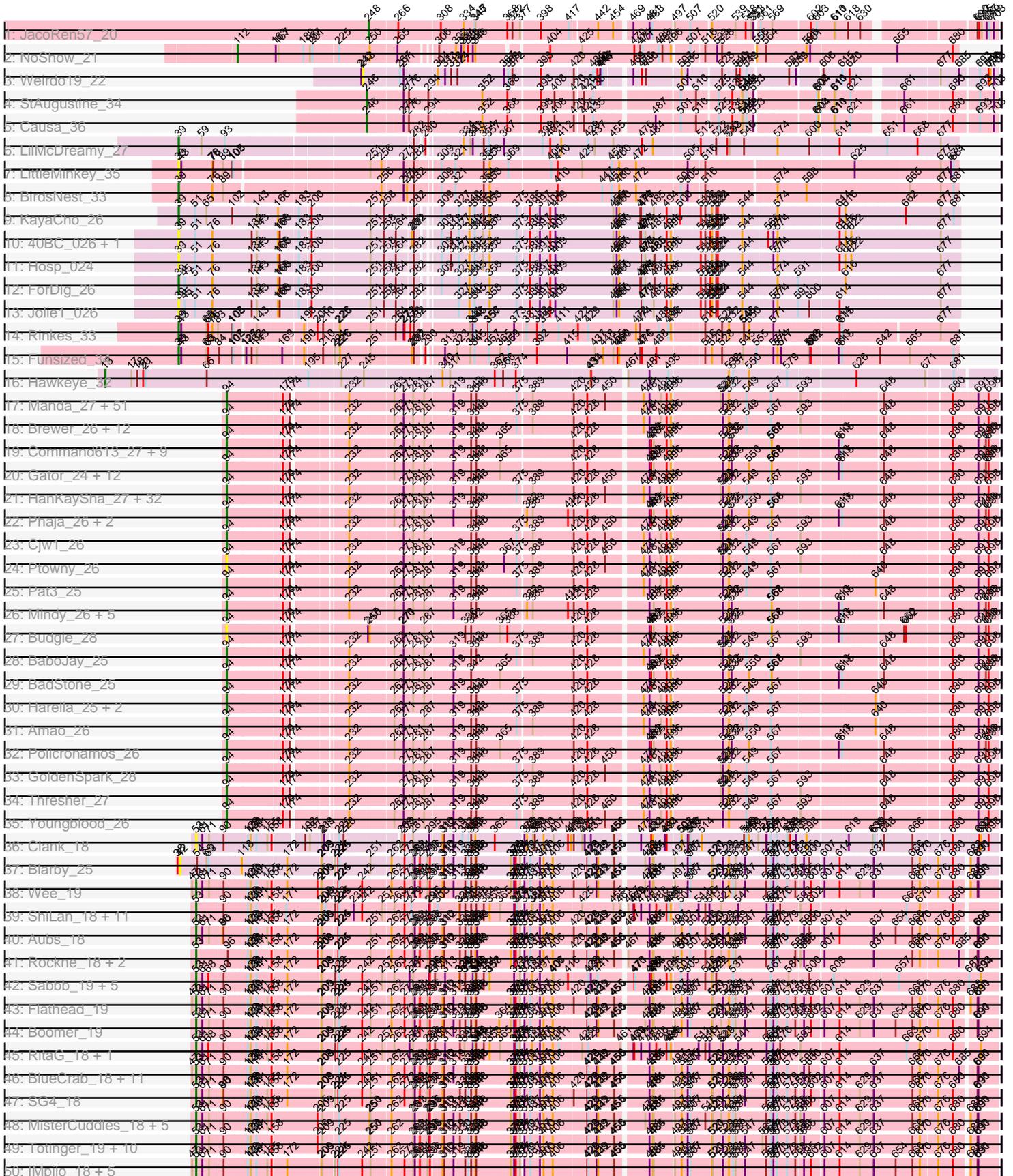


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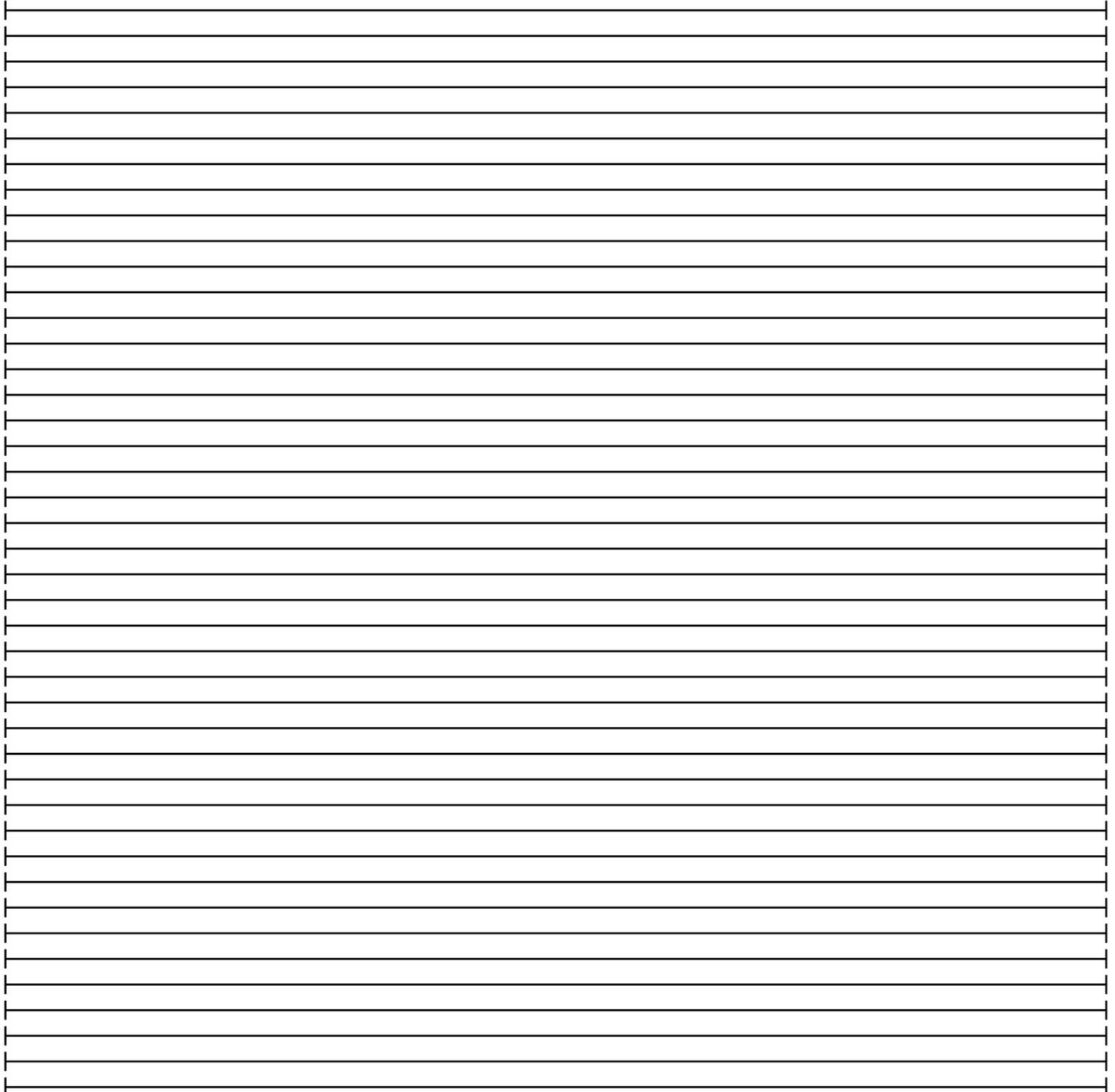
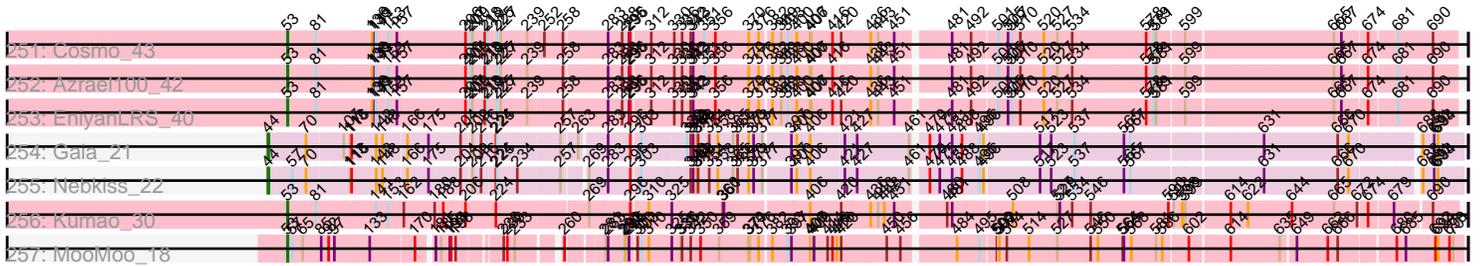




Pham 288916

201: Durfee_27 + 32	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
202: MarkPhew_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
203: Sulley_27 + 2	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
204: Joy99_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
205: CnmD_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
206: Pnthvi_27 + 2	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
207: Adonis_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
208: Zavaia_27 + 4	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
209: HedwigODU_27 + 7	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
210: Anaya_28	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
211: Illumine_27 + 2	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
212: Ptsa4_26 + 1	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
213: Guanica15_27 + 2	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
214: Geraldini_27 + 1	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
215: Tachez_27 + 2	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
216: DiHayes_27 + 3	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
217: Megsy_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
218: Murucutumbu_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
219: CheetoDust_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
220: Stinson_28	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
221: LeWond_26	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
222: MacKat_27 + 1	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
223: Ganymede_28 + 1	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
224: Apocalypse_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
225: Bella96_27 + 1	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
226: TaiwanKao_28	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
227: BeeZoo_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
228: TimBug_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
229: Bern_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
230: Tim_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
231: Chris_26	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
232: Oscar_26	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
233: RTSI_26	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
234: Ageoidapage_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
235: Scarlett_26	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
236: Niob_26	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
237: LaterM_27	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
238: Marshawn_28	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
239: SirPhilip_26	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
240: Aminay_25	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
241: Bollgate_24	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
242: vagabond_58 + 21	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
243: YungJamal_63 + 7	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
244: Ryadel_62	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
245: Smooch_61 + 1	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
246: Bora_56	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
247: Shipwreck_20 + 1	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
248: Pygmy_20	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
249: NovoPizza_23	80	126	155	174	216	231	258	270	285	314	331	370	385	400	424	443	468	476	485	513	539	550	584	597	606	614	648	664	680
250: MaryV_43 + 1	80																												

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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 288916 Report

This analysis was run 03/28/26 on database version 641.

Pham number 288916 has 615 members, 69 are drafts.

