





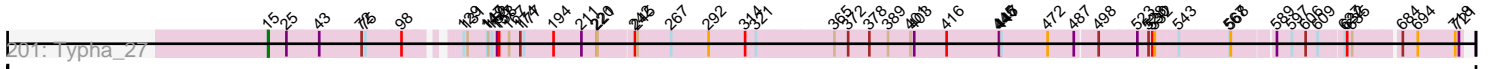


Pham 154383

|                            |   |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------------------|---|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| r01: Violet_28             | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r02: Niger_26              | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r03: Magpie_27             | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r04: Hangman_28 + 1        | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r05: Singer_26             | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r06: BrownCNA_29 + 1       | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r07: Frederick_28          | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r08: Poster_27 + 1         | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r09: Mudslide_28 + 1       | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r10: RawrgerThat_28        | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r11: Minmi_28              | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r12: ChrisMich_27          | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r13: Zemanar_29            | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r14: JAWal_28              | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r15: Coper_28              | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r16: Prince_29             | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r17: AlanGrant_29 + 1      | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r18: Fortunato_28          | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r19: Hydro_28              | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r20: JaguarMi_28           | 5 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r21: BobbyK_28             | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r22: Heath_27              | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r23: Austelle_29           | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r24: Acadian_30 + 4        | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r25: Reprobate_30 + 1      | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r26: Serendipitous_29      | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r27: Nangang_30 + 2        | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r28: Rich_29               | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r29: Bae_29                | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r30: Mysterious_31         | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r31: Saguaro_31            | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r32: Thonko_29             | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r33: Klocker_32            | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r34: CRB2_33               | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r35: PenguinLove67_32      | 6 | 31 | 88 | 98  | 114 | 136 | 160 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r36: Quesadilla_31         | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r37: Squinty_19            | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r38: Mdavu_23 + 6          | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r39: Curiosium_28          | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r40: Nikao_23              | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r41: Shaobing_27           | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r42: LastHope_27           | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r43: Peanam_27 + 1         | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r44: Vairdus_27            | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r45: Findley_23            | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r46: Marcoliusprime_23 + 2 | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r47: Milly_23              | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r48: TM4_23                | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r49: ZoeJ_23               | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |
| r50: Strobilo_24           | 7 | 28 | 88 | 100 | 118 | 150 | 170 | 190 | 228 | 268 | 320 | 372 | 406 | 444 | 487 | 538 | 590 | 639 | 674 |



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| Position | Color  |
|----------|--------|
| 15       | Green  |
| 25       | Purple |
| 43       | Purple |
| 76       | Purple |
| 98       | Red    |
| 129      | Red    |
| 133      | Red    |
| 137      | Red    |
| 141      | Red    |
| 145      | Red    |
| 154      | Red    |
| 170      | Red    |
| 186      | Red    |
| 207      | Blue   |
| 232      | Orange |
| 341      | Red    |
| 352      | Red    |
| 372      | Red    |
| 378      | Red    |
| 389      | Red    |
| 408      | Red    |
| 416      | Red    |
| 448      | Red    |
| 472      | Purple |
| 487      | Purple |
| 498      | Purple |
| 526      | Red    |
| 530      | Red    |
| 543      | Red    |
| 558      | Red    |
| 583      | Red    |
| 591      | Red    |
| 606      | Red    |
| 626      | Red    |
| 684      | Red    |
| 729      | Red    |

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 154383 Report

This analysis was run 04/12/24 on database version 558.

Pham number 154383 has 546 members, 53 are drafts.

Phages represented in each track:

- Track 1 : KittenMittens\_31
- Track 2 : PeaceMeal1\_31
- Track 3 : Poompha\_31
- Track 4 : Drake94\_31
- Track 5 : Trike\_30
- Track 6 : Severus\_31
- Track 7 : Gail\_31
- Track 8 : SororFago\_31
- Track 9 : Luchador\_33
- Track 10 : Baehexic\_32, Centaur\_33
- Track 11 : Iwokeuplikedis\_32
- Track 12 : BengiVuitton\_32
- Track 13 : KingCyrus\_33
- Track 14 : MiculUcigas\_31
- Track 15 : TarsusIV\_31
- Track 16 : SnapTap\_31, Crucio\_31
- Track 17 : Agape74\_33, AbbyPaige\_33
- Track 18 : Turbido\_33, Whabigail7\_33, LilTurb\_33
- Track 19 : WideWale\_33, Updawg\_33, Equemioh13\_33
- Track 20 : JoshKayV\_33
- Track 21 : First\_0031
- Track 22 : Drake55\_33
- Track 23 : Larenn\_32
- Track 24 : FiringLine\_31, QueenBeesly\_31
- Track 25 : LadyBird\_31
- Track 26 : Piro94\_32
- Track 27 : Echild\_31, Benvolio\_31
- Track 28 : Dignity\_33
- Track 29 : EvilGenius\_33
- Track 30 : Georgie2\_32
- Track 31 : Anselm\_31
- Track 32 : Power\_31
- Track 33 : Jerm\_33
- Track 34 : ChipMunk\_33
- Track 35 : SemperFi\_33
- Track 36 : HarryHoudini\_33
- Track 37 : Trooper\_31

- Track 38 : CRB1\_31
- Track 39 : Leviathan\_33
- Track 40 : SweetiePie\_31
- Track 41 : DudeLittle\_31
- Track 42 : NaSiaTalie\_31
- Track 43 : Buggy\_33
- Track 44 : Flare16\_31
- Track 45 : Fameo\_31, QueenB2\_31
- Track 46 : Retro23\_31
- Track 47 : 20ES\_31
- Track 48 : Deloris\_32
- Track 49 : Dalmatian\_31
- Track 50 : Smeagan\_33
- Track 51 : Vanisoa\_30
- Track 52 : Keziacharles14\_31
- Track 53 : Arissanae\_31
- Track 54 : Maco6\_22
- Track 55 : FF47\_24
- Track 56 : Muddy\_24
- Track 57 : 8UZL\_24
- Track 58 : MalagasyRose\_27
- Track 59 : Schueller\_31, Cannibal\_31, LeiMonet\_31, Mana\_30, Mutante\_30, Lasso\_31, Lulwa\_31, Emiris\_31, Cobra\_31, LeeLot\_31, JDog\_31, Murdoc\_31, PinheadLarry\_31, Held\_31, Oosterbaan\_31, Matalotodo\_30, Zelda\_31, Eugenia\_31, DonSanchon\_30, LuckyMarjie\_30, Mcshane\_30, Dice\_32, LostAndPhound\_30, Altwerkus\_30, Dione\_30, Squiggle\_31, Daffy\_31, Vista\_31, TallGrassMM\_31, Sophia\_30, Grand2040\_30, Chorkpop\_31, Selr12\_31, Maru\_30, Inchworm\_31, UncleHowie\_31, Childish\_30, Ricotta\_31, Magic8\_31, Pipsqueak\_31, Fang\_31
- Track 60 : Kailash\_31, Vaticameos\_31, Puhltonio\_31, Podrick\_31, Mesh1\_31, Mecca\_30, Samaymay\_31, Scrick\_31, MitKao\_31, TomBombadil\_31, Bishoperium\_30, Craff\_31, Potter\_30, PhrodoBaggins\_30, Megatron\_31, FriarPreacher\_31, Bluephacebaby\_30, Kwadwo\_30, Pacifista\_32, Harvey\_31, Tomlarah\_31, SassyCat97\_30, CampRoach\_30, Chah\_32, QueenBeane\_31, Telesworld\_30, Omniscient\_31, Banjo\_30, Iridoclysis\_31, Adriana\_31, Megamind20\_31, Beaglebox\_30, Lego3393\_31, Kimbrough\_31, Giraffe\_31, Lumine\_30, Riggan\_31, Nyala\_30, Phareon\_31, Kahve\_30, Usavi\_31, Gyarad\_0031, YouGoGlencoco\_31, True\_30, Andre\_31, Mag7\_30, Legolas\_30, MRabcd\_30, HighStump\_30, HSavage\_31, Phergie\_30, Anderson\_31, Apizium\_30, LasagnaCat\_31, Cher\_30, Hocus\_30, Veritas\_30, Gwilliam\_31, Skippy\_31, ShiVal\_31, Swiphy\_32, LemonSlice\_31, Plmatters\_31, HenryJackson\_30, DoesntMatter\_31, Charles1\_31, Haleema\_30, Hartsy\_30, Simielle\_30, Gophee\_31, Piglet\_0030, Morty\_31, Squid\_31, Phunky\_31, Phamished\_31, Fringe\_31, Weher20\_31, FugateOSU\_30, Numberten\_31, Orfeu\_30, Hamish\_31, CamL\_31, PhatLouie\_31, Melc17\_31, PhrankReynolds\_30, Serendipity\_31, Phipps\_31, Placalicious\_30, DelRivs\_30, Serpentine\_0031, Haimas\_31, Waterdiva\_31, PhenghisKhan\_30, Jillium\_30, Xavier\_30, Nicole21\_31, Surely\_31, Mosaic\_30, Slatt\_31, KLucky39\_31, Burr\_30, Gareth\_30, Zaider\_32, Dati\_31, BatteryCK\_30, Soile\_31, Virapocalypse\_31, Orwigg\_31, JangoPhett\_31, Buckeye\_31, Quisquilliae\_31, Cosmolli16\_30, MichaelPhcott\_30
- Track 61 : Manad\_30, Schadenfreude\_30, Newman\_31, Cornobble\_30, OliverWalter\_31, Nacho\_0031, Suffolk\_31, AbsoluteMadLad\_30
- Track 62 : KingTut\_22, Morgushi\_31, Kwksand96\_30, DaddyDaniels\_31, Durga\_31, Ashraf\_30, Timmi\_30, AltPhacts\_31, Lopsy\_30, Roliet\_31, GeneCoco\_31,



Vortex\_31, RedMaple\_30, Longacauda\_30, Pops\_31, KingVeVeVe\_31, Inverness\_31, Basato\_32, Daka\_31, Brilliant\_31, Etaye\_31, Antonia\_30, Trypo\_31, Soto\_31, Struggle\_30, BlueHusk\_31, Pinkman\_30, ImtiyazSitla\_30, Aelin\_30, CheetO\_31, KlimbOn\_31, Rimu\_32, MrPhizzler\_30, MiniBoss\_31, Prickles\_31, Maskar\_30, Horchata\_31, DirtJuice\_31, Zonia\_31, SDcharge11\_31, Duggie\_30, Wallhey\_30

- Track 63 : Freya\_30
- Track 64 : Chute\_30, Fozzie\_30, OSmaximus\_31, Coletti\_30, Windsor\_30, Keitherie\_31, Virgeve\_30
- Track 65 : Sigman\_31, Scoot17C\_31, BlackStallion\_31, UAch1\_31, Lulumae\_30, Orion\_31, IsaacEli\_31, Olak\_31, ProfessorX\_31, Hertubise\_31, Badfish\_31, Thora\_31, JacAttac\_31, PG1\_31, Katniss\_31, Kloppinator\_31, PhatCats2014\_31, ABU\_31, FluffyNinja\_31, Swish\_31, Roy17\_31, Hetaeria\_31, Kikipoo\_31, Yoshand\_31, Olive\_31, Mulan\_30, Pherdinand\_31, Boehler\_31, Toni\_30
- Track 66 : MelsMeow\_30, JakeO\_30
- Track 67 : Sheila\_31, Tooj\_31, DuchessDung\_29, Chunky\_31, Colbert\_31, Frankicide\_31, Mikota\_31, Phleuron\_30, Oline\_30
- Track 68 : Labeouficaum\_30, Jiminy\_30, Doddsville\_31, CharlieGBrown\_30, Derpp\_30, TyrionL\_30
- Track 69 : Dingo\_31
- Track 70 : Robyn\_30
- Track 71 : Chaelin\_31
- Track 72 : EmpTee\_31, Spartan300\_31, Valjean\_31
- Track 73 : Eremos\_31
- Track 74 : Roscoe\_32
- Track 75 : Vaishali24\_30
- Track 76 : Vivaldi\_31
- Track 77 : Carthage\_29
- Track 78 : Solosis\_30
- Track 79 : ThreeOh3D2\_31
- Track 80 : Crownjwl\_31
- Track 81 : Imvubu\_24
- Track 82 : Indlovu\_28
- Track 83 : Hashim76\_34
- Track 84 : Zenteno07\_34
- Track 85 : RomaT\_31, Phayeta\_31
- Track 86 : Nozo\_31, Athena\_32, Abinghost\_31, Briakila\_31, Compostia\_32, Baloo\_31, Ben11\_30
- Track 87 : Rita1961\_31
- Track 88 : ChaChing\_31, Jackstina\_28, Tydolla\_31, Devonte\_31, Phlyer\_31, Chandler\_31, LestyG\_31, MmasiCarm\_31, Yinz\_31, RagingRooster\_31, SynergyX\_31, Deenasa\_31, Corofin\_31, HarveySr\_31, Daisy\_31
- Track 89 : Gervas\_31, Obutu\_31, Kronus\_30
- Track 90 : Mortcellus\_30
- Track 91 : Yahalom\_31
- Track 92 : Phaedruss\_29
- Track 93 : SlippinJimmy\_31, GlenHope\_32
- Track 94 : Casbah\_30, Marley1013\_31, Akoma\_31, Gadget\_32, Morty007\_31
- Track 95 : OrangeOswald\_31, Heathcliff\_31
- Track 96 : Audrey\_31, Philly\_30
- Track 97 : Pipefish\_32, Bernardo\_31
- Track 98 : Kamiyu\_31
- Track 99 : Neos5\_31



- Track 100 : Halfpint\_30
- Track 101 : VioletZ\_28
- Track 102 : Nigel\_26
- Track 103 : Magpie\_27
- Track 104 : Hangman\_28, Waleliano\_28
- Track 105 : Stinger\_26
- Track 106 : BrownCNA\_29, Lolalove\_28
- Track 107 : Frederick\_28
- Track 108 : Poster\_27, Nanao\_27
- Track 109 : Mudslide\_28, Apex\_28
- Track 110 : RawrgerThat\_28
- Track 111 : Mithril\_28
- Track 112 : ChrisnMich\_27
- Track 113 : Zemanar\_29
- Track 114 : JAMaL\_28
- Track 115 : Cooper\_28
- Track 116 : Prince\_29
- Track 117 : AlanGrant\_29, Vincenzo\_29
- Track 118 : Fortunato\_28
- Track 119 : Hydro\_28
- Track 120 : JaguarMi\_28
- Track 121 : BobbyK\_28
- Track 122 : Heath\_27
- Track 123 : Austelle\_29
- Track 124 : Acadian\_30, EastView9101\_30, Donny\_30, Suigeneris\_30, SirJeffery\_30
- Track 125 : Reprobate\_30, Phelemich\_30
- Track 126 : Serendipitous\_29
- Track 127 : Nangang\_30, StinkyVeggy\_32, DigitDog\_30
- Track 128 : Rich\_29
- Track 129 : Bae\_29
- Track 130 : Mysterious\_31
- Track 131 : Saguaro\_31
- Track 132 : Thonko\_29
- Track 133 : Knocker\_32
- Track 134 : CRB2\_33
- Track 135 : PenguinLover67\_32
- Track 136 : Quesadilla\_31
- Track 137 : Squirty\_19
- Track 138 : Mdavu\_23, Enkosi\_23, Amelie\_23, Biglebops\_23, LilPharaoh\_23, SgtBeansprout\_23, Nutello\_23
- Track 139 : Curiosium\_28
- Track 140 : Nikao\_23
- Track 141 : Shaobing\_27
- Track 142 : LastHope\_27
- Track 143 : Peanam\_27, Niklas\_27
- Track 144 : Validus\_27
- Track 145 : Findley\_23
- Track 146 : Marcoliusprime\_23, DismalStressor\_23, DismalFunk\_23
- Track 147 : Milly\_23
- Track 148 : TM4\_23
- Track 149 : ZoeJ\_23
- Track 150 : Strobilo\_24

- Track 151 : Mufasa\_23, BoostSeason\_23
- Track 152 : MacnCheese\_27
- Track 153 : TBond007\_26, Pixie\_26
- Track 154 : Pharb\_26
- Track 155 : TribbleTrouble\_25
- Track 156 : Hurricane\_26
- Track 157 : Keshu\_26
- Track 158 : ShedlockHolmes\_26
- Track 159 : Fionnbharth\_28, Y10\_28, JF1\_28, Wintermute\_28, Y2\_28, Malthus\_29
- Track 160 : Reptar3000\_28
- Track 161 : MissDaisy\_28
- Track 162 : Mitti\_28
- Track 163 : OmniCritical\_28
- Track 164 : Cheetobro\_28, Chancellor\_28, Slarp\_28
- Track 165 : Patt\_28
- Track 166 : Phrank\_26, Bryler\_26, Cain\_26
- Track 167 : Ekdilam\_24
- Track 168 : Yuna\_28
- Track 169 : Shadow1\_25
- Track 170 : Amohnition\_26
- Track 171 : Unicorn\_26, PhelpsODU\_26
- Track 172 : Krueger\_26
- Track 173 : DarthP\_26
- Track 174 : Amgine\_25
- Track 175 : Tierra\_26
- Track 176 : Syra333\_26
- Track 177 : Ximenita\_27
- Track 178 : Hammy\_26
- Track 179 : TClif\_27
- Track 180 : Sunflower1121\_25
- Track 181 : Ellie\_24
- Track 182 : Fefferhead\_26
- Track 183 : Snenia\_21, Jubie\_21, Lumos\_21, Clautastrophe\_21, Nicholas\_21, Kingsolomon\_21, MsGreen\_21, Jobypre\_21
- Track 184 : Bellis\_21, Finnry\_21, Moostard\_21, Samty\_21
- Track 185 : MiniMac\_21, MiniLon\_21, Lolly9\_21
- Track 186 : DuncansLeg\_21
- Track 187 : Ellson\_21
- Track 188 : Krypton555\_21, Whirlwind\_22
- Track 189 : SkinnyPete\_20, Panchino\_20
- Track 190 : Andies\_20
- Track 191 : Phloss\_20
- Track 192 : Shweta\_20
- Track 193 : Scitech\_20
- Track 194 : Xeno\_20
- Track 195 : Fulbright\_20
- Track 196 : Glaske\_21, CactusJack\_21, StressBall\_21, Megiddo\_21, KilKor\_21, Phalm\_21
- Track 197 : Willsammy\_21, Dynamo\_21
- Track 198 : Phineas\_21
- Track 199 : Cracklewink\_27, Bipper\_27
- Track 200 : Hilltopfarm\_27
- Track 201 : Typha\_27

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

The start number called the most often in the published annotations is 31, it was called in 324 of the 493 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU\_31, Abinghost\_31, AbsoluteMadLad\_30, Acadian\_30, Adriana\_31, Aelin\_30, Akoma\_31, AlanGrant\_29, AltPhacts\_31, Altwerkus\_30, Anderson\_31, Andre\_31, Antonia\_30, Apex\_28, Apizium\_30, Ashraf\_30, Athena\_32, Audrey\_31, Austelle\_29, Badfish\_31, Bae\_29, Baloo\_31, Banjo\_30, Basato\_32, BatteryCK\_30, Beaglebox\_30, Ben11\_30, Bernardo\_31, Bishoperium\_30, BlackStallion\_31, BlueHusk\_31, Bluephacebaby\_30, BobbyK\_28, Boehler\_31, Briakila\_31, Brilliant\_31, BrownCNA\_29, Buckeye\_31, Burr\_30, CamL\_31, CampRoach\_30, Cannibal\_31, Carthage\_29, Casbah\_30, ChaChing\_31, Chaelin\_31, Chah\_32, Chandler\_31, Charles1\_31, CharlieGBrown\_30, CheetO\_31, Cher\_30, Childish\_30, Chorkpop\_31, ChrisnMich\_27, Chunky\_31, Chute\_30, Cobra\_31, Colbert\_31, Coletti\_30, Compostia\_32, Cooper\_28, Cornobble\_30, Corofin\_31, Cosmolli16\_30, Craff\_31, Crownjwl\_31, DaddyDaniels\_31, Daffy\_31, Daisy\_31, Daka\_31, Dati\_31, Deenasa\_31, DelRivs\_30, Derpp\_30, Devonte\_31, Dice\_32, DigitDog\_30, Dingo\_31, Dione\_30, DirtJuice\_31, Doddsville\_31, DoesntMatter\_31, DonSanchon\_30, Donny\_30, DuchessDung\_29, Duggie\_30, Durga\_31, EastView9101\_30, Emiris\_31, EmpTee\_31, Eremos\_31, Etaye\_31, Eugenia\_31, Fang\_31, FluffyNinja\_31, Fozzie\_30, Frankicide\_31, Frederick\_28, Freya\_30, FriarPreacher\_31, Fringe\_31, FugateOSU\_30, Gadjet\_32, Gareth\_30, GeneCoco\_31, Gervas\_31, Giraffe\_31, GlenHope\_32, Gophe\_31, Grand2040\_30, Gwilliam\_31, Gyarad\_0031, HSavage\_31, Haimas\_31, Haleema\_30, Halfpint\_30, Hamish\_31, Hangman\_28, Hartsy\_30, HarveySr\_31, Harvey\_31, Hashim76\_34, Heath\_27, Heathcliff\_31, Held\_31, HenryJackson\_30, Hertubise\_31, Hetaeria\_31, HighStump\_30, Hocus\_30, Horchata\_31, Hydro\_28, ImtiyazSitla\_30, Imvubu\_24, Inchworm\_31, Inverness\_31, Iridoclysis\_31, IsaacEli\_31, JAMaL\_28, JDog\_31, JacAttac\_31, Jackstina\_28, JaguarMi\_28, JakeO\_30, JangoPhett\_31, Jillium\_30, Jiminy\_30, KLucky39\_31, Kahve\_30, Kailash\_31, Kamiyu\_31, Katniss\_31, Keitherie\_31, Kikipoo\_31, Kimbrough\_31, KingTut\_22, KingVeVeVe\_31, KlimbOn\_31, Kloppinator\_31, Knocker\_32, Kronus\_30, Kwadwo\_30, Kwksand96\_30, Labeouficaum\_30, LasagnaCat\_31, Lasso\_31, LeeLot\_31, Lego3393\_31, Legolas\_30, LeiMonet\_31, LemonSlice\_31, LestyG\_31, Lolalove\_28, Longacauda\_30, Lopsy\_30, LostAndPhound\_30, LuckyMarjie\_30, Lulumae\_30, Lulwa\_31, Lumine\_30, MRabcd\_30, Mag7\_30, Magic8\_31, Magpie\_27, Mana\_30, Manad\_30, Marley1013\_31, Maru\_30, Maskar\_30, Matalotodo\_30, Mcshane\_30, Mecca\_30, Megamind20\_31, Megatron\_31, Melc17\_31, MelsMeow\_30, Mesh1\_31, MichaelPhcott\_30, Mikota\_31, MiniBoss\_31, MitKao\_31, Mithril\_28, MmasiCarm\_31, Morgushi\_31, Mortcellus\_30, Morty007\_31, Morty\_31, Mosaic\_30, MrPhizzler\_30, Mudslide\_28, Mulan\_30, Murdoc\_31, Mutante\_30, Mysterious\_31, Nacho\_0031, Nanao\_27, Nangang\_30, Neos5\_31, Newman\_31, Nicole21\_31, Nigel\_26, Nozo\_31, Numberten\_31, Nyala\_30, OSmaximus\_31, Obutu\_31, Olak\_31, Oline\_30, Olive\_31, OliverWalter\_31, Omniscient\_31, Oosterbaan\_31, OrangeOswald\_31, Orfeu\_30, Orion\_31, Orwigg\_31, PG1\_31, Pacifista\_32, Phaedrus\_29, Phamished\_31, Phareon\_31, PhatCats2014\_31, PhatLouie\_31, Phayeta\_31, Phelemich\_30, PhenghisKhan\_30, Pherdinand\_31, Phergie\_30, Philly\_30, Phipps\_31, Phleuron\_30,

Phlyer\_31, PhrankReynolds\_30, PhrodoBaggins\_30, Phunky\_31, Piglet\_0030, PinheadLarry\_31, Pinkman\_30, Pipefish\_32, Pipsqueak\_31, Placalicious\_30, Plmatters\_31, Podrick\_31, Pops\_31, Poster\_27, Potter\_30, Prickles\_31, Prince\_29, ProfessorX\_31, Puhltonio\_31, QueenBeane\_31, Quisquilliae\_31, RagingRooster\_31, RawrgerThat\_28, RedMaple\_30, Reprobate\_30, Rich\_29, Ricotta\_31, Riggan\_31, Rimu\_32, Robyn\_30, Roliet\_31, RomaT\_31, Roscoe\_32, Roy17\_31, SDcharge11\_31, Saguario\_31, Samaymay\_31, SassyCat97\_30, Schadenfreude\_30, Schueller\_31, Scoot17C\_31, Scrick\_31, Selr12\_31, Serendipitous\_29, Serendipity\_31, Serpentine\_0031, Sheila\_31, ShiVal\_31, Sigman\_31, Simielle\_30, SirJeffery\_30, Skippy\_31, Slatt\_31, SlippinJimmy\_31, Soile\_31, Solosis\_30, Sophia\_30, Soto\_31, Spartan300\_31, Squid\_31, Squiggle\_31, Stinger\_26, StinkyVeggy\_32, Struggle\_30, Suffolk\_31, Suigeneris\_30, Surely\_31, Swiphy\_32, Swish\_31, SynergyX\_31, TallGrassMM\_31, Telesworld\_30, Thonko\_29, Thora\_31, ThreeOh3D2\_31, Timmi\_30, TomBombadil\_31, Tomlarah\_31, Toni\_30, Tooj\_31, True\_30, Trypo\_31, Tydolla\_31, TyrionL\_30, UAch1\_31, UncleHowie\_31, Usavi\_31, Vaishali24\_30, Valjean\_31, Vaticameos\_31, Veritas\_30, Vincenzo\_29, VioletZ\_28, Virapocalypse\_31, Virgeve\_30, Vista\_31, Vivaldi\_31, Vortex\_31, Waleliano\_28, Wallhey\_30, Waterdiva\_31, Weher20\_31, Windsor\_30, Xavier\_30, Yahalom\_31, Yinz\_31, Yoshand\_31, YouGoGlencoco\_31, Zaider\_32, Zelda\_31, Zemanar\_29, Zenteno07\_34, Zonia\_31,

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

- Fortunato\_28, Rita1961\_31,

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

- 20ES\_31, 8UZL\_24, AbbyPaige\_33, Agape74\_33, Amelie\_23, Amgine\_25, Amohntion\_26, Andies\_20, Anselm\_31, Arissanae\_31, Baehexic\_32, Bellis\_21, BengiVuitton\_32, Benvolio\_31, Binglebops\_23, Bipper\_27, BoostSeason\_23, Bryler\_26, Buggy\_33, CRB1\_31, CRB2\_33, CactusJack\_21, Cain\_26, Centaur\_33, Chancellor\_28, Cheetobro\_28, ChipMunk\_33, Clautastrophe\_21, Cracklewink\_27, Crucio\_31, Curiosium\_28, Dalmatian\_31, DARTH\_P\_26, Deloris\_32, Dignity\_33, DismalFunk\_23, DismalStressor\_23, Drake55\_33, Drake94\_31, DudeLittle\_31, DuncansLeg\_21, Dynamo\_21, Echild\_31, Ekdilam\_24, Ellie\_24, Ellson\_21, Enkosi\_23, Equemioh13\_33, EvilGenius\_33, FF47\_24, Fameo\_31, Fefferhead\_26, Findley\_23, Finnry\_21, Fionnbharth\_28, FiringLine\_31, First\_0031, Flare16\_31, Fulbright\_20, Gail\_31, Georgie2\_32, Glaske\_21, Hammy\_26, HarryHoudini\_33, Hilltopfarm\_27, Hurricane\_26, Indlovu\_28, Iwokeuplikedis\_32, JF1\_28, Jerm\_33, Jobypre\_21, JoshKayV\_33, Jubie\_21, Keshu\_26, Keziacharles14\_31, KillKor\_21, KingCyrus\_33, Kingsolomon\_21, KittenMittens\_31, Krueger\_26, Krypton555\_21, LadyBird\_31, Larenn\_32, LastHope\_27, Leviathan\_33, LilPharaoh\_23, LilTurb\_33, Lolly9\_21, Luchador\_33, Lumos\_21, MacnCheese\_27, Maco6\_22, MalagasyRose\_27, Malthus\_29, Marcoliusprime\_23, Mdavu\_23, Megiddo\_21, MiculUcigas\_31, Milly\_23, MiniLon\_21, MiniMac\_21, MissDaisy\_28, Mitti\_28, Moostard\_21, MsGreen\_21, Muddy\_24, Mufasa\_23, NaSiaTalie\_31, Nicholas\_21, Nikao\_23, Niklas\_27, Nutello\_23, OmniCritical\_28, Panchino\_20, Patt\_28, PeaceMeal1\_31, Peanam\_27, PenguinLover67\_32, Phalm\_21, Pharb\_26, PhelpsODU\_26, Phineas\_21, Phloss\_20, Phrank\_26, Piro94\_32, Pixie\_26, Poompha\_31, Power\_31, QueenB2\_31, QueenBeesly\_31, Quesadilla\_31, Reptar3000\_28, Retro23\_31, Samty\_21, Scitech\_20, SemperFi\_33, Severus\_31, SgtBeansprout\_23, Shadow1\_25, Shaobing\_27, ShedlockHolmes\_26, Shweta\_20, SkinnyPete\_20, Slarp\_28, Smeagan\_33, SnapTap\_31, Snenia\_21, SororFago\_31, Squirty\_19, StressBall\_21, Strobilo\_24, Sunflower1121\_25, SweetiePie\_31, Syra333\_26, TBond007\_26, TClif\_27, TM4\_23, TarsusIV\_31, Tierra\_26,



TribleTrouble\_25, Trike\_30, Trooper\_31, Turbido\_33, Typha\_27, Unicorn\_26, Updawg\_33, Validus\_27, Vanisoa\_30, Whabigail7\_33, Whirlwind\_22, WideWale\_33, Willsammy\_21, Wintermute\_28, Xeno\_20, Ximenita\_27, Y10\_28, Y2\_28, Yuna\_28, ZoeJ\_23,

### Summary by start number:

#### Start 1:

- Found in 14 of 546 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 1 of 493
- Called 7.1% of time when present
- Phage (with cluster) where this start called: Fortunato\_28 (B4),

#### Start 4:

- Found in 9 of 546 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 493
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Squirty\_19 (F3),

#### Start 6:

- Found in 7 of 546 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 7 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CactusJack\_21 (P1), Glaske\_21 (P1), KilKor\_21 (P1), Megiddo\_21 (P1), Phalm\_21 (P1), Phineas\_21 (P1), StressBall\_21 (P1),

#### Start 7:

- Found in 10 of 546 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 9 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Andies\_20 (N), Dynamo\_21 (P1), Fulbright\_20 (N), Panchino\_20 (N), Phloss\_20 (N), Scitech\_20 (N), Shweta\_20 (N), SkinnyPete\_20 (N), Willsammy\_21 (P1), Xeno\_20 (N),

#### Start 12:

- Found in 19 of 546 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 16 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bellis\_21 (L3), Clautastrophe\_21 (L3), DuncansLeg\_21 (L3), Ellson\_21 (L3), Finnry\_21 (L3), Jobypre\_21 (L3), Jubie\_21 (L3), Kingsolomon\_21 (L3), Krypton555\_21 (L3), Lolly9\_21 (L3), Lumos\_21 (L3), MiniLon\_21 (L3), MiniMac\_21 (L3), Moostard\_21 (L3), MsGreen\_21 (L3), Nicholas\_21 (L3), Samty\_21 (L3), Snenia\_21 (L3), Whirlwind\_22 (L3),

#### Start 15:

- Found in 4 of 546 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 4 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bipper\_27 (Y), Cracklewink\_27 (Y), Hilltopfarm\_27 (Y), Typha\_27 (Y),

#### Start 16:

- Found in 6 of 546 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 6 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Drake94\_31 (A10), KittenMittens\_31 (A10), PeaceMeal1\_31 (A10), Poompha\_31 (A10), Severus\_31 (A10), Trike\_30 (A10),

#### Start 17:

- Found in 69 of 546 ( 12.6% ) of genes in pham
- Manual Annotations of this start: 64 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 8UZL\_24 (AB), Amelie\_23 (K1), Amgine\_25 (K6), Amohnition\_26 (K6), Binglebops\_23 (K1), BoostSeason\_23 (K2), Bryler\_26 (K6), Cain\_26 (K6), Chancellor\_28 (K4), Cheetobro\_28 (K4), DARTH\_P\_26 (K6), DismalFunk\_23 (K2), DismalStressor\_23 (K2), Ekdilam\_24 (K6), Ellie\_24 (K6), Enkosi\_23 (K1), FF47\_24 (AB), Fefferhead\_26 (K6), Findley\_23 (K2), Fionnbharth\_28 (K4), Hammy\_26 (K6), Hurricane\_26 (K3), JF1\_28 (K4), Keshu\_26 (K3), Krueger\_26 (K6), LastHope\_27 (K1), LilPharaoh\_23 (K1), MacnCheese\_27 (K3), Maco6\_22 (AB), Malthus\_29 (K4), Marcoliusprime\_23 (K2), Mdavu\_23 (K1), Milly\_23 (K2), MissDaisy\_28 (K4), Mitti\_28 (K4), Muddy\_24 (AB), Mufasa\_23 (K2), Nikao\_23 (K1), Niklas\_27 (K1), Nutello\_23 (K1), OmniCritical\_28 (K4), Patt\_28 (K4), Peanam\_27 (K1), Pharb\_26 (K3), PhelpsODU\_26 (K6), Phrank\_26 (K6), Pixie\_26 (K3), Reptar3000\_28 (K4), SgtBeansprout\_23 (K1), Shadow1\_25 (K6), Shaobing\_27 (K1), ShedlockHolmes\_26 (K3), Slarp\_28 (K4), Strobilo\_24 (K2), Sunflower1121\_25 (K6), Syra333\_26 (K6), TBond007\_26 (K3), TClif\_27 (K6), TM4\_23 (K2), Tierra\_26 (K6), TribbleTrouble\_25 (K3), Unicorn\_26 (K6), Validus\_27 (K1), Wintermute\_28 (K4), Ximenita\_27 (K6), Y10\_28 (K4), Y2\_28 (K4), Yuna\_28 (K6), ZoeJ\_23 (K2),

#### Start 19:

- Found in 30 of 546 ( 5.5% ) of genes in pham
- Manual Annotations of this start: 30 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyPaige\_33 (A2), Agape74\_33 (A2), Baehexic\_32 (A2), Benvolio\_31 (A2), Buggy\_33 (A2), Centaur\_33 (A2), Dignity\_33 (A2), Drake55\_33 (A2), Echidna\_31 (A2), Equemioh13\_33 (A2), Flare16\_31 (A2), Gail\_31 (A14), HarryHoudini\_33 (A2), Iwokeuplikedis\_32 (A2), Jerm\_33 (A2), Keziacharles14\_31 (A9), LadyBird\_31 (A2), Larenn\_32 (A2), Leviathan\_33 (A2), LilTurb\_33 (A2), Luchador\_33 (A14), MiculUcigas\_31 (A2), NaSiaTalie\_31 (A2), Piro94\_32 (A2), Smeagan\_33 (A2), SororFago\_31 (A14), Turbido\_33 (A2), Updawg\_33 (A2), Whabigail7\_33 (A2), WideWale\_33 (A2),

#### Start 20:

- Found in 25 of 546 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 22 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 20ES\_31 (A2), Anselm\_31 (A2), BengiVuitton\_32 (A2), CRB1\_31 (A2), ChipMunk\_33 (A2), Crucio\_31 (A2), Dalmatian\_31 (A2), Deloris\_32 (A2), DudeLittle\_31 (A2), EvilGenius\_33 (A2), Fameo\_31 (A2), FiringLine\_31 (A2), First\_0031 (A2), Georgie2\_32 (A2), JoshKayV\_33 (A2), KingCyrus\_33 (A2), Power\_31 (A2), QueenB2\_31 (A2), QueenBeesly\_31 (A2), Retro23\_31 (A2), SemperFi\_33 (A2), SnapTap\_31 (A2), SweetiePie\_31 (A2), TarsusIV\_31 (A2), Trooper\_31 (A2),

Start 28:

- Found in 30 of 546 ( 5.5% ) of genes in pham
- Manual Annotations of this start: 2 of 493
- Called 6.7% of time when present
- Phage (with cluster) where this start called: CRB2\_33 (B9), PenguinLover67\_32 (B9),

Start 29:

- Found in 1 of 546 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Indlovu\_28 (B11),

Start 30:

- Found in 1 of 546 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Quesadilla\_31 (B9),

Start 31:

- Found in 367 of 546 ( 67.2% ) of genes in pham
- Manual Annotations of this start: 324 of 493
- Called 99.5% of time when present
- Phage (with cluster) where this start called: ABU\_31 (B1), Abinghost\_31 (B3), AbsoluteMadLad\_30 (B1), Acadian\_30 (B5), Adriana\_31 (B1), Aelin\_30 (B1), Akoma\_31 (B3), AlanGrant\_29 (B4), AltPhacts\_31 (B1), Altwerkus\_30 (B1), Anderson\_31 (B1), Andre\_31 (B1), Antonia\_30 (B1), Apex\_28 (B4), Apizium\_30 (B1), Ashraf\_30 (B1), Athena\_32 (B3), Audrey\_31 (B3), Austelle\_29 (B4), Badfish\_31 (B1), Bae\_29 (B5), Baloo\_31 (B3), Banjo\_30 (B1), Basato\_32 (B1), BatteryCK\_30 (B1), Beaglebox\_30 (B1), Ben11\_30 (B3), Bernardo\_31 (B3), Bishoperium\_30 (B1), BlackStallion\_31 (B1), BlueHusk\_31 (B1), Bluephacebaby\_30 (B1), BobbyK\_28 (B4), Boehler\_31 (B1), Briakila\_31 (B3), Brilliant\_31 (B1), BrownCNA\_29 (B4), Buckeye\_31 (B1), Burr\_30 (B1), CamL\_31 (B1), CampRoach\_30 (B1), Cannibal\_31 (B1), Carthage\_29 (B1), Casbah\_30 (B3), ChaChing\_31 (B3), Chaelin\_31 (B1), Chah\_32 (B1), Chandler\_31 (B3), Charles1\_31 (B1), CharlieGBrown\_30 (B1), CheetO\_31 (B1), Cher\_30 (B1), Childish\_30 (B1), Chorkpop\_31 (B1), ChrisnMich\_27 (B4), Chunky\_31 (B1), Chute\_30 (B1), Cobra\_31 (B1), Colbert\_31 (B1), Coletti\_30 (B1), Compostia\_32 (B3), Cooper\_28 (B4), Cornobble\_30 (B1), Corofin\_31 (B3), Cosmolli16\_30 (B1), Craff\_31 (B1), Crownjwl\_31 (B1), DaddyDaniels\_31 (B1), Daffy\_31 (B1), Daisy\_31 (B3), Daka\_31 (B1), Dati\_31 (B1), Deenasa\_31 (B3), DelRivs\_30 (B1), Derpp\_30 (B1), Devonte\_31 (B3), Dice\_32 (B1), DigitDog\_30 (B5), Dingo\_31 (B1), Dione\_30 (B1), DirtJuice\_31 (B1), Doddsville\_31 (B1), DoesntMatter\_31 (B1), DonSanchon\_30 (B1), Donny\_30 (B5), DuchessDung\_29 (B1), Duggie\_30 (B1), Durga\_31 (B1), EastView9101\_30 (B5), Emiris\_31 (B1), EmpTee\_31 (B1), Eremos\_31 (B1), Etaye\_31 (B1), Eugenia\_31 (B1), Fang\_31 (B1), FluffyNinja\_31 (B1), Fozzie\_30 (B1), Frankicide\_31 (B1), Frederick\_28 (B4), Freya\_30 (B1), FriarPreacher\_31 (B1), Fringe\_31 (B1), FugateOSU\_30 (B1), Gadget\_32 (B3), Gareth\_30 (B1), GeneCoco\_31 (B1), Gervas\_31 (B3), Giraffe\_31 (B1), GlenHope\_32 (B3), Gophee\_31 (B1), Grand2040\_30 (B1), Gwilliam\_31 (B1), Gyarad\_0031 (B1), HSavage\_31 (B1), Haimas\_31 (B1), Haleema\_30 (B1), Halfpint\_30 (B3), Hamish\_31 (B1), Hangman\_28 (B4), Hartsy\_30 (B1), HarveySr\_31 (B3), Harvey\_31 (B1), Hashim76\_34 (B13), Heath\_27 (B4), Heathcliff\_31 (B3), Held\_31 (B1), HenryJackson\_30 (B1), Hertubise\_31 (B1), Hetaeria\_31 (B1),

HighStump\_30 (B1), Hocus\_30 (B1), Horchata\_31 (B1), Hydro\_28 (B4),  
ImtiyazSitla\_30 (B1), Imvubu\_24 (B10), Inchworm\_31 (B1), Inverness\_31 (B1),  
Iridoclysis\_31 (B1), IsaacEli\_31 (B1), JAMaL\_28 (B4), JDog\_31 (B1), JacAttac\_31  
(B1), Jackstina\_28 (B3), JaguarMi\_28 (B4), JakeO\_30 (B1), JangoPhett\_31 (B1),  
Jillium\_30 (B1), Jiminy\_30 (B1), KLucky39\_31 (B1), Kahve\_30 (B1), Kailash\_31 (B1),  
Kamiyu\_31 (B3), Katniss\_31 (B1), Keitherie\_31 (B1), Kikipoo\_31 (B1), Kimbrough\_31  
(B1), KingTut\_22 (B1), KingVeVeVe\_31 (B1), KlimbOn\_31 (B1), Kloppinator\_31 (B1),  
Knocker\_32 (B9), Kronus\_30 (B3), Kwadwo\_30 (B1), Kwksand96\_30 (B1),  
Labeouficaum\_30 (B1), LasagnaCat\_31 (B1), Lasso\_31 (B1), LeeLot\_31 (B1),  
Lego3393\_31 (B1), Legolas\_30 (B1), LeiMonet\_31 (B1), LemonSlice\_31 (B1),  
LestyG\_31 (B3), Lolalove\_28 (B4), Longacauda\_30 (B1), Lopsy\_30 (B1),  
LostAndPhound\_30 (B1), LuckyMarjie\_30 (B1), Lulumae\_30 (B1), Lulwa\_31 (B1),  
Lumine\_30 (B1), MRabcd\_30 (B1), Mag7\_30 (B1), Magic8\_31 (B1), Magpie\_27 (B4),  
Mana\_30 (B1), Manad\_30 (B1), Marley1013\_31 (B3), Maru\_30 (B1), Maskar\_30  
(B1), Matalotodo\_30 (B1), Mcshane\_30 (B1), Mecca\_30 (B1), Megamind20\_31 (B1),  
Megatron\_31 (B1), Melc17\_31 (B1), MelsMeow\_30 (B1), Mesh1\_31 (B1),  
MichaelPhcott\_30 (B1), Mikota\_31 (B1), MiniBoss\_31 (B1), MitKao\_31 (B1),  
Mithril\_28 (B4), MmasiCarm\_31 (B3), Morgushi\_31 (B1), Mortcellus\_30 (B3),  
Morty007\_31 (B3), Morty\_31 (B1), Mosaic\_30 (B1), MrPhizzler\_30 (B1), Mudslide\_28  
(B4), Mulan\_30 (B1), Murdoc\_31 (B1), Mutante\_30 (B1), Mysterious\_31 (B5),  
Nacho\_0031 (B1), Nanao\_27 (B4), Nangang\_30 (B5), Neos5\_31 (B3), Newman\_31  
(B1), Nicole21\_31 (B1), Nigel\_26 (B4), Nozo\_31 (B3), Numberten\_31 (B1), Nyala\_30  
(B1), OSmaximus\_31 (B1), Obutu\_31 (B3), Olak\_31 (B1), Oline\_30 (B1), Olive\_31  
(B1), OliverWalter\_31 (B1), Omniscient\_31 (B1), Oosterbaan\_31 (B1),  
OrangeOswald\_31 (B3), Orfeu\_30 (B1), Orion\_31 (B1), Orwigg\_31 (B1), PG1\_31  
(B1), Pacifista\_32 (B1), Phaedrus\_29 (B3), Phamished\_31 (B1), Phareon\_31 (B1),  
PhatCats2014\_31 (B1), PhatLouie\_31 (B1), Phayeta\_31 (B3), Phelemich\_30 (B5),  
PhenghisKhan\_30 (B1), Pherdinand\_31 (B1), Phergie\_30 (B1), Philly\_30 (B3),  
Phipps\_31 (B1), Phleuron\_30 (B1), Phlyer\_31 (B3), PhrankReynolds\_30 (B1),  
PhrodoBaggins\_30 (B1), Phunky\_31 (B1), Piglet\_0030 (B1), PinheadLarry\_31 (B1),  
Pinkman\_30 (B1), Pipefish\_32 (B3), Pipsqueak\_31 (B1), Placalicious\_30 (B1),  
Plmatters\_31 (B1), Podrick\_31 (B1), Pops\_31 (B1), Poster\_27 (B4), Potter\_30 (B1),  
Prickles\_31 (B1), Prince\_29 (B4), ProfessorX\_31 (B1), Puhltonio\_31 (B1),  
QueenBeane\_31 (B1), Quisquiliae\_31 (B1), RagingRooster\_31 (B3),  
RawrgerThat\_28 (B4), RedMaple\_30 (B1), Reprobate\_30 (B5), Rich\_29 (B5),  
Ricotta\_31 (B1), Riggan\_31 (B1), Rimu\_32 (B1), Robyn\_30 (B1), Roliet\_31 (B1),  
RomaT\_31 (B3), Roscoe\_32 (B1), Roy17\_31 (B1), SDcharge11\_31 (B1),  
Saguaro\_31 (B7), Samaymay\_31 (B1), SassyCat97\_30 (B1), Schadenfreude\_30  
(B1), Schueller\_31 (B1), Scoot17C\_31 (B1), Scrick\_31 (B1), Selr12\_31 (B1),  
Serendipitous\_29 (B5), Serendipity\_31 (B1), Serpentine\_0031 (B1), Sheila\_31 (B1),  
ShiVal\_31 (B1), Sigman\_31 (B1), Simielle\_30 (B1), SirJeffery\_30 (B5), Skippy\_31  
(B1), Slatt\_31 (B1), SlippinJimmy\_31 (B3), Soile\_31 (B1), Solosis\_30 (B1),  
Sophia\_30 (B1), Soto\_31 (B1), Spartan300\_31 (B1), Squid\_31 (B1), Squiggle\_31  
(B1), Stinger\_26 (B4), StinkyVeggy\_32 (B5), Struggle\_30 (B1), Suffolk\_31 (B1),  
Suigeneris\_30 (B5), Surely\_31 (B1), Swiphy\_32 (B1), Swish\_31 (B1), SynergyX\_31  
(B3), TallGrassMM\_31 (B1), Telesworld\_30 (B1), Thonko\_29 (B8), Thora\_31 (B1),  
ThreeOh3D2\_31 (B1), Timmi\_30 (B1), TomBombadil\_31 (B1), Tomlarah\_31 (B1),  
Toni\_30 (B1), Tooj\_31 (B1), True\_30 (B1), Trypo\_31 (B1), Tydolla\_31 (B3),  
TyrionL\_30 (B1), UAch1\_31 (B1), UncleHowie\_31 (B1), Usavi\_31 (B1),  
Vaishali24\_30 (B1), Valjean\_31 (B1), Vaticameos\_31 (B1), Veritas\_30 (B1),  
Vincenzo\_29 (B4), VioletZ\_28 (B4), Virapocalypse\_31 (B1), Virgeve\_30 (B1),  
Vista\_31 (B1), Vivaldi\_31 (B1), Vortex\_31 (B1), Waleliano\_28 (B4), Wallhey\_30 (B1),  
Waterdiva\_31 (B1), Weher20\_31 (B1), Windsor\_30 (B1), Xavier\_30 (B1),



Yahalom\_31 (B3), Yinz\_31 (B3), Yoshand\_31 (B1), YouGoGlencoco\_31 (B1), Zaider\_32 (B1), Zelda\_31 (B1), Zemanar\_29 (B4), Zenteno07\_34 (B13), Zonia\_31 (B1),

Start 37:

- Found in 45 of 546 ( 8.2% ) of genes in pham
- Manual Annotations of this start: 1 of 493
- Called 2.2% of time when present
- Phage (with cluster) where this start called: Rita1961\_31 (B3),

Start 42:

- Found in 20 of 546 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 1 of 493
- Called 5.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_27 (AG),

Start 47:

- Found in 5 of 546 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 493
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Curiosium\_28 (K1),

Start 52:

- Found in 2 of 546 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 493
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arissanae\_31 (A9), Vanisoa\_30 (A9),

### **Summary by clusters:**

There are 26 clusters represented in this pham: K4, K3, K2, K1, AB, B13, B10, B11, A14, A10, A2, A9, P1, AG, N, L3, Y, F3, B4, B5, B7, B1, B3, B8, B9, K6,

Info for manual annotations of cluster A10:

- Start number 16 was manually annotated 6 times for cluster A10.

Info for manual annotations of cluster A14:

- Start number 19 was manually annotated 3 times for cluster A14.

Info for manual annotations of cluster A2:

- Start number 19 was manually annotated 26 times for cluster A2.
- Start number 20 was manually annotated 22 times for cluster A2.

Info for manual annotations of cluster A9:

- Start number 19 was manually annotated 1 time for cluster A9.
- Start number 52 was manually annotated 2 times for cluster A9.

Info for manual annotations of cluster AB:

- Start number 17 was manually annotated 2 times for cluster AB.

Info for manual annotations of cluster AG:

- Start number 42 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster B1:

- Start number 31 was manually annotated 247 times for cluster B1.

Info for manual annotations of cluster B10:

- Start number 31 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 29 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B13:

- Start number 31 was manually annotated 1 time for cluster B13.

Info for manual annotations of cluster B3:

- Start number 31 was manually annotated 43 times for cluster B3.
- Start number 37 was manually annotated 1 time for cluster B3.

Info for manual annotations of cluster B4:

- Start number 1 was manually annotated 1 time for cluster B4.
- Start number 31 was manually annotated 21 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 31 was manually annotated 8 times for cluster B5.

Info for manual annotations of cluster B7:

- Start number 31 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 31 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 28 was manually annotated 2 times for cluster B9.
- Start number 30 was manually annotated 1 time for cluster B9.
- Start number 31 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster F3:

- Start number 4 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster K1:

- Start number 17 was manually annotated 13 times for cluster K1.
- Start number 47 was manually annotated 1 time for cluster K1.

Info for manual annotations of cluster K2:

- Start number 17 was manually annotated 9 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 17 was manually annotated 7 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 17 was manually annotated 14 times for cluster K4.

Info for manual annotations of cluster K6:

- Start number 17 was manually annotated 19 times for cluster K6.

Info for manual annotations of cluster L3:

- Start number 12 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster N:

- Start number 7 was manually annotated 7 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 6 was manually annotated 7 times for cluster P1.
- Start number 7 was manually annotated 2 times for cluster P1.

Info for manual annotations of cluster Y:

- Start number 15 was manually annotated 4 times for cluster Y.

### **Gene Information:**

Gene: 20ES\_31 Start: 22797, Stop: 25202, Start Num: 20

Candidate Starts for 20ES\_31:

(Start: 20 @22797 has 22 MA's), (27, 22818), (51, 22908), (54, 22917), (61, 22938), (81, 23001), (91, 23037), (119, 23118), (143, 23187), (153, 23208), (156, 23217), (191, 23328), (198, 23349), (220, 23439), (224, 23454), (259, 23574), (270, 23607), (275, 23616), (307, 23715), (313, 23742), (371, 23955), (390, 24045), (395, 24063), (401, 24087), (450, 24288), (461, 24327), (466, 24348), (480, 24384), (487, 24417), (492, 24438), (499, 24474), (518, 24528), (530, 24579), (534, 24600), (557, 24705), (561, 24720), (615, 24930), (650, 24999), (716, 25170), (717, 25179), (718, 25185),

Gene: 8UZL\_24 Start: 19399, Stop: 21717, Start Num: 17

Candidate Starts for 8UZL\_24:

(Start: 17 @19399 has 64 MA's), (76, 19600), (91, 19645), (96, 19657), (160, 19768), (178, 19834), (219, 19975), (255, 20107), (271, 20146), (278, 20158), (291, 20197), (298, 20215), (310, 20251), (335, 20311), (350, 20386), (362, 20413), (376, 20476), (389, 20533), (435, 20728), (458, 20797), (461, 20815), (463, 20821), (464, 20824), (465, 20827), (475, 20851), (497, 20944), (498, 20950), (521, 21028), (531, 21076), (532, 21079), (547, 21157), (561, 21223), (563, 21235), (578, 21298), (585, 21319), (590, 21340), (606, 21397), (607, 21418), (621, 21457), (641, 21499), (660, 21532), (662, 21538), (668, 21553), (697, 21637),

Gene: ABU\_31 Start: 28756, Stop: 31011, Start Num: 31

Candidate Starts for ABU\_31:

(Start: 31 @28756 has 324 MA's), (57, 28852), (79, 28930), (84, 28957), (114, 29056), (164, 29215), (215, 29395), (221, 29419), (247, 29509), (248, 29515), (262, 29551), (277, 29590), (282, 29599), (291, 29632), (299, 29671), (312, 29716), (326, 29767), (344, 29818), (345, 29827), (358, 29896), (377, 29971), (393, 30016), (397, 30031), (428, 30166), (441, 30220), (444, 30241), (457, 30274), (471, 30319), (487, 30373), (509, 30457), (519, 30478), (529, 30520), (539, 30559), (553, 30619), (614, 30859), (624, 30892), (625, 30895), (639, 30928), (642, 30934), (672, 30997),

Gene: AbbyPaige\_33 Start: 23268, Stop: 25358, Start Num: 19

Candidate Starts for AbbyPaige\_33:

(Start: 19 @23268 has 30 MA's), (51, 23382), (54, 23391), (56, 23397), (81, 23481), (95, 23529), (127, 23619), (135, 23643), (156, 23697), (220, 23808), (259, 23943), (390, 24180), (395, 24198), (401, 24222), (425, 24330), (442, 24393), (450, 24423), (461, 24462), (487, 24552), (499, 24609), (500, 24612), (521, 24669), (530, 24714), (534, 24735), (574, 24912), (575, 24924), (585, 24951), (609, 25056), (651, 25146), (701, 25269), (705, 25281), (711, 25305), (718, 25335), (722, 25350),

Gene: Abinghost\_31 Start: 28613, Stop: 30838, Start Num: 31

Candidate Starts for Abinghost\_31:

(Start: 31 @28613 has 324 MA's), (Start: 37 @28628 has 1 MA's), (46, 28673), (63, 28730), (85, 28808), (108, 28877), (114, 28889), (126, 28931), (137, 28967), (148, 28994), (154, 29006), (161, 29033), (187, 29123), (209, 29195), (229, 29279), (264, 29387), (270, 29408), (299, 29501), (305, 29516), (343, 29645), (358, 29726), (377, 29801), (392, 29843), (393, 29849), (413, 29948), (428, 29999), (429, 30011), (441, 30053), (444, 30074), (462, 30128), (471, 30152), (483, 30188), (509, 30284), (515, 30293), (529, 30347), (555, 30455), (561, 30482), (571, 30524), (592, 30596), (614, 30686), (625, 30722),

Gene: AbsoluteMadLad\_30 Start: 28765, Stop: 31020, Start Num: 31

Candidate Starts for AbsoluteMadLad\_30:

(Start: 31 @28765 has 324 MA's), (57, 28861), (79, 28939), (84, 28966), (114, 29065), (164, 29224), (215, 29404), (221, 29428), (248, 29524), (262, 29560), (277, 29599), (282, 29608), (291, 29641), (299, 29680), (312, 29725), (326, 29776), (344, 29827), (345, 29836), (358, 29905), (377, 29980), (393, 30025), (397, 30040), (428, 30175), (441, 30229), (444, 30250), (457, 30283), (471, 30328), (487, 30382), (509, 30466), (519, 30487), (529, 30529), (539, 30568), (553, 30628), (614, 30868), (624, 30901), (625, 30904), (639, 30937), (642, 30943), (672, 31006),

Gene: Acadian\_30 Start: 28978, Stop: 31254, Start Num: 31

Candidate Starts for Acadian\_30:

(Start: 31 @28978 has 324 MA's), (33, 28984), (43, 29026), (49, 29047), (53, 29056), (67, 29110), (73, 29131), (78, 29149), (79, 29152), (89, 29194), (93, 29200), (98, 29212), (114, 29281), (120, 29317), (164, 29440), (196, 29545), (235, 29701), (243, 29728), (256, 29779), (277, 29830), (284, 29845), (344, 30058), (349, 30094), (358, 30136), (377, 30211), (413, 30361), (419, 30385), (428, 30412), (444, 30487), (462, 30541), (509, 30700), (515, 30709), (519, 30721), (539, 30802), (540, 30805), (555, 30871), (566, 30919), (583, 30985), (614, 31102),

Gene: Adriana\_31 Start: 28754, Stop: 31009, Start Num: 31

Candidate Starts for Adriana\_31:

(Start: 31 @28754 has 324 MA's), (57, 28850), (79, 28928), (84, 28955), (114, 29054), (164, 29213), (215, 29393), (221, 29417), (247, 29507), (248, 29513), (262, 29549), (277, 29588), (282, 29597), (291, 29630), (299, 29669), (312, 29714), (326, 29765), (344, 29816), (345, 29825), (358, 29894), (377, 29969), (393, 30014), (397, 30029), (428, 30164), (441, 30218), (444, 30239), (457, 30272), (471, 30317), (487, 30371), (495, 30398), (509, 30455), (519, 30476), (529, 30518), (539, 30557), (553, 30617), (614, 30857), (624, 30890), (625, 30893), (639, 30926), (642, 30932), (672, 30995),

Gene: Aelin\_30 Start: 28317, Stop: 30575, Start Num: 31

Candidate Starts for Aelin\_30:

(Start: 31 @28317 has 324 MA's), (57, 28413), (79, 28491), (84, 28518), (114, 28620), (164, 28779), (215, 28959), (221, 28983), (248, 29079), (262, 29115), (277, 29154), (282, 29163), (291, 29196), (299, 29235), (312, 29280), (326, 29331), (344, 29382), (345, 29391), (358, 29460), (377, 29535), (393, 29580), (397, 29595), (428, 29730), (441, 29784), (444, 29805), (457, 29838), (471, 29883), (487, 29937), (495, 29964), (509, 30021), (519, 30042), (529, 30084), (539, 30123), (553, 30183), (614, 30423), (625, 30459), (639, 30492), (672, 30561),

Gene: Agape74\_33 Start: 23244, Stop: 25334, Start Num: 19

Candidate Starts for Agape74\_33:

(Start: 19 @23244 has 30 MA's), (51, 23358), (54, 23367), (56, 23373), (81, 23457), (95, 23505), (127, 23595), (135, 23619), (156, 23673), (220, 23784), (259, 23919), (390, 24156), (395, 24174), (401, 24198), (425, 24306), (442, 24369), (450, 24399), (461, 24438), (487, 24528), (499, 24585), (500, 24588), (521, 24645), (530, 24690), (534, 24711), (574, 24888), (575, 24900), (585, 24927), (609, 25032), (651, 25122), (701, 25245), (705, 25257), (711, 25281), (718, 25311), (722, 25326),



Gene: Akoma\_31 Start: 28614, Stop: 30842, Start Num: 31

Candidate Starts for Akoma\_31:

(Start: 31 @28614 has 324 MA's), (Start: 37 @28629 has 1 MA's), (46, 28674), (63, 28731), (85, 28809), (108, 28878), (114, 28890), (126, 28932), (137, 28968), (148, 28995), (154, 29007), (161, 29034), (187, 29124), (209, 29196), (229, 29280), (264, 29388), (270, 29409), (299, 29502), (305, 29517), (343, 29646), (358, 29727), (377, 29802), (392, 29844), (393, 29850), (402, 29886), (428, 30000), (429, 30012), (441, 30054), (444, 30075), (462, 30129), (471, 30153), (509, 30288), (515, 30297), (529, 30351), (555, 30459), (561, 30486), (571, 30528), (592, 30600), (614, 30690), (625, 30726),

Gene: AlanGrant\_29 Start: 29686, Stop: 31983, Start Num: 31

Candidate Starts for AlanGrant\_29:

(Start: 31 @29686 has 324 MA's), (Start: 37 @29701 has 1 MA's), (57, 29785), (63, 29803), (78, 29860), (114, 29989), (196, 30253), (208, 30292), (209, 30298), (215, 30328), (219, 30343), (221, 30352), (242, 30433), (243, 30436), (275, 30535), (277, 30538), (279, 30541), (284, 30553), (314, 30676), (320, 30700), (343, 30763), (349, 30802), (366, 30874), (372, 30895), (374, 30916), (377, 30931), (383, 30952), (393, 30982), (401, 31015), (402, 31018), (405, 31030), (413, 31081), (414, 31084), (418, 31102), (426, 31126), (428, 31132), (441, 31186), (444, 31207), (462, 31261), (471, 31285), (509, 31420), (513, 31426), (515, 31429), (519, 31441), (540, 31525), (571, 31660), (578, 31684), (595, 31747), (603, 31783), (609, 31816), (614, 31831), (624, 31864), (625, 31867), (672, 31969), (674, 31972),

Gene: AltPhacts\_31 Start: 28743, Stop: 30998, Start Num: 31

Candidate Starts for AltPhacts\_31:

(Start: 31 @28743 has 324 MA's), (57, 28839), (79, 28917), (84, 28944), (114, 29043), (164, 29202), (215, 29382), (221, 29406), (248, 29502), (262, 29538), (277, 29577), (282, 29586), (291, 29619), (299, 29658), (312, 29703), (326, 29754), (344, 29805), (345, 29814), (358, 29883), (377, 29958), (393, 30003), (397, 30018), (428, 30153), (441, 30207), (444, 30228), (457, 30261), (471, 30306), (487, 30360), (495, 30387), (509, 30444), (519, 30465), (529, 30507), (539, 30546), (553, 30606), (614, 30846), (625, 30882), (639, 30915), (672, 30984),

Gene: Altwerkus\_30 Start: 28443, Stop: 30698, Start Num: 31

Candidate Starts for Altwerkus\_30:

(Start: 31 @28443 has 324 MA's), (57, 28539), (79, 28617), (84, 28644), (114, 28743), (164, 28902), (215, 29082), (221, 29106), (247, 29196), (248, 29202), (262, 29238), (277, 29277), (282, 29286), (291, 29319), (299, 29358), (312, 29403), (326, 29454), (344, 29505), (345, 29514), (358, 29583), (377, 29658), (393, 29703), (397, 29718), (428, 29853), (441, 29907), (444, 29928), (457, 29961), (471, 30006), (487, 30060), (495, 30087), (509, 30144), (519, 30165), (529, 30207), (539, 30246), (553, 30306), (614, 30546), (625, 30582), (639, 30615), (672, 30684),

Gene: Amelie\_23 Start: 20414, Stop: 22900, Start Num: 17

Candidate Starts for Amelie\_23:

(Start: 17 @20414 has 64 MA's), (Start: 28 @20462 has 2 MA's), (83, 20642), (84, 20645), (134, 20708), (137, 20720), (181, 20852), (193, 20891), (209, 20948), (213, 20972), (216, 20984), (229, 21032), (230, 21035), (245, 21068), (254, 21107), (265, 21140), (270, 21152), (275, 21161), (279, 21167), (296, 21233), (299, 21248), (330, 21359), (340, 21392), (355, 21476), (361, 21491), (373, 21551), (386, 21620), (411, 21740), (432, 21833), (461, 21947), (481, 22025), (482, 22031), (490, 22055), (503, 22118), (504, 22121), (507, 22133), (527, 22199), (528, 22205), (537, 22247), (541, 22268), (543, 22277), (548, 22310), (552, 22328), (567, 22397), (591, 22496), (593, 22502), (597, 22520), (607, 22574), (612, 22589), (622, 22616), (652, 22673),

Gene: Amgine\_25 Start: 20975, Stop: 23359, Start Num: 17

Candidate Starts for Amgine\_25:

(Start: 17 @20975 has 64 MA's), (26, 21005), (Start: 28 @21023 has 2 MA's), (54, 21107), (137, 21281), (181, 21413), (208, 21503), (216, 21545), (230, 21596), (248, 21638), (250, 21641), (265, 21698), (275, 21722), (279, 21728), (291, 21767), (305, 21824), (330, 21920), (355, 22037), (376, 22106), (384, 22145), (388, 22163), (393, 22175), (426, 22319), (463, 22454), (464, 22457), (465, 22460), (474, 22499), (490, 22553), (527, 22694), (528, 22700), (532, 22715), (533, 22727), (541, 22757), (557, 22844), (559, 22850), (596, 23000), (610, 23063), (617, 23090), (621, 23099), (676, 23201), (684, 23222), (685, 23225), (723, 23333),

Gene: Amohnition\_26 Start: 21373, Stop: 23781, Start Num: 17

Candidate Starts for Amohnition\_26:

(Start: 17 @21373 has 64 MA's), (18, 21382), (Start: 28 @21421 has 2 MA's), (66, 21544), (83, 21601), (86, 21613), (137, 21679), (141, 21688), (159, 21733), (181, 21811), (208, 21901), (209, 21907), (216, 21943), (230, 21994), (248, 22036), (250, 22039), (253, 22060), (275, 22120), (279, 22126), (330, 22318), (355, 22435), (376, 22504), (384, 22543), (388, 22561), (393, 22573), (426, 22717), (463, 22852), (465, 22858), (474, 22897), (490, 22951), (501, 23005), (527, 23092), (528, 23098), (532, 23113), (533, 23125), (541, 23155), (557, 23242), (559, 23248), (596, 23398), (607, 23452), (680, 23611), (684, 23626), (685, 23629), (723, 23755),

