187, 2888), (188, 2894), (195, 2927), (203, 2963), (207, 2981), (219, 3035), (224, 3053), (226, 3059), (229, 3089), (240, 3131), (258, 3203), (273, 3263), (275, 3281),

Gene: TinyMiny\_13 Start: 4630, Stop: 6231, Start Num: 11

Candidate Starts for TinyMiny\_13:

(Start: 11 @4630 has 94 MA's), (17, 4669), (21, 4687), (29, 4729), (32, 4756), (35, 4789), (62, 4957), (63, 4960), (69, 5017), (77, 5056), (79, 5098), (88, 5161), (96, 5191), (102, 5224), (111, 5275), (114, 5311), (122, 5371), (153, 5545), (155, 5557), (172, 5710), (177, 5743), (179, 5758), (194, 5839), (201, 5869), (203, 5881), (229, 6010), (239, 6052), (241, 6058),

Gene: Tongui\_12 Start: 4641, Stop: 6248, Start Num: 11

Candidate Starts for Tongui\_12:

(Start: 11 @4641 has 94 MA's), (17, 4674), (32, 4764), (35, 4797), (43, 4872), (50, 4908), (69, 5025), (79, 5106), (88, 5169), (95, 5196), (97, 5199), (102, 5226), (115, 5319), (144, 5499), (145, 5502), (153, 5553), (155, 5565), (158, 5592), (164, 5646), (170, 5697), (174, 5727), (179, 5766), (184, 5790), (201, 5877), (203, 5889), (214, 5946), (220, 5961), (229, 6018), (247, 6090), (262, 6144),

Gene: Triscuit\_35 Start: 17043, Stop: 18638, Start Num: 12

Candidate Starts for Triscuit\_35:

(Start: 12 @17043 has 2 MA's), (23, 17103), (25, 17112), (32, 17163), (36, 17199), (38, 17226), (77, 17409), (88, 17511), (154, 17895), (161, 17973), (163, 17988), (164, 17991), (167, 18024), (169, 18033), (171, 18054), (175, 18084), (190, 18174), (203, 18234), (209, 18258), (226, 18324), (232, 18360), (233, 18363), (263, 18486), (265, 18495),

Gene: Troll4\_9 Start: 6392, Stop: 7966, Start Num: 11

Candidate Starts for Troll4\_9:

(Start: 11 @6392 has 94 MA's), (32, 6515), (34, 6545), (36, 6551), (38, 6590), (42, 6623), (74, 6770), (79, 6821), (82, 6830), (88, 6881), (90, 6890), (92, 6896), (93, 6899), (107, 6965), (137, 7148), (139, 7175), (140, 7184), (144, 7220), (148, 7244), (150, 7265), (151, 7268), (159, 7331), (160, 7334), (163, 7361), (172, 7436), (175, 7457), (181, 7496), (182, 7499), (201, 7595), (206, 7622), (210, 7652), (228, 7742), (229, 7745), (245, 7808), (270, 7910),

Gene: Visconti\_9 Start: 6401, Stop: 7984, Start Num: 11

Candidate Starts for Visconti\_9:

(Start: 11 @6401 has 94 MA's), (32, 6524), (34, 6554), (36, 6560), (38, 6599), (42, 6632), (74, 6779), (79, 6830), (82, 6839), (88, 6890), (90, 6899), (92, 6905), (93, 6908), (107, 6974), (137, 7157), (139, 7184), (140, 7193), (144, 7229), (148, 7253), (150, 7274), (151, 7277), (159, 7340), (160, 7343), (163, 7370), (172, 7445), (175, 7466), (181, 7505), (182, 7508), (201, 7604), (206, 7631), (210, 7661), (228, 7751), (229, 7754), (245, 7817), (270, 7919), (278, 7979),

Gene: WaldoWhy\_9 Start: 6394, Stop: 7977, Start Num: 11

Candidate Starts for WaldoWhy\_9:

(Start: 11 @6394 has 94 MA's), (32, 6517), (34, 6547), (36, 6553), (38, 6592), (42, 6625), (74, 6772), (79, 6823), (82, 6832), (88, 6883), (90, 6892), (92, 6898), (93, 6901), (107, 6967), (137, 7150), (139, 7177), (140, 7186), (144, 7222), (148, 7246), (150, 7267), (151, 7270), (159, 7333), (160, 7336), (163, 7363), (172, 7438), (175, 7459), (181, 7498), (182, 7501), (201, 7597), (206, 7624), (210, 7654), (228, 7744), (229, 7747), (245, 7810), (270, 7912), (278, 7972),

Gene: Weiss13\_6 Start: 3338, Stop: 4879, Start Num: 11

Candidate Starts for Weiss13\_6:

(Start: 11 @3338 has 94 MA's), (26, 3422), (29, 3437), (36, 3500), (71, 3695), (82, 3773), (88, 3815), (93, 3833), (95, 3842), (105, 3893), (123, 4007), (124, 4016), (128, 4028), (137, 4070), (142, 4124), (151, 4190), (155, 4208), (156, 4214), (163, 4283), (164, 4286), (169, 4328), (172, 4358), (174, 4367), (177, 4391), (179, 4406), (183, 4427), (187, 4454), (188, 4460), (189, 4466), (209, 4556), (220, 4604), (224, 4619), (228, 4652), (242, 4706), (270, 4787), (285, 4874),