Phages represented in each track:

- Track 1 : JacoRen57\_20
- Track 2 : NoShow\_21
- Track 3 : Weirdo19\_22
- Track 4 : StAugustine\_34
- Track 5 : Causa\_36
- Track 6 : LilMcDreamy\_27
- Track 7 : LittleMinkey\_35
- Track 8 : BirdsNest\_33
- Track 9 : KayaCho\_26
- Track 10 : 40BC\_026, 39HC\_026
- Track 11 : Hosp\_024
- Track 12 : ForDig\_26
- Track 13 : Jolie1\_026
- Track 14 : Rinkes\_33
- Track 15 : Funsized\_34
- Track 16 : Hawkeye\_32
- Track 17 : Manda\_27, Terminus\_26, Goldilocks\_27, Murphy\_27, Willez\_25, TeamEdward\_26, Holt\_27, Thimble\_26, Porky\_26, Teaspoon\_27, Buck\_25, Miniwave\_26, PhatBacter\_26, Cookies\_26, MPhalcon\_25, Murica\_25, Pharsalus\_27, Inca\_25, Filch\_27, Tarkin\_28, NonchalantPear\_26, Palpatine\_26, HufflyPuff\_25, Petra64142\_28, FireRed\_26, Phaux\_25, StellaBean\_26, TBrady12\_28, Bogg\_26, AmericanBeauty\_28, Misfit\_26, Paperbeatsrock\_28, Nala\_26, Argent26\_28, MISSy\_25, Nimrod\_26, Highbury\_27, Becksu\_26, SophKB\_26, Gemini\_29, GooberAzure\_28, StormChicken\_26, Gage\_28, Kanye\_28, BugsBunny\_24, Saints25\_27, Kimchi\_28, ShereKhan\_28, Stank\_29, Quallification\_27, Easy2Say\_28, Sassay\_25
- Track 18 : Brewer\_26, YassJohnny\_27, Greep\_27, Contagion\_25, Mosby\_25, MollyToe\_26, Tomaszewski\_25, BigBubba\_27, Bruin\_26, ChotaBhai\_26, xkcd\_27, Rimmer\_25, FoghornLeghorn\_25
- Track 19 : Command613\_27, Marshmallow\_26, Icee\_25, Bask21\_26, Sotrice96\_26, Kostya\_26, CrystalP\_26, BilboSwaggins\_26, Cactus\_27, SirDuracell\_25
- Track 20 : Gator\_24, Dusk\_25, Rakim\_27, Myrale\_26, ABCat\_25, Asriel\_25, Barbarian\_25, Goku\_26, Balomoji\_25, Tuco\_27, Traaww1\_24, TeardropMSU\_25, Eureka\_26
- Track 21 : HanKaySha\_27, Phrux\_26, Xandras\_28, Wiggin\_29, Adnama\_29, Stark\_27, Moldemort\_27, Czyszczonek1\_27, RiverMonster\_26, Elite2014\_25, Bench\_28, Lilizi\_28, ChosenOne\_25, DoctorDiddles\_26, DrDrey\_27, Simpliphy\_27,

LilPickle\_25, PaddyBaddy\_27, Pumpkin\_28, MadamMonkfish\_26, NoSleep\_27, Dumbo\_26, Ukulele\_26, OrionPax\_27, Elph10\_27, Maxxinista\_27, JeTaime\_28, Hopey\_28, 244\_28, StolenFromERC\_28, Emmina\_27, Hoonter\_28, Lilac\_28

- Track 22 : Phaja\_26, IHOP\_26, FairyPath\_26
- Track 23 : Cjw1\_26
- Track 24 : Ptowny\_26
- Track 25 : Pat3\_25
- Track 26 : Mindy\_26, NelitzaMV\_26, Henry\_26, ShamWow\_26, Daikon\_24, Toto\_26
- Track 27 : Budgie\_28
- Track 28 : BaboJay\_25
- Track 29 : BadStone\_25
- Track 30 : Harella\_25, Flypotenuse\_24, Glexan\_24
- Track 31 : Amao\_26
- Track 32 : Policronamos\_26
- Track 33 : GoldenSpark\_28
- Track 34 : Thresher\_27
- Track 35 : Youngblood\_26
- Track 36 : Clank\_18
- Track 37 : Blarby\_25
- Track 38 : Wee\_19
- Track 39 : ShiLan\_18, Gandalph\_18, Burwell21\_18, OlympiaSaint\_18, NormanBulbieJr\_18, ShowerHandel\_18, Priscilla\_18, Yorick\_18, Jarcob\_18, Spoonbill\_18, Martik\_18, Cabrinians\_18
- Track 40 : Aubs\_18
- Track 41 : Rockne\_18, Llij\_18, PMC\_18
- Track 42 : Sabbb\_19, Mattes\_18, BobaPhett\_18, Gorge\_18, James\_18, LilMoolah\_18
- Track 43 : Flathead\_19
- Track 44 : Boomer\_19
- Track 45 : RitaG\_18, Lucia\_19
- Track 46 : BlueCrab\_18, Pacc40\_18, Daenerys\_18, PHappiness\_18, Dorothy\_18, KingMidas\_19, JoeyJr\_18, OldBen\_18, Polka14\_19, DaddyRickover\_18, IbOuu\_18, Scottish\_19
- Track 47 : SG4\_18
- Track 48 : MisterCuddles\_18, GUmbie\_18, Girr\_18, Veteran\_18, Phasih\_19, Ruby\_18
- Track 49 : Totinger\_19, LittleShirley\_19, EmiMonkey\_18, Emmaloid\_19, Starcevich\_19, Vivum\_18, Tchotchke\_19, Slim\_19, Rialto\_20, GigiOuiOui\_18, PhilipPhlop\_18
- Track 50 : IMpilo\_18, Firehouse51\_19, Minnie\_19, Leozinho\_19, MilleniumForce\_19, Whatsapiecost\_18
- Track 51 : Alexphander\_20, ArcusAngelus\_18, DaWorst\_20, Chevrolet\_18
- Track 52 : Zerg\_18
- Track 53 : Madiba\_19
- Track 54 : VRedHorse\_18
- Track 55 : Job42\_21
- Track 56 : Doug\_19
- Track 57 : TootsiePop\_19, Awesomesauce\_19, Misha28\_19
- Track 58 : Tootsieroll\_19, Radiance\_18
- Track 59 : Aloeri\_19, ChickenDinner\_19, DocMcStuffins\_19, Piper2020\_19
- Track 60 : OfUltron\_18, Jinglebell\_17, Llama\_18, Modragons\_18, AlpineSix\_18, Sebastian\_18, Ochi17\_18

- Track 61 : Spikelee\_19, RedBird\_18, BuzzLyseyear\_20, RockyHorror\_19, WillSterrel\_19, IrishSherpFalk\_19, Mantra\_18
- Track 62 : Chuckly\_18
- Track 63 : Phatniss\_19, Drago\_19, UncleRicky\_19, Enby\_19, Lorde\_19
- Track 64 : Coco12\_20, Phanphagia\_18, Brookers\_19, Kingsley\_19
- Track 65 : Hades\_18, OwlsT2W\_20, DosHalletts\_19
- Track 66 : Karhdo\_18
- Track 67 : Strokeseat\_18, Hlubikazi\_18, Mandlovu\_18
- Track 68 : Dante\_18
- Track 69 : Kersh\_19
- Track 70 : Mova\_19
- Track 71 : Moonbeam\_19, Kimberlium\_20, Juice456\_20, QuickMath\_19, MulchExplorer\_21
- Track 72 : Mozy\_19
- Track 73 : SuperGrey\_19
- Track 74 : PatoPoderoso\_18, Doomslug\_20, EleanorGeorge\_18, KristaRAM\_19, Batiatus\_18, KingJulian\_18, Corium\_18, JalFarm20\_20, Fruitloop\_18
- Track 75 : DotProduct\_18
- Track 76 : NewHope4\_19, Polo2Bam\_20, SeaLumen\_19, Enzomatic\_20
- Track 77 : MinionDave\_19, CaptainTrips\_19
- Track 78 : Brushbloom\_19
- Track 79 : Ibhubesi\_18, Harley\_18
- Track 80 : Nitzel\_19
- Track 81 : Taj\_18, DeadP\_18
- Track 82 : Peridot\_20
- Track 83 : Nivrat\_18, Lizziana\_18
- Track 84 : ByChance\_18
- Track 85 : PhesterPhotato\_18
- Track 86 : Ramsey\_19
- Track 87 : Nimbo\_18, Blexus\_18, Geralt\_18, Inventum\_18, Deb65\_18, Sassafras\_18
- Track 88 : XFactor\_18, Galactic\_18, Filuzino\_18
- Track 89 : Mwanjiwa\_18
- Track 90 : Che8\_18
- Track 91 : Fancypants\_18
- Track 92 : ShroomBoi\_18
- Track 93 : SwagPiggett\_18, TDanisky\_18, Philus\_18, Saal\_18, Sparkdehlily\_18, DRBy19\_18
- Track 94 : Spartacus\_19
- Track 95 : SimranZ1\_19
- Track 96 : Whouxphf\_18
- Track 97 : DLane\_18
- Track 98 : Donkeykong\_18
- Track 99 : Rita\_18
- Track 100 : LunaBlu\_19
- Track 101 : Bobi\_20
- Track 102 : DoRead\_18
- Track 103 : Mutaforma13\_18
- Track 104 : Pollywog\_21, Ogopogo\_21
- Track 105 : Royals2015\_18
- Track 106 : Emma\_18, Tweety\_18
- Track 107 : Bubbles123\_19
- Track 108 : Stap\_19

- Track 109 : Wachhund\_18
- Track 110 : Phalconet\_18
- Track 111 : Oksu\_19
- Track 112 : Quico\_19, Girafales\_19, Florinda\_18
- Track 113 : Guppsters\_19
- Track 114 : Estave1\_18
- Track 115 : Mahavrat\_18, Juniper1\_18
- Track 116 : Jant\_18
- Track 117 : Plumbus\_19
- Track 118 : Ovechkin\_18
- Track 119 : Medindi\_18
- Track 120 : Krakatau\_19
- Track 121 : Hegedechwinu\_19
- Track 122 : Eish\_18
- Track 123 : Hamulus\_18
- Track 124 : Beanstalk\_20
- Track 125 : Sandalphon\_19
- Track 126 : SiSi\_18
- Track 127 : Grimmer\_19
- Track 128 : Poenanya\_18, Doomphist\_18
- Track 129 : SassyB\_18, PopTart\_18
- Track 130 : Seagreen\_19
- Track 131 : Cornucopia\_19, Marker\_19
- Track 132 : Leperchaun\_18
- Track 133 : Eradicator\_18
- Track 134 : Maravista\_18
- Track 135 : Topiatin\_20
- Track 136 : Empress\_19
- Track 137 : Melissauren88\_18
- Track 138 : Zizzle\_18
- Track 139 : Violac\_19
- Track 140 : Nichirin\_18
- Track 141 : Beakin\_19
- Track 142 : Bipolar\_18
- Track 143 : MadMen\_19
- Track 144 : DillTech15\_18
- Track 145 : FreddyB\_18
- Track 146 : BodEinwohner17\_18
- Track 147 : Byougenkin\_18
- Track 148 : Fastidio\_18
- Track 149 : DirtMcgirt\_19
- Track 150 : Latretium\_19
- Track 151 : Ardmore\_18
- Track 152 : Shauna1\_18
- Track 153 : StAnnes\_18
- Track 154 : Frankie\_19
- Track 155 : Cheesepuff\_20
- Track 156 : Kenuha5\_18
- Track 157 : Zapner\_25, Jabbawokkie\_26
- Track 158 : Avani\_24
- Track 159 : Soul22\_24
- Track 160 : Demsculpinboyz\_24
- Track 161 : SilverChicken\_24

- Track 162 : Che9d\_24
- Track 163 : Yoshi\_24
- Track 164 : LunaStella\_20
- Track 165 : ThetaBob\_20
- Track 166 : Renaud18\_20
- Track 167 : Cornie\_20
- Track 168 : Toron\_20
- Track 169 : Cambiare\_23
- Track 170 : Avocado\_22
- Track 171 : GodSpeed\_23
- Track 172 : Pace1224\_22, FlagStaff\_22
- Track 173 : Pinnie\_23
- Track 174 : Cloudyecho\_22
- Track 175 : MOOREtheMARYer\_23
- Track 176 : Lemuria\_23
- Track 177 : Mercurio\_24
- Track 178 : Jolie2\_22
- Track 179 : YangYin\_22
- Track 180 : Antsirabe\_22
- Track 181 : Stargaze\_22
- Track 182 : Puissant\_28
- Track 183 : Oaker\_29
- Track 184 : Damien\_29, Cborch11\_30, Beckerton\_29, Megatron06\_31
- Track 185 : Thumb\_29, BobtimousPrime\_28
- Track 186 : Konstantine\_34, Phreeze\_29
- Track 187 : DrLupo\_38
- Track 188 : Barnyard\_36
- Track 189 : PaintedDog\_20
- Track 190 : Brujita\_21, Island3\_21
- Track 191 : Courthouse\_36, Superphikiman\_36, Squint\_35, Porcelain\_35, Ariel\_36, Lucky2013\_36
- Track 192 : LittleE\_39
- Track 193 : MiaZeal\_36
- Track 194 : Optimus\_37
- Track 195 : Shaboozey\_30, Hannaconda\_33, KashFlow\_30, BronnyJames\_30, Nibley\_31
- Track 196 : Wanda\_39, BAKA\_36, Omega\_38
- Track 197 : Duke13\_36
- Track 198 : Minerva\_39
- Track 199 : Gonephishing\_34
- Track 200 : DmpstrDiver\_37
- Track 201 : Durfee\_27, Dalmuri\_27, Inky\_27, Asayake\_27, Jeckyll\_27, Capricorn\_27, BGIlluviae\_27, CallaLilly\_27, Pokerus\_26, Ramen\_27, Boiiii\_27, Belladonna\_27, Peel\_27, Padfoot\_27, AlishaPH\_27, Twitch\_27, CaseJules\_27, Llorens\_27, Piatt\_27, BaghaKamala\_27, JAWS\_27, BEEST\_27, Hyperbowlee\_27, Jarvi\_27, Spock\_27, BarrelRoll\_27, Topper\_27, CREW\_27, Blizzard\_27, Homura\_27, Rosmarinus\_27, ShiaSurprise\_27, Lunahalos\_27
- Track 202 : MarkPhew\_27
- Track 203 : Sulley\_27, Angelica\_27, Deby\_27
- Track 204 : Joy99\_27
- Track 205 : CrimD\_27
- Track 206 : Prithvi\_27, TreyKay\_27, LindNT\_27
- Track 207 : Adonis\_27