Gene: Anderson\_31 Start: 28749, Stop: 31004, Start Num: 31

Candidate Starts for Anderson\_31:

(Start: 31 @28749 has 324 MA's), (57, 28845), (79, 28923), (84, 28950), (114, 29049), (164, 29208), (215, 29388), (221, 29412), (247, 29502), (248, 29508), (262, 29544), (277, 29583), (282, 29592), (291, 29625), (299, 29664), (312, 29709), (326, 29760), (344, 29811), (345, 29820), (358, 29889), (377, 29964), (393, 30009), (397, 30024), (428, 30159), (441, 30213), (444, 30234), (457, 30267), (471, 30312), (487, 30366), (495, 30393), (509, 30450), (519, 30471), (529, 30513), (539, 30552), (553, 30612), (614, 30852), (624, 30885), (625, 30888), (639, 30921), (642, 30927), (672, 30990),

Gene: Andies\_20 Start: 17553, Stop: 20192, Start Num: 7

Candidate Starts for Andies\_20:

(Start: 4 @17541 has 1 MA's), (Start: 7 @17553 has 9 MA's), (10, 17565), (11, 17577), (23, 17631), (41, 17700), (Start: 42 @17703 has 1 MA's), (43, 17712), (Start: 47 @17727 has 1 MA's), (100, 17904), (129, 17985), (131, 17994), (153, 18051), (158, 18066), (174, 18117), (194, 18189), (203, 18219), (211, 18255), (227, 18318), (232, 18333), (240, 18360), (242, 18366), (267, 18441), (279, 18465), (280, 18471), (292, 18525), (294, 18531), (318, 18618), (351, 18750), (355, 18768), (365, 18801), (372, 18828), (378, 18879), (424, 19089), (439, 19155), (447, 19191), (470, 19290), (472, 19302), (487, 19365), (528, 19527), (532, 19542), (543, 19593), (567, 19710), (576, 19755), (589, 19797), (597, 19833), (609, 19887), (627, 19935), (693, 20079), (709, 20136), (718, 20175), (721, 20184),

Gene: Andre\_31 Start: 28747, Stop: 31002, Start Num: 31

Candidate Starts for Andre\_31:

(Start: 31 @28747 has 324 MA's), (57, 28843), (79, 28921), (84, 28948), (114, 29047), (164, 29206), (215, 29386), (221, 29410), (247, 29500), (248, 29506), (262, 29542), (277, 29581), (282, 29590), (291, 29623), (299, 29662), (312, 29707), (326, 29758), (344, 29809), (345, 29818), (358, 29887), (377, 29962), (393, 30007), (397, 30022), (428, 30157), (441, 30211), (444, 30232), (457, 30265), (471, 30310), (487, 30364), (495, 30391), (509, 30448), (519, 30469), (529, 30511), (539, 30550), (553, 30610), (614, 30850), (624, 30883), (625, 30886), (639, 30919), (642, 30925), (672, 30988),

Gene: Anselm\_31 Start: 22873, Stop: 25074, Start Num: 20

Candidate Starts for Anselm\_31:

(Start: 20 @22873 has 22 MA's), (27, 22894), (54, 22993), (71, 23056), (81, 23083), (91, 23119), (127, 23221), (131, 23233), (156, 23299), (220, 23410), (257, 23542), (259, 23545), (390, 23899), (395,

23917), (401, 23941), (450, 24142), (461, 24181), (487, 24271), (499, 24328), (521, 24388), (530, 24433), (534, 24454), (557, 24559), (561, 24574), (575, 24643), (585, 24670), (596, 24715), (609, 24775), (616, 24799), (687, 24949), (705, 24997), (711, 25021),

Gene: Antonia\_30 Start: 28317, Stop: 30575, Start Num: 31

Candidate Starts for Antonia\_30:

(Start: 31 @28317 has 324 MA's), (57, 28413), (79, 28491), (84, 28518), (114, 28620), (164, 28779), (215, 28959), (221, 28983), (248, 29079), (262, 29115), (277, 29154), (282, 29163), (291, 29196), (299, 29235), (312, 29280), (326, 29331), (344, 29382), (345, 29391), (358, 29460), (377, 29535), (393, 29580), (397, 29595), (428, 29730), (441, 29784), (444, 29805), (457, 29838), (471, 29883), (487, 29937), (495, 29964), (509, 30021), (519, 30042), (529, 30084), (539, 30123), (553, 30183), (614, 30423), (625, 30459), (639, 30492), (672, 30561),

Gene: Apex\_28 Start: 29148, Stop: 31445, Start Num: 31

Candidate Starts for Apex\_28:

(Start: 1 @28461 has 1 MA's), (2, 28608), (Start: 31 @29148 has 324 MA's), (57, 29247), (63, 29265), (98, 29388), (114, 29451), (136, 29532), (160, 29598), (196, 29715), (208, 29754), (219, 29805), (221, 29814), (235, 29871), (242, 29895), (243, 29898), (262, 29961), (279, 30003), (284, 30015), (312, 30126), (314, 30138), (320, 30162), (343, 30225), (366, 30336), (372, 30357), (377, 30393), (383, 30414), (402, 30480), (405, 30492), (413, 30543), (414, 30546), (418, 30564), (426, 30588), (431, 30615), (441, 30648), (444, 30669), (457, 30702), (471, 30747), (513, 30888), (515, 30891), (516, 30894), (519, 30903), (540, 30987), (566, 31101), (571, 31122), (578, 31146), (595, 31209), (602, 31239), (603, 31245), (614, 31293), (624, 31326), (625, 31329), (672, 31431), (674, 31434),

Gene: Apizium\_30 Start: 28508, Stop: 30766, Start Num: 31

Candidate Starts for Apizium\_30:

(Start: 31 @28508 has 324 MA's), (57, 28604), (79, 28682), (84, 28709), (114, 28811), (164, 28970), (215, 29150), (221, 29174), (247, 29264), (248, 29270), (262, 29306), (277, 29345), (282, 29354), (291, 29387), (299, 29426), (312, 29471), (326, 29522), (344, 29573), (345, 29582), (358, 29651), (377, 29726), (393, 29771), (397, 29786), (428, 29921), (441, 29975), (444, 29996), (457, 30029), (471, 30074), (487, 30128), (495, 30155), (509, 30212), (519, 30233), (529, 30275), (539, 30314), (553, 30374), (614, 30614), (624, 30647), (625, 30650), (639, 30683), (642, 30689), (672, 30752),

Gene: Arissanae\_31 Start: 22459, Stop: 24807, Start Num: 52

Candidate Starts for Arissanae\_31:

(50, 22453), (Start: 52 @22459 has 2 MA's), (80, 22558), (92, 22591), (115, 22666), (133, 22726), (168, 22816), (197, 22918), (204, 22945), (212, 22981), (231, 23050), (295, 23266), (307, 23308), (334, 23398), (342, 23425), (376, 23572), (378, 23590), (401, 23674), (403, 23683), (405, 23689), (447, 23869), (465, 23929), (482, 23977), (484, 23989), (530, 24169), (533, 24187), (543, 24226), (549, 24256), (558, 24301), (567, 24337), (568, 24340), (582, 24403), (621, 24547), (656, 24613), (697, 24727), (715, 24772), (717, 24784),

Gene: Ashraf\_30 Start: 28315, Stop: 30570, Start Num: 31

Candidate Starts for Ashraf\_30:

(Start: 31 @28315 has 324 MA's), (57, 28411), (79, 28489), (84, 28516), (114, 28615), (164, 28774), (215, 28954), (221, 28978), (248, 29074), (262, 29110), (277, 29149), (282, 29158), (291, 29191), (299, 29230), (312, 29275), (326, 29326), (344, 29377), (345, 29386), (358, 29455), (377, 29530), (393, 29575), (397, 29590), (428, 29725), (441, 29779), (444, 29800), (457, 29833), (471, 29878), (487, 29932), (495, 29959), (509, 30016), (519, 30037), (529, 30079), (539, 30118), (553, 30178), (614, 30418), (625, 30454), (639, 30487), (672, 30556),

Gene: Athena\_32 Start: 29364, Stop: 31589, Start Num: 31

Candidate Starts for Athena\_32:

(Start: 31 @29364 has 324 MA's), (Start: 37 @29379 has 1 MA's), (46, 29424), (63, 29481), (85, 29559), (108, 29628), (114, 29640), (126, 29682), (137, 29718), (148, 29745), (154, 29757), (161, 29784), (187, 29874), (209, 29946), (229, 30030), (264, 30138), (270, 30159), (299, 30252), (305, 30267), (343, 30396), (358, 30477), (377, 30552), (392, 30594), (393, 30600), (413, 30699), (428, 30750), (429, 30762), (441, 30804), (444, 30825), (462, 30879), (471, 30903), (483, 30939), (509, 31035), (515, 31044), (529, 31098), (555, 31206), (561, 31233), (571, 31275), (592, 31347), (614, 31437), (625, 31473),

Gene: Audrey\_31 Start: 28613, Stop: 30838, Start Num: 31

Candidate Starts for Audrey\_31:

(Start: 31 @28613 has 324 MA's), (Start: 37 @28628 has 1 MA's), (46, 28673), (63, 28730), (85, 28808), (108, 28877), (114, 28889), (126, 28931), (137, 28967), (148, 28994), (154, 29006), (161, 29033), (187, 29123), (209, 29195), (229, 29279), (264, 29387), (270, 29408), (299, 29501), (305, 29516), (343, 29645), (358, 29726), (377, 29801), (393, 29849), (413, 29948), (428, 29999), (429, 30011), (441, 30053), (444, 30074), (462, 30128), (471, 30152), (483, 30188), (509, 30284), (515, 30293), (529, 30347), (555, 30455), (561, 30482), (571, 30524), (592, 30596), (614, 30686), (625, 30722),

Gene: Austelle\_29 Start: 29604, Stop: 31901, Start Num: 31

Candidate Starts for Austelle\_29:

(Start: 1 @28917 has 1 MA's), (2, 29064), (Start: 31 @29604 has 324 MA's), (57, 29703), (63, 29721), (98, 29844), (114, 29907), (136, 29988), (160, 30054), (196, 30171), (208, 30210), (219, 30261), (221, 30270), (235, 30327), (242, 30351), (243, 30354), (262, 30417), (279, 30459), (284, 30471), (314, 30594), (320, 30618), (343, 30681), (349, 30720), (366, 30792), (372, 30813), (377, 30849), (383, 30870), (402, 30936), (405, 30948), (413, 30999), (414, 31002), (418, 31020), (426, 31044), (431, 31071), (441, 31104), (444, 31125), (457, 31158), (471, 31203), (513, 31344), (515, 31347), (519, 31359), (540, 31443), (571, 31578), (578, 31602), (595, 31665), (602, 31695), (603, 31701), (614, 31749), (624, 31782), (625, 31785), (672, 31887), (674, 31890),

Gene: Badfish\_31 Start: 28778, Stop: 31033, Start Num: 31

Candidate Starts for Badfish\_31:

(Start: 31 @28778 has 324 MA's), (57, 28874), (79, 28952), (84, 28979), (114, 29078), (164, 29237), (215, 29417), (221, 29441), (247, 29531), (248, 29537), (262, 29573), (277, 29612), (282, 29621), (291, 29654), (299, 29693), (312, 29738), (326, 29789), (344, 29840), (345, 29849), (358, 29918), (377, 29993), (393, 30038), (397, 30053), (428, 30188), (441, 30242), (444, 30263), (457, 30296), (471, 30341), (487, 30395), (509, 30479), (519, 30500), (529, 30542), (539, 30581), (553, 30641), (614, 30881), (624, 30914), (625, 30917), (639, 30950), (642, 30956), (672, 31019),

Gene: Bae\_29 Start: 28752, Stop: 31019, Start Num: 31

Candidate Starts for Bae\_29:

(Start: 31 @28752 has 324 MA's), (33, 28758), (46, 28809), (53, 28830), (67, 28884), (70, 28896), (73, 28905), (78, 28923), (98, 28986), (196, 29319), (223, 29421), (235, 29475), (277, 29595), (284, 29610), (291, 29637), (344, 29823), (349, 29859), (358, 29901), (393, 30027), (413, 30126), (428, 30177), (462, 30306), (471, 30330), (509, 30465), (529, 30528), (539, 30567), (540, 30570), (555, 30636), (562, 30666), (566, 30684), (583, 30750), (592, 30777), (614, 30867), (639, 30936), (672, 31005), (674, 31008),

Gene: Baehexic\_32 Start: 23237, Stop: 25444, Start Num: 19

Candidate Starts for Baehexic\_32:

(Start: 19 @23237 has 30 MA's), (51, 23351), (54, 23360), (56, 23366), (61, 23387), (71, 23423), (95, 23498), (127, 23588), (131, 23600), (220, 23777), (231, 23816), (259, 23912), (355, 24125), (371, 24173), (390, 24263), (398, 24293), (401, 24305), (461, 24545), (487, 24644), (492, 24665), (518, 24755), (521, 24761), (522, 24767), (530, 24806), (534, 24827), (543, 24863), (544, 24866), (557,

24932), (609, 25148), (629, 25196), (663, 25259), (687, 25319), (705, 25367), (718, 25421),

Gene: Baloo\_31 Start: 28616, Stop: 30841, Start Num: 31

Candidate Starts for Baloo\_31:

(Start: 31 @28616 has 324 MA's), (Start: 37 @28631 has 1 MA's), (46, 28676), (63, 28733), (85, 28811), (108, 28880), (114, 28892), (126, 28934), (137, 28970), (148, 28997), (154, 29009), (161, 29036), (187, 29126), (209, 29198), (229, 29282), (264, 29390), (270, 29411), (299, 29504), (305, 29519), (343, 29648), (358, 29729), (377, 29804), (392, 29846), (393, 29852), (413, 29951), (428, 30002), (429, 30014), (441, 30056), (444, 30077), (462, 30131), (471, 30155), (483, 30191), (509, 30287), (515, 30296), (529, 30350), (555, 30458), (561, 30485), (571, 30527), (592, 30599), (614, 30689), (625, 30725),

Gene: Banjo\_30 Start: 28454, Stop: 30709, Start Num: 31

Candidate Starts for Banjo\_30:

(Start: 31 @28454 has 324 MA's), (57, 28550), (79, 28628), (84, 28655), (114, 28754), (164, 28913), (215, 29093), (221, 29117), (247, 29207), (248, 29213), (262, 29249), (277, 29288), (282, 29297), (291, 29330), (299, 29369), (312, 29414), (326, 29465), (344, 29516), (345, 29525), (358, 29594), (377, 29669), (393, 29714), (397, 29729), (428, 29864), (441, 29918), (444, 29939), (457, 29972), (471, 30017), (487, 30071), (495, 30098), (509, 30155), (519, 30176), (529, 30218), (539, 30257), (553, 30317), (614, 30557), (624, 30590), (625, 30593), (639, 30626), (642, 30632), (672, 30695),

Gene: Basato\_32 Start: 28982, Stop: 31237, Start Num: 31

Candidate Starts for Basato\_32:

(Start: 31 @28982 has 324 MA's), (57, 29078), (79, 29156), (84, 29183), (114, 29282), (164, 29441), (215, 29621), (221, 29645), (248, 29741), (262, 29777), (277, 29816), (282, 29825), (291, 29858), (299, 29897), (312, 29942), (326, 29993), (344, 30044), (345, 30053), (358, 30122), (377, 30197), (393, 30242), (397, 30257), (428, 30392), (441, 30446), (444, 30467), (457, 30500), (471, 30545), (487, 30599), (495, 30626), (509, 30683), (519, 30704), (529, 30746), (539, 30785), (553, 30845), (614, 31085), (625, 31121), (639, 31154), (672, 31223),

Gene: BatteryCK\_30 Start: 28373, Stop: 30628, Start Num: 31

Candidate Starts for BatteryCK\_30:

(Start: 31 @28373 has 324 MA's), (57, 28469), (79, 28547), (84, 28574), (114, 28673), (164, 28832), (215, 29012), (221, 29036), (247, 29126), (248, 29132), (262, 29168), (277, 29207), (282, 29216), (291, 29249), (299, 29288), (312, 29333), (326, 29384), (344, 29435), (345, 29444), (358, 29513), (377, 29588), (393, 29633), (397, 29648), (428, 29783), (441, 29837), (444, 29858), (457, 29891), (471, 29936), (487, 29990), (495, 30017), (509, 30074), (519, 30095), (529, 30137), (539, 30176), (553, 30236), (614, 30476), (624, 30509), (625, 30512), (639, 30545), (642, 30551), (672, 30614),

Gene: Beaglebox\_30 Start: 28474, Stop: 30729, Start Num: 31

Candidate Starts for Beaglebox\_30:

(Start: 31 @28474 has 324 MA's), (57, 28570), (79, 28648), (84, 28675), (114, 28774), (164, 28933), (215, 29113), (221, 29137), (247, 29227), (248, 29233), (262, 29269), (277, 29308), (282, 29317), (291, 29350), (299, 29389), (312, 29434), (326, 29485), (344, 29536), (345, 29545), (358, 29614), (377, 29689), (393, 29734), (397, 29749), (428, 29884), (441, 29938), (444, 29959), (457, 29992), (471, 30037), (487, 30091), (495, 30118), (509, 30175), (519, 30196), (529, 30238), (539, 30277), (553, 30337), (614, 30577), (624, 30610), (625, 30613), (639, 30646), (642, 30652), (672, 30715),

Gene: Bellis\_21 Start: 19726, Stop: 22239, Start Num: 12

Candidate Starts for Bellis\_21:

(Start: 12 @19726 has 16 MA's), (26, 19789), (45, 19861), (72, 19951), (74, 19957), (95, 20029), (160, 20221), (164, 20233), (173, 20251), (180, 20290), (190, 20320), (208, 20377), (213, 20407), (215, 20413), (229, 20467), (231, 20473), (274, 20620), (276, 20623), (282, 20632), (288, 20650), (301,

20710), (305, 20719), (307, 20731), (319, 20782), (322, 20785), (363, 20950), (376, 21007), (397, 21091), (401, 21109), (403, 21118), (415, 21181), (447, 21301), (460, 21346), (465, 21361), (473, 21379), (482, 21409), (500, 21499), (524, 21568), (530, 21601), (534, 21622), (543, 21658), (550, 21694), (560, 21739), (565, 21763), (567, 21769), (570, 21784), (574, 21802), (582, 21835), (597, 21889), (604, 21913), (611, 21949), (613, 21955), (621, 21979), (692, 22144), (694, 22153), (697, 22159),

Gene: Ben11\_30 Start: 28435, Stop: 30660, Start Num: 31

Candidate Starts for Ben11\_30:

(Start: 31 @28435 has 324 MA's), (Start: 37 @28450 has 1 MA's), (46, 28495), (63, 28552), (85, 28630), (108, 28699), (114, 28711), (126, 28753), (137, 28789), (148, 28816), (154, 28828), (161, 28855), (187, 28945), (209, 29017), (229, 29101), (264, 29209), (270, 29230), (299, 29323), (305, 29338), (343, 29467), (358, 29548), (377, 29623), (392, 29665), (393, 29671), (413, 29770), (428, 29821), (429, 29833), (441, 29875), (444, 29896), (462, 29950), (471, 29974), (483, 30010), (509, 30106), (515, 30115), (529, 30169), (555, 30277), (561, 30304), (571, 30346), (592, 30418), (614, 30508), (625, 30544),

Gene: BengiVuitton\_32 Start: 23191, Stop: 25377, Start Num: 20

Candidate Starts for BengiVuitton\_32:

(Start: 20 @23191 has 22 MA's), (27, 23212), (51, 23302), (61, 23332), (81, 23395), (91, 23431), (105, 23485), (143, 23581), (156, 23611), (198, 23743), (220, 23833), (224, 23848), (259, 23968), (270, 24001), (275, 24010), (390, 24205), (395, 24223), (450, 24451), (461, 24490), (480, 24547), (487, 24580), (492, 24601), (499, 24637), (521, 24697), (530, 24742), (534, 24763), (536, 24772), (561, 24883), (567, 24907), (570, 24922), (572, 24928), (606, 25060), (618, 25114), (643, 25162), (650, 25174), (668, 25213), (717, 25354), (719, 25363),

Gene: Benvolio\_31 Start: 22854, Stop: 25181, Start Num: 19

Candidate Starts for Benvolio\_31:

(Start: 19 @22854 has 30 MA's), (27, 22878), (54, 22977), (56, 22983), (64, 23010), (81, 23067), (91, 23103), (105, 23157), (119, 23184), (127, 23205), (135, 23229), (156, 23283), (220, 23394), (259, 23529), (270, 23562), (328, 23748), (390, 24000), (395, 24018), (401, 24042), (450, 24243), (461, 24282), (487, 24372), (499, 24429), (521, 24489), (530, 24534), (534, 24555), (561, 24675), (567, 24699), (575, 24744), (585, 24777), (631, 24933), (684, 25044), (705, 25104), (718, 25158), (721, 25167),

Gene: Bernardo\_31 Start: 28703, Stop: 30928, Start Num: 31

Candidate Starts for Bernardo\_31:

(Start: 31 @28703 has 324 MA's), (46, 28763), (63, 28820), (85, 28898), (108, 28967), (114, 28979), (126, 29021), (137, 29057), (154, 29096), (161, 29123), (187, 29213), (195, 29237), (209, 29285), (229, 29369), (264, 29477), (270, 29498), (299, 29591), (305, 29606), (343, 29735), (358, 29816), (377, 29891), (392, 29933), (393, 29939), (413, 30038), (428, 30089), (429, 30101), (441, 30143), (444, 30164), (462, 30218), (471, 30242), (483, 30278), (509, 30374), (515, 30383), (529, 30437), (555, 30545), (561, 30572), (571, 30614), (592, 30686), (614, 30776), (625, 30812),

Gene: Biglebops\_23 Start: 20414, Stop: 22900, Start Num: 17

Candidate Starts for Biglebops\_23:

(Start: 17 @20414 has 64 MA's), (Start: 28 @20462 has 2 MA's), (83, 20642), (84, 20645), (134, 20708), (137, 20720), (181, 20852), (193, 20891), (209, 20948), (213, 20972), (216, 20984), (229, 21032), (230, 21035), (245, 21068), (254, 21107), (265, 21140), (270, 21152), (275, 21161), (279, 21167), (296, 21233), (299, 21248), (330, 21359), (340, 21392), (355, 21476), (361, 21491), (373, 21551), (386, 21620), (411, 21740), (432, 21833), (461, 21947), (481, 22025), (482, 22031), (490, 22055), (503, 22118), (504, 22121), (507, 22133), (527, 22199), (528, 22205), (537, 22247), (541, 22268), (543, 22277), (548, 22310), (552, 22328), (567, 22397), (591, 22496), (593, 22502), (597,

22520), (607, 22574), (612, 22589), (622, 22616), (652, 22673),

Gene: Bipper\_27 Start: 23567, Stop: 26155, Start Num: 15

Candidate Starts for Bipper\_27:

(Start: 15 @23567 has 4 MA's), (71, 23756), (77, 23777), (84, 23807), (103, 23870), (131, 23936), (132, 23939), (147, 23981), (167, 24032), (177, 24068), (185, 24107), (221, 24242), (241, 24320), (242, 24323), (267, 24404), (280, 24434), (290, 24470), (298, 24509), (302, 24521), (310, 24551), (312, 24557), (314, 24569), (317, 24578), (321, 24590), (332, 24614), (338, 24638), (355, 24731), (365, 24764), (367, 24767), (378, 24842), (382, 24854), (401, 24938), (453, 25184), (456, 25190), (468, 25247), (487, 25328), (498, 25376), (528, 25490), (543, 25556), (560, 25643), (567, 25673), (578, 25724), (597, 25796), (604, 25820), (606, 25826), (607, 25847), (614, 25865), (645, 25934), (683, 26009), (694, 26048), (696, 26054), (700, 26060), (718, 26138), (721, 26147),

Gene: Bishoperium\_30 Start: 28463, Stop: 30718, Start Num: 31

Candidate Starts for Bishoperium\_30:

(Start: 31 @28463 has 324 MA's), (57, 28559), (79, 28637), (84, 28664), (114, 28763), (164, 28922), (215, 29102), (221, 29126), (247, 29216), (248, 29222), (262, 29258), (277, 29297), (282, 29306), (291, 29339), (299, 29378), (312, 29423), (326, 29474), (344, 29525), (345, 29534), (358, 29603), (377, 29678), (393, 29723), (397, 29738), (428, 29873), (441, 29927), (444, 29948), (457, 29981), (471, 30026), (487, 30080), (495, 30107), (509, 30164), (519, 30185), (529, 30227), (539, 30266), (553, 30326), (614, 30566), (624, 30599), (625, 30602), (639, 30635), (642, 30641), (672, 30704),

Gene: BlackStallion\_31 Start: 28765, Stop: 31020, Start Num: 31

Candidate Starts for BlackStallion\_31:

(Start: 31 @28765 has 324 MA's), (57, 28861), (79, 28939), (84, 28966), (114, 29065), (164, 29224), (215, 29404), (221, 29428), (247, 29518), (248, 29524), (262, 29560), (277, 29599), (282, 29608), (291, 29641), (299, 29680), (312, 29725), (326, 29776), (344, 29827), (345, 29836), (358, 29905), (377, 29980), (393, 30025), (397, 30040), (428, 30175), (441, 30229), (444, 30250), (457, 30283), (471, 30328), (487, 30382), (509, 30466), (519, 30487), (529, 30529), (539, 30568), (553, 30628), (614, 30868), (624, 30901), (625, 30904), (639, 30937), (642, 30943), (672, 31006),

Gene: BlueHusk\_31 Start: 28262, Stop: 30517, Start Num: 31

Candidate Starts for BlueHusk\_31:

(Start: 31 @28262 has 324 MA's), (57, 28358), (79, 28436), (84, 28463), (114, 28562), (164, 28721), (215, 28901), (221, 28925), (248, 29021), (262, 29057), (277, 29096), (282, 29105), (291, 29138), (299, 29177), (312, 29222), (326, 29273), (344, 29324), (345, 29333), (358, 29402), (377, 29477), (393, 29522), (397, 29537), (428, 29672), (441, 29726), (444, 29747), (457, 29780), (471, 29825), (487, 29879), (495, 29906), (509, 29963), (519, 29984), (529, 30026), (539, 30065), (553, 30125), (614, 30365), (625, 30401), (639, 30434), (672, 30503),

Gene: Bluephacebaby\_30 Start: 28460, Stop: 30715, Start Num: 31

Candidate Starts for Bluephacebaby\_30:

(Start: 31 @28460 has 324 MA's), (57, 28556), (79, 28634), (84, 28661), (114, 28760), (164, 28919), (215, 29099), (221, 29123), (247, 29213), (248, 29219), (262, 29255), (277, 29294), (282, 29303), (291, 29336), (299, 29375), (312, 29420), (326, 29471), (344, 29522), (345, 29531), (358, 29600), (377, 29675), (393, 29720), (397, 29735), (428, 29870), (441, 29924), (444, 29945), (457, 29978), (471, 30023), (487, 30077), (495, 30104), (509, 30161), (519, 30182), (529, 30224), (539, 30263), (553, 30323), (614, 30563), (624, 30596), (625, 30599), (639, 30632), (642, 30638), (672, 30701),

Gene: BobbyK\_28 Start: 28973, Stop: 31270, Start Num: 31

Candidate Starts for BobbyK\_28:

(Start: 1 @28286 has 1 MA's), (2, 28433), (Start: 31 @28973 has 324 MA's), (57, 29072), (63, 29090), (98, 29213), (114, 29276), (136, 29357), (160, 29423), (196, 29540), (208, 29579), (221, 29639), (235,



29696), (242, 29720), (243, 29723), (262, 29786), (279, 29828), (314, 29963), (320, 29987), (343, 30050), (349, 30089), (366, 30161), (372, 30182), (377, 30218), (383, 30239), (402, 30305), (405, 30317), (413, 30368), (414, 30371), (418, 30389), (426, 30413), (431, 30440), (441, 30473), (444, 30494), (457, 30527), (471, 30572), (513, 30713), (515, 30716), (519, 30728), (540, 30812), (566, 30926), (571, 30947), (578, 30971), (595, 31034), (602, 31064), (603, 31070), (614, 31118), (624, 31151), (625, 31154), (672, 31256), (674, 31259),

Gene: Boehler\_31 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for Boehler\_31:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (624, 30902), (625, 30905), (639, 30938), (642, 30944), (672, 31007),

Gene: BoostSeason\_23 Start: 18687, Stop: 21026, Start Num: 17

Candidate Starts for BoostSeason\_23:

(Start: 17 @18687 has 64 MA's), (83, 18927), (152, 19035), (155, 19044), (161, 19065), (171, 19089), (210, 19218), (211, 19230), (229, 19299), (275, 19434), (284, 19452), (291, 19479), (326, 19581), (346, 19653), (352, 19695), (353, 19701), (355, 19710), (358, 19716), (375, 19797), (378, 19818), (390, 19860), (396, 19881), (403, 19911), (422, 19998), (425, 20007), (434, 20043), (448, 20097), (465, 20151), (467, 20163), (487, 20223), (500, 20283), (504, 20301), (517, 20328), (530, 20385), (572, 20574), (578, 20604), (600, 20682), (606, 20703), (615, 20745), (627, 20778), (634, 20787), (642, 20808), (659, 20835), (688, 20916), (695, 20940),

Gene: Briakila\_31 Start: 29378, Stop: 31603, Start Num: 31

Candidate Starts for Briakila\_31:

(Start: 31 @29378 has 324 MA's), (Start: 37 @29393 has 1 MA's), (46, 29438), (63, 29495), (85, 29573), (108, 29642), (114, 29654), (126, 29696), (137, 29732), (148, 29759), (154, 29771), (161, 29798), (187, 29888), (209, 29960), (229, 30044), (264, 30152), (270, 30173), (299, 30266), (305, 30281), (343, 30410), (358, 30491), (377, 30566), (392, 30608), (393, 30614), (413, 30713), (428, 30764), (429, 30776), (441, 30818), (444, 30839), (462, 30893), (471, 30917), (483, 30953), (509, 31049), (515, 31058), (529, 31112), (555, 31220), (561, 31247), (571, 31289), (592, 31361), (614, 31451), (625, 31487),

Gene: Brilliant\_31 Start: 28471, Stop: 30726, Start Num: 31

Candidate Starts for Brilliant\_31:

(Start: 31 @28471 has 324 MA's), (57, 28567), (79, 28645), (84, 28672), (114, 28771), (164, 28930), (215, 29110), (221, 29134), (248, 29230), (262, 29266), (277, 29305), (282, 29314), (291, 29347), (299, 29386), (312, 29431), (326, 29482), (344, 29533), (345, 29542), (358, 29611), (377, 29686), (393, 29731), (397, 29746), (428, 29881), (441, 29935), (444, 29956), (457, 29989), (471, 30034), (487, 30088), (495, 30115), (509, 30172), (519, 30193), (529, 30235), (539, 30274), (553, 30334), (614, 30574), (625, 30610), (639, 30643), (672, 30712),

Gene: BrownCNA\_29 Start: 29234, Stop: 31531, Start Num: 31

Candidate Starts for BrownCNA\_29:

(Start: 1 @28547 has 1 MA's), (2, 28694), (Start: 31 @29234 has 324 MA's), (57, 29333), (63, 29351), (98, 29474), (114, 29537), (136, 29618), (160, 29684), (196, 29801), (208, 29840), (219, 29891), (221, 29900), (235, 29957), (242, 29981), (243, 29984), (262, 30047), (279, 30089), (284, 30101), (314, 30224), (320, 30248), (331, 30278), (333, 30281), (343, 30311), (366, 30422), (372, 30443), (374, 30464), (377, 30479), (383, 30500), (402, 30566), (413, 30629), (414, 30632), (418, 30650), (426, 30674), (431, 30701), (441, 30734), (444, 30755), (457, 30788), (471, 30833), (513, 30974), (519,

30989), (540, 31073), (566, 31187), (571, 31208), (578, 31232), (595, 31295), (602, 31325), (614, 31379), (624, 31412), (625, 31415), (672, 31517), (674, 31520),

Gene: Bryler\_26 Start: 20070, Stop: 22406, Start Num: 17

Candidate Starts for Bryler\_26:

(Start: 17 @20070 has 64 MA's), (Start: 28 @20118 has 2 MA's), (32, 20127), (66, 20241), (69, 20259), (86, 20310), (152, 20406), (155, 20415), (181, 20505), (184, 20517), (211, 20616), (213, 20625), (239, 20718), (265, 20799), (279, 20829), (284, 20841), (291, 20868), (292, 20883), (307, 20907), (326, 20967), (340, 21012), (346, 21039), (351, 21078), (355, 21096), (360, 21105), (375, 21174), (376, 21177), (378, 21195), (390, 21237), (396, 21258), (403, 21288), (422, 21375), (439, 21438), (447, 21471), (451, 21480), (467, 21543), (484, 21591), (487, 21603), (501, 21672), (509, 21696), (522, 21726), (530, 21765), (572, 21954), (591, 22029), (606, 22083), (634, 22167), (641, 22185), (682, 22272), (688, 22296), (704, 22338), (722, 22398),

Gene: Buckeye\_31 Start: 28783, Stop: 31038, Start Num: 31

Candidate Starts for Buckeye\_31:

(Start: 31 @28783 has 324 MA's), (57, 28879), (79, 28957), (84, 28984), (114, 29083), (164, 29242), (215, 29422), (221, 29446), (247, 29536), (248, 29542), (262, 29578), (277, 29617), (282, 29626), (291, 29659), (299, 29698), (312, 29743), (326, 29794), (344, 29845), (345, 29854), (358, 29923), (377, 29998), (393, 30043), (397, 30058), (428, 30193), (441, 30247), (444, 30268), (457, 30301), (471, 30346), (487, 30400), (495, 30427), (509, 30484), (519, 30505), (529, 30547), (539, 30586), (553, 30646), (614, 30886), (624, 30919), (625, 30922), (639, 30955), (642, 30961), (672, 31024),

Gene: Buggy\_33 Start: 23267, Stop: 25489, Start Num: 19

Candidate Starts for Buggy\_33:

(Start: 19 @23267 has 30 MA's), (51, 23381), (54, 23390), (56, 23396), (81, 23480), (127, 23618), (135, 23642), (156, 23696), (231, 23846), (259, 23942), (272, 23978), (277, 23987), (390, 24293), (401, 24335), (461, 24575), (487, 24674), (492, 24695), (504, 24752), (521, 24791), (522, 24797), (543, 24893), (544, 24896), (557, 24962), (575, 25046), (596, 25118), (629, 25238), (683, 25349), (701, 25400), (705, 25412),

Gene: Burr\_30 Start: 28459, Stop: 30714, Start Num: 31

Candidate Starts for Burr\_30:

(Start: 31 @28459 has 324 MA's), (57, 28555), (79, 28633), (84, 28660), (114, 28759), (164, 28918), (215, 29098), (221, 29122), (247, 29212), (248, 29218), (262, 29254), (277, 29293), (282, 29302), (291, 29335), (299, 29374), (312, 29419), (326, 29470), (344, 29521), (345, 29530), (358, 29599), (377, 29674), (393, 29719), (397, 29734), (428, 29869), (441, 29923), (444, 29944), (457, 29977), (471, 30022), (487, 30076), (495, 30103), (509, 30160), (519, 30181), (529, 30223), (539, 30262), (553, 30322), (614, 30562), (624, 30595), (625, 30598), (639, 30631), (642, 30637), (672, 30700),

Gene: CRB1\_31 Start: 22754, Stop: 24937, Start Num: 20

Candidate Starts for CRB1\_31:

(Start: 20 @22754 has 22 MA's), (27, 22775), (51, 22865), (54, 22874), (61, 22895), (71, 22931), (81, 22958), (91, 22994), (127, 23096), (156, 23174), (220, 23285), (231, 23324), (259, 23420), (270, 23453), (390, 23774), (395, 23792), (396, 23795), (401, 23816), (450, 24017), (461, 24056), (466, 24077), (480, 24113), (487, 24146), (492, 24167), (499, 24203), (522, 24269), (530, 24308), (534, 24329), (557, 24434), (561, 24449), (583, 24542), (606, 24623), (615, 24665), (650, 24734), (668, 24773), (672, 24782), (717, 24914), (718, 24920),

Gene: CRB2\_33 Start: 31730, Stop: 34225, Start Num: 28

Candidate Starts for CRB2\_33:

(Start: 28 @31730 has 2 MA's), (57, 31832), (59, 31838), (63, 31850), (78, 31907), (84, 31937), (88, 31952), (111, 32057), (142, 32171), (192, 32324), (213, 32405), (214, 32408), (229, 32468), (236,

32495), (272, 32603), (290, 32651), (291, 32654), (294, 32675), (320, 32774), (326, 32789), (357, 32915), (364, 32939), (372, 32960), (391, 33047), (395, 33065), (431, 33224), (449, 33290), (460, 33326), (461, 33329), (465, 33341), (476, 33371), (484, 33407), (487, 33419), (522, 33542), (523, 33545), (524, 33548), (525, 33554), (545, 33656), (557, 33707), (561, 33722), (567, 33746), (578, 33797), (583, 33818), (606, 33899), (609, 33923), (626, 33977), (664, 34049), (679, 34091), (689, 34127), (694, 34145), (705, 34172), (710, 34202),

Gene: CactusJack\_21 Start: 18926, Stop: 21559, Start Num: 6

Candidate Starts for CactusJack\_21:

(Start: 6 @18926 has 7 MA's), (8, 18935), (Start: 42 @19079 has 1 MA's), (129, 19352), (132, 19364), (139, 19385), (149, 19409), (174, 19484), (194, 19556), (203, 19586), (211, 19622), (227, 19685), (232, 19700), (240, 19727), (242, 19733), (267, 19808), (279, 19832), (280, 19838), (284, 19850), (292, 19892), (294, 19898), (318, 19985), (327, 20006), (336, 20030), (349, 20096), (351, 20117), (355, 20135), (365, 20168), (371, 20192), (372, 20195), (378, 20246), (403, 20351), (410, 20393), (447, 20558), (469, 20654), (487, 20732), (491, 20744), (512, 20834), (528, 20894), (530, 20903), (541, 20951), (543, 20960), (567, 21077), (576, 21122), (589, 21164), (606, 21230), (609, 21254), (627, 21302), (632, 21308), (635, 21314), (683, 21413), (686, 21422), (694, 21452), (718, 21542), (721, 21551),

Gene: Cain\_26 Start: 20058, Stop: 22394, Start Num: 17

Candidate Starts for Cain\_26:

(Start: 17 @20058 has 64 MA's), (Start: 28 @20106 has 2 MA's), (32, 20115), (66, 20229), (69, 20247), (86, 20298), (152, 20394), (155, 20403), (181, 20493), (184, 20505), (211, 20604), (213, 20613), (239, 20706), (265, 20787), (279, 20817), (284, 20829), (291, 20856), (292, 20871), (307, 20895), (326, 20955), (340, 21000), (346, 21027), (351, 21066), (355, 21084), (360, 21093), (375, 21162), (376, 21165), (378, 21183), (390, 21225), (396, 21246), (403, 21276), (422, 21363), (439, 21426), (447, 21459), (451, 21468), (467, 21531), (484, 21579), (487, 21591), (501, 21660), (509, 21684), (522, 21714), (530, 21753), (572, 21942), (591, 22017), (606, 22071), (634, 22155), (641, 22173), (682, 22260), (688, 22284), (704, 22326), (722, 22386),

Gene: CamL\_31 Start: 28761, Stop: 31016, Start Num: 31

Candidate Starts for CamL\_31:

(Start: 31 @28761 has 324 MA's), (57, 28857), (79, 28935), (84, 28962), (114, 29061), (164, 29220), (215, 29400), (221, 29424), (247, 29514), (248, 29520), (262, 29556), (277, 29595), (282, 29604), (291, 29637), (299, 29676), (312, 29721), (326, 29772), (344, 29823), (345, 29832), (358, 29901), (377, 29976), (393, 30021), (397, 30036), (428, 30171), (441, 30225), (444, 30246), (457, 30279), (471, 30324), (487, 30378), (495, 30405), (509, 30462), (519, 30483), (529, 30525), (539, 30564), (553, 30624), (614, 30864), (624, 30897), (625, 30900), (639, 30933), (642, 30939), (672, 31002),

Gene: CampRoach\_30 Start: 28751, Stop: 31006, Start Num: 31

Candidate Starts for CampRoach\_30:

(Start: 31 @28751 has 324 MA's), (57, 28847), (79, 28925), (84, 28952), (114, 29051), (164, 29210), (215, 29390), (221, 29414), (247, 29504), (248, 29510), (262, 29546), (277, 29585), (282, 29594), (291, 29627), (299, 29666), (312, 29711), (326, 29762), (344, 29813), (345, 29822), (358, 29891), (377, 29966), (393, 30011), (397, 30026), (428, 30161), (441, 30215), (444, 30236), (457, 30269), (471, 30314), (487, 30368), (495, 30395), (509, 30452), (519, 30473), (529, 30515), (539, 30554), (553, 30614), (614, 30854), (624, 30887), (625, 30890), (639, 30923), (642, 30929), (672, 30992),

Gene: Cannibal\_31 Start: 28744, Stop: 30999, Start Num: 31

Candidate Starts for Cannibal\_31:

(Start: 31 @28744 has 324 MA's), (57, 28840), (79, 28918), (84, 28945), (114, 29044), (164, 29203), (215, 29383), (221, 29407), (247, 29497), (248, 29503), (262, 29539), (277, 29578), (282, 29587), (291, 29620), (299, 29659), (312, 29704), (326, 29755), (344, 29806), (345, 29815), (358, 29884),

(377, 29959), (393, 30004), (397, 30019), (428, 30154), (441, 30208), (444, 30229), (457, 30262), (471, 30307), (487, 30361), (495, 30388), (509, 30445), (519, 30466), (529, 30508), (539, 30547), (553, 30607), (614, 30847), (625, 30883), (639, 30916), (672, 30985),

Gene: Carthage\_29 Start: 27670, Stop: 29928, Start Num: 31

Candidate Starts for Carthage\_29:

(Start: 31 @27670 has 324 MA's), (57, 27766), (79, 27844), (84, 27871), (114, 27973), (215, 28312), (221, 28336), (247, 28426), (248, 28432), (262, 28468), (277, 28507), (291, 28549), (299, 28588), (312, 28633), (326, 28684), (344, 28735), (345, 28744), (358, 28813), (377, 28888), (393, 28933), (397, 28948), (428, 29083), (441, 29137), (444, 29158), (457, 29191), (471, 29236), (487, 29290), (495, 29317), (509, 29374), (519, 29395), (529, 29437), (539, 29476), (553, 29536), (614, 29776), (624, 29809), (625, 29812), (639, 29845), (642, 29851), (672, 29914),

Gene: Casbah\_30 Start: 28465, Stop: 30690, Start Num: 31

Candidate Starts for Casbah\_30:

(Start: 31 @28465 has 324 MA's), (Start: 37 @28480 has 1 MA's), (46, 28525), (63, 28582), (85, 28660), (108, 28729), (114, 28741), (126, 28783), (137, 28819), (148, 28846), (154, 28858), (161, 28885), (187, 28975), (209, 29047), (229, 29131), (264, 29239), (270, 29260), (299, 29353), (305, 29368), (343, 29497), (358, 29578), (377, 29653), (392, 29695), (393, 29701), (402, 29737), (428, 29851), (429, 29863), (441, 29905), (444, 29926), (462, 29980), (471, 30004), (509, 30136), (515, 30145), (529, 30199), (555, 30307), (561, 30334), (571, 30376), (592, 30448), (614, 30538), (625, 30574),

Gene: Centaur\_33 Start: 23215, Stop: 25422, Start Num: 19

Candidate Starts for Centaur\_33:

(Start: 19 @23215 has 30 MA's), (51, 23329), (54, 23338), (56, 23344), (61, 23365), (71, 23401), (95, 23476), (127, 23566), (131, 23578), (220, 23755), (231, 23794), (259, 23890), (355, 24103), (371, 24151), (390, 24241), (398, 24271), (401, 24283), (461, 24523), (487, 24622), (492, 24643), (518, 24733), (521, 24739), (522, 24745), (530, 24784), (534, 24805), (543, 24841), (544, 24844), (557, 24910), (609, 25126), (629, 25174), (663, 25237), (687, 25297), (705, 25345), (718, 25399),

Gene: ChaChing\_31 Start: 28628, Stop: 30853, Start Num: 31

Candidate Starts for ChaChing\_31:

(Start: 31 @28628 has 324 MA's), (Start: 37 @28643 has 1 MA's), (46, 28688), (63, 28745), (85, 28823), (108, 28892), (114, 28904), (126, 28946), (137, 28982), (148, 29009), (154, 29021), (161, 29048), (187, 29138), (209, 29210), (229, 29294), (264, 29402), (270, 29423), (299, 29516), (305, 29531), (343, 29660), (358, 29741), (377, 29816), (392, 29858), (393, 29864), (402, 29900), (428, 30014), (429, 30026), (441, 30068), (444, 30089), (462, 30143), (471, 30167), (483, 30203), (509, 30299), (515, 30308), (529, 30362), (555, 30470), (561, 30497), (571, 30539), (592, 30611), (614, 30701), (625, 30737),

Gene: Chaelin\_31 Start: 28458, Stop: 30713, Start Num: 31

Candidate Starts for Chaelin\_31:

(Start: 31 @28458 has 324 MA's), (57, 28554), (79, 28632), (84, 28659), (114, 28758), (164, 28917), (215, 29097), (221, 29121), (248, 29217), (262, 29253), (277, 29292), (282, 29301), (291, 29334), (299, 29373), (312, 29418), (326, 29469), (345, 29529), (358, 29598), (377, 29673), (393, 29718), (397, 29733), (428, 29868), (441, 29922), (444, 29943), (457, 29976), (471, 30021), (487, 30075), (495, 30102), (509, 30159), (519, 30180), (529, 30222), (539, 30261), (553, 30321), (614, 30561), (625, 30597), (639, 30630), (672, 30699),

Gene: Chah\_32 Start: 28778, Stop: 31033, Start Num: 31

Candidate Starts for Chah\_32:

(Start: 31 @28778 has 324 MA's), (57, 28874), (79, 28952), (84, 28979), (114, 29078), (164, 29237), (215, 29417), (221, 29441), (247, 29531), (248, 29537), (262, 29573), (277, 29612), (282, 29621), (291, 29654), (299, 29693), (312, 29738), (326, 29789), (344, 29840), (345, 29849), (358, 29918), (377, 29993), (393, 30038), (397, 30053), (428, 30188), (441, 30242), (444, 30263), (457, 30296), (471, 30341), (487, 30395), (495, 30422), (509, 30479), (519, 30500), (529, 30542), (539, 30581), (553, 30641), (614, 30881), (624, 30914), (625, 30917), (639, 30950), (642, 30956), (672, 31019),

Gene: Chancellor\_28 Start: 22283, Stop: 24592, Start Num: 17

Candidate Starts for Chancellor\_28:

(Start: 17 @22283 has 64 MA's), (45, 22394), (53, 22418), (87, 22535), (162, 22664), (185, 22715), (188, 22724), (199, 22757), (218, 22796), (220, 22805), (245, 22862), (252, 22871), (265, 22922), (270, 22934), (279, 22949), (282, 22955), (291, 22988), (304, 23036), (320, 23090), (346, 23162), (351, 23201), (354, 23213), (363, 23228), (373, 23273), (386, 23342), (404, 23423), (439, 23576), (464, 23675), (466, 23687), (490, 23792), (504, 23858), (508, 23873), (535, 23969), (567, 24122), (570, 24137), (572, 24143), (575, 24167), (586, 24206), (589, 24218), (610, 24314), (630, 24368), (642, 24389), (685, 24476), (694, 24506), (720, 24584),

Gene: Chandler\_31 Start: 29393, Stop: 31621, Start Num: 31

Candidate Starts for Chandler\_31:

(Start: 31 @29393 has 324 MA's), (Start: 37 @29408 has 1 MA's), (46, 29453), (63, 29510), (85, 29588), (108, 29657), (114, 29669), (126, 29711), (137, 29747), (148, 29774), (154, 29786), (161, 29813), (187, 29903), (209, 29975), (229, 30059), (264, 30167), (270, 30188), (299, 30281), (305, 30296), (343, 30425), (358, 30506), (377, 30581), (392, 30623), (393, 30629), (402, 30665), (428, 30779), (429, 30791), (441, 30833), (444, 30854), (462, 30908), (471, 30932), (483, 30968), (509, 31067), (515, 31076), (529, 31130), (555, 31238), (561, 31265), (571, 31307), (592, 31379), (614, 31469), (625, 31505),

Gene: Charles1\_31 Start: 28746, Stop: 31001, Start Num: 31

Candidate Starts for Charles1\_31:

(Start: 31 @28746 has 324 MA's), (57, 28842), (79, 28920), (84, 28947), (114, 29046), (164, 29205), (215, 29385), (221, 29409), (247, 29499), (248, 29505), (262, 29541), (277, 29580), (282, 29589), (291, 29622), (299, 29661), (312, 29706), (326, 29757), (344, 29808), (345, 29817), (358, 29886), (377, 29961), (393, 30006), (397, 30021), (428, 30156), (441, 30210), (444, 30231), (457, 30264), (471, 30309), (487, 30363), (495, 30390), (509, 30447), (519, 30468), (529, 30510), (539, 30549), (553, 30609), (614, 30849), (624, 30882), (625, 30885), (639, 30918), (642, 30924), (672, 30987),

Gene: CharlieGBrown\_30 Start: 28335, Stop: 30590, Start Num: 31

Candidate Starts for CharlieGBrown\_30:

(Start: 31 @28335 has 324 MA's), (57, 28431), (79, 28509), (84, 28536), (114, 28635), (164, 28794), (215, 28974), (221, 28998), (248, 29094), (262, 29130), (277, 29169), (282, 29178), (291, 29211), (299, 29250), (312, 29295), (326, 29346), (345, 29406), (358, 29475), (377, 29550), (393, 29595), (397, 29610), (428, 29745), (441, 29799), (444, 29820), (457, 29853), (471, 29898), (487, 29952), (495, 29979), (509, 30036), (519, 30057), (529, 30099), (539, 30138), (553, 30198), (614, 30438), (624, 30471), (625, 30474), (639, 30507), (672, 30576),

Gene: CheetO\_31 Start: 28760, Stop: 31015, Start Num: 31

Candidate Starts for CheetO\_31:

(Start: 31 @28760 has 324 MA's), (57, 28856), (79, 28934), (84, 28961), (114, 29060), (164, 29219), (215, 29399), (221, 29423), (248, 29519), (262, 29555), (277, 29594), (282, 29603), (291, 29636), (299, 29675), (312, 29720), (326, 29771), (344, 29822), (345, 29831), (358, 29900), (377, 29975), (393, 30020), (397, 30035), (428, 30170), (441, 30224), (444, 30245), (457, 30278), (471, 30323), (487, 30377), (495, 30404), (509, 30461), (519, 30482), (529, 30524), (539, 30563), (553, 30623), (614, 30863), (625, 30899), (639, 30932), (672, 31001),

Gene: Cheetobro\_28 Start: 22280, Stop: 24589, Start Num: 17

Candidate Starts for Cheetobro\_28:

(Start: 17 @22280 has 64 MA's), (45, 22391), (53, 22415), (87, 22532), (162, 22661), (185, 22712), (188, 22721), (199, 22754), (218, 22793), (220, 22802), (245, 22859), (252, 22868), (265, 22919), (270, 22931), (279, 22946), (282, 22952), (291, 22985), (304, 23033), (320, 23087), (346, 23159), (351, 23198), (354, 23210), (363, 23225), (373, 23270), (386, 23339), (404, 23420), (439, 23573), (464, 23672), (466, 23684), (490, 23789), (504, 23855), (508, 23870), (535, 23966), (567, 24119), (570, 24134), (572, 24140), (575, 24164), (586, 24203), (589, 24215), (610, 24311), (630, 24365), (642, 24386), (685, 24473), (694, 24503), (720, 24581),

Gene: Cher\_30 Start: 28483, Stop: 30738, Start Num: 31

Candidate Starts for Cher\_30:

(Start: 31 @28483 has 324 MA's), (57, 28579), (79, 28657), (84, 28684), (114, 28783), (164, 28942), (215, 29122), (221, 29146), (247, 29236), (248, 29242), (262, 29278), (277, 29317), (282, 29326), (291, 29359), (299, 29398), (312, 29443), (326, 29494), (344, 29545), (345, 29554), (358, 29623), (377, 29698), (393, 29743), (397, 29758), (428, 29893), (441, 29947), (444, 29968), (457, 30001), (471, 30046), (487, 30100), (495, 30127), (509, 30184), (519, 30205), (529, 30247), (539, 30286), (553, 30346), (614, 30586), (624, 30619), (625, 30622), (639, 30655), (642, 30661), (672, 30724),

Gene: Childish\_30 Start: 28486, Stop: 30741, Start Num: 31

Candidate Starts for Childish\_30:

(Start: 31 @28486 has 324 MA's), (57, 28582), (79, 28660), (84, 28687), (114, 28786), (164, 28945), (215, 29125), (221, 29149), (247, 29239), (248, 29245), (262, 29281), (277, 29320), (282, 29329), (291, 29362), (299, 29401), (312, 29446), (326, 29497), (344, 29548), (345, 29557), (358, 29626), (377, 29701), (393, 29746), (397, 29761), (428, 29896), (441, 29950), (444, 29971), (457, 30004), (471, 30049), (487, 30103), (495, 30130), (509, 30187), (519, 30208), (529, 30250), (539, 30289), (553, 30349), (614, 30589), (625, 30625), (639, 30658), (672, 30727),

Gene: ChipMunk\_33 Start: 23177, Stop: 25654, Start Num: 20

Candidate Starts for ChipMunk\_33:

(Start: 20 @23177 has 22 MA's), (27, 23198), (51, 23288), (81, 23387), (95, 23435), (131, 23567), (209, 23813), (214, 23840), (218, 23855), (238, 23930), (286, 24071), (302, 24143), (330, 24245), (347, 24287), (385, 24455), (396, 24497), (401, 24518), (426, 24629), (427, 24632), (442, 24689), (460, 24755), (461, 24758), (465, 24770), (478, 24812), (480, 24821), (487, 24854), (499, 24911), (530, 25016), (534, 25037), (544, 25076), (575, 25226), (578, 25232), (582, 25247), (585, 25253), (594, 25286), (596, 25298), (599, 25307), (604, 25328), (626, 25397), (675, 25496), (685, 25523), (686, 25526), (705, 25580), (711, 25607),

Gene: Chorkpop\_31 Start: 28482, Stop: 30737, Start Num: 31

Candidate Starts for Chorkpop\_31:

(Start: 31 @28482 has 324 MA's), (57, 28578), (79, 28656), (84, 28683), (114, 28782), (164, 28941), (215, 29121), (221, 29145), (247, 29235), (248, 29241), (262, 29277), (277, 29316), (282, 29325), (291, 29358), (299, 29397), (312, 29442), (326, 29493), (344, 29544), (345, 29553), (358, 29622), (377, 29697), (393, 29742), (397, 29757), (428, 29892), (441, 29946), (444, 29967), (457, 30000), (471, 30045), (487, 30099), (495, 30126), (509, 30183), (519, 30204), (529, 30246), (539, 30285), (553, 30345), (614, 30585), (625, 30621), (639, 30654), (672, 30723),

Gene: ChrisnMich\_27 Start: 27933, Stop: 30230, Start Num: 31

Candidate Starts for ChrisnMich\_27:

(Start: 31 @27933 has 324 MA's), (57, 28032), (63, 28050), (98, 28173), (114, 28236), (136, 28317), (160, 28383), (164, 28395), (196, 28500), (208, 28539), (219, 28590), (221, 28599), (242, 28680), (243, 28683), (262, 28746), (279, 28788), (284, 28800), (314, 28923), (320, 28947), (343, 29010),

(349, 29049), (366, 29121), (372, 29142), (377, 29178), (383, 29199), (402, 29265), (405, 29277), (413, 29328), (414, 29331), (418, 29349), (426, 29373), (431, 29400), (441, 29433), (444, 29454), (457, 29487), (471, 29532), (513, 29673), (515, 29676), (519, 29688), (540, 29772), (571, 29907), (578, 29931), (595, 29994), (602, 30024), (603, 30030), (614, 30078), (624, 30111), (625, 30114), (672, 30216), (674, 30219),

Gene: Chunky\_31 Start: 28766, Stop: 31024, Start Num: 31

Candidate Starts for Chunky\_31:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29069), (164, 29228), (215, 29408), (221, 29432), (248, 29528), (262, 29564), (277, 29603), (282, 29612), (291, 29645), (299, 29684), (312, 29729), (326, 29780), (344, 29831), (345, 29840), (358, 29909), (377, 29984), (393, 30029), (397, 30044), (428, 30179), (441, 30233), (444, 30254), (457, 30287), (471, 30332), (487, 30386), (495, 30413), (509, 30470), (519, 30491), (529, 30533), (539, 30572), (553, 30632), (614, 30872), (624, 30905), (625, 30908), (639, 30941), (642, 30947), (672, 31010),

Gene: Chute\_30 Start: 28801, Stop: 31062, Start Num: 31

Candidate Starts for Chute\_30:

(Start: 31 @28801 has 324 MA's), (57, 28897), (79, 28975), (84, 29002), (107, 29077), (114, 29107), (164, 29266), (215, 29446), (221, 29470), (248, 29566), (262, 29602), (277, 29641), (282, 29650), (291, 29683), (299, 29722), (312, 29767), (326, 29818), (345, 29878), (358, 29947), (377, 30022), (393, 30067), (397, 30082), (428, 30217), (441, 30271), (444, 30292), (457, 30325), (471, 30370), (487, 30424), (495, 30451), (509, 30508), (519, 30529), (529, 30571), (539, 30610), (553, 30670), (614, 30910), (625, 30946), (639, 30979), (672, 31048),

Gene: Clautastrophe\_21 Start: 19724, Stop: 22237, Start Num: 12

Candidate Starts for Clautastrophe\_21:

(Start: 12 @19724 has 16 MA's), (26, 19787), (45, 19859), (72, 19949), (74, 19955), (95, 20027), (122, 20114), (160, 20219), (164, 20231), (173, 20249), (180, 20288), (190, 20318), (208, 20375), (213, 20405), (215, 20411), (229, 20465), (231, 20471), (274, 20618), (276, 20621), (282, 20630), (288, 20648), (301, 20708), (305, 20717), (307, 20729), (319, 20780), (322, 20783), (363, 20948), (376, 21005), (397, 21089), (401, 21107), (403, 21116), (415, 21179), (447, 21299), (455, 21323), (460, 21344), (465, 21359), (473, 21377), (482, 21407), (500, 21497), (524, 21566), (530, 21599), (534, 21620), (543, 21656), (550, 21692), (560, 21737), (565, 21761), (567, 21767), (570, 21782), (574, 21800), (597, 21887), (604, 21911), (611, 21947), (613, 21953), (621, 21977), (660, 22052), (661, 22055), (692, 22142), (694, 22151), (697, 22157),

Gene: Cobra\_31 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for Cobra\_31:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (495, 30410), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (625, 30905), (639, 30938), (672, 31007),

Gene: Colbert\_31 Start: 28819, Stop: 31077, Start Num: 31

Candidate Starts for Colbert\_31:

(Start: 31 @28819 has 324 MA's), (57, 28915), (79, 28993), (84, 29020), (114, 29122), (164, 29281), (215, 29461), (221, 29485), (248, 29581), (262, 29617), (277, 29656), (282, 29665), (291, 29698), (299, 29737), (312, 29782), (326, 29833), (344, 29884), (345, 29893), (358, 29962), (377, 30037), (393, 30082), (397, 30097), (428, 30232), (441, 30286), (444, 30307), (457, 30340), (471, 30385), (487, 30439), (495, 30466), (509, 30523), (519, 30544), (529, 30586), (539, 30625), (553, 30685), (614, 30925), (624, 30958), (625, 30961), (639, 30994), (642, 31000), (672, 31063),



Gene: Coletti\_30 Start: 28801, Stop: 31062, Start Num: 31

Candidate Starts for Coletti\_30:

(Start: 31 @28801 has 324 MA's), (57, 28897), (79, 28975), (84, 29002), (107, 29077), (114, 29107), (164, 29266), (215, 29446), (221, 29470), (248, 29566), (262, 29602), (277, 29641), (282, 29650), (291, 29683), (299, 29722), (312, 29767), (326, 29818), (345, 29878), (358, 29947), (377, 30022), (393, 30067), (397, 30082), (428, 30217), (441, 30271), (444, 30292), (457, 30325), (471, 30370), (487, 30424), (495, 30451), (509, 30508), (519, 30529), (529, 30571), (539, 30610), (553, 30670), (614, 30910), (625, 30946), (639, 30979), (672, 31048),

Gene: Compostia\_32 Start: 29043, Stop: 31268, Start Num: 31

Candidate Starts for Compostia\_32:

(Start: 31 @29043 has 324 MA's), (Start: 37 @29058 has 1 MA's), (46, 29103), (63, 29160), (85, 29238), (108, 29307), (114, 29319), (126, 29361), (137, 29397), (148, 29424), (154, 29436), (161, 29463), (187, 29553), (209, 29625), (229, 29709), (264, 29817), (270, 29838), (299, 29931), (305, 29946), (343, 30075), (358, 30156), (377, 30231), (392, 30273), (393, 30279), (413, 30378), (428, 30429), (429, 30441), (441, 30483), (444, 30504), (462, 30558), (471, 30582), (483, 30618), (509, 30714), (515, 30723), (529, 30777), (555, 30885), (561, 30912), (571, 30954), (592, 31026), (614, 31116), (625, 31152),

Gene: Cooper\_28 Start: 28155, Stop: 30443, Start Num: 31

Candidate Starts for Cooper\_28:

(Start: 31 @28155 has 324 MA's), (49, 28227), (57, 28254), (63, 28272), (114, 28458), (136, 28539), (160, 28605), (196, 28722), (208, 28761), (221, 28821), (242, 28902), (243, 28905), (262, 28968), (284, 29022), (314, 29145), (320, 29169), (343, 29232), (349, 29271), (366, 29343), (372, 29364), (374, 29385), (377, 29400), (383, 29421), (405, 29499), (413, 29550), (414, 29553), (418, 29571), (426, 29595), (431, 29622), (441, 29655), (444, 29676), (457, 29709), (471, 29754), (513, 29895), (515, 29898), (519, 29910), (540, 29994), (542, 30006), (566, 30108), (571, 30129), (580, 30159), (603, 30243), (614, 30291), (624, 30324), (625, 30327), (672, 30429), (674, 30432),

Gene: Cornobble\_30 Start: 28318, Stop: 30576, Start Num: 31

Candidate Starts for Cornobble\_30:

(Start: 31 @28318 has 324 MA's), (57, 28414), (79, 28492), (84, 28519), (114, 28621), (164, 28780), (215, 28960), (221, 28984), (248, 29080), (262, 29116), (277, 29155), (282, 29164), (291, 29197), (299, 29236), (312, 29281), (326, 29332), (344, 29383), (345, 29392), (358, 29461), (377, 29536), (393, 29581), (397, 29596), (428, 29731), (441, 29785), (444, 29806), (457, 29839), (471, 29884), (487, 29938), (509, 30022), (519, 30043), (529, 30085), (539, 30124), (553, 30184), (614, 30424), (624, 30457), (625, 30460), (639, 30493), (642, 30499), (672, 30562),

Gene: Corofin\_31 Start: 28638, Stop: 30863, Start Num: 31

Candidate Starts for Corofin\_31:

(Start: 31 @28638 has 324 MA's), (Start: 37 @28653 has 1 MA's), (46, 28698), (63, 28755), (85, 28833), (108, 28902), (114, 28914), (126, 28956), (137, 28992), (148, 29019), (154, 29031), (161, 29058), (187, 29148), (209, 29220), (229, 29304), (264, 29412), (270, 29433), (299, 29526), (305, 29541), (343, 29670), (358, 29751), (377, 29826), (392, 29868), (393, 29874), (402, 29910), (428, 30024), (429, 30036), (441, 30078), (444, 30099), (462, 30153), (471, 30177), (483, 30213), (509, 30309), (515, 30318), (529, 30372), (555, 30480), (561, 30507), (571, 30549), (592, 30621), (614, 30711), (625, 30747),

Gene: Cosmolli16\_30 Start: 28480, Stop: 30735, Start Num: 31

Candidate Starts for Cosmolli16\_30:

(Start: 31 @28480 has 324 MA's), (57, 28576), (79, 28654), (84, 28681), (114, 28780), (164, 28939), (215, 29119), (221, 29143), (247, 29233), (248, 29239), (262, 29275), (277, 29314), (282, 29323),

(291, 29356), (299, 29395), (312, 29440), (326, 29491), (344, 29542), (345, 29551), (358, 29620), (377, 29695), (393, 29740), (397, 29755), (428, 29890), (441, 29944), (444, 29965), (457, 29998), (471, 30043), (487, 30097), (495, 30124), (509, 30181), (519, 30202), (529, 30244), (539, 30283), (553, 30343), (614, 30583), (624, 30616), (625, 30619), (639, 30652), (642, 30658), (672, 30721),

Gene: Cracklewink\_27 Start: 23567, Stop: 26155, Start Num: 15

Candidate Starts for Cracklewink\_27:

(Start: 15 @23567 has 4 MA's), (71, 23756), (77, 23777), (84, 23807), (103, 23870), (131, 23936), (132, 23939), (147, 23981), (167, 24032), (177, 24068), (185, 24107), (221, 24242), (241, 24320), (242, 24323), (267, 24404), (280, 24434), (290, 24470), (298, 24509), (302, 24521), (310, 24551), (312, 24557), (314, 24569), (317, 24578), (321, 24590), (332, 24614), (338, 24638), (355, 24731), (365, 24764), (367, 24767), (378, 24842), (382, 24854), (401, 24938), (453, 25184), (456, 25190), (468, 25247), (487, 25328), (498, 25376), (528, 25490), (543, 25556), (560, 25643), (567, 25673), (578, 25724), (597, 25796), (604, 25820), (606, 25826), (607, 25847), (614, 25865), (645, 25934), (683, 26009), (694, 26048), (696, 26054), (700, 26060), (718, 26138), (721, 26147),

Gene: Craff\_31 Start: 28764, Stop: 31019, Start Num: 31

Candidate Starts for Craff\_31:

(Start: 31 @28764 has 324 MA's), (57, 28860), (79, 28938), (84, 28965), (114, 29064), (164, 29223), (215, 29403), (221, 29427), (247, 29517), (248, 29523), (262, 29559), (277, 29598), (282, 29607), (291, 29640), (299, 29679), (312, 29724), (326, 29775), (344, 29826), (345, 29835), (358, 29904), (377, 29979), (393, 30024), (397, 30039), (428, 30174), (441, 30228), (444, 30249), (457, 30282), (471, 30327), (487, 30381), (495, 30408), (509, 30465), (519, 30486), (529, 30528), (539, 30567), (553, 30627), (614, 30867), (624, 30900), (625, 30903), (639, 30936), (642, 30942), (672, 31005),

Gene: Crownjwl\_31 Start: 28533, Stop: 30791, Start Num: 31

Candidate Starts for Crownjwl\_31:

(Start: 31 @28533 has 324 MA's), (57, 28629), (79, 28707), (84, 28734), (114, 28836), (164, 28995), (215, 29175), (221, 29199), (224, 29211), (248, 29295), (262, 29331), (277, 29370), (282, 29379), (291, 29412), (299, 29451), (312, 29496), (326, 29547), (344, 29598), (345, 29607), (358, 29676), (377, 29751), (393, 29796), (397, 29811), (428, 29946), (441, 30000), (444, 30021), (457, 30054), (471, 30099), (487, 30153), (509, 30237), (519, 30258), (529, 30300), (539, 30339), (553, 30399), (614, 30639), (624, 30672), (625, 30675), (639, 30708), (642, 30714), (672, 30777),

Gene: Crucio\_31 Start: 22638, Stop: 24842, Start Num: 20

Candidate Starts for Crucio\_31:

(Start: 20 @22638 has 22 MA's), (27, 22659), (56, 22764), (81, 22848), (91, 22884), (127, 22986), (131, 22998), (220, 23175), (259, 23310), (286, 23373), (390, 23664), (395, 23682), (401, 23706), (432, 23844), (450, 23907), (461, 23946), (487, 24036), (499, 24093), (521, 24153), (530, 24198), (534, 24219), (561, 24339), (567, 24363), (575, 24408), (596, 24480), (609, 24540), (686, 24711), (705, 24765), (712, 24792), (718, 24819),

Gene: Curiosium\_28 Start: 20582, Stop: 23062, Start Num: 47

Candidate Starts for Curiosium\_28:

(Start: 47 @20582 has 1 MA's), (100, 20753), (118, 20810), (134, 20861), (165, 20945), (183, 21017), (203, 21077), (209, 21098), (214, 21125), (220, 21149), (229, 21185), (245, 21230), (246, 21233), (280, 21332), (281, 21335), (291, 21371), (303, 21422), (315, 21476), (325, 21509), (352, 21635), (354, 21644), (378, 21767), (382, 21779), (404, 21878), (416, 21947), (425, 21980), (454, 22109), (457, 22115), (469, 22172), (474, 22190), (497, 22304), (501, 22331), (505, 22343), (510, 22358), (521, 22385), (523, 22400), (530, 22436), (531, 22439), (554, 22556), (557, 22571), (588, 22712), (611, 22820), (639, 22859), (640, 22862), (654, 22886), (692, 22964), (708, 23009), (715, 23027),

Gene: DaddyDaniels\_31 Start: 28455, Stop: 30710, Start Num: 31

Candidate Starts for DaddyDaniels\_31:

(Start: 31 @28455 has 324 MA's), (57, 28551), (79, 28629), (84, 28656), (114, 28755), (164, 28914), (215, 29094), (221, 29118), (248, 29214), (262, 29250), (277, 29289), (282, 29298), (291, 29331), (299, 29370), (312, 29415), (326, 29466), (344, 29517), (345, 29526), (358, 29595), (377, 29670), (393, 29715), (397, 29730), (428, 29865), (441, 29919), (444, 29940), (457, 29973), (471, 30018), (487, 30072), (495, 30099), (509, 30156), (519, 30177), (529, 30219), (539, 30258), (553, 30318), (614, 30558), (625, 30594), (639, 30627), (672, 30696),

Gene: Daffy\_31 Start: 28486, Stop: 30741, Start Num: 31

Candidate Starts for Daffy\_31:

(Start: 31 @28486 has 324 MA's), (57, 28582), (79, 28660), (84, 28687), (114, 28786), (164, 28945), (215, 29125), (221, 29149), (247, 29239), (248, 29245), (262, 29281), (277, 29320), (282, 29329), (291, 29362), (299, 29401), (312, 29446), (326, 29497), (344, 29548), (345, 29557), (358, 29626), (377, 29701), (393, 29746), (397, 29761), (428, 29896), (441, 29950), (444, 29971), (457, 30004), (471, 30049), (487, 30103), (495, 30130), (509, 30187), (519, 30208), (529, 30250), (539, 30289), (553, 30349), (614, 30589), (625, 30625), (639, 30658), (672, 30727),

Gene: Daisy\_31 Start: 28640, Stop: 30865, Start Num: 31

Candidate Starts for Daisy\_31:

(Start: 31 @28640 has 324 MA's), (Start: 37 @28655 has 1 MA's), (46, 28700), (63, 28757), (85, 28835), (108, 28904), (114, 28916), (126, 28958), (137, 28994), (148, 29021), (154, 29033), (161, 29060), (187, 29150), (209, 29222), (229, 29306), (264, 29414), (270, 29435), (299, 29528), (305, 29543), (343, 29672), (358, 29753), (377, 29828), (392, 29870), (393, 29876), (402, 29912), (428, 30026), (429, 30038), (441, 30080), (444, 30101), (462, 30155), (471, 30179), (483, 30215), (509, 30311), (515, 30320), (529, 30374), (555, 30482), (561, 30509), (571, 30551), (592, 30623), (614, 30713), (625, 30749),

Gene: Daka\_31 Start: 28760, Stop: 31015, Start Num: 31

Candidate Starts for Daka\_31:

(Start: 31 @28760 has 324 MA's), (57, 28856), (79, 28934), (84, 28961), (114, 29060), (164, 29219), (215, 29399), (221, 29423), (248, 29519), (262, 29555), (277, 29594), (282, 29603), (291, 29636), (299, 29675), (312, 29720), (326, 29771), (344, 29822), (345, 29831), (358, 29900), (377, 29975), (393, 30020), (397, 30035), (428, 30170), (441, 30224), (444, 30245), (457, 30278), (471, 30323), (487, 30377), (495, 30404), (509, 30461), (519, 30482), (529, 30524), (539, 30563), (553, 30623), (614, 30863), (625, 30899), (639, 30932), (672, 31001),

Gene: Dalmatian\_31 Start: 22845, Stop: 25049, Start Num: 20

Candidate Starts for Dalmatian\_31:

(Start: 20 @22845 has 22 MA's), (27, 22866), (81, 23055), (91, 23091), (127, 23193), (131, 23205), (205, 23316), (220, 23382), (259, 23517), (390, 23871), (401, 23913), (432, 24051), (450, 24114), (461, 24153), (487, 24243), (499, 24300), (521, 24360), (530, 24405), (534, 24426), (561, 24546), (567, 24570), (575, 24615), (596, 24687), (609, 24747), (686, 24918), (705, 24972), (712, 24999), (718, 25026),

Gene: DarthP\_26 Start: 21319, Stop: 23703, Start Num: 17

Candidate Starts for DarthP\_26:

(Start: 17 @21319 has 64 MA's), (18, 21328), (Start: 28 @21367 has 2 MA's), (66, 21490), (83, 21547), (86, 21559), (137, 21625), (159, 21679), (181, 21757), (208, 21847), (216, 21889), (230, 21940), (248, 21982), (250, 21985), (253, 22006), (275, 22066), (279, 22072), (330, 22264), (355, 22381), (376, 22450), (384, 22489), (393, 22519), (426, 22663), (463, 22798), (464, 22801), (465, 22804), (474, 22843), (490, 22897), (527, 23038), (528, 23044), (532, 23059), (557, 23188), (559, 23194), (581, 23290), (586, 23299), (591, 23323), (596, 23344), (680, 23551), (684, 23566), (685, 23569), (723, 23677),

Gene: Dati\_31 Start: 28480, Stop: 30735, Start Num: 31

Candidate Starts for Dati\_31:

(Start: 31 @28480 has 324 MA's), (57, 28576), (79, 28654), (84, 28681), (114, 28780), (164, 28939), (215, 29119), (221, 29143), (247, 29233), (248, 29239), (262, 29275), (277, 29314), (282, 29323), (291, 29356), (299, 29395), (312, 29440), (326, 29491), (344, 29542), (345, 29551), (358, 29620), (377, 29695), (393, 29740), (397, 29755), (428, 29890), (441, 29944), (444, 29965), (457, 29998), (471, 30043), (487, 30097), (495, 30124), (509, 30181), (519, 30202), (529, 30244), (539, 30283), (553, 30343), (614, 30583), (624, 30616), (625, 30619), (639, 30652), (642, 30658), (672, 30721),

Gene: Deenasa\_31 Start: 29376, Stop: 31604, Start Num: 31

Candidate Starts for Deenasa\_31:

(Start: 31 @29376 has 324 MA's), (Start: 37 @29391 has 1 MA's), (46, 29436), (63, 29493), (85, 29571), (108, 29640), (114, 29652), (126, 29694), (137, 29730), (148, 29757), (154, 29769), (161, 29796), (187, 29886), (209, 29958), (229, 30042), (264, 30150), (270, 30171), (299, 30264), (305, 30279), (343, 30408), (358, 30489), (377, 30564), (392, 30606), (393, 30612), (402, 30648), (428, 30762), (429, 30774), (441, 30816), (444, 30837), (462, 30891), (471, 30915), (483, 30951), (509, 31050), (515, 31059), (529, 31113), (555, 31221), (561, 31248), (571, 31290), (592, 31362), (614, 31452), (625, 31488),

Gene: DelRivs\_30 Start: 28481, Stop: 30736, Start Num: 31

Candidate Starts for DelRivs\_30:

(Start: 31 @28481 has 324 MA's), (57, 28577), (79, 28655), (84, 28682), (114, 28781), (164, 28940), (215, 29120), (221, 29144), (247, 29234), (248, 29240), (262, 29276), (277, 29315), (282, 29324), (291, 29357), (299, 29396), (312, 29441), (326, 29492), (344, 29543), (345, 29552), (358, 29621), (377, 29696), (393, 29741), (397, 29756), (428, 29891), (441, 29945), (444, 29966), (457, 29999), (471, 30044), (487, 30098), (495, 30125), (509, 30182), (519, 30203), (529, 30245), (539, 30284), (553, 30344), (614, 30584), (624, 30617), (625, 30620), (639, 30653), (642, 30659), (672, 30722),

Gene: Deloris\_32 Start: 23191, Stop: 25377, Start Num: 20

Candidate Starts for Deloris\_32:

(Start: 20 @23191 has 22 MA's), (27, 23212), (51, 23302), (61, 23332), (81, 23395), (91, 23431), (105, 23485), (143, 23581), (156, 23611), (198, 23743), (220, 23833), (224, 23848), (259, 23968), (270, 24001), (275, 24010), (390, 24205), (395, 24223), (450, 24451), (461, 24490), (480, 24547), (487, 24580), (492, 24601), (499, 24637), (521, 24697), (530, 24742), (534, 24763), (536, 24772), (561, 24883), (567, 24907), (570, 24922), (572, 24928), (606, 25060), (643, 25162), (650, 25174), (668, 25213), (717, 25354), (719, 25363),

Gene: Derpp\_30 Start: 28325, Stop: 30580, Start Num: 31

Candidate Starts for Derpp\_30:

(Start: 31 @28325 has 324 MA's), (57, 28421), (79, 28499), (84, 28526), (114, 28625), (164, 28784), (215, 28964), (221, 28988), (248, 29084), (262, 29120), (277, 29159), (282, 29168), (291, 29201), (299, 29240), (312, 29285), (326, 29336), (345, 29396), (358, 29465), (377, 29540), (393, 29585), (397, 29600), (428, 29735), (441, 29789), (444, 29810), (457, 29843), (471, 29888), (487, 29942), (495, 29969), (509, 30026), (519, 30047), (529, 30089), (539, 30128), (553, 30188), (614, 30428), (624, 30461), (625, 30464), (639, 30497), (672, 30566),

Gene: Devonte\_31 Start: 28604, Stop: 30829, Start Num: 31

Candidate Starts for Devonte\_31:

(Start: 31 @28604 has 324 MA's), (Start: 37 @28619 has 1 MA's), (46, 28664), (63, 28721), (85, 28799), (108, 28868), (114, 28880), (126, 28922), (137, 28958), (148, 28985), (154, 28997), (161, 29024), (187, 29114), (209, 29186), (229, 29270), (264, 29378), (270, 29399), (299, 29492), (305, 29507), (343, 29636), (358, 29717), (377, 29792), (392, 29834), (393, 29840), (402, 29876), (428,

29990), (429, 30002), (441, 30044), (444, 30065), (462, 30119), (471, 30143), (483, 30179), (509, 30275), (515, 30284), (529, 30338), (555, 30446), (561, 30473), (571, 30515), (592, 30587), (614, 30677), (625, 30713),

Gene: Dice\_32 Start: 28460, Stop: 30715, Start Num: 31

Candidate Starts for Dice\_32:

(Start: 31 @28460 has 324 MA's), (57, 28556), (79, 28634), (84, 28661), (114, 28760), (164, 28919), (215, 29099), (221, 29123), (247, 29213), (248, 29219), (262, 29255), (277, 29294), (282, 29303), (291, 29336), (299, 29375), (312, 29420), (326, 29471), (344, 29522), (345, 29531), (358, 29600), (377, 29675), (393, 29720), (397, 29735), (428, 29870), (441, 29924), (444, 29945), (457, 29978), (471, 30023), (487, 30077), (495, 30104), (509, 30161), (519, 30182), (529, 30224), (539, 30263), (553, 30323), (614, 30563), (625, 30599), (639, 30632), (672, 30701),

Gene: DigitDog\_30 Start: 28569, Stop: 30836, Start Num: 31

Candidate Starts for DigitDog\_30:

(Start: 31 @28569 has 324 MA's), (43, 28617), (53, 28647), (57, 28665), (67, 28701), (73, 28722), (78, 28740), (98, 28803), (120, 28908), (164, 29031), (169, 29037), (196, 29136), (223, 29238), (235, 29292), (277, 29412), (284, 29427), (291, 29454), (344, 29640), (349, 29676), (358, 29718), (377, 29793), (393, 29844), (402, 29880), (413, 29943), (419, 29967), (428, 29994), (462, 30123), (471, 30147), (509, 30282), (515, 30291), (519, 30303), (529, 30345), (539, 30384), (540, 30387), (551, 30441), (555, 30453), (562, 30483), (566, 30501), (583, 30567), (614, 30684), (672, 30822),

Gene: Dignity\_33 Start: 23212, Stop: 25416, Start Num: 19

Candidate Starts for Dignity\_33:

(Start: 19 @23212 has 30 MA's), (51, 23326), (54, 23335), (56, 23341), (81, 23425), (127, 23563), (135, 23587), (156, 23641), (220, 23752), (259, 23887), (275, 23929), (299, 24001), (385, 24220), (390, 24241), (395, 24259), (401, 24283), (425, 24391), (450, 24484), (461, 24523), (487, 24613), (499, 24670), (500, 24673), (521, 24730), (522, 24736), (530, 24775), (534, 24796), (575, 24985), (585, 25012), (630, 25165), (641, 25189), (669, 25243), (671, 25246), (686, 25285), (687, 25291), (705, 25339),

Gene: Dingo\_31 Start: 28743, Stop: 30998, Start Num: 31

Candidate Starts for Dingo\_31:

(Start: 31 @28743 has 324 MA's), (57, 28839), (79, 28917), (84, 28944), (114, 29043), (164, 29202), (215, 29382), (221, 29406), (248, 29502), (262, 29538), (277, 29577), (282, 29586), (291, 29619), (299, 29658), (312, 29703), (326, 29754), (344, 29805), (345, 29814), (358, 29883), (377, 29958), (393, 30003), (397, 30018), (428, 30153), (441, 30207), (444, 30228), (457, 30261), (471, 30306), (487, 30360), (495, 30387), (509, 30444), (519, 30465), (529, 30507), (539, 30546), (553, 30606), (564, 30657), (614, 30846), (625, 30882), (639, 30915), (672, 30984),

Gene: Dione\_30 Start: 28465, Stop: 30720, Start Num: 31

Candidate Starts for Dione\_30:

(Start: 31 @28465 has 324 MA's), (57, 28561), (79, 28639), (84, 28666), (114, 28765), (164, 28924), (215, 29104), (221, 29128), (247, 29218), (248, 29224), (262, 29260), (277, 29299), (282, 29308), (291, 29341), (299, 29380), (312, 29425), (326, 29476), (344, 29527), (345, 29536), (358, 29605), (377, 29680), (393, 29725), (397, 29740), (428, 29875), (441, 29929), (444, 29950), (457, 29983), (471, 30028), (487, 30082), (495, 30109), (509, 30166), (519, 30187), (529, 30229), (539, 30268), (553, 30328), (614, 30568), (625, 30604), (639, 30637), (672, 30706),

Gene: DirtJuice\_31 Start: 28749, Stop: 31004, Start Num: 31

Candidate Starts for DirtJuice\_31:

(Start: 31 @28749 has 324 MA's), (57, 28845), (79, 28923), (84, 28950), (114, 29049), (164, 29208), (215, 29388), (221, 29412), (248, 29508), (262, 29544), (277, 29583), (282, 29592), (291, 29625),

(299, 29664), (312, 29709), (326, 29760), (344, 29811), (345, 29820), (358, 29889), (377, 29964), (393, 30009), (397, 30024), (428, 30159), (441, 30213), (444, 30234), (457, 30267), (471, 30312), (487, 30366), (495, 30393), (509, 30450), (519, 30471), (529, 30513), (539, 30552), (553, 30612), (614, 30852), (625, 30888), (639, 30921), (672, 30990),

Gene: DismalFunk\_23 Start: 18661, Stop: 21000, Start Num: 17

Candidate Starts for DismalFunk\_23:

(Start: 17 @18661 has 64 MA's), (66, 18832), (69, 18850), (77, 18874), (155, 19018), (166, 19051), (207, 19180), (209, 19189), (211, 19204), (214, 19216), (216, 19225), (229, 19273), (260, 19369), (265, 19387), (275, 19408), (291, 19453), (326, 19555), (346, 19627), (352, 19669), (353, 19675), (355, 19684), (375, 19771), (378, 19792), (390, 19834), (396, 19855), (422, 19972), (425, 19981), (448, 20071), (465, 20125), (467, 20137), (479, 20161), (504, 20275), (517, 20302), (530, 20359), (543, 20416), (572, 20548), (578, 20578), (593, 20629), (597, 20647), (606, 20677), (618, 20731), (634, 20761), (642, 20782), (695, 20914),

Gene: DismalStressor\_23 Start: 18661, Stop: 21000, Start Num: 17

Candidate Starts for DismalStressor\_23:

(Start: 17 @18661 has 64 MA's), (66, 18832), (69, 18850), (77, 18874), (155, 19018), (166, 19051), (207, 19180), (209, 19189), (211, 19204), (214, 19216), (216, 19225), (229, 19273), (260, 19369), (265, 19387), (275, 19408), (291, 19453), (326, 19555), (346, 19627), (352, 19669), (353, 19675), (355, 19684), (375, 19771), (378, 19792), (390, 19834), (396, 19855), (422, 19972), (425, 19981), (448, 20071), (465, 20125), (467, 20137), (479, 20161), (504, 20275), (517, 20302), (530, 20359), (543, 20416), (572, 20548), (578, 20578), (593, 20629), (597, 20647), (606, 20677), (618, 20731), (634, 20761), (642, 20782), (695, 20914),

Gene: Doddsville\_31 Start: 28479, Stop: 30734, Start Num: 31

Candidate Starts for Doddsville\_31:

(Start: 31 @28479 has 324 MA's), (57, 28575), (79, 28653), (84, 28680), (114, 28779), (164, 28938), (215, 29118), (221, 29142), (248, 29238), (262, 29274), (277, 29313), (282, 29322), (291, 29355), (299, 29394), (312, 29439), (326, 29490), (345, 29550), (358, 29619), (377, 29694), (393, 29739), (397, 29754), (428, 29889), (441, 29943), (444, 29964), (457, 29997), (471, 30042), (487, 30096), (495, 30123), (509, 30180), (519, 30201), (529, 30243), (539, 30282), (553, 30342), (614, 30582), (624, 30615), (625, 30618), (639, 30651), (672, 30720),

Gene: DoesntMatter\_31 Start: 28745, Stop: 31000, Start Num: 31

Candidate Starts for DoesntMatter\_31:

(Start: 31 @28745 has 324 MA's), (57, 28841), (79, 28919), (84, 28946), (114, 29045), (164, 29204), (215, 29384), (221, 29408), (247, 29498), (248, 29504), (262, 29540), (277, 29579), (282, 29588), (291, 29621), (299, 29660), (312, 29705), (326, 29756), (344, 29807), (345, 29816), (358, 29885), (377, 29960), (393, 30005), (397, 30020), (428, 30155), (441, 30209), (444, 30230), (457, 30263), (471, 30308), (487, 30362), (495, 30389), (509, 30446), (519, 30467), (529, 30509), (539, 30548), (553, 30608), (614, 30848), (624, 30881), (625, 30884), (639, 30917), (642, 30923), (672, 30986),

Gene: DonSanchon\_30 Start: 28459, Stop: 30714, Start Num: 31

Candidate Starts for DonSanchon\_30:

(Start: 31 @28459 has 324 MA's), (57, 28555), (79, 28633), (84, 28660), (114, 28759), (164, 28918), (215, 29098), (221, 29122), (247, 29212), (248, 29218), (262, 29254), (277, 29293), (282, 29302), (291, 29335), (299, 29374), (312, 29419), (326, 29470), (344, 29521), (345, 29530), (358, 29599), (377, 29674), (393, 29719), (397, 29734), (428, 29869), (441, 29923), (444, 29944), (457, 29977), (471, 30022), (487, 30076), (495, 30103), (509, 30160), (519, 30181), (529, 30223), (539, 30262), (553, 30322), (614, 30562), (625, 30598), (639, 30631), (672, 30700),

Gene: Donny\_30 Start: 28983, Stop: 31259, Start Num: 31

Candidate Starts for Donny\_30:

(Start: 31 @28983 has 324 MA's), (33, 28989), (43, 29031), (49, 29052), (53, 29061), (67, 29115), (73, 29136), (78, 29154), (79, 29157), (89, 29199), (93, 29205), (98, 29217), (114, 29286), (120, 29322), (164, 29445), (196, 29550), (235, 29706), (243, 29733), (256, 29784), (277, 29835), (284, 29850), (344, 30063), (349, 30099), (358, 30141), (377, 30216), (413, 30366), (419, 30390), (428, 30417), (444, 30492), (462, 30546), (509, 30705), (515, 30714), (519, 30726), (539, 30807), (540, 30810), (555, 30876), (566, 30924), (583, 30990), (614, 31107),

Gene: Drake55\_33 Start: 23226, Stop: 25310, Start Num: 19

Candidate Starts for Drake55\_33:

(Start: 19 @23226 has 30 MA's), (51, 23340), (56, 23355), (61, 23376), (84, 23454), (127, 23577), (156, 23655), (220, 23766), (225, 23787), (259, 23901), (272, 23937), (390, 24138), (395, 24156), (401, 24180), (423, 24279), (450, 24381), (461, 24420), (465, 24432), (487, 24510), (521, 24627), (522, 24633), (534, 24693), (557, 24798), (561, 24813), (596, 24954), (597, 24957), (607, 25008), (613, 25023), (621, 25047), (645, 25101), (659, 25125), (697, 25230), (719, 25296),

Gene: Drake94\_31 Start: 21398, Stop: 23680, Start Num: 16

Candidate Starts for Drake94\_31:

(Start: 16 @21398 has 6 MA's), (25, 21431), (48, 21515), (68, 21581), (106, 21713), (153, 21827), (156, 21836), (179, 21920), (201, 21995), (220, 22073), (249, 22148), (289, 22238), (353, 22364), (390, 22511), (395, 22529), (401, 22553), (450, 22754), (461, 22793), (487, 22883), (499, 22940), (518, 22994), (530, 23045), (534, 23066), (536, 23075), (541, 23093), (544, 23105), (567, 23210), (570, 23225), (572, 23231), (579, 23264), (606, 23363), (607, 23384), (609, 23387), (633, 23444), (641, 23462), (642, 23465), (649, 23477), (668, 23516), (684, 23558), (685, 23561), (718, 23663),

Gene: DuchessDung\_29 Start: 27616, Stop: 29871, Start Num: 31

Candidate Starts for DuchessDung\_29:

(Start: 31 @27616 has 324 MA's), (57, 27712), (79, 27790), (84, 27817), (114, 27916), (164, 28075), (215, 28255), (221, 28279), (248, 28375), (262, 28411), (277, 28450), (282, 28459), (291, 28492), (299, 28531), (312, 28576), (326, 28627), (344, 28678), (345, 28687), (358, 28756), (377, 28831), (393, 28876), (397, 28891), (428, 29026), (441, 29080), (444, 29101), (457, 29134), (471, 29179), (487, 29233), (495, 29260), (509, 29317), (519, 29338), (529, 29380), (539, 29419), (553, 29479), (614, 29719), (624, 29752), (625, 29755), (639, 29788), (642, 29794), (672, 29857),

Gene: DudeLittle\_31 Start: 22847, Stop: 25045, Start Num: 20

Candidate Starts for DudeLittle\_31:

(Start: 20 @22847 has 22 MA's), (27, 22868), (56, 22973), (81, 23057), (91, 23093), (127, 23195), (131, 23207), (205, 23318), (220, 23384), (259, 23519), (272, 23555), (286, 23582), (371, 23780), (390, 23867), (395, 23885), (401, 23909), (406, 23939), (450, 24110), (465, 24161), (487, 24239), (499, 24296), (530, 24401), (534, 24422), (538, 24434), (557, 24527), (561, 24542), (575, 24611), (585, 24638), (629, 24791), (641, 24815), (705, 24968), (716, 25007),

Gene: Duggie\_30 Start: 28481, Stop: 30736, Start Num: 31

Candidate Starts for Duggie\_30:

(Start: 31 @28481 has 324 MA's), (57, 28577), (79, 28655), (84, 28682), (114, 28781), (164, 28940), (215, 29120), (221, 29144), (248, 29240), (262, 29276), (277, 29315), (282, 29324), (291, 29357), (299, 29396), (312, 29441), (326, 29492), (344, 29543), (345, 29552), (358, 29621), (377, 29696), (393, 29741), (397, 29756), (428, 29891), (441, 29945), (444, 29966), (457, 29999), (471, 30044), (487, 30098), (495, 30125), (509, 30182), (519, 30203), (529, 30245), (539, 30284), (553, 30344), (614, 30584), (625, 30620), (639, 30653), (672, 30722),

Gene: DuncansLeg\_21 Start: 19709, Stop: 22222, Start Num: 12

Candidate Starts for DuncansLeg\_21:



(Start: 12 @19709 has 16 MA's), (26, 19772), (44, 19841), (45, 19844), (95, 20012), (160, 20204), (173, 20234), (180, 20273), (190, 20303), (208, 20360), (213, 20390), (215, 20396), (229, 20450), (231, 20456), (274, 20603), (276, 20606), (282, 20615), (288, 20633), (301, 20693), (307, 20714), (319, 20765), (322, 20768), (331, 20795), (363, 20933), (376, 20990), (397, 21074), (401, 21092), (403, 21101), (415, 21164), (432, 21230), (447, 21284), (460, 21329), (465, 21344), (482, 21392), (500, 21482), (504, 21500), (522, 21545), (524, 21551), (530, 21584), (533, 21602), (543, 21641), (550, 21677), (560, 21722), (565, 21746), (570, 21767), (574, 21785), (582, 21818), (604, 21896), (611, 21932), (621, 21962), (660, 22037), (675, 22073), (694, 22136), (697, 22142),

Gene: Durga\_31 Start: 28778, Stop: 31033, Start Num: 31

Candidate Starts for Durga\_31:

(Start: 31 @28778 has 324 MA's), (57, 28874), (79, 28952), (84, 28979), (114, 29078), (164, 29237), (215, 29417), (221, 29441), (248, 29537), (262, 29573), (277, 29612), (282, 29621), (291, 29654), (299, 29693), (312, 29738), (326, 29789), (344, 29840), (345, 29849), (358, 29918), (377, 29993), (393, 30038), (397, 30053), (428, 30188), (441, 30242), (444, 30263), (457, 30296), (471, 30341), (487, 30395), (495, 30422), (509, 30479), (519, 30500), (529, 30542), (539, 30581), (553, 30641), (614, 30881), (625, 30917), (639, 30950), (672, 31019),

Gene: Dynamo\_21 Start: 19047, Stop: 21686, Start Num: 7

Candidate Starts for Dynamo\_21:

(Start: 7 @19047 has 9 MA's), (9, 19056), (Start: 42 @19200 has 1 MA's), (129, 19473), (131, 19482), (132, 19485), (139, 19506), (143, 19518), (147, 19527), (157, 19551), (174, 19605), (194, 19683), (203, 19713), (211, 19749), (216, 19770), (220, 19785), (232, 19827), (242, 19860), (267, 19935), (279, 19959), (280, 19965), (284, 19977), (292, 20019), (294, 20025), (318, 20112), (351, 20244), (355, 20262), (365, 20295), (372, 20322), (378, 20373), (424, 20583), (439, 20649), (447, 20685), (470, 20784), (472, 20796), (487, 20859), (528, 21021), (532, 21036), (543, 21087), (567, 21204), (576, 21249), (589, 21291), (597, 21327), (609, 21381), (627, 21429), (693, 21573), (709, 21630), (718, 21669), (721, 21678),

Gene: EastView9101\_30 Start: 28633, Stop: 30909, Start Num: 31

Candidate Starts for EastView9101\_30:

(Start: 31 @28633 has 324 MA's), (33, 28639), (43, 28681), (49, 28702), (53, 28711), (67, 28765), (73, 28786), (78, 28804), (79, 28807), (89, 28849), (93, 28855), (98, 28867), (114, 28936), (120, 28972), (164, 29095), (196, 29200), (235, 29356), (243, 29383), (256, 29434), (277, 29485), (284, 29500), (344, 29713), (349, 29749), (358, 29791), (377, 29866), (413, 30016), (419, 30040), (428, 30067), (444, 30142), (462, 30196), (509, 30355), (515, 30364), (519, 30376), (539, 30457), (540, 30460), (555, 30526), (566, 30574), (583, 30640), (614, 30757),

Gene: Echild\_31 Start: 22854, Stop: 25181, Start Num: 19

Candidate Starts for Echild\_31:

(Start: 19 @22854 has 30 MA's), (27, 22878), (54, 22977), (56, 22983), (64, 23010), (81, 23067), (91, 23103), (105, 23157), (119, 23184), (127, 23205), (135, 23229), (156, 23283), (220, 23394), (259, 23529), (270, 23562), (328, 23748), (390, 24000), (395, 24018), (401, 24042), (450, 24243), (461, 24282), (487, 24372), (499, 24429), (521, 24489), (530, 24534), (534, 24555), (561, 24675), (567, 24699), (575, 24744), (585, 24777), (631, 24933), (684, 25044), (705, 25104), (718, 25158), (721, 25167),

Gene: Ekdilam\_24 Start: 21084, Stop: 23462, Start Num: 17

Candidate Starts for Ekdilam\_24:

(Start: 17 @21084 has 64 MA's), (18, 21093), (Start: 28 @21132 has 2 MA's), (66, 21255), (86, 21324), (159, 21444), (208, 21612), (216, 21654), (230, 21705), (248, 21747), (250, 21750), (253, 21771), (279, 21837), (305, 21933), (330, 22029), (344, 22077), (355, 22146), (376, 22215), (384, 22254), (393, 22284), (426, 22428), (463, 22563), (464, 22566), (465, 22569), (474, 22608), (490,

22662), (504, 22725), (527, 22803), (528, 22809), (532, 22824), (533, 22836), (541, 22866), (557, 22953), (559, 22959), (586, 23064), (591, 23088), (596, 23109), (607, 23163), (616, 23193), (631, 23223), (676, 23304), (684, 23325), (685, 23328), (723, 23436),

Gene: Ellie\_24 Start: 21059, Stop: 23461, Start Num: 17

Candidate Starts for Ellie\_24:

(Start: 17 @21059 has 64 MA's), (26, 21089), (Start: 28 @21107 has 2 MA's), (54, 21191), (137, 21365), (181, 21497), (208, 21587), (216, 21629), (230, 21680), (248, 21722), (250, 21725), (265, 21782), (275, 21806), (279, 21812), (291, 21851), (305, 21908), (330, 22004), (355, 22121), (376, 22190), (384, 22229), (393, 22259), (403, 22301), (426, 22403), (463, 22538), (464, 22541), (465, 22544), (474, 22583), (490, 22637), (527, 22775), (528, 22781), (532, 22796), (533, 22808), (541, 22838), (557, 22925), (559, 22931), (569, 22973), (596, 23081), (607, 23135), (644, 23231), (646, 23237), (657, 23255), (674, 23291), (675, 23294), (677, 23303), (684, 23327), (692, 23354),

Gene: Ellson\_21 Start: 19717, Stop: 22227, Start Num: 12

Candidate Starts for Ellson\_21:

(Start: 12 @19717 has 16 MA's), (26, 19780), (60, 19900), (117, 20086), (160, 20212), (164, 20224), (173, 20242), (180, 20281), (190, 20311), (213, 20398), (229, 20458), (231, 20464), (273, 20605), (276, 20611), (282, 20620), (288, 20638), (301, 20698), (307, 20719), (319, 20770), (322, 20773), (343, 20842), (376, 20995), (397, 21079), (401, 21097), (403, 21106), (428, 21217), (432, 21235), (447, 21289), (460, 21334), (465, 21349), (482, 21397), (500, 21487), (504, 21505), (524, 21556), (530, 21589), (533, 21607), (543, 21646), (550, 21682), (560, 21727), (565, 21751), (570, 21772), (574, 21790), (582, 21823), (583, 21826), (597, 21877), (613, 21943), (621, 21967), (660, 22042), (675, 22078), (697, 22147),

Gene: Emiris\_31 Start: 28749, Stop: 31004, Start Num: 31

Candidate Starts for Emiris\_31:

(Start: 31 @28749 has 324 MA's), (57, 28845), (79, 28923), (84, 28950), (114, 29049), (164, 29208), (215, 29388), (221, 29412), (247, 29502), (248, 29508), (262, 29544), (277, 29583), (282, 29592), (291, 29625), (299, 29664), (312, 29709), (326, 29760), (344, 29811), (345, 29820), (358, 29889), (377, 29964), (393, 30009), (397, 30024), (428, 30159), (441, 30213), (444, 30234), (457, 30267), (471, 30312), (487, 30366), (495, 30393), (509, 30450), (519, 30471), (529, 30513), (539, 30552), (553, 30612), (614, 30852), (625, 30888), (639, 30921), (672, 30990),

Gene: EmpTee\_31 Start: 28759, Stop: 31014, Start Num: 31

Candidate Starts for EmpTee\_31:

(Start: 31 @28759 has 324 MA's), (57, 28855), (79, 28933), (84, 28960), (114, 29059), (164, 29218), (215, 29398), (221, 29422), (247, 29512), (248, 29518), (262, 29554), (277, 29593), (282, 29602), (291, 29635), (299, 29674), (312, 29719), (326, 29770), (344, 29821), (345, 29830), (358, 29899), (377, 29974), (393, 30019), (397, 30034), (428, 30169), (441, 30223), (444, 30244), (457, 30277), (471, 30322), (487, 30376), (509, 30460), (519, 30481), (529, 30523), (539, 30562), (553, 30622), (614, 30862), (624, 30895), (625, 30898), (639, 30931), (672, 31000),

Gene: Enkosi\_23 Start: 20414, Stop: 22900, Start Num: 17

Candidate Starts for Enkosi\_23:

(Start: 17 @20414 has 64 MA's), (Start: 28 @20462 has 2 MA's), (83, 20642), (84, 20645), (134, 20708), (137, 20720), (181, 20852), (193, 20891), (209, 20948), (213, 20972), (216, 20984), (229, 21032), (230, 21035), (245, 21068), (254, 21107), (265, 21140), (270, 21152), (275, 21161), (279, 21167), (296, 21233), (299, 21248), (330, 21359), (340, 21392), (355, 21476), (361, 21491), (373, 21551), (386, 21620), (411, 21740), (432, 21833), (461, 21947), (481, 22025), (482, 22031), (490, 22055), (503, 22118), (504, 22121), (507, 22133), (527, 22199), (528, 22205), (537, 22247), (541, 22268), (543, 22277), (548, 22310), (552, 22328), (567, 22397), (591, 22496), (593, 22502), (597, 22520), (607, 22574), (612, 22589), (622, 22616), (652, 22673),

Gene: Equemioh13\_33 Start: 23218, Stop: 25425, Start Num: 19

Candidate Starts for Equemioh13\_33:

(Start: 19 @23218 has 30 MA's), (51, 23332), (54, 23341), (56, 23347), (61, 23368), (95, 23479), (127, 23569), (131, 23581), (220, 23758), (231, 23797), (259, 23893), (371, 24154), (390, 24244), (398, 24274), (401, 24286), (448, 24484), (487, 24625), (492, 24646), (518, 24736), (521, 24742), (522, 24748), (530, 24787), (534, 24808), (543, 24844), (544, 24847), (557, 24913), (561, 24928), (562, 24931), (567, 24952), (574, 24985), (609, 25129), (629, 25177), (663, 25240), (687, 25300), (705, 25348), (718, 25402),

Gene: Eremos\_31 Start: 28758, Stop: 31013, Start Num: 31

Candidate Starts for Eremos\_31:

(Start: 31 @28758 has 324 MA's), (57, 28854), (79, 28932), (84, 28959), (114, 29058), (164, 29217), (215, 29397), (221, 29421), (247, 29511), (248, 29517), (262, 29553), (277, 29592), (291, 29634), (299, 29673), (312, 29718), (326, 29769), (344, 29820), (345, 29829), (358, 29898), (377, 29973), (393, 30018), (397, 30033), (428, 30168), (441, 30222), (444, 30243), (457, 30276), (471, 30321), (487, 30375), (509, 30459), (519, 30480), (529, 30522), (539, 30561), (553, 30621), (614, 30861), (624, 30894), (625, 30897), (639, 30930), (642, 30936), (672, 30999),

Gene: Etaye\_31 Start: 28748, Stop: 31003, Start Num: 31

Candidate Starts for Etaye\_31:

(Start: 31 @28748 has 324 MA's), (57, 28844), (79, 28922), (84, 28949), (114, 29048), (164, 29207), (215, 29387), (221, 29411), (248, 29507), (262, 29543), (277, 29582), (282, 29591), (291, 29624), (299, 29663), (312, 29708), (326, 29759), (344, 29810), (345, 29819), (358, 29888), (377, 29963), (393, 30008), (397, 30023), (428, 30158), (441, 30212), (444, 30233), (457, 30266), (471, 30311), (487, 30365), (495, 30392), (509, 30449), (519, 30470), (529, 30512), (539, 30551), (553, 30611), (614, 30851), (625, 30887), (639, 30920), (672, 30989),

Gene: Eugenia\_31 Start: 28768, Stop: 31023, Start Num: 31

Candidate Starts for Eugenia\_31:

(Start: 31 @28768 has 324 MA's), (57, 28864), (79, 28942), (84, 28969), (114, 29068), (164, 29227), (215, 29407), (221, 29431), (247, 29521), (248, 29527), (262, 29563), (277, 29602), (282, 29611), (291, 29644), (299, 29683), (312, 29728), (326, 29779), (344, 29830), (345, 29839), (358, 29908), (377, 29983), (393, 30028), (397, 30043), (428, 30178), (441, 30232), (444, 30253), (457, 30286), (471, 30331), (487, 30385), (495, 30412), (509, 30469), (519, 30490), (529, 30532), (539, 30571), (553, 30631), (614, 30871), (625, 30907), (639, 30940), (672, 31009),

Gene: EvilGenius\_33 Start: 23186, Stop: 25663, Start Num: 20

Candidate Starts for EvilGenius\_33:

(Start: 20 @23186 has 22 MA's), (27, 23207), (51, 23297), (81, 23396), (95, 23444), (101, 23465), (131, 23576), (209, 23822), (214, 23849), (218, 23864), (238, 23939), (286, 24080), (302, 24152), (330, 24254), (385, 24464), (401, 24527), (426, 24638), (427, 24641), (442, 24698), (460, 24764), (461, 24767), (465, 24779), (478, 24821), (487, 24863), (499, 24920), (530, 25025), (534, 25046), (544, 25085), (575, 25235), (578, 25241), (594, 25295), (596, 25307), (599, 25316), (604, 25337), (626, 25406), (675, 25505), (685, 25532), (686, 25535), (705, 25589), (711, 25616),

Gene: FF47\_24 Start: 19326, Stop: 21644, Start Num: 17

Candidate Starts for FF47\_24:

(Start: 17 @19326 has 64 MA's), (76, 19527), (91, 19572), (96, 19584), (160, 19695), (178, 19761), (219, 19902), (255, 20034), (271, 20073), (278, 20085), (291, 20124), (298, 20142), (310, 20178), (335, 20238), (350, 20313), (362, 20340), (376, 20403), (389, 20460), (435, 20655), (458, 20724), (461, 20742), (463, 20748), (464, 20751), (465, 20754), (497, 20871), (498, 20877), (521, 20955), (531, 21003), (532, 21006), (547, 21084), (557, 21135), (561, 21150), (563, 21162), (578, 21225),

(585, 21246), (590, 21267), (606, 21324), (607, 21345), (621, 21384), (641, 21426), (660, 21459), (662, 21465), (668, 21480), (697, 21564),

Gene: Fameo\_31 Start: 22816, Stop: 25014, Start Num: 20

Candidate Starts for Fameo\_31:

(Start: 20 @22816 has 22 MA's), (27, 22837), (54, 22936), (81, 23026), (91, 23062), (127, 23164), (131, 23176), (220, 23353), (259, 23488), (307, 23629), (390, 23842), (395, 23860), (401, 23884), (450, 24085), (487, 24214), (499, 24271), (521, 24331), (530, 24376), (534, 24397), (561, 24517), (583, 24607), (585, 24610), (609, 24715), (616, 24739), (634, 24769), (635, 24772), (705, 24937), (718, 24991),

Gene: Fang\_31 Start: 28772, Stop: 31027, Start Num: 31

Candidate Starts for Fang\_31:

(Start: 31 @28772 has 324 MA's), (57, 28868), (79, 28946), (84, 28973), (114, 29072), (164, 29231), (215, 29411), (221, 29435), (247, 29525), (248, 29531), (262, 29567), (277, 29606), (282, 29615), (291, 29648), (299, 29687), (312, 29732), (326, 29783), (344, 29834), (345, 29843), (358, 29912), (377, 29987), (393, 30032), (397, 30047), (428, 30182), (441, 30236), (444, 30257), (457, 30290), (471, 30335), (487, 30389), (495, 30416), (509, 30473), (519, 30494), (529, 30536), (539, 30575), (553, 30635), (614, 30875), (625, 30911), (639, 30944), (672, 31013),

Gene: Fefferhead\_26 Start: 21226, Stop: 23613, Start Num: 17

Candidate Starts for Fefferhead\_26:

(Start: 17 @21226 has 64 MA's), (26, 21256), (Start: 28 @21274 has 2 MA's), (54, 21358), (137, 21532), (181, 21664), (208, 21754), (216, 21796), (230, 21847), (248, 21889), (250, 21892), (265, 21949), (275, 21973), (279, 21979), (291, 22018), (305, 22075), (330, 22171), (355, 22288), (376, 22357), (384, 22396), (387, 22405), (393, 22426), (403, 22468), (426, 22570), (463, 22705), (464, 22708), (465, 22711), (474, 22750), (490, 22804), (533, 22978), (557, 23095), (559, 23101), (583, 23203), (608, 23308), (610, 23314), (626, 23362), (676, 23455), (684, 23479), (693, 23509), (723, 23587),

Gene: Findley\_23 Start: 18661, Stop: 21000, Start Num: 17

Candidate Starts for Findley\_23:

(Start: 17 @18661 has 64 MA's), (66, 18832), (69, 18850), (83, 18901), (155, 19018), (166, 19051), (207, 19180), (209, 19189), (211, 19204), (214, 19216), (216, 19225), (229, 19273), (260, 19369), (265, 19387), (275, 19408), (291, 19453), (326, 19555), (346, 19627), (352, 19669), (353, 19675), (355, 19684), (375, 19771), (378, 19792), (390, 19834), (396, 19855), (422, 19972), (425, 19981), (434, 20017), (448, 20071), (465, 20125), (467, 20137), (479, 20161), (500, 20257), (504, 20275), (517, 20302), (530, 20359), (543, 20416), (572, 20548), (578, 20578), (593, 20629), (597, 20647), (606, 20677), (618, 20731), (634, 20761), (642, 20782), (695, 20914),

Gene: Finny\_21 Start: 19728, Stop: 22241, Start Num: 12

Candidate Starts for Finny\_21:

(Start: 12 @19728 has 16 MA's), (26, 19791), (45, 19863), (72, 19953), (74, 19959), (95, 20031), (160, 20223), (164, 20235), (173, 20253), (180, 20292), (190, 20322), (208, 20379), (213, 20409), (215, 20415), (229, 20469), (231, 20475), (274, 20622), (276, 20625), (282, 20634), (288, 20652), (301, 20712), (305, 20721), (307, 20733), (319, 20784), (322, 20787), (363, 20952), (376, 21009), (397, 21093), (401, 21111), (403, 21120), (415, 21183), (447, 21303), (460, 21348), (465, 21363), (473, 21381), (482, 21411), (500, 21501), (524, 21570), (530, 21603), (534, 21624), (543, 21660), (550, 21696), (560, 21741), (565, 21765), (567, 21771), (570, 21786), (574, 21804), (582, 21837), (597, 21891), (604, 21915), (611, 21951), (613, 21957), (621, 21981), (692, 22146), (694, 22155), (697, 22161),

Gene: Fionnbharth\_28 Start: 22273, Stop: 24582, Start Num: 17

Candidate Starts for Fionnbharth\_28:

(Start: 17 @22273 has 64 MA's), (40, 22363), (45, 22384), (53, 22408), (87, 22525), (162, 22654), (188, 22714), (218, 22786), (220, 22795), (239, 22846), (245, 22852), (252, 22861), (265, 22912), (270, 22924), (279, 22939), (282, 22945), (291, 22978), (304, 23026), (320, 23080), (346, 23152), (351, 23191), (354, 23203), (363, 23218), (373, 23263), (386, 23332), (404, 23413), (439, 23566), (451, 23608), (481, 23737), (490, 23782), (504, 23848), (508, 23863), (535, 23959), (567, 24112), (570, 24127), (572, 24133), (575, 24157), (577, 24163), (579, 24169), (580, 24172), (586, 24196), (589, 24208), (610, 24304), (627, 24355), (630, 24358), (667, 24427), (684, 24463), (694, 24496), (713, 24550), (716, 24559), (720, 24574),

Gene: FiringLine\_31 Start: 22638, Stop: 24839, Start Num: 20

Candidate Starts for FiringLine\_31:

(Start: 20 @22638 has 22 MA's), (27, 22659), (54, 22758), (56, 22764), (64, 22791), (65, 22794), (81, 22848), (91, 22884), (127, 22986), (220, 23175), (257, 23307), (259, 23310), (390, 23664), (395, 23682), (401, 23706), (450, 23907), (461, 23946), (487, 24036), (499, 24093), (521, 24153), (530, 24198), (534, 24219), (557, 24324), (561, 24339), (567, 24363), (575, 24408), (585, 24435), (596, 24480), (616, 24564), (687, 24714), (705, 24762), (711, 24786),

Gene: First\_0031 Start: 22858, Stop: 25263, Start Num: 20

Candidate Starts for First\_0031:

(Start: 20 @22858 has 22 MA's), (27, 22879), (51, 22969), (54, 22978), (61, 22999), (81, 23062), (91, 23098), (119, 23179), (143, 23248), (153, 23269), (156, 23278), (198, 23410), (220, 23500), (224, 23515), (259, 23635), (270, 23668), (275, 23677), (307, 23776), (313, 23803), (371, 24016), (390, 24106), (395, 24124), (401, 24148), (450, 24349), (461, 24388), (466, 24409), (480, 24445), (487, 24478), (492, 24499), (499, 24535), (518, 24589), (530, 24640), (534, 24661), (557, 24766), (561, 24781), (606, 24949), (615, 24991), (650, 25060), (716, 25231), (717, 25240), (718, 25246),

Gene: Flare16\_31 Start: 22776, Stop: 24998, Start Num: 19

Candidate Starts for Flare16\_31:

(Start: 19 @22776 has 30 MA's), (51, 22890), (56, 22905), (95, 23037), (135, 23151), (142, 23172), (156, 23205), (220, 23316), (231, 23355), (259, 23451), (293, 23553), (390, 23802), (398, 23832), (401, 23844), (442, 24015), (461, 24084), (487, 24183), (518, 24294), (521, 24300), (522, 24306), (530, 24345), (543, 24402), (544, 24405), (557, 24471), (575, 24555), (596, 24627), (629, 24747), (683, 24858), (701, 24909), (705, 24921),

Gene: FluffyNinja\_31 Start: 28765, Stop: 31020, Start Num: 31

Candidate Starts for FluffyNinja\_31:

(Start: 31 @28765 has 324 MA's), (57, 28861), (79, 28939), (84, 28966), (114, 29065), (164, 29224), (215, 29404), (221, 29428), (247, 29518), (248, 29524), (262, 29560), (277, 29599), (282, 29608), (291, 29641), (299, 29680), (312, 29725), (326, 29776), (344, 29827), (345, 29836), (358, 29905), (377, 29980), (393, 30025), (397, 30040), (428, 30175), (441, 30229), (444, 30250), (457, 30283), (471, 30328), (487, 30382), (509, 30466), (519, 30487), (529, 30529), (539, 30568), (553, 30628), (614, 30868), (624, 30901), (625, 30904), (639, 30937), (642, 30943), (672, 31006),

Gene: Fortunato\_28 Start: 28277, Stop: 31261, Start Num: 1

Candidate Starts for Fortunato\_28:

(Start: 1 @28277 has 1 MA's), (2, 28424), (Start: 31 @28964 has 324 MA's), (57, 29063), (63, 29081), (84, 29168), (98, 29204), (114, 29267), (136, 29348), (160, 29414), (196, 29531), (208, 29570), (219, 29621), (221, 29630), (235, 29687), (242, 29711), (243, 29714), (262, 29777), (279, 29819), (284, 29831), (314, 29954), (320, 29978), (343, 30041), (366, 30152), (372, 30173), (377, 30209), (383, 30230), (402, 30296), (405, 30308), (413, 30359), (414, 30362), (418, 30380), (426, 30404), (431, 30431), (441, 30464), (444, 30485), (457, 30518), (471, 30563), (513, 30704), (515, 30707), (519, 30719), (540, 30803), (566, 30917), (571, 30938), (578, 30962), (595, 31025), (602, 31055), (603,

31061), (614, 31109), (624, 31142), (625, 31145), (672, 31247), (674, 31250),

Gene: Fozzie\_30 Start: 28774, Stop: 31035, Start Num: 31

Candidate Starts for Fozzie\_30:

(Start: 31 @28774 has 324 MA's), (57, 28870), (79, 28948), (84, 28975), (107, 29050), (114, 29080), (164, 29239), (215, 29419), (221, 29443), (248, 29539), (262, 29575), (277, 29614), (282, 29623), (291, 29656), (299, 29695), (312, 29740), (326, 29791), (345, 29851), (358, 29920), (377, 29995), (393, 30040), (397, 30055), (428, 30190), (441, 30244), (444, 30265), (457, 30298), (471, 30343), (487, 30397), (495, 30424), (509, 30481), (519, 30502), (529, 30544), (539, 30583), (553, 30643), (614, 30883), (625, 30919), (639, 30952), (672, 31021),

Gene: Frankicide\_31 Start: 28777, Stop: 31032, Start Num: 31

Candidate Starts for Frankicide\_31:

(Start: 31 @28777 has 324 MA's), (57, 28873), (79, 28951), (84, 28978), (114, 29077), (164, 29236), (215, 29416), (221, 29440), (248, 29536), (262, 29572), (277, 29611), (282, 29620), (291, 29653), (299, 29692), (312, 29737), (326, 29788), (344, 29839), (345, 29848), (358, 29917), (377, 29992), (393, 30037), (397, 30052), (428, 30187), (441, 30241), (444, 30262), (457, 30295), (471, 30340), (487, 30394), (495, 30421), (509, 30478), (519, 30499), (529, 30541), (539, 30580), (553, 30640), (614, 30880), (624, 30913), (625, 30916), (639, 30949), (642, 30955), (672, 31018),

Gene: Frederick\_28 Start: 28973, Stop: 31270, Start Num: 31

Candidate Starts for Frederick\_28:

(Start: 31 @28973 has 324 MA's), (57, 29072), (63, 29090), (98, 29213), (114, 29276), (136, 29357), (160, 29423), (196, 29540), (208, 29579), (219, 29630), (221, 29639), (235, 29696), (242, 29720), (243, 29723), (262, 29786), (279, 29828), (284, 29840), (312, 29951), (320, 29987), (343, 30050), (366, 30161), (372, 30182), (377, 30218), (383, 30239), (402, 30305), (405, 30317), (413, 30368), (414, 30371), (418, 30389), (426, 30413), (431, 30440), (441, 30473), (444, 30494), (457, 30527), (471, 30572), (513, 30713), (515, 30716), (516, 30719), (519, 30728), (540, 30812), (566, 30926), (571, 30947), (578, 30971), (595, 31034), (602, 31064), (603, 31070), (614, 31118), (624, 31151), (625, 31154), (672, 31256), (674, 31259),

Gene: Freya\_30 Start: 28456, Stop: 30711, Start Num: 31

Candidate Starts for Freya\_30:

(Start: 31 @28456 has 324 MA's), (57, 28552), (79, 28630), (84, 28657), (114, 28756), (164, 28915), (215, 29095), (221, 29119), (247, 29209), (248, 29215), (262, 29251), (277, 29290), (282, 29299), (291, 29332), (299, 29371), (312, 29416), (326, 29467), (344, 29518), (345, 29527), (358, 29596), (393, 29716), (397, 29731), (428, 29866), (441, 29920), (444, 29941), (457, 29974), (471, 30019), (487, 30073), (495, 30100), (509, 30157), (519, 30178), (529, 30220), (539, 30259), (553, 30319), (614, 30559), (624, 30592), (625, 30595), (639, 30628), (642, 30634), (672, 30697),

Gene: FriarPreacher\_31 Start: 28783, Stop: 31038, Start Num: 31

Candidate Starts for FriarPreacher\_31:

(Start: 31 @28783 has 324 MA's), (57, 28879), (79, 28957), (84, 28984), (114, 29083), (164, 29242), (215, 29422), (221, 29446), (247, 29536), (248, 29542), (262, 29578), (277, 29617), (282, 29626), (291, 29659), (299, 29698), (312, 29743), (326, 29794), (344, 29845), (345, 29854), (358, 29923), (377, 29998), (393, 30043), (397, 30058), (428, 30193), (441, 30247), (444, 30268), (457, 30301), (471, 30346), (487, 30400), (495, 30427), (509, 30484), (519, 30505), (529, 30547), (539, 30586), (553, 30646), (614, 30886), (624, 30919), (625, 30922), (639, 30955), (642, 30961), (672, 31024),

Gene: Fringe\_31 Start: 28747, Stop: 31002, Start Num: 31

Candidate Starts for Fringe\_31:

(Start: 31 @28747 has 324 MA's), (57, 28843), (79, 28921), (84, 28948), (114, 29047), (164, 29206), (215, 29386), (221, 29410), (247, 29500), (248, 29506), (262, 29542), (277, 29581), (282, 29590),

(291, 29623), (299, 29662), (312, 29707), (326, 29758), (344, 29809), (345, 29818), (358, 29887), (377, 29962), (393, 30007), (397, 30022), (428, 30157), (441, 30211), (444, 30232), (457, 30265), (471, 30310), (487, 30364), (495, 30391), (509, 30448), (519, 30469), (529, 30511), (539, 30550), (553, 30610), (614, 30850), (624, 30883), (625, 30886), (639, 30919), (642, 30925), (672, 30988),

Gene: FugateOSU\_30 Start: 28461, Stop: 30716, Start Num: 31

Candidate Starts for FugateOSU\_30:

(Start: 31 @28461 has 324 MA's), (57, 28557), (79, 28635), (84, 28662), (114, 28761), (164, 28920), (215, 29100), (221, 29124), (247, 29214), (248, 29220), (262, 29256), (277, 29295), (282, 29304), (291, 29337), (299, 29376), (312, 29421), (326, 29472), (344, 29523), (345, 29532), (358, 29601), (377, 29676), (393, 29721), (397, 29736), (428, 29871), (441, 29925), (444, 29946), (457, 29979), (471, 30024), (487, 30078), (495, 30105), (509, 30162), (519, 30183), (529, 30225), (539, 30264), (553, 30324), (614, 30564), (624, 30597), (625, 30600), (639, 30633), (642, 30639), (672, 30702),

Gene: Fulbright\_20 Start: 17553, Stop: 20198, Start Num: 7

Candidate Starts for Fulbright\_20:

(Start: 4 @17541 has 1 MA's), (Start: 7 @17553 has 9 MA's), (10, 17565), (11, 17577), (23, 17631), (41, 17700), (Start: 42 @17703 has 1 MA's), (43, 17712), (Start: 47 @17727 has 1 MA's), (100, 17904), (129, 17985), (131, 17994), (196, 18198), (209, 18246), (211, 18261), (216, 18282), (221, 18300), (227, 18324), (232, 18339), (234, 18348), (242, 18375), (245, 18381), (267, 18450), (279, 18471), (280, 18477), (283, 18486), (290, 18513), (292, 18531), (318, 18624), (327, 18645), (351, 18756), (355, 18774), (365, 18807), (378, 18885), (403, 18990), (410, 19032), (460, 19251), (468, 19290), (469, 19293), (472, 19308), (487, 19371), (498, 19419), (528, 19533), (534, 19563), (541, 19590), (543, 19599), (567, 19716), (576, 19761), (589, 19803), (606, 19869), (609, 19893), (627, 19941), (632, 19947), (635, 19953), (641, 19968), (683, 20052), (694, 20091), (718, 20181), (721, 20190),

Gene: Gadget\_32 Start: 28620, Stop: 30848, Start Num: 31

Candidate Starts for Gadget\_32:

(Start: 31 @28620 has 324 MA's), (Start: 37 @28635 has 1 MA's), (46, 28680), (63, 28737), (85, 28815), (108, 28884), (114, 28896), (126, 28938), (137, 28974), (148, 29001), (154, 29013), (161, 29040), (187, 29130), (209, 29202), (229, 29286), (264, 29394), (270, 29415), (299, 29508), (305, 29523), (343, 29652), (358, 29733), (377, 29808), (392, 29850), (393, 29856), (402, 29892), (428, 30006), (429, 30018), (441, 30060), (444, 30081), (462, 30135), (471, 30159), (509, 30294), (515, 30303), (529, 30357), (555, 30465), (561, 30492), (571, 30534), (592, 30606), (614, 30696), (625, 30732),

Gene: Gail\_31 Start: 22024, Stop: 24468, Start Num: 19

Candidate Starts for Gail\_31:

(Start: 19 @22024 has 30 MA's), (83, 22237), (104, 22294), (113, 22315), (222, 22669), (244, 22747), (285, 22870), (286, 22873), (300, 22930), (302, 22936), (307, 22954), (313, 22981), (329, 23035), (330, 23038), (385, 23272), (393, 23302), (395, 23311), (425, 23443), (442, 23506), (448, 23533), (460, 23572), (487, 23674), (504, 23752), (521, 23791), (530, 23836), (533, 23854), (544, 23896), (557, 23962), (561, 23977), (570, 24016), (572, 24022), (615, 24193), (626, 24214), (638, 24241), (691, 24358), (702, 24388),

Gene: Gareth\_30 Start: 28463, Stop: 30718, Start Num: 31

Candidate Starts for Gareth\_30:

(Start: 31 @28463 has 324 MA's), (57, 28559), (79, 28637), (84, 28664), (114, 28763), (164, 28922), (215, 29102), (221, 29126), (247, 29216), (248, 29222), (262, 29258), (277, 29297), (282, 29306), (291, 29339), (299, 29378), (312, 29423), (326, 29474), (344, 29525), (345, 29534), (358, 29603), (377, 29678), (393, 29723), (397, 29738), (428, 29873), (441, 29927), (444, 29948), (457, 29981), (471, 30026), (487, 30080), (495, 30107), (509, 30164), (519, 30185), (529, 30227), (539, 30266),



(553, 30326), (614, 30566), (624, 30599), (625, 30602), (639, 30635), (642, 30641), (672, 30704),

Gene: GeneCoco\_31 Start: 28773, Stop: 31028, Start Num: 31

Candidate Starts for GeneCoco\_31:

(Start: 31 @28773 has 324 MA's), (57, 28869), (79, 28947), (84, 28974), (114, 29073), (164, 29232), (215, 29412), (221, 29436), (248, 29532), (262, 29568), (277, 29607), (282, 29616), (291, 29649), (299, 29688), (312, 29733), (326, 29784), (344, 29835), (345, 29844), (358, 29913), (377, 29988), (393, 30033), (397, 30048), (428, 30183), (441, 30237), (444, 30258), (457, 30291), (471, 30336), (487, 30390), (495, 30417), (509, 30474), (519, 30495), (529, 30537), (539, 30576), (553, 30636), (614, 30876), (625, 30912), (639, 30945), (672, 31014),

Gene: Georgie2\_32 Start: 22683, Stop: 24884, Start Num: 20

Candidate Starts for Georgie2\_32:

(Start: 20 @22683 has 22 MA's), (27, 22704), (54, 22803), (56, 22809), (64, 22836), (65, 22839), (81, 22893), (91, 22929), (127, 23031), (220, 23220), (257, 23352), (259, 23355), (390, 23709), (395, 23727), (401, 23751), (450, 23952), (461, 23991), (487, 24081), (499, 24138), (521, 24198), (530, 24243), (534, 24264), (557, 24369), (561, 24384), (567, 24408), (575, 24453), (585, 24480), (596, 24525), (609, 24585), (616, 24609), (687, 24759), (705, 24807), (711, 24831),

Gene: Gervas\_31 Start: 28594, Stop: 30819, Start Num: 31

Candidate Starts for Gervas\_31:

(Start: 31 @28594 has 324 MA's), (46, 28654), (63, 28711), (108, 28858), (114, 28870), (126, 28912), (137, 28948), (148, 28975), (154, 28987), (161, 29014), (187, 29104), (209, 29176), (229, 29260), (264, 29368), (270, 29389), (299, 29482), (305, 29497), (343, 29626), (358, 29707), (377, 29782), (392, 29824), (393, 29830), (402, 29866), (428, 29980), (429, 29992), (441, 30034), (444, 30055), (462, 30109), (471, 30133), (483, 30169), (509, 30265), (515, 30274), (529, 30328), (555, 30436), (561, 30463), (571, 30505), (592, 30577), (614, 30667), (625, 30703),

Gene: Giraffe\_31 Start: 28467, Stop: 30722, Start Num: 31

Candidate Starts for Giraffe\_31:

(Start: 31 @28467 has 324 MA's), (57, 28563), (79, 28641), (84, 28668), (114, 28767), (164, 28926), (215, 29106), (221, 29130), (247, 29220), (248, 29226), (262, 29262), (277, 29301), (282, 29310), (291, 29343), (299, 29382), (312, 29427), (326, 29478), (344, 29529), (345, 29538), (358, 29607), (377, 29682), (393, 29727), (397, 29742), (428, 29877), (441, 29931), (444, 29952), (457, 29985), (471, 30030), (487, 30084), (495, 30111), (509, 30168), (519, 30189), (529, 30231), (539, 30270), (553, 30330), (614, 30570), (624, 30603), (625, 30606), (639, 30639), (642, 30645), (672, 30708),

Gene: Glaske\_21 Start: 18926, Stop: 21559, Start Num: 6

Candidate Starts for Glaske\_21:

(Start: 6 @18926 has 7 MA's), (8, 18935), (Start: 42 @19079 has 1 MA's), (129, 19352), (132, 19364), (139, 19385), (149, 19409), (174, 19484), (194, 19556), (203, 19586), (211, 19622), (227, 19685), (232, 19700), (240, 19727), (242, 19733), (267, 19808), (279, 19832), (280, 19838), (284, 19850), (292, 19892), (294, 19898), (318, 19985), (327, 20006), (336, 20030), (349, 20096), (351, 20117), (355, 20135), (365, 20168), (371, 20192), (372, 20195), (378, 20246), (403, 20351), (410, 20393), (447, 20558), (469, 20654), (487, 20732), (491, 20744), (512, 20834), (528, 20894), (530, 20903), (541, 20951), (543, 20960), (567, 21077), (576, 21122), (589, 21164), (606, 21230), (609, 21254), (627, 21302), (632, 21308), (635, 21314), (683, 21413), (686, 21422), (694, 21452), (718, 21542), (721, 21551),

Gene: GlenHope\_32 Start: 28606, Stop: 30831, Start Num: 31

Candidate Starts for GlenHope\_32:

(Start: 31 @28606 has 324 MA's), (Start: 37 @28621 has 1 MA's), (46, 28666), (63, 28723), (85, 28801), (108, 28870), (114, 28882), (126, 28924), (137, 28960), (148, 28987), (154, 28999), (161,

29026), (187, 29116), (209, 29188), (229, 29272), (264, 29380), (270, 29401), (299, 29494), (305, 29509), (343, 29638), (358, 29719), (377, 29794), (392, 29836), (393, 29842), (402, 29878), (413, 29941), (428, 29992), (429, 30004), (441, 30046), (444, 30067), (462, 30121), (471, 30145), (483, 30181), (509, 30277), (515, 30286), (529, 30340), (555, 30448), (561, 30475), (571, 30517), (592, 30589), (614, 30679), (625, 30715),

Gene: Gophee\_31 Start: 28749, Stop: 31004, Start Num: 31

Candidate Starts for Gophee\_31:

(Start: 31 @28749 has 324 MA's), (57, 28845), (79, 28923), (84, 28950), (114, 29049), (164, 29208), (215, 29388), (221, 29412), (247, 29502), (248, 29508), (262, 29544), (277, 29583), (282, 29592), (291, 29625), (299, 29664), (312, 29709), (326, 29760), (344, 29811), (345, 29820), (358, 29889), (377, 29964), (393, 30009), (397, 30024), (428, 30159), (441, 30213), (444, 30234), (457, 30267), (471, 30312), (487, 30366), (495, 30393), (509, 30450), (519, 30471), (529, 30513), (539, 30552), (553, 30612), (614, 30852), (624, 30885), (625, 30888), (639, 30921), (642, 30927), (672, 30990),

Gene: Grand2040\_30 Start: 28482, Stop: 30737, Start Num: 31

Candidate Starts for Grand2040\_30:

(Start: 31 @28482 has 324 MA's), (57, 28578), (79, 28656), (84, 28683), (114, 28782), (164, 28941), (215, 29121), (221, 29145), (247, 29235), (248, 29241), (262, 29277), (277, 29316), (282, 29325), (291, 29358), (299, 29397), (312, 29442), (326, 29493), (344, 29544), (345, 29553), (358, 29622), (377, 29697), (393, 29742), (397, 29757), (428, 29892), (441, 29946), (444, 29967), (457, 30000), (471, 30045), (487, 30099), (495, 30126), (509, 30183), (519, 30204), (529, 30246), (539, 30285), (553, 30345), (614, 30585), (625, 30621), (639, 30654), (672, 30723),

Gene: Gwilliam\_31 Start: 28761, Stop: 31016, Start Num: 31

Candidate Starts for Gwilliam\_31:

(Start: 31 @28761 has 324 MA's), (57, 28857), (79, 28935), (84, 28962), (114, 29061), (164, 29220), (215, 29400), (221, 29424), (247, 29514), (248, 29520), (262, 29556), (277, 29595), (282, 29604), (291, 29637), (299, 29676), (312, 29721), (326, 29772), (344, 29823), (345, 29832), (358, 29901), (377, 29976), (393, 30021), (397, 30036), (428, 30171), (441, 30225), (444, 30246), (457, 30279), (471, 30324), (487, 30378), (495, 30405), (509, 30462), (519, 30483), (529, 30525), (539, 30564), (553, 30624), (614, 30864), (624, 30897), (625, 30900), (639, 30933), (642, 30939), (672, 31002),

Gene: Gyarad\_0031 Start: 28763, Stop: 31018, Start Num: 31

Candidate Starts for Gyarad\_0031:

(Start: 31 @28763 has 324 MA's), (57, 28859), (79, 28937), (84, 28964), (114, 29063), (164, 29222), (215, 29402), (221, 29426), (247, 29516), (248, 29522), (262, 29558), (277, 29597), (282, 29606), (291, 29639), (299, 29678), (312, 29723), (326, 29774), (344, 29825), (345, 29834), (358, 29903), (377, 29978), (393, 30023), (397, 30038), (428, 30173), (441, 30227), (444, 30248), (457, 30281), (471, 30326), (487, 30380), (495, 30407), (509, 30464), (519, 30485), (529, 30527), (539, 30566), (553, 30626), (614, 30866), (624, 30899), (625, 30902), (639, 30935), (642, 30941), (672, 31004),

Gene: HSavage\_31 Start: 28768, Stop: 31023, Start Num: 31

Candidate Starts for HSavage\_31:

(Start: 31 @28768 has 324 MA's), (57, 28864), (79, 28942), (84, 28969), (114, 29068), (164, 29227), (215, 29407), (221, 29431), (247, 29521), (248, 29527), (262, 29563), (277, 29602), (282, 29611), (291, 29644), (299, 29683), (312, 29728), (326, 29779), (344, 29830), (345, 29839), (358, 29908), (377, 29983), (393, 30028), (397, 30043), (428, 30178), (441, 30232), (444, 30253), (457, 30286), (471, 30331), (487, 30385), (495, 30412), (509, 30469), (519, 30490), (529, 30532), (539, 30571), (553, 30631), (614, 30871), (624, 30904), (625, 30907), (639, 30940), (642, 30946), (672, 31009),

Gene: Haimas\_31 Start: 28759, Stop: 31014, Start Num: 31

Candidate Starts for Haimas\_31:

(Start: 31 @28759 has 324 MA's), (57, 28855), (79, 28933), (84, 28960), (114, 29059), (164, 29218), (215, 29398), (221, 29422), (247, 29512), (248, 29518), (262, 29554), (277, 29593), (282, 29602), (291, 29635), (299, 29674), (312, 29719), (326, 29770), (344, 29821), (345, 29830), (358, 29899), (377, 29974), (393, 30019), (397, 30034), (428, 30169), (441, 30223), (444, 30244), (457, 30277), (471, 30322), (487, 30376), (495, 30403), (509, 30460), (519, 30481), (529, 30523), (539, 30562), (553, 30622), (614, 30862), (624, 30895), (625, 30898), (639, 30931), (642, 30937), (672, 31000),

Gene: Haleema\_30 Start: 28482, Stop: 30737, Start Num: 31

Candidate Starts for Haleema\_30:

(Start: 31 @28482 has 324 MA's), (57, 28578), (79, 28656), (84, 28683), (114, 28782), (164, 28941), (215, 29121), (221, 29145), (247, 29235), (248, 29241), (262, 29277), (277, 29316), (282, 29325), (291, 29358), (299, 29397), (312, 29442), (326, 29493), (344, 29544), (345, 29553), (358, 29622), (377, 29697), (393, 29742), (397, 29757), (428, 29892), (441, 29946), (444, 29967), (457, 30000), (471, 30045), (487, 30099), (495, 30126), (509, 30183), (519, 30204), (529, 30246), (539, 30285), (553, 30345), (614, 30585), (624, 30618), (625, 30621), (639, 30654), (642, 30660), (672, 30723),

Gene: Halfpint\_30 Start: 28429, Stop: 30654, Start Num: 31

Candidate Starts for Halfpint\_30:

(Start: 31 @28429 has 324 MA's), (Start: 37 @28444 has 1 MA's), (46, 28489), (63, 28546), (85, 28624), (108, 28693), (114, 28705), (126, 28747), (137, 28783), (148, 28810), (154, 28822), (161, 28849), (187, 28939), (195, 28963), (209, 29011), (229, 29095), (264, 29203), (270, 29224), (299, 29317), (305, 29332), (343, 29461), (358, 29542), (377, 29617), (392, 29659), (393, 29665), (413, 29764), (428, 29815), (429, 29827), (441, 29869), (444, 29890), (462, 29944), (471, 29968), (483, 30004), (509, 30100), (515, 30109), (529, 30163), (555, 30271), (561, 30298), (571, 30340), (592, 30412), (614, 30502), (625, 30538),

Gene: Hamish\_31 Start: 28751, Stop: 31006, Start Num: 31

Candidate Starts for Hamish\_31:

(Start: 31 @28751 has 324 MA's), (57, 28847), (79, 28925), (84, 28952), (114, 29051), (164, 29210), (215, 29390), (221, 29414), (247, 29504), (248, 29510), (262, 29546), (277, 29585), (282, 29594), (291, 29627), (299, 29666), (312, 29711), (326, 29762), (344, 29813), (345, 29822), (358, 29891), (377, 29966), (393, 30011), (397, 30026), (428, 30161), (441, 30215), (444, 30236), (457, 30269), (471, 30314), (487, 30368), (495, 30395), (509, 30452), (519, 30473), (529, 30515), (539, 30554), (553, 30614), (614, 30854), (624, 30887), (625, 30890), (639, 30923), (642, 30929), (672, 30992),

Gene: Hammy\_26 Start: 21316, Stop: 23694, Start Num: 17

Candidate Starts for Hammy\_26:

(Start: 17 @21316 has 64 MA's), (18, 21325), (Start: 28 @21364 has 2 MA's), (66, 21487), (83, 21544), (86, 21556), (137, 21622), (159, 21676), (181, 21754), (208, 21844), (216, 21886), (230, 21937), (248, 21979), (250, 21982), (253, 22003), (275, 22063), (279, 22069), (330, 22261), (355, 22378), (384, 22486), (388, 22504), (393, 22516), (426, 22660), (463, 22795), (464, 22798), (465, 22801), (471, 22834), (474, 22840), (490, 22894), (520, 23002), (527, 23035), (528, 23041), (532, 23056), (541, 23098), (557, 23185), (559, 23191), (591, 23320), (596, 23341), (676, 23536), (684, 23557), (685, 23560), (697, 23599), (723, 23668),

Gene: Hangman\_28 Start: 28965, Stop: 31262, Start Num: 31

Candidate Starts for Hangman\_28:

(Start: 1 @28278 has 1 MA's), (2, 28425), (Start: 31 @28965 has 324 MA's), (57, 29064), (63, 29082), (98, 29205), (114, 29268), (136, 29349), (160, 29415), (196, 29532), (208, 29571), (219, 29622), (221, 29631), (235, 29688), (242, 29712), (243, 29715), (262, 29778), (279, 29820), (284, 29832), (314, 29955), (320, 29979), (343, 30042), (366, 30153), (372, 30174), (377, 30210), (383, 30231), (402, 30297), (405, 30309), (412, 30351), (413, 30360), (414, 30363), (418, 30381), (419, 30384), (426, 30405), (431, 30432), (441, 30465), (444, 30486), (457, 30519), (471, 30564), (513, 30705), (515,

30708), (519, 30720), (540, 30804), (566, 30918), (571, 30939), (578, 30963), (595, 31026), (602, 31056), (614, 31110), (624, 31143), (625, 31146), (672, 31248), (674, 31251),

Gene: HarryHoudini\_33 Start: 23229, Stop: 25313, Start Num: 19

Candidate Starts for HarryHoudini\_33:

(Start: 19 @23229 has 30 MA's), (51, 23343), (56, 23358), (127, 23580), (131, 23592), (220, 23769), (259, 23904), (272, 23940), (390, 24141), (395, 24159), (401, 24183), (450, 24384), (461, 24423), (465, 24435), (487, 24513), (499, 24570), (521, 24630), (522, 24636), (534, 24696), (557, 24801), (561, 24816), (568, 24843), (596, 24957), (597, 24960), (607, 25011), (611, 25020), (613, 25026), (621, 25050), (645, 25104), (659, 25128), (697, 25233), (719, 25299),

Gene: Hartsy\_30 Start: 28802, Stop: 31057, Start Num: 31

Candidate Starts for Hartsy\_30:

(Start: 31 @28802 has 324 MA's), (57, 28898), (79, 28976), (84, 29003), (114, 29102), (164, 29261), (215, 29441), (221, 29465), (247, 29555), (248, 29561), (262, 29597), (277, 29636), (282, 29645), (291, 29678), (299, 29717), (312, 29762), (326, 29813), (344, 29864), (345, 29873), (358, 29942), (377, 30017), (393, 30062), (397, 30077), (428, 30212), (441, 30266), (444, 30287), (457, 30320), (471, 30365), (487, 30419), (495, 30446), (509, 30503), (519, 30524), (529, 30566), (539, 30605), (553, 30665), (614, 30905), (624, 30938), (625, 30941), (639, 30974), (642, 30980), (672, 31043),

Gene: Harvey\_31 Start: 28777, Stop: 31032, Start Num: 31

Candidate Starts for Harvey\_31:

(Start: 31 @28777 has 324 MA's), (57, 28873), (79, 28951), (84, 28978), (114, 29077), (164, 29236), (215, 29416), (221, 29440), (247, 29530), (248, 29536), (262, 29572), (277, 29611), (282, 29620), (291, 29653), (299, 29692), (312, 29737), (326, 29788), (344, 29839), (345, 29848), (358, 29917), (377, 29992), (393, 30037), (397, 30052), (428, 30187), (441, 30241), (444, 30262), (457, 30295), (471, 30340), (487, 30394), (495, 30421), (509, 30478), (519, 30499), (529, 30541), (539, 30580), (553, 30640), (614, 30880), (624, 30913), (625, 30916), (639, 30949), (642, 30955), (672, 31018),

Gene: HarveySr\_31 Start: 28593, Stop: 30821, Start Num: 31

Candidate Starts for HarveySr\_31:

(Start: 31 @28593 has 324 MA's), (Start: 37 @28608 has 1 MA's), (46, 28653), (63, 28710), (85, 28788), (108, 28857), (114, 28869), (126, 28911), (137, 28947), (148, 28974), (154, 28986), (161, 29013), (187, 29103), (209, 29175), (229, 29259), (264, 29367), (270, 29388), (299, 29481), (305, 29496), (343, 29625), (358, 29706), (377, 29781), (392, 29823), (393, 29829), (402, 29865), (428, 29979), (429, 29991), (441, 30033), (444, 30054), (462, 30108), (471, 30132), (483, 30168), (509, 30267), (515, 30276), (529, 30330), (555, 30438), (561, 30465), (571, 30507), (592, 30579), (614, 30669), (625, 30705),

Gene: Hashim76\_34 Start: 28773, Stop: 31235, Start Num: 31

Candidate Starts for Hashim76\_34:

(Start: 31 @28773 has 324 MA's), (35, 28782), (63, 28887), (71, 28920), (79, 28947), (89, 28989), (118, 29103), (136, 29166), (146, 29193), (161, 29235), (219, 29442), (227, 29478), (236, 29511), (259, 29577), (291, 29664), (294, 29685), (305, 29718), (343, 29847), (353, 29913), (391, 30060), (395, 30078), (425, 30210), (431, 30237), (442, 30273), (461, 30342), (465, 30354), (476, 30384), (480, 30399), (484, 30420), (499, 30489), (501, 30501), (522, 30555), (524, 30561), (529, 30591), (533, 30612), (567, 30759), (575, 30804), (583, 30831), (678, 31101), (694, 31158), (703, 31179),

Gene: Heath\_27 Start: 28566, Stop: 30863, Start Num: 31

Candidate Starts for Heath\_27:

(Start: 1 @27879 has 1 MA's), (2, 28026), (5, 28437), (Start: 31 @28566 has 324 MA's), (57, 28665), (84, 28770), (98, 28806), (114, 28869), (136, 28950), (160, 29016), (196, 29133), (208, 29172), (219, 29223), (221, 29232), (235, 29289), (242, 29313), (243, 29316), (262, 29379), (279, 29421), (284,

29433), (314, 29556), (320, 29580), (343, 29643), (366, 29754), (372, 29775), (377, 29811), (383, 29832), (402, 29898), (405, 29910), (413, 29961), (414, 29964), (418, 29982), (426, 30006), (431, 30033), (441, 30066), (444, 30087), (457, 30120), (471, 30165), (513, 30306), (515, 30309), (519, 30321), (540, 30405), (566, 30519), (571, 30540), (578, 30564), (595, 30627), (602, 30657), (603, 30663), (614, 30711), (624, 30744), (625, 30747), (672, 30849), (674, 30852),

Gene: Heathcliff\_31 Start: 28575, Stop: 30803, Start Num: 31

Candidate Starts for Heathcliff\_31:

(Start: 31 @28575 has 324 MA's), (Start: 37 @28590 has 1 MA's), (46, 28635), (63, 28692), (85, 28770), (108, 28839), (114, 28851), (126, 28893), (137, 28929), (148, 28956), (154, 28968), (161, 28995), (187, 29085), (209, 29157), (229, 29241), (264, 29349), (270, 29370), (299, 29463), (305, 29478), (343, 29607), (358, 29688), (377, 29763), (392, 29805), (393, 29811), (428, 29961), (429, 29973), (441, 30015), (444, 30036), (462, 30090), (471, 30114), (509, 30249), (515, 30258), (529, 30312), (555, 30420), (561, 30447), (571, 30489), (592, 30561), (614, 30651), (625, 30687),

Gene: Held\_31 Start: 28466, Stop: 30721, Start Num: 31

Candidate Starts for Held\_31:

(Start: 31 @28466 has 324 MA's), (57, 28562), (79, 28640), (84, 28667), (114, 28766), (164, 28925), (215, 29105), (221, 29129), (247, 29219), (248, 29225), (262, 29261), (277, 29300), (282, 29309), (291, 29342), (299, 29381), (312, 29426), (326, 29477), (344, 29528), (345, 29537), (358, 29606), (377, 29681), (393, 29726), (397, 29741), (428, 29876), (441, 29930), (444, 29951), (457, 29984), (471, 30029), (487, 30083), (495, 30110), (509, 30167), (519, 30188), (529, 30230), (539, 30269), (553, 30329), (614, 30569), (625, 30605), (639, 30638), (672, 30707),

Gene: HenryJackson\_30 Start: 28482, Stop: 30737, Start Num: 31

Candidate Starts for HenryJackson\_30:

(Start: 31 @28482 has 324 MA's), (57, 28578), (79, 28656), (84, 28683), (114, 28782), (164, 28941), (215, 29121), (221, 29145), (247, 29235), (248, 29241), (262, 29277), (277, 29316), (282, 29325), (291, 29358), (299, 29397), (312, 29442), (326, 29493), (344, 29544), (345, 29553), (358, 29622), (377, 29697), (393, 29742), (397, 29757), (428, 29892), (441, 29946), (444, 29967), (457, 30000), (471, 30045), (487, 30099), (495, 30126), (509, 30183), (519, 30204), (529, 30246), (539, 30285), (553, 30345), (614, 30585), (624, 30618), (625, 30621), (639, 30654), (642, 30660), (672, 30723),

Gene: Hertubise\_31 Start: 28773, Stop: 31028, Start Num: 31

Candidate Starts for Hertubise\_31:

(Start: 31 @28773 has 324 MA's), (57, 28869), (79, 28947), (84, 28974), (114, 29073), (164, 29232), (215, 29412), (221, 29436), (247, 29526), (248, 29532), (262, 29568), (277, 29607), (282, 29616), (291, 29649), (299, 29688), (312, 29733), (326, 29784), (344, 29835), (345, 29844), (358, 29913), (377, 29988), (393, 30033), (397, 30048), (428, 30183), (441, 30237), (444, 30258), (457, 30291), (471, 30336), (487, 30390), (509, 30474), (519, 30495), (529, 30537), (539, 30576), (553, 30636), (614, 30876), (624, 30909), (625, 30912), (639, 30945), (642, 30951), (672, 31014),

Gene: Hetaeria\_31 Start: 28775, Stop: 31030, Start Num: 31

Candidate Starts for Hetaeria\_31:

(Start: 31 @28775 has 324 MA's), (57, 28871), (79, 28949), (84, 28976), (114, 29075), (164, 29234), (215, 29414), (221, 29438), (247, 29528), (248, 29534), (262, 29570), (277, 29609), (282, 29618), (291, 29651), (299, 29690), (312, 29735), (326, 29786), (344, 29837), (345, 29846), (358, 29915), (377, 29990), (393, 30035), (397, 30050), (428, 30185), (441, 30239), (444, 30260), (457, 30293), (471, 30338), (487, 30392), (509, 30476), (519, 30497), (529, 30539), (539, 30578), (553, 30638), (614, 30878), (624, 30911), (625, 30914), (639, 30947), (642, 30953), (672, 31016),

Gene: HighStump\_30 Start: 28465, Stop: 30720, Start Num: 31

Candidate Starts for HighStump\_30:

(Start: 31 @28465 has 324 MA's), (57, 28561), (79, 28639), (84, 28666), (114, 28765), (164, 28924), (215, 29104), (221, 29128), (247, 29218), (248, 29224), (262, 29260), (277, 29299), (282, 29308), (291, 29341), (299, 29380), (312, 29425), (326, 29476), (344, 29527), (345, 29536), (358, 29605), (377, 29680), (393, 29725), (397, 29740), (428, 29875), (441, 29929), (444, 29950), (457, 29983), (471, 30028), (487, 30082), (495, 30109), (509, 30166), (519, 30187), (529, 30229), (539, 30268), (553, 30328), (614, 30568), (624, 30601), (625, 30604), (639, 30637), (642, 30643), (672, 30706),

Gene: Hilltopfarm\_27 Start: 23459, Stop: 26053, Start Num: 15

Candidate Starts for Hilltopfarm\_27:

(Start: 15 @23459 has 4 MA's), (25, 23498), (43, 23573), (72, 23675), (75, 23684), (98, 23762), (129, 23843), (131, 23852), (147, 23897), (149, 23900), (153, 23909), (157, 23921), (158, 23924), (167, 23948), (174, 23975), (177, 23984), (194, 24047), (211, 24113), (220, 24149), (221, 24152), (242, 24224), (245, 24230), (267, 24299), (292, 24383), (314, 24464), (321, 24485), (351, 24608), (365, 24659), (372, 24686), (378, 24737), (389, 24782), (401, 24833), (403, 24842), (408, 24875), (416, 24920), (445, 25043), (446, 25046), (447, 25049), (472, 25160), (487, 25223), (498, 25271), (523, 25358), (528, 25385), (530, 25394), (532, 25400), (541, 25442), (543, 25451), (567, 25568), (568, 25571), (589, 25655), (597, 25691), (609, 25745), (627, 25796), (632, 25802), (635, 25808), (656, 25850), (684, 25910), (694, 25946), (718, 26036), (721, 26045),

Gene: Hocus\_30 Start: 28474, Stop: 30729, Start Num: 31

Candidate Starts for Hocus\_30:

(Start: 31 @28474 has 324 MA's), (57, 28570), (79, 28648), (84, 28675), (114, 28774), (164, 28933), (215, 29113), (221, 29137), (247, 29227), (248, 29233), (262, 29269), (277, 29308), (282, 29317), (291, 29350), (299, 29389), (312, 29434), (326, 29485), (344, 29536), (345, 29545), (358, 29614), (377, 29689), (393, 29734), (397, 29749), (428, 29884), (441, 29938), (444, 29959), (457, 29992), (471, 30037), (487, 30091), (495, 30118), (509, 30175), (519, 30196), (529, 30238), (539, 30277), (553, 30337), (614, 30577), (624, 30610), (625, 30613), (639, 30646), (642, 30652), (672, 30715),

Gene: Horchata\_31 Start: 28753, Stop: 31008, Start Num: 31

Candidate Starts for Horchata\_31:

(Start: 31 @28753 has 324 MA's), (57, 28849), (79, 28927), (84, 28954), (114, 29053), (164, 29212), (215, 29392), (221, 29416), (248, 29512), (262, 29548), (277, 29587), (282, 29596), (291, 29629), (299, 29668), (312, 29713), (326, 29764), (344, 29815), (345, 29824), (358, 29893), (377, 29968), (393, 30013), (397, 30028), (428, 30163), (441, 30217), (444, 30238), (457, 30271), (471, 30316), (487, 30370), (495, 30397), (509, 30454), (519, 30475), (529, 30517), (539, 30556), (553, 30616), (614, 30856), (625, 30892), (639, 30925), (672, 30994),

Gene: Hurricane\_26 Start: 21315, Stop: 23663, Start Num: 17

Candidate Starts for Hurricane\_26:

(Start: 17 @21315 has 64 MA's), (24, 21342), (34, 21375), (45, 21420), (63, 21480), (140, 21636), (159, 21681), (173, 21717), (175, 21735), (199, 21813), (211, 21861), (251, 21993), (265, 22047), (272, 22062), (311, 22170), (346, 22287), (352, 22329), (353, 22335), (355, 22344), (360, 22353), (376, 22434), (378, 22452), (381, 22455), (390, 22494), (396, 22515), (401, 22536), (403, 22545), (422, 22632), (446, 22725), (447, 22728), (467, 22800), (504, 22938), (522, 22983), (530, 23022), (533, 23040), (556, 23139), (559, 23157), (572, 23211), (578, 23241), (583, 23259), (591, 23286), (593, 23292), (606, 23340), (627, 23415), (634, 23424), (642, 23445), (647, 23454), (688, 23553), (704, 23595),

Gene: Hydro\_28 Start: 28982, Stop: 31279, Start Num: 31

Candidate Starts for Hydro\_28:

(Start: 1 @28295 has 1 MA's), (2, 28442), (Start: 31 @28982 has 324 MA's), (57, 29081), (63, 29099), (98, 29222), (114, 29285), (136, 29366), (160, 29432), (196, 29549), (208, 29588), (221, 29648), (235, 29705), (242, 29729), (243, 29732), (262, 29795), (279, 29837), (314, 29972), (320, 29996), (343,

30059), (349, 30098), (366, 30170), (372, 30191), (377, 30227), (383, 30248), (402, 30314), (405, 30326), (413, 30377), (414, 30380), (418, 30398), (426, 30422), (431, 30449), (441, 30482), (444, 30503), (457, 30536), (471, 30581), (513, 30722), (515, 30725), (519, 30737), (540, 30821), (566, 30935), (571, 30956), (578, 30980), (595, 31043), (602, 31073), (603, 31079), (614, 31127), (624, 31160), (625, 31163), (636, 31187), (672, 31265), (674, 31268),

Gene: ImtiyazSitla\_30 Start: 28315, Stop: 30570, Start Num: 31

Candidate Starts for ImtiyazSitla\_30:

(Start: 31 @28315 has 324 MA's), (57, 28411), (79, 28489), (84, 28516), (114, 28615), (164, 28774), (215, 28954), (221, 28978), (248, 29074), (262, 29110), (277, 29149), (282, 29158), (291, 29191), (299, 29230), (312, 29275), (326, 29326), (344, 29377), (345, 29386), (358, 29455), (377, 29530), (393, 29575), (397, 29590), (428, 29725), (441, 29779), (444, 29800), (457, 29833), (471, 29878), (487, 29932), (495, 29959), (509, 30016), (519, 30037), (529, 30079), (539, 30118), (553, 30178), (614, 30418), (625, 30454), (639, 30487), (672, 30556),

Gene: Imvubu\_24 Start: 26459, Stop: 28915, Start Num: 31

Candidate Starts for Imvubu\_24:

(Start: 31 @26459 has 324 MA's), (59, 26561), (63, 26573), (78, 26630), (112, 26753), (118, 26783), (146, 26873), (192, 27020), (208, 27071), (213, 27101), (219, 27122), (227, 27158), (228, 27161), (229, 27164), (236, 27191), (255, 27251), (259, 27257), (268, 27284), (291, 27344), (299, 27383), (326, 27479), (343, 27527), (353, 27593), (372, 27653), (382, 27707), (391, 27740), (395, 27758), (431, 27917), (438, 27944), (442, 27953), (443, 27956), (449, 27983), (460, 28019), (461, 28022), (465, 28034), (476, 28064), (482, 28088), (487, 28112), (499, 28169), (524, 28241), (529, 28271), (530, 28274), (533, 28292), (534, 28295), (540, 28316), (545, 28349), (562, 28418), (575, 28484), (583, 28511), (591, 28535), (596, 28556), (606, 28592), (609, 28616), (626, 28670), (634, 28688), (664, 28742), (665, 28745), (679, 28784), (687, 28814), (694, 28838),

Gene: Inchworm\_31 Start: 28751, Stop: 31006, Start Num: 31

Candidate Starts for Inchworm\_31:

(Start: 31 @28751 has 324 MA's), (57, 28847), (79, 28925), (84, 28952), (114, 29051), (164, 29210), (215, 29390), (221, 29414), (247, 29504), (248, 29510), (262, 29546), (277, 29585), (282, 29594), (291, 29627), (299, 29666), (312, 29711), (326, 29762), (344, 29813), (345, 29822), (358, 29891), (377, 29966), (393, 30011), (397, 30026), (428, 30161), (441, 30215), (444, 30236), (457, 30269), (471, 30314), (487, 30368), (495, 30395), (509, 30452), (519, 30473), (529, 30515), (539, 30554), (553, 30614), (614, 30854), (625, 30890), (639, 30923), (672, 30992),

Gene: Indlovu\_28 Start: 28755, Stop: 31250, Start Num: 29

Candidate Starts for Indlovu\_28:

(Start: 29 @28755 has 1 MA's), (46, 28815), (110, 29073), (111, 29079), (118, 29112), (142, 29193), (186, 29331), (209, 29403), (214, 29430), (227, 29484), (236, 29517), (241, 29532), (262, 29592), (272, 29628), (277, 29637), (282, 29646), (290, 29676), (294, 29700), (305, 29733), (320, 29799), (326, 29814), (337, 29844), (341, 29853), (353, 29928), (364, 29964), (366, 29970), (372, 29985), (388, 30069), (391, 30072), (395, 30090), (423, 30213), (431, 30249), (449, 30315), (461, 30354), (465, 30366), (480, 30411), (484, 30432), (487, 30444), (522, 30567), (523, 30570), (524, 30573), (529, 30603), (530, 30606), (543, 30663), (545, 30681), (556, 30720), (562, 30750), (583, 30843), (604, 30918), (606, 30924), (664, 31074), (679, 31116), (689, 31152), (694, 31170), (705, 31197), (710, 31227),

Gene: Inverness\_31 Start: 28765, Stop: 31020, Start Num: 31

Candidate Starts for Inverness\_31:

(Start: 31 @28765 has 324 MA's), (57, 28861), (79, 28939), (84, 28966), (114, 29065), (164, 29224), (215, 29404), (221, 29428), (248, 29524), (262, 29560), (277, 29599), (282, 29608), (291, 29641), (299, 29680), (312, 29725), (326, 29776), (344, 29827), (345, 29836), (358, 29905), (377, 29980),

(393, 30025), (397, 30040), (428, 30175), (441, 30229), (444, 30250), (457, 30283), (471, 30328), (487, 30382), (495, 30409), (509, 30466), (519, 30487), (529, 30529), (539, 30568), (553, 30628), (614, 30868), (625, 30904), (639, 30937), (672, 31006),

Gene: Iridoclysis\_31 Start: 28745, Stop: 31000, Start Num: 31

Candidate Starts for Iridoclysis\_31:

(Start: 31 @28745 has 324 MA's), (57, 28841), (79, 28919), (84, 28946), (114, 29045), (164, 29204), (215, 29384), (221, 29408), (247, 29498), (248, 29504), (262, 29540), (277, 29579), (282, 29588), (291, 29621), (299, 29660), (312, 29705), (326, 29756), (344, 29807), (345, 29816), (358, 29885), (377, 29960), (393, 30005), (397, 30020), (428, 30155), (441, 30209), (444, 30230), (457, 30263), (471, 30308), (487, 30362), (495, 30389), (509, 30446), (519, 30467), (529, 30509), (539, 30548), (553, 30608), (614, 30848), (624, 30881), (625, 30884), (639, 30917), (642, 30923), (672, 30986),

Gene: IsaacEli\_31 Start: 28769, Stop: 31024, Start Num: 31

Candidate Starts for IsaacEli\_31:

(Start: 31 @28769 has 324 MA's), (57, 28865), (79, 28943), (84, 28970), (114, 29069), (164, 29228), (215, 29408), (221, 29432), (247, 29522), (248, 29528), (262, 29564), (277, 29603), (282, 29612), (291, 29645), (299, 29684), (312, 29729), (326, 29780), (344, 29831), (345, 29840), (358, 29909), (377, 29984), (393, 30029), (397, 30044), (428, 30179), (441, 30233), (444, 30254), (457, 30287), (471, 30332), (487, 30386), (509, 30470), (519, 30491), (529, 30533), (539, 30572), (553, 30632), (614, 30872), (624, 30905), (625, 30908), (639, 30941), (642, 30947), (672, 31010),

Gene: Iwokeuplikedis\_32 Start: 22493, Stop: 24805, Start Num: 19

Candidate Starts for Iwokeuplikedis\_32:

(Start: 19 @22493 has 30 MA's), (54, 22616), (56, 22622), (64, 22649), (69, 22673), (135, 22868), (198, 23054), (220, 23144), (225, 23165), (235, 23201), (259, 23279), (270, 23312), (275, 23321), (385, 23612), (390, 23633), (395, 23651), (401, 23675), (425, 23783), (450, 23876), (461, 23915), (487, 24005), (521, 24122), (530, 24167), (534, 24188), (575, 24377), (583, 24398), (609, 24506), (616, 24530), (634, 24560), (686, 24674), (687, 24680), (705, 24728), (718, 24782),

Gene: JAMaL\_28 Start: 29152, Stop: 31449, Start Num: 31

Candidate Starts for JAMaL\_28:

(Start: 31 @29152 has 324 MA's), (57, 29251), (63, 29269), (98, 29392), (114, 29455), (136, 29536), (160, 29602), (196, 29719), (208, 29758), (219, 29809), (221, 29818), (242, 29899), (243, 29902), (262, 29965), (279, 30007), (284, 30019), (314, 30142), (320, 30166), (343, 30229), (349, 30268), (366, 30340), (372, 30361), (377, 30397), (383, 30418), (402, 30484), (405, 30496), (413, 30547), (414, 30550), (418, 30568), (426, 30592), (431, 30619), (441, 30652), (444, 30673), (457, 30706), (471, 30751), (513, 30892), (515, 30895), (519, 30907), (540, 30991), (571, 31126), (578, 31150), (595, 31213), (602, 31243), (603, 31249), (614, 31297), (624, 31330), (625, 31333), (672, 31435), (674, 31438),

Gene: JDog\_31 Start: 28478, Stop: 30736, Start Num: 31

Candidate Starts for JDog\_31:

(Start: 31 @28478 has 324 MA's), (57, 28574), (79, 28652), (84, 28679), (114, 28781), (164, 28940), (215, 29120), (221, 29144), (247, 29234), (248, 29240), (262, 29276), (277, 29315), (282, 29324), (291, 29357), (299, 29396), (312, 29441), (326, 29492), (344, 29543), (345, 29552), (358, 29621), (377, 29696), (393, 29741), (397, 29756), (428, 29891), (441, 29945), (444, 29966), (457, 29999), (471, 30044), (487, 30098), (495, 30125), (509, 30182), (519, 30203), (529, 30245), (539, 30284), (553, 30344), (614, 30584), (625, 30620), (639, 30653), (672, 30722),

Gene: JF1\_28 Start: 22272, Stop: 24581, Start Num: 17

Candidate Starts for JF1\_28:



(Start: 17 @22272 has 64 MA's), (40, 22362), (45, 22383), (53, 22407), (87, 22524), (162, 22653), (188, 22713), (218, 22785), (220, 22794), (239, 22845), (245, 22851), (252, 22860), (265, 22911), (270, 22923), (279, 22938), (282, 22944), (291, 22977), (304, 23025), (320, 23079), (346, 23151), (351, 23190), (354, 23202), (363, 23217), (373, 23262), (386, 23331), (404, 23412), (439, 23565), (451, 23607), (481, 23736), (490, 23781), (504, 23847), (508, 23862), (535, 23958), (567, 24111), (570, 24126), (572, 24132), (575, 24156), (577, 24162), (579, 24168), (580, 24171), (586, 24195), (589, 24207), (610, 24303), (627, 24354), (630, 24357), (667, 24426), (684, 24462), (694, 24495), (713, 24549), (716, 24558), (720, 24573),

Gene: JacAttac\_31 Start: 28751, Stop: 31006, Start Num: 31

Candidate Starts for JacAttac\_31:

(Start: 31 @28751 has 324 MA's), (57, 28847), (79, 28925), (84, 28952), (114, 29051), (164, 29210), (215, 29390), (221, 29414), (247, 29504), (248, 29510), (262, 29546), (277, 29585), (282, 29594), (291, 29627), (299, 29666), (312, 29711), (326, 29762), (344, 29813), (345, 29822), (358, 29891), (377, 29966), (393, 30011), (397, 30026), (428, 30161), (441, 30215), (444, 30236), (457, 30269), (471, 30314), (487, 30368), (509, 30452), (519, 30473), (529, 30515), (539, 30554), (553, 30614), (614, 30854), (624, 30887), (625, 30890), (639, 30923), (642, 30929), (672, 30992),

Gene: Jackstina\_28 Start: 28536, Stop: 30761, Start Num: 31

Candidate Starts for Jackstina\_28:

(Start: 31 @28536 has 324 MA's), (Start: 37 @28551 has 1 MA's), (46, 28596), (63, 28653), (85, 28731), (108, 28800), (114, 28812), (126, 28854), (137, 28890), (148, 28917), (154, 28929), (161, 28956), (187, 29046), (209, 29118), (229, 29202), (264, 29310), (270, 29331), (299, 29424), (305, 29439), (343, 29568), (358, 29649), (377, 29724), (392, 29766), (393, 29772), (402, 29808), (428, 29922), (429, 29934), (441, 29976), (444, 29997), (462, 30051), (471, 30075), (483, 30111), (509, 30207), (515, 30216), (529, 30270), (555, 30378), (561, 30405), (571, 30447), (592, 30519), (614, 30609), (625, 30645),

Gene: JaguarMi\_28 Start: 28450, Stop: 30738, Start Num: 31

Candidate Starts for JaguarMi\_28:

(Start: 31 @28450 has 324 MA's), (57, 28549), (63, 28567), (84, 28654), (98, 28690), (114, 28753), (136, 28834), (160, 28900), (196, 29017), (208, 29056), (219, 29107), (221, 29116), (235, 29173), (242, 29197), (243, 29200), (262, 29263), (320, 29464), (331, 29494), (333, 29497), (343, 29527), (366, 29638), (372, 29659), (377, 29695), (383, 29716), (402, 29782), (405, 29794), (413, 29845), (414, 29848), (426, 29890), (431, 29917), (441, 29950), (444, 29971), (457, 30004), (459, 30007), (471, 30049), (476, 30061), (509, 30184), (515, 30193), (519, 30205), (526, 30229), (529, 30247), (539, 30286), (540, 30289), (551, 30343), (555, 30355), (566, 30403), (571, 30424), (614, 30586), (624, 30619), (625, 30622), (672, 30724),

Gene: JakeO\_30 Start: 28481, Stop: 30739, Start Num: 31

Candidate Starts for JakeO\_30:

(Start: 31 @28481 has 324 MA's), (57, 28577), (79, 28655), (84, 28682), (114, 28784), (164, 28943), (215, 29123), (221, 29147), (224, 29159), (248, 29243), (262, 29279), (277, 29318), (282, 29327), (291, 29360), (299, 29399), (312, 29444), (326, 29495), (344, 29546), (345, 29555), (358, 29624), (377, 29699), (393, 29744), (397, 29759), (428, 29894), (441, 29948), (444, 29969), (457, 30002), (471, 30047), (487, 30101), (495, 30128), (509, 30185), (519, 30206), (529, 30248), (539, 30287), (553, 30347), (614, 30587), (625, 30623), (639, 30656), (672, 30725),

Gene: JangoPhett\_31 Start: 28752, Stop: 31007, Start Num: 31

Candidate Starts for JangoPhett\_31:

(Start: 31 @28752 has 324 MA's), (57, 28848), (79, 28926), (84, 28953), (114, 29052), (164, 29211), (215, 29391), (221, 29415), (247, 29505), (248, 29511), (262, 29547), (277, 29586), (282, 29595), (291, 29628), (299, 29667), (312, 29712), (326, 29763), (344, 29814), (345, 29823), (358, 29892),

(377, 29967), (393, 30012), (397, 30027), (428, 30162), (441, 30216), (444, 30237), (457, 30270), (471, 30315), (487, 30369), (495, 30396), (509, 30453), (519, 30474), (529, 30516), (539, 30555), (553, 30615), (614, 30855), (624, 30888), (625, 30891), (639, 30924), (642, 30930), (672, 30993),

Gene: Jerm\_33 Start: 23204, Stop: 25408, Start Num: 19

Candidate Starts for Jerm\_33:

(Start: 19 @23204 has 30 MA's), (51, 23318), (54, 23327), (64, 23360), (81, 23417), (127, 23555), (220, 23744), (259, 23879), (275, 23921), (299, 23993), (390, 24233), (395, 24251), (401, 24275), (425, 24383), (450, 24476), (461, 24515), (487, 24605), (499, 24662), (500, 24665), (521, 24722), (522, 24728), (530, 24767), (534, 24788), (585, 25004), (596, 25049), (641, 25181), (661, 25217), (671, 25238), (686, 25277), (705, 25331), (722, 25400),

Gene: Jillium\_30 Start: 28475, Stop: 30730, Start Num: 31

Candidate Starts for Jillium\_30:

(Start: 31 @28475 has 324 MA's), (57, 28571), (79, 28649), (84, 28676), (114, 28775), (164, 28934), (215, 29114), (221, 29138), (247, 29228), (248, 29234), (262, 29270), (277, 29309), (282, 29318), (291, 29351), (299, 29390), (312, 29435), (326, 29486), (344, 29537), (345, 29546), (358, 29615), (377, 29690), (393, 29735), (397, 29750), (428, 29885), (441, 29939), (444, 29960), (457, 29993), (471, 30038), (487, 30092), (495, 30119), (509, 30176), (519, 30197), (529, 30239), (539, 30278), (553, 30338), (614, 30578), (624, 30611), (625, 30614), (639, 30647), (642, 30653), (672, 30716),

Gene: Jiminy\_30 Start: 28319, Stop: 30574, Start Num: 31

Candidate Starts for Jiminy\_30:

(Start: 31 @28319 has 324 MA's), (57, 28415), (79, 28493), (84, 28520), (114, 28619), (164, 28778), (215, 28958), (221, 28982), (248, 29078), (262, 29114), (277, 29153), (282, 29162), (291, 29195), (299, 29234), (312, 29279), (326, 29330), (345, 29390), (358, 29459), (377, 29534), (393, 29579), (397, 29594), (428, 29729), (441, 29783), (444, 29804), (457, 29837), (471, 29882), (487, 29936), (495, 29963), (509, 30020), (519, 30041), (529, 30083), (539, 30122), (553, 30182), (614, 30422), (624, 30455), (625, 30458), (639, 30491), (672, 30560),

Gene: Jobypre\_21 Start: 19724, Stop: 22237, Start Num: 12

Candidate Starts for Jobypre\_21:

(Start: 12 @19724 has 16 MA's), (26, 19787), (45, 19859), (72, 19949), (74, 19955), (95, 20027), (122, 20114), (160, 20219), (164, 20231), (173, 20249), (180, 20288), (190, 20318), (208, 20375), (213, 20405), (215, 20411), (229, 20465), (231, 20471), (274, 20618), (276, 20621), (282, 20630), (288, 20648), (301, 20708), (305, 20717), (307, 20729), (319, 20780), (322, 20783), (363, 20948), (376, 21005), (397, 21089), (401, 21107), (403, 21116), (415, 21179), (447, 21299), (455, 21323), (460, 21344), (465, 21359), (473, 21377), (482, 21407), (500, 21497), (524, 21566), (530, 21599), (534, 21620), (543, 21656), (550, 21692), (560, 21737), (565, 21761), (567, 21767), (570, 21782), (574, 21800), (597, 21887), (604, 21911), (611, 21947), (613, 21953), (621, 21977), (660, 22052), (661, 22055), (692, 22142), (694, 22151), (697, 22157),

Gene: JoshKayV\_33 Start: 23180, Stop: 25381, Start Num: 20

Candidate Starts for JoshKayV\_33:

(Start: 20 @23180 has 22 MA's), (27, 23201), (51, 23291), (54, 23300), (81, 23390), (127, 23528), (135, 23552), (156, 23606), (220, 23717), (226, 23741), (259, 23852), (275, 23894), (390, 24206), (395, 24224), (401, 24248), (425, 24356), (450, 24449), (461, 24488), (487, 24578), (521, 24695), (522, 24701), (530, 24740), (534, 24761), (575, 24950), (585, 24977), (596, 25022), (661, 25190), (671, 25211), (686, 25250), (705, 25304), (722, 25373),

Gene: Jubie\_21 Start: 19725, Stop: 22238, Start Num: 12

Candidate Starts for Jubie\_21:

(Start: 12 @19725 has 16 MA's), (26, 19788), (45, 19860), (72, 19950), (74, 19956), (95, 20028), (122, 20115), (160, 20220), (164, 20232), (173, 20250), (180, 20289), (190, 20319), (208, 20376), (213, 20406), (215, 20412), (229, 20466), (231, 20472), (274, 20619), (276, 20622), (282, 20631), (288, 20649), (301, 20709), (305, 20718), (307, 20730), (319, 20781), (322, 20784), (363, 20949), (376, 21006), (397, 21090), (401, 21108), (403, 21117), (415, 21180), (447, 21300), (455, 21324), (460, 21345), (465, 21360), (473, 21378), (482, 21408), (500, 21498), (524, 21567), (530, 21600), (534, 21621), (543, 21657), (550, 21693), (560, 21738), (565, 21762), (567, 21768), (570, 21783), (574, 21801), (597, 21888), (604, 21912), (611, 21948), (613, 21954), (621, 21978), (660, 22053), (661, 22056), (692, 22143), (694, 22152), (697, 22158),

Gene: KLucky39\_31 Start: 28763, Stop: 31018, Start Num: 31

Candidate Starts for KLucky39\_31:

(Start: 31 @28763 has 324 MA's), (57, 28859), (79, 28937), (84, 28964), (114, 29063), (164, 29222), (215, 29402), (221, 29426), (247, 29516), (248, 29522), (262, 29558), (277, 29597), (282, 29606), (291, 29639), (299, 29678), (312, 29723), (326, 29774), (344, 29825), (345, 29834), (358, 29903), (377, 29978), (393, 30023), (397, 30038), (428, 30173), (441, 30227), (444, 30248), (457, 30281), (471, 30326), (487, 30380), (495, 30407), (509, 30464), (519, 30485), (529, 30527), (539, 30566), (553, 30626), (614, 30866), (624, 30899), (625, 30902), (639, 30935), (642, 30941), (672, 31004),

Gene: Kahve\_30 Start: 28479, Stop: 30734, Start Num: 31

Candidate Starts for Kahve\_30:

(Start: 31 @28479 has 324 MA's), (57, 28575), (79, 28653), (84, 28680), (114, 28779), (164, 28938), (215, 29118), (221, 29142), (247, 29232), (248, 29238), (262, 29274), (277, 29313), (282, 29322), (291, 29355), (299, 29394), (312, 29439), (326, 29490), (344, 29541), (345, 29550), (358, 29619), (377, 29694), (393, 29739), (397, 29754), (428, 29889), (441, 29943), (444, 29964), (457, 29997), (471, 30042), (487, 30096), (495, 30123), (509, 30180), (519, 30201), (529, 30243), (539, 30282), (553, 30342), (614, 30582), (624, 30615), (625, 30618), (639, 30651), (642, 30657), (672, 30720),

Gene: Kailash\_31 Start: 28817, Stop: 31072, Start Num: 31

Candidate Starts for Kailash\_31:

(Start: 31 @28817 has 324 MA's), (57, 28913), (79, 28991), (84, 29018), (114, 29117), (164, 29276), (215, 29456), (221, 29480), (247, 29570), (248, 29576), (262, 29612), (277, 29651), (282, 29660), (291, 29693), (299, 29732), (312, 29777), (326, 29828), (344, 29879), (345, 29888), (358, 29957), (377, 30032), (393, 30077), (397, 30092), (428, 30227), (441, 30281), (444, 30302), (457, 30335), (471, 30380), (487, 30434), (495, 30461), (509, 30518), (519, 30539), (529, 30581), (539, 30620), (553, 30680), (614, 30920), (624, 30953), (625, 30956), (639, 30989), (642, 30995), (672, 31058),

Gene: Kamiyu\_31 Start: 28582, Stop: 30807, Start Num: 31

Candidate Starts for Kamiyu\_31:

(Start: 31 @28582 has 324 MA's), (Start: 37 @28597 has 1 MA's), (46, 28642), (63, 28699), (85, 28777), (108, 28846), (114, 28858), (126, 28900), (137, 28936), (148, 28963), (154, 28975), (161, 29002), (187, 29092), (209, 29164), (229, 29248), (264, 29356), (270, 29377), (299, 29470), (305, 29485), (343, 29614), (358, 29695), (377, 29770), (392, 29812), (393, 29818), (413, 29917), (428, 29968), (429, 29980), (441, 30022), (444, 30043), (462, 30097), (471, 30121), (483, 30157), (509, 30253), (515, 30262), (529, 30316), (555, 30424), (561, 30451), (571, 30493), (592, 30565), (614, 30655), (625, 30691),

Gene: Katniss\_31 Start: 28778, Stop: 31033, Start Num: 31

Candidate Starts for Katniss\_31:

(Start: 31 @28778 has 324 MA's), (57, 28874), (79, 28952), (84, 28979), (114, 29078), (164, 29237), (215, 29417), (221, 29441), (247, 29531), (248, 29537), (262, 29573), (277, 29612), (282, 29621), (291, 29654), (299, 29693), (312, 29738), (326, 29789), (344, 29840), (345, 29849), (358, 29918), (377, 29993), (393, 30038), (397, 30053), (428, 30188), (441, 30242), (444, 30263), (457, 30296),

(471, 30341), (487, 30395), (509, 30479), (519, 30500), (529, 30542), (539, 30581), (553, 30641), (614, 30881), (624, 30914), (625, 30917), (639, 30950), (642, 30956), (672, 31019),

Gene: Keitherie\_31 Start: 28810, Stop: 31071, Start Num: 31

Candidate Starts for Keitherie\_31:

(Start: 31 @28810 has 324 MA's), (57, 28906), (79, 28984), (84, 29011), (107, 29086), (114, 29116), (164, 29275), (215, 29455), (221, 29479), (248, 29575), (262, 29611), (277, 29650), (282, 29659), (291, 29692), (299, 29731), (312, 29776), (326, 29827), (345, 29887), (358, 29956), (377, 30031), (393, 30076), (397, 30091), (428, 30226), (441, 30280), (444, 30301), (457, 30334), (471, 30379), (487, 30433), (495, 30460), (509, 30517), (519, 30538), (529, 30580), (539, 30619), (553, 30679), (614, 30919), (625, 30955), (639, 30988), (672, 31057),

Gene: Keshu\_26 Start: 21307, Stop: 23655, Start Num: 17

Candidate Starts for Keshu\_26:

(Start: 17 @21307 has 64 MA's), (24, 21334), (34, 21367), (45, 21412), (159, 21676), (160, 21682), (164, 21694), (211, 21856), (247, 21976), (251, 21988), (265, 22042), (272, 22057), (275, 22063), (291, 22108), (292, 22123), (307, 22150), (311, 22165), (346, 22282), (353, 22330), (355, 22339), (365, 22372), (370, 22384), (375, 22417), (376, 22420), (380, 22444), (390, 22486), (396, 22507), (401, 22528), (403, 22537), (447, 22723), (467, 22792), (487, 22852), (498, 22900), (524, 22981), (530, 23014), (557, 23143), (561, 23158), (572, 23203), (573, 23212), (578, 23233), (591, 23278), (593, 23284), (600, 23311), (606, 23332), (615, 23374), (634, 23416), (647, 23446), (688, 23545), (690, 23551), (704, 23587),

Gene: Keziacharles14\_31 Start: 22419, Stop: 24875, Start Num: 19

Candidate Starts for Keziacharles14\_31:

(Start: 19 @22419 has 30 MA's), (48, 22524), (104, 22692), (188, 22947), (206, 23004), (232, 23106), (244, 23148), (302, 23337), (303, 23340), (307, 23355), (316, 23394), (330, 23439), (341, 23475), (390, 23700), (395, 23718), (448, 23940), (452, 23946), (460, 23979), (487, 24081), (521, 24198), (530, 24243), (544, 24303), (557, 24369), (561, 24384), (562, 24387), (567, 24408), (570, 24423), (572, 24429), (611, 24588), (638, 24648), (702, 24795),

Gene: Kikipoo\_31 Start: 28769, Stop: 31024, Start Num: 31

Candidate Starts for Kikipoo\_31:

(Start: 31 @28769 has 324 MA's), (57, 28865), (79, 28943), (84, 28970), (114, 29069), (164, 29228), (215, 29408), (221, 29432), (247, 29522), (248, 29528), (262, 29564), (277, 29603), (282, 29612), (291, 29645), (299, 29684), (312, 29729), (326, 29780), (344, 29831), (345, 29840), (358, 29909), (377, 29984), (393, 30029), (397, 30044), (428, 30179), (441, 30233), (444, 30254), (457, 30287), (471, 30332), (487, 30386), (509, 30470), (519, 30491), (529, 30533), (539, 30572), (553, 30632), (614, 30872), (624, 30905), (625, 30908), (639, 30941), (642, 30947), (672, 31010),

Gene: KilKor\_21 Start: 18926, Stop: 21559, Start Num: 6

Candidate Starts for KilKor\_21:

(Start: 6 @18926 has 7 MA's), (8, 18935), (Start: 42 @19079 has 1 MA's), (129, 19352), (132, 19364), (139, 19385), (149, 19409), (174, 19484), (194, 19556), (203, 19586), (211, 19622), (227, 19685), (232, 19700), (240, 19727), (242, 19733), (267, 19808), (279, 19832), (280, 19838), (284, 19850), (292, 19892), (294, 19898), (318, 19985), (327, 20006), (336, 20030), (349, 20096), (351, 20117), (355, 20135), (365, 20168), (371, 20192), (372, 20195), (378, 20246), (403, 20351), (410, 20393), (447, 20558), (469, 20654), (487, 20732), (491, 20744), (512, 20834), (528, 20894), (530, 20903), (541, 20951), (543, 20960), (567, 21077), (576, 21122), (589, 21164), (606, 21230), (609, 21254), (627, 21302), (632, 21308), (635, 21314), (683, 21413), (686, 21422), (694, 21452), (718, 21542), (721, 21551),

Gene: Kimbrough\_31 Start: 28471, Stop: 30726, Start Num: 31

Candidate Starts for Kimbrough\_31:

(Start: 31 @28471 has 324 MA's), (57, 28567), (79, 28645), (84, 28672), (114, 28771), (164, 28930), (215, 29110), (221, 29134), (247, 29224), (248, 29230), (262, 29266), (277, 29305), (282, 29314), (291, 29347), (299, 29386), (312, 29431), (326, 29482), (344, 29533), (345, 29542), (358, 29611), (377, 29686), (393, 29731), (397, 29746), (428, 29881), (441, 29935), (444, 29956), (457, 29989), (471, 30034), (487, 30088), (495, 30115), (509, 30172), (519, 30193), (529, 30235), (539, 30274), (553, 30334), (614, 30574), (624, 30607), (625, 30610), (639, 30643), (642, 30649), (672, 30712),

Gene: KingCyrus\_33 Start: 23177, Stop: 25654, Start Num: 20

Candidate Starts for KingCyrus\_33:

(Start: 20 @23177 has 22 MA's), (27, 23198), (51, 23288), (54, 23297), (81, 23387), (95, 23435), (131, 23567), (200, 23786), (209, 23813), (218, 23855), (238, 23930), (286, 24071), (289, 24086), (300, 24137), (302, 24143), (330, 24245), (347, 24287), (385, 24455), (396, 24497), (401, 24518), (426, 24629), (427, 24632), (442, 24689), (460, 24755), (461, 24758), (465, 24770), (478, 24812), (480, 24821), (487, 24854), (499, 24911), (534, 25037), (543, 25073), (544, 25076), (575, 25226), (578, 25232), (594, 25286), (596, 25298), (599, 25307), (604, 25328), (616, 25382), (675, 25496), (685, 25523), (686, 25526), (705, 25580), (711, 25607),

Gene: KingTut\_22 Start: 24140, Stop: 26395, Start Num: 31

Candidate Starts for KingTut\_22:

(Start: 31 @24140 has 324 MA's), (57, 24236), (79, 24314), (84, 24341), (114, 24440), (164, 24599), (215, 24779), (221, 24803), (248, 24899), (262, 24935), (277, 24974), (282, 24983), (291, 25016), (299, 25055), (312, 25100), (326, 25151), (344, 25202), (345, 25211), (358, 25280), (377, 25355), (393, 25400), (397, 25415), (428, 25550), (441, 25604), (444, 25625), (457, 25658), (471, 25703), (487, 25757), (495, 25784), (509, 25841), (519, 25862), (529, 25904), (539, 25943), (553, 26003), (614, 26243), (625, 26279), (639, 26312), (672, 26381),

Gene: KingVeVeVe\_31 Start: 28744, Stop: 30999, Start Num: 31

Candidate Starts for KingVeVeVe\_31:

(Start: 31 @28744 has 324 MA's), (57, 28840), (79, 28918), (84, 28945), (114, 29044), (164, 29203), (215, 29383), (221, 29407), (248, 29503), (262, 29539), (277, 29578), (282, 29587), (291, 29620), (299, 29659), (312, 29704), (326, 29755), (344, 29806), (345, 29815), (358, 29884), (377, 29959), (393, 30004), (397, 30019), (428, 30154), (441, 30208), (444, 30229), (457, 30262), (471, 30307), (487, 30361), (495, 30388), (509, 30445), (519, 30466), (529, 30508), (539, 30547), (553, 30607), (614, 30847), (625, 30883), (639, 30916), (672, 30985),

Gene: Kingsolomon\_21 Start: 19724, Stop: 22237, Start Num: 12

Candidate Starts for Kingsolomon\_21:

(Start: 12 @19724 has 16 MA's), (26, 19787), (45, 19859), (72, 19949), (74, 19955), (95, 20027), (122, 20114), (160, 20219), (164, 20231), (173, 20249), (180, 20288), (190, 20318), (208, 20375), (213, 20405), (215, 20411), (229, 20465), (231, 20471), (274, 20618), (276, 20621), (282, 20630), (288, 20648), (301, 20708), (305, 20717), (307, 20729), (319, 20780), (322, 20783), (363, 20948), (376, 21005), (397, 21089), (401, 21107), (403, 21116), (415, 21179), (447, 21299), (455, 21323), (460, 21344), (465, 21359), (473, 21377), (482, 21407), (500, 21497), (524, 21566), (530, 21599), (534, 21620), (543, 21656), (550, 21692), (560, 21737), (565, 21761), (567, 21767), (570, 21782), (574, 21800), (597, 21887), (604, 21911), (611, 21947), (613, 21953), (621, 21977), (660, 22052), (661, 22055), (692, 22142), (694, 22151), (697, 22157),

Gene: KittenMittens\_31 Start: 21406, Stop: 23688, Start Num: 16

Candidate Starts for KittenMittens\_31:

(Start: 16 @21406 has 6 MA's), (25, 21439), (48, 21523), (68, 21589), (153, 21835), (156, 21844), (179, 21928), (201, 22003), (220, 22081), (249, 22156), (289, 22246), (298, 22279), (353, 22372), (390, 22519), (395, 22537), (401, 22561), (450, 22762), (461, 22801), (487, 22891), (499, 22948),

(534, 23074), (536, 23083), (541, 23101), (544, 23113), (567, 23218), (570, 23233), (572, 23239), (579, 23272), (606, 23371), (607, 23392), (609, 23395), (633, 23452), (641, 23470), (642, 23473), (649, 23485), (668, 23524), (684, 23566), (685, 23569), (718, 23671),

Gene: KlimbOn\_31 Start: 28757, Stop: 31012, Start Num: 31

Candidate Starts for KlimbOn\_31:

(Start: 31 @28757 has 324 MA's), (57, 28853), (79, 28931), (84, 28958), (114, 29057), (164, 29216), (215, 29396), (221, 29420), (248, 29516), (262, 29552), (277, 29591), (282, 29600), (291, 29633), (299, 29672), (312, 29717), (326, 29768), (344, 29819), (345, 29828), (358, 29897), (377, 29972), (393, 30017), (397, 30032), (428, 30167), (441, 30221), (444, 30242), (457, 30275), (471, 30320), (487, 30374), (495, 30401), (509, 30458), (519, 30479), (529, 30521), (539, 30560), (553, 30620), (614, 30860), (625, 30896), (639, 30929), (672, 30998),

Gene: Kloppinator\_31 Start: 28780, Stop: 31035, Start Num: 31

Candidate Starts for Kloppinator\_31:

(Start: 31 @28780 has 324 MA's), (57, 28876), (79, 28954), (84, 28981), (114, 29080), (164, 29239), (215, 29419), (221, 29443), (247, 29533), (248, 29539), (262, 29575), (277, 29614), (282, 29623), (291, 29656), (299, 29695), (312, 29740), (326, 29791), (344, 29842), (345, 29851), (358, 29920), (377, 29995), (393, 30040), (397, 30055), (428, 30190), (441, 30244), (444, 30265), (457, 30298), (471, 30343), (487, 30397), (509, 30481), (519, 30502), (529, 30544), (539, 30583), (553, 30643), (614, 30883), (624, 30916), (625, 30919), (639, 30952), (642, 30958), (672, 31021),

Gene: Knocker\_32 Start: 31412, Stop: 33868, Start Num: 31

Candidate Starts for Knocker\_32:

(Start: 31 @31412 has 324 MA's), (35, 31421), (53, 31490), (63, 31526), (89, 31628), (114, 31715), (118, 31736), (124, 31763), (128, 31772), (145, 31823), (146, 31826), (152, 31838), (155, 31847), (219, 32075), (226, 32105), (227, 32111), (236, 32144), (259, 32210), (268, 32237), (282, 32264), (284, 32270), (291, 32297), (326, 32432), (333, 32450), (343, 32480), (349, 32519), (353, 32546), (371, 32603), (372, 32606), (391, 32693), (395, 32711), (401, 32735), (403, 32744), (442, 32906), (443, 32909), (460, 32972), (461, 32975), (465, 32987), (476, 33017), (480, 33032), (484, 33053), (487, 33065), (499, 33122), (503, 33140), (524, 33194), (529, 33224), (530, 33227), (533, 33245), (534, 33248), (540, 33269), (545, 33302), (549, 33317), (562, 33371), (567, 33392), (568, 33395), (574, 33425), (575, 33437), (583, 33464), (584, 33467), (591, 33488), (606, 33545), (609, 33569), (634, 33641), (668, 33707), (678, 33734), (679, 33737), (681, 33743), (694, 33791), (703, 33812), (710, 33848),

Gene: Kronus\_30 Start: 29196, Stop: 31421, Start Num: 31

Candidate Starts for Kronus\_30:

(Start: 31 @29196 has 324 MA's), (46, 29256), (63, 29313), (108, 29460), (114, 29472), (126, 29514), (137, 29550), (148, 29577), (154, 29589), (161, 29616), (187, 29706), (209, 29778), (229, 29862), (264, 29970), (270, 29991), (299, 30084), (305, 30099), (343, 30228), (358, 30309), (377, 30384), (392, 30426), (393, 30432), (402, 30468), (428, 30582), (429, 30594), (441, 30636), (444, 30657), (462, 30711), (471, 30735), (483, 30771), (509, 30867), (515, 30876), (529, 30930), (555, 31038), (561, 31065), (571, 31107), (592, 31179), (614, 31269), (625, 31305),

Gene: Krueger\_26 Start: 20014, Stop: 22350, Start Num: 17

Candidate Starts for Krueger\_26:

(13, 19981), (Start: 17 @20014 has 64 MA's), (18, 20023), (32, 20071), (34, 20074), (69, 20203), (86, 20254), (152, 20350), (155, 20359), (181, 20449), (193, 20488), (211, 20560), (213, 20569), (239, 20662), (265, 20743), (279, 20773), (291, 20812), (292, 20827), (307, 20851), (326, 20911), (340, 20956), (346, 20983), (351, 21022), (355, 21040), (360, 21049), (375, 21118), (376, 21121), (378, 21139), (390, 21181), (396, 21202), (400, 21217), (403, 21232), (422, 21319), (446, 21412), (447, 21415), (467, 21487), (484, 21535), (501, 21616), (509, 21640), (521, 21664), (522, 21670), (530,

21709), (572, 21898), (591, 21973), (606, 22027), (634, 22111), (641, 22129), (682, 22216), (688, 22240), (704, 22282), (722, 22342),

Gene: Krypton555\_21 Start: 19647, Stop: 22160, Start Num: 12

Candidate Starts for Krypton555\_21:

(Start: 12 @19647 has 16 MA's), (26, 19710), (45, 19782), (102, 19980), (155, 20124), (160, 20142), (164, 20154), (173, 20172), (180, 20211), (184, 20226), (190, 20241), (208, 20298), (213, 20328), (215, 20334), (229, 20388), (231, 20394), (246, 20451), (274, 20541), (276, 20544), (282, 20553), (288, 20571), (301, 20631), (319, 20703), (322, 20706), (356, 20850), (363, 20871), (376, 20928), (397, 21012), (401, 21030), (403, 21039), (447, 21222), (460, 21267), (465, 21282), (473, 21300), (482, 21330), (494, 21390), (500, 21420), (524, 21489), (530, 21522), (534, 21543), (543, 21579), (549, 21609), (565, 21684), (567, 21690), (570, 21705), (574, 21723), (582, 21756), (596, 21807), (597, 21810), (605, 21837), (611, 21870), (621, 21900), (660, 21975), (675, 22011), (694, 22074), (697, 22080), (721, 22152),

Gene: Kwadwo\_30 Start: 28461, Stop: 30716, Start Num: 31

Candidate Starts for Kwadwo\_30:

(Start: 31 @28461 has 324 MA's), (57, 28557), (79, 28635), (84, 28662), (114, 28761), (164, 28920), (215, 29100), (221, 29124), (247, 29214), (248, 29220), (262, 29256), (277, 29295), (282, 29304), (291, 29337), (299, 29376), (312, 29421), (326, 29472), (344, 29523), (345, 29532), (358, 29601), (377, 29676), (393, 29721), (397, 29736), (428, 29871), (441, 29925), (444, 29946), (457, 29979), (471, 30024), (487, 30078), (495, 30105), (509, 30162), (519, 30183), (529, 30225), (539, 30264), (553, 30324), (614, 30564), (624, 30597), (625, 30600), (639, 30633), (642, 30639), (672, 30702),

Gene: Kwksand96\_30 Start: 28329, Stop: 30584, Start Num: 31

Candidate Starts for Kwksand96\_30:

(Start: 31 @28329 has 324 MA's), (57, 28425), (79, 28503), (84, 28530), (114, 28629), (164, 28788), (215, 28968), (221, 28992), (248, 29088), (262, 29124), (277, 29163), (282, 29172), (291, 29205), (299, 29244), (312, 29289), (326, 29340), (344, 29391), (345, 29400), (358, 29469), (377, 29544), (393, 29589), (397, 29604), (428, 29739), (441, 29793), (444, 29814), (457, 29847), (471, 29892), (487, 29946), (495, 29973), (509, 30030), (519, 30051), (529, 30093), (539, 30132), (553, 30192), (614, 30432), (625, 30468), (639, 30501), (672, 30570),

Gene: Labeouficaum\_30 Start: 28325, Stop: 30580, Start Num: 31

Candidate Starts for Labeouficaum\_30:

(Start: 31 @28325 has 324 MA's), (57, 28421), (79, 28499), (84, 28526), (114, 28625), (164, 28784), (215, 28964), (221, 28988), (248, 29084), (262, 29120), (277, 29159), (282, 29168), (291, 29201), (299, 29240), (312, 29285), (326, 29336), (345, 29396), (358, 29465), (377, 29540), (393, 29585), (397, 29600), (428, 29735), (441, 29789), (444, 29810), (457, 29843), (471, 29888), (487, 29942), (495, 29969), (509, 30026), (519, 30047), (529, 30089), (539, 30128), (553, 30188), (614, 30428), (624, 30461), (625, 30464), (639, 30497), (672, 30566),

Gene: LadyBird\_31 Start: 22727, Stop: 25135, Start Num: 19

Candidate Starts for LadyBird\_31:

(Start: 19 @22727 has 30 MA's), (51, 22841), (81, 22934), (91, 22970), (143, 23120), (153, 23141), (156, 23150), (198, 23282), (220, 23372), (259, 23507), (270, 23540), (275, 23549), (307, 23648), (371, 23888), (390, 23978), (395, 23996), (401, 24020), (450, 24221), (461, 24260), (466, 24281), (480, 24317), (487, 24350), (492, 24371), (499, 24407), (518, 24461), (530, 24512), (534, 24533), (557, 24638), (561, 24653), (606, 24821), (615, 24863), (650, 24932), (716, 25103), (717, 25112), (718, 25118),

Gene: Larenn\_32 Start: 23024, Stop: 25237, Start Num: 19

Candidate Starts for Larenn\_32:

(Start: 19 @23024 has 30 MA's), (51, 23138), (56, 23153), (84, 23252), (105, 23327), (127, 23375), (131, 23387), (220, 23564), (231, 23603), (259, 23699), (270, 23732), (275, 23741), (293, 23801), (313, 23867), (390, 24053), (398, 24083), (401, 24095), (442, 24266), (461, 24335), (487, 24434), (518, 24545), (521, 24551), (522, 24557), (530, 24596), (534, 24617), (543, 24653), (544, 24656), (557, 24722), (585, 24833), (609, 24938), (634, 24992), (687, 25112), (705, 25160), (711, 25184),

Gene: LasagnaCat\_31 Start: 28763, Stop: 31018, Start Num: 31

Candidate Starts for LasagnaCat\_31:

(Start: 31 @28763 has 324 MA's), (57, 28859), (79, 28937), (84, 28964), (114, 29063), (164, 29222), (215, 29402), (221, 29426), (247, 29516), (248, 29522), (262, 29558), (277, 29597), (282, 29606), (291, 29639), (299, 29678), (312, 29723), (326, 29774), (344, 29825), (345, 29834), (358, 29903), (377, 29978), (393, 30023), (397, 30038), (428, 30173), (441, 30227), (444, 30248), (457, 30281), (471, 30326), (487, 30380), (495, 30407), (509, 30464), (519, 30485), (529, 30527), (539, 30566), (553, 30626), (614, 30866), (624, 30899), (625, 30902), (639, 30935), (642, 30941), (672, 31004),

Gene: Lasso\_31 Start: 28736, Stop: 30991, Start Num: 31

Candidate Starts for Lasso\_31:

(Start: 31 @28736 has 324 MA's), (57, 28832), (79, 28910), (84, 28937), (114, 29036), (164, 29195), (215, 29375), (221, 29399), (247, 29489), (248, 29495), (262, 29531), (277, 29570), (282, 29579), (291, 29612), (299, 29651), (312, 29696), (326, 29747), (344, 29798), (345, 29807), (358, 29876), (377, 29951), (393, 29996), (397, 30011), (428, 30146), (441, 30200), (444, 30221), (457, 30254), (471, 30299), (487, 30353), (495, 30380), (509, 30437), (519, 30458), (529, 30500), (539, 30539), (553, 30599), (614, 30839), (625, 30875), (639, 30908), (672, 30977),

Gene: LastHope\_27 Start: 20175, Stop: 22487, Start Num: 17

Candidate Starts for LastHope\_27:

(Start: 17 @20175 has 64 MA's), (59, 20325), (66, 20346), (83, 20403), (86, 20415), (134, 20469), (151, 20514), (167, 20556), (171, 20568), (193, 20613), (230, 20724), (238, 20745), (261, 20796), (266, 20811), (275, 20826), (299, 20907), (308, 20937), (320, 20976), (331, 20991), (345, 21051), (368, 21135), (379, 21207), (448, 21510), (451, 21516), (463, 21570), (464, 21573), (466, 21585), (471, 21612), (478, 21630), (479, 21636), (504, 21753), (508, 21768), (567, 22017), (570, 22032), (575, 22062), (586, 22101), (589, 22113), (610, 22209), (620, 22239), (641, 22281), (653, 22302), (673, 22344), (684, 22368), (685, 22371), (693, 22395), (694, 22401), (716, 22464), (720, 22479),

Gene: LeeLot\_31 Start: 28767, Stop: 31022, Start Num: 31

Candidate Starts for LeeLot\_31:

(Start: 31 @28767 has 324 MA's), (57, 28863), (79, 28941), (84, 28968), (114, 29067), (164, 29226), (215, 29406), (221, 29430), (247, 29520), (248, 29526), (262, 29562), (277, 29601), (282, 29610), (291, 29643), (299, 29682), (312, 29727), (326, 29778), (344, 29829), (345, 29838), (358, 29907), (377, 29982), (393, 30027), (397, 30042), (428, 30177), (441, 30231), (444, 30252), (457, 30285), (471, 30330), (487, 30384), (495, 30411), (509, 30468), (519, 30489), (529, 30531), (539, 30570), (553, 30630), (614, 30870), (625, 30906), (639, 30939), (672, 31008),

Gene: Lego3393\_31 Start: 28772, Stop: 31027, Start Num: 31

Candidate Starts for Lego3393\_31:

(Start: 31 @28772 has 324 MA's), (57, 28868), (79, 28946), (84, 28973), (114, 29072), (164, 29231), (215, 29411), (221, 29435), (247, 29525), (248, 29531), (262, 29567), (277, 29606), (282, 29615), (291, 29648), (299, 29687), (312, 29732), (326, 29783), (344, 29834), (345, 29843), (358, 29912), (377, 29987), (393, 30032), (397, 30047), (428, 30182), (441, 30236), (444, 30257), (457, 30290), (471, 30335), (487, 30389), (495, 30416), (509, 30473), (519, 30494), (529, 30536), (539, 30575), (553, 30635), (614, 30875), (624, 30908), (625, 30911), (639, 30944), (642, 30950), (672, 31013),

Gene: Legolas\_30 Start: 28477, Stop: 30732, Start Num: 31



Candidate Starts for Legolas\_30:

(Start: 31 @28477 has 324 MA's), (57, 28573), (79, 28651), (84, 28678), (114, 28777), (164, 28936), (215, 29116), (221, 29140), (247, 29230), (248, 29236), (262, 29272), (277, 29311), (282, 29320), (291, 29353), (299, 29392), (312, 29437), (326, 29488), (344, 29539), (345, 29548), (358, 29617), (377, 29692), (393, 29737), (397, 29752), (428, 29887), (441, 29941), (444, 29962), (457, 29995), (471, 30040), (487, 30094), (495, 30121), (509, 30178), (519, 30199), (529, 30241), (539, 30280), (553, 30340), (614, 30580), (624, 30613), (625, 30616), (639, 30649), (642, 30655), (672, 30718),

Gene: LeiMonet\_31 Start: 28468, Stop: 30723, Start Num: 31

Candidate Starts for LeiMonet\_31:

(Start: 31 @28468 has 324 MA's), (57, 28564), (79, 28642), (84, 28669), (114, 28768), (164, 28927), (215, 29107), (221, 29131), (247, 29221), (248, 29227), (262, 29263), (277, 29302), (282, 29311), (291, 29344), (299, 29383), (312, 29428), (326, 29479), (344, 29530), (345, 29539), (358, 29608), (377, 29683), (393, 29728), (397, 29743), (428, 29878), (441, 29932), (444, 29953), (457, 29986), (471, 30031), (487, 30085), (495, 30112), (509, 30169), (519, 30190), (529, 30232), (539, 30271), (553, 30331), (614, 30571), (625, 30607), (639, 30640), (672, 30709),

Gene: LemonSlice\_31 Start: 28464, Stop: 30719, Start Num: 31

Candidate Starts for LemonSlice\_31:

(Start: 31 @28464 has 324 MA's), (57, 28560), (79, 28638), (84, 28665), (114, 28764), (164, 28923), (215, 29103), (221, 29127), (247, 29217), (248, 29223), (262, 29259), (277, 29298), (282, 29307), (291, 29340), (299, 29379), (312, 29424), (326, 29475), (344, 29526), (345, 29535), (358, 29604), (377, 29679), (393, 29724), (397, 29739), (428, 29874), (441, 29928), (444, 29949), (457, 29982), (471, 30027), (487, 30081), (495, 30108), (509, 30165), (519, 30186), (529, 30228), (539, 30267), (553, 30327), (614, 30567), (624, 30600), (625, 30603), (639, 30636), (642, 30642), (672, 30705),

Gene: LestyG\_31 Start: 28617, Stop: 30842, Start Num: 31

Candidate Starts for LestyG\_31:

(Start: 31 @28617 has 324 MA's), (Start: 37 @28632 has 1 MA's), (46, 28677), (63, 28734), (85, 28812), (108, 28881), (114, 28893), (126, 28935), (137, 28971), (148, 28998), (154, 29010), (161, 29037), (187, 29127), (209, 29199), (229, 29283), (264, 29391), (270, 29412), (299, 29505), (305, 29520), (343, 29649), (358, 29730), (377, 29805), (392, 29847), (393, 29853), (402, 29889), (428, 30003), (429, 30015), (441, 30057), (444, 30078), (462, 30132), (471, 30156), (483, 30192), (509, 30288), (515, 30297), (529, 30351), (555, 30459), (561, 30486), (571, 30528), (592, 30600), (614, 30690), (625, 30726),

Gene: Leviathan\_33 Start: 23260, Stop: 25464, Start Num: 19

Candidate Starts for Leviathan\_33:

(Start: 19 @23260 has 30 MA's), (51, 23374), (54, 23383), (56, 23389), (81, 23473), (127, 23611), (135, 23635), (156, 23689), (220, 23800), (259, 23935), (275, 23977), (299, 24049), (385, 24268), (390, 24289), (395, 24307), (401, 24331), (425, 24439), (450, 24532), (461, 24571), (487, 24661), (499, 24718), (500, 24721), (521, 24778), (522, 24784), (530, 24823), (534, 24844), (575, 25033), (582, 25054), (609, 25165), (675, 25303), (697, 25369), (705, 25387), (722, 25456),

Gene: LilPharaoh\_23 Start: 20414, Stop: 22900, Start Num: 17

Candidate Starts for LilPharaoh\_23:

(Start: 17 @20414 has 64 MA's), (Start: 28 @20462 has 2 MA's), (83, 20642), (84, 20645), (134, 20708), (137, 20720), (181, 20852), (193, 20891), (209, 20948), (213, 20972), (216, 20984), (229, 21032), (230, 21035), (245, 21068), (254, 21107), (265, 21140), (270, 21152), (275, 21161), (279, 21167), (296, 21233), (299, 21248), (330, 21359), (340, 21392), (355, 21476), (361, 21491), (373, 21551), (386, 21620), (411, 21740), (432, 21833), (461, 21947), (481, 22025), (482, 22031), (490, 22055), (503, 22118), (504, 22121), (507, 22133), (527, 22199), (528, 22205), (537, 22247), (541, 22268), (543, 22277), (548, 22310), (552, 22328), (567, 22397), (591, 22496), (593, 22502), (597,

22520), (607, 22574), (612, 22589), (622, 22616), (652, 22673),

Gene: LilTurb\_33 Start: 23263, Stop: 25467, Start Num: 19

Candidate Starts for LilTurb\_33:

(Start: 19 @23263 has 30 MA's), (51, 23377), (54, 23386), (64, 23419), (81, 23476), (127, 23614), (220, 23803), (259, 23938), (275, 23980), (299, 24052), (390, 24292), (395, 24310), (401, 24334), (425, 24442), (450, 24535), (461, 24574), (487, 24664), (499, 24721), (500, 24724), (521, 24781), (522, 24787), (530, 24826), (534, 24847), (575, 25036), (585, 25063), (630, 25216), (641, 25240), (669, 25294), (671, 25297), (686, 25336), (687, 25342), (705, 25390),

Gene: Lolalove\_28 Start: 28979, Stop: 31276, Start Num: 31

Candidate Starts for Lolalove\_28:

(Start: 1 @28292 has 1 MA's), (2, 28439), (Start: 31 @28979 has 324 MA's), (57, 29078), (63, 29096), (98, 29219), (114, 29282), (136, 29363), (160, 29429), (196, 29546), (208, 29585), (219, 29636), (221, 29645), (235, 29702), (242, 29726), (243, 29729), (262, 29792), (279, 29834), (284, 29846), (314, 29969), (320, 29993), (331, 30023), (333, 30026), (343, 30056), (366, 30167), (372, 30188), (374, 30209), (377, 30224), (383, 30245), (402, 30311), (413, 30374), (414, 30377), (418, 30395), (426, 30419), (431, 30446), (441, 30479), (444, 30500), (457, 30533), (471, 30578), (513, 30719), (519, 30734), (540, 30818), (566, 30932), (571, 30953), (578, 30977), (595, 31040), (602, 31070), (614, 31124), (624, 31157), (625, 31160), (672, 31262), (674, 31265),

Gene: Lolly9\_21 Start: 19528, Stop: 22035, Start Num: 12

Candidate Starts for Lolly9\_21:

(Start: 12 @19528 has 16 MA's), (26, 19591), (45, 19663), (60, 19711), (117, 19897), (160, 20023), (173, 20053), (180, 20092), (190, 20122), (213, 20209), (220, 20236), (229, 20269), (231, 20275), (246, 20326), (273, 20413), (276, 20419), (282, 20428), (288, 20446), (301, 20506), (307, 20527), (319, 20578), (322, 20581), (343, 20650), (376, 20803), (397, 20887), (401, 20905), (403, 20914), (447, 21097), (455, 21121), (460, 21142), (465, 21157), (482, 21205), (500, 21295), (501, 21304), (530, 21397), (533, 21415), (534, 21418), (550, 21490), (565, 21559), (567, 21565), (570, 21580), (574, 21598), (582, 21631), (583, 21634), (597, 21685), (604, 21709), (613, 21751), (621, 21775), (660, 21850), (661, 21853), (697, 21955),

Gene: Longacauda\_30 Start: 28469, Stop: 30724, Start Num: 31

Candidate Starts for Longacauda\_30:

(Start: 31 @28469 has 324 MA's), (57, 28565), (79, 28643), (84, 28670), (114, 28769), (164, 28928), (215, 29108), (221, 29132), (248, 29228), (262, 29264), (277, 29303), (282, 29312), (291, 29345), (299, 29384), (312, 29429), (326, 29480), (344, 29531), (345, 29540), (358, 29609), (377, 29684), (393, 29729), (397, 29744), (428, 29879), (441, 29933), (444, 29954), (457, 29987), (471, 30032), (487, 30086), (495, 30113), (509, 30170), (519, 30191), (529, 30233), (539, 30272), (553, 30332), (614, 30572), (625, 30608), (639, 30641), (672, 30710),

Gene: Lopsy\_30 Start: 28319, Stop: 30574, Start Num: 31

Candidate Starts for Lopsy\_30:

(Start: 31 @28319 has 324 MA's), (57, 28415), (79, 28493), (84, 28520), (114, 28619), (164, 28778), (215, 28958), (221, 28982), (248, 29078), (262, 29114), (277, 29153), (282, 29162), (291, 29195), (299, 29234), (312, 29279), (326, 29330), (344, 29381), (345, 29390), (358, 29459), (377, 29534), (393, 29579), (397, 29594), (428, 29729), (441, 29783), (444, 29804), (457, 29837), (471, 29882), (487, 29936), (495, 29963), (509, 30020), (519, 30041), (529, 30083), (539, 30122), (553, 30182), (614, 30422), (625, 30458), (639, 30491), (672, 30560),

Gene: LostAndPhound\_30 Start: 28470, Stop: 30725, Start Num: 31

Candidate Starts for LostAndPhound\_30:

(Start: 31 @28470 has 324 MA's), (57, 28566), (79, 28644), (84, 28671), (114, 28770), (164, 28929), (215, 29109), (221, 29133), (247, 29223), (248, 29229), (262, 29265), (277, 29304), (282, 29313), (291, 29346), (299, 29385), (312, 29430), (326, 29481), (344, 29532), (345, 29541), (358, 29610), (377, 29685), (393, 29730), (397, 29745), (428, 29880), (441, 29934), (444, 29955), (457, 29988), (471, 30033), (487, 30087), (495, 30114), (509, 30171), (519, 30192), (529, 30234), (539, 30273), (553, 30333), (614, 30573), (625, 30609), (639, 30642), (672, 30711),

Gene: Luchador\_33 Start: 23273, Stop: 25723, Start Num: 19

Candidate Starts for Luchador\_33:

(Start: 19 @23273 has 30 MA's), (22, 23279), (83, 23489), (104, 23546), (113, 23567), (188, 23798), (218, 23909), (269, 24083), (286, 24125), (300, 24182), (302, 24188), (307, 24206), (312, 24227), (313, 24233), (316, 24245), (385, 24524), (401, 24587), (427, 24701), (442, 24758), (460, 24824), (461, 24827), (465, 24839), (478, 24881), (487, 24923), (530, 25085), (534, 25106), (544, 25145), (568, 25253), (575, 25295), (582, 25316), (594, 25355), (604, 25397), (626, 25466), (675, 25565), (685, 25592), (686, 25595), (705, 25649), (711, 25676),

Gene: LuckyMarjie\_30 Start: 28479, Stop: 30734, Start Num: 31

Candidate Starts for LuckyMarjie\_30:

(Start: 31 @28479 has 324 MA's), (57, 28575), (79, 28653), (84, 28680), (114, 28779), (164, 28938), (215, 29118), (221, 29142), (247, 29232), (248, 29238), (262, 29274), (277, 29313), (282, 29322), (291, 29355), (299, 29394), (312, 29439), (326, 29490), (344, 29541), (345, 29550), (358, 29619), (377, 29694), (393, 29739), (397, 29754), (428, 29889), (441, 29943), (444, 29964), (457, 29997), (471, 30042), (487, 30096), (495, 30123), (509, 30180), (519, 30201), (529, 30243), (539, 30282), (553, 30342), (614, 30582), (625, 30618), (639, 30651), (672, 30720),

Gene: Lulumae\_30 Start: 28461, Stop: 30716, Start Num: 31

Candidate Starts for Lulumae\_30:

(Start: 31 @28461 has 324 MA's), (57, 28557), (79, 28635), (84, 28662), (114, 28761), (164, 28920), (215, 29100), (221, 29124), (247, 29214), (248, 29220), (262, 29256), (277, 29295), (282, 29304), (291, 29337), (299, 29376), (312, 29421), (326, 29472), (344, 29523), (345, 29532), (358, 29601), (377, 29676), (393, 29721), (397, 29736), (428, 29871), (441, 29925), (444, 29946), (457, 29979), (471, 30024), (487, 30078), (509, 30162), (519, 30183), (529, 30225), (539, 30264), (553, 30324), (614, 30564), (624, 30597), (625, 30600), (639, 30633), (642, 30639), (672, 30702),

Gene: Lulwa\_31 Start: 28748, Stop: 31003, Start Num: 31

Candidate Starts for Lulwa\_31:

(Start: 31 @28748 has 324 MA's), (57, 28844), (79, 28922), (84, 28949), (114, 29048), (164, 29207), (215, 29387), (221, 29411), (247, 29501), (248, 29507), (262, 29543), (277, 29582), (282, 29591), (291, 29624), (299, 29663), (312, 29708), (326, 29759), (344, 29810), (345, 29819), (358, 29888), (377, 29963), (393, 30008), (397, 30023), (428, 30158), (441, 30212), (444, 30233), (457, 30266), (471, 30311), (487, 30365), (495, 30392), (509, 30449), (519, 30470), (529, 30512), (539, 30551), (553, 30611), (614, 30851), (625, 30887), (639, 30920), (672, 30989),

Gene: Lumine\_30 Start: 28457, Stop: 30712, Start Num: 31

Candidate Starts for Lumine\_30:

(Start: 31 @28457 has 324 MA's), (57, 28553), (79, 28631), (84, 28658), (114, 28757), (164, 28916), (215, 29096), (221, 29120), (247, 29210), (248, 29216), (262, 29252), (277, 29291), (282, 29300), (291, 29333), (299, 29372), (312, 29417), (326, 29468), (344, 29519), (345, 29528), (358, 29597), (377, 29672), (393, 29717), (397, 29732), (428, 29867), (441, 29921), (444, 29942), (457, 29975), (471, 30020), (487, 30074), (495, 30101), (509, 30158), (519, 30179), (529, 30221), (539, 30260), (553, 30320), (614, 30560), (624, 30593), (625, 30596), (639, 30629), (642, 30635), (672, 30698),

Gene: Lumos\_21 Start: 19721, Stop: 22234, Start Num: 12

Candidate Starts for Lumos\_21:

(Start: 12 @19721 has 16 MA's), (26, 19784), (45, 19856), (72, 19946), (74, 19952), (95, 20024), (122, 20111), (160, 20216), (164, 20228), (173, 20246), (180, 20285), (190, 20315), (208, 20372), (213, 20402), (215, 20408), (229, 20462), (231, 20468), (274, 20615), (276, 20618), (282, 20627), (288, 20645), (301, 20705), (305, 20714), (307, 20726), (319, 20777), (322, 20780), (363, 20945), (376, 21002), (397, 21086), (401, 21104), (403, 21113), (415, 21176), (447, 21296), (455, 21320), (460, 21341), (465, 21356), (473, 21374), (482, 21404), (500, 21494), (524, 21563), (530, 21596), (534, 21617), (543, 21653), (550, 21689), (560, 21734), (565, 21758), (567, 21764), (570, 21779), (574, 21797), (597, 21884), (604, 21908), (611, 21944), (613, 21950), (621, 21974), (660, 22049), (661, 22052), (692, 22139), (694, 22148), (697, 22154),

Gene: MRabcd\_30 Start: 28461, Stop: 30716, Start Num: 31

Candidate Starts for MRabcd\_30:

(Start: 31 @28461 has 324 MA's), (57, 28557), (79, 28635), (84, 28662), (114, 28761), (164, 28920), (215, 29100), (221, 29124), (247, 29214), (248, 29220), (262, 29256), (277, 29295), (282, 29304), (291, 29337), (299, 29376), (312, 29421), (326, 29472), (344, 29523), (345, 29532), (358, 29601), (377, 29676), (393, 29721), (397, 29736), (428, 29871), (441, 29925), (444, 29946), (457, 29979), (471, 30024), (487, 30078), (495, 30105), (509, 30162), (519, 30183), (529, 30225), (539, 30264), (553, 30324), (614, 30564), (624, 30597), (625, 30600), (639, 30633), (642, 30639), (672, 30702),

Gene: MacnCheese\_27 Start: 21549, Stop: 24002, Start Num: 17

Candidate Starts for MacnCheese\_27:

(Start: 17 @21549 has 64 MA's), (24, 21576), (34, 21609), (38, 21621), (63, 21714), (141, 21978), (159, 22023), (164, 22041), (173, 22059), (175, 22077), (194, 22137), (199, 22155), (210, 22191), (221, 22242), (265, 22389), (311, 22512), (346, 22629), (352, 22671), (353, 22677), (355, 22686), (363, 22710), (376, 22776), (378, 22794), (390, 22836), (396, 22857), (401, 22878), (403, 22887), (422, 22974), (446, 23067), (447, 23070), (467, 23142), (501, 23271), (504, 23280), (522, 23325), (524, 23331), (530, 23364), (533, 23382), (556, 23481), (559, 23499), (572, 23553), (582, 23598), (593, 23634), (606, 23682), (634, 23766), (688, 23895), (704, 23934),

Gene: Maco6\_22 Start: 18657, Stop: 20975, Start Num: 17

Candidate Starts for Maco6\_22:

(Start: 17 @18657 has 64 MA's), (76, 18858), (91, 18903), (96, 18915), (160, 19026), (178, 19092), (219, 19233), (255, 19365), (271, 19404), (278, 19416), (291, 19455), (298, 19473), (310, 19509), (335, 19569), (350, 19644), (362, 19671), (376, 19734), (389, 19791), (435, 19986), (437, 19989), (458, 20055), (461, 20073), (463, 20079), (464, 20082), (465, 20085), (498, 20208), (509, 20256), (521, 20286), (530, 20331), (532, 20337), (541, 20379), (547, 20415), (557, 20466), (561, 20481), (565, 20499), (578, 20556), (585, 20577), (590, 20598), (606, 20655), (607, 20676), (621, 20715), (641, 20757), (660, 20790), (662, 20796), (668, 20811), (697, 20895),

Gene: Mag7\_30 Start: 28367, Stop: 30622, Start Num: 31

Candidate Starts for Mag7\_30:

(Start: 31 @28367 has 324 MA's), (57, 28463), (79, 28541), (84, 28568), (114, 28667), (164, 28826), (215, 29006), (221, 29030), (247, 29120), (248, 29126), (262, 29162), (277, 29201), (282, 29210), (291, 29243), (299, 29282), (312, 29327), (326, 29378), (344, 29429), (345, 29438), (358, 29507), (377, 29582), (393, 29627), (397, 29642), (428, 29777), (441, 29831), (444, 29852), (457, 29885), (471, 29930), (487, 29984), (495, 30011), (509, 30068), (519, 30089), (529, 30131), (539, 30170), (553, 30230), (614, 30470), (624, 30503), (625, 30506), (639, 30539), (642, 30545), (672, 30608),

Gene: Magic8\_31 Start: 28802, Stop: 31057, Start Num: 31

Candidate Starts for Magic8\_31:

(Start: 31 @28802 has 324 MA's), (57, 28898), (79, 28976), (84, 29003), (114, 29102), (164, 29261), (215, 29441), (221, 29465), (247, 29555), (248, 29561), (262, 29597), (277, 29636), (282, 29645),

(291, 29678), (299, 29717), (312, 29762), (326, 29813), (344, 29864), (345, 29873), (358, 29942), (377, 30017), (393, 30062), (397, 30077), (428, 30212), (441, 30266), (444, 30287), (457, 30320), (471, 30365), (487, 30419), (495, 30446), (509, 30503), (519, 30524), (529, 30566), (539, 30605), (553, 30665), (614, 30905), (625, 30941), (639, 30974), (672, 31043),

Gene: Magpie\_27 Start: 28808, Stop: 31105, Start Num: 31

Candidate Starts for Magpie\_27:

(Start: 31 @28808 has 324 MA's), (57, 28907), (63, 28925), (114, 29111), (136, 29192), (160, 29258), (196, 29375), (208, 29414), (219, 29465), (221, 29474), (235, 29531), (242, 29555), (262, 29621), (279, 29663), (284, 29675), (320, 29822), (343, 29885), (366, 29996), (372, 30017), (383, 30074), (402, 30140), (405, 30152), (413, 30203), (414, 30206), (418, 30224), (426, 30248), (431, 30275), (441, 30308), (444, 30329), (457, 30362), (471, 30407), (513, 30548), (515, 30551), (519, 30563), (540, 30647), (566, 30761), (571, 30782), (578, 30806), (595, 30869), (602, 30899), (603, 30905), (614, 30953), (624, 30986), (625, 30989), (672, 31091), (674, 31094),

Gene: MalagasyRose\_27 Start: 20187, Stop: 22691, Start Num: 42

Candidate Starts for MalagasyRose\_27:

(Start: 42 @20187 has 1 MA's), (101, 20397), (104, 20412), (118, 20445), (134, 20496), (202, 20712), (203, 20715), (209, 20736), (245, 20868), (246, 20871), (256, 20913), (258, 20916), (280, 20970), (281, 20973), (282, 20976), (284, 20982), (291, 21009), (297, 21039), (309, 21084), (315, 21114), (339, 21189), (352, 21270), (354, 21279), (364, 21315), (372, 21351), (378, 21402), (382, 21414), (401, 21501), (403, 21510), (408, 21543), (416, 21582), (430, 21642), (457, 21750), (472, 21822), (485, 21876), (497, 21939), (499, 21954), (505, 21978), (511, 21996), (518, 22014), (521, 22020), (523, 22035), (530, 22071), (534, 22092), (536, 22101), (554, 22191), (587, 22335), (589, 22347), (591, 22359), (604, 22407), (605, 22410), (606, 22413), (615, 22455), (630, 22476), (641, 22497), (642, 22500), (649, 22512), (692, 22596), (721, 22683),

Gene: Malthus\_29 Start: 22196, Stop: 24505, Start Num: 17

Candidate Starts for Malthus\_29:

(Start: 17 @22196 has 64 MA's), (40, 22286), (45, 22307), (53, 22331), (87, 22448), (162, 22577), (188, 22637), (218, 22709), (220, 22718), (239, 22769), (245, 22775), (252, 22784), (265, 22835), (270, 22847), (279, 22862), (282, 22868), (291, 22901), (304, 22949), (320, 23003), (346, 23075), (351, 23114), (354, 23126), (363, 23141), (373, 23186), (386, 23255), (404, 23336), (439, 23489), (451, 23531), (481, 23660), (490, 23705), (504, 23771), (508, 23786), (535, 23882), (567, 24035), (570, 24050), (572, 24056), (575, 24080), (577, 24086), (579, 24092), (580, 24095), (586, 24119), (589, 24131), (610, 24227), (627, 24278), (630, 24281), (667, 24350), (684, 24386), (694, 24419), (713, 24473), (716, 24482), (720, 24497),

Gene: Mana\_30 Start: 28476, Stop: 30731, Start Num: 31

Candidate Starts for Mana\_30:

(Start: 31 @28476 has 324 MA's), (57, 28572), (79, 28650), (84, 28677), (114, 28776), (164, 28935), (215, 29115), (221, 29139), (247, 29229), (248, 29235), (262, 29271), (277, 29310), (282, 29319), (291, 29352), (299, 29391), (312, 29436), (326, 29487), (344, 29538), (345, 29547), (358, 29616), (377, 29691), (393, 29736), (397, 29751), (428, 29886), (441, 29940), (444, 29961), (457, 29994), (471, 30039), (487, 30093), (495, 30120), (509, 30177), (519, 30198), (529, 30240), (539, 30279), (553, 30339), (614, 30579), (625, 30615), (639, 30648), (672, 30717),

Gene: Manad\_30 Start: 28315, Stop: 30573, Start Num: 31

Candidate Starts for Manad\_30:

(Start: 31 @28315 has 324 MA's), (57, 28411), (79, 28489), (84, 28516), (114, 28618), (164, 28777), (215, 28957), (221, 28981), (248, 29077), (262, 29113), (277, 29152), (282, 29161), (291, 29194), (299, 29233), (312, 29278), (326, 29329), (344, 29380), (345, 29389), (358, 29458), (377, 29533), (393, 29578), (397, 29593), (428, 29728), (441, 29782), (444, 29803), (457, 29836), (471, 29881),

(487, 29935), (509, 30019), (519, 30040), (529, 30082), (539, 30121), (553, 30181), (614, 30421), (624, 30454), (625, 30457), (639, 30490), (642, 30496), (672, 30559),

Gene: Marcoliusprime\_23 Start: 18661, Stop: 21000, Start Num: 17

Candidate Starts for Marcoliusprime\_23:

(Start: 17 @18661 has 64 MA's), (66, 18832), (69, 18850), (77, 18874), (155, 19018), (166, 19051), (207, 19180), (209, 19189), (211, 19204), (214, 19216), (216, 19225), (229, 19273), (260, 19369), (265, 19387), (275, 19408), (291, 19453), (326, 19555), (346, 19627), (352, 19669), (353, 19675), (355, 19684), (375, 19771), (378, 19792), (390, 19834), (396, 19855), (422, 19972), (425, 19981), (448, 20071), (465, 20125), (467, 20137), (479, 20161), (504, 20275), (517, 20302), (530, 20359), (543, 20416), (572, 20548), (578, 20578), (593, 20629), (597, 20647), (606, 20677), (618, 20731), (634, 20761), (642, 20782), (695, 20914),

Gene: Marley1013\_31 Start: 29395, Stop: 31620, Start Num: 31

Candidate Starts for Marley1013\_31:

(Start: 31 @29395 has 324 MA's), (Start: 37 @29410 has 1 MA's), (46, 29455), (63, 29512), (85, 29590), (108, 29659), (114, 29671), (126, 29713), (137, 29749), (148, 29776), (154, 29788), (161, 29815), (187, 29905), (209, 29977), (229, 30061), (264, 30169), (270, 30190), (299, 30283), (305, 30298), (343, 30427), (358, 30508), (377, 30583), (392, 30625), (393, 30631), (402, 30667), (428, 30781), (429, 30793), (441, 30835), (444, 30856), (462, 30910), (471, 30934), (509, 31066), (515, 31075), (529, 31129), (555, 31237), (561, 31264), (571, 31306), (592, 31378), (614, 31468), (625, 31504),

Gene: Maru\_30 Start: 28469, Stop: 30724, Start Num: 31

Candidate Starts for Maru\_30:

(Start: 31 @28469 has 324 MA's), (57, 28565), (79, 28643), (84, 28670), (114, 28769), (164, 28928), (215, 29108), (221, 29132), (247, 29222), (248, 29228), (262, 29264), (277, 29303), (282, 29312), (291, 29345), (299, 29384), (312, 29429), (326, 29480), (344, 29531), (345, 29540), (358, 29609), (377, 29684), (393, 29729), (397, 29744), (428, 29879), (441, 29933), (444, 29954), (457, 29987), (471, 30032), (487, 30086), (495, 30113), (509, 30170), (519, 30191), (529, 30233), (539, 30272), (553, 30332), (614, 30572), (625, 30608), (639, 30641), (672, 30710),

Gene: Maskar\_30 Start: 28315, Stop: 30570, Start Num: 31

Candidate Starts for Maskar\_30:

(Start: 31 @28315 has 324 MA's), (57, 28411), (79, 28489), (84, 28516), (114, 28615), (164, 28774), (215, 28954), (221, 28978), (248, 29074), (262, 29110), (277, 29149), (282, 29158), (291, 29191), (299, 29230), (312, 29275), (326, 29326), (344, 29377), (345, 29386), (358, 29455), (377, 29530), (393, 29575), (397, 29590), (428, 29725), (441, 29779), (444, 29800), (457, 29833), (471, 29878), (487, 29932), (495, 29959), (509, 30016), (519, 30037), (529, 30079), (539, 30118), (553, 30178), (614, 30418), (625, 30454), (639, 30487), (672, 30556),

Gene: Matalotodo\_30 Start: 28762, Stop: 31017, Start Num: 31

Candidate Starts for Matalotodo\_30:

(Start: 31 @28762 has 324 MA's), (57, 28858), (79, 28936), (84, 28963), (114, 29062), (164, 29221), (215, 29401), (221, 29425), (247, 29515), (248, 29521), (262, 29557), (277, 29596), (282, 29605), (291, 29638), (299, 29677), (312, 29722), (326, 29773), (344, 29824), (345, 29833), (358, 29902), (377, 29977), (393, 30022), (397, 30037), (428, 30172), (441, 30226), (444, 30247), (457, 30280), (471, 30325), (487, 30379), (495, 30406), (509, 30463), (519, 30484), (529, 30526), (539, 30565), (553, 30625), (614, 30865), (625, 30901), (639, 30934), (672, 31003),

Gene: Mcshane\_30 Start: 28459, Stop: 30714, Start Num: 31

Candidate Starts for Mcshane\_30:

(Start: 31 @28459 has 324 MA's), (57, 28555), (79, 28633), (84, 28660), (114, 28759), (164, 28918), (215, 29098), (221, 29122), (247, 29212), (248, 29218), (262, 29254), (277, 29293), (282, 29302), (291, 29335), (299, 29374), (312, 29419), (326, 29470), (344, 29521), (345, 29530), (358, 29599), (377, 29674), (393, 29719), (397, 29734), (428, 29869), (441, 29923), (444, 29944), (457, 29977), (471, 30022), (487, 30076), (495, 30103), (509, 30160), (519, 30181), (529, 30223), (539, 30262), (553, 30322), (614, 30562), (625, 30598), (639, 30631), (672, 30700),

Gene: Mdavu\_23 Start: 20402, Stop: 22888, Start Num: 17

Candidate Starts for Mdavu\_23:

(Start: 17 @20402 has 64 MA's), (Start: 28 @20450 has 2 MA's), (83, 20630), (84, 20633), (134, 20696), (137, 20708), (181, 20840), (193, 20879), (209, 20936), (213, 20960), (216, 20972), (229, 21020), (230, 21023), (245, 21056), (254, 21095), (265, 21128), (270, 21140), (275, 21149), (279, 21155), (296, 21221), (299, 21236), (330, 21347), (340, 21380), (355, 21464), (361, 21479), (373, 21539), (386, 21608), (411, 21728), (432, 21821), (461, 21935), (481, 22013), (482, 22019), (490, 22043), (503, 22106), (504, 22109), (507, 22121), (527, 22187), (528, 22193), (537, 22235), (541, 22256), (543, 22265), (548, 22298), (552, 22316), (567, 22385), (591, 22484), (593, 22490), (597, 22508), (607, 22562), (612, 22577), (622, 22604), (652, 22661),

Gene: Mecca\_30 Start: 28462, Stop: 30717, Start Num: 31

Candidate Starts for Mecca\_30:

(Start: 31 @28462 has 324 MA's), (57, 28558), (79, 28636), (84, 28663), (114, 28762), (164, 28921), (215, 29101), (221, 29125), (247, 29215), (248, 29221), (262, 29257), (277, 29296), (282, 29305), (291, 29338), (299, 29377), (312, 29422), (326, 29473), (344, 29524), (345, 29533), (358, 29602), (377, 29677), (393, 29722), (397, 29737), (428, 29872), (441, 29926), (444, 29947), (457, 29980), (471, 30025), (487, 30079), (495, 30106), (509, 30163), (519, 30184), (529, 30226), (539, 30265), (553, 30325), (614, 30565), (624, 30598), (625, 30601), (639, 30634), (642, 30640), (672, 30703),

Gene: Megamind20\_31 Start: 28484, Stop: 30739, Start Num: 31

Candidate Starts for Megamind20\_31:

(Start: 31 @28484 has 324 MA's), (57, 28580), (79, 28658), (84, 28685), (114, 28784), (164, 28943), (215, 29123), (221, 29147), (247, 29237), (248, 29243), (262, 29279), (277, 29318), (282, 29327), (291, 29360), (299, 29399), (312, 29444), (326, 29495), (344, 29546), (345, 29555), (358, 29624), (377, 29699), (393, 29744), (397, 29759), (428, 29894), (441, 29948), (444, 29969), (457, 30002), (471, 30047), (487, 30101), (495, 30128), (509, 30185), (519, 30206), (529, 30248), (539, 30287), (553, 30347), (614, 30587), (624, 30620), (625, 30623), (639, 30656), (642, 30662), (672, 30725),

Gene: Megatron\_31 Start: 28760, Stop: 31015, Start Num: 31

Candidate Starts for Megatron\_31:

(Start: 31 @28760 has 324 MA's), (57, 28856), (79, 28934), (84, 28961), (114, 29060), (164, 29219), (215, 29399), (221, 29423), (247, 29513), (248, 29519), (262, 29555), (277, 29594), (282, 29603), (291, 29636), (299, 29675), (312, 29720), (326, 29771), (344, 29822), (345, 29831), (358, 29900), (377, 29975), (393, 30020), (397, 30035), (428, 30170), (441, 30224), (444, 30245), (457, 30278), (471, 30323), (487, 30377), (495, 30404), (509, 30461), (519, 30482), (529, 30524), (539, 30563), (553, 30623), (614, 30863), (624, 30896), (625, 30899), (639, 30932), (642, 30938), (672, 31001),

Gene: Megiddo\_21 Start: 18926, Stop: 21559, Start Num: 6

Candidate Starts for Megiddo\_21:

(Start: 6 @18926 has 7 MA's), (8, 18935), (Start: 42 @19079 has 1 MA's), (129, 19352), (132, 19364), (139, 19385), (149, 19409), (174, 19484), (194, 19556), (203, 19586), (211, 19622), (227, 19685), (232, 19700), (240, 19727), (242, 19733), (267, 19808), (279, 19832), (280, 19838), (284, 19850), (292, 19892), (294, 19898), (318, 19985), (327, 20006), (336, 20030), (349, 20096), (351, 20117), (355, 20135), (365, 20168), (371, 20192), (372, 20195), (378, 20246), (403, 20351), (410, 20393), (447, 20558), (469, 20654), (487, 20732), (491, 20744), (512, 20834), (528, 20894), (530, 20903),

(541, 20951), (543, 20960), (567, 21077), (576, 21122), (589, 21164), (606, 21230), (609, 21254), (627, 21302), (632, 21308), (635, 21314), (683, 21413), (686, 21422), (694, 21452), (718, 21542), (721, 21551),

Gene: Melc17\_31 Start: 28757, Stop: 31012, Start Num: 31

Candidate Starts for Melc17\_31:

(Start: 31 @28757 has 324 MA's), (57, 28853), (79, 28931), (84, 28958), (114, 29057), (164, 29216), (215, 29396), (221, 29420), (247, 29510), (248, 29516), (262, 29552), (277, 29591), (282, 29600), (291, 29633), (299, 29672), (312, 29717), (326, 29768), (344, 29819), (345, 29828), (358, 29897), (377, 29972), (393, 30017), (397, 30032), (428, 30167), (441, 30221), (444, 30242), (457, 30275), (471, 30320), (487, 30374), (495, 30401), (509, 30458), (519, 30479), (529, 30521), (539, 30560), (553, 30620), (614, 30860), (624, 30893), (625, 30896), (639, 30929), (642, 30935), (672, 30998),

Gene: MelsMeow\_30 Start: 28361, Stop: 30619, Start Num: 31

Candidate Starts for MelsMeow\_30:

(Start: 31 @28361 has 324 MA's), (57, 28457), (79, 28535), (84, 28562), (114, 28664), (164, 28823), (215, 29003), (221, 29027), (224, 29039), (248, 29123), (262, 29159), (277, 29198), (282, 29207), (291, 29240), (299, 29279), (312, 29324), (326, 29375), (344, 29426), (345, 29435), (358, 29504), (377, 29579), (393, 29624), (397, 29639), (428, 29774), (441, 29828), (444, 29849), (457, 29882), (471, 29927), (487, 29981), (495, 30008), (509, 30065), (519, 30086), (529, 30128), (539, 30167), (553, 30227), (614, 30467), (625, 30503), (639, 30536), (672, 30605),

Gene: Mesh1\_31 Start: 28774, Stop: 31029, Start Num: 31

Candidate Starts for Mesh1\_31:

(Start: 31 @28774 has 324 MA's), (57, 28870), (79, 28948), (84, 28975), (114, 29074), (164, 29233), (215, 29413), (221, 29437), (247, 29527), (248, 29533), (262, 29569), (277, 29608), (282, 29617), (291, 29650), (299, 29689), (312, 29734), (326, 29785), (344, 29836), (345, 29845), (358, 29914), (377, 29989), (393, 30034), (397, 30049), (428, 30184), (441, 30238), (444, 30259), (457, 30292), (471, 30337), (487, 30391), (495, 30418), (509, 30475), (519, 30496), (529, 30538), (539, 30577), (553, 30637), (614, 30877), (624, 30910), (625, 30913), (639, 30946), (642, 30952), (672, 31015),

Gene: MichaelPhcott\_30 Start: 28364, Stop: 30619, Start Num: 31

Candidate Starts for MichaelPhcott\_30:

(Start: 31 @28364 has 324 MA's), (57, 28460), (79, 28538), (84, 28565), (114, 28664), (164, 28823), (215, 29003), (221, 29027), (247, 29117), (248, 29123), (262, 29159), (277, 29198), (282, 29207), (291, 29240), (299, 29279), (312, 29324), (326, 29375), (344, 29426), (345, 29435), (358, 29504), (377, 29579), (393, 29624), (397, 29639), (428, 29774), (441, 29828), (444, 29849), (457, 29882), (471, 29927), (487, 29981), (495, 30008), (509, 30065), (519, 30086), (529, 30128), (539, 30167), (553, 30227), (614, 30467), (624, 30500), (625, 30503), (639, 30536), (642, 30542), (672, 30605),

Gene: MiculUcigas\_31 Start: 22775, Stop: 24997, Start Num: 19

Candidate Starts for MiculUcigas\_31:

(Start: 19 @22775 has 30 MA's), (51, 22889), (56, 22904), (135, 23150), (156, 23204), (220, 23315), (231, 23354), (259, 23450), (293, 23552), (390, 23801), (398, 23831), (401, 23843), (442, 24014), (461, 24083), (487, 24182), (518, 24293), (521, 24299), (522, 24305), (530, 24344), (543, 24401), (544, 24404), (557, 24470), (575, 24554), (596, 24626), (629, 24746), (683, 24857), (701, 24908), (705, 24920),

Gene: Mikota\_31 Start: 28747, Stop: 31002, Start Num: 31

Candidate Starts for Mikota\_31:

(Start: 31 @28747 has 324 MA's), (57, 28843), (79, 28921), (84, 28948), (114, 29047), (164, 29206), (215, 29386), (221, 29410), (248, 29506), (262, 29542), (277, 29581), (282, 29590), (291, 29623), (299, 29662), (312, 29707), (326, 29758), (344, 29809), (345, 29818), (358, 29887), (377, 29962),



(393, 30007), (397, 30022), (428, 30157), (441, 30211), (444, 30232), (457, 30265), (471, 30310), (487, 30364), (495, 30391), (509, 30448), (519, 30469), (529, 30511), (539, 30550), (553, 30610), (614, 30850), (624, 30883), (625, 30886), (639, 30919), (642, 30925), (672, 30988),

Gene: Milly\_23 Start: 18661, Stop: 21000, Start Num: 17

Candidate Starts for Milly\_23:

(Start: 17 @18661 has 64 MA's), (66, 18832), (69, 18850), (77, 18874), (155, 19018), (166, 19051), (207, 19180), (209, 19189), (211, 19204), (214, 19216), (216, 19225), (229, 19273), (260, 19369), (265, 19387), (275, 19408), (291, 19453), (326, 19555), (346, 19627), (352, 19669), (353, 19675), (355, 19684), (375, 19771), (378, 19792), (390, 19834), (396, 19855), (422, 19972), (425, 19981), (434, 20017), (448, 20071), (465, 20125), (467, 20137), (479, 20161), (504, 20275), (517, 20302), (530, 20359), (572, 20548), (578, 20578), (593, 20629), (606, 20677), (618, 20731), (634, 20761), (642, 20782), (695, 20914),

Gene: MiniBoss\_31 Start: 28753, Stop: 31008, Start Num: 31

Candidate Starts for MiniBoss\_31:

(Start: 31 @28753 has 324 MA's), (57, 28849), (79, 28927), (84, 28954), (114, 29053), (164, 29212), (215, 29392), (221, 29416), (248, 29512), (262, 29548), (277, 29587), (282, 29596), (291, 29629), (299, 29668), (312, 29713), (326, 29764), (344, 29815), (345, 29824), (358, 29893), (377, 29968), (393, 30013), (397, 30028), (428, 30163), (441, 30217), (444, 30238), (457, 30271), (471, 30316), (487, 30370), (495, 30397), (509, 30454), (519, 30475), (529, 30517), (539, 30556), (553, 30616), (614, 30856), (625, 30892), (639, 30925), (672, 30994),

Gene: MiniLon\_21 Start: 19528, Stop: 22035, Start Num: 12

Candidate Starts for MiniLon\_21:

(Start: 12 @19528 has 16 MA's), (26, 19591), (45, 19663), (60, 19711), (117, 19897), (160, 20023), (173, 20053), (180, 20092), (190, 20122), (213, 20209), (220, 20236), (229, 20269), (231, 20275), (246, 20326), (273, 20413), (276, 20419), (282, 20428), (288, 20446), (301, 20506), (307, 20527), (319, 20578), (322, 20581), (343, 20650), (376, 20803), (397, 20887), (401, 20905), (403, 20914), (447, 21097), (455, 21121), (460, 21142), (465, 21157), (482, 21205), (500, 21295), (501, 21304), (530, 21397), (533, 21415), (534, 21418), (550, 21490), (565, 21559), (567, 21565), (570, 21580), (574, 21598), (582, 21631), (583, 21634), (597, 21685), (604, 21709), (613, 21751), (621, 21775), (660, 21850), (661, 21853), (697, 21955),

Gene: MiniMac\_21 Start: 19529, Stop: 22036, Start Num: 12

Candidate Starts for MiniMac\_21:

(Start: 12 @19529 has 16 MA's), (26, 19592), (45, 19664), (60, 19712), (117, 19898), (160, 20024), (173, 20054), (180, 20093), (190, 20123), (213, 20210), (220, 20237), (229, 20270), (231, 20276), (246, 20327), (273, 20414), (276, 20420), (282, 20429), (288, 20447), (301, 20507), (307, 20528), (319, 20579), (322, 20582), (343, 20651), (376, 20804), (397, 20888), (401, 20906), (403, 20915), (447, 21098), (455, 21122), (460, 21143), (465, 21158), (482, 21206), (500, 21296), (501, 21305), (530, 21398), (533, 21416), (534, 21419), (550, 21491), (565, 21560), (567, 21566), (570, 21581), (574, 21599), (582, 21632), (583, 21635), (597, 21686), (604, 21710), (613, 21752), (621, 21776), (660, 21851), (661, 21854), (697, 21956),

Gene: MissDaisy\_28 Start: 22035, Stop: 24344, Start Num: 17

Candidate Starts for MissDaisy\_28:

(Start: 17 @22035 has 64 MA's), (Start: 28 @22083 has 2 MA's), (32, 22092), (45, 22146), (55, 22179), (87, 22287), (138, 22353), (162, 22416), (185, 22467), (188, 22476), (199, 22509), (220, 22557), (245, 22614), (265, 22674), (270, 22686), (279, 22701), (282, 22707), (291, 22740), (304, 22788), (320, 22842), (346, 22914), (386, 23094), (404, 23175), (439, 23328), (451, 23370), (466, 23439), (486, 23526), (490, 23544), (496, 23571), (504, 23610), (508, 23625), (535, 23721), (567, 23874), (570, 23889), (572, 23895), (577, 23925), (579, 23931), (586, 23958), (589, 23970), (610,

24066), (630, 24120), (642, 24141), (685, 24228), (694, 24258), (720, 24336),

Gene: MitKao\_31 Start: 28468, Stop: 30723, Start Num: 31

Candidate Starts for MitKao\_31:

(Start: 31 @28468 has 324 MA's), (57, 28564), (79, 28642), (84, 28669), (114, 28768), (164, 28927), (215, 29107), (221, 29131), (247, 29221), (248, 29227), (262, 29263), (277, 29302), (282, 29311), (291, 29344), (299, 29383), (312, 29428), (326, 29479), (344, 29530), (345, 29539), (358, 29608), (377, 29683), (393, 29728), (397, 29743), (428, 29878), (441, 29932), (444, 29953), (457, 29986), (471, 30031), (487, 30085), (495, 30112), (509, 30169), (519, 30190), (529, 30232), (539, 30271), (553, 30331), (614, 30571), (624, 30604), (625, 30607), (639, 30640), (642, 30646), (672, 30709),

Gene: Mithril\_28 Start: 28983, Stop: 31280, Start Num: 31

Candidate Starts for Mithril\_28:

(Start: 1 @28296 has 1 MA's), (2, 28443), (Start: 31 @28983 has 324 MA's), (57, 29082), (63, 29100), (98, 29223), (114, 29286), (136, 29367), (160, 29433), (196, 29550), (208, 29589), (219, 29640), (221, 29649), (235, 29706), (242, 29730), (243, 29733), (262, 29796), (279, 29838), (284, 29850), (314, 29973), (320, 29997), (331, 30027), (333, 30030), (343, 30060), (366, 30171), (372, 30192), (374, 30213), (377, 30228), (383, 30249), (402, 30315), (405, 30327), (413, 30378), (414, 30381), (418, 30399), (426, 30423), (431, 30450), (441, 30483), (444, 30504), (457, 30537), (471, 30582), (513, 30723), (515, 30726), (519, 30738), (540, 30822), (566, 30936), (571, 30957), (578, 30981), (595, 31044), (602, 31074), (603, 31080), (614, 31128), (624, 31161), (625, 31164), (672, 31266), (674, 31269),

Gene: Mitti\_28 Start: 22196, Stop: 24505, Start Num: 17

Candidate Starts for Mitti\_28:

(Start: 17 @22196 has 64 MA's), (45, 22307), (53, 22331), (87, 22448), (162, 22577), (188, 22637), (218, 22709), (220, 22718), (245, 22775), (252, 22784), (265, 22835), (270, 22847), (279, 22862), (282, 22868), (291, 22901), (304, 22949), (320, 23003), (346, 23075), (351, 23114), (354, 23126), (363, 23141), (373, 23186), (386, 23255), (404, 23336), (439, 23489), (451, 23531), (464, 23588), (466, 23600), (471, 23630), (490, 23705), (496, 23732), (504, 23771), (508, 23786), (535, 23882), (567, 24035), (570, 24050), (572, 24056), (577, 24086), (579, 24092), (586, 24119), (589, 24131), (610, 24227), (630, 24281), (642, 24302), (685, 24389), (694, 24419), (720, 24497),

Gene: MmasiCarm\_31 Start: 28599, Stop: 30824, Start Num: 31

Candidate Starts for MmasiCarm\_31:

(Start: 31 @28599 has 324 MA's), (Start: 37 @28614 has 1 MA's), (46, 28659), (63, 28716), (85, 28794), (108, 28863), (114, 28875), (126, 28917), (137, 28953), (148, 28980), (154, 28992), (161, 29019), (187, 29109), (209, 29181), (229, 29265), (264, 29373), (270, 29394), (299, 29487), (305, 29502), (343, 29631), (358, 29712), (377, 29787), (392, 29829), (393, 29835), (402, 29871), (428, 29985), (429, 29997), (441, 30039), (444, 30060), (462, 30114), (471, 30138), (483, 30174), (509, 30270), (515, 30279), (529, 30333), (555, 30441), (561, 30468), (571, 30510), (592, 30582), (614, 30672), (625, 30708),

Gene: Moostard\_21 Start: 19727, Stop: 22240, Start Num: 12

Candidate Starts for Moostard\_21:

(Start: 12 @19727 has 16 MA's), (26, 19790), (45, 19862), (72, 19952), (74, 19958), (95, 20030), (160, 20222), (164, 20234), (173, 20252), (180, 20291), (190, 20321), (208, 20378), (213, 20408), (215, 20414), (229, 20468), (231, 20474), (274, 20621), (276, 20624), (282, 20633), (288, 20651), (301, 20711), (305, 20720), (307, 20732), (319, 20783), (322, 20786), (363, 20951), (376, 21008), (397, 21092), (401, 21110), (403, 21119), (415, 21182), (447, 21302), (460, 21347), (465, 21362), (473, 21380), (482, 21410), (500, 21500), (524, 21569), (530, 21602), (534, 21623), (543, 21659), (550, 21695), (560, 21740), (565, 21764), (567, 21770), (570, 21785), (574, 21803), (582, 21836), (597, 21890), (604, 21914), (611, 21950), (613, 21956), (621, 21980), (692, 22145), (694, 22154), (697,

22160),

Gene: Morgushi\_31 Start: 28469, Stop: 30724, Start Num: 31

Candidate Starts for Morgushi\_31:

(Start: 31 @28469 has 324 MA's), (57, 28565), (79, 28643), (84, 28670), (114, 28769), (164, 28928), (215, 29108), (221, 29132), (248, 29228), (262, 29264), (277, 29303), (282, 29312), (291, 29345), (299, 29384), (312, 29429), (326, 29480), (344, 29531), (345, 29540), (358, 29609), (377, 29684), (393, 29729), (397, 29744), (428, 29879), (441, 29933), (444, 29954), (457, 29987), (471, 30032), (487, 30086), (495, 30113), (509, 30170), (519, 30191), (529, 30233), (539, 30272), (553, 30332), (614, 30572), (625, 30608), (639, 30641), (672, 30710),

Gene: Mortcellus\_30 Start: 29251, Stop: 31476, Start Num: 31

Candidate Starts for Mortcellus\_30:

(Start: 31 @29251 has 324 MA's), (Start: 37 @29266 has 1 MA's), (46, 29311), (63, 29368), (85, 29446), (108, 29515), (114, 29527), (126, 29569), (137, 29605), (148, 29632), (154, 29644), (161, 29671), (187, 29761), (209, 29833), (229, 29917), (264, 30025), (270, 30046), (299, 30139), (305, 30154), (343, 30283), (358, 30364), (377, 30439), (392, 30481), (393, 30487), (402, 30523), (428, 30637), (429, 30649), (441, 30691), (444, 30712), (462, 30766), (471, 30790), (483, 30826), (509, 30922), (515, 30931), (529, 30985), (555, 31093), (561, 31120), (571, 31162), (592, 31234), (614, 31324), (625, 31360),

Gene: Morty\_31 Start: 28769, Stop: 31024, Start Num: 31

Candidate Starts for Morty\_31:

(Start: 31 @28769 has 324 MA's), (57, 28865), (79, 28943), (84, 28970), (114, 29069), (164, 29228), (215, 29408), (221, 29432), (247, 29522), (248, 29528), (262, 29564), (277, 29603), (282, 29612), (291, 29645), (299, 29684), (312, 29729), (326, 29780), (344, 29831), (345, 29840), (358, 29909), (377, 29984), (393, 30029), (397, 30044), (428, 30179), (441, 30233), (444, 30254), (457, 30287), (471, 30332), (487, 30386), (495, 30413), (509, 30470), (519, 30491), (529, 30533), (539, 30572), (553, 30632), (614, 30872), (624, 30905), (625, 30908), (639, 30941), (642, 30947), (672, 31010),

Gene: Morty007\_31 Start: 29395, Stop: 31620, Start Num: 31

Candidate Starts for Morty007\_31:

(Start: 31 @29395 has 324 MA's), (Start: 37 @29410 has 1 MA's), (46, 29455), (63, 29512), (85, 29590), (108, 29659), (114, 29671), (126, 29713), (137, 29749), (148, 29776), (154, 29788), (161, 29815), (187, 29905), (209, 29977), (229, 30061), (264, 30169), (270, 30190), (299, 30283), (305, 30298), (343, 30427), (358, 30508), (377, 30583), (392, 30625), (393, 30631), (402, 30667), (428, 30781), (429, 30793), (441, 30835), (444, 30856), (462, 30910), (471, 30934), (509, 31066), (515, 31075), (529, 31129), (555, 31237), (561, 31264), (571, 31306), (592, 31378), (614, 31468), (625, 31504),

Gene: Mosaic\_30 Start: 28474, Stop: 30729, Start Num: 31

Candidate Starts for Mosaic\_30:

(Start: 31 @28474 has 324 MA's), (57, 28570), (79, 28648), (84, 28675), (114, 28774), (164, 28933), (215, 29113), (221, 29137), (247, 29227), (248, 29233), (262, 29269), (277, 29308), (282, 29317), (291, 29350), (299, 29389), (312, 29434), (326, 29485), (344, 29536), (345, 29545), (358, 29614), (377, 29689), (393, 29734), (397, 29749), (428, 29884), (441, 29938), (444, 29959), (457, 29992), (471, 30037), (487, 30091), (495, 30118), (509, 30175), (519, 30196), (529, 30238), (539, 30277), (553, 30337), (614, 30577), (624, 30610), (625, 30613), (639, 30646), (642, 30652), (672, 30715),

Gene: MrPhizzler\_30 Start: 28476, Stop: 30731, Start Num: 31

Candidate Starts for MrPhizzler\_30:

(Start: 31 @28476 has 324 MA's), (57, 28572), (79, 28650), (84, 28677), (114, 28776), (164, 28935), (215, 29115), (221, 29139), (248, 29235), (262, 29271), (277, 29310), (282, 29319), (291, 29352),

(299, 29391), (312, 29436), (326, 29487), (344, 29538), (345, 29547), (358, 29616), (377, 29691), (393, 29736), (397, 29751), (428, 29886), (441, 29940), (444, 29961), (457, 29994), (471, 30039), (487, 30093), (495, 30120), (509, 30177), (519, 30198), (529, 30240), (539, 30279), (553, 30339), (614, 30579), (625, 30615), (639, 30648), (672, 30717),

Gene: MsGreen\_21 Start: 19724, Stop: 22237, Start Num: 12

Candidate Starts for MsGreen\_21:

(Start: 12 @19724 has 16 MA's), (26, 19787), (45, 19859), (72, 19949), (74, 19955), (95, 20027), (122, 20114), (160, 20219), (164, 20231), (173, 20249), (180, 20288), (190, 20318), (208, 20375), (213, 20405), (215, 20411), (229, 20465), (231, 20471), (274, 20618), (276, 20621), (282, 20630), (288, 20648), (301, 20708), (305, 20717), (307, 20729), (319, 20780), (322, 20783), (363, 20948), (376, 21005), (397, 21089), (401, 21107), (403, 21116), (415, 21179), (447, 21299), (455, 21323), (460, 21344), (465, 21359), (473, 21377), (482, 21407), (500, 21497), (524, 21566), (530, 21599), (534, 21620), (543, 21656), (550, 21692), (560, 21737), (565, 21761), (567, 21767), (570, 21782), (574, 21800), (597, 21887), (604, 21911), (611, 21947), (613, 21953), (621, 21977), (660, 22052), (661, 22055), (692, 22142), (694, 22151), (697, 22157),

Gene: Muddy\_24 Start: 19607, Stop: 21925, Start Num: 17

Candidate Starts for Muddy\_24:

(Start: 17 @19607 has 64 MA's), (76, 19808), (91, 19853), (96, 19865), (144, 19931), (150, 19943), (160, 19976), (178, 20042), (219, 20183), (255, 20315), (278, 20366), (291, 20405), (298, 20423), (310, 20459), (335, 20519), (350, 20594), (362, 20621), (376, 20684), (389, 20741), (435, 20936), (458, 21005), (461, 21023), (463, 21029), (464, 21032), (465, 21035), (497, 21152), (498, 21158), (521, 21236), (531, 21284), (532, 21287), (547, 21365), (557, 21416), (561, 21431), (563, 21443), (578, 21506), (585, 21527), (590, 21548), (606, 21605), (607, 21626), (621, 21665), (641, 21707), (660, 21740), (662, 21746), (668, 21761), (697, 21845),

Gene: Mudslide\_28 Start: 29215, Stop: 31512, Start Num: 31

Candidate Starts for Mudslide\_28:

(Start: 1 @28528 has 1 MA's), (2, 28675), (Start: 31 @29215 has 324 MA's), (57, 29314), (63, 29332), (98, 29455), (114, 29518), (136, 29599), (160, 29665), (196, 29782), (208, 29821), (219, 29872), (221, 29881), (235, 29938), (242, 29962), (243, 29965), (262, 30028), (279, 30070), (284, 30082), (312, 30193), (314, 30205), (320, 30229), (343, 30292), (366, 30403), (372, 30424), (377, 30460), (383, 30481), (402, 30547), (405, 30559), (413, 30610), (414, 30613), (418, 30631), (426, 30655), (431, 30682), (441, 30715), (444, 30736), (457, 30769), (471, 30814), (513, 30955), (515, 30958), (516, 30961), (519, 30970), (540, 31054), (566, 31168), (571, 31189), (578, 31213), (595, 31276), (602, 31306), (603, 31312), (614, 31360), (624, 31393), (625, 31396), (672, 31498), (674, 31501),