Gene: Wojtek\_3 Start: 1706, Stop: 3331, Start Num: 8

Candidate Starts for Wojtek\_3:

(Start: 8 @1706 has 42 MA's), (41, 1946), (59, 2048), (67, 2096), (71, 2132), (110, 2348), (135, 2495), (144, 2576), (149, 2615), (150, 2621), (151, 2624), (152, 2627), (155, 2642), (158, 2669), (161, 2702), (163, 2717), (173, 2798), (187, 2888), (188, 2894), (195, 2927), (203, 2963), (207, 2981), (224, 3053), (226, 3059), (229, 3089), (231, 3095), (240, 3131), (246, 3155), (252, 3182), (258, 3203), (275, 3281),

Gene: Wollypog\_2 Start: 1462, Stop: 2961, Start Num: 11

Candidate Starts for Wollypog\_2:

(Start: 11 @1462 has 94 MA's), (18, 1498), (32, 1573), (35, 1606), (41, 1669), (73, 1837), (91, 1963), (92, 1966), (93, 1969), (103, 2014), (130, 2152), (133, 2164), (134, 2167), (152, 2299), (155, 2314), (169, 2428), (179, 2506), (182, 2521), (189, 2566), (192, 2578), (193, 2584), (214, 2686), (224, 2716), (236, 2782), (267, 2905),

Gene: Xenia2\_3 Start: 1712, Stop: 3343, Start Num: 8

Candidate Starts for Xenia2\_3:

(Start: 8 @1712 has 42 MA's), (37, 1910), (54, 2030), (55, 2033), (59, 2054), (67, 2102), (109, 2351), (147, 2594), (152, 2633), (155, 2648), (167, 2759), (169, 2768), (173, 2804), (179, 2846), (185, 2873), (188, 2900), (195, 2933), (203, 2969), (207, 2987), (210, 3014), (214, 3029), (218, 3038), (224, 3059), (231, 3101), (240, 3137), (243, 3152), (246, 3161), (258, 3209), (264, 3230), (275, 3287), (282, 3335),

Gene: Yelo\_6 Start: 3650, Stop: 5191, Start Num: 11

Candidate Starts for Yelo\_6:

(Start: 11 @3650 has 94 MA's), (26, 3734), (29, 3749), (36, 3812), (71, 4007), (82, 4085), (88, 4127), (93, 4145), (95, 4154), (105, 4205), (123, 4319), (124, 4328), (128, 4340), (137, 4382), (142, 4436), (151, 4502), (155, 4520), (156, 4526), (163, 4595), (164, 4598), (169, 4640), (172, 4670), (174, 4679), (179, 4718), (183, 4739), (189, 4778), (209, 4868), (220, 4916), (224, 4931), (242, 5018), (270, 5099), (285, 5186),

Gene: Yikes\_3 Start: 1709, Stop: 3331, Start Num: 8

Candidate Starts for Yikes\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (74, 2153), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (179, 2843), (180, 2849), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (224, 3056), (226, 3062), (229, 3092), (235, 3119), (240, 3134), (243, 3149), (258, 3206), (268, 3242),

Gene: Zany\_3 Start: 1709, Stop: 3340, Start Num: 8

Candidate Starts for Zany\_3:

(Start: 8 @1709 has 42 MA's), (41, 1949), (54, 2027), (59, 2051), (71, 2135), (74, 2153), (110, 2351), (128, 2465), (135, 2498), (149, 2618), (152, 2630), (155, 2645), (169, 2765), (170, 2774), (173, 2801), (174, 2804), (178, 2834), (179, 2843), (186, 2873), (187, 2891), (188, 2897), (195, 2930), (199, 2948), (207, 2984), (216, 3029), (224, 3056), (226, 3062), (228, 3089), (229, 3092), (235, 3119), (240, 3134), (258, 3206), (268, 3242), (282, 3332),

Gene: Zenon\_7 Start: 3650, Stop: 5191, Start Num: 11

Candidate Starts for Zenon\_7:

(Start: 11 @3650 has 94 MA's), (26, 3734), (29, 3749), (36, 3812), (71, 4007), (82, 4085), (88, 4127), (93, 4145), (95, 4154), (105, 4205), (123, 4319), (124, 4328), (128, 4340), (137, 4382), (142, 4436), (151, 4502), (155, 4520), (156, 4526), (163, 4595), (164, 4598), (169, 4640), (170, 4649), (172, 4670), (174, 4679), (179, 4718), (183, 4739), (189, 4778), (209, 4868), (220, 4916), (224, 4931), (228, 4964), (242, 5018), (270, 5099), (285, 5186),

Gene: pZL12\_66c Start: 54091, Stop: 52178, Start Num: 3

Candidate Starts for pZL12\_66c:

(1, 54115), (2, 54100), (3, 54091), (7, 53998), (20, 53917), (33, 53821), (46, 53713), (49, 53692), (57, 53656), (58, 53650), (63, 53626), (66, 53608), (75, 53533), (98, 53359), (100, 53350), (113, 53260), (157, 52927), (163, 52864), (166, 52837), (182, 52726), (196, 52651), (211, 52567), (212, 52561), (214, 52540), (216, 52537), (234, 52438), (251, 52357),