- Track 208 : Zavala\_27, Mynx\_27, Emerson\_27, Padpat\_27, TruffulaTree\_27
- Track 209 : HedwigODU\_27, Veliki\_27, Zabiza\_27, Rapunzel97\_27, Jayhawk\_27, Adephagia\_27, Slimphazie\_27, ActinUp\_27
- Track 210 : Anaya\_28
- Track 211 : Illumine\_27, Devera\_27, Dole\_27
- Track 212 : Pisa4\_26, Pisa1\_26
- Track 213 : Guanica15\_27, Yunkel11\_27, Efra2\_27
- Track 214 : Geraldini\_27, MeaningOfLife\_27
- Track 215 : Tachez\_27, YoureAdopted\_26, Atiba\_27
- Track 216 : DrHayes\_27, Anma\_27, Urkel\_27, SamuelLPlaqson\_27
- Track 217 : Megsy\_27
- Track 218 : Murucutumbu\_27
- Track 219 : CheetoDust\_27
- Track 220 : Stinson\_28
- Track 221 : LeMond\_26
- Track 222 : MacKat\_27, Clipper\_27
- Track 223 : Ganymede\_28, QuincyRose\_26
- Track 224 : Apocalypse\_27
- Track 225 : Bella96\_27, DartGoblin\_27
- Track 226 : TaiwanKao\_28
- Track 227 : Beezoo\_27
- Track 228 : TiniBug\_27
- Track 229 : Bern\_27
- Track 230 : Tiri\_27
- Track 231 : Chris\_26
- Track 232 : Oscar\_26
- Track 233 : KiSi\_26
- Track 234 : Ageofdapage\_27
- Track 235 : Scarlett\_26
- Track 236 : Nibb\_26
- Track 237 : LaterM\_27
- Track 238 : Marshawn\_28
- Track 239 : SirPhilip\_26
- Track 240 : Aminay\_25
- Track 241 : Boilgate\_24
- Track 242 : Vagabond\_58, Krili\_57, SchoolBus\_58, Idergollasper\_58, Mori\_58, Wogge42\_57, YoyoKar\_56, KingPhillip3\_57, Alkhayr\_58, Schuy\_59, Familton\_59, FoulBall\_58, Winget\_59, MadKillah\_59, NiebruSaylor\_57, Blessica\_59, TelAviv\_55, Zebo\_58, Catdawg\_58, Imara\_56, JangDynasty\_58, Vorrps\_58
- Track 243 : YungJamal\_63, Wildflower\_58, Corndog\_61, Shida\_58, Dylan\_58, Murai\_59, Ashwin\_60, Zakhe101\_58
- Track 244 : Ryadel\_62
- Track 245 : Smooch\_61, Firecracker\_59
- Track 246 : Bora\_56
- Track 247 : Shipwreck\_20, Bogie\_20
- Track 248 : Pygmy\_20
- Track 249 : NovoPizza\_23
- Track 250 : MaryV\_43, Wildcat\_43
- Track 251 : Cosmo\_43
- Track 252 : Azrael100\_42
- Track 253 : EniyanLRS\_40
- Track 254 : Gaia\_21
- Track 255 : Nebkiss\_22

- Track 256 : Kumao\_30
- Track 257 : MooMoo\_18

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

The start number called the most often in the published annotations is 53, it was called in 241 of the 546 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_20, Aloeri\_19, AlpineSix\_18, ArcusAngelus\_18, Ardmore\_18, Ariel\_36, Aubs\_18, Awesomesauce\_19, Azrael100\_42, BAKA\_36, Batiatus\_18, Beakin\_19, Beanstalk\_20, Bipolar\_18, Blexus\_18, BlueCrab\_18, BobaPhett\_18, Bobi\_20, BodEinwohner17\_18, Boomer\_19, BronnyJames\_30, Brookers\_19, Brushbloom\_19, Bubbles123\_19, Burwell21\_18, BuzzLyseyear\_20, ByChance\_18, Byougenkin\_18, Cabrinians\_18, CaptainTrips\_19, Che8\_18, CheesePuff\_20, Chevrolet\_18, ChickenDinner\_19, Chuckly\_18, Clank\_18, Coco12\_20, Corium\_18, Cornucopia\_19, Cosmo\_43, Courthouse\_36, DLane\_18, DRBy19\_18, DaWorst\_20, DaddyRickover\_18, Daenerys\_18, Dante\_18, DeadP\_18, Deb65\_18, DillTech15\_18, DirtMcGirt\_19, DmpstrDiver\_37, DoRead\_18, DocMcStuffins\_19, Donkeykong\_18, Doomphist\_18, Doomslug\_20, Dorothy\_18, DosHalletts\_19, DotProduct\_18, Doug\_19, Drago\_19, Duke13\_36, Eish\_18, EleanorGeorge\_18, EmiMonkey\_18, Emma\_18, Emmaloid\_19, Empress\_19, Enby\_19, EniyanLRS\_40, Enzomatic\_20, Eradicator\_18, Estave1\_18, Fancypants\_18, Fastidio\_18, Filuzino\_18, Firehouse51\_19, Flathead\_19, Florinda\_18, Frankie\_19, FreddyB\_18, Fruitloop\_18, GUmbie\_18, Galactic\_18, Gandalf\_18, Geralt\_18, GigiOuiOui\_18, Girafales\_19, Girr\_18, Gorge\_18, Grimmer\_19, Guppsters\_19, Hades\_18, Hamulus\_18, Hannaconda\_33, Harley\_18, Hegedechwinu\_19, Hlubikazi\_18, IMpilo\_18, IbOuu\_18, Ihubesi\_18, Inventum\_18, IrishSherpFalk\_19, JalFarm20\_20, James\_18, Jant\_18, Jarcob\_18, Jinglebell\_17, Job42\_21, JoeyJr\_18, Juice456\_20, Juniper1\_18, Karhdo\_18, KashFlow\_30, Kenuha5\_18, Kersh\_19, Kimberlium\_20, KingJulian\_18, KingMidas\_19, Kingsley\_19, Krakatau\_19, KristaRAM\_19, Kumao\_30, Latretium\_19, Leozinho\_19, Leperchaun\_18, LilMoolah\_18, LittleE\_39, LittleShirley\_19, Lizziana\_18, Llama\_18, Llij\_18, Lorde\_19, Lucia\_19, Lucky2013\_36, LunaBlu\_19, MadMen\_19, Madiba\_19, Mahavrat\_18, Mandlovu\_18, Mantra\_18, Maravista\_18, Marker\_19, Martik\_18, MaryV\_43, Mattes\_18, Medindi\_18, MiaZeal\_36, MilleniumForce\_19, Minerva\_39, MinionDave\_19, Minnie\_19, Misha28\_19, MisterCuddles\_18, Modragons\_18, MooMoo\_18, Moonbeam\_19, Mova\_19, Mozy\_19, MulchExplorer\_21, Mutaforma13\_18, Mwanjiwa\_18, NewHope4\_19, Nibley\_31, Nichirin\_18, Nimbo\_18, Nitzel\_19, Nivrat\_18, NormanBulbieJr\_18, Ochi17\_18, OfUltron\_18, OgoPogo\_21, Oksu\_19, OldBen\_18, OlympiaSaint\_18, Omega\_38, Optimus\_37, Ovechkin\_18, OwlsT2W\_20, PHappiness\_18, PMC\_18, Pacc40\_18, PatoPoderoso\_18, Peridot\_20, Phalconet\_18, Phanphagia\_18, Phasih\_19, Phatniss\_19, PhesterPotato\_18, Philus\_18, PhilipPhlop\_18, Piper2020\_19, Plumbus\_19, Poenanya\_18, Polka14\_19, Pollywog\_21, Polo2Bam\_20, PopTart\_18, Porcelain\_35, Priscilla\_18, QuickMath\_19, Quico\_19, Radiance\_18, Ramsey\_19, RedBird\_18, Rialto\_20, RitaG\_18, Rita\_18, Rockne\_18, RockyHorror\_19, Royals2015\_18, Ruby\_18, SG4\_18, Saal\_18, Sabbb\_19, Sandalphon\_19, Sassafras\_18, SassyB\_18, Scottish\_19, SeaLumen\_19, Seabastian\_18, Seagreen\_19, Shaboozey\_30, Shauna1\_18, ShiLan\_18, ShowerHandel\_18, ShroomBoi\_18, SiSi\_18, SimranZ1\_19, Slim\_19,

Sparkdehlily\_18, Spartacus\_19, Spikelee\_19, Spoonbill\_18, Squint\_35, StAnnes\_18, Stap\_19, Starcevich\_19, Strokeseat\_18, SuperGrey\_19, Superphikiman\_36, SwagPiggett\_18, TDanisky\_18, Taj\_18, Tchotchke\_19, TootsiePop\_19, Tootsieroll\_19, Topiatin\_20, Totinger\_19, Tweety\_18, UncleRicky\_19, VRedHorse\_18, Veteran\_18, Violac\_19, Vivum\_18, Wachhund\_18, Wanda\_39, Wee\_19, Whatsapiecost\_18, Whouxphf\_18, Wildcat\_43, WillSterrel\_19, XFactor\_18, Yorick\_18, Zerg\_18, Zizzle\_18,

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

- Avani\_24, Che9d\_24, Demsculpinboyz\_24, Gonephishing\_34, Jabbawokkie\_26, Melissauren88\_18, Soul22\_24, Yoshi\_24, Zapner\_25,

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

- 244\_28, 39HC\_026, 40BC\_026, ABCat\_25, ActinUp\_27, Adephagia\_27, Adnama\_29, Adonis\_27, Ageofdapage\_27, AlishaPH\_27, Alkhayr\_58, Amao\_26, AmericanBeauty\_28, Aminay\_25, Anaya\_28, Angelica\_27, Anma\_27, Antsirabe\_22, Apocalypse\_27, Argent26\_28, Asayake\_27, Ashwin\_60, Asriel\_25, Atiba\_27, Avocado\_22, BEEST\_27, BGIlluviae\_27, BaboJay\_25, BadStone\_25, BaghaKamala\_27, Balomoji\_25, Barbarian\_25, Barnyard\_36, BarrelRoll\_27, Bask21\_26, Beckerton\_29, Becksu\_26, Beezoo\_27, Bella96\_27, Belladonna\_27, Bench\_28, Bern\_27, BigBubba\_27, BilboSwaggins\_26, BirdsNest\_33, Blarby\_25, Blessica\_59, Blizzard\_27, BobtimousPrime\_28, Bogg\_26, Bogie\_20, Boiii\_27, Boilgate\_24, Bora\_56, Brewer\_26, Bruin\_26, Brujita\_21, Buck\_25, Budgie\_28, BugsBunny\_24, CREW\_27, Cactus\_27, CallaLilly\_27, Cambiare\_23, Capricorn\_27, CaseJules\_27, Catdawg\_58, Causa\_36, Cborch11\_30, CheetoDust\_27, ChosenOne\_25, ChotaBhai\_26, Chris\_26, Cjw1\_26, Clipper\_27, Cloudyecho\_22, Command613\_27, Contagion\_25, Cookies\_26, Corndog\_61, Cornie\_20, CrimD\_27, CrystalP\_26, Czystczon1\_27, Daikon\_24, Dalmuri\_27, Damien\_29, DartGoblin\_27, Deby\_27, Devera\_27, DoctorDiddles\_26, Dole\_27, DrDrey\_27, DrHayes\_27, DrLupo\_38, Dumbo\_26, Durfee\_27, Dusk\_25, Dylan\_58, Easy2Say\_28, Efra2\_27, Elite2014\_25, Elph10\_27, Emerson\_27, Emmina\_27, Eureka\_26, FairyPath\_26, Familton\_59, Filch\_27, FireRed\_26, Firecracker\_59, FlagStaff\_22, Flypotenuse\_24, FoghornLeghorn\_25, ForDig\_26, FoulBall\_58, Funsized\_34, Gage\_28, Gaia\_21, Ganymede\_28, Gator\_24, Gemini\_29, Geraldini\_27, Glexan\_24, GodSpeed\_23, Goku\_26, GoldenSpark\_28, Goldilocks\_27, GooberAzure\_28, Greep\_27, Guanica15\_27, HanKaySha\_27, Harella\_25, Hawkeye\_32, HedwigODU\_27, Henry\_26, Highbury\_27, Holt\_27, Homura\_27, Hoonter\_28, Hopey\_28, Hosp\_024, HufflyPuff\_25, Hyperbowlee\_27, IHOP\_26, Icee\_25, Idergollasper\_58, Illumine\_27, Imara\_56, Inca\_25, Inky\_27, Island3\_21, JAWS\_27, JacoRen57\_20, JangDynasty\_58, Jarvi\_27, Jayhawk\_27, JeTaime\_28, Jeckyll\_27, Jolie1\_026, Jolie2\_22, Joy99\_27, Kanye\_28, KayaCho\_26, KiSi\_26, Kimchi\_28, KingPhillip3\_57, Konstantine\_34, Kostya\_26, Krili\_57, LaterM\_27, LeMond\_26, Lemuria\_23, LilMcDreamy\_27, Lilac\_28, Lilizi\_28, Lilpickle\_25, LindNT\_27, LittleMinkey\_35, Llorens\_27, LunaStella\_20, Lunahalos\_27, MISSy\_25, MOOREtheMARYer\_23, MPhalcon\_25, MacKat\_27, MadKillah\_59, MadamMonkfish\_26, Manda\_27, MarkPhew\_27, Marshawn\_28, Marshmallow\_26, Maxxinista\_27, MeaningOfLife\_27, Megatron06\_31, Megsy\_27, Mercurio\_24, Mindy\_26, Miniwave\_26, Misfit\_26, Moldemort\_27, MollyToe\_26, Mori\_58, Mosby\_25, Murai\_59, Murica\_25, Murphy\_27, Murucutumbu\_27, Mynx\_27, Myrale\_26, Nala\_26, Nebkiss\_22, NelitzaMV\_26, Nibb\_26, NiebruSaylor\_57, Nimrod\_26, NoShow\_21, NoSleep\_27, NonchalantPear\_26, NovoPizza\_23, Oaker\_29, OrionPax\_27, Oscar\_26, Pace1224\_22, PaddyBaddy\_27, Padfoot\_27, Padpat\_27, PaintedDog\_20, Palpatine\_26, Paperbeatsrock\_28, Pat3\_25, Peel\_27, Petra64142\_28, Phaja\_26,