Gene: Mufasa\_23 Start: 18681, Stop: 21020, Start Num: 17

Candidate Starts for Mufasa\_23:

(Start: 17 @18681 has 64 MA's), (83, 18921), (152, 19029), (155, 19038), (161, 19059), (171, 19083), (210, 19212), (211, 19224), (229, 19293), (275, 19428), (284, 19446), (291, 19473), (326, 19575), (346, 19647), (352, 19689), (353, 19695), (355, 19704), (358, 19710), (375, 19791), (378, 19812), (390, 19854), (396, 19875), (403, 19905), (422, 19992), (425, 20001), (434, 20037), (448, 20091), (465, 20145), (467, 20157), (487, 20217), (500, 20277), (504, 20295), (517, 20322), (530, 20379), (572, 20568), (578, 20598), (600, 20676), (606, 20697), (615, 20739), (627, 20772), (634, 20781), (642, 20802), (659, 20829), (688, 20910), (695, 20934),

Gene: Mulan\_30 Start: 28486, Stop: 30741, Start Num: 31

Candidate Starts for Mulan\_30:

(Start: 31 @28486 has 324 MA's), (57, 28582), (79, 28660), (84, 28687), (114, 28786), (164, 28945), (215, 29125), (221, 29149), (247, 29239), (248, 29245), (262, 29281), (277, 29320), (282, 29329), (291, 29362), (299, 29401), (312, 29446), (326, 29497), (344, 29548), (345, 29557), (358, 29626),

(377, 29701), (393, 29746), (397, 29761), (428, 29896), (441, 29950), (444, 29971), (457, 30004), (471, 30049), (487, 30103), (509, 30187), (519, 30208), (529, 30250), (539, 30289), (553, 30349), (614, 30589), (624, 30622), (625, 30625), (639, 30658), (642, 30664), (672, 30727),

Gene: Murdoc\_31 Start: 28761, Stop: 31016, Start Num: 31

Candidate Starts for Murdoc\_31:

(Start: 31 @28761 has 324 MA's), (57, 28857), (79, 28935), (84, 28962), (114, 29061), (164, 29220), (215, 29400), (221, 29424), (247, 29514), (248, 29520), (262, 29556), (277, 29595), (282, 29604), (291, 29637), (299, 29676), (312, 29721), (326, 29772), (344, 29823), (345, 29832), (358, 29901), (377, 29976), (393, 30021), (397, 30036), (428, 30171), (441, 30225), (444, 30246), (457, 30279), (471, 30324), (487, 30378), (495, 30405), (509, 30462), (519, 30483), (529, 30525), (539, 30564), (553, 30624), (614, 30864), (625, 30900), (639, 30933), (672, 31002),

Gene: Mutante\_30 Start: 28468, Stop: 30723, Start Num: 31

Candidate Starts for Mutante\_30:

(Start: 31 @28468 has 324 MA's), (57, 28564), (79, 28642), (84, 28669), (114, 28768), (164, 28927), (215, 29107), (221, 29131), (247, 29221), (248, 29227), (262, 29263), (277, 29302), (282, 29311), (291, 29344), (299, 29383), (312, 29428), (326, 29479), (344, 29530), (345, 29539), (358, 29608), (377, 29683), (393, 29728), (397, 29743), (428, 29878), (441, 29932), (444, 29953), (457, 29986), (471, 30031), (487, 30085), (495, 30112), (509, 30169), (519, 30190), (529, 30232), (539, 30271), (553, 30331), (614, 30571), (625, 30607), (639, 30640), (672, 30709),

Gene: Mysterious\_31 Start: 29235, Stop: 31496, Start Num: 31

Candidate Starts for Mysterious\_31:

(Start: 31 @29235 has 324 MA's), (57, 29331), (73, 29388), (78, 29406), (89, 29451), (196, 29799), (223, 29901), (229, 29931), (235, 29955), (242, 29979), (243, 29982), (277, 30072), (284, 30087), (331, 30264), (344, 30300), (349, 30336), (358, 30378), (377, 30453), (393, 30504), (419, 30627), (428, 30654), (441, 30708), (444, 30729), (457, 30762), (509, 30942), (515, 30951), (519, 30963), (539, 31044), (540, 31047), (551, 31101), (555, 31113), (562, 31143), (566, 31161), (583, 31227), (598, 31275), (614, 31344), (672, 31482), (674, 31485),

Gene: NaSiaTalie\_31 Start: 22773, Stop: 24995, Start Num: 19

Candidate Starts for NaSiaTalie\_31:

(Start: 19 @22773 has 30 MA's), (51, 22887), (54, 22896), (56, 22902), (61, 22923), (71, 22959), (95, 23034), (127, 23124), (131, 23136), (220, 23313), (231, 23352), (259, 23448), (390, 23799), (398, 23829), (401, 23841), (442, 24012), (461, 24081), (487, 24180), (518, 24291), (521, 24297), (522, 24303), (530, 24342), (543, 24399), (544, 24402), (557, 24468), (575, 24552), (596, 24624), (634, 24750), (635, 24753), (683, 24855), (687, 24870), (705, 24918),

Gene: Nacho\_0031 Start: 28760, Stop: 31018, Start Num: 31

Candidate Starts for Nacho\_0031:

(Start: 31 @28760 has 324 MA's), (57, 28856), (79, 28934), (84, 28961), (114, 29063), (164, 29222), (215, 29402), (221, 29426), (248, 29522), (262, 29558), (277, 29597), (282, 29606), (291, 29639), (299, 29678), (312, 29723), (326, 29774), (344, 29825), (345, 29834), (358, 29903), (377, 29978), (393, 30023), (397, 30038), (428, 30173), (441, 30227), (444, 30248), (457, 30281), (471, 30326), (487, 30380), (509, 30464), (519, 30485), (529, 30527), (539, 30566), (553, 30626), (614, 30866), (624, 30899), (625, 30902), (639, 30935), (642, 30941), (672, 31004),

Gene: Nanao\_27 Start: 27940, Stop: 30237, Start Num: 31

Candidate Starts for Nanao\_27:

(Start: 31 @27940 has 324 MA's), (57, 28039), (84, 28144), (98, 28180), (114, 28243), (136, 28324), (160, 28390), (164, 28402), (196, 28507), (208, 28546), (219, 28597), (221, 28606), (242, 28687), (243, 28690), (262, 28753), (279, 28795), (284, 28807), (314, 28930), (320, 28954), (343, 29017),

(348, 29047), (349, 29056), (366, 29128), (372, 29149), (377, 29185), (383, 29206), (402, 29272), (405, 29284), (413, 29335), (414, 29338), (418, 29356), (426, 29380), (431, 29407), (441, 29440), (444, 29461), (457, 29494), (471, 29539), (513, 29680), (515, 29683), (519, 29695), (540, 29779), (571, 29914), (578, 29938), (595, 30001), (602, 30031), (603, 30037), (614, 30085), (624, 30118), (625, 30121), (672, 30223), (674, 30226),

Gene: Nangang\_30 Start: 28934, Stop: 31201, Start Num: 31

Candidate Starts for Nangang\_30:

(Start: 31 @28934 has 324 MA's), (43, 28982), (53, 29012), (57, 29030), (67, 29066), (73, 29087), (78, 29105), (98, 29168), (120, 29273), (164, 29396), (169, 29402), (196, 29501), (223, 29603), (235, 29657), (277, 29777), (284, 29792), (291, 29819), (344, 30005), (349, 30041), (358, 30083), (377, 30158), (393, 30209), (402, 30245), (413, 30308), (419, 30332), (428, 30359), (462, 30488), (471, 30512), (509, 30647), (515, 30656), (519, 30668), (529, 30710), (539, 30749), (540, 30752), (551, 30806), (555, 30818), (562, 30848), (566, 30866), (583, 30932), (614, 31049), (672, 31187),

Gene: Neos5\_31 Start: 29411, Stop: 31639, Start Num: 31

Candidate Starts for Neos5\_31:

(Start: 31 @29411 has 324 MA's), (Start: 37 @29426 has 1 MA's), (46, 29471), (63, 29528), (85, 29606), (108, 29675), (114, 29687), (126, 29729), (137, 29765), (148, 29792), (154, 29804), (161, 29831), (187, 29921), (195, 29945), (209, 29993), (229, 30077), (264, 30185), (270, 30206), (299, 30299), (305, 30314), (343, 30443), (358, 30524), (377, 30599), (393, 30647), (413, 30746), (428, 30797), (429, 30809), (441, 30851), (444, 30872), (462, 30926), (471, 30950), (483, 30986), (509, 31085), (515, 31094), (529, 31148), (555, 31256), (561, 31283), (571, 31325), (592, 31397), (614, 31487), (625, 31523),

Gene: Newman\_31 Start: 28756, Stop: 31014, Start Num: 31

Candidate Starts for Newman\_31:

(Start: 31 @28756 has 324 MA's), (57, 28852), (79, 28930), (84, 28957), (114, 29059), (164, 29218), (215, 29398), (221, 29422), (248, 29518), (262, 29554), (277, 29593), (282, 29602), (291, 29635), (299, 29674), (312, 29719), (326, 29770), (344, 29821), (345, 29830), (358, 29899), (377, 29974), (393, 30019), (397, 30034), (428, 30169), (441, 30223), (444, 30244), (457, 30277), (471, 30322), (487, 30376), (509, 30460), (519, 30481), (529, 30523), (539, 30562), (553, 30622), (614, 30862), (624, 30895), (625, 30898), (639, 30931), (642, 30937), (672, 31000),

Gene: Nicholas\_21 Start: 19724, Stop: 22237, Start Num: 12

Candidate Starts for Nicholas\_21:

(Start: 12 @19724 has 16 MA's), (26, 19787), (45, 19859), (72, 19949), (74, 19955), (95, 20027), (122, 20114), (160, 20219), (164, 20231), (173, 20249), (180, 20288), (190, 20318), (208, 20375), (213, 20405), (215, 20411), (229, 20465), (231, 20471), (274, 20618), (276, 20621), (282, 20630), (288, 20648), (301, 20708), (305, 20717), (307, 20729), (319, 20780), (322, 20783), (363, 20948), (376, 21005), (397, 21089), (401, 21107), (403, 21116), (415, 21179), (447, 21299), (455, 21323), (460, 21344), (465, 21359), (473, 21377), (482, 21407), (500, 21497), (524, 21566), (530, 21599), (534, 21620), (543, 21656), (550, 21692), (560, 21737), (565, 21761), (567, 21767), (570, 21782), (574, 21800), (597, 21887), (604, 21911), (611, 21947), (613, 21953), (621, 21977), (660, 22052), (661, 22055), (692, 22142), (694, 22151), (697, 22157),

Gene: Nicole21\_31 Start: 28758, Stop: 31013, Start Num: 31

Candidate Starts for Nicole21\_31:

(Start: 31 @28758 has 324 MA's), (57, 28854), (79, 28932), (84, 28959), (114, 29058), (164, 29217), (215, 29397), (221, 29421), (247, 29511), (248, 29517), (262, 29553), (277, 29592), (282, 29601), (291, 29634), (299, 29673), (312, 29718), (326, 29769), (344, 29820), (345, 29829), (358, 29898), (377, 29973), (393, 30018), (397, 30033), (428, 30168), (441, 30222), (444, 30243), (457, 30276), (471, 30321), (487, 30375), (495, 30402), (509, 30459), (519, 30480), (529, 30522), (539, 30561),

(553, 30621), (614, 30861), (624, 30894), (625, 30897), (639, 30930), (642, 30936), (672, 30999),

Gene: Nigel\_26 Start: 27851, Stop: 30148, Start Num: 31

Candidate Starts for Nigel\_26:

(5, 27722), (Start: 31 @27851 has 324 MA's), (57, 27950), (63, 27968), (114, 28154), (124, 28199), (136, 28235), (160, 28301), (196, 28418), (208, 28457), (209, 28463), (242, 28598), (243, 28601), (262, 28664), (279, 28706), (284, 28718), (320, 28865), (343, 28928), (349, 28967), (366, 29039), (372, 29060), (374, 29081), (377, 29096), (383, 29117), (393, 29147), (402, 29183), (405, 29195), (413, 29246), (414, 29249), (418, 29267), (426, 29291), (428, 29297), (441, 29351), (444, 29372), (462, 29426), (471, 29450), (509, 29585), (513, 29591), (515, 29594), (516, 29597), (519, 29606), (571, 29825), (578, 29849), (595, 29912), (603, 29948), (609, 29981), (614, 29996), (624, 30029), (625, 30032), (672, 30134), (674, 30137),

Gene: Nikao\_23 Start: 20414, Stop: 22900, Start Num: 17

Candidate Starts for Nikao\_23:

(Start: 17 @20414 has 64 MA's), (Start: 28 @20462 has 2 MA's), (83, 20642), (84, 20645), (134, 20708), (137, 20720), (181, 20852), (193, 20891), (209, 20948), (213, 20972), (216, 20984), (229, 21032), (230, 21035), (245, 21068), (254, 21107), (265, 21140), (270, 21152), (275, 21161), (279, 21167), (296, 21233), (299, 21248), (330, 21359), (340, 21392), (355, 21476), (361, 21491), (373, 21551), (386, 21620), (411, 21740), (432, 21833), (461, 21947), (481, 22025), (482, 22031), (490, 22055), (503, 22118), (504, 22121), (507, 22133), (527, 22199), (528, 22205), (537, 22247), (541, 22268), (543, 22277), (548, 22310), (552, 22328), (567, 22397), (591, 22496), (593, 22502), (597, 22520), (607, 22574), (612, 22589), (622, 22616), (652, 22673), (667, 22703),

Gene: Niklas\_27 Start: 20233, Stop: 22734, Start Num: 17

Candidate Starts for Niklas\_27:

(Start: 17 @20233 has 64 MA's), (Start: 28 @20281 has 2 MA's), (44, 20332), (66, 20404), (82, 20455), (86, 20473), (99, 20506), (134, 20527), (137, 20539), (159, 20593), (181, 20671), (193, 20710), (209, 20767), (216, 20803), (230, 20854), (245, 20884), (250, 20899), (254, 20923), (265, 20956), (275, 20977), (279, 20983), (291, 21022), (330, 21175), (340, 21208), (343, 21220), (353, 21283), (373, 21367), (409, 21550), (421, 21604), (432, 21646), (481, 21838), (482, 21844), (490, 21868), (503, 21931), (517, 21970), (532, 22033), (543, 22090), (548, 22123), (552, 22141), (560, 22180), (569, 22219), (570, 22225), (583, 22282), (610, 22396), (628, 22450), (639, 22465), (655, 22495), (660, 22507), (684, 22564), (689, 22582), (700, 22612), (707, 22630), (724, 22711),

Gene: Nozo\_31 Start: 29375, Stop: 31600, Start Num: 31

Candidate Starts for Nozo\_31:

(Start: 31 @29375 has 324 MA's), (Start: 37 @29390 has 1 MA's), (46, 29435), (63, 29492), (85, 29570), (108, 29639), (114, 29651), (126, 29693), (137, 29729), (148, 29756), (154, 29768), (161, 29795), (187, 29885), (209, 29957), (229, 30041), (264, 30149), (270, 30170), (299, 30263), (305, 30278), (343, 30407), (358, 30488), (377, 30563), (392, 30605), (393, 30611), (413, 30710), (428, 30761), (429, 30773), (441, 30815), (444, 30836), (462, 30890), (471, 30914), (483, 30950), (509, 31046), (515, 31055), (529, 31109), (555, 31217), (561, 31244), (571, 31286), (592, 31358), (614, 31448), (625, 31484),

Gene: Numberten\_31 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for Numberten\_31:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (495, 30410), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (624, 30902), (625, 30905), (639, 30938), (642, 30944), (672, 31007),

Gene: Nutello\_23 Start: 20414, Stop: 22900, Start Num: 17

Candidate Starts for Nutello\_23:

(Start: 17 @20414 has 64 MA's), (Start: 28 @20462 has 2 MA's), (83, 20642), (84, 20645), (134, 20708), (137, 20720), (181, 20852), (193, 20891), (209, 20948), (213, 20972), (216, 20984), (229, 21032), (230, 21035), (245, 21068), (254, 21107), (265, 21140), (270, 21152), (275, 21161), (279, 21167), (296, 21233), (299, 21248), (330, 21359), (340, 21392), (355, 21476), (361, 21491), (373, 21551), (386, 21620), (411, 21740), (432, 21833), (461, 21947), (481, 22025), (482, 22031), (490, 22055), (503, 22118), (504, 22121), (507, 22133), (527, 22199), (528, 22205), (537, 22247), (541, 22268), (543, 22277), (548, 22310), (552, 22328), (567, 22397), (591, 22496), (593, 22502), (597, 22520), (607, 22574), (612, 22589), (622, 22616), (652, 22673),

Gene: Nyala\_30 Start: 28460, Stop: 30715, Start Num: 31

Candidate Starts for Nyala\_30:

(Start: 31 @28460 has 324 MA's), (57, 28556), (79, 28634), (84, 28661), (114, 28760), (164, 28919), (215, 29099), (221, 29123), (247, 29213), (248, 29219), (262, 29255), (277, 29294), (282, 29303), (291, 29336), (299, 29375), (312, 29420), (326, 29471), (344, 29522), (345, 29531), (358, 29600), (377, 29675), (393, 29720), (397, 29735), (428, 29870), (441, 29924), (444, 29945), (457, 29978), (471, 30023), (487, 30077), (495, 30104), (509, 30161), (519, 30182), (529, 30224), (539, 30263), (553, 30323), (614, 30563), (624, 30596), (625, 30599), (639, 30632), (642, 30638), (672, 30701),

Gene: OSmaximus\_31 Start: 28795, Stop: 31056, Start Num: 31

Candidate Starts for OSmaximus\_31:

(Start: 31 @28795 has 324 MA's), (57, 28891), (79, 28969), (84, 28996), (107, 29071), (114, 29101), (164, 29260), (215, 29440), (221, 29464), (248, 29560), (262, 29596), (277, 29635), (282, 29644), (291, 29677), (299, 29716), (312, 29761), (326, 29812), (345, 29872), (358, 29941), (377, 30016), (393, 30061), (397, 30076), (428, 30211), (441, 30265), (444, 30286), (457, 30319), (471, 30364), (487, 30418), (495, 30445), (509, 30502), (519, 30523), (529, 30565), (539, 30604), (553, 30664), (614, 30904), (625, 30940), (639, 30973), (672, 31042),

Gene: Obutu\_31 Start: 28599, Stop: 30824, Start Num: 31

Candidate Starts for Obutu\_31:

(Start: 31 @28599 has 324 MA's), (46, 28659), (63, 28716), (108, 28863), (114, 28875), (126, 28917), (137, 28953), (148, 28980), (154, 28992), (161, 29019), (187, 29109), (209, 29181), (229, 29265), (264, 29373), (270, 29394), (299, 29487), (305, 29502), (343, 29631), (358, 29712), (377, 29787), (392, 29829), (393, 29835), (402, 29871), (428, 29985), (429, 29997), (441, 30039), (444, 30060), (462, 30114), (471, 30138), (483, 30174), (509, 30270), (515, 30279), (529, 30333), (555, 30441), (561, 30468), (571, 30510), (592, 30582), (614, 30672), (625, 30708),

Gene: Olak\_31 Start: 28464, Stop: 30719, Start Num: 31

Candidate Starts for Olak\_31:

(Start: 31 @28464 has 324 MA's), (57, 28560), (79, 28638), (84, 28665), (114, 28764), (164, 28923), (215, 29103), (221, 29127), (247, 29217), (248, 29223), (262, 29259), (277, 29298), (282, 29307), (291, 29340), (299, 29379), (312, 29424), (326, 29475), (344, 29526), (345, 29535), (358, 29604), (377, 29679), (393, 29724), (397, 29739), (428, 29874), (441, 29928), (444, 29949), (457, 29982), (471, 30027), (487, 30081), (509, 30165), (519, 30186), (529, 30228), (539, 30267), (553, 30327), (614, 30567), (624, 30600), (625, 30603), (639, 30636), (642, 30642), (672, 30705),

Gene: Oline\_30 Start: 28329, Stop: 30584, Start Num: 31

Candidate Starts for Oline\_30:

(Start: 31 @28329 has 324 MA's), (57, 28425), (79, 28503), (84, 28530), (114, 28629), (164, 28788), (215, 28968), (221, 28992), (248, 29088), (262, 29124), (277, 29163), (282, 29172), (291, 29205), (299, 29244), (312, 29289), (326, 29340), (344, 29391), (345, 29400), (358, 29469), (377, 29544),



(393, 29589), (397, 29604), (428, 29739), (441, 29793), (444, 29814), (457, 29847), (471, 29892), (487, 29946), (495, 29973), (509, 30030), (519, 30051), (529, 30093), (539, 30132), (553, 30192), (614, 30432), (624, 30465), (625, 30468), (639, 30501), (642, 30507), (672, 30570),

Gene: Olive\_31 Start: 28750, Stop: 31005, Start Num: 31

Candidate Starts for Olive\_31:

(Start: 31 @28750 has 324 MA's), (57, 28846), (79, 28924), (84, 28951), (114, 29050), (164, 29209), (215, 29389), (221, 29413), (247, 29503), (248, 29509), (262, 29545), (277, 29584), (282, 29593), (291, 29626), (299, 29665), (312, 29710), (326, 29761), (344, 29812), (345, 29821), (358, 29890), (377, 29965), (393, 30010), (397, 30025), (428, 30160), (441, 30214), (444, 30235), (457, 30268), (471, 30313), (487, 30367), (509, 30451), (519, 30472), (529, 30514), (539, 30553), (553, 30613), (614, 30853), (624, 30886), (625, 30889), (639, 30922), (642, 30928), (672, 30991),

Gene: OliverWalter\_31 Start: 28769, Stop: 31027, Start Num: 31

Candidate Starts for OliverWalter\_31:

(Start: 31 @28769 has 324 MA's), (57, 28865), (79, 28943), (84, 28970), (114, 29072), (164, 29231), (215, 29411), (221, 29435), (248, 29531), (262, 29567), (277, 29606), (282, 29615), (291, 29648), (299, 29687), (312, 29732), (326, 29783), (344, 29834), (345, 29843), (358, 29912), (377, 29987), (393, 30032), (397, 30047), (428, 30182), (441, 30236), (444, 30257), (457, 30290), (471, 30335), (487, 30389), (509, 30473), (519, 30494), (529, 30536), (539, 30575), (553, 30635), (614, 30875), (624, 30908), (625, 30911), (639, 30944), (642, 30950), (672, 31013),

Gene: OmniCritical\_28 Start: 22181, Stop: 24490, Start Num: 17

Candidate Starts for OmniCritical\_28:

(Start: 17 @22181 has 64 MA's), (45, 22292), (53, 22316), (87, 22433), (162, 22562), (185, 22613), (188, 22622), (218, 22694), (220, 22703), (245, 22760), (252, 22769), (265, 22820), (270, 22832), (279, 22847), (282, 22853), (291, 22886), (304, 22934), (320, 22988), (346, 23060), (351, 23099), (354, 23111), (363, 23126), (373, 23171), (386, 23240), (404, 23321), (439, 23474), (464, 23573), (466, 23585), (490, 23690), (504, 23756), (508, 23771), (535, 23867), (567, 24020), (570, 24035), (572, 24041), (575, 24065), (586, 24104), (610, 24212), (627, 24263), (630, 24266), (685, 24374), (694, 24404), (720, 24482),

Gene: Omniscient\_31 Start: 28769, Stop: 31024, Start Num: 31

Candidate Starts for Omniscient\_31:

(Start: 31 @28769 has 324 MA's), (57, 28865), (79, 28943), (84, 28970), (114, 29069), (164, 29228), (215, 29408), (221, 29432), (247, 29522), (248, 29528), (262, 29564), (277, 29603), (282, 29612), (291, 29645), (299, 29684), (312, 29729), (326, 29780), (344, 29831), (345, 29840), (358, 29909), (377, 29984), (393, 30029), (397, 30044), (428, 30179), (441, 30233), (444, 30254), (457, 30287), (471, 30332), (487, 30386), (495, 30413), (509, 30470), (519, 30491), (529, 30533), (539, 30572), (553, 30632), (614, 30872), (624, 30905), (625, 30908), (639, 30941), (642, 30947), (672, 31010),

Gene: Oosterbaan\_31 Start: 28760, Stop: 31015, Start Num: 31

Candidate Starts for Oosterbaan\_31:

(Start: 31 @28760 has 324 MA's), (57, 28856), (79, 28934), (84, 28961), (114, 29060), (164, 29219), (215, 29399), (221, 29423), (247, 29513), (248, 29519), (262, 29555), (277, 29594), (282, 29603), (291, 29636), (299, 29675), (312, 29720), (326, 29771), (344, 29822), (345, 29831), (358, 29900), (377, 29975), (393, 30020), (397, 30035), (428, 30170), (441, 30224), (444, 30245), (457, 30278), (471, 30323), (487, 30377), (495, 30404), (509, 30461), (519, 30482), (529, 30524), (539, 30563), (553, 30623), (614, 30863), (625, 30899), (639, 30932), (672, 31001),

Gene: OrangeOswald\_31 Start: 28613, Stop: 30841, Start Num: 31

Candidate Starts for OrangeOswald\_31:

(Start: 31 @28613 has 324 MA's), (Start: 37 @28628 has 1 MA's), (46, 28673), (63, 28730), (85, 28808), (108, 28877), (114, 28889), (126, 28931), (137, 28967), (148, 28994), (154, 29006), (161, 29033), (187, 29123), (209, 29195), (229, 29279), (264, 29387), (270, 29408), (299, 29501), (305, 29516), (343, 29645), (358, 29726), (377, 29801), (392, 29843), (393, 29849), (428, 29999), (429, 30011), (441, 30053), (444, 30074), (462, 30128), (471, 30152), (509, 30287), (515, 30296), (529, 30350), (555, 30458), (561, 30485), (571, 30527), (592, 30599), (614, 30689), (625, 30725),

Gene: Orfeu\_30 Start: 28468, Stop: 30723, Start Num: 31

Candidate Starts for Orfeu\_30:

(Start: 31 @28468 has 324 MA's), (57, 28564), (79, 28642), (84, 28669), (114, 28768), (164, 28927), (215, 29107), (221, 29131), (247, 29221), (248, 29227), (262, 29263), (277, 29302), (282, 29311), (291, 29344), (299, 29383), (312, 29428), (326, 29479), (344, 29530), (345, 29539), (358, 29608), (377, 29683), (393, 29728), (397, 29743), (428, 29878), (441, 29932), (444, 29953), (457, 29986), (471, 30031), (487, 30085), (495, 30112), (509, 30169), (519, 30190), (529, 30232), (539, 30271), (553, 30331), (614, 30571), (624, 30604), (625, 30607), (639, 30640), (642, 30646), (672, 30709),

Gene: Orion\_31 Start: 28758, Stop: 31013, Start Num: 31

Candidate Starts for Orion\_31:

(Start: 31 @28758 has 324 MA's), (57, 28854), (79, 28932), (84, 28959), (114, 29058), (164, 29217), (215, 29397), (221, 29421), (247, 29511), (248, 29517), (262, 29553), (277, 29592), (282, 29601), (291, 29634), (299, 29673), (312, 29718), (326, 29769), (344, 29820), (345, 29829), (358, 29898), (377, 29973), (393, 30018), (397, 30033), (428, 30168), (441, 30222), (444, 30243), (457, 30276), (471, 30321), (487, 30375), (509, 30459), (519, 30480), (529, 30522), (539, 30561), (553, 30621), (614, 30861), (624, 30894), (625, 30897), (639, 30930), (642, 30936), (672, 30999),

Gene: Orwigg\_31 Start: 28456, Stop: 30711, Start Num: 31

Candidate Starts for Orwigg\_31:

(Start: 31 @28456 has 324 MA's), (57, 28552), (79, 28630), (84, 28657), (114, 28756), (164, 28915), (215, 29095), (221, 29119), (247, 29209), (248, 29215), (262, 29251), (277, 29290), (282, 29299), (291, 29332), (299, 29371), (312, 29416), (326, 29467), (344, 29518), (345, 29527), (358, 29596), (377, 29671), (393, 29716), (397, 29731), (428, 29866), (441, 29920), (444, 29941), (457, 29974), (471, 30019), (487, 30073), (495, 30100), (509, 30157), (519, 30178), (529, 30220), (539, 30259), (553, 30319), (614, 30559), (624, 30592), (625, 30595), (639, 30628), (642, 30634), (672, 30697),

Gene: PG1\_31 Start: 28771, Stop: 31026, Start Num: 31

Candidate Starts for PG1\_31:

(Start: 31 @28771 has 324 MA's), (57, 28867), (79, 28945), (84, 28972), (114, 29071), (164, 29230), (215, 29410), (221, 29434), (247, 29524), (248, 29530), (262, 29566), (277, 29605), (282, 29614), (291, 29647), (299, 29686), (312, 29731), (326, 29782), (344, 29833), (345, 29842), (358, 29911), (377, 29986), (393, 30031), (397, 30046), (428, 30181), (441, 30235), (444, 30256), (457, 30289), (471, 30334), (487, 30388), (509, 30472), (519, 30493), (529, 30535), (539, 30574), (553, 30634), (614, 30874), (624, 30907), (625, 30910), (639, 30943), (642, 30949), (672, 31012),

Gene: Pacifista\_32 Start: 28462, Stop: 30717, Start Num: 31

Candidate Starts for Pacifista\_32:

(Start: 31 @28462 has 324 MA's), (57, 28558), (79, 28636), (84, 28663), (114, 28762), (164, 28921), (215, 29101), (221, 29125), (247, 29215), (248, 29221), (262, 29257), (277, 29296), (282, 29305), (291, 29338), (299, 29377), (312, 29422), (326, 29473), (344, 29524), (345, 29533), (358, 29602), (377, 29677), (393, 29722), (397, 29737), (428, 29872), (441, 29926), (444, 29947), (457, 29980), (471, 30025), (487, 30079), (495, 30106), (509, 30163), (519, 30184), (529, 30226), (539, 30265), (553, 30325), (614, 30565), (624, 30598), (625, 30601), (639, 30634), (642, 30640), (672, 30703),

Gene: Panchino\_20 Start: 17533, Stop: 20178, Start Num: 7

Candidate Starts for Panchino\_20:

(Start: 4 @17521 has 1 MA's), (Start: 7 @17533 has 9 MA's), (10, 17545), (36, 17656), (41, 17680), (Start: 42 @17683 has 1 MA's), (43, 17692), (58, 17740), (129, 17965), (132, 17977), (139, 17998), (157, 18043), (174, 18097), (194, 18175), (203, 18205), (211, 18241), (216, 18262), (220, 18277), (232, 18319), (242, 18352), (267, 18427), (279, 18451), (280, 18457), (284, 18469), (292, 18511), (294, 18517), (323, 18616), (351, 18736), (355, 18754), (365, 18787), (372, 18814), (378, 18865), (424, 19075), (439, 19141), (447, 19177), (472, 19288), (487, 19351), (528, 19513), (532, 19528), (543, 19579), (567, 19696), (576, 19741), (589, 19783), (597, 19819), (609, 19873), (627, 19921), (693, 20065), (709, 20122), (718, 20161), (721, 20170),

Gene: Patt\_28 Start: 22014, Stop: 24320, Start Num: 17

Candidate Starts for Patt\_28:

(Start: 17 @22014 has 64 MA's), (26, 22044), (Start: 28 @22062 has 2 MA's), (45, 22125), (87, 22266), (138, 22332), (162, 22395), (185, 22446), (188, 22455), (199, 22488), (220, 22536), (245, 22593), (265, 22653), (270, 22665), (279, 22680), (282, 22686), (291, 22719), (304, 22767), (320, 22821), (346, 22893), (386, 23073), (404, 23154), (439, 23307), (451, 23349), (464, 23406), (466, 23418), (486, 23505), (490, 23523), (504, 23589), (508, 23604), (567, 23853), (570, 23868), (572, 23874), (575, 23898), (586, 23937), (589, 23949), (610, 24045), (623, 24081), (627, 24096), (630, 24099), (642, 24120), (651, 24135), (685, 24204), (694, 24234), (720, 24312),

Gene: PeaceMeal1\_31 Start: 21407, Stop: 23689, Start Num: 16

Candidate Starts for PeaceMeal1\_31:

(Start: 16 @21407 has 6 MA's), (25, 21440), (48, 21524), (68, 21590), (106, 21722), (153, 21836), (156, 21845), (179, 21929), (201, 22004), (220, 22082), (249, 22157), (289, 22247), (353, 22373), (371, 22430), (390, 22520), (395, 22538), (401, 22562), (450, 22763), (461, 22802), (487, 22892), (499, 22949), (530, 23054), (534, 23075), (536, 23084), (541, 23102), (544, 23114), (557, 23180), (567, 23219), (570, 23234), (572, 23240), (579, 23273), (606, 23372), (607, 23393), (609, 23396), (633, 23453), (641, 23471), (642, 23474), (649, 23486), (668, 23525), (684, 23567), (685, 23570), (718, 23672),

Gene: Peanam\_27 Start: 20230, Stop: 22731, Start Num: 17

Candidate Starts for Peanam\_27:

(Start: 17 @20230 has 64 MA's), (Start: 28 @20278 has 2 MA's), (44, 20329), (66, 20401), (82, 20452), (86, 20470), (99, 20503), (134, 20524), (137, 20536), (159, 20590), (181, 20668), (193, 20707), (209, 20764), (216, 20800), (230, 20851), (245, 20881), (250, 20896), (254, 20920), (265, 20953), (275, 20974), (279, 20980), (291, 21019), (330, 21172), (340, 21205), (343, 21217), (353, 21280), (373, 21364), (409, 21547), (421, 21601), (432, 21643), (481, 21835), (482, 21841), (490, 21865), (503, 21928), (517, 21967), (532, 22030), (543, 22087), (548, 22120), (552, 22138), (560, 22177), (569, 22216), (570, 22222), (583, 22279), (610, 22393), (628, 22447), (639, 22462), (655, 22492), (660, 22504), (684, 22561), (689, 22579), (700, 22609), (707, 22627), (724, 22708),

Gene: PenguinLover67\_32 Start: 30945, Stop: 33434, Start Num: 28

Candidate Starts for PenguinLover67\_32:

(3, 30792), (Start: 28 @30945 has 2 MA's), (57, 31044), (59, 31050), (63, 31062), (78, 31119), (111, 31266), (121, 31317), (124, 31326), (142, 31380), (192, 31533), (213, 31614), (214, 31617), (229, 31677), (236, 31704), (290, 31860), (291, 31863), (294, 31884), (326, 31998), (343, 32046), (357, 32124), (364, 32148), (372, 32169), (388, 32253), (391, 32256), (395, 32274), (433, 32439), (442, 32469), (449, 32499), (461, 32538), (465, 32550), (476, 32580), (484, 32616), (487, 32628), (522, 32751), (523, 32754), (524, 32757), (525, 32763), (529, 32787), (543, 32847), (545, 32865), (561, 32931), (562, 32934), (567, 32955), (578, 33006), (583, 33027), (609, 33132), (664, 33258), (679, 33300), (689, 33336), (694, 33354), (705, 33381),

Gene: Phaedrus\_29 Start: 28532, Stop: 30757, Start Num: 31

Candidate Starts for Phaedrus\_29:

(Start: 31 @28532 has 324 MA's), (Start: 37 @28547 has 1 MA's), (46, 28592), (63, 28649), (85, 28727), (108, 28796), (114, 28808), (126, 28850), (137, 28886), (148, 28913), (154, 28925), (161, 28952), (187, 29042), (209, 29114), (229, 29198), (264, 29306), (270, 29327), (299, 29420), (305, 29435), (343, 29564), (358, 29645), (377, 29720), (392, 29762), (393, 29768), (402, 29804), (428, 29918), (429, 29930), (441, 29972), (444, 29993), (462, 30047), (471, 30071), (483, 30107), (509, 30203), (515, 30212), (529, 30266), (555, 30374), (561, 30401), (571, 30443), (592, 30515), (611, 30596), (614, 30605), (625, 30641),

Gene: Phalm\_21 Start: 18926, Stop: 21559, Start Num: 6

Candidate Starts for Phalm\_21:

(Start: 6 @18926 has 7 MA's), (8, 18935), (Start: 42 @19079 has 1 MA's), (129, 19352), (132, 19364), (139, 19385), (149, 19409), (174, 19484), (194, 19556), (203, 19586), (211, 19622), (227, 19685), (232, 19700), (240, 19727), (242, 19733), (267, 19808), (279, 19832), (280, 19838), (284, 19850), (292, 19892), (294, 19898), (318, 19985), (327, 20006), (336, 20030), (349, 20096), (351, 20117), (355, 20135), (365, 20168), (371, 20192), (372, 20195), (378, 20246), (403, 20351), (410, 20393), (447, 20558), (469, 20654), (487, 20732), (491, 20744), (512, 20834), (528, 20894), (530, 20903), (541, 20951), (543, 20960), (567, 21077), (576, 21122), (589, 21164), (606, 21230), (609, 21254), (627, 21302), (632, 21308), (635, 21314), (683, 21413), (686, 21422), (694, 21452), (718, 21542), (721, 21551),

Gene: Phamished\_31 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for Phamished\_31:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (495, 30410), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (624, 30902), (625, 30905), (639, 30938), (642, 30944), (672, 31007),

Gene: Pharb\_26 Start: 21154, Stop: 23529, Start Num: 17

Candidate Starts for Pharb\_26:

(Start: 17 @21154 has 64 MA's), (24, 21181), (34, 21214), (49, 21274), (54, 21289), (82, 21379), (86, 21397), (159, 21523), (160, 21529), (167, 21544), (175, 21577), (191, 21634), (193, 21637), (199, 21655), (211, 21703), (229, 21772), (247, 21823), (275, 21910), (291, 21955), (305, 22012), (325, 22057), (340, 22102), (346, 22129), (352, 22171), (353, 22177), (355, 22186), (393, 22324), (412, 22414), (465, 22609), (527, 22840), (528, 22846), (530, 22855), (532, 22861), (541, 22903), (546, 22933), (557, 22990), (559, 22996), (586, 23101), (596, 23146), (607, 23200), (610, 23209), (619, 23239), (689, 23389), (707, 23431), (714, 23464), (725, 23509),

Gene: Phareon\_31 Start: 28470, Stop: 30725, Start Num: 31

Candidate Starts for Phareon\_31:

(Start: 31 @28470 has 324 MA's), (57, 28566), (79, 28644), (84, 28671), (114, 28770), (164, 28929), (215, 29109), (221, 29133), (247, 29223), (248, 29229), (262, 29265), (277, 29304), (282, 29313), (291, 29346), (299, 29385), (312, 29430), (326, 29481), (344, 29532), (345, 29541), (358, 29610), (377, 29685), (393, 29730), (397, 29745), (428, 29880), (441, 29934), (444, 29955), (457, 29988), (471, 30033), (487, 30087), (495, 30114), (509, 30171), (519, 30192), (529, 30234), (539, 30273), (553, 30333), (614, 30573), (624, 30606), (625, 30609), (639, 30642), (642, 30648), (672, 30711),

Gene: PhatCats2014\_31 Start: 28775, Stop: 31030, Start Num: 31

Candidate Starts for PhatCats2014\_31:

(Start: 31 @28775 has 324 MA's), (57, 28871), (79, 28949), (84, 28976), (114, 29075), (164, 29234), (215, 29414), (221, 29438), (247, 29528), (248, 29534), (262, 29570), (277, 29609), (282, 29618),

(291, 29651), (299, 29690), (312, 29735), (326, 29786), (344, 29837), (345, 29846), (358, 29915), (377, 29990), (393, 30035), (397, 30050), (428, 30185), (441, 30239), (444, 30260), (457, 30293), (471, 30338), (487, 30392), (509, 30476), (519, 30497), (529, 30539), (539, 30578), (553, 30638), (614, 30878), (624, 30911), (625, 30914), (639, 30947), (642, 30953), (672, 31016),

Gene: PhatLouie\_31 Start: 28764, Stop: 31019, Start Num: 31

Candidate Starts for PhatLouie\_31:

(Start: 31 @28764 has 324 MA's), (57, 28860), (79, 28938), (84, 28965), (114, 29064), (164, 29223), (215, 29403), (221, 29427), (247, 29517), (248, 29523), (262, 29559), (277, 29598), (282, 29607), (291, 29640), (299, 29679), (312, 29724), (326, 29775), (344, 29826), (345, 29835), (358, 29904), (377, 29979), (393, 30024), (397, 30039), (428, 30174), (441, 30228), (444, 30249), (457, 30282), (471, 30327), (487, 30381), (495, 30408), (509, 30465), (519, 30486), (529, 30528), (539, 30567), (553, 30627), (614, 30867), (624, 30900), (625, 30903), (639, 30936), (642, 30942), (672, 31005),

Gene: Phayeta\_31 Start: 28480, Stop: 30705, Start Num: 31

Candidate Starts for Phayeta\_31:

(Start: 31 @28480 has 324 MA's), (Start: 37 @28495 has 1 MA's), (46, 28540), (63, 28597), (85, 28675), (108, 28744), (114, 28756), (126, 28798), (137, 28834), (148, 28861), (154, 28873), (161, 28900), (187, 28990), (209, 29062), (229, 29146), (264, 29254), (270, 29275), (299, 29368), (305, 29383), (343, 29512), (358, 29593), (377, 29668), (392, 29710), (393, 29716), (402, 29752), (413, 29815), (428, 29866), (429, 29878), (441, 29920), (444, 29941), (462, 29995), (471, 30019), (483, 30055), (509, 30151), (515, 30160), (529, 30214), (555, 30322), (561, 30349), (571, 30391), (592, 30463), (614, 30553), (625, 30589),

Gene: Phelemich\_30 Start: 29231, Stop: 31498, Start Num: 31

Candidate Starts for Phelemich\_30:

(Start: 31 @29231 has 324 MA's), (57, 29327), (73, 29384), (78, 29402), (89, 29447), (196, 29798), (220, 29894), (223, 29900), (229, 29930), (235, 29954), (243, 29981), (277, 30071), (284, 30086), (331, 30266), (344, 30302), (349, 30338), (358, 30380), (377, 30455), (383, 30476), (393, 30506), (413, 30605), (419, 30629), (428, 30656), (441, 30710), (444, 30731), (457, 30764), (488, 30866), (509, 30944), (515, 30953), (519, 30965), (539, 31046), (540, 31049), (551, 31103), (555, 31115), (562, 31145), (566, 31163), (583, 31229), (598, 31277), (614, 31346), (672, 31484), (674, 31487),

Gene: PhelpsODU\_26 Start: 20093, Stop: 22432, Start Num: 17

Candidate Starts for PhelpsODU\_26:

(Start: 17 @20093 has 64 MA's), (32, 20150), (66, 20264), (69, 20282), (86, 20333), (94, 20354), (152, 20432), (181, 20531), (184, 20543), (211, 20642), (213, 20651), (239, 20744), (265, 20825), (279, 20855), (284, 20867), (287, 20876), (291, 20894), (292, 20909), (307, 20933), (326, 20993), (340, 21038), (346, 21065), (355, 21122), (360, 21131), (375, 21200), (376, 21203), (378, 21221), (390, 21263), (396, 21284), (403, 21314), (422, 21401), (439, 21464), (447, 21497), (467, 21569), (484, 21617), (487, 21629), (501, 21698), (509, 21722), (530, 21791), (572, 21980), (591, 22055), (597, 22079), (627, 22184), (634, 22193), (641, 22211), (682, 22298), (688, 22322), (704, 22364), (722, 22424),

Gene: PhenghisKhan\_30 Start: 28370, Stop: 30625, Start Num: 31

Candidate Starts for PhenghisKhan\_30:

(Start: 31 @28370 has 324 MA's), (57, 28466), (79, 28544), (84, 28571), (114, 28670), (164, 28829), (215, 29009), (221, 29033), (247, 29123), (248, 29129), (262, 29165), (277, 29204), (282, 29213), (291, 29246), (299, 29285), (312, 29330), (326, 29381), (344, 29432), (345, 29441), (358, 29510), (377, 29585), (393, 29630), (397, 29645), (428, 29780), (441, 29834), (444, 29855), (457, 29888), (471, 29933), (487, 29987), (495, 30014), (509, 30071), (519, 30092), (529, 30134), (539, 30173), (553, 30233), (614, 30473), (624, 30506), (625, 30509), (639, 30542), (642, 30548), (672, 30611),

Gene: Pherdinand\_31 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for Pherdinand\_31:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (624, 30902), (625, 30905), (639, 30938), (642, 30944), (672, 31007),

Gene: Phergie\_30 Start: 28361, Stop: 30616, Start Num: 31

Candidate Starts for Phergie\_30:

(Start: 31 @28361 has 324 MA's), (57, 28457), (79, 28535), (84, 28562), (114, 28661), (164, 28820), (215, 29000), (221, 29024), (247, 29114), (248, 29120), (262, 29156), (277, 29195), (282, 29204), (291, 29237), (299, 29276), (312, 29321), (326, 29372), (344, 29423), (345, 29432), (358, 29501), (377, 29576), (393, 29621), (397, 29636), (428, 29771), (441, 29825), (444, 29846), (457, 29879), (471, 29924), (487, 29978), (495, 30005), (509, 30062), (519, 30083), (529, 30125), (539, 30164), (553, 30224), (614, 30464), (624, 30497), (625, 30500), (639, 30533), (642, 30539), (672, 30602),

Gene: Philly\_30 Start: 28467, Stop: 30692, Start Num: 31

Candidate Starts for Philly\_30:

(Start: 31 @28467 has 324 MA's), (Start: 37 @28482 has 1 MA's), (46, 28527), (63, 28584), (85, 28662), (108, 28731), (114, 28743), (126, 28785), (137, 28821), (148, 28848), (154, 28860), (161, 28887), (187, 28977), (209, 29049), (229, 29133), (264, 29241), (270, 29262), (299, 29355), (305, 29370), (343, 29499), (358, 29580), (377, 29655), (393, 29703), (413, 29802), (428, 29853), (429, 29865), (441, 29907), (444, 29928), (462, 29982), (471, 30006), (483, 30042), (509, 30138), (515, 30147), (529, 30201), (555, 30309), (561, 30336), (571, 30378), (592, 30450), (614, 30540), (625, 30576),

Gene: Phineas\_21 Start: 19035, Stop: 21668, Start Num: 6

Candidate Starts for Phineas\_21:

(Start: 6 @19035 has 7 MA's), (8, 19044), (Start: 42 @19188 has 1 MA's), (129, 19461), (132, 19473), (139, 19494), (149, 19518), (174, 19593), (194, 19665), (203, 19695), (211, 19731), (227, 19794), (232, 19809), (242, 19842), (267, 19917), (279, 19941), (280, 19947), (284, 19959), (292, 20001), (294, 20007), (318, 20094), (327, 20115), (336, 20139), (349, 20205), (351, 20226), (355, 20244), (365, 20277), (371, 20301), (372, 20304), (378, 20355), (403, 20460), (410, 20502), (447, 20667), (469, 20763), (487, 20841), (491, 20853), (512, 20943), (528, 21003), (530, 21012), (541, 21060), (543, 21069), (567, 21186), (576, 21231), (589, 21273), (606, 21339), (609, 21363), (627, 21411), (632, 21417), (635, 21423), (683, 21522), (686, 21531), (694, 21561), (718, 21651), (721, 21660),

Gene: Phipps\_31 Start: 28736, Stop: 30991, Start Num: 31

Candidate Starts for Phipps\_31:

(Start: 31 @28736 has 324 MA's), (57, 28832), (79, 28910), (84, 28937), (114, 29036), (164, 29195), (215, 29375), (221, 29399), (247, 29489), (248, 29495), (262, 29531), (277, 29570), (282, 29579), (291, 29612), (299, 29651), (312, 29696), (326, 29747), (344, 29798), (345, 29807), (358, 29876), (377, 29951), (393, 29996), (397, 30011), (428, 30146), (441, 30200), (444, 30221), (457, 30254), (471, 30299), (487, 30353), (495, 30380), (509, 30437), (519, 30458), (529, 30500), (539, 30539), (553, 30599), (614, 30839), (624, 30872), (625, 30875), (639, 30908), (642, 30914), (672, 30977),

Gene: Phleuron\_30 Start: 28367, Stop: 30622, Start Num: 31

Candidate Starts for Phleuron\_30:

(Start: 31 @28367 has 324 MA's), (57, 28463), (79, 28541), (84, 28568), (114, 28667), (164, 28826), (215, 29006), (221, 29030), (248, 29126), (262, 29162), (277, 29201), (282, 29210), (291, 29243), (299, 29282), (312, 29327), (326, 29378), (344, 29429), (345, 29438), (358, 29507), (377, 29582),

(393, 29627), (397, 29642), (428, 29777), (441, 29831), (444, 29852), (457, 29885), (471, 29930), (487, 29984), (495, 30011), (509, 30068), (519, 30089), (529, 30131), (539, 30170), (553, 30230), (614, 30470), (624, 30503), (625, 30506), (639, 30539), (642, 30545), (672, 30608),

Gene: Phloss\_20 Start: 17556, Stop: 20201, Start Num: 7

Candidate Starts for Phloss\_20:

(Start: 4 @17544 has 1 MA's), (Start: 7 @17556 has 9 MA's), (10, 17568), (11, 17580), (23, 17634), (41, 17703), (Start: 42 @17706 has 1 MA's), (43, 17715), (Start: 47 @17730 has 1 MA's), (100, 17907), (129, 17988), (131, 17997), (153, 18054), (158, 18069), (196, 18201), (209, 18249), (211, 18264), (216, 18285), (227, 18327), (232, 18342), (234, 18351), (242, 18378), (245, 18384), (267, 18453), (279, 18474), (280, 18480), (283, 18489), (290, 18516), (306, 18582), (309, 18594), (318, 18627), (323, 18639), (351, 18759), (355, 18777), (365, 18810), (378, 18888), (403, 18993), (410, 19035), (460, 19254), (468, 19293), (469, 19296), (472, 19311), (487, 19374), (498, 19422), (528, 19536), (534, 19566), (541, 19593), (543, 19602), (567, 19719), (576, 19764), (589, 19806), (606, 19872), (609, 19896), (627, 19944), (632, 19950), (635, 19956), (641, 19971), (683, 20055), (694, 20094), (718, 20184), (721, 20193),

Gene: Phlyer\_31 Start: 29348, Stop: 31576, Start Num: 31

Candidate Starts for Phlyer\_31:

(Start: 31 @29348 has 324 MA's), (Start: 37 @29363 has 1 MA's), (46, 29408), (63, 29465), (85, 29543), (108, 29612), (114, 29624), (126, 29666), (137, 29702), (148, 29729), (154, 29741), (161, 29768), (187, 29858), (209, 29930), (229, 30014), (264, 30122), (270, 30143), (299, 30236), (305, 30251), (343, 30380), (358, 30461), (377, 30536), (392, 30578), (393, 30584), (402, 30620), (428, 30734), (429, 30746), (441, 30788), (444, 30809), (462, 30863), (471, 30887), (483, 30923), (509, 31022), (515, 31031), (529, 31085), (555, 31193), (561, 31220), (571, 31262), (592, 31334), (614, 31424), (625, 31460),

Gene: Phrank\_26 Start: 20046, Stop: 22382, Start Num: 17

Candidate Starts for Phrank\_26:

(Start: 17 @20046 has 64 MA's), (Start: 28 @20094 has 2 MA's), (32, 20103), (66, 20217), (69, 20235), (86, 20286), (152, 20382), (155, 20391), (181, 20481), (184, 20493), (211, 20592), (213, 20601), (239, 20694), (265, 20775), (279, 20805), (284, 20817), (291, 20844), (292, 20859), (307, 20883), (326, 20943), (340, 20988), (346, 21015), (351, 21054), (355, 21072), (360, 21081), (375, 21150), (376, 21153), (378, 21171), (390, 21213), (396, 21234), (403, 21264), (422, 21351), (439, 21414), (447, 21447), (451, 21456), (467, 21519), (484, 21567), (487, 21579), (501, 21648), (509, 21672), (522, 21702), (530, 21741), (572, 21930), (591, 22005), (606, 22059), (634, 22143), (641, 22161), (682, 22248), (688, 22272), (704, 22314), (722, 22374),

Gene: PhrankReynolds\_30 Start: 28367, Stop: 30622, Start Num: 31

Candidate Starts for PhrankReynolds\_30:

(Start: 31 @28367 has 324 MA's), (57, 28463), (79, 28541), (84, 28568), (114, 28667), (164, 28826), (215, 29006), (221, 29030), (247, 29120), (248, 29126), (262, 29162), (277, 29201), (282, 29210), (291, 29243), (299, 29282), (312, 29327), (326, 29378), (344, 29429), (345, 29438), (358, 29507), (377, 29582), (393, 29627), (397, 29642), (428, 29777), (441, 29831), (444, 29852), (457, 29885), (471, 29930), (487, 29984), (495, 30011), (509, 30068), (519, 30089), (529, 30131), (539, 30170), (553, 30230), (614, 30470), (624, 30503), (625, 30506), (639, 30539), (642, 30545), (672, 30608),

Gene: PhrodoBaggins\_30 Start: 28754, Stop: 31009, Start Num: 31

Candidate Starts for PhrodoBaggins\_30:

(Start: 31 @28754 has 324 MA's), (57, 28850), (79, 28928), (84, 28955), (114, 29054), (164, 29213), (215, 29393), (221, 29417), (247, 29507), (248, 29513), (262, 29549), (277, 29588), (282, 29597), (291, 29630), (299, 29669), (312, 29714), (326, 29765), (344, 29816), (345, 29825), (358, 29894), (377, 29969), (393, 30014), (397, 30029), (428, 30164), (441, 30218), (444, 30239), (457, 30272),

(471, 30317), (487, 30371), (495, 30398), (509, 30455), (519, 30476), (529, 30518), (539, 30557), (553, 30617), (614, 30857), (624, 30890), (625, 30893), (639, 30926), (642, 30932), (672, 30995),

Gene: Phunky\_31 Start: 28767, Stop: 31022, Start Num: 31

Candidate Starts for Phunky\_31:

(Start: 31 @28767 has 324 MA's), (57, 28863), (79, 28941), (84, 28968), (114, 29067), (164, 29226), (215, 29406), (221, 29430), (247, 29520), (248, 29526), (262, 29562), (277, 29601), (282, 29610), (291, 29643), (299, 29682), (312, 29727), (326, 29778), (344, 29829), (345, 29838), (358, 29907), (377, 29982), (393, 30027), (397, 30042), (428, 30177), (441, 30231), (444, 30252), (457, 30285), (471, 30330), (487, 30384), (495, 30411), (509, 30468), (519, 30489), (529, 30531), (539, 30570), (553, 30630), (614, 30870), (624, 30903), (625, 30906), (639, 30939), (642, 30945), (672, 31008),

Gene: Piglet\_0030 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for Piglet\_0030:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (495, 30410), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (624, 30902), (625, 30905), (639, 30938), (642, 30944), (672, 31007),

Gene: PinheadLarry\_31 Start: 28480, Stop: 30735, Start Num: 31

Candidate Starts for PinheadLarry\_31:

(Start: 31 @28480 has 324 MA's), (57, 28576), (79, 28654), (84, 28681), (114, 28780), (164, 28939), (215, 29119), (221, 29143), (247, 29233), (248, 29239), (262, 29275), (277, 29314), (282, 29323), (291, 29356), (299, 29395), (312, 29440), (326, 29491), (344, 29542), (345, 29551), (358, 29620), (377, 29695), (393, 29740), (397, 29755), (428, 29890), (441, 29944), (444, 29965), (457, 29998), (471, 30043), (487, 30097), (495, 30124), (509, 30181), (519, 30202), (529, 30244), (539, 30283), (553, 30343), (614, 30583), (625, 30619), (639, 30652), (672, 30721),

Gene: Pinkman\_30 Start: 28323, Stop: 30578, Start Num: 31

Candidate Starts for Pinkman\_30:

(Start: 31 @28323 has 324 MA's), (57, 28419), (79, 28497), (84, 28524), (114, 28623), (164, 28782), (215, 28962), (221, 28986), (248, 29082), (262, 29118), (277, 29157), (282, 29166), (291, 29199), (299, 29238), (312, 29283), (326, 29334), (344, 29385), (345, 29394), (358, 29463), (377, 29538), (393, 29583), (397, 29598), (428, 29733), (441, 29787), (444, 29808), (457, 29841), (471, 29886), (487, 29940), (495, 29967), (509, 30024), (519, 30045), (529, 30087), (539, 30126), (553, 30186), (614, 30426), (625, 30462), (639, 30495), (672, 30564),

Gene: Pipefish\_32 Start: 30005, Stop: 32233, Start Num: 31

Candidate Starts for Pipefish\_32:

(Start: 31 @30005 has 324 MA's), (46, 30068), (63, 30125), (85, 30203), (108, 30272), (114, 30284), (126, 30326), (137, 30362), (154, 30401), (161, 30428), (187, 30518), (195, 30542), (209, 30590), (229, 30674), (264, 30782), (270, 30803), (299, 30896), (305, 30911), (343, 31040), (358, 31121), (377, 31196), (392, 31238), (393, 31244), (413, 31343), (428, 31394), (429, 31406), (441, 31448), (444, 31469), (462, 31523), (471, 31547), (483, 31583), (509, 31679), (515, 31688), (529, 31742), (555, 31850), (561, 31877), (571, 31919), (592, 31991), (614, 32081), (625, 32117),

Gene: Pipsqueak\_31 Start: 28765, Stop: 31020, Start Num: 31

Candidate Starts for Pipsqueak\_31:

(Start: 31 @28765 has 324 MA's), (57, 28861), (79, 28939), (84, 28966), (114, 29065), (164, 29224), (215, 29404), (221, 29428), (247, 29518), (248, 29524), (262, 29560), (277, 29599), (282, 29608), (291, 29641), (299, 29680), (312, 29725), (326, 29776), (344, 29827), (345, 29836), (358, 29905),



(377, 29980), (393, 30025), (397, 30040), (428, 30175), (441, 30229), (444, 30250), (457, 30283), (471, 30328), (487, 30382), (495, 30409), (509, 30466), (519, 30487), (529, 30529), (539, 30568), (553, 30628), (614, 30868), (625, 30904), (639, 30937), (672, 31006),

Gene: Piro94\_32 Start: 23234, Stop: 25318, Start Num: 19

Candidate Starts for Piro94\_32:

(Start: 19 @23234 has 30 MA's), (51, 23348), (56, 23363), (84, 23462), (127, 23585), (131, 23597), (142, 23630), (220, 23774), (225, 23795), (259, 23909), (272, 23945), (390, 24146), (395, 24164), (401, 24188), (423, 24287), (450, 24389), (461, 24428), (465, 24440), (487, 24518), (521, 24635), (522, 24641), (534, 24701), (557, 24806), (561, 24821), (596, 24962), (597, 24965), (607, 25016), (613, 25031), (621, 25055), (645, 25109), (659, 25133), (697, 25238), (719, 25304),

Gene: Pixie\_26 Start: 21086, Stop: 23437, Start Num: 17

Candidate Starts for Pixie\_26:

(Start: 17 @21086 has 64 MA's), (24, 21113), (34, 21146), (63, 21251), (141, 21410), (159, 21455), (173, 21491), (175, 21509), (199, 21587), (211, 21635), (251, 21767), (265, 21821), (272, 21836), (311, 21944), (346, 22061), (352, 22103), (353, 22109), (355, 22118), (360, 22127), (376, 22208), (378, 22226), (390, 22268), (396, 22289), (401, 22310), (403, 22319), (422, 22406), (446, 22499), (447, 22502), (467, 22574), (503, 22709), (504, 22712), (522, 22757), (530, 22796), (533, 22814), (556, 22913), (559, 22931), (572, 22985), (578, 23015), (583, 23033), (591, 23060), (593, 23066), (606, 23114), (627, 23189), (634, 23198), (642, 23219), (647, 23228), (688, 23327), (704, 23369),

Gene: Placalicious\_30 Start: 28458, Stop: 30713, Start Num: 31

Candidate Starts for Placalicious\_30:

(Start: 31 @28458 has 324 MA's), (57, 28554), (79, 28632), (84, 28659), (114, 28758), (164, 28917), (215, 29097), (221, 29121), (247, 29211), (248, 29217), (262, 29253), (277, 29292), (282, 29301), (291, 29334), (299, 29373), (312, 29418), (326, 29469), (344, 29520), (345, 29529), (358, 29598), (377, 29673), (393, 29718), (397, 29733), (428, 29868), (441, 29922), (444, 29943), (457, 29976), (471, 30021), (487, 30075), (495, 30102), (509, 30159), (519, 30180), (529, 30222), (539, 30261), (553, 30321), (614, 30561), (624, 30594), (625, 30597), (639, 30630), (642, 30636), (672, 30699),

Gene: Plmatters\_31 Start: 28763, Stop: 31018, Start Num: 31

Candidate Starts for Plmatters\_31:

(Start: 31 @28763 has 324 MA's), (57, 28859), (79, 28937), (84, 28964), (114, 29063), (164, 29222), (215, 29402), (221, 29426), (247, 29516), (248, 29522), (262, 29558), (277, 29597), (282, 29606), (291, 29639), (299, 29678), (312, 29723), (326, 29774), (344, 29825), (345, 29834), (358, 29903), (377, 29978), (393, 30023), (397, 30038), (428, 30173), (441, 30227), (444, 30248), (457, 30281), (471, 30326), (487, 30380), (495, 30407), (509, 30464), (519, 30485), (529, 30527), (539, 30566), (553, 30626), (614, 30866), (624, 30899), (625, 30902), (639, 30935), (642, 30941), (672, 31004),

Gene: Podrick\_31 Start: 28755, Stop: 31010, Start Num: 31

Candidate Starts for Podrick\_31:

(Start: 31 @28755 has 324 MA's), (57, 28851), (79, 28929), (84, 28956), (114, 29055), (164, 29214), (215, 29394), (221, 29418), (247, 29508), (248, 29514), (262, 29550), (277, 29589), (282, 29598), (291, 29631), (299, 29670), (312, 29715), (326, 29766), (344, 29817), (345, 29826), (358, 29895), (377, 29970), (393, 30015), (397, 30030), (428, 30165), (441, 30219), (444, 30240), (457, 30273), (471, 30318), (487, 30372), (495, 30399), (509, 30456), (519, 30477), (529, 30519), (539, 30558), (553, 30618), (614, 30858), (624, 30891), (625, 30894), (639, 30927), (642, 30933), (672, 30996),

Gene: Poompha\_31 Start: 21405, Stop: 23687, Start Num: 16

Candidate Starts for Poompha\_31:

(Start: 16 @21405 has 6 MA's), (25, 21438), (48, 21522), (68, 21588), (95, 21675), (106, 21720), (153, 21834), (156, 21843), (179, 21927), (201, 22002), (220, 22080), (249, 22155), (353, 22371), (371,

22428), (390, 22518), (395, 22536), (401, 22560), (403, 22569), (450, 22761), (461, 22800), (487, 22890), (499, 22947), (530, 23052), (536, 23082), (541, 23100), (544, 23112), (567, 23217), (570, 23232), (572, 23238), (579, 23271), (606, 23370), (607, 23391), (609, 23394), (633, 23451), (641, 23469), (642, 23472), (649, 23484), (668, 23523), (684, 23565), (685, 23568), (718, 23670),

Gene: Pops\_31 Start: 28775, Stop: 31033, Start Num: 31

Candidate Starts for Pops\_31:

(Start: 31 @28775 has 324 MA's), (57, 28871), (79, 28949), (84, 28976), (114, 29078), (164, 29237), (215, 29417), (221, 29441), (248, 29537), (262, 29573), (277, 29612), (282, 29621), (291, 29654), (299, 29693), (312, 29738), (326, 29789), (344, 29840), (345, 29849), (358, 29918), (377, 29993), (393, 30038), (397, 30053), (428, 30188), (441, 30242), (444, 30263), (457, 30296), (471, 30341), (487, 30395), (495, 30422), (509, 30479), (519, 30500), (529, 30542), (539, 30581), (553, 30641), (614, 30881), (625, 30917), (639, 30950), (672, 31019),

Gene: Poster\_27 Start: 27941, Stop: 30238, Start Num: 31

Candidate Starts for Poster\_27:

(Start: 31 @27941 has 324 MA's), (57, 28040), (84, 28145), (98, 28181), (114, 28244), (136, 28325), (160, 28391), (164, 28403), (196, 28508), (208, 28547), (219, 28598), (221, 28607), (242, 28688), (243, 28691), (262, 28754), (279, 28796), (284, 28808), (314, 28931), (320, 28955), (343, 29018), (348, 29048), (349, 29057), (366, 29129), (372, 29150), (377, 29186), (383, 29207), (402, 29273), (405, 29285), (413, 29336), (414, 29339), (418, 29357), (426, 29381), (431, 29408), (441, 29441), (444, 29462), (457, 29495), (471, 29540), (513, 29681), (515, 29684), (519, 29696), (540, 29780), (571, 29915), (578, 29939), (595, 30002), (602, 30032), (603, 30038), (614, 30086), (624, 30119), (625, 30122), (672, 30224), (674, 30227),

Gene: Potter\_30 Start: 28479, Stop: 30734, Start Num: 31

Candidate Starts for Potter\_30:

(Start: 31 @28479 has 324 MA's), (57, 28575), (79, 28653), (84, 28680), (114, 28779), (164, 28938), (215, 29118), (221, 29142), (247, 29232), (248, 29238), (262, 29274), (277, 29313), (282, 29322), (291, 29355), (299, 29394), (312, 29439), (326, 29490), (344, 29541), (345, 29550), (358, 29619), (377, 29694), (393, 29739), (397, 29754), (428, 29889), (441, 29943), (444, 29964), (457, 29997), (471, 30042), (487, 30096), (495, 30123), (509, 30180), (519, 30201), (529, 30243), (539, 30282), (553, 30342), (614, 30582), (624, 30615), (625, 30618), (639, 30651), (642, 30657), (672, 30720),

Gene: Power\_31 Start: 22692, Stop: 24893, Start Num: 20

Candidate Starts for Power\_31:

(Start: 20 @22692 has 22 MA's), (27, 22713), (54, 22812), (56, 22818), (64, 22845), (65, 22848), (81, 22902), (91, 22938), (127, 23040), (220, 23229), (257, 23361), (259, 23364), (289, 23442), (390, 23718), (395, 23736), (401, 23760), (450, 23961), (461, 24000), (487, 24090), (499, 24147), (521, 24207), (530, 24252), (534, 24273), (557, 24378), (561, 24393), (567, 24417), (575, 24462), (585, 24489), (596, 24534), (609, 24594), (616, 24618), (687, 24768), (705, 24816), (711, 24840),

Gene: Prickles\_31 Start: 28755, Stop: 31010, Start Num: 31

Candidate Starts for Prickles\_31:

(Start: 31 @28755 has 324 MA's), (57, 28851), (79, 28929), (84, 28956), (114, 29055), (164, 29214), (215, 29394), (221, 29418), (248, 29514), (262, 29550), (277, 29589), (282, 29598), (291, 29631), (299, 29670), (312, 29715), (326, 29766), (344, 29817), (345, 29826), (358, 29895), (377, 29970), (393, 30015), (397, 30030), (428, 30165), (441, 30219), (444, 30240), (457, 30273), (471, 30318), (487, 30372), (495, 30399), (509, 30456), (519, 30477), (529, 30519), (539, 30558), (553, 30618), (614, 30858), (625, 30894), (639, 30927), (672, 30996),

Gene: Prince\_29 Start: 29124, Stop: 31421, Start Num: 31

Candidate Starts for Prince\_29:

(Start: 1 @28437 has 1 MA's), (2, 28584), (Start: 31 @29124 has 324 MA's), (57, 29223), (84, 29328), (98, 29364), (114, 29427), (136, 29508), (160, 29574), (164, 29586), (196, 29691), (208, 29730), (219, 29781), (221, 29790), (242, 29871), (243, 29874), (262, 29937), (279, 29979), (284, 29991), (314, 30114), (320, 30138), (343, 30201), (366, 30312), (372, 30333), (377, 30369), (383, 30390), (402, 30456), (405, 30468), (413, 30519), (414, 30522), (418, 30540), (426, 30564), (431, 30591), (441, 30624), (444, 30645), (457, 30678), (471, 30723), (513, 30864), (515, 30867), (516, 30870), (519, 30879), (540, 30963), (566, 31077), (571, 31098), (578, 31122), (595, 31185), (602, 31215), (603, 31221), (614, 31269), (624, 31302), (625, 31305), (672, 31407), (674, 31410),

Gene: ProfessorX\_31 Start: 28750, Stop: 31005, Start Num: 31

Candidate Starts for ProfessorX\_31:

(Start: 31 @28750 has 324 MA's), (57, 28846), (79, 28924), (84, 28951), (114, 29050), (164, 29209), (215, 29389), (221, 29413), (247, 29503), (248, 29509), (262, 29545), (277, 29584), (282, 29593), (291, 29626), (299, 29665), (312, 29710), (326, 29761), (344, 29812), (345, 29821), (358, 29890), (377, 29965), (393, 30010), (397, 30025), (428, 30160), (441, 30214), (444, 30235), (457, 30268), (471, 30313), (487, 30367), (509, 30451), (519, 30472), (529, 30514), (539, 30553), (553, 30613), (614, 30853), (624, 30886), (625, 30889), (639, 30922), (642, 30928), (672, 30991),

Gene: Puhltonio\_31 Start: 28770, Stop: 31025, Start Num: 31

Candidate Starts for Puhltonio\_31:

(Start: 31 @28770 has 324 MA's), (57, 28866), (79, 28944), (84, 28971), (114, 29070), (164, 29229), (215, 29409), (221, 29433), (247, 29523), (248, 29529), (262, 29565), (277, 29604), (282, 29613), (291, 29646), (299, 29685), (312, 29730), (326, 29781), (344, 29832), (345, 29841), (358, 29910), (377, 29985), (393, 30030), (397, 30045), (428, 30180), (441, 30234), (444, 30255), (457, 30288), (471, 30333), (487, 30387), (495, 30414), (509, 30471), (519, 30492), (529, 30534), (539, 30573), (553, 30633), (614, 30873), (624, 30906), (625, 30909), (639, 30942), (642, 30948), (672, 31011),

Gene: QueenB2\_31 Start: 22756, Stop: 24954, Start Num: 20

Candidate Starts for QueenB2\_31:

(Start: 20 @22756 has 22 MA's), (27, 22777), (54, 22876), (81, 22966), (91, 23002), (127, 23104), (131, 23116), (220, 23293), (259, 23428), (307, 23569), (390, 23782), (395, 23800), (401, 23824), (450, 24025), (487, 24154), (499, 24211), (521, 24271), (530, 24316), (534, 24337), (561, 24457), (583, 24547), (585, 24550), (609, 24655), (616, 24679), (634, 24709), (635, 24712), (705, 24877), (718, 24931),

Gene: QueenBeane\_31 Start: 28761, Stop: 31016, Start Num: 31

Candidate Starts for QueenBeane\_31:

(Start: 31 @28761 has 324 MA's), (57, 28857), (79, 28935), (84, 28962), (114, 29061), (164, 29220), (215, 29400), (221, 29424), (247, 29514), (248, 29520), (262, 29556), (277, 29595), (282, 29604), (291, 29637), (299, 29676), (312, 29721), (326, 29772), (344, 29823), (345, 29832), (358, 29901), (377, 29976), (393, 30021), (397, 30036), (428, 30171), (441, 30225), (444, 30246), (457, 30279), (471, 30324), (487, 30378), (495, 30405), (509, 30462), (519, 30483), (529, 30525), (539, 30564), (553, 30624), (614, 30864), (624, 30897), (625, 30900), (639, 30933), (642, 30939), (672, 31002),

Gene: QueenBeesly\_31 Start: 22638, Stop: 24839, Start Num: 20

Candidate Starts for QueenBeesly\_31:

(Start: 20 @22638 has 22 MA's), (27, 22659), (54, 22758), (56, 22764), (64, 22791), (65, 22794), (81, 22848), (91, 22884), (127, 22986), (220, 23175), (257, 23307), (259, 23310), (390, 23664), (395, 23682), (401, 23706), (450, 23907), (461, 23946), (487, 24036), (499, 24093), (521, 24153), (530, 24198), (534, 24219), (557, 24324), (561, 24339), (567, 24363), (575, 24408), (585, 24435), (596, 24480), (616, 24564), (687, 24714), (705, 24762), (711, 24786),

Gene: Quesadilla\_31 Start: 30831, Stop: 33335, Start Num: 30

Candidate Starts for Quesadilla\_31:

(Start: 30 @30831 has 1 MA's), (43, 30882), (57, 30930), (63, 30948), (78, 31005), (105, 31116), (109, 31143), (118, 31185), (192, 31419), (213, 31500), (214, 31503), (229, 31563), (236, 31590), (284, 31725), (291, 31752), (294, 31773), (320, 31872), (326, 31887), (333, 31905), (343, 31935), (353, 32001), (359, 32016), (364, 32037), (381, 32109), (384, 32124), (388, 32142), (391, 32145), (395, 32163), (403, 32196), (407, 32223), (433, 32328), (442, 32358), (449, 32388), (461, 32427), (465, 32439), (476, 32469), (484, 32505), (487, 32517), (522, 32640), (523, 32643), (524, 32646), (525, 32652), (529, 32676), (561, 32820), (567, 32844), (575, 32889), (582, 32913), (648, 33126), (665, 33162), (694, 33255),

Gene: Quisquilliae\_31 Start: 28789, Stop: 31044, Start Num: 31

Candidate Starts for Quisquilliae\_31:

(Start: 31 @28789 has 324 MA's), (57, 28885), (79, 28963), (84, 28990), (114, 29089), (164, 29248), (215, 29428), (221, 29452), (247, 29542), (248, 29548), (262, 29584), (277, 29623), (282, 29632), (291, 29665), (299, 29704), (312, 29749), (326, 29800), (344, 29851), (345, 29860), (358, 29929), (377, 30004), (393, 30049), (397, 30064), (428, 30199), (441, 30253), (444, 30274), (457, 30307), (471, 30352), (487, 30406), (495, 30433), (509, 30490), (519, 30511), (529, 30553), (539, 30592), (553, 30652), (614, 30892), (624, 30925), (625, 30928), (639, 30961), (642, 30967), (672, 31030),

Gene: RagingRooster\_31 Start: 28614, Stop: 30842, Start Num: 31

Candidate Starts for RagingRooster\_31:

(Start: 31 @28614 has 324 MA's), (Start: 37 @28629 has 1 MA's), (46, 28674), (63, 28731), (85, 28809), (108, 28878), (114, 28890), (126, 28932), (137, 28968), (148, 28995), (154, 29007), (161, 29034), (187, 29124), (209, 29196), (229, 29280), (264, 29388), (270, 29409), (299, 29502), (305, 29517), (343, 29646), (358, 29727), (377, 29802), (392, 29844), (393, 29850), (402, 29886), (428, 30000), (429, 30012), (441, 30054), (444, 30075), (462, 30129), (471, 30153), (483, 30189), (509, 30288), (515, 30297), (529, 30351), (555, 30459), (561, 30486), (571, 30528), (592, 30600), (614, 30690), (625, 30726),

Gene: RawrgerThat\_28 Start: 28967, Stop: 31264, Start Num: 31

Candidate Starts for RawrgerThat\_28:

(Start: 31 @28967 has 324 MA's), (57, 29066), (63, 29084), (98, 29207), (114, 29270), (136, 29351), (160, 29417), (196, 29534), (208, 29573), (219, 29624), (221, 29633), (235, 29690), (242, 29714), (243, 29717), (262, 29780), (279, 29822), (314, 29957), (320, 29981), (343, 30044), (366, 30155), (372, 30176), (377, 30212), (383, 30233), (402, 30299), (405, 30311), (413, 30362), (414, 30365), (418, 30383), (426, 30407), (431, 30434), (441, 30467), (444, 30488), (457, 30521), (471, 30566), (513, 30707), (515, 30710), (519, 30722), (540, 30806), (566, 30920), (571, 30941), (578, 30965), (595, 31028), (602, 31058), (603, 31064), (614, 31112), (624, 31145), (625, 31148), (672, 31250), (674, 31253),

Gene: RedMaple\_30 Start: 28765, Stop: 31023, Start Num: 31

Candidate Starts for RedMaple\_30:

(Start: 31 @28765 has 324 MA's), (57, 28861), (79, 28939), (84, 28966), (114, 29068), (164, 29227), (215, 29407), (221, 29431), (248, 29527), (262, 29563), (277, 29602), (282, 29611), (291, 29644), (299, 29683), (312, 29728), (326, 29779), (344, 29830), (345, 29839), (358, 29908), (377, 29983), (393, 30028), (397, 30043), (428, 30178), (441, 30232), (444, 30253), (457, 30286), (471, 30331), (487, 30385), (495, 30412), (509, 30469), (519, 30490), (529, 30532), (539, 30571), (553, 30631), (614, 30871), (625, 30907), (639, 30940), (672, 31009),

Gene: Reprobate\_30 Start: 29236, Stop: 31503, Start Num: 31

Candidate Starts for Reprobate\_30:

(Start: 31 @29236 has 324 MA's), (57, 29332), (73, 29389), (78, 29407), (89, 29452), (196, 29803), (220, 29899), (223, 29905), (229, 29935), (235, 29959), (243, 29986), (277, 30076), (284, 30091),

(331, 30271), (344, 30307), (349, 30343), (358, 30385), (377, 30460), (383, 30481), (393, 30511), (413, 30610), (419, 30634), (428, 30661), (441, 30715), (444, 30736), (457, 30769), (488, 30871), (509, 30949), (515, 30958), (519, 30970), (539, 31051), (540, 31054), (551, 31108), (555, 31120), (562, 31150), (566, 31168), (583, 31234), (598, 31282), (614, 31351), (672, 31489), (674, 31492),

Gene: Reptar3000\_28 Start: 22013, Stop: 24316, Start Num: 17

Candidate Starts for Reptar3000\_28:

(Start: 17 @22013 has 64 MA's), (Start: 28 @22061 has 2 MA's), (32, 22070), (45, 22124), (55, 22157), (87, 22265), (162, 22394), (185, 22445), (188, 22454), (220, 22535), (245, 22592), (265, 22652), (270, 22664), (279, 22679), (282, 22685), (291, 22718), (304, 22766), (320, 22820), (346, 22892), (386, 23072), (404, 23153), (439, 23303), (451, 23345), (464, 23402), (466, 23414), (490, 23519), (504, 23585), (508, 23600), (535, 23696), (567, 23849), (570, 23864), (572, 23870), (575, 23894), (586, 23933), (589, 23945), (610, 24041), (623, 24077), (627, 24092), (630, 24095), (642, 24116), (651, 24131), (685, 24200), (694, 24230), (720, 24308),

Gene: Retro23\_31 Start: 22846, Stop: 25044, Start Num: 20

Candidate Starts for Retro23\_31:

(Start: 20 @22846 has 22 MA's), (27, 22867), (54, 22966), (81, 23056), (91, 23092), (127, 23194), (131, 23206), (205, 23317), (220, 23383), (257, 23515), (259, 23518), (286, 23581), (390, 23872), (395, 23890), (401, 23914), (450, 24115), (461, 24154), (487, 24244), (499, 24301), (521, 24361), (530, 24406), (534, 24427), (561, 24547), (583, 24637), (585, 24640), (609, 24745), (634, 24799), (705, 24967), (718, 25021),

Gene: Rich\_29 Start: 28722, Stop: 30989, Start Num: 31

Candidate Starts for Rich\_29:

(Start: 31 @28722 has 324 MA's), (33, 28728), (46, 28779), (53, 28800), (67, 28854), (70, 28866), (73, 28875), (78, 28893), (98, 28956), (196, 29289), (223, 29391), (235, 29445), (277, 29565), (284, 29580), (291, 29607), (344, 29793), (349, 29829), (358, 29871), (383, 29967), (393, 29997), (413, 30096), (428, 30147), (462, 30276), (471, 30300), (502, 30414), (509, 30435), (529, 30498), (539, 30537), (540, 30540), (555, 30606), (562, 30636), (566, 30654), (583, 30720), (592, 30747), (614, 30837), (639, 30906), (672, 30975), (674, 30978),

Gene: Ricotta\_31 Start: 28488, Stop: 30743, Start Num: 31

Candidate Starts for Ricotta\_31:

(Start: 31 @28488 has 324 MA's), (57, 28584), (79, 28662), (84, 28689), (114, 28788), (164, 28947), (215, 29127), (221, 29151), (247, 29241), (248, 29247), (262, 29283), (277, 29322), (282, 29331), (291, 29364), (299, 29403), (312, 29448), (326, 29499), (344, 29550), (345, 29559), (358, 29628), (377, 29703), (393, 29748), (397, 29763), (428, 29898), (441, 29952), (444, 29973), (457, 30006), (471, 30051), (487, 30105), (495, 30132), (509, 30189), (519, 30210), (529, 30252), (539, 30291), (553, 30351), (614, 30591), (625, 30627), (639, 30660), (672, 30729),

Gene: Riggan\_31 Start: 28747, Stop: 31002, Start Num: 31

Candidate Starts for Riggan\_31:

(Start: 31 @28747 has 324 MA's), (57, 28843), (79, 28921), (84, 28948), (114, 29047), (164, 29206), (215, 29386), (221, 29410), (247, 29500), (248, 29506), (262, 29542), (277, 29581), (282, 29590), (291, 29623), (299, 29662), (312, 29707), (326, 29758), (344, 29809), (345, 29818), (358, 29887), (377, 29962), (393, 30007), (397, 30022), (428, 30157), (441, 30211), (444, 30232), (457, 30265), (471, 30310), (487, 30364), (495, 30391), (509, 30448), (519, 30469), (529, 30511), (539, 30550), (553, 30610), (614, 30850), (624, 30883), (625, 30886), (639, 30919), (642, 30925), (672, 30988),

Gene: Rimu\_32 Start: 28496, Stop: 30751, Start Num: 31

Candidate Starts for Rimu\_32:

(Start: 31 @28496 has 324 MA's), (57, 28592), (79, 28670), (84, 28697), (114, 28796), (164, 28955), (215, 29135), (221, 29159), (248, 29255), (262, 29291), (277, 29330), (282, 29339), (291, 29372), (299, 29411), (312, 29456), (326, 29507), (344, 29558), (345, 29567), (358, 29636), (377, 29711), (393, 29756), (397, 29771), (428, 29906), (441, 29960), (444, 29981), (457, 30014), (471, 30059), (487, 30113), (495, 30140), (509, 30197), (519, 30218), (529, 30260), (539, 30299), (553, 30359), (614, 30599), (625, 30635), (639, 30668), (672, 30737),

Gene: Rita1961\_31 Start: 28615, Stop: 30825, Start Num: 37

Candidate Starts for Rita1961\_31:

(Start: 31 @28600 has 324 MA's), (Start: 37 @28615 has 1 MA's), (46, 28660), (63, 28717), (85, 28795), (108, 28864), (114, 28876), (126, 28918), (137, 28954), (148, 28981), (154, 28993), (161, 29020), (187, 29110), (209, 29182), (229, 29266), (264, 29374), (270, 29395), (299, 29488), (305, 29503), (343, 29632), (358, 29713), (377, 29788), (392, 29830), (393, 29836), (402, 29872), (428, 29986), (429, 29998), (441, 30040), (444, 30061), (462, 30115), (471, 30139), (483, 30175), (509, 30271), (515, 30280), (529, 30334), (555, 30442), (561, 30469), (571, 30511), (592, 30583), (614, 30673), (625, 30709),

Gene: Robyn\_30 Start: 28329, Stop: 30587, Start Num: 31

Candidate Starts for Robyn\_30:

(Start: 31 @28329 has 324 MA's), (57, 28425), (79, 28503), (84, 28530), (114, 28632), (164, 28791), (215, 28971), (221, 28995), (248, 29091), (262, 29127), (277, 29166), (291, 29208), (299, 29247), (312, 29292), (326, 29343), (344, 29394), (345, 29403), (358, 29472), (377, 29547), (393, 29592), (397, 29607), (428, 29742), (441, 29796), (444, 29817), (457, 29850), (471, 29895), (487, 29949), (509, 30033), (519, 30054), (529, 30096), (539, 30135), (553, 30195), (614, 30435), (624, 30468), (625, 30471), (639, 30504), (642, 30510), (672, 30573),

Gene: Roliet\_31 Start: 28757, Stop: 31012, Start Num: 31

Candidate Starts for Roliet\_31:

(Start: 31 @28757 has 324 MA's), (57, 28853), (79, 28931), (84, 28958), (114, 29057), (164, 29216), (215, 29396), (221, 29420), (248, 29516), (262, 29552), (277, 29591), (282, 29600), (291, 29633), (299, 29672), (312, 29717), (326, 29768), (344, 29819), (345, 29828), (358, 29897), (377, 29972), (393, 30017), (397, 30032), (428, 30167), (441, 30221), (444, 30242), (457, 30275), (471, 30320), (487, 30374), (495, 30401), (509, 30458), (519, 30479), (529, 30521), (539, 30560), (553, 30620), (614, 30860), (625, 30896), (639, 30929), (672, 30998),

Gene: RomaT\_31 Start: 29390, Stop: 31615, Start Num: 31

Candidate Starts for RomaT\_31:

(Start: 31 @29390 has 324 MA's), (Start: 37 @29405 has 1 MA's), (46, 29450), (63, 29507), (85, 29585), (108, 29654), (114, 29666), (126, 29708), (137, 29744), (148, 29771), (154, 29783), (161, 29810), (187, 29900), (209, 29972), (229, 30056), (264, 30164), (270, 30185), (299, 30278), (305, 30293), (343, 30422), (358, 30503), (377, 30578), (392, 30620), (393, 30626), (402, 30662), (413, 30725), (428, 30776), (429, 30788), (441, 30830), (444, 30851), (462, 30905), (471, 30929), (483, 30965), (509, 31061), (515, 31070), (529, 31124), (555, 31232), (561, 31259), (571, 31301), (592, 31373), (614, 31463), (625, 31499),

Gene: Roscoe\_32 Start: 28995, Stop: 31250, Start Num: 31

Candidate Starts for Roscoe\_32:

(Start: 31 @28995 has 324 MA's), (57, 29091), (79, 29169), (84, 29196), (114, 29295), (164, 29454), (215, 29634), (221, 29658), (247, 29748), (248, 29754), (262, 29790), (277, 29829), (282, 29838), (291, 29871), (299, 29910), (312, 29955), (326, 30006), (344, 30057), (345, 30066), (358, 30135), (377, 30210), (393, 30255), (397, 30270), (428, 30405), (440, 30456), (441, 30459), (444, 30480), (457, 30513), (471, 30558), (487, 30612), (509, 30696), (519, 30717), (529, 30759), (539, 30798), (553, 30858), (614, 31098), (624, 31131), (625, 31134), (639, 31167), (642, 31173), (672, 31236),

Gene: Roy17\_31 Start: 28461, Stop: 30716, Start Num: 31

Candidate Starts for Roy17\_31:

(Start: 31 @28461 has 324 MA's), (57, 28557), (79, 28635), (84, 28662), (114, 28761), (164, 28920), (215, 29100), (221, 29124), (247, 29214), (248, 29220), (262, 29256), (277, 29295), (282, 29304), (291, 29337), (299, 29376), (312, 29421), (326, 29472), (344, 29523), (345, 29532), (358, 29601), (377, 29676), (393, 29721), (397, 29736), (428, 29871), (441, 29925), (444, 29946), (457, 29979), (471, 30024), (487, 30078), (509, 30162), (519, 30183), (529, 30225), (539, 30264), (553, 30324), (614, 30564), (624, 30597), (625, 30600), (639, 30633), (642, 30639), (672, 30702),

Gene: SDcharge11\_31 Start: 28735, Stop: 30990, Start Num: 31

Candidate Starts for SDcharge11\_31:

(Start: 31 @28735 has 324 MA's), (57, 28831), (79, 28909), (84, 28936), (114, 29035), (164, 29194), (215, 29374), (221, 29398), (248, 29494), (262, 29530), (277, 29569), (282, 29578), (291, 29611), (299, 29650), (312, 29695), (326, 29746), (344, 29797), (345, 29806), (358, 29875), (377, 29950), (393, 29995), (397, 30010), (428, 30145), (441, 30199), (444, 30220), (457, 30253), (471, 30298), (487, 30352), (495, 30379), (509, 30436), (519, 30457), (529, 30499), (539, 30538), (553, 30598), (614, 30838), (625, 30874), (639, 30907), (672, 30976),

Gene: Saguaro\_31 Start: 30959, Stop: 33436, Start Num: 31

Candidate Starts for Saguaro\_31:

(Start: 31 @30959 has 324 MA's), (Start: 37 @30971 has 1 MA's), (57, 31055), (59, 31061), (63, 31073), (78, 31130), (90, 31181), (118, 31301), (130, 31346), (142, 31382), (154, 31406), (186, 31520), (192, 31535), (214, 31619), (227, 31673), (236, 31706), (241, 31721), (262, 31781), (265, 31793), (267, 31799), (284, 31838), (291, 31865), (294, 31886), (299, 31904), (305, 31919), (320, 31985), (326, 32000), (343, 32048), (353, 32114), (364, 32153), (376, 32207), (391, 32261), (395, 32279), (403, 32312), (431, 32438), (442, 32474), (461, 32543), (465, 32555), (476, 32585), (482, 32609), (487, 32633), (499, 32690), (521, 32750), (522, 32756), (524, 32762), (525, 32768), (527, 32780), (529, 32792), (530, 32795), (533, 32813), (544, 32855), (561, 32936), (562, 32939), (567, 32960), (581, 33026), (583, 33032), (606, 33113), (609, 33137), (664, 33263), (678, 33302), (679, 33305), (681, 33311), (686, 33329), (694, 33359), (703, 33380), (710, 33416),

Gene: Samaymay\_31 Start: 28761, Stop: 31016, Start Num: 31

Candidate Starts for Samaymay\_31:

(Start: 31 @28761 has 324 MA's), (57, 28857), (79, 28935), (84, 28962), (114, 29061), (164, 29220), (215, 29400), (221, 29424), (247, 29514), (248, 29520), (262, 29556), (277, 29595), (282, 29604), (291, 29637), (299, 29676), (312, 29721), (326, 29772), (344, 29823), (345, 29832), (358, 29901), (377, 29976), (393, 30021), (397, 30036), (428, 30171), (441, 30225), (444, 30246), (457, 30279), (471, 30324), (487, 30378), (495, 30405), (509, 30462), (519, 30483), (529, 30525), (539, 30564), (553, 30624), (614, 30864), (624, 30897), (625, 30900), (639, 30933), (642, 30939), (672, 31002),

Gene: Samty\_21 Start: 19727, Stop: 22240, Start Num: 12

Candidate Starts for Samty\_21:

(Start: 12 @19727 has 16 MA's), (26, 19790), (45, 19862), (72, 19952), (74, 19958), (95, 20030), (160, 20222), (164, 20234), (173, 20252), (180, 20291), (190, 20321), (208, 20378), (213, 20408), (215, 20414), (229, 20468), (231, 20474), (274, 20621), (276, 20624), (282, 20633), (288, 20651), (301, 20711), (305, 20720), (307, 20732), (319, 20783), (322, 20786), (363, 20951), (376, 21008), (397, 21092), (401, 21110), (403, 21119), (415, 21182), (447, 21302), (460, 21347), (465, 21362), (473, 21380), (482, 21410), (500, 21500), (524, 21569), (530, 21602), (534, 21623), (543, 21659), (550, 21695), (560, 21740), (565, 21764), (567, 21770), (570, 21785), (574, 21803), (582, 21836), (597, 21890), (604, 21914), (611, 21950), (613, 21956), (621, 21980), (692, 22145), (694, 22154), (697, 22160),

Gene: SassyCat97\_30 Start: 28467, Stop: 30722, Start Num: 31

Candidate Starts for SassyCat97\_30:

(Start: 31 @28467 has 324 MA's), (57, 28563), (79, 28641), (84, 28668), (114, 28767), (164, 28926), (215, 29106), (221, 29130), (247, 29220), (248, 29226), (262, 29262), (277, 29301), (282, 29310), (291, 29343), (299, 29382), (312, 29427), (326, 29478), (344, 29529), (345, 29538), (358, 29607), (377, 29682), (393, 29727), (397, 29742), (428, 29877), (441, 29931), (444, 29952), (457, 29985), (471, 30030), (487, 30084), (495, 30111), (509, 30168), (519, 30189), (529, 30231), (539, 30270), (553, 30330), (614, 30570), (624, 30603), (625, 30606), (639, 30639), (642, 30645), (672, 30708),

Gene: Schadenfreude\_30 Start: 28315, Stop: 30573, Start Num: 31

Candidate Starts for Schadenfreude\_30:

(Start: 31 @28315 has 324 MA's), (57, 28411), (79, 28489), (84, 28516), (114, 28618), (164, 28777), (215, 28957), (221, 28981), (248, 29077), (262, 29113), (277, 29152), (282, 29161), (291, 29194), (299, 29233), (312, 29278), (326, 29329), (344, 29380), (345, 29389), (358, 29458), (377, 29533), (393, 29578), (397, 29593), (428, 29728), (441, 29782), (444, 29803), (457, 29836), (471, 29881), (487, 29935), (509, 30019), (519, 30040), (529, 30082), (539, 30121), (553, 30181), (614, 30421), (624, 30454), (625, 30457), (639, 30490), (642, 30496), (672, 30559),

Gene: Schueller\_31 Start: 28482, Stop: 30737, Start Num: 31

Candidate Starts for Schueller\_31:

(Start: 31 @28482 has 324 MA's), (57, 28578), (79, 28656), (84, 28683), (114, 28782), (164, 28941), (215, 29121), (221, 29145), (247, 29235), (248, 29241), (262, 29277), (277, 29316), (282, 29325), (291, 29358), (299, 29397), (312, 29442), (326, 29493), (344, 29544), (345, 29553), (358, 29622), (377, 29697), (393, 29742), (397, 29757), (428, 29892), (441, 29946), (444, 29967), (457, 30000), (471, 30045), (487, 30099), (495, 30126), (509, 30183), (519, 30204), (529, 30246), (539, 30285), (553, 30345), (614, 30585), (625, 30621), (639, 30654), (672, 30723),

Gene: Scitech\_20 Start: 17553, Stop: 20192, Start Num: 7

Candidate Starts for Scitech\_20:

(Start: 4 @17541 has 1 MA's), (Start: 7 @17553 has 9 MA's), (10, 17565), (36, 17676), (41, 17700), (Start: 42 @17703 has 1 MA's), (43, 17712), (82, 17850), (95, 17892), (97, 17895), (129, 17985), (131, 17994), (132, 17997), (139, 18018), (143, 18030), (157, 18063), (174, 18117), (194, 18189), (203, 18219), (211, 18255), (227, 18318), (232, 18333), (240, 18360), (242, 18366), (267, 18441), (279, 18465), (280, 18471), (284, 18483), (292, 18525), (294, 18531), (318, 18618), (351, 18750), (355, 18768), (365, 18801), (372, 18828), (378, 18879), (424, 19089), (439, 19155), (447, 19191), (470, 19290), (472, 19302), (487, 19365), (528, 19527), (532, 19542), (543, 19593), (567, 19710), (576, 19755), (589, 19797), (597, 19833), (609, 19887), (627, 19935), (693, 20079), (709, 20136), (718, 20175), (721, 20184),

Gene: Scoot17C\_31 Start: 28760, Stop: 31015, Start Num: 31

Candidate Starts for Scoot17C\_31:

(Start: 31 @28760 has 324 MA's), (57, 28856), (79, 28934), (84, 28961), (114, 29060), (164, 29219), (215, 29399), (221, 29423), (247, 29513), (248, 29519), (262, 29555), (277, 29594), (282, 29603), (291, 29636), (299, 29675), (312, 29720), (326, 29771), (344, 29822), (345, 29831), (358, 29900), (377, 29975), (393, 30020), (397, 30035), (428, 30170), (441, 30224), (444, 30245), (457, 30278), (471, 30323), (487, 30377), (509, 30461), (519, 30482), (529, 30524), (539, 30563), (553, 30623), (614, 30863), (624, 30896), (625, 30899), (639, 30932), (642, 30938), (672, 31001),

Gene: Scrick\_31 Start: 28485, Stop: 30740, Start Num: 31

Candidate Starts for Scrick\_31:

(Start: 31 @28485 has 324 MA's), (57, 28581), (79, 28659), (84, 28686), (114, 28785), (164, 28944), (215, 29124), (221, 29148), (247, 29238), (248, 29244), (262, 29280), (277, 29319), (282, 29328), (291, 29361), (299, 29400), (312, 29445), (326, 29496), (344, 29547), (345, 29556), (358, 29625),



(377, 29700), (393, 29745), (397, 29760), (428, 29895), (441, 29949), (444, 29970), (457, 30003), (471, 30048), (487, 30102), (495, 30129), (509, 30186), (519, 30207), (529, 30249), (539, 30288), (553, 30348), (614, 30588), (624, 30621), (625, 30624), (639, 30657), (642, 30663), (672, 30726),

Gene: Selr12\_31 Start: 28489, Stop: 30744, Start Num: 31

Candidate Starts for Selr12\_31:

(Start: 31 @28489 has 324 MA's), (57, 28585), (79, 28663), (84, 28690), (114, 28789), (164, 28948), (215, 29128), (221, 29152), (247, 29242), (248, 29248), (262, 29284), (277, 29323), (282, 29332), (291, 29365), (299, 29404), (312, 29449), (326, 29500), (344, 29551), (345, 29560), (358, 29629), (377, 29704), (393, 29749), (397, 29764), (428, 29899), (441, 29953), (444, 29974), (457, 30007), (471, 30052), (487, 30106), (495, 30133), (509, 30190), (519, 30211), (529, 30253), (539, 30292), (553, 30352), (614, 30592), (625, 30628), (639, 30661), (672, 30730),

Gene: SemperFi\_33 Start: 23055, Stop: 25259, Start Num: 20

Candidate Starts for SemperFi\_33:

(Start: 20 @23055 has 22 MA's), (27, 23076), (54, 23175), (81, 23265), (91, 23301), (127, 23403), (220, 23592), (259, 23727), (286, 23790), (307, 23868), (390, 24081), (395, 24099), (401, 24123), (450, 24324), (461, 24363), (487, 24453), (499, 24510), (521, 24570), (530, 24615), (534, 24636), (561, 24756), (567, 24780), (585, 24855), (609, 24960), (616, 24984), (634, 25014), (664, 25074), (687, 25134), (705, 25182), (711, 25206), (712, 25209), (718, 25236),

Gene: Serendipitous\_29 Start: 28782, Stop: 31049, Start Num: 31

Candidate Starts for Serendipitous\_29:

(Start: 31 @28782 has 324 MA's), (67, 28914), (73, 28935), (78, 28953), (89, 28998), (120, 29121), (196, 29349), (223, 29451), (229, 29481), (235, 29505), (277, 29625), (284, 29640), (324, 29793), (344, 29853), (349, 29889), (358, 29931), (377, 30006), (393, 30057), (413, 30156), (419, 30180), (428, 30207), (488, 30417), (509, 30495), (515, 30504), (519, 30516), (539, 30597), (540, 30600), (542, 30612), (555, 30666), (566, 30714), (583, 30780), (614, 30897), (672, 31035),

Gene: Serendipity\_31 Start: 28785, Stop: 31040, Start Num: 31

Candidate Starts for Serendipity\_31:

(Start: 31 @28785 has 324 MA's), (57, 28881), (79, 28959), (84, 28986), (114, 29085), (164, 29244), (215, 29424), (221, 29448), (247, 29538), (248, 29544), (262, 29580), (277, 29619), (282, 29628), (291, 29661), (299, 29700), (312, 29745), (326, 29796), (344, 29847), (345, 29856), (358, 29925), (377, 30000), (393, 30045), (397, 30060), (428, 30195), (441, 30249), (444, 30270), (457, 30303), (471, 30348), (487, 30402), (495, 30429), (509, 30486), (519, 30507), (529, 30549), (539, 30588), (553, 30648), (614, 30888), (624, 30921), (625, 30924), (639, 30957), (642, 30963), (672, 31026),

Gene: Serpentine\_0031 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for Serpentine\_0031:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (495, 30410), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (624, 30902), (625, 30905), (639, 30938), (642, 30944), (672, 31007),

Gene: Severus\_31 Start: 21405, Stop: 23687, Start Num: 16

Candidate Starts for Severus\_31:

(Start: 16 @21405 has 6 MA's), (25, 21438), (48, 21522), (68, 21588), (106, 21720), (127, 21765), (135, 21789), (142, 21810), (143, 21813), (156, 21843), (163, 21867), (170, 21885), (182, 21942), (201, 22002), (220, 22080), (249, 22155), (289, 22245), (306, 22305), (353, 22371), (390, 22518), (395, 22536), (401, 22560), (434, 22704), (450, 22761), (461, 22800), (466, 22821), (487, 22890),

(521, 23007), (530, 23052), (536, 23082), (541, 23100), (544, 23112), (557, 23178), (567, 23217), (570, 23232), (572, 23238), (579, 23271), (583, 23289), (607, 23391), (609, 23394), (633, 23451), (641, 23469), (642, 23472), (649, 23484), (668, 23523), (684, 23565), (685, 23568), (718, 23670),

Gene: SgtBeansprout\_23 Start: 20414, Stop: 22900, Start Num: 17

Candidate Starts for SgtBeansprout\_23:

(Start: 17 @20414 has 64 MA's), (Start: 28 @20462 has 2 MA's), (83, 20642), (84, 20645), (134, 20708), (137, 20720), (181, 20852), (193, 20891), (209, 20948), (213, 20972), (216, 20984), (229, 21032), (230, 21035), (245, 21068), (254, 21107), (265, 21140), (270, 21152), (275, 21161), (279, 21167), (296, 21233), (299, 21248), (330, 21359), (340, 21392), (355, 21476), (361, 21491), (373, 21551), (386, 21620), (411, 21740), (432, 21833), (461, 21947), (481, 22025), (482, 22031), (490, 22055), (503, 22118), (504, 22121), (507, 22133), (527, 22199), (528, 22205), (537, 22247), (541, 22268), (543, 22277), (548, 22310), (552, 22328), (567, 22397), (591, 22496), (593, 22502), (597, 22520), (607, 22574), (612, 22589), (622, 22616), (652, 22673),

Gene: Shadow1\_25 Start: 19919, Stop: 22255, Start Num: 17

Candidate Starts for Shadow1\_25:

(13, 19886), (Start: 17 @19919 has 64 MA's), (18, 19928), (32, 19976), (34, 19979), (77, 20120), (86, 20159), (152, 20255), (155, 20264), (181, 20354), (211, 20465), (239, 20567), (265, 20648), (279, 20678), (284, 20690), (291, 20717), (292, 20732), (307, 20756), (326, 20816), (346, 20888), (360, 20954), (378, 21044), (390, 21086), (396, 21107), (399, 21119), (403, 21137), (422, 21224), (439, 21287), (447, 21320), (467, 21392), (501, 21521), (530, 21614), (533, 21632), (591, 21878), (600, 21911), (634, 22016), (641, 22034), (682, 22121), (688, 22145), (704, 22187), (722, 22247),

Gene: Shaobing\_27 Start: 20230, Stop: 22731, Start Num: 17

Candidate Starts for Shaobing\_27:

(Start: 17 @20230 has 64 MA's), (Start: 28 @20278 has 2 MA's), (44, 20329), (66, 20401), (82, 20452), (86, 20470), (99, 20503), (134, 20524), (137, 20536), (159, 20590), (181, 20668), (193, 20707), (209, 20764), (216, 20800), (230, 20851), (245, 20881), (250, 20896), (254, 20920), (265, 20953), (275, 20974), (279, 20980), (291, 21019), (330, 21172), (340, 21205), (343, 21217), (353, 21280), (373, 21364), (409, 21547), (421, 21601), (432, 21643), (481, 21835), (482, 21841), (490, 21865), (503, 21928), (504, 21931), (517, 21967), (532, 22030), (543, 22087), (548, 22120), (552, 22138), (560, 22177), (569, 22216), (570, 22222), (583, 22279), (610, 22393), (628, 22447), (639, 22462), (655, 22492), (660, 22504), (684, 22561), (689, 22579), (700, 22609), (707, 22627), (724, 22708),

Gene: ShedlockHolmes\_26 Start: 21295, Stop: 23643, Start Num: 17

Candidate Starts for ShedlockHolmes\_26:

(Start: 17 @21295 has 64 MA's), (24, 21322), (34, 21355), (45, 21400), (141, 21619), (159, 21664), (173, 21700), (175, 21718), (199, 21796), (211, 21844), (251, 21976), (265, 22030), (272, 22045), (311, 22153), (346, 22270), (352, 22312), (353, 22318), (355, 22327), (360, 22336), (370, 22381), (376, 22417), (378, 22435), (390, 22477), (396, 22498), (401, 22519), (403, 22528), (422, 22615), (446, 22708), (447, 22711), (467, 22783), (522, 22966), (533, 23023), (556, 23122), (559, 23140), (572, 23194), (578, 23224), (582, 23239), (583, 23242), (587, 23251), (591, 23269), (593, 23275), (600, 23302), (606, 23323), (611, 23353), (627, 23398), (634, 23407), (688, 23536), (704, 23575), (706, 23578),

Gene: Sheila\_31 Start: 28755, Stop: 31013, Start Num: 31

Candidate Starts for Sheila\_31:

(Start: 31 @28755 has 324 MA's), (57, 28851), (79, 28929), (84, 28956), (114, 29058), (164, 29217), (215, 29397), (221, 29421), (248, 29517), (262, 29553), (277, 29592), (282, 29601), (291, 29634), (299, 29673), (312, 29718), (326, 29769), (344, 29820), (345, 29829), (358, 29898), (377, 29973), (393, 30018), (397, 30033), (428, 30168), (441, 30222), (444, 30243), (457, 30276), (471, 30321),

(487, 30375), (495, 30402), (509, 30459), (519, 30480), (529, 30522), (539, 30561), (553, 30621),  
(614, 30861), (624, 30894), (625, 30897), (639, 30930), (642, 30936), (672, 30999),

Gene: ShiVal\_31 Start: 28759, Stop: 31014, Start Num: 31

Candidate Starts for ShiVal\_31:

(Start: 31 @28759 has 324 MA's), (57, 28855), (79, 28933), (84, 28960), (114, 29059), (164, 29218),  
(215, 29398), (221, 29422), (247, 29512), (248, 29518), (262, 29554), (277, 29593), (282, 29602),  
(291, 29635), (299, 29674), (312, 29719), (326, 29770), (344, 29821), (345, 29830), (358, 29899),  
(377, 29974), (393, 30019), (397, 30034), (428, 30169), (441, 30223), (444, 30244), (457, 30277),  
(471, 30322), (487, 30376), (495, 30403), (509, 30460), (519, 30481), (529, 30523), (539, 30562),  
(553, 30622), (614, 30862), (624, 30895), (625, 30898), (639, 30931), (642, 30937), (672, 31000),

Gene: Shweta\_20 Start: 17560, Stop: 20199, Start Num: 7

Candidate Starts for Shweta\_20:

(Start: 4 @17548 has 1 MA's), (Start: 7 @17560 has 9 MA's), (10, 17572), (36, 17683), (41, 17707),  
(Start: 42 @17710 has 1 MA's), (43, 17719), (82, 17857), (95, 17899), (97, 17902), (129, 17992), (131,  
18001), (132, 18004), (139, 18025), (143, 18037), (157, 18070), (174, 18124), (194, 18196), (203,  
18226), (211, 18262), (227, 18325), (232, 18340), (240, 18367), (242, 18373), (267, 18448), (279,  
18472), (280, 18478), (284, 18490), (292, 18532), (294, 18538), (323, 18637), (351, 18757), (355,  
18775), (365, 18808), (372, 18835), (378, 18886), (424, 19096), (439, 19162), (447, 19198), (470,  
19297), (472, 19309), (487, 19372), (528, 19534), (532, 19549), (543, 19600), (567, 19717), (576,  
19762), (589, 19804), (597, 19840), (609, 19894), (627, 19942), (693, 20086), (709, 20143), (718,  
20182), (721, 20191),

Gene: Sigman\_31 Start: 28751, Stop: 31006, Start Num: 31

Candidate Starts for Sigman\_31:

(Start: 31 @28751 has 324 MA's), (57, 28847), (79, 28925), (84, 28952), (114, 29051), (164, 29210),  
(215, 29390), (221, 29414), (247, 29504), (248, 29510), (262, 29546), (277, 29585), (282, 29594),  
(291, 29627), (299, 29666), (312, 29711), (326, 29762), (344, 29813), (345, 29822), (358, 29891),  
(377, 29966), (393, 30011), (397, 30026), (428, 30161), (441, 30215), (444, 30236), (457, 30269),  
(471, 30314), (487, 30368), (509, 30452), (519, 30473), (529, 30515), (539, 30554), (553, 30614),  
(614, 30854), (624, 30887), (625, 30890), (639, 30923), (642, 30929), (672, 30992),

Gene: Simielle\_30 Start: 28454, Stop: 30709, Start Num: 31

Candidate Starts for Simielle\_30:

(Start: 31 @28454 has 324 MA's), (57, 28550), (79, 28628), (84, 28655), (114, 28754), (164, 28913),  
(215, 29093), (221, 29117), (247, 29207), (248, 29213), (262, 29249), (277, 29288), (282, 29297),  
(291, 29330), (299, 29369), (312, 29414), (326, 29465), (344, 29516), (345, 29525), (358, 29594),  
(377, 29669), (393, 29714), (397, 29729), (428, 29864), (441, 29918), (444, 29939), (457, 29972),  
(471, 30017), (487, 30071), (495, 30098), (509, 30155), (519, 30176), (529, 30218), (539, 30257),  
(553, 30317), (614, 30557), (624, 30590), (625, 30593), (639, 30626), (642, 30632), (672, 30695),

Gene: SirJeffery\_30 Start: 28980, Stop: 31256, Start Num: 31

Candidate Starts for SirJeffery\_30:

(Start: 31 @28980 has 324 MA's), (33, 28986), (43, 29028), (49, 29049), (53, 29058), (67, 29112), (73,  
29133), (78, 29151), (79, 29154), (89, 29196), (93, 29202), (98, 29214), (114, 29283), (120, 29319),  
(164, 29442), (196, 29547), (235, 29703), (243, 29730), (256, 29781), (277, 29832), (284, 29847),  
(344, 30060), (349, 30096), (358, 30138), (377, 30213), (413, 30363), (419, 30387), (428, 30414),  
(444, 30489), (462, 30543), (509, 30702), (515, 30711), (519, 30723), (539, 30804), (540, 30807),  
(555, 30873), (566, 30921), (583, 30987), (614, 31104),

Gene: SkinnyPete\_20 Start: 17557, Stop: 20202, Start Num: 7

Candidate Starts for SkinnyPete\_20:

(Start: 4 @17545 has 1 MA's), (Start: 7 @17557 has 9 MA's), (10, 17569), (36, 17680), (41, 17704), (Start: 42 @17707 has 1 MA's), (43, 17716), (58, 17764), (129, 17989), (132, 18001), (139, 18022), (157, 18067), (174, 18121), (194, 18199), (203, 18229), (211, 18265), (216, 18286), (220, 18301), (232, 18343), (242, 18376), (267, 18451), (279, 18475), (280, 18481), (284, 18493), (292, 18535), (294, 18541), (323, 18640), (351, 18760), (355, 18778), (365, 18811), (372, 18838), (378, 18889), (424, 19099), (439, 19165), (447, 19201), (472, 19312), (487, 19375), (528, 19537), (532, 19552), (543, 19603), (567, 19720), (576, 19765), (589, 19807), (597, 19843), (609, 19897), (627, 19945), (693, 20089), (709, 20146), (718, 20185), (721, 20194),

Gene: Skippy\_31 Start: 28749, Stop: 31004, Start Num: 31

Candidate Starts for Skippy\_31:

(Start: 31 @28749 has 324 MA's), (57, 28845), (79, 28923), (84, 28950), (114, 29049), (164, 29208), (215, 29388), (221, 29412), (247, 29502), (248, 29508), (262, 29544), (277, 29583), (282, 29592), (291, 29625), (299, 29664), (312, 29709), (326, 29760), (344, 29811), (345, 29820), (358, 29889), (377, 29964), (393, 30009), (397, 30024), (428, 30159), (441, 30213), (444, 30234), (457, 30267), (471, 30312), (487, 30366), (495, 30393), (509, 30450), (519, 30471), (529, 30513), (539, 30552), (553, 30612), (614, 30852), (624, 30885), (625, 30888), (639, 30921), (642, 30927), (672, 30990),

Gene: Slarp\_28 Start: 22283, Stop: 24592, Start Num: 17

Candidate Starts for Slarp\_28:

(Start: 17 @22283 has 64 MA's), (45, 22394), (53, 22418), (87, 22535), (162, 22664), (185, 22715), (188, 22724), (199, 22757), (218, 22796), (220, 22805), (245, 22862), (252, 22871), (265, 22922), (270, 22934), (279, 22949), (282, 22955), (291, 22988), (304, 23036), (320, 23090), (346, 23162), (351, 23201), (354, 23213), (363, 23228), (373, 23273), (386, 23342), (404, 23423), (439, 23576), (464, 23675), (466, 23687), (490, 23792), (504, 23858), (508, 23873), (535, 23969), (567, 24122), (570, 24137), (572, 24143), (575, 24167), (586, 24206), (589, 24218), (610, 24314), (630, 24368), (642, 24389), (685, 24476), (694, 24506), (720, 24584),

Gene: Slatt\_31 Start: 28774, Stop: 31029, Start Num: 31

Candidate Starts for Slatt\_31:

(Start: 31 @28774 has 324 MA's), (57, 28870), (79, 28948), (84, 28975), (114, 29074), (164, 29233), (215, 29413), (221, 29437), (247, 29527), (248, 29533), (262, 29569), (277, 29608), (282, 29617), (291, 29650), (299, 29689), (312, 29734), (326, 29785), (344, 29836), (345, 29845), (358, 29914), (377, 29989), (393, 30034), (397, 30049), (428, 30184), (441, 30238), (444, 30259), (457, 30292), (471, 30337), (487, 30391), (495, 30418), (509, 30475), (519, 30496), (529, 30538), (539, 30577), (553, 30637), (614, 30877), (624, 30910), (625, 30913), (639, 30946), (642, 30952), (672, 31015),

Gene: SlippinJimmy\_31 Start: 29378, Stop: 31603, Start Num: 31

Candidate Starts for SlippinJimmy\_31:

(Start: 31 @29378 has 324 MA's), (Start: 37 @29393 has 1 MA's), (46, 29438), (63, 29495), (85, 29573), (108, 29642), (114, 29654), (126, 29696), (137, 29732), (148, 29759), (154, 29771), (161, 29798), (187, 29888), (209, 29960), (229, 30044), (264, 30152), (270, 30173), (299, 30266), (305, 30281), (343, 30410), (358, 30491), (377, 30566), (392, 30608), (393, 30614), (402, 30650), (413, 30713), (428, 30764), (429, 30776), (441, 30818), (444, 30839), (462, 30893), (471, 30917), (483, 30953), (509, 31049), (515, 31058), (529, 31112), (555, 31220), (561, 31247), (571, 31289), (592, 31361), (614, 31451), (625, 31487),

Gene: Smeagan\_33 Start: 23263, Stop: 25350, Start Num: 19

Candidate Starts for Smeagan\_33:

(Start: 19 @23263 has 30 MA's), (51, 23377), (54, 23386), (56, 23392), (64, 23419), (81, 23476), (127, 23614), (220, 23803), (259, 23938), (275, 23980), (293, 24040), (385, 24154), (390, 24175), (395, 24193), (401, 24217), (425, 24325), (450, 24418), (458, 24439), (461, 24457), (487, 24547), (499, 24604), (500, 24607), (521, 24664), (522, 24670), (530, 24709), (534, 24730), (575, 24919), (582,

24940), (609, 25051), (675, 25189), (697, 25255), (705, 25273), (722, 25342),

Gene: SnapTap\_31 Start: 22698, Stop: 24902, Start Num: 20

Candidate Starts for SnapTap\_31:

(Start: 20 @22698 has 22 MA's), (27, 22719), (56, 22824), (81, 22908), (91, 22944), (127, 23046), (131, 23058), (220, 23235), (259, 23370), (286, 23433), (390, 23724), (395, 23742), (401, 23766), (432, 23904), (450, 23967), (461, 24006), (487, 24096), (499, 24153), (521, 24213), (530, 24258), (534, 24279), (561, 24399), (567, 24423), (575, 24468), (596, 24540), (609, 24600), (686, 24771), (705, 24825), (712, 24852), (718, 24879),

Gene: Snenia\_21 Start: 19725, Stop: 22238, Start Num: 12

Candidate Starts for Snenia\_21:

(Start: 12 @19725 has 16 MA's), (26, 19788), (45, 19860), (72, 19950), (74, 19956), (95, 20028), (122, 20115), (160, 20220), (164, 20232), (173, 20250), (180, 20289), (190, 20319), (208, 20376), (213, 20406), (215, 20412), (229, 20466), (231, 20472), (274, 20619), (276, 20622), (282, 20631), (288, 20649), (301, 20709), (305, 20718), (307, 20730), (319, 20781), (322, 20784), (363, 20949), (376, 21006), (397, 21090), (401, 21108), (403, 21117), (415, 21180), (447, 21300), (455, 21324), (460, 21345), (465, 21360), (473, 21378), (482, 21408), (500, 21498), (524, 21567), (530, 21600), (534, 21621), (543, 21657), (550, 21693), (560, 21738), (565, 21762), (567, 21768), (570, 21783), (574, 21801), (597, 21888), (604, 21912), (611, 21948), (613, 21954), (621, 21978), (660, 22053), (661, 22056), (692, 22143), (694, 22152), (697, 22158),

Gene: Soile\_31 Start: 28481, Stop: 30736, Start Num: 31

Candidate Starts for Soile\_31:

(Start: 31 @28481 has 324 MA's), (57, 28577), (79, 28655), (84, 28682), (114, 28781), (164, 28940), (215, 29120), (221, 29144), (247, 29234), (248, 29240), (262, 29276), (277, 29315), (282, 29324), (291, 29357), (299, 29396), (312, 29441), (326, 29492), (344, 29543), (345, 29552), (358, 29621), (377, 29696), (393, 29741), (397, 29756), (428, 29891), (441, 29945), (444, 29966), (457, 29999), (471, 30044), (487, 30098), (495, 30125), (509, 30182), (519, 30203), (529, 30245), (539, 30284), (553, 30344), (614, 30584), (624, 30617), (625, 30620), (639, 30653), (642, 30659), (672, 30722),

Gene: Solosis\_30 Start: 28476, Stop: 30731, Start Num: 31

Candidate Starts for Solosis\_30:

(Start: 31 @28476 has 324 MA's), (57, 28572), (79, 28650), (84, 28677), (114, 28776), (164, 28935), (215, 29115), (221, 29139), (247, 29229), (248, 29235), (262, 29271), (277, 29310), (282, 29319), (291, 29352), (299, 29391), (312, 29436), (326, 29487), (344, 29538), (345, 29547), (358, 29616), (377, 29691), (393, 29736), (397, 29751), (428, 29886), (441, 29940), (444, 29961), (457, 29994), (471, 30039), (487, 30093), (495, 30120), (509, 30177), (519, 30198), (529, 30240), (539, 30279), (553, 30339), (596, 30504), (614, 30579), (625, 30615), (639, 30648), (672, 30717),

Gene: Sophia\_30 Start: 28476, Stop: 30731, Start Num: 31

Candidate Starts for Sophia\_30:

(Start: 31 @28476 has 324 MA's), (57, 28572), (79, 28650), (84, 28677), (114, 28776), (164, 28935), (215, 29115), (221, 29139), (247, 29229), (248, 29235), (262, 29271), (277, 29310), (282, 29319), (291, 29352), (299, 29391), (312, 29436), (326, 29487), (344, 29538), (345, 29547), (358, 29616), (377, 29691), (393, 29736), (397, 29751), (428, 29886), (441, 29940), (444, 29961), (457, 29994), (471, 30039), (487, 30093), (495, 30120), (509, 30177), (519, 30198), (529, 30240), (539, 30279), (553, 30339), (614, 30579), (625, 30615), (639, 30648), (672, 30717),

Gene: SororFago\_31 Start: 21994, Stop: 24447, Start Num: 19

Candidate Starts for SororFago\_31:

(Start: 19 @21994 has 30 MA's), (83, 22210), (104, 22267), (113, 22288), (172, 22453), (209, 22588), (285, 22843), (286, 22846), (302, 22909), (307, 22927), (313, 22954), (316, 22966), (329, 23008),

(330, 23011), (385, 23245), (393, 23275), (395, 23284), (425, 23416), (442, 23479), (460, 23545), (461, 23548), (487, 23647), (504, 23725), (521, 23764), (530, 23809), (544, 23869), (557, 23935), (561, 23950), (582, 24040), (585, 24046), (604, 24121), (626, 24190), (697, 24355), (705, 24373), (711, 24400),

Gene: Soto\_31 Start: 28769, Stop: 31024, Start Num: 31

Candidate Starts for Soto\_31:

(Start: 31 @28769 has 324 MA's), (57, 28865), (79, 28943), (84, 28970), (114, 29069), (164, 29228), (215, 29408), (221, 29432), (248, 29528), (262, 29564), (277, 29603), (282, 29612), (291, 29645), (299, 29684), (312, 29729), (326, 29780), (344, 29831), (345, 29840), (358, 29909), (377, 29984), (393, 30029), (397, 30044), (428, 30179), (441, 30233), (444, 30254), (457, 30287), (471, 30332), (487, 30386), (495, 30413), (509, 30470), (519, 30491), (529, 30533), (539, 30572), (553, 30632), (614, 30872), (625, 30908), (639, 30941), (672, 31010),

Gene: Spartan300\_31 Start: 28755, Stop: 31010, Start Num: 31

Candidate Starts for Spartan300\_31:

(Start: 31 @28755 has 324 MA's), (57, 28851), (79, 28929), (84, 28956), (114, 29055), (164, 29214), (215, 29394), (221, 29418), (247, 29508), (248, 29514), (262, 29550), (277, 29589), (282, 29598), (291, 29631), (299, 29670), (312, 29715), (326, 29766), (344, 29817), (345, 29826), (358, 29895), (377, 29970), (393, 30015), (397, 30030), (428, 30165), (441, 30219), (444, 30240), (457, 30273), (471, 30318), (487, 30372), (509, 30456), (519, 30477), (529, 30519), (539, 30558), (553, 30618), (614, 30858), (624, 30891), (625, 30894), (639, 30927), (672, 30996),

Gene: Squid\_31 Start: 28467, Stop: 30722, Start Num: 31

Candidate Starts for Squid\_31:

(Start: 31 @28467 has 324 MA's), (57, 28563), (79, 28641), (84, 28668), (114, 28767), (164, 28926), (215, 29106), (221, 29130), (247, 29220), (248, 29226), (262, 29262), (277, 29301), (282, 29310), (291, 29343), (299, 29382), (312, 29427), (326, 29478), (344, 29529), (345, 29538), (358, 29607), (377, 29682), (393, 29727), (397, 29742), (428, 29877), (441, 29931), (444, 29952), (457, 29985), (471, 30030), (487, 30084), (495, 30111), (509, 30168), (519, 30189), (529, 30231), (539, 30270), (553, 30330), (614, 30570), (624, 30603), (625, 30606), (639, 30639), (642, 30645), (672, 30708),

Gene: Squiggle\_31 Start: 28479, Stop: 30734, Start Num: 31

Candidate Starts for Squiggle\_31:

(Start: 31 @28479 has 324 MA's), (57, 28575), (79, 28653), (84, 28680), (114, 28779), (164, 28938), (215, 29118), (221, 29142), (247, 29232), (248, 29238), (262, 29274), (277, 29313), (282, 29322), (291, 29355), (299, 29394), (312, 29439), (326, 29490), (344, 29541), (345, 29550), (358, 29619), (377, 29694), (393, 29739), (397, 29754), (428, 29889), (441, 29943), (444, 29964), (457, 29997), (471, 30042), (487, 30096), (495, 30123), (509, 30180), (519, 30201), (529, 30243), (539, 30282), (553, 30342), (614, 30582), (625, 30618), (639, 30651), (672, 30720),

Gene: Squirty\_19 Start: 17305, Stop: 19920, Start Num: 4

Candidate Starts for Squirty\_19:

(Start: 4 @17305 has 1 MA's), (10, 17326), (14, 17347), (21, 17386), (39, 17455), (41, 17464), (Start: 42 @17467 has 1 MA's), (46, 17485), (58, 17518), (62, 17533), (101, 17635), (123, 17692), (131, 17716), (153, 17773), (177, 17848), (196, 17920), (211, 17983), (215, 17998), (221, 18022), (227, 18046), (232, 18061), (234, 18070), (242, 18097), (245, 18103), (260, 18148), (267, 18172), (279, 18193), (280, 18199), (283, 18208), (290, 18235), (306, 18301), (309, 18313), (318, 18346), (323, 18358), (351, 18478), (355, 18496), (365, 18529), (378, 18607), (403, 18712), (410, 18754), (460, 18973), (468, 19012), (469, 19015), (472, 19030), (487, 19093), (498, 19141), (528, 19255), (534, 19285), (541, 19312), (543, 19321), (567, 19438), (576, 19483), (589, 19525), (606, 19591), (609, 19615), (627, 19663), (632, 19669), (635, 19675), (641, 19690), (683, 19774), (694, 19813), (718, 19903), (721, 19912),

Gene: Stinger\_26 Start: 27542, Stop: 29839, Start Num: 31

Candidate Starts for Stinger\_26:

(Start: 31 @27542 has 324 MA's), (57, 27641), (63, 27659), (114, 27845), (124, 27890), (136, 27926), (160, 27992), (164, 28004), (196, 28109), (208, 28148), (209, 28154), (221, 28208), (227, 28235), (242, 28289), (243, 28292), (262, 28355), (279, 28397), (284, 28409), (291, 28436), (320, 28556), (343, 28619), (349, 28658), (374, 28772), (377, 28787), (383, 28808), (393, 28838), (396, 28850), (402, 28874), (405, 28886), (413, 28937), (414, 28940), (418, 28958), (426, 28982), (428, 28988), (441, 29042), (444, 29063), (457, 29096), (462, 29117), (471, 29141), (509, 29276), (513, 29282), (515, 29285), (519, 29297), (540, 29381), (566, 29495), (571, 29516), (578, 29540), (595, 29603), (603, 29639), (614, 29687), (624, 29720), (625, 29723), (672, 29825), (674, 29828),

Gene: StinkyVeggy\_32 Start: 29124, Stop: 31391, Start Num: 31

Candidate Starts for StinkyVeggy\_32:

(Start: 31 @29124 has 324 MA's), (43, 29172), (53, 29202), (57, 29220), (67, 29256), (73, 29277), (78, 29295), (98, 29358), (120, 29463), (164, 29586), (169, 29592), (196, 29691), (223, 29793), (235, 29847), (277, 29967), (284, 29982), (291, 30009), (344, 30195), (349, 30231), (358, 30273), (377, 30348), (393, 30399), (402, 30435), (413, 30498), (419, 30522), (428, 30549), (462, 30678), (471, 30702), (509, 30837), (515, 30846), (519, 30858), (529, 30900), (539, 30939), (540, 30942), (551, 30996), (555, 31008), (562, 31038), (566, 31056), (583, 31122), (614, 31239), (672, 31377),

Gene: StressBall\_21 Start: 18926, Stop: 21559, Start Num: 6

Candidate Starts for StressBall\_21:

(Start: 6 @18926 has 7 MA's), (8, 18935), (Start: 42 @19079 has 1 MA's), (129, 19352), (132, 19364), (139, 19385), (149, 19409), (174, 19484), (194, 19556), (203, 19586), (211, 19622), (227, 19685), (232, 19700), (240, 19727), (242, 19733), (267, 19808), (279, 19832), (280, 19838), (284, 19850), (292, 19892), (294, 19898), (318, 19985), (327, 20006), (336, 20030), (349, 20096), (351, 20117), (355, 20135), (365, 20168), (371, 20192), (372, 20195), (378, 20246), (403, 20351), (410, 20393), (447, 20558), (469, 20654), (487, 20732), (491, 20744), (512, 20834), (528, 20894), (530, 20903), (541, 20951), (543, 20960), (567, 21077), (576, 21122), (589, 21164), (606, 21230), (609, 21254), (627, 21302), (632, 21308), (635, 21314), (683, 21413), (686, 21422), (694, 21452), (718, 21542), (721, 21551),

Gene: Strobilo\_24 Start: 18661, Stop: 21000, Start Num: 17

Candidate Starts for Strobilo\_24:

(Start: 17 @18661 has 64 MA's), (66, 18832), (69, 18850), (83, 18901), (155, 19018), (166, 19051), (207, 19180), (209, 19189), (211, 19204), (214, 19216), (216, 19225), (229, 19273), (260, 19369), (265, 19387), (275, 19408), (291, 19453), (326, 19555), (346, 19627), (352, 19669), (355, 19684), (375, 19771), (378, 19792), (390, 19834), (396, 19855), (422, 19972), (425, 19981), (434, 20017), (447, 20068), (448, 20071), (465, 20125), (467, 20137), (479, 20161), (500, 20257), (504, 20275), (517, 20302), (530, 20359), (572, 20548), (578, 20578), (593, 20629), (597, 20647), (606, 20677), (618, 20731), (634, 20761), (642, 20782), (695, 20914),

Gene: Struggle\_30 Start: 28317, Stop: 30572, Start Num: 31

Candidate Starts for Struggle\_30:

(Start: 31 @28317 has 324 MA's), (57, 28413), (79, 28491), (84, 28518), (114, 28617), (164, 28776), (215, 28956), (221, 28980), (248, 29076), (262, 29112), (277, 29151), (282, 29160), (291, 29193), (299, 29232), (312, 29277), (326, 29328), (344, 29379), (345, 29388), (358, 29457), (377, 29532), (393, 29577), (397, 29592), (428, 29727), (441, 29781), (444, 29802), (457, 29835), (471, 29880), (487, 29934), (495, 29961), (509, 30018), (519, 30039), (529, 30081), (539, 30120), (553, 30180), (614, 30420), (625, 30456), (639, 30489), (672, 30558),

Gene: Suffolk\_31 Start: 28763, Stop: 31021, Start Num: 31

Candidate Starts for Suffolk\_31:

(Start: 31 @28763 has 324 MA's), (57, 28859), (79, 28937), (84, 28964), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (624, 30902), (625, 30905), (639, 30938), (642, 30944), (672, 31007),

Gene: Suigeneris\_30 Start: 28983, Stop: 31259, Start Num: 31

Candidate Starts for Suigeneris\_30:

(Start: 31 @28983 has 324 MA's), (33, 28989), (43, 29031), (49, 29052), (53, 29061), (67, 29115), (73, 29136), (78, 29154), (79, 29157), (89, 29199), (93, 29205), (98, 29217), (114, 29286), (120, 29322), (164, 29445), (196, 29550), (235, 29706), (243, 29733), (256, 29784), (277, 29835), (284, 29850), (344, 30063), (349, 30099), (358, 30141), (377, 30216), (413, 30366), (419, 30390), (428, 30417), (444, 30492), (462, 30546), (509, 30705), (515, 30714), (519, 30726), (539, 30807), (540, 30810), (555, 30876), (566, 30924), (583, 30990), (614, 31107),

Gene: Sunflower1121\_25 Start: 19931, Stop: 22267, Start Num: 17

Candidate Starts for Sunflower1121\_25:

(13, 19898), (Start: 17 @19931 has 64 MA's), (18, 19940), (32, 19988), (34, 19991), (77, 20132), (86, 20171), (152, 20267), (181, 20366), (211, 20477), (239, 20579), (265, 20660), (279, 20690), (284, 20702), (291, 20729), (292, 20744), (307, 20768), (326, 20828), (346, 20900), (360, 20966), (378, 21056), (390, 21098), (396, 21119), (403, 21149), (422, 21236), (439, 21299), (447, 21332), (467, 21404), (501, 21533), (530, 21626), (533, 21644), (591, 21890), (600, 21923), (634, 22028), (641, 22046), (682, 22133), (688, 22157), (704, 22199), (722, 22259),

Gene: Surely\_31 Start: 28769, Stop: 31024, Start Num: 31

Candidate Starts for Surely\_31:

(Start: 31 @28769 has 324 MA's), (57, 28865), (79, 28943), (84, 28970), (114, 29069), (164, 29228), (215, 29408), (221, 29432), (247, 29522), (248, 29528), (262, 29564), (277, 29603), (282, 29612), (291, 29645), (299, 29684), (312, 29729), (326, 29780), (344, 29831), (345, 29840), (358, 29909), (377, 29984), (393, 30029), (397, 30044), (428, 30179), (441, 30233), (444, 30254), (457, 30287), (471, 30332), (487, 30386), (495, 30413), (509, 30470), (519, 30491), (529, 30533), (539, 30572), (553, 30632), (614, 30872), (624, 30905), (625, 30908), (639, 30941), (642, 30947), (672, 31010),

Gene: SweetiePie\_31 Start: 22698, Stop: 24902, Start Num: 20

Candidate Starts for SweetiePie\_31:

(Start: 20 @22698 has 22 MA's), (27, 22719), (56, 22824), (81, 22908), (91, 22944), (127, 23046), (131, 23058), (220, 23235), (259, 23370), (390, 23724), (395, 23742), (401, 23766), (432, 23904), (450, 23967), (461, 24006), (487, 24096), (499, 24153), (521, 24213), (530, 24258), (534, 24279), (561, 24399), (567, 24423), (575, 24468), (596, 24540), (609, 24600), (686, 24771), (705, 24825), (712, 24852), (718, 24879),

Gene: Swiphy\_32 Start: 28764, Stop: 31019, Start Num: 31

Candidate Starts for Swiphy\_32:

(Start: 31 @28764 has 324 MA's), (57, 28860), (79, 28938), (84, 28965), (114, 29064), (164, 29223), (215, 29403), (221, 29427), (247, 29517), (248, 29523), (262, 29559), (277, 29598), (282, 29607), (291, 29640), (299, 29679), (312, 29724), (326, 29775), (344, 29826), (345, 29835), (358, 29904), (377, 29979), (393, 30024), (397, 30039), (428, 30174), (441, 30228), (444, 30249), (457, 30282), (471, 30327), (487, 30381), (495, 30408), (509, 30465), (519, 30486), (529, 30528), (539, 30567), (553, 30627), (614, 30867), (624, 30900), (625, 30903), (639, 30936), (642, 30942), (672, 31005),

Gene: Swish\_31 Start: 28752, Stop: 31007, Start Num: 31



Candidate Starts for Swish\_31:

(Start: 31 @28752 has 324 MA's), (57, 28848), (79, 28926), (84, 28953), (114, 29052), (164, 29211), (215, 29391), (221, 29415), (247, 29505), (248, 29511), (262, 29547), (277, 29586), (282, 29595), (291, 29628), (299, 29667), (312, 29712), (326, 29763), (344, 29814), (345, 29823), (358, 29892), (377, 29967), (393, 30012), (397, 30027), (428, 30162), (441, 30216), (444, 30237), (457, 30270), (471, 30315), (487, 30369), (509, 30453), (519, 30474), (529, 30516), (539, 30555), (553, 30615), (614, 30855), (624, 30888), (625, 30891), (639, 30924), (642, 30930), (672, 30993),

Gene: SynergyX\_31 Start: 28614, Stop: 30842, Start Num: 31

Candidate Starts for SynergyX\_31:

(Start: 31 @28614 has 324 MA's), (Start: 37 @28629 has 1 MA's), (46, 28674), (63, 28731), (85, 28809), (108, 28878), (114, 28890), (126, 28932), (137, 28968), (148, 28995), (154, 29007), (161, 29034), (187, 29124), (209, 29196), (229, 29280), (264, 29388), (270, 29409), (299, 29502), (305, 29517), (343, 29646), (358, 29727), (377, 29802), (392, 29844), (393, 29850), (402, 29886), (428, 30000), (429, 30012), (441, 30054), (444, 30075), (462, 30129), (471, 30153), (483, 30189), (509, 30288), (515, 30297), (529, 30351), (555, 30459), (561, 30486), (571, 30528), (592, 30600), (614, 30690), (625, 30726),

Gene: Syra333\_26 Start: 20027, Stop: 22357, Start Num: 17

Candidate Starts for Syra333\_26:

(Start: 17 @20027 has 64 MA's), (34, 20087), (69, 20216), (77, 20228), (86, 20267), (152, 20363), (155, 20372), (181, 20462), (193, 20501), (207, 20549), (211, 20573), (213, 20582), (239, 20675), (246, 20690), (265, 20756), (279, 20786), (284, 20798), (291, 20825), (292, 20840), (307, 20864), (326, 20924), (340, 20969), (346, 20996), (351, 21035), (355, 21053), (360, 21062), (375, 21131), (376, 21134), (378, 21152), (390, 21194), (396, 21215), (401, 21236), (403, 21245), (409, 21281), (422, 21332), (447, 21428), (467, 21497), (487, 21557), (501, 21626), (504, 21635), (522, 21680), (530, 21719), (533, 21737), (541, 21767), (572, 21908), (582, 21953), (591, 21983), (597, 22007), (600, 22016), (606, 22037), (611, 22067), (688, 22250), (699, 22277), (704, 22289), (722, 22349),

Gene: TBond007\_26 Start: 21085, Stop: 23436, Start Num: 17

Candidate Starts for TBond007\_26:

(Start: 17 @21085 has 64 MA's), (24, 21112), (34, 21145), (63, 21250), (141, 21409), (159, 21454), (173, 21490), (175, 21508), (199, 21586), (211, 21634), (251, 21766), (265, 21820), (272, 21835), (311, 21943), (346, 22060), (352, 22102), (353, 22108), (355, 22117), (360, 22126), (376, 22207), (378, 22225), (390, 22267), (396, 22288), (401, 22309), (403, 22318), (422, 22405), (446, 22498), (447, 22501), (467, 22573), (503, 22708), (504, 22711), (522, 22756), (530, 22795), (533, 22813), (556, 22912), (559, 22930), (572, 22984), (578, 23014), (583, 23032), (591, 23059), (593, 23065), (606, 23113), (627, 23188), (634, 23197), (642, 23218), (647, 23227), (688, 23326), (704, 23368),

Gene: TClif\_27 Start: 20078, Stop: 22420, Start Num: 17

Candidate Starts for TClif\_27:

(Start: 17 @20078 has 64 MA's), (Start: 28 @20126 has 2 MA's), (44, 20177), (66, 20249), (70, 20270), (152, 20417), (155, 20426), (171, 20471), (211, 20627), (213, 20636), (239, 20729), (246, 20744), (260, 20792), (265, 20810), (270, 20825), (279, 20840), (291, 20879), (292, 20894), (307, 20918), (326, 20978), (343, 21035), (346, 21050), (355, 21107), (375, 21188), (378, 21209), (390, 21251), (396, 21272), (401, 21293), (417, 21377), (422, 21389), (439, 21452), (447, 21485), (455, 21509), (461, 21533), (467, 21557), (487, 21617), (498, 21665), (522, 21740), (530, 21779), (533, 21797), (559, 21914), (572, 21968), (591, 22043), (606, 22097), (627, 22172), (642, 22202), (666, 22247), (722, 22412),

Gene: TM4\_23 Start: 18727, Stop: 21081, Start Num: 17

Candidate Starts for TM4\_23:

(Start: 17 @18727 has 64 MA's), (54, 18859), (155, 19084), (171, 19129), (211, 19270), (216, 19291), (229, 19339), (275, 19474), (284, 19492), (291, 19519), (292, 19534), (326, 19621), (346, 19693), (352, 19735), (353, 19741), (358, 19756), (360, 19759), (370, 19795), (396, 19912), (401, 19933), (443, 20104), (447, 20125), (477, 20221), (482, 20242), (489, 20275), (504, 20350), (506, 20356), (522, 20395), (525, 20407), (530, 20434), (533, 20452), (558, 20566), (565, 20596), (567, 20602), (575, 20647), (582, 20668), (596, 20719), (610, 20782), (637, 20848), (648, 20869), (660, 20890), (675, 20926), (722, 21073),

Gene: TallGrassMM\_31 Start: 28391, Stop: 30646, Start Num: 31

Candidate Starts for TallGrassMM\_31:

(Start: 31 @28391 has 324 MA's), (57, 28487), (79, 28565), (84, 28592), (114, 28691), (164, 28850), (215, 29030), (221, 29054), (247, 29144), (248, 29150), (262, 29186), (277, 29225), (282, 29234), (291, 29267), (299, 29306), (312, 29351), (326, 29402), (344, 29453), (345, 29462), (358, 29531), (377, 29606), (393, 29651), (397, 29666), (428, 29801), (441, 29855), (444, 29876), (457, 29909), (471, 29954), (487, 30008), (495, 30035), (509, 30092), (519, 30113), (529, 30155), (539, 30194), (553, 30254), (614, 30494), (625, 30530), (639, 30563), (672, 30632),

Gene: TarsusIV\_31 Start: 22846, Stop: 25041, Start Num: 20

Candidate Starts for TarsusIV\_31:

(Start: 20 @22846 has 22 MA's), (27, 22867), (51, 22957), (54, 22966), (69, 23023), (125, 23191), (127, 23194), (135, 23218), (156, 23272), (220, 23383), (231, 23422), (259, 23518), (272, 23554), (307, 23659), (390, 23869), (395, 23887), (450, 24112), (465, 24163), (487, 24241), (499, 24298), (530, 24403), (534, 24424), (543, 24460), (557, 24529), (567, 24568), (575, 24613), (585, 24640), (604, 24715), (609, 24745), (616, 24769), (687, 24919), (698, 24952), (705, 24967),

Gene: Telesworld\_30 Start: 28463, Stop: 30718, Start Num: 31

Candidate Starts for Telesworld\_30:

(Start: 31 @28463 has 324 MA's), (57, 28559), (79, 28637), (84, 28664), (114, 28763), (164, 28922), (215, 29102), (221, 29126), (247, 29216), (248, 29222), (262, 29258), (277, 29297), (282, 29306), (291, 29339), (299, 29378), (312, 29423), (326, 29474), (344, 29525), (345, 29534), (358, 29603), (377, 29678), (393, 29723), (397, 29738), (428, 29873), (441, 29927), (444, 29948), (457, 29981), (471, 30026), (487, 30080), (495, 30107), (509, 30164), (519, 30185), (529, 30227), (539, 30266), (553, 30326), (614, 30566), (624, 30599), (625, 30602), (639, 30635), (642, 30641), (672, 30704),

Gene: Thonko\_29 Start: 27164, Stop: 29614, Start Num: 31

Candidate Starts for Thonko\_29:

(Start: 31 @27164 has 324 MA's), (49, 27230), (57, 27257), (64, 27278), (128, 27530), (161, 27626), (164, 27635), (186, 27713), (192, 27728), (209, 27785), (214, 27812), (226, 27857), (227, 27863), (236, 27896), (259, 27956), (267, 27977), (277, 28001), (294, 28064), (318, 28151), (326, 28178), (353, 28292), (391, 28439), (395, 28457), (436, 28640), (442, 28652), (461, 28721), (465, 28733), (480, 28778), (523, 28937), (524, 28940), (529, 28970), (562, 29117), (567, 29138), (575, 29183), (583, 29210), (626, 29369), (634, 29387), (665, 29444), (679, 29483), (691, 29525), (694, 29537), (703, 29558), (709, 29588), (710, 29594),

Gene: Thora\_31 Start: 28768, Stop: 31023, Start Num: 31

Candidate Starts for Thora\_31:

(Start: 31 @28768 has 324 MA's), (57, 28864), (79, 28942), (84, 28969), (114, 29068), (164, 29227), (215, 29407), (221, 29431), (247, 29521), (248, 29527), (262, 29563), (277, 29602), (282, 29611), (291, 29644), (299, 29683), (312, 29728), (326, 29779), (344, 29830), (345, 29839), (358, 29908), (377, 29983), (393, 30028), (397, 30043), (428, 30178), (441, 30232), (444, 30253), (457, 30286), (471, 30331), (487, 30385), (509, 30469), (519, 30490), (529, 30532), (539, 30571), (553, 30631), (614, 30871), (624, 30904), (625, 30907), (639, 30940), (642, 30946), (672, 31009),

Gene: ThreeOh3D2\_31 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for ThreeOh3D2\_31:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (495, 30410), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (624, 30902), (625, 30905), (639, 30938), (642, 30944), (672, 31007),

Gene: Tierra\_26 Start: 20767, Stop: 23103, Start Num: 17

Candidate Starts for Tierra\_26:

(Start: 17 @20767 has 64 MA's), (Start: 28 @20815 has 2 MA's), (32, 20824), (66, 20938), (69, 20956), (86, 21007), (152, 21103), (155, 21112), (181, 21202), (184, 21214), (211, 21313), (213, 21322), (239, 21415), (265, 21496), (279, 21526), (284, 21538), (291, 21565), (292, 21580), (307, 21604), (326, 21664), (340, 21709), (346, 21736), (351, 21775), (355, 21793), (360, 21802), (375, 21871), (376, 21874), (378, 21892), (390, 21934), (396, 21955), (403, 21985), (439, 22135), (447, 22168), (451, 22177), (467, 22240), (484, 22288), (487, 22300), (501, 22369), (509, 22393), (522, 22423), (530, 22462), (572, 22651), (591, 22726), (606, 22780), (634, 22864), (641, 22882), (682, 22969), (688, 22993), (704, 23035), (722, 23095),

Gene: Timmi\_30 Start: 28477, Stop: 30732, Start Num: 31

Candidate Starts for Timmi\_30:

(Start: 31 @28477 has 324 MA's), (57, 28573), (79, 28651), (84, 28678), (114, 28777), (164, 28936), (215, 29116), (221, 29140), (248, 29236), (262, 29272), (277, 29311), (282, 29320), (291, 29353), (299, 29392), (312, 29437), (326, 29488), (344, 29539), (345, 29548), (358, 29617), (377, 29692), (393, 29737), (397, 29752), (428, 29887), (441, 29941), (444, 29962), (457, 29995), (471, 30040), (487, 30094), (495, 30121), (509, 30178), (519, 30199), (529, 30241), (539, 30280), (553, 30340), (614, 30580), (625, 30616), (639, 30649), (672, 30718),

Gene: TomBombadil\_31 Start: 28762, Stop: 31017, Start Num: 31

Candidate Starts for TomBombadil\_31:

(Start: 31 @28762 has 324 MA's), (57, 28858), (79, 28936), (84, 28963), (114, 29062), (164, 29221), (215, 29401), (221, 29425), (247, 29515), (248, 29521), (262, 29557), (277, 29596), (282, 29605), (291, 29638), (299, 29677), (312, 29722), (326, 29773), (344, 29824), (345, 29833), (358, 29902), (377, 29977), (393, 30022), (397, 30037), (428, 30172), (441, 30226), (444, 30247), (457, 30280), (471, 30325), (487, 30379), (495, 30406), (509, 30463), (519, 30484), (529, 30526), (539, 30565), (553, 30625), (614, 30865), (624, 30898), (625, 30901), (639, 30934), (642, 30940), (672, 31003),

Gene: Tomlarah\_31 Start: 28753, Stop: 31008, Start Num: 31

Candidate Starts for Tomlarah\_31:

(Start: 31 @28753 has 324 MA's), (57, 28849), (79, 28927), (84, 28954), (114, 29053), (164, 29212), (215, 29392), (221, 29416), (247, 29506), (248, 29512), (262, 29548), (277, 29587), (282, 29596), (291, 29629), (299, 29668), (312, 29713), (326, 29764), (344, 29815), (345, 29824), (358, 29893), (377, 29968), (393, 30013), (397, 30028), (428, 30163), (441, 30217), (444, 30238), (457, 30271), (471, 30316), (487, 30370), (495, 30397), (509, 30454), (519, 30475), (529, 30517), (539, 30556), (553, 30616), (614, 30856), (624, 30889), (625, 30892), (639, 30925), (642, 30931), (672, 30994),

Gene: Toni\_30 Start: 28469, Stop: 30724, Start Num: 31

Candidate Starts for Toni\_30:

(Start: 31 @28469 has 324 MA's), (57, 28565), (79, 28643), (84, 28670), (114, 28769), (164, 28928), (215, 29108), (221, 29132), (247, 29222), (248, 29228), (262, 29264), (277, 29303), (282, 29312), (291, 29345), (299, 29384), (312, 29429), (326, 29480), (344, 29531), (345, 29540), (358, 29609), (377, 29684), (393, 29729), (397, 29744), (428, 29879), (441, 29933), (444, 29954), (457, 29987),

(471, 30032), (487, 30086), (509, 30170), (519, 30191), (529, 30233), (539, 30272), (553, 30332), (614, 30572), (624, 30605), (625, 30608), (639, 30641), (642, 30647), (672, 30710),

Gene: Tooj\_31 Start: 28823, Stop: 31081, Start Num: 31

Candidate Starts for Tooj\_31:

(Start: 31 @28823 has 324 MA's), (57, 28919), (79, 28997), (84, 29024), (114, 29126), (164, 29285), (215, 29465), (221, 29489), (248, 29585), (262, 29621), (277, 29660), (282, 29669), (291, 29702), (299, 29741), (312, 29786), (326, 29837), (344, 29888), (345, 29897), (358, 29966), (377, 30041), (393, 30086), (397, 30101), (428, 30236), (441, 30290), (444, 30311), (457, 30344), (471, 30389), (487, 30443), (495, 30470), (509, 30527), (519, 30548), (529, 30590), (539, 30629), (553, 30689), (614, 30929), (624, 30962), (625, 30965), (639, 30998), (642, 31004), (672, 31067),

Gene: TribelTrouble\_25 Start: 21122, Stop: 23572, Start Num: 17

Candidate Starts for TribelTrouble\_25:

(Start: 17 @21122 has 64 MA's), (24, 21149), (Start: 28 @21170 has 2 MA's), (34, 21182), (45, 21227), (54, 21257), (63, 21287), (112, 21449), (116, 21470), (141, 21548), (159, 21593), (173, 21629), (175, 21647), (199, 21725), (210, 21761), (265, 21959), (272, 21974), (291, 22025), (311, 22082), (346, 22199), (352, 22241), (355, 22256), (360, 22265), (376, 22346), (378, 22364), (390, 22406), (396, 22427), (401, 22448), (403, 22457), (422, 22544), (447, 22640), (465, 22700), (467, 22712), (483, 22754), (501, 22841), (522, 22895), (530, 22934), (533, 22952), (556, 23051), (559, 23069), (572, 23123), (582, 23168), (587, 23180), (593, 23204), (600, 23231), (627, 23327), (634, 23336), (688, 23465), (697, 23492), (704, 23504),

Gene: Trike\_30 Start: 21413, Stop: 23695, Start Num: 16

Candidate Starts for Trike\_30:

(Start: 16 @21413 has 6 MA's), (25, 21446), (48, 21530), (68, 21596), (106, 21728), (153, 21842), (156, 21851), (179, 21935), (201, 22010), (220, 22088), (249, 22163), (270, 22208), (353, 22379), (390, 22526), (393, 22535), (395, 22544), (401, 22568), (450, 22769), (461, 22808), (487, 22898), (499, 22955), (514, 22997), (518, 23009), (530, 23060), (536, 23090), (541, 23108), (544, 23120), (570, 23240), (572, 23246), (606, 23378), (607, 23399), (609, 23402), (633, 23459), (645, 23486), (649, 23492), (684, 23573), (685, 23576), (718, 23678), (719, 23681),

Gene: Trooper\_31 Start: 22613, Stop: 24916, Start Num: 20

Candidate Starts for Trooper\_31:

(Start: 20 @22613 has 22 MA's), (27, 22634), (51, 22724), (69, 22790), (127, 22961), (176, 23105), (189, 23141), (198, 23171), (220, 23261), (237, 23327), (259, 23396), (371, 23657), (390, 23744), (395, 23762), (401, 23786), (406, 23816), (450, 23987), (465, 24038), (487, 24116), (499, 24173), (530, 24278), (534, 24299), (538, 24311), (557, 24404), (561, 24419), (567, 24443), (575, 24488), (583, 24509), (585, 24512), (601, 24575), (609, 24617), (620, 24650), (634, 24671), (670, 24743), (687, 24791), (705, 24839), (718, 24893),

Gene: True\_30 Start: 28466, Stop: 30721, Start Num: 31

Candidate Starts for True\_30:

(Start: 31 @28466 has 324 MA's), (57, 28562), (79, 28640), (84, 28667), (114, 28766), (164, 28925), (215, 29105), (221, 29129), (247, 29219), (248, 29225), (262, 29261), (277, 29300), (282, 29309), (291, 29342), (299, 29381), (312, 29426), (326, 29477), (344, 29528), (345, 29537), (358, 29606), (377, 29681), (393, 29726), (397, 29741), (428, 29876), (441, 29930), (444, 29951), (457, 29984), (471, 30029), (487, 30083), (495, 30110), (509, 30167), (519, 30188), (529, 30230), (539, 30269), (553, 30329), (614, 30569), (624, 30602), (625, 30605), (639, 30638), (642, 30644), (672, 30707),

Gene: Trypo\_31 Start: 28761, Stop: 31016, Start Num: 31

Candidate Starts for Trypo\_31:

(Start: 31 @28761 has 324 MA's), (57, 28857), (79, 28935), (84, 28962), (114, 29061), (164, 29220), (215, 29400), (221, 29424), (248, 29520), (262, 29556), (277, 29595), (282, 29604), (291, 29637), (299, 29676), (312, 29721), (326, 29772), (344, 29823), (345, 29832), (358, 29901), (377, 29976), (393, 30021), (397, 30036), (428, 30171), (441, 30225), (444, 30246), (457, 30279), (471, 30324), (487, 30378), (495, 30405), (509, 30462), (519, 30483), (529, 30525), (539, 30564), (553, 30624), (614, 30864), (625, 30900), (639, 30933), (672, 31002),

Gene: Turbido\_33 Start: 23266, Stop: 25470, Start Num: 19

Candidate Starts for Turbido\_33:

(Start: 19 @23266 has 30 MA's), (51, 23380), (54, 23389), (64, 23422), (81, 23479), (127, 23617), (220, 23806), (259, 23941), (275, 23983), (299, 24055), (390, 24295), (395, 24313), (401, 24337), (425, 24445), (450, 24538), (461, 24577), (487, 24667), (499, 24724), (500, 24727), (521, 24784), (522, 24790), (530, 24829), (534, 24850), (575, 25039), (585, 25066), (630, 25219), (641, 25243), (669, 25297), (671, 25300), (686, 25339), (687, 25345), (705, 25393),

Gene: Tydolla\_31 Start: 29351, Stop: 31576, Start Num: 31

Candidate Starts for Tydolla\_31:

(Start: 31 @29351 has 324 MA's), (Start: 37 @29366 has 1 MA's), (46, 29411), (63, 29468), (85, 29546), (108, 29615), (114, 29627), (126, 29669), (137, 29705), (148, 29732), (154, 29744), (161, 29771), (187, 29861), (209, 29933), (229, 30017), (264, 30125), (270, 30146), (299, 30239), (305, 30254), (343, 30383), (358, 30464), (377, 30539), (392, 30581), (393, 30587), (402, 30623), (428, 30737), (429, 30749), (441, 30791), (444, 30812), (462, 30866), (471, 30890), (483, 30926), (509, 31022), (515, 31031), (529, 31085), (555, 31193), (561, 31220), (571, 31262), (592, 31334), (614, 31424), (625, 31460),

Gene: Typha\_27 Start: 23429, Stop: 26023, Start Num: 15

Candidate Starts for Typha\_27:

(Start: 15 @23429 has 4 MA's), (25, 23468), (43, 23543), (72, 23645), (75, 23654), (98, 23732), (129, 23813), (131, 23822), (147, 23867), (149, 23870), (153, 23879), (157, 23891), (158, 23894), (167, 23918), (174, 23945), (177, 23954), (194, 24017), (211, 24083), (220, 24119), (221, 24122), (242, 24194), (245, 24200), (267, 24269), (292, 24353), (314, 24434), (321, 24455), (365, 24629), (372, 24656), (378, 24707), (389, 24752), (401, 24803), (403, 24812), (416, 24890), (445, 25013), (446, 25016), (447, 25019), (472, 25130), (487, 25193), (498, 25241), (523, 25328), (528, 25355), (530, 25364), (532, 25370), (543, 25421), (567, 25538), (568, 25541), (589, 25625), (597, 25661), (606, 25691), (609, 25715), (627, 25766), (632, 25772), (635, 25778), (684, 25880), (694, 25916), (718, 26006), (721, 26015),

Gene: TyrionL\_30 Start: 28325, Stop: 30580, Start Num: 31

Candidate Starts for TyrionL\_30:

(Start: 31 @28325 has 324 MA's), (57, 28421), (79, 28499), (84, 28526), (114, 28625), (164, 28784), (215, 28964), (221, 28988), (248, 29084), (262, 29120), (277, 29159), (282, 29168), (291, 29201), (299, 29240), (312, 29285), (326, 29336), (345, 29396), (358, 29465), (377, 29540), (393, 29585), (397, 29600), (428, 29735), (441, 29789), (444, 29810), (457, 29843), (471, 29888), (487, 29942), (495, 29969), (509, 30026), (519, 30047), (529, 30089), (539, 30128), (553, 30188), (614, 30428), (624, 30461), (625, 30464), (639, 30497), (672, 30566),

Gene: UAch1\_31 Start: 28775, Stop: 31030, Start Num: 31

Candidate Starts for UAch1\_31:

(Start: 31 @28775 has 324 MA's), (57, 28871), (79, 28949), (84, 28976), (114, 29075), (164, 29234), (215, 29414), (221, 29438), (247, 29528), (248, 29534), (262, 29570), (277, 29609), (282, 29618), (291, 29651), (299, 29690), (312, 29735), (326, 29786), (344, 29837), (345, 29846), (358, 29915), (377, 29990), (393, 30035), (397, 30050), (428, 30185), (441, 30239), (444, 30260), (457, 30293), (471, 30338), (487, 30392), (509, 30476), (519, 30497), (529, 30539), (539, 30578), (553, 30638),

(614, 30878), (624, 30911), (625, 30914), (639, 30947), (642, 30953), (672, 31016),

Gene: UncleHowie\_31 Start: 28465, Stop: 30720, Start Num: 31

Candidate Starts for UncleHowie\_31:

(Start: 31 @28465 has 324 MA's), (57, 28561), (79, 28639), (84, 28666), (114, 28765), (164, 28924), (215, 29104), (221, 29128), (247, 29218), (248, 29224), (262, 29260), (277, 29299), (282, 29308), (291, 29341), (299, 29380), (312, 29425), (326, 29476), (344, 29527), (345, 29536), (358, 29605), (377, 29680), (393, 29725), (397, 29740), (428, 29875), (441, 29929), (444, 29950), (457, 29983), (471, 30028), (487, 30082), (495, 30109), (509, 30166), (519, 30187), (529, 30229), (539, 30268), (553, 30328), (614, 30568), (625, 30604), (639, 30637), (672, 30706),

Gene: Unicorn\_26 Start: 20093, Stop: 22432, Start Num: 17

Candidate Starts for Unicorn\_26:

(Start: 17 @20093 has 64 MA's), (32, 20150), (66, 20264), (69, 20282), (86, 20333), (94, 20354), (152, 20432), (181, 20531), (184, 20543), (211, 20642), (213, 20651), (239, 20744), (265, 20825), (279, 20855), (284, 20867), (287, 20876), (291, 20894), (292, 20909), (307, 20933), (326, 20993), (340, 21038), (346, 21065), (355, 21122), (360, 21131), (375, 21200), (376, 21203), (378, 21221), (390, 21263), (396, 21284), (403, 21314), (422, 21401), (439, 21464), (447, 21497), (467, 21569), (484, 21617), (487, 21629), (501, 21698), (509, 21722), (530, 21791), (572, 21980), (591, 22055), (597, 22079), (627, 22184), (634, 22193), (641, 22211), (682, 22298), (688, 22322), (704, 22364), (722, 22424),

Gene: Updawg\_33 Start: 23218, Stop: 25425, Start Num: 19

Candidate Starts for Updawg\_33:

(Start: 19 @23218 has 30 MA's), (51, 23332), (54, 23341), (56, 23347), (61, 23368), (95, 23479), (127, 23569), (131, 23581), (220, 23758), (231, 23797), (259, 23893), (371, 24154), (390, 24244), (398, 24274), (401, 24286), (448, 24484), (487, 24625), (492, 24646), (518, 24736), (521, 24742), (522, 24748), (530, 24787), (534, 24808), (543, 24844), (544, 24847), (557, 24913), (561, 24928), (562, 24931), (567, 24952), (574, 24985), (609, 25129), (629, 25177), (663, 25240), (687, 25300), (705, 25348), (718, 25402),

Gene: Usavi\_31 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for Usavi\_31:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (495, 30410), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (624, 30902), (625, 30905), (639, 30938), (642, 30944), (672, 31007),

Gene: Vaishali24\_30 Start: 28427, Stop: 30682, Start Num: 31

Candidate Starts for Vaishali24\_30:

(Start: 31 @28427 has 324 MA's), (57, 28523), (79, 28601), (84, 28628), (114, 28727), (215, 29066), (221, 29090), (247, 29180), (248, 29186), (262, 29222), (277, 29261), (291, 29303), (299, 29342), (312, 29387), (326, 29438), (344, 29489), (345, 29498), (358, 29567), (377, 29642), (393, 29687), (397, 29702), (428, 29837), (441, 29891), (444, 29912), (457, 29945), (471, 29990), (487, 30044), (509, 30128), (519, 30149), (529, 30191), (539, 30230), (553, 30290), (614, 30530), (624, 30563), (625, 30566), (639, 30599), (642, 30605), (672, 30668),

Gene: Validus\_27 Start: 20168, Stop: 22669, Start Num: 17

Candidate Starts for Validus\_27:

(Start: 17 @20168 has 64 MA's), (44, 20267), (49, 20285), (66, 20339), (82, 20390), (86, 20408), (137, 20474), (159, 20528), (181, 20606), (193, 20645), (209, 20702), (216, 20738), (230, 20789), (250,

20834), (264, 20888), (265, 20891), (275, 20912), (279, 20918), (291, 20957), (330, 21110), (343, 21155), (355, 21227), (369, 21281), (373, 21302), (374, 21314), (394, 21407), (398, 21422), (409, 21485), (432, 21581), (481, 21773), (482, 21779), (490, 21803), (503, 21866), (528, 21953), (543, 22025), (548, 22058), (552, 22076), (560, 22115), (610, 22331), (660, 22442), (684, 22499), (689, 22517), (700, 22547),

Gene: Valjean\_31 Start: 28758, Stop: 31013, Start Num: 31

Candidate Starts for Valjean\_31:

(Start: 31 @28758 has 324 MA's), (57, 28854), (79, 28932), (84, 28959), (114, 29058), (164, 29217), (215, 29397), (221, 29421), (247, 29511), (248, 29517), (262, 29553), (277, 29592), (282, 29601), (291, 29634), (299, 29673), (312, 29718), (326, 29769), (344, 29820), (345, 29829), (358, 29898), (377, 29973), (393, 30018), (397, 30033), (428, 30168), (441, 30222), (444, 30243), (457, 30276), (471, 30321), (487, 30375), (509, 30459), (519, 30480), (529, 30522), (539, 30561), (553, 30621), (614, 30861), (624, 30894), (625, 30897), (639, 30930), (672, 30999),

Gene: Vanisoa\_30 Start: 22263, Stop: 24611, Start Num: 52

Candidate Starts for Vanisoa\_30:

(50, 22257), (Start: 52 @22263 has 2 MA's), (80, 22362), (92, 22395), (133, 22530), (168, 22620), (197, 22722), (204, 22749), (212, 22785), (231, 22854), (233, 22860), (295, 23070), (307, 23112), (334, 23202), (342, 23229), (371, 23343), (376, 23376), (396, 23457), (403, 23487), (405, 23493), (428, 23595), (447, 23673), (465, 23733), (482, 23781), (484, 23793), (525, 23946), (530, 23973), (533, 23991), (543, 24030), (549, 24060), (567, 24141), (568, 24144), (604, 24285), (621, 24351), (642, 24396), (656, 24417), (660, 24426), (697, 24531), (715, 24576), (717, 24588),

Gene: Vaticameos\_31 Start: 28456, Stop: 30711, Start Num: 31

Candidate Starts for Vaticameos\_31:

(Start: 31 @28456 has 324 MA's), (57, 28552), (79, 28630), (84, 28657), (114, 28756), (164, 28915), (215, 29095), (221, 29119), (247, 29209), (248, 29215), (262, 29251), (277, 29290), (282, 29299), (291, 29332), (299, 29371), (312, 29416), (326, 29467), (344, 29518), (345, 29527), (358, 29596), (377, 29671), (393, 29716), (397, 29731), (428, 29866), (441, 29920), (444, 29941), (457, 29974), (471, 30019), (487, 30073), (495, 30100), (509, 30157), (519, 30178), (529, 30220), (539, 30259), (553, 30319), (614, 30559), (624, 30592), (625, 30595), (639, 30628), (642, 30634), (672, 30697),

Gene: Veritas\_30 Start: 28328, Stop: 30583, Start Num: 31

Candidate Starts for Veritas\_30:

(Start: 31 @28328 has 324 MA's), (57, 28424), (79, 28502), (84, 28529), (114, 28628), (164, 28787), (215, 28967), (221, 28991), (247, 29081), (248, 29087), (262, 29123), (277, 29162), (282, 29171), (291, 29204), (299, 29243), (312, 29288), (326, 29339), (344, 29390), (345, 29399), (358, 29468), (377, 29543), (393, 29588), (397, 29603), (428, 29738), (441, 29792), (444, 29813), (457, 29846), (471, 29891), (487, 29945), (495, 29972), (509, 30029), (519, 30050), (529, 30092), (539, 30131), (553, 30191), (614, 30431), (624, 30464), (625, 30467), (639, 30500), (642, 30506), (672, 30569),

Gene: Vincenzo\_29 Start: 29686, Stop: 31983, Start Num: 31

Candidate Starts for Vincenzo\_29:

(Start: 31 @29686 has 324 MA's), (Start: 37 @29701 has 1 MA's), (57, 29785), (63, 29803), (78, 29860), (114, 29989), (196, 30253), (208, 30292), (209, 30298), (215, 30328), (219, 30343), (221, 30352), (242, 30433), (243, 30436), (275, 30535), (277, 30538), (279, 30541), (284, 30553), (314, 30676), (320, 30700), (343, 30763), (349, 30802), (366, 30874), (372, 30895), (374, 30916), (377, 30931), (383, 30952), (393, 30982), (401, 31015), (402, 31018), (405, 31030), (413, 31081), (414, 31084), (418, 31102), (426, 31126), (428, 31132), (441, 31186), (444, 31207), (462, 31261), (471, 31285), (509, 31420), (513, 31426), (515, 31429), (519, 31441), (540, 31525), (571, 31660), (578, 31684), (595, 31747), (603, 31783), (609, 31816), (614, 31831), (624, 31864), (625, 31867), (672, 31969), (674, 31972),

Gene: VioletZ\_28 Start: 29041, Stop: 31338, Start Num: 31

Candidate Starts for VioletZ\_28:

(Start: 1 @28354 has 1 MA's), (2, 28501), (Start: 31 @29041 has 324 MA's), (57, 29140), (63, 29158), (98, 29281), (114, 29344), (136, 29425), (160, 29491), (196, 29608), (208, 29647), (219, 29698), (221, 29707), (235, 29764), (242, 29788), (243, 29791), (262, 29854), (279, 29896), (284, 29908), (312, 30019), (314, 30031), (320, 30055), (343, 30118), (366, 30229), (372, 30250), (377, 30286), (383, 30307), (402, 30373), (405, 30385), (413, 30436), (414, 30439), (418, 30457), (426, 30481), (431, 30508), (441, 30541), (444, 30562), (457, 30595), (471, 30640), (513, 30781), (515, 30784), (519, 30796), (540, 30880), (566, 30994), (571, 31015), (578, 31039), (595, 31102), (602, 31132), (614, 31186), (624, 31219), (625, 31222), (636, 31246), (672, 31324), (674, 31327),

Gene: Virapocalypse\_31 Start: 28752, Stop: 31007, Start Num: 31

Candidate Starts for Virapocalypse\_31:

(Start: 31 @28752 has 324 MA's), (57, 28848), (79, 28926), (84, 28953), (114, 29052), (164, 29211), (215, 29391), (221, 29415), (247, 29505), (248, 29511), (262, 29547), (277, 29586), (282, 29595), (291, 29628), (299, 29667), (312, 29712), (326, 29763), (344, 29814), (345, 29823), (358, 29892), (377, 29967), (393, 30012), (397, 30027), (428, 30162), (441, 30216), (444, 30237), (457, 30270), (471, 30315), (487, 30369), (495, 30396), (509, 30453), (519, 30474), (529, 30516), (539, 30555), (553, 30615), (614, 30855), (624, 30888), (625, 30891), (639, 30924), (642, 30930), (672, 30993),

Gene: Virgeve\_30 Start: 28527, Stop: 30788, Start Num: 31

Candidate Starts for Virgeve\_30:

(Start: 31 @28527 has 324 MA's), (57, 28623), (79, 28701), (84, 28728), (107, 28803), (114, 28833), (164, 28992), (215, 29172), (221, 29196), (248, 29292), (262, 29328), (277, 29367), (282, 29376), (291, 29409), (299, 29448), (312, 29493), (326, 29544), (345, 29604), (358, 29673), (377, 29748), (393, 29793), (397, 29808), (428, 29943), (441, 29997), (444, 30018), (457, 30051), (471, 30096), (487, 30150), (495, 30177), (509, 30234), (519, 30255), (529, 30297), (539, 30336), (553, 30396), (614, 30636), (625, 30672), (639, 30705), (672, 30774),

Gene: Vista\_31 Start: 28766, Stop: 31021, Start Num: 31

Candidate Starts for Vista\_31:

(Start: 31 @28766 has 324 MA's), (57, 28862), (79, 28940), (84, 28967), (114, 29066), (164, 29225), (215, 29405), (221, 29429), (247, 29519), (248, 29525), (262, 29561), (277, 29600), (282, 29609), (291, 29642), (299, 29681), (312, 29726), (326, 29777), (344, 29828), (345, 29837), (358, 29906), (377, 29981), (393, 30026), (397, 30041), (428, 30176), (441, 30230), (444, 30251), (457, 30284), (471, 30329), (487, 30383), (495, 30410), (509, 30467), (519, 30488), (529, 30530), (539, 30569), (553, 30629), (614, 30869), (625, 30905), (639, 30938), (672, 31007),

Gene: Vivaldi\_31 Start: 28792, Stop: 31050, Start Num: 31

Candidate Starts for Vivaldi\_31:

(Start: 31 @28792 has 324 MA's), (57, 28888), (79, 28966), (84, 28993), (114, 29095), (215, 29434), (221, 29458), (248, 29554), (262, 29590), (277, 29629), (291, 29671), (299, 29710), (312, 29755), (326, 29806), (344, 29857), (345, 29866), (358, 29935), (377, 30010), (393, 30055), (397, 30070), (428, 30205), (441, 30259), (444, 30280), (457, 30313), (471, 30358), (487, 30412), (509, 30496), (519, 30517), (529, 30559), (539, 30598), (553, 30658), (614, 30898), (624, 30931), (625, 30934), (639, 30967), (642, 30973), (672, 31036),

Gene: Vortex\_31 Start: 28472, Stop: 30727, Start Num: 31

Candidate Starts for Vortex\_31:

(Start: 31 @28472 has 324 MA's), (57, 28568), (79, 28646), (84, 28673), (114, 28772), (164, 28931), (215, 29111), (221, 29135), (248, 29231), (262, 29267), (277, 29306), (282, 29315), (291, 29348), (299, 29387), (312, 29432), (326, 29483), (344, 29534), (345, 29543), (358, 29612), (377, 29687),



(393, 29732), (397, 29747), (428, 29882), (441, 29936), (444, 29957), (457, 29990), (471, 30035), (487, 30089), (495, 30116), (509, 30173), (519, 30194), (529, 30236), (539, 30275), (553, 30335), (614, 30575), (625, 30611), (639, 30644), (672, 30713),

Gene: Waleliano\_28 Start: 28968, Stop: 31265, Start Num: 31

Candidate Starts for Waleliano\_28:

(Start: 1 @28281 has 1 MA's), (2, 28428), (Start: 31 @28968 has 324 MA's), (57, 29067), (63, 29085), (98, 29208), (114, 29271), (136, 29352), (160, 29418), (196, 29535), (208, 29574), (219, 29625), (221, 29634), (235, 29691), (242, 29715), (243, 29718), (262, 29781), (279, 29823), (284, 29835), (314, 29958), (320, 29982), (343, 30045), (366, 30156), (372, 30177), (377, 30213), (383, 30234), (402, 30300), (405, 30312), (412, 30354), (413, 30363), (414, 30366), (418, 30384), (419, 30387), (426, 30408), (431, 30435), (441, 30468), (444, 30489), (457, 30522), (471, 30567), (513, 30708), (515, 30711), (519, 30723), (540, 30807), (566, 30921), (571, 30942), (578, 30966), (595, 31029), (602, 31059), (614, 31113), (624, 31146), (625, 31149), (672, 31251), (674, 31254),

Gene: Wallhey\_30 Start: 28329, Stop: 30584, Start Num: 31

Candidate Starts for Wallhey\_30:

(Start: 31 @28329 has 324 MA's), (57, 28425), (79, 28503), (84, 28530), (114, 28629), (164, 28788), (215, 28968), (221, 28992), (248, 29088), (262, 29124), (277, 29163), (282, 29172), (291, 29205), (299, 29244), (312, 29289), (326, 29340), (344, 29391), (345, 29400), (358, 29469), (377, 29544), (393, 29589), (397, 29604), (428, 29739), (441, 29793), (444, 29814), (457, 29847), (471, 29892), (487, 29946), (495, 29973), (509, 30030), (519, 30051), (529, 30093), (539, 30132), (553, 30192), (614, 30432), (625, 30468), (639, 30501), (672, 30570),

Gene: Waterdiva\_31 Start: 28758, Stop: 31013, Start Num: 31

Candidate Starts for Waterdiva\_31:

(Start: 31 @28758 has 324 MA's), (57, 28854), (79, 28932), (84, 28959), (114, 29058), (164, 29217), (215, 29397), (221, 29421), (247, 29511), (248, 29517), (262, 29553), (277, 29592), (282, 29601), (291, 29634), (299, 29673), (312, 29718), (326, 29769), (344, 29820), (345, 29829), (358, 29898), (377, 29973), (393, 30018), (397, 30033), (428, 30168), (441, 30222), (444, 30243), (457, 30276), (471, 30321), (487, 30375), (495, 30402), (509, 30459), (519, 30480), (529, 30522), (539, 30561), (553, 30621), (614, 30861), (624, 30894), (625, 30897), (639, 30930), (642, 30936), (672, 30999),

Gene: Weher20\_31 Start: 28757, Stop: 31012, Start Num: 31

Candidate Starts for Weher20\_31:

(Start: 31 @28757 has 324 MA's), (57, 28853), (79, 28931), (84, 28958), (114, 29057), (164, 29216), (215, 29396), (221, 29420), (247, 29510), (248, 29516), (262, 29552), (277, 29591), (282, 29600), (291, 29633), (299, 29672), (312, 29717), (326, 29768), (344, 29819), (345, 29828), (358, 29897), (377, 29972), (393, 30017), (397, 30032), (428, 30167), (441, 30221), (444, 30242), (457, 30275), (471, 30320), (487, 30374), (495, 30401), (509, 30458), (519, 30479), (529, 30521), (539, 30560), (553, 30620), (614, 30860), (624, 30893), (625, 30896), (639, 30929), (642, 30935), (672, 30998),

Gene: Whabigail7\_33 Start: 23254, Stop: 25458, Start Num: 19

Candidate Starts for Whabigail7\_33:

(Start: 19 @23254 has 30 MA's), (51, 23368), (54, 23377), (64, 23410), (81, 23467), (127, 23605), (220, 23794), (259, 23929), (275, 23971), (299, 24043), (390, 24283), (395, 24301), (401, 24325), (425, 24433), (450, 24526), (461, 24565), (487, 24655), (499, 24712), (500, 24715), (521, 24772), (522, 24778), (530, 24817), (534, 24838), (575, 25027), (585, 25054), (630, 25207), (641, 25231), (669, 25285), (671, 25288), (686, 25327), (687, 25333), (705, 25381),

Gene: Whirlwind\_22 Start: 19481, Stop: 21994, Start Num: 12

Candidate Starts for Whirlwind\_22:

(Start: 12 @19481 has 16 MA's), (26, 19544), (45, 19616), (102, 19814), (155, 19958), (160, 19976), (164, 19988), (173, 20006), (180, 20045), (184, 20060), (190, 20075), (208, 20132), (213, 20162), (215, 20168), (229, 20222), (231, 20228), (246, 20285), (274, 20375), (276, 20378), (282, 20387), (288, 20405), (301, 20465), (319, 20537), (322, 20540), (356, 20684), (363, 20705), (376, 20762), (397, 20846), (401, 20864), (403, 20873), (447, 21056), (460, 21101), (465, 21116), (473, 21134), (482, 21164), (494, 21224), (500, 21254), (524, 21323), (530, 21356), (534, 21377), (543, 21413), (549, 21443), (565, 21518), (567, 21524), (570, 21539), (574, 21557), (582, 21590), (596, 21641), (597, 21644), (605, 21671), (611, 21704), (621, 21734), (660, 21809), (675, 21845), (694, 21908), (697, 21914), (721, 21986),

Gene: WideWale\_33 Start: 23218, Stop: 25425, Start Num: 19

Candidate Starts for WideWale\_33:

(Start: 19 @23218 has 30 MA's), (51, 23332), (54, 23341), (56, 23347), (61, 23368), (95, 23479), (127, 23569), (131, 23581), (220, 23758), (231, 23797), (259, 23893), (371, 24154), (390, 24244), (398, 24274), (401, 24286), (448, 24484), (487, 24625), (492, 24646), (518, 24736), (521, 24742), (522, 24748), (530, 24787), (534, 24808), (543, 24844), (544, 24847), (557, 24913), (561, 24928), (562, 24931), (567, 24952), (574, 24985), (609, 25129), (629, 25177), (663, 25240), (687, 25300), (705, 25348), (718, 25402),

Gene: Willsammy\_21 Start: 18930, Stop: 21569, Start Num: 7

Candidate Starts for Willsammy\_21:

(Start: 7 @18930 has 9 MA's), (9, 18939), (Start: 42 @19083 has 1 MA's), (129, 19356), (131, 19365), (132, 19368), (139, 19389), (143, 19401), (147, 19410), (157, 19434), (174, 19488), (194, 19566), (203, 19596), (211, 19632), (216, 19653), (220, 19668), (232, 19710), (242, 19743), (267, 19818), (279, 19842), (280, 19848), (284, 19860), (292, 19902), (294, 19908), (318, 19995), (351, 20127), (355, 20145), (365, 20178), (372, 20205), (378, 20256), (424, 20466), (439, 20532), (447, 20568), (470, 20667), (472, 20679), (487, 20742), (528, 20904), (532, 20919), (543, 20970), (567, 21087), (576, 21132), (589, 21174), (597, 21210), (609, 21264), (627, 21312), (693, 21456), (709, 21513), (718, 21552), (721, 21561),

Gene: Windsor\_30 Start: 28456, Stop: 30717, Start Num: 31

Candidate Starts for Windsor\_30:

(Start: 31 @28456 has 324 MA's), (57, 28552), (79, 28630), (84, 28657), (107, 28732), (114, 28762), (164, 28921), (215, 29101), (221, 29125), (248, 29221), (262, 29257), (277, 29296), (282, 29305), (291, 29338), (299, 29377), (312, 29422), (326, 29473), (345, 29533), (358, 29602), (377, 29677), (393, 29722), (397, 29737), (428, 29872), (441, 29926), (444, 29947), (457, 29980), (471, 30025), (487, 30079), (495, 30106), (509, 30163), (519, 30184), (529, 30226), (539, 30265), (553, 30325), (614, 30565), (625, 30601), (639, 30634), (672, 30703),

Gene: Wintermute\_28 Start: 22272, Stop: 24581, Start Num: 17

Candidate Starts for Wintermute\_28:

(Start: 17 @22272 has 64 MA's), (40, 22362), (45, 22383), (53, 22407), (87, 22524), (162, 22653), (188, 22713), (218, 22785), (220, 22794), (239, 22845), (245, 22851), (252, 22860), (265, 22911), (270, 22923), (279, 22938), (282, 22944), (291, 22977), (304, 23025), (320, 23079), (346, 23151), (351, 23190), (354, 23202), (363, 23217), (373, 23262), (386, 23331), (404, 23412), (439, 23565), (451, 23607), (481, 23736), (490, 23781), (504, 23847), (508, 23862), (535, 23958), (567, 24111), (570, 24126), (572, 24132), (575, 24156), (577, 24162), (579, 24168), (580, 24171), (586, 24195), (589, 24207), (610, 24303), (627, 24354), (630, 24357), (667, 24426), (684, 24462), (694, 24495), (713, 24549), (716, 24558), (720, 24573),

Gene: Xavier\_30 Start: 28479, Stop: 30734, Start Num: 31

Candidate Starts for Xavier\_30:

(Start: 31 @28479 has 324 MA's), (57, 28575), (79, 28653), (84, 28680), (114, 28779), (164, 28938), (215, 29118), (221, 29142), (247, 29232), (248, 29238), (262, 29274), (277, 29313), (282, 29322), (291, 29355), (299, 29394), (312, 29439), (326, 29490), (344, 29541), (345, 29550), (358, 29619), (377, 29694), (393, 29739), (397, 29754), (428, 29889), (441, 29943), (444, 29964), (457, 29997), (471, 30042), (487, 30096), (495, 30123), (509, 30180), (519, 30201), (529, 30243), (539, 30282), (553, 30342), (614, 30582), (624, 30615), (625, 30618), (639, 30651), (642, 30657), (672, 30720),

Gene: Xeno\_20 Start: 17553, Stop: 20198, Start Num: 7

Candidate Starts for Xeno\_20:

(Start: 4 @17541 has 1 MA's), (Start: 7 @17553 has 9 MA's), (10, 17565), (11, 17577), (23, 17631), (41, 17700), (Start: 42 @17703 has 1 MA's), (43, 17712), (Start: 47 @17727 has 1 MA's), (100, 17904), (129, 17985), (131, 17994), (153, 18051), (158, 18066), (196, 18198), (209, 18246), (211, 18261), (216, 18282), (227, 18324), (232, 18339), (234, 18348), (242, 18375), (245, 18381), (267, 18450), (279, 18471), (280, 18477), (283, 18486), (290, 18513), (318, 18624), (327, 18645), (336, 18669), (349, 18735), (351, 18756), (355, 18774), (365, 18807), (371, 18831), (372, 18834), (378, 18885), (403, 18990), (410, 19032), (447, 19197), (469, 19293), (487, 19371), (491, 19383), (512, 19473), (528, 19533), (530, 19542), (541, 19590), (543, 19599), (567, 19716), (576, 19761), (589, 19803), (606, 19869), (609, 19893), (627, 19941), (632, 19947), (635, 19953), (683, 20052), (686, 20061), (694, 20091), (718, 20181), (721, 20190),

Gene: Ximenita\_27 Start: 20205, Stop: 22535, Start Num: 17

Candidate Starts for Ximenita\_27:

(Start: 17 @20205 has 64 MA's), (34, 20265), (69, 20394), (77, 20406), (86, 20445), (152, 20541), (155, 20550), (181, 20640), (193, 20679), (207, 20727), (211, 20751), (213, 20760), (239, 20853), (246, 20868), (265, 20934), (279, 20964), (284, 20976), (291, 21003), (292, 21018), (307, 21042), (326, 21102), (340, 21147), (346, 21174), (351, 21213), (355, 21231), (360, 21240), (375, 21309), (376, 21312), (378, 21330), (390, 21372), (396, 21393), (401, 21414), (403, 21423), (409, 21459), (422, 21510), (467, 21675), (493, 21765), (501, 21804), (504, 21813), (522, 21858), (527, 21882), (530, 21897), (533, 21915), (541, 21945), (572, 22086), (582, 22131), (591, 22161), (597, 22185), (600, 22194), (606, 22215), (611, 22245), (688, 22428), (699, 22455), (704, 22467), (722, 22527),

Gene: Y10\_28 Start: 22272, Stop: 24581, Start Num: 17

Candidate Starts for Y10\_28:

(Start: 17 @22272 has 64 MA's), (40, 22362), (45, 22383), (53, 22407), (87, 22524), (162, 22653), (188, 22713), (218, 22785), (220, 22794), (239, 22845), (245, 22851), (252, 22860), (265, 22911), (270, 22923), (279, 22938), (282, 22944), (291, 22977), (304, 23025), (320, 23079), (346, 23151), (351, 23190), (354, 23202), (363, 23217), (373, 23262), (386, 23331), (404, 23412), (439, 23565), (451, 23607), (481, 23736), (490, 23781), (504, 23847), (508, 23862), (535, 23958), (567, 24111), (570, 24126), (572, 24132), (575, 24156), (577, 24162), (579, 24168), (580, 24171), (586, 24195), (589, 24207), (610, 24303), (627, 24354), (630, 24357), (667, 24426), (684, 24462), (694, 24495), (713, 24549), (716, 24558), (720, 24573),

Gene: Y2\_28 Start: 22272, Stop: 24581, Start Num: 17

Candidate Starts for Y2\_28:

(Start: 17 @22272 has 64 MA's), (40, 22362), (45, 22383), (53, 22407), (87, 22524), (162, 22653), (188, 22713), (218, 22785), (220, 22794), (239, 22845), (245, 22851), (252, 22860), (265, 22911), (270, 22923), (279, 22938), (282, 22944), (291, 22977), (304, 23025), (320, 23079), (346, 23151), (351, 23190), (354, 23202), (363, 23217), (373, 23262), (386, 23331), (404, 23412), (439, 23565), (451, 23607), (481, 23736), (490, 23781), (504, 23847), (508, 23862), (535, 23958), (567, 24111), (570, 24126), (572, 24132), (575, 24156), (577, 24162), (579, 24168), (580, 24171), (586, 24195), (589, 24207), (610, 24303), (627, 24354), (630, 24357), (667, 24426), (684, 24462), (694, 24495), (713, 24549), (716, 24558), (720, 24573),

Gene: Yahalom\_31 Start: 28626, Stop: 30851, Start Num: 31

Candidate Starts for Yahalom\_31:

(Start: 31 @28626 has 324 MA's), (Start: 37 @28641 has 1 MA's), (46, 28686), (63, 28743), (85, 28821), (108, 28890), (114, 28902), (126, 28944), (137, 28980), (148, 29007), (154, 29019), (161, 29046), (187, 29136), (195, 29160), (209, 29208), (229, 29292), (264, 29400), (270, 29421), (299, 29514), (305, 29529), (343, 29658), (358, 29739), (377, 29814), (392, 29856), (393, 29862), (413, 29961), (428, 30012), (429, 30024), (441, 30066), (444, 30087), (462, 30141), (471, 30165), (483, 30201), (509, 30297), (515, 30306), (529, 30360), (555, 30468), (561, 30495), (571, 30537), (592, 30609), (614, 30699), (625, 30735),

Gene: Yinz\_31 Start: 28649, Stop: 30874, Start Num: 31

Candidate Starts for Yinz\_31:

(Start: 31 @28649 has 324 MA's), (Start: 37 @28664 has 1 MA's), (46, 28709), (63, 28766), (85, 28844), (108, 28913), (114, 28925), (126, 28967), (137, 29003), (148, 29030), (154, 29042), (161, 29069), (187, 29159), (209, 29231), (229, 29315), (264, 29423), (270, 29444), (299, 29537), (305, 29552), (343, 29681), (358, 29762), (377, 29837), (392, 29879), (393, 29885), (402, 29921), (428, 30035), (429, 30047), (441, 30089), (444, 30110), (462, 30164), (471, 30188), (483, 30224), (509, 30320), (515, 30329), (529, 30383), (555, 30491), (561, 30518), (571, 30560), (592, 30632), (614, 30722), (625, 30758),

Gene: Yoshand\_31 Start: 28765, Stop: 31020, Start Num: 31

Candidate Starts for Yoshand\_31:

(Start: 31 @28765 has 324 MA's), (57, 28861), (79, 28939), (84, 28966), (114, 29065), (164, 29224), (215, 29404), (221, 29428), (247, 29518), (248, 29524), (262, 29560), (277, 29599), (282, 29608), (291, 29641), (299, 29680), (312, 29725), (326, 29776), (344, 29827), (345, 29836), (358, 29905), (377, 29980), (393, 30025), (397, 30040), (428, 30175), (441, 30229), (444, 30250), (457, 30283), (471, 30328), (487, 30382), (509, 30466), (519, 30487), (529, 30529), (539, 30568), (553, 30628), (614, 30868), (624, 30901), (625, 30904), (639, 30937), (642, 30943), (672, 31006),

Gene: YouGoGlencoco\_31 Start: 28760, Stop: 31015, Start Num: 31

Candidate Starts for YouGoGlencoco\_31:

(Start: 31 @28760 has 324 MA's), (57, 28856), (79, 28934), (84, 28961), (114, 29060), (164, 29219), (215, 29399), (221, 29423), (247, 29513), (248, 29519), (262, 29555), (277, 29594), (282, 29603), (291, 29636), (299, 29675), (312, 29720), (326, 29771), (344, 29822), (345, 29831), (358, 29900), (377, 29975), (393, 30020), (397, 30035), (428, 30170), (441, 30224), (444, 30245), (457, 30278), (471, 30323), (487, 30377), (495, 30404), (509, 30461), (519, 30482), (529, 30524), (539, 30563), (553, 30623), (614, 30863), (624, 30896), (625, 30899), (639, 30932), (642, 30938), (672, 31001),

Gene: Yuna\_28 Start: 20819, Stop: 23209, Start Num: 17

Candidate Starts for Yuna\_28:

(Start: 17 @20819 has 64 MA's), (Start: 28 @20867 has 2 MA's), (Start: 42 @20906 has 1 MA's), (44, 20918), (86, 21059), (134, 21113), (137, 21125), (159, 21179), (167, 21200), (179, 21251), (181, 21257), (208, 21347), (209, 21353), (230, 21440), (248, 21482), (250, 21485), (263, 21533), (265, 21542), (279, 21569), (283, 21578), (291, 21608), (305, 21665), (330, 21761), (334, 21773), (355, 21878), (376, 21947), (384, 21986), (393, 22016), (420, 22139), (426, 22160), (448, 22244), (463, 22295), (464, 22298), (465, 22301), (474, 22340), (490, 22394), (502, 22451), (532, 22553), (533, 22565), (557, 22682), (559, 22688), (569, 22730), (596, 22838), (610, 22901), (684, 23054), (685, 23057), (723, 23183),

Gene: Zaider\_32 Start: 28990, Stop: 31245, Start Num: 31

Candidate Starts for Zaider\_32:

(Start: 31 @28990 has 324 MA's), (57, 29086), (79, 29164), (84, 29191), (114, 29290), (164, 29449), (215, 29629), (221, 29653), (247, 29743), (248, 29749), (262, 29785), (277, 29824), (282, 29833),

(291, 29866), (299, 29905), (312, 29950), (326, 30001), (344, 30052), (345, 30061), (358, 30130), (377, 30205), (393, 30250), (397, 30265), (428, 30400), (441, 30454), (444, 30475), (457, 30508), (471, 30553), (487, 30607), (495, 30634), (509, 30691), (519, 30712), (529, 30754), (539, 30793), (553, 30853), (614, 31093), (624, 31126), (625, 31129), (639, 31162), (642, 31168), (672, 31231),

Gene: Zelda\_31 Start: 28756, Stop: 31011, Start Num: 31

Candidate Starts for Zelda\_31:

(Start: 31 @28756 has 324 MA's), (57, 28852), (79, 28930), (84, 28957), (114, 29056), (164, 29215), (215, 29395), (221, 29419), (247, 29509), (248, 29515), (262, 29551), (277, 29590), (282, 29599), (291, 29632), (299, 29671), (312, 29716), (326, 29767), (344, 29818), (345, 29827), (358, 29896), (377, 29971), (393, 30016), (397, 30031), (428, 30166), (441, 30220), (444, 30241), (457, 30274), (471, 30319), (487, 30373), (495, 30400), (509, 30457), (519, 30478), (529, 30520), (539, 30559), (553, 30619), (614, 30859), (625, 30895), (639, 30928), (672, 30997),

Gene: Zemanar\_29 Start: 28968, Stop: 31265, Start Num: 31

Candidate Starts for Zemanar\_29:

(Start: 31 @28968 has 324 MA's), (57, 29067), (63, 29085), (98, 29208), (114, 29271), (136, 29352), (160, 29418), (196, 29535), (208, 29574), (219, 29625), (221, 29634), (235, 29691), (242, 29715), (243, 29718), (262, 29781), (279, 29823), (284, 29835), (314, 29958), (320, 29982), (343, 30045), (349, 30084), (366, 30156), (372, 30177), (377, 30213), (383, 30234), (402, 30300), (405, 30312), (413, 30363), (414, 30366), (418, 30384), (426, 30408), (431, 30435), (441, 30468), (444, 30489), (457, 30522), (471, 30567), (513, 30708), (515, 30711), (519, 30723), (540, 30807), (566, 30921), (571, 30942), (578, 30966), (595, 31029), (602, 31059), (603, 31065), (614, 31113), (624, 31146), (625, 31149), (672, 31251), (674, 31254),

Gene: Zenteno07\_34 Start: 28705, Stop: 31170, Start Num: 31

Candidate Starts for Zenteno07\_34:

(Start: 31 @28705 has 324 MA's), (57, 28801), (63, 28819), (71, 28852), (79, 28879), (161, 29170), (186, 29257), (214, 29356), (227, 29410), (236, 29443), (247, 29473), (255, 29503), (259, 29509), (277, 29554), (284, 29569), (291, 29596), (294, 29617), (305, 29650), (307, 29662), (343, 29779), (348, 29809), (353, 29845), (364, 29884), (391, 29992), (395, 30010), (431, 30169), (442, 30205), (461, 30274), (465, 30286), (484, 30352), (499, 30421), (501, 30433), (522, 30487), (524, 30493), (525, 30499), (529, 30523), (533, 30544), (567, 30691), (575, 30736), (583, 30763), (634, 30940), (658, 30979), (664, 30994), (665, 30997), (687, 31066), (694, 31090), (703, 31111),

Gene: ZoeJ\_23 Start: 18602, Stop: 20941, Start Num: 17

Candidate Starts for ZoeJ\_23:

(Start: 17 @18602 has 64 MA's), (152, 18953), (155, 18962), (171, 19007), (211, 19151), (217, 19175), (265, 19334), (275, 19358), (279, 19364), (284, 19376), (291, 19403), (326, 19502), (346, 19574), (352, 19616), (353, 19622), (355, 19631), (375, 19712), (378, 19733), (390, 19775), (403, 19826), (422, 19913), (425, 19922), (448, 20012), (465, 20066), (467, 20078), (487, 20138), (500, 20198), (504, 20216), (530, 20300), (541, 20348), (556, 20417), (558, 20432), (572, 20489), (575, 20513), (583, 20537), (587, 20546), (597, 20588), (600, 20597), (625, 20684), (634, 20702), (682, 20807), (688, 20831),

Gene: Zonia\_31 Start: 28779, Stop: 31034, Start Num: 31

Candidate Starts for Zonia\_31:

(Start: 31 @28779 has 324 MA's), (57, 28875), (79, 28953), (84, 28980), (114, 29079), (164, 29238), (215, 29418), (221, 29442), (248, 29538), (262, 29574), (277, 29613), (282, 29622), (291, 29655), (299, 29694), (312, 29739), (326, 29790), (344, 29841), (345, 29850), (358, 29919), (377, 29994), (393, 30039), (397, 30054), (428, 30189), (441, 30243), (444, 30264), (457, 30297), (471, 30342), (487, 30396), (495, 30423), (509, 30480), (519, 30501), (529, 30543), (539, 30582), (553, 30642), (614, 30882), (625, 30918), (639, 30951), (672, 31020),