Pharsalus\_27, PhatBacter\_26, Phaux\_25, Phreeze\_29, Phrux\_26, Piatt\_27, Pinnie\_23, Pisa1\_26, Pisa4\_26, Pokerus\_26, Policronamos\_26, Porky\_26, Prithvi\_27, Ptowny\_26, Puissant\_28, Pumpkin\_28, Pygmy\_20, Quallification\_27, QuincyRose\_26, Rakim\_27, Ramen\_27, Rapunzel97\_27, Renaud18\_20, Rimmer\_25, Rinkes\_33, RiverMonster\_26, Rosmarinus\_27, Ryadel\_62, Saints25\_27, SamuelLPlaqson\_27, Sassay\_25, Scarlett\_26, SchoolBus\_58, Schuy\_59, ShamWow\_26, ShereKhan\_28, ShiaSurprise\_27, Shida\_58, Shipwreck\_20, SilverChicken\_24, Simpliphy\_27, SirDuracell\_25, SirPhilip\_26, Slimphazie\_27, Smooch\_61, SophKB\_26, Sotrice96\_26, Spock\_27, StAugustine\_34, Stank\_29, Stargaze\_22, Stark\_27, StellaBean\_26, Stinson\_28, StolenFromERC\_28, StormChicken\_26, Sulley\_27, TBrady12\_28, Tachez\_27, TaiwanKao\_28, Tarkin\_28, TeamEdward\_26, TeardropMSU\_25, Teaspoon\_27, TelAviv\_55, Terminus\_26, ThetaBob\_20, Thimble\_26, Thresher\_27, Thumb\_29, TiniBug\_27, Tiri\_27, Tomaszewski\_25, Topper\_27, Toron\_20, Toto\_26, Traaww1\_24, TreyKay\_27, TruffulaTree\_27, Tuco\_27, Twitch\_27, Ukulele\_26, Urkel\_27, Vagabond\_58, Veliki\_27, Vorrrps\_58, Weirdo19\_22, Wiggin\_29, Wildflower\_58, Willez\_25, Winget\_59, Wogge42\_57, Xandras\_28, YangYin\_22, YassJohnny\_27, Youngblood\_26, YoureAdopted\_26, YoyoKar\_56, YungJamal\_63, Yunkel11\_27, Zabiza\_27, Zakhe101\_58, Zavala\_27, Zebo\_58, xkcd\_27,

### Summary by start number:

#### Start 2:

- Found in 2 of 615 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 2 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard\_36 (H2), DrLupo\_38 (H2),

#### Start 13:

- Found in 1 of 615 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hawkeye\_32 (D2),

#### Start 17:

- Found in 11 of 615 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 8 of 546
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Beckerton\_29 (H1), BobtimousPrime\_28 (H1), Cborch11\_30 (H1), Damien\_29 (H1), Konstantine\_34 (H1), Megatron06\_31 (H1), Oaker\_29 (H1), Phreeze\_29 (H1), Puissant\_28 (H1), Thumb\_29 (H1),

#### Start 19:

- Found in 3 of 615 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 546
- Called 33.3% of time when present
- Phage (with cluster) where this start called: NovoPizza\_23 (Q),

#### Start 33:

- Found in 14 of 615 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 9 of 546
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Antsirabe\_22 (G5), Avocado\_22 (G2), Cambiare\_23 (G2), Cloudyecho\_22 (G3), FlagStaff\_22 (G2), GodSpeed\_23 (G2), Jolie2\_22 (G4), Lemuria\_23 (G4), MOOREtheMARYer\_23 (G3), Mercurio\_24 (G4), Pace1224\_22 (G2), Pinnie\_23 (G3), Stargaze\_22 (G5), YangYin\_22 (G5),

#### Start 39:

- Found in 11 of 615 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 6 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC\_026 (B6), 40BC\_026 (B6), BirdsNest\_33 (B13), ForDig\_26 (B6), Funsized\_34 (B9), Hosp\_024 (B6), Jolie1\_026 (B6), KayaCho\_26 (B6), LilMcDreamy\_27 (B12), LittleMinkey\_35 (B13), Rinkes\_33 (B9),

#### Start 40:

- Found in 7 of 615 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 7 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Avani\_24 (F2), Che9d\_24 (F2), Demsculpinboyz\_24 (F2), Jabbawokkie\_26 (F2), Soul22\_24 (F2), Yoshi\_24 (F2), Zapner\_25 (F2),

#### Start 42:

- Found in 2 of 615 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Blarby\_25 (F),

#### Start 44:

- Found in 3 of 615 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 546
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Gaia\_21 (X), Nebkiss\_22 (X),

#### Start 53:

- Found in 276 of 615 ( 44.9% ) of genes in pham
- Manual Annotations of this start: 241 of 546
- Called 96.7% of time when present
- Phage (with cluster) where this start called: Alexphander\_20 (F1), Aloeri\_19 (F1), AlpineSix\_18 (F1), ArcusAngelus\_18 (F1), Ardmore\_18 (F1), Ariel\_36 (J), Aubs\_18 (F1), Awesomesauce\_19 (F1), Azrael100\_42 (V), BAKA\_36 (J), Batiatus\_18 (F1), Beakin\_19 (F1), Beanstalk\_20 (F1), Bipolar\_18 (F1), Blexus\_18 (F1), BlueCrab\_18 (F1), BobaPhett\_18 (F1), Bobi\_20 (F1), BodEinwohner17\_18 (F1), Boomer\_19 (F1), BronnyJames\_30 (J), Brookers\_19 (F1), Brushbloom\_19 (F1), Bubbles123\_19 (F1), Burwell21\_18 (F1), BuzzLyseyear\_20 (F1), ByChance\_18 (F1), Byougenkin\_18 (F1), Cabrinians\_18 (F1), CaptainTrips\_19 (F1), Che8\_18 (F1), Cheesepuff\_20 (F1), Chevrolet\_18 (F1), ChickenDinner\_19 (F1), Chuckly\_18 (F1), Clank\_18 (F), Coco12\_20 (F1), Corium\_18 (F1), Cornucopia\_19 (F1), Cosmo\_43 (V), Courthouse\_36 (J), DLane\_18 (F1), DRBy19\_18 (F1), DaWorst\_20 (F1), DaddyRickover\_18 (F1), Daenerys\_18 (F1), Dante\_18 (F1), DeadP\_18 (F1), Deb65\_18 (F1), DillTech15\_18 (F1), DirtMcgirt\_19 (F1), DmpstrDiver\_37 (J), DoRead\_18 (F1), DocMcStuffins\_19 (F1), Donkeykong\_18 (F1), Doomphist\_18 (F1), Doomslug\_20 (F), Dorothy\_18 (F1), DosHalletts\_19 (F1), DotProduct\_18 (F1),

Doug\_19 (F1), Drago\_19 (F1), Duke13\_36 (J), Eish\_18 (F1), EleanorGeorge\_18 (F1), EmiMonkey\_18 (F1), Emma\_18 (F1), Emmaloid\_19 (F1), Empress\_19 (F1), Enby\_19 (F1), EniyanLRS\_40 (V), Enzomatic\_20 (F1), Eradicator\_18 (F1), Estave1\_18 (F1), Fancypants\_18 (F1), Fastidio\_18 (F1), Filuzino\_18 (F1), Firehouse51\_19 (F1), Flathead\_19 (F1), Florinda\_18 (F1), Frankie\_19 (F1), FreddyB\_18 (F1), Fruitloop\_18 (F1), GUmbie\_18 (F1), Galactic\_18 (F1), Gandalph\_18 (F1), Geralt\_18 (F1), GigiOuiOui\_18 (F1), Girafales\_19 (F1), Girr\_18 (F1), Gorge\_18 (F1), Grimmer\_19 (F1), Guppsters\_19 (F1), Hades\_18 (F1), Hamulus\_18 (F1), Hannaconda\_33 (J), Harley\_18 (F1), Hegedechwinu\_19 (F1), Hlubikazi\_18 (F1), IMpilo\_18 (F1), IbOuu\_18 (F1), Ibhubesi\_18 (F1), Inventum\_18 (F1), IrishSherpFalk\_19 (F1), JalFarm20\_20 (F1), James\_18 (F1), Jant\_18 (F1), Jarcob\_18 (F1), Jinglebell\_17 (F1), Job42\_21 (F1), JoeyJr\_18 (F1), Juice456\_20 (F1), Juniper1\_18 (F1), Karhdo\_18 (F1), KashFlow\_30 (J), Kenuha5\_18 (F1), Kersh\_19 (F1), Kimberlium\_20 (F1), KingJulian\_18 (F1), KingMidas\_19 (F1), Kingsley\_19 (F1), Krakatau\_19 (F1), KristaRAM\_19 (F1), Kumao\_30 (singleton), Latretium\_19 (F1), Leozinho\_19 (F1), Leperchaun\_18 (F1), LilMoolah\_18 (F1), LittleE\_39 (J), LittleShirley\_19 (F1), Lizziana\_18 (F1), Llama\_18 (F1), Llij\_18 (F1), Lorde\_19 (F1), Lucia\_19 (F1), Lucky2013\_36 (J), LunaBlu\_19 (F1), MadMen\_19 (F1), Madiba\_19 (F1), Mahavrat\_18 (F1), Mandlovu\_18 (F1), Mantra\_18 (F1), Maravista\_18 (F1), Marker\_19 (F1), Martik\_18 (F1), MaryV\_43 (V), Mattes\_18 (F1), Medindi\_18 (F1), MiaZeal\_36 (J), MilleniumForce\_19 (F1), Minerva\_39 (J), MinionDave\_19 (F1), Minnie\_19 (F1), Misha28\_19 (F1), MisterCuddles\_18 (F1), Modragons\_18 (F1), MooMoo\_18 (singleton), Moonbeam\_19 (F1), Mova\_19 (F1), Mozy\_19 (F1), MulchExplorer\_21 (F1), Mutaforma13\_18 (F1), Mwanjiwa\_18 (F1), NewHope4\_19 (F1), Nibley\_31 (J), Nichirin\_18 (F1), Nimbo\_18 (F1), Nitzel\_19 (F1), Nivrat\_18 (F1), NormanBulbieJr\_18 (F1), Ochi17\_18 (F1), OfUltron\_18 (F1), Ogotopogo\_21 (F1), Oksu\_19 (F1), OldBen\_18 (F1), OlympiaSaint\_18 (F1), Omega\_38 (J), Optimus\_37 (J), Ovechkin\_18 (F1), OwlsT2W\_20 (F1), PHappiness\_18 (F1), PMC\_18 (F1), Pacc40\_18 (F1), PatoPoderoso\_18 (F1), Peridot\_20 (F1), Phalconet\_18 (F1), Phanphagia\_18 (F1), Phasih\_19 (F1), Phatniss\_19 (F1), PhesterPhotato\_18 (F1), Philus\_18 (F1), PhilipPhlop\_18 (F1), Piper2020\_19 (F1), Plumbus\_19 (F1), Poenanya\_18 (F1), Polka14\_19 (F1), Pollywog\_21 (F1), Polo2Bam\_20 (F1), PopTart\_18 (F1), Porcelain\_35 (J), Priscilla\_18 (F1), QuickMath\_19 (F1), Quico\_19 (F1), Radiance\_18 (F1), Ramsey\_19 (F1), RedBird\_18 (F1), Rialto\_20 (F1), RitaG\_18 (F1), Rita\_18 (F1), Rockne\_18 (F1), RockyHorror\_19 (F1), Royals2015\_18 (F1), Ruby\_18 (F1), SG4\_18 (F1), Saal\_18 (F1), Sabbb\_19 (F1), Sandalphon\_19 (F1), Sassafras\_18 (F1), SassyB\_18 (F1), Scottish\_19 (F1), SeaLumen\_19 (F1), Seabastian\_18 (F1), Seagreen\_19 (F1), Shaboozey\_30 (J), Shauna1\_18 (F1), ShiLan\_18 (F1), ShowerHandel\_18 (F1), ShroomBoi\_18 (F1), SiSi\_18 (F1), SimranZ1\_19 (F1), Slim\_19 (F1), Sparkdehlily\_18 (F1), Spartacus\_19 (F1), Spikelee\_19 (F1), Spoonbill\_18 (F1), Squint\_35 (J), StAnnes\_18 (F1), Stap\_19 (F1), Starceвич\_19 (F1), Strokeseat\_18 (F1), SuperGrey\_19 (F1), Superphikiman\_36 (J), SwagPiggett\_18 (F1), TDanisky\_18 (F1), Taj\_18 (F1), Tchotchke\_19 (F1), TootsiePop\_19 (F1), Tootsieroll\_19 (F1), Topiatin\_20 (F1), Totinger\_19 (F1), Tweety\_18 (F1), UncleRicky\_19 (F1), VRedHorse\_18 (F1), Veteran\_18 (F1), Violac\_19 (F1), Vivum\_18 (F1), Wachhund\_18 (F1), Wanda\_39 (J), Wee\_19 (F1), Whatsapiecost\_18 (F1), Whouxphf\_18 (F1), Wildcat\_43 (V), WillSterrel\_19 (F1), XFactor\_18 (F1), Yorick\_18 (F1), Zerg\_18 (F1), Zizzle\_18 (F1),

Start 54:

- Found in 2 of 615 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 546
- Called 50.0% of time when present

- Phage (with cluster) where this start called: Cornie\_20 (F5),

#### Start 55:

- Found in 3 of 615 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 3 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LunaStella\_20 (F4), Renaud18\_20 (F4), ThetaBob\_20 (F4),

#### Start 56:

- Found in 4 of 615 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 546
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Brujita\_21 (I1), Island3\_21 (I1), PaintedDog\_20 (I1),

#### Start 60:

- Found in 37 of 615 ( 6.0% ) of genes in pham
- Manual Annotations of this start: 33 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alkhayr\_58 (O), Ashwin\_60 (O), Blessica\_59 (O), Bogie\_20 (P1), Bora\_56 (O), Catdawg\_58 (O), Corndog\_61 (O), Dylan\_58 (O), Familton\_59 (O), Firecracker\_59 (O), FoulBall\_58 (O), Idergollasper\_58 (O), Imara\_56 (O), JangDynasty\_58 (O), KingPhillip3\_57 (O), Kriii\_57 (O), MadKillah\_59 (O), Mori\_58 (O), Murai\_59 (O), NiebruSaylor\_57 (O), Pygmy\_20 (P1), Ryadel\_62 (O), SchoolBus\_58 (O), Schuy\_59 (O), Shida\_58 (O), Shipwreck\_20 (P1), Smooch\_61 (O), TelAviv\_55 (O), Vagabond\_58 (O), Vorrps\_58 (O), Wildflower\_58 (O), Winget\_59 (O), Wogge42\_57 (O), YoyoKar\_56 (O), YungJamal\_63 (O), Zakhe101\_58 (O), Zebo\_58 (O),

#### Start 71:

- Found in 198 of 615 ( 32.2% ) of genes in pham
- Manual Annotations of this start: 1 of 546
- Called 0.5% of time when present
- Phage (with cluster) where this start called: Melissauren88\_18 (F1),

#### Start 77:

- Found in 1 of 615 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boilgate\_24 (K8),

#### Start 80:

- Found in 101 of 615 ( 16.4% ) of genes in pham
- Manual Annotations of this start: 96 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_27 (K1), Adephegia\_27 (K1), Adonis\_27 (K1), Ageofdapage\_27 (K1), AlishaPH\_27 (K1), Aminay\_25 (K7), Anaya\_28 (K1), Angelica\_27 (K1), Anma\_27 (K1), Apocalypse\_27 (K1), Asayake\_27 (K1), Atiba\_27 (K1), BEEST\_27 (K1), BGlluviae\_27 (K1), BaghaKamala\_27 (K1), BarrelRoll\_27 (K1), Beezoo\_27 (K1), Bella96\_27 (K1), Belladonna\_27 (K1), Bern\_27 (K1), Blizzard\_27 (K1), Boiiii\_27 (K1), CREW\_27 (K1), CallaLilly\_27 (K1), Capricorn\_27 (K1), CaseJules\_27 (K1), CheetoDust\_27 (K1), Chris\_26 (K1),

Clipper\_27 (K1), CrimD\_27 (K1), Dalmuri\_27 (K1), DartGoblin\_27 (K1), Deby\_27 (K1), Devera\_27 (K1), Dole\_27 (K1), DrHayes\_27 (K1), Durfee\_27 (K1), Efra2\_27 (K1), Emerson\_27 (K1), Ganymede\_28 (K1), Geraldini\_27 (K1), Guanica15\_27 (K1), HedwigODU\_27 (K1), Homura\_27 (K1), Hyperbowlee\_27 (K1), Illumine\_27 (K1), Inky\_27 (K1), JAWS\_27 (K1), Jarvi\_27 (K1), Jayhawk\_27 (K1), Jeckyll\_27 (K1), Joy99\_27 (K1), KiSi\_26 (K1), LaterM\_27 (K1), LeMond\_26 (K1), LindNT\_27 (K1), Llorens\_27 (K1), Lunahalos\_27 (K1), MacKat\_27 (K1), MarkPheW\_27 (K1), Marshawn\_28 (K6), MeaningOfLife\_27 (K1), Megsy\_27 (K1), Murucutumbu\_27 (K1), Mynx\_27 (K1), Nibb\_26 (K1), Oscar\_26 (K1), Padfoot\_27 (K1), Padpat\_27 (K1), Peel\_27 (K1), Piatt\_27 (K1), Pisa1\_26 (K1), Pisa4\_26 (K1), Pokerus\_26 (K1), Prithvi\_27 (K1), QuincyRose\_26 (K1), Ramen\_27 (K1), Rapunzel97\_27 (K1), Rosmarinus\_27 (K1), SamuelLPlaqson\_27 (K1), Scarlett\_26 (K1), ShiaSurprise\_27 (K1), SirPhilip\_26 (K6), Slimphazie\_27 (K1), Spock\_27 (K1), Stinson\_28 (K1), Sulley\_27 (K1), Tachez\_27 (K1), TaiwanKao\_28 (K1), TiniBug\_27 (K1), Tiri\_27 (K1), Topper\_27 (K1), TreyKay\_27 (K1), TruffulaTree\_27 (K1), Twitch\_27 (K1), Urkel\_27 (K1), Veliki\_27 (K1), YoureAdopted\_26 (K1), Yunkel11\_27 (K1), Zabiza\_27 (K1), Zavala\_27 (K1),

Start 82:

- Found in 1 of 615 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SilverChicken\_24 (F2),

Start 94:

- Found in 147 of 615 ( 23.9% ) of genes in pham
- Manual Annotations of this start: 128 of 546
- Called 98.0% of time when present
- Phage (with cluster) where this start called: 244\_28 (E), ABCat\_25 (E), Adnama\_29 (E), Amao\_26 (E), AmericanBeauty\_28 (E), Argent26\_28 (E), Asriel\_25 (E), BaboJay\_25 (E), BadStone\_25 (E), Balomoji\_25 (E), Barbarian\_25 (E), Bask21\_26 (E), Becksu\_26 (E), Bench\_28 (E), BigBubba\_27 (E), BilboSwaggins\_26 (E), Bogg\_26 (E), Brewer\_26 (E), Bruin\_26 (E), Buck\_25 (E), Budgie\_28 (E), BugsBunny\_24 (E), Cactus\_27 (E), ChosenOne\_25 (E), ChotaBhai\_26 (E), Cjw1\_26 (E), Command613\_27 (E), Contagion\_25 (E), Cookies\_26 (E), CrystalP\_26 (E), Czyszczon1\_27 (E), Daikon\_24 (E), DoctorDiddles\_26 (E), DrDrey\_27 (E), Dumbo\_26 (E), Dusk\_25 (E), Easy2Say\_28 (E), Elite2014\_25 (E), Elph10\_27 (E), Emmina\_27 (E), Eureka\_26 (E), FairyPath\_26 (E), Filch\_27 (E), FireRed\_26 (E), Flypotenuse\_24 (E), FoghornLeghorn\_25 (E), Gage\_28 (E), Gator\_24 (E), Gemini\_29 (E), Glexan\_24 (E), Goku\_26 (E), GoldenSpark\_28 (E), Goldilocks\_27 (E), GooberAzure\_28 (E), Greep\_27 (E), HanKaySha\_27 (E), Harella\_25 (E), Henry\_26 (E), Highbury\_27 (E), Holt\_27 (E), Hoonter\_28 (E), Hopey\_28 (E), HuffyPuff\_25 (E), IHOP\_26 (E), Icee\_25 (E), Inca\_25 (E), JeTaime\_28 (E), Kanye\_28 (E), Kimchi\_28 (E), Kostya\_26 (E), Lilac\_28 (E), Lilizi\_28 (E), Lilpickle\_25 (E), MISSy\_25 (E), MPhalcon\_25 (E), MadamMonkfish\_26 (E), Manda\_27 (E), Marshmallow\_26 (E), Maxxinista\_27 (E), Mindy\_26 (E), Miniwave\_26 (E), Misfit\_26 (E), Moldemort\_27 (E), MollyToe\_26 (E), Mosby\_25 (E), Murica\_25 (E), Murphy\_27 (E), Myrale\_26 (E), Nala\_26 (E), NelitzaMV\_26 (E), Nimrod\_26 (E), NoSleep\_27 (E), NonchalantPear\_26 (E), OrionPax\_27 (E), PaddyBaddy\_27 (E), Palpatine\_26 (E), Paperbeatsrock\_28 (E), Pat3\_25 (E), Petra64142\_28 (E), Phaja\_26 (E), Pharsalus\_27 (E), PhatBacter\_26 (E), Phaux\_25 (E), Phrux\_26 (E), Policronamos\_26 (E), Porky\_26 (E), Ptowny\_26 (E), Pumpkin\_28 (E), Qualification\_27 (E), Rakim\_27 (E), Rimmer\_25 (E), RiverMonster\_26 (E), Saints25\_27 (E), Sassay\_25 (E), ShamWow\_26 (E),

ShereKhan\_28 (E), Simpliphy\_27 (E), SirDuracell\_25 (E), SophKB\_26 (E), Sotrice96\_26 (E), Stank\_29 (E), Stark\_27 (E), StellaBean\_26 (E), StolenFromERC\_28 (E), StormChicken\_26 (E), TBrady12\_28 (E), Tarkin\_28 (E), TeamEdward\_26 (E), TeardropMSU\_25 (E), Teaspoon\_27 (E), Terminus\_26 (E), Thimble\_26 (E), Thresher\_27 (E), Tomaszewski\_25 (E), Toto\_26 (E), Traaww1\_24 (E), Tuco\_27 (E), Ukulele\_26 (E), Wiggin\_29 (E), Willez\_25 (E), Xandras\_28 (E), YassJohnny\_27 (E), Youngblood\_26 (E), xkcd\_27 (E),

Start 112:

- Found in 1 of 615 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NoShow\_21 (AB),

Start 117:

- Found in 1 of 615 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toron\_20 (F6),

Start 141:

- Found in 269 of 615 ( 43.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.4% of time when present
- Phage (with cluster) where this start called: Gonephishing\_34 (J),

Start 243:

- Found in 1 of 615 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Weirido19\_22 (AH),

Start 246:

- Found in 2 of 615 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 2 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Causa\_36 (AI), StAugustine\_34 (AI),

Start 248:

- Found in 1 of 615 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 546
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JacoRen57\_20 (AB),

### Summary by clusters:

There are 33 clusters represented in this pham: singleton, K1, AB, K7, K6, K8, G5, G4, G3, G2, I1, P1, E, F, AI, AH, J, O, Q, V, X, F1, F2, F4, F5, F6, H2, H1, B6, B12, D2, B9, B13,

Info for manual annotations of cluster AB:

- Start number 112 was manually annotated 1 time for cluster AB.
- Start number 248 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster A1:

- Start number 246 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster B12:

- Start number 39 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 39 was manually annotated 1 time for cluster B13.

Info for manual annotations of cluster B6:

- Start number 39 was manually annotated 2 times for cluster B6.

Info for manual annotations of cluster B9:

- Start number 39 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster D2:

- Start number 13 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster E:

- Start number 94 was manually annotated 128 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 53 was manually annotated 217 times for cluster F1.
- Start number 71 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 40 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 55 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 54 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster G2:

- Start number 33 was manually annotated 3 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 33 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 33 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 33 was manually annotated 2 times for cluster G5.

Info for manual annotations of cluster H1:

- Start number 17 was manually annotated 8 times for cluster H1.

Info for manual annotations of cluster H2:

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

Info for manual annotations of cluster I1:

- Start number 56 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster J:

- Start number 53 was manually annotated 17 times for cluster J.

Info for manual annotations of cluster K1:

- Start number 80 was manually annotated 93 times for cluster K1.

Info for manual annotations of cluster K6:

- Start number 80 was manually annotated 2 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 80 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 77 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster O:

- Start number 60 was manually annotated 30 times for cluster O.

Info for manual annotations of cluster P1:

- Start number 60 was manually annotated 3 times for cluster P1.

Info for manual annotations of cluster Q:

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

Info for manual annotations of cluster V:

- Start number 53 was manually annotated 5 times for cluster V.

Info for manual annotations of cluster X:

- Start number 44 was manually annotated 2 times for cluster X.

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

Gene: 244\_28 Start: 22564, Stop: 24960, Start Num: 94

Candidate Starts for 244\_28:

(Start: 94 @22564 has 128 MA's), (170, 22741), (174, 22762), (232, 22909), (271, 23083), (281, 23116), (287, 23152), (319, 23245), (342, 23305), (348, 23323), (375, 23455), (389, 23500), (420, 23632), (428, 23677), (450, 23737), (478, 23851), (481, 23872), (491, 23911), (494, 23932), (496, 23947), (527, 24097), (529, 24103), (532, 24121), (549, 24175), (567, 24259), (593, 24352), (648, 24598), (680, 24814), (691, 24898), (698, 24931),

Gene: 39HC\_026 Start: 27572, Stop: 30067, Start Num: 39

Candidate Starts for 39HC\_026:

(Start: 39 @27572 has 6 MA's), (51, 27629), (76, 27686), (132, 27806), (143, 27824), (166, 27896), (168, 27902), (183, 27956), (200, 27992), (251, 28175), (258, 28220), (264, 28259), (280, 28307), (282, 28313), (309, 28361), (318, 28391), (327, 28418), (340, 28454), (345, 28472), (353, 28496),

(358, 28520), (375, 28604), (386, 28640), (397, 28670), (404, 28706), (409, 28724), (455, 28931), (457, 28943), (460, 28952), (474, 29021), (476, 29027), (477, 29030), (479, 29039), (485, 29069), (494, 29114), (496, 29129), (512, 29210), (516, 29222), (518, 29240), (520, 29246), (522, 29261), (524, 29267), (544, 29348), (566, 29420), (571, 29438), (574, 29453), (614, 29663), (616, 29684), (622, 29702), (677, 29999),

Gene: 40BC\_026 Start: 27572, Stop: 30067, Start Num: 39

Candidate Starts for 40BC\_026:

(Start: 39 @27572 has 6 MA's), (51, 27629), (76, 27686), (132, 27806), (143, 27824), (166, 27896), (168, 27902), (183, 27956), (200, 27992), (251, 28175), (258, 28220), (264, 28259), (280, 28307), (282, 28313), (309, 28361), (318, 28391), (327, 28418), (340, 28454), (345, 28472), (353, 28496), (358, 28520), (375, 28604), (386, 28640), (397, 28670), (404, 28706), (409, 28724), (455, 28931), (457, 28943), (460, 28952), (474, 29021), (476, 29027), (477, 29030), (479, 29039), (485, 29069), (494, 29114), (496, 29129), (512, 29210), (516, 29222), (518, 29240), (520, 29246), (522, 29261), (524, 29267), (544, 29348), (566, 29420), (571, 29438), (574, 29453), (614, 29663), (616, 29684), (622, 29702), (677, 29999),

Gene: ABCat\_25 Start: 22283, Stop: 24679, Start Num: 94

Candidate Starts for ABCat\_25:

(Start: 94 @22283 has 128 MA's), (170, 22460), (174, 22481), (232, 22628), (263, 22769), (271, 22802), (281, 22835), (287, 22871), (319, 22964), (342, 23024), (348, 23042), (365, 23123), (420, 23351), (428, 23396), (481, 23591), (482, 23597), (485, 23606), (494, 23651), (496, 23666), (529, 23822), (532, 23840), (535, 23849), (550, 23903), (567, 23978), (568, 23981), (613, 24191), (615, 24203), (648, 24317), (680, 24533), (691, 24617), (696, 24641), (698, 24650),

Gene: ActinUp\_27 Start: 20881, Stop: 23313, Start Num: 80

Candidate Starts for ActinUp\_27:

(Start: 80 @20881 has 96 MA's), (126, 20980), (218, 21241), (225, 21262), (270, 21469), (280, 21502), (285, 21532), (314, 21604), (319, 21628), (337, 21673), (370, 21826), (378, 21871), (381, 21883), (385, 21892), (400, 21943), (437, 22123), (443, 22138), (459, 22207), (463, 22219), (485, 22324), (494, 22363), (495, 22369), (496, 22378), (513, 22459), (522, 22507), (541, 22582), (550, 22618), (572, 22699), (577, 22720), (599, 22813), (614, 22909), (648, 23056), (654, 23098), (664, 23137), (673, 23212),

Gene: Adephagia\_27 Start: 20878, Stop: 23310, Start Num: 80

Candidate Starts for Adephagia\_27:

(Start: 80 @20878 has 96 MA's), (126, 20977), (218, 21238), (225, 21259), (270, 21466), (280, 21499), (285, 21529), (314, 21601), (319, 21625), (337, 21670), (370, 21823), (378, 21868), (381, 21880), (385, 21889), (400, 21940), (437, 22120), (443, 22135), (459, 22204), (463, 22216), (485, 22321), (494, 22360), (495, 22366), (496, 22375), (513, 22456), (522, 22504), (541, 22579), (550, 22615), (572, 22696), (577, 22717), (599, 22810), (614, 22906), (648, 23053), (654, 23095), (664, 23134), (673, 23209),

Gene: Adnama\_29 Start: 22791, Stop: 25187, Start Num: 94

Candidate Starts for Adnama\_29:

(Start: 94 @22791 has 128 MA's), (170, 22968), (174, 22989), (232, 23136), (271, 23310), (281, 23343), (287, 23379), (319, 23472), (342, 23532), (348, 23550), (375, 23682), (389, 23727), (420, 23859), (428, 23904), (450, 23964), (478, 24078), (481, 24099), (491, 24138), (494, 24159), (496, 24174), (527, 24324), (529, 24330), (532, 24348), (549, 24402), (567, 24486), (593, 24579), (648, 24825), (680, 25041), (691, 25125), (698, 25158),

Gene: Adonis\_27 Start: 20884, Stop: 23316, Start Num: 80

Candidate Starts for Adonis\_27:

(Start: 80 @20884 has 96 MA's), (126, 20983), (218, 21244), (225, 21265), (270, 21472), (280, 21505), (285, 21535), (314, 21607), (319, 21631), (337, 21676), (370, 21829), (378, 21874), (381, 21886), (385, 21895), (400, 21946), (437, 22126), (443, 22141), (459, 22210), (476, 22285), (485, 22327), (494, 22366), (495, 22372), (496, 22381), (500, 22402), (513, 22462), (539, 22579), (550, 22621), (570, 22693), (572, 22702), (577, 22723), (594, 22795), (599, 22816), (614, 22912), (628, 22975), (654, 23101), (664, 23140), (680, 23287),

Gene: Ageofdapage\_27 Start: 20828, Stop: 23260, Start Num: 80

Candidate Starts for Ageofdapage\_27:

(Start: 80 @20828 has 96 MA's), (126, 20927), (128, 20930), (171, 21056), (218, 21188), (225, 21209), (255, 21341), (280, 21449), (314, 21551), (319, 21575), (327, 21593), (337, 21620), (355, 21686), (370, 21773), (381, 21830), (385, 21839), (396, 21875), (400, 21890), (437, 22070), (443, 22085), (463, 22166), (476, 22229), (485, 22271), (494, 22310), (495, 22316), (496, 22325), (513, 22406), (520, 22439), (522, 22454), (523, 22457), (536, 22511), (539, 22523), (570, 22637), (572, 22646), (614, 22856), (654, 23045), (664, 23084), (680, 23231),

Gene: Alexphander\_20 Start: 17923, Stop: 20460, Start Num: 53

Candidate Starts for Alexphander\_20:

(Start: 53 @17923 has 241 MA's), (61, 17944), (Start: 71 @17965 has 1 MA's), (90, 18004), (129, 18073), (130, 18082), (131, 18085), (141, 18103), (155, 18136), (158, 18151), (208, 18310), (209, 18313), (221, 18343), (225, 18358), (242, 18436), (250, 18457), (251, 18460), (262, 18526), (281, 18601), (283, 18607), (293, 18649), (295, 18655), (296, 18658), (310, 18691), (312, 18697), (319, 18727), (330, 18748), (339, 18778), (342, 18787), (366, 18895), (369, 18907), (370, 18916), (371, 18919), (373, 18928), (374, 18934), (377, 18949), (379, 18952), (387, 18973), (400, 19015), (406, 19048), (439, 19189), (442, 19195), (455, 19249), (456, 19252), (467, 19279), (479, 19339), (481, 19354), (484, 19366), (485, 19369), (497, 19435), (502, 19459), (505, 19480), (507, 19489), (520, 19549), (521, 19552), (529, 19588), (532, 19606), (537, 19618), (539, 19627), (547, 19654), (564, 19723), (567, 19741), (571, 19750), (573, 19762), (579, 19798), (588, 19828), (607, 19909), (614, 19963), (629, 20023), (637, 20065), (654, 20143), (666, 20200), (670, 20224), (676, 20278), (680, 20326), (688, 20368), (690, 20392), (691, 20395),

Gene: AlishaPH\_27 Start: 20871, Stop: 23303, Start Num: 80

Candidate Starts for AlishaPH\_27:

(Start: 80 @20871 has 96 MA's), (126, 20970), (218, 21231), (225, 21252), (270, 21459), (280, 21492), (285, 21522), (314, 21594), (319, 21618), (370, 21816), (378, 21861), (381, 21873), (385, 21882), (400, 21933), (437, 22113), (443, 22128), (459, 22197), (463, 22209), (476, 22272), (485, 22314), (494, 22353), (495, 22359), (496, 22368), (500, 22389), (513, 22449), (539, 22566), (550, 22608), (570, 22680), (572, 22689), (577, 22710), (594, 22782), (599, 22803), (614, 22899), (648, 23046), (664, 23127), (680, 23274),

Gene: Alkhayr\_58 Start: 35810, Stop: 38320, Start Num: 60

Candidate Starts for Alkhayr\_58:

(Start: 60 @35810 has 33 MA's), (74, 35843), (108, 35912), (109, 35915), (122, 35939), (131, 35963), (145, 35987), (155, 36020), (214, 36227), (217, 36239), (218, 36242), (254, 36389), (257, 36419), (262, 36443), (272, 36473), (273, 36476), (281, 36503), (284, 36527), (295, 36557), (315, 36614), (320, 36638), (336, 36674), (339, 36686), (346, 36710), (348, 36713), (356, 36755), (377, 36851), (379, 36854), (447, 37109), (481, 37253), (494, 37313), (504, 37385), (505, 37388), (526, 37484), (567, 37658), (573, 37679), (598, 37772), (601, 37784), (614, 37874), (633, 37949), (653, 37994), (684, 38195), (689, 38249), (694, 38264),

Gene: Aloeri\_19 Start: 17271, Stop: 19796, Start Num: 53

Candidate Starts for Aloeri\_19:

(Start: 53 @17271 has 241 MA's), (61, 17292), (Start: 71 @17313 has 1 MA's), (90, 17352), (129, 17421), (130, 17430), (131, 17433), (141, 17451), (155, 17484), (158, 17499), (172, 17547), (208, 17658), (209, 17661), (225, 17706), (242, 17784), (251, 17808), (262, 17874), (263, 17883), (281, 17949), (283, 17955), (284, 17973), (293, 17997), (295, 18003), (296, 18006), (310, 18039), (312, 18045), (319, 18075), (330, 18096), (342, 18135), (346, 18150), (349, 18156), (379, 18300), (397, 18351), (419, 18462), (429, 18513), (438, 18537), (467, 18630), (475, 18675), (478, 18684), (481, 18705), (484, 18717), (485, 18720), (494, 18765), (502, 18810), (504, 18828), (505, 18831), (516, 18882), (527, 18933), (529, 18939), (532, 18957), (537, 18969), (539, 18978), (549, 19011), (567, 19092), (584, 19161), (593, 19188), (599, 19215), (608, 19266), (614, 19314), (669, 19557), (680, 19662), (685, 19683), (693, 19737), (697, 19761),

Gene: AlpineSix\_18 Start: 17634, Stop: 20171, Start Num: 53

Candidate Starts for AlpineSix\_18:

(Start: 53 @17634 has 241 MA's), (61, 17655), (Start: 71 @17676 has 1 MA's), (90, 17715), (129, 17784), (130, 17793), (131, 17796), (141, 17814), (158, 17862), (208, 18021), (209, 18024), (224, 18066), (225, 18069), (242, 18147), (250, 18168), (251, 18171), (262, 18237), (263, 18246), (272, 18282), (281, 18312), (283, 18318), (293, 18360), (295, 18366), (296, 18369), (310, 18402), (312, 18408), (319, 18438), (330, 18459), (339, 18489), (342, 18498), (366, 18606), (369, 18618), (370, 18627), (371, 18630), (373, 18639), (374, 18645), (377, 18660), (379, 18663), (387, 18684), (400, 18726), (406, 18759), (439, 18900), (442, 18906), (455, 18960), (456, 18963), (467, 18990), (481, 19065), (484, 19077), (485, 19080), (497, 19146), (501, 19167), (502, 19170), (505, 19191), (516, 19242), (520, 19260), (521, 19263), (527, 19293), (532, 19317), (537, 19329), (564, 19434), (567, 19452), (571, 19461), (573, 19473), (579, 19509), (588, 19539), (595, 19560), (602, 19584), (607, 19620), (629, 19734), (637, 19776), (654, 19854), (666, 19911), (670, 19935), (676, 19989), (680, 20037), (688, 20079), (690, 20103), (691, 20106),

Gene: Amao\_26 Start: 21488, Stop: 23884, Start Num: 94

Candidate Starts for Amao\_26:

(Start: 94 @21488 has 128 MA's), (170, 21665), (174, 21686), (232, 21833), (263, 21974), (271, 22007), (287, 22076), (319, 22169), (342, 22229), (348, 22247), (375, 22379), (389, 22424), (420, 22556), (428, 22601), (478, 22775), (481, 22796), (491, 22835), (494, 22856), (496, 22871), (529, 23027), (532, 23045), (549, 23099), (567, 23183), (640, 23507), (680, 23738), (691, 23822), (698, 23855),

Gene: AmericanBeauty\_28 Start: 22271, Stop: 24667, Start Num: 94

Candidate Starts for AmericanBeauty\_28:

(Start: 94 @22271 has 128 MA's), (170, 22448), (174, 22469), (232, 22616), (263, 22757), (271, 22790), (281, 22823), (287, 22859), (319, 22952), (342, 23012), (348, 23030), (375, 23162), (389, 23207), (420, 23339), (428, 23384), (450, 23444), (478, 23558), (481, 23579), (491, 23618), (494, 23639), (496, 23654), (527, 23804), (529, 23810), (532, 23828), (549, 23882), (567, 23966), (593, 24059), (648, 24305), (680, 24521), (691, 24605), (698, 24638),

Gene: Aminay\_25 Start: 21018, Stop: 23477, Start Num: 80

Candidate Starts for Aminay\_25:

(Start: 80 @21018 has 96 MA's), (126, 21120), (176, 21264), (202, 21327), (210, 21360), (225, 21402), (269, 21609), (279, 21642), (291, 21693), (314, 21756), (318, 21771), (319, 21780), (321, 21786), (327, 21798), (362, 21921), (363, 21933), (377, 22011), (401, 22104), (404, 22119), (415, 22179), (429, 22251), (442, 22287), (452, 22332), (455, 22341), (466, 22380), (474, 22431), (476, 22437), (516, 22638), (522, 22677), (525, 22686), (577, 22878), (599, 22971), (621, 23109), (659, 23277),

Gene: Anaya\_28 Start: 20897, Stop: 23329, Start Num: 80

Candidate Starts for Anaya\_28:

(Start: 80 @20897 has 96 MA's), (83, 20906), (126, 20996), (218, 21257), (225, 21278), (280, 21518), (285, 21548), (319, 21644), (337, 21689), (370, 21842), (378, 21887), (381, 21899), (385, 21908), (400, 21959), (437, 22139), (443, 22154), (459, 22223), (485, 22340), (494, 22379), (495, 22385), (496, 22394), (513, 22475), (522, 22523), (523, 22526), (570, 22706), (572, 22715), (577, 22736), (599, 22829), (614, 22925), (628, 22988), (664, 23153), (673, 23228),

Gene: Angelica\_27 Start: 20846, Stop: 23278, Start Num: 80

Candidate Starts for Angelica\_27:

(Start: 80 @20846 has 96 MA's), (126, 20945), (218, 21206), (225, 21227), (270, 21434), (280, 21467), (285, 21497), (314, 21569), (319, 21593), (370, 21791), (378, 21836), (381, 21848), (385, 21857), (400, 21908), (437, 22088), (443, 22103), (459, 22172), (463, 22184), (476, 22247), (485, 22289), (494, 22328), (495, 22334), (496, 22343), (500, 22364), (513, 22424), (520, 22457), (522, 22472), (523, 22475), (536, 22529), (539, 22541), (570, 22655), (572, 22664), (577, 22685), (594, 22757), (599, 22778), (614, 22874), (664, 23102), (680, 23249),

Gene: Anma\_27 Start: 20840, Stop: 23272, Start Num: 80

Candidate Starts for Anma\_27:

(72, 20822), (Start: 80 @20840 has 96 MA's), (98, 20888), (126, 20939), (218, 21200), (225, 21221), (279, 21458), (280, 21461), (285, 21491), (286, 21494), (314, 21563), (319, 21587), (321, 21593), (323, 21599), (337, 21632), (370, 21785), (381, 21842), (385, 21851), (400, 21902), (437, 22082), (443, 22097), (459, 22166), (463, 22178), (470, 22214), (476, 22241), (485, 22283), (494, 22322), (495, 22328), (496, 22337), (500, 22358), (513, 22418), (520, 22451), (523, 22469), (539, 22535), (550, 22577), (570, 22649), (572, 22658), (577, 22679), (594, 22751), (614, 22868), (648, 23015), (664, 23096), (673, 23171), (680, 23243),

Gene: Antsirabe\_22 Start: 20760, Stop: 23216, Start Num: 33

Candidate Starts for Antsirabe\_22:

(Start: 33 @20760 has 9 MA's), (59, 20850), (64, 20865), (65, 20868), (132, 20988), (167, 21063), (221, 21222), (251, 21339), (321, 21561), (341, 21612), (367, 21720), (369, 21729), (375, 21759), (377, 21771), (386, 21795), (392, 21816), (455, 22083), (458, 22098), (460, 22104), (476, 22179), (492, 22251), (494, 22266), (516, 22374), (522, 22413), (560, 22548), (571, 22590), (574, 22605), (577, 22617), (600, 22716), (622, 22854), (655, 23010), (677, 23154), (680, 23196),

Gene: Apocalypse\_27 Start: 20849, Stop: 23281, Start Num: 80

Candidate Starts for Apocalypse\_27:

(Start: 80 @20849 has 96 MA's), (103, 20906), (126, 20948), (218, 21209), (225, 21230), (270, 21437), (280, 21470), (285, 21500), (314, 21572), (319, 21596), (337, 21641), (370, 21794), (378, 21839), (381, 21851), (385, 21860), (400, 21911), (437, 22091), (443, 22106), (459, 22175), (463, 22187), (476, 22250), (485, 22292), (494, 22331), (495, 22337), (496, 22346), (500, 22367), (513, 22427), (520, 22460), (522, 22475), (523, 22478), (541, 22550), (550, 22586), (570, 22658), (572, 22667), (577, 22688), (594, 22760), (599, 22781), (614, 22877), (664, 23105), (680, 23252),

Gene: ArcusAngelus\_18 Start: 17438, Stop: 19975, Start Num: 53

Candidate Starts for ArcusAngelus\_18:

(Start: 53 @17438 has 241 MA's), (61, 17459), (Start: 71 @17480 has 1 MA's), (90, 17519), (129, 17588), (130, 17597), (131, 17600), (141, 17618), (155, 17651), (158, 17666), (208, 17825), (209, 17828), (221, 17858), (225, 17873), (242, 17951), (250, 17972), (251, 17975), (262, 18041), (281, 18116), (283, 18122), (293, 18164), (295, 18170), (296, 18173), (310, 18206), (312, 18212), (319, 18242), (330, 18263), (339, 18293), (342, 18302), (366, 18410), (369, 18422), (370, 18431), (371, 18434), (373, 18443), (374, 18449), (377, 18464), (379, 18467), (387, 18488), (400, 18530), (406, 18563), (439, 18704), (442, 18710), (455, 18764), (456, 18767), (467, 18794), (479, 18854), (481, 18869), (484, 18881), (485, 18884), (497, 18950), (502, 18974), (505, 18995), (507, 19004), (520, 19064), (521, 19067), (529, 19103), (532, 19121), (537, 19133), (539, 19142), (547, 19169), (564,

19238), (567, 19256), (571, 19265), (573, 19277), (579, 19313), (588, 19343), (607, 19424), (614, 19478), (629, 19538), (637, 19580), (654, 19658), (666, 19715), (670, 19739), (676, 19793), (680, 19841), (688, 19883), (690, 19907), (691, 19910),

Gene: Ardmore\_18 Start: 17447, Stop: 19984, Start Num: 53

Candidate Starts for Ardmore\_18:

(47, 17435), (Start: 53 @17447 has 241 MA's), (61, 17468), (Start: 71 @17489 has 1 MA's), (90, 17528), (129, 17597), (130, 17606), (131, 17609), (141, 17627), (155, 17660), (158, 17675), (172, 17723), (208, 17834), (209, 17837), (221, 17867), (224, 17879), (225, 17882), (242, 17960), (251, 17984), (262, 18050), (272, 18095), (281, 18125), (283, 18131), (284, 18149), (293, 18173), (296, 18182), (310, 18215), (312, 18221), (319, 18251), (336, 18290), (339, 18302), (342, 18311), (346, 18326), (348, 18329), (370, 18440), (371, 18443), (373, 18452), (374, 18458), (377, 18473), (379, 18476), (387, 18497), (397, 18527), (400, 18539), (406, 18572), (428, 18683), (429, 18686), (439, 18713), (442, 18719), (455, 18773), (456, 18776), (481, 18878), (484, 18890), (485, 18893), (497, 18959), (502, 18983), (505, 19004), (507, 19013), (520, 19073), (521, 19076), (529, 19112), (532, 19130), (537, 19142), (539, 19151), (547, 19178), (564, 19247), (567, 19265), (571, 19274), (573, 19286), (579, 19322), (588, 19352), (595, 19373), (607, 19433), (614, 19487), (629, 19547), (637, 19589), (666, 19724), (670, 19748), (676, 19802), (680, 19850), (688, 19892), (690, 19916), (691, 19919),

Gene: Argent26\_28 Start: 22274, Stop: 24670, Start Num: 94

Candidate Starts for Argent26\_28:

(Start: 94 @22274 has 128 MA's), (170, 22451), (174, 22472), (232, 22619), (263, 22760), (271, 22793), (281, 22826), (287, 22862), (319, 22955), (342, 23015), (348, 23033), (375, 23165), (389, 23210), (420, 23342), (428, 23387), (450, 23447), (478, 23561), (481, 23582), (491, 23621), (494, 23642), (496, 23657), (527, 23807), (529, 23813), (532, 23831), (549, 23885), (567, 23969), (593, 24062), (648, 24308), (680, 24524), (691, 24608), (698, 24641),

Gene: Ariel\_36 Start: 27338, Stop: 29845, Start Num: 53

Candidate Starts for Ariel\_36:

(Start: 53 @27338 has 241 MA's), (141, 27533), (155, 27569), (158, 27584), (192, 27671), (197, 27686), (225, 27761), (228, 27773), (235, 27800), (259, 27905), (269, 27944), (272, 27953), (281, 27977), (283, 27983), (284, 28001), (291, 28019), (296, 28034), (300, 28043), (303, 28052), (310, 28067), (317, 28094), (319, 28103), (336, 28142), (339, 28154), (342, 28163), (362, 28247), (379, 28328), (389, 28358), (390, 28361), (400, 28391), (405, 28418), (407, 28427), (416, 28478), (418, 28487), (420, 28490), (427, 28526), (433, 28547), (446, 28583), (482, 28736), (494, 28790), (502, 28835), (504, 28853), (505, 28856), (514, 28895), (546, 29042), (549, 29051), (565, 29120), (567, 29135), (607, 29300), (619, 29387), (632, 29435), (648, 29486), (662, 29564), (692, 29786), (694, 29789), (698, 29816),

Gene: Asayake\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Asayake\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Ashwin\_60 Start: 36580, Stop: 39090, Start Num: 60

Candidate Starts for Ashwin\_60:

(Start: 60 @36580 has 33 MA's), (74, 36613), (108, 36682), (109, 36685), (122, 36709), (131, 36733), (145, 36757), (155, 36790), (214, 36997), (217, 37009), (218, 37012), (254, 37159), (257, 37189),

(262, 37213), (272, 37243), (273, 37246), (281, 37273), (284, 37297), (295, 37327), (315, 37384), (336, 37444), (339, 37456), (346, 37480), (348, 37483), (356, 37525), (377, 37621), (379, 37624), (447, 37879), (481, 38023), (494, 38083), (504, 38155), (505, 38158), (526, 38254), (567, 38428), (573, 38449), (598, 38542), (601, 38554), (614, 38644), (633, 38719), (653, 38764), (684, 38965), (689, 39019), (694, 39034),

Gene: Asriel\_25 Start: 21152, Stop: 23548, Start Num: 94

Candidate Starts for Asriel\_25:

(Start: 94 @21152 has 128 MA's), (170, 21329), (174, 21350), (232, 21497), (263, 21638), (271, 21671), (281, 21704), (287, 21740), (319, 21833), (342, 21893), (348, 21911), (365, 21992), (420, 22220), (428, 22265), (481, 22460), (482, 22466), (485, 22475), (494, 22520), (496, 22535), (529, 22691), (532, 22709), (535, 22718), (550, 22772), (567, 22847), (568, 22850), (613, 23060), (615, 23072), (648, 23186), (680, 23402), (691, 23486), (696, 23510), (698, 23519),

Gene: Atiba\_27 Start: 20841, Stop: 23273, Start Num: 80

Candidate Starts for Atiba\_27:

(Start: 80 @20841 has 96 MA's), (126, 20940), (218, 21201), (225, 21222), (270, 21429), (280, 21462), (285, 21492), (314, 21564), (319, 21588), (337, 21633), (370, 21786), (378, 21831), (381, 21843), (385, 21852), (400, 21903), (437, 22083), (443, 22098), (459, 22167), (463, 22179), (485, 22284), (494, 22323), (495, 22329), (496, 22338), (513, 22419), (522, 22467), (541, 22542), (550, 22578), (570, 22650), (572, 22659), (577, 22680), (599, 22773), (614, 22869), (648, 23016), (654, 23058), (664, 23097), (673, 23172),

Gene: Aubs\_18 Start: 17557, Stop: 20094, Start Num: 53

Candidate Starts for Aubs\_18:

(Start: 53 @17557 has 241 MA's), (61, 17578), (Start: 71 @17599 has 1 MA's), (88, 17635), (90, 17638), (129, 17707), (130, 17716), (131, 17719), (141, 17737), (155, 17770), (158, 17785), (172, 17833), (206, 17938), (208, 17944), (209, 17947), (224, 17989), (225, 17992), (251, 18094), (262, 18160), (272, 18205), (281, 18235), (283, 18241), (284, 18259), (293, 18283), (296, 18292), (310, 18325), (312, 18331), (330, 18382), (336, 18400), (339, 18412), (342, 18421), (346, 18436), (349, 18442), (370, 18550), (371, 18553), (373, 18562), (374, 18568), (377, 18583), (379, 18586), (387, 18607), (397, 18637), (400, 18649), (406, 18682), (420, 18748), (428, 18793), (429, 18796), (439, 18823), (442, 18829), (455, 18883), (456, 18886), (467, 18913), (481, 18988), (484, 19000), (485, 19003), (497, 19069), (502, 19093), (507, 19123), (516, 19165), (520, 19183), (521, 19186), (529, 19222), (532, 19240), (539, 19261), (547, 19288), (564, 19357), (567, 19375), (571, 19384), (573, 19396), (579, 19432), (595, 19483), (600, 19501), (607, 19543), (614, 19597), (637, 19699), (654, 19777), (666, 19834), (670, 19858), (676, 19912), (680, 19960), (690, 20026), (691, 20029),

Gene: Avani\_24 Start: 17093, Stop: 19642, Start Num: 40

Candidate Starts for Avani\_24:

(37, 17084), (Start: 40 @17093 has 7 MA's), (Start: 53 @17153 has 241 MA's), (65, 17186), (67, 17189), (104, 17258), (118, 17288), (192, 17468), (197, 17483), (209, 17519), (211, 17525), (212, 17528), (223, 17546), (225, 17558), (228, 17570), (234, 17594), (235, 17597), (269, 17741), (272, 17750), (281, 17774), (284, 17798), (293, 17822), (295, 17828), (303, 17849), (305, 17852), (312, 17870), (319, 17900), (333, 17930), (339, 17951), (362, 18044), (365, 18059), (366, 18068), (370, 18089), (371, 18092), (382, 18134), (397, 18176), (398, 18179), (400, 18188), (405, 18215), (407, 18224), (414, 18263), (418, 18284), (420, 18287), (427, 18323), (433, 18344), (455, 18422), (456, 18425), (472, 18479), (484, 18539), (500, 18626), (502, 18632), (505, 18653), (514, 18689), (525, 18743), (527, 18752), (546, 18830), (550, 18848), (559, 18884), (561, 18887), (564, 18905), (565, 18908), (567, 18923), (579, 18980), (584, 18992), (607, 19088), (619, 19175), (632, 19223), (635, 19247), (643, 19274), (648, 19283), (653, 19322), (662, 19361), (666, 19385), (669, 19406), (680, 19502), (685, 19523), (692, 19583), (694, 19586), (698, 19613),

Gene: Avocado\_22 Start: 20763, Stop: 23240, Start Num: 33

Candidate Starts for Avocado\_22:

(Start: 33 @20763 has 9 MA's), (65, 20871), (111, 20961), (157, 21051), (221, 21228), (251, 21345), (270, 21444), (309, 21525), (321, 21567), (332, 21591), (341, 21618), (342, 21621), (345, 21633), (365, 21714), (375, 21765), (410, 21894), (412, 21906), (439, 22032), (455, 22092), (458, 22107), (460, 22113), (474, 22182), (516, 22383), (571, 22614), (600, 22740), (655, 23034), (666, 23085), (677, 23178),

Gene: Awesomesauce\_19 Start: 17268, Stop: 19793, Start Num: 53

Candidate Starts for Awesomesauce\_19:

(Start: 53 @17268 has 241 MA's), (61, 17289), (Start: 71 @17310 has 1 MA's), (90, 17349), (129, 17418), (130, 17427), (131, 17430), (141, 17448), (155, 17481), (158, 17496), (172, 17544), (208, 17655), (209, 17658), (225, 17703), (242, 17781), (251, 17805), (262, 17871), (272, 17916), (281, 17946), (283, 17952), (284, 17970), (293, 17994), (296, 18003), (310, 18036), (312, 18042), (319, 18072), (336, 18111), (339, 18123), (342, 18132), (346, 18147), (348, 18150), (379, 18297), (397, 18348), (419, 18459), (429, 18510), (438, 18534), (467, 18627), (475, 18672), (478, 18681), (481, 18702), (484, 18714), (485, 18717), (494, 18762), (502, 18807), (504, 18825), (505, 18828), (516, 18879), (527, 18930), (529, 18936), (532, 18954), (537, 18966), (539, 18975), (549, 19008), (567, 19089), (584, 19158), (593, 19185), (599, 19212), (608, 19263), (614, 19311), (669, 19554), (680, 19659), (685, 19680), (693, 19734), (697, 19758),

Gene: Azrael100\_42 Start: 28340, Stop: 30907, Start Num: 53

Candidate Starts for Azrael100\_42:

(Start: 53 @28340 has 241 MA's), (81, 28409), (136, 28532), (139, 28538), (141, 28541), (153, 28565), (157, 28586), (206, 28742), (207, 28748), (209, 28754), (218, 28784), (219, 28790), (225, 28811), (227, 28820), (239, 28880), (258, 28958), (283, 29057), (288, 29090), (295, 29105), (296, 29108), (312, 29147), (330, 29198), (336, 29216), (342, 29237), (343, 29243), (351, 29270), (356, 29297), (370, 29366), (376, 29390), (382, 29411), (389, 29432), (393, 29441), (400, 29462), (406, 29495), (407, 29498), (416, 29549), (436, 29627), (443, 29645), (451, 29684), (481, 29801), (492, 29846), (501, 29903), (505, 29927), (507, 29936), (510, 29954), (520, 29999), (527, 30032), (534, 30068), (578, 30242), (579, 30260), (581, 30266), (599, 30323), (665, 30647), (667, 30665), (674, 30716), (681, 30779), (690, 30854),

Gene: BAKA\_36 Start: 29892, Stop: 32447, Start Num: 53

Candidate Starts for BAKA\_36:

(Start: 53 @29892 has 241 MA's), (141, 30087), (155, 30123), (158, 30138), (172, 30186), (208, 30297), (209, 30300), (221, 30330), (225, 30345), (242, 30423), (251, 30447), (262, 30513), (272, 30558), (281, 30588), (283, 30594), (284, 30612), (293, 30636), (296, 30645), (310, 30678), (312, 30684), (319, 30714), (336, 30753), (339, 30765), (342, 30774), (346, 30789), (348, 30792), (370, 30903), (371, 30906), (373, 30915), (374, 30921), (377, 30936), (379, 30939), (387, 30960), (397, 30990), (400, 31002), (406, 31035), (420, 31101), (428, 31146), (429, 31149), (439, 31176), (442, 31182), (455, 31236), (456, 31239), (479, 31326), (481, 31341), (484, 31353), (485, 31356), (497, 31422), (505, 31467), (507, 31476), (520, 31536), (521, 31539), (529, 31575), (532, 31593), (537, 31605), (539, 31614), (547, 31641), (564, 31710), (567, 31728), (571, 31737), (573, 31749), (579, 31785), (588, 31815), (595, 31836), (602, 31860), (607, 31896), (614, 31950), (629, 32010), (637, 32052), (666, 32187), (670, 32211), (676, 32265), (680, 32313), (688, 32355), (690, 32379), (691, 32382),

Gene: BEEST\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for BEEST\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355),

(494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: BGlluviae\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for BGlluviae\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: BaboJay\_25 Start: 21834, Stop: 24230, Start Num: 94

Candidate Starts for BaboJay\_25:

(Start: 94 @21834 has 128 MA's), (170, 22011), (174, 22032), (232, 22179), (263, 22320), (271, 22353), (281, 22386), (287, 22422), (319, 22515), (342, 22575), (348, 22593), (375, 22725), (389, 22770), (420, 22902), (428, 22947), (478, 23121), (481, 23142), (491, 23181), (494, 23202), (496, 23217), (527, 23367), (529, 23373), (532, 23391), (549, 23445), (567, 23529), (593, 23622), (648, 23868), (680, 24084), (691, 24168), (698, 24201),

Gene: BadStone\_25 Start: 22283, Stop: 24679, Start Num: 94

Candidate Starts for BadStone\_25:

(Start: 94 @22283 has 128 MA's), (170, 22460), (174, 22481), (232, 22628), (263, 22769), (271, 22802), (281, 22835), (287, 22871), (319, 22964), (342, 23024), (365, 23123), (420, 23351), (428, 23396), (481, 23591), (482, 23597), (485, 23606), (494, 23651), (496, 23666), (529, 23822), (532, 23840), (535, 23849), (550, 23903), (567, 23978), (568, 23981), (613, 24191), (615, 24203), (648, 24317), (680, 24533), (691, 24617), (696, 24641), (698, 24650),

Gene: BaghaKamala\_27 Start: 20841, Stop: 23273, Start Num: 80

Candidate Starts for BaghaKamala\_27:

(Start: 80 @20841 has 96 MA's), (126, 20940), (218, 21201), (225, 21222), (270, 21429), (280, 21462), (285, 21492), (314, 21564), (319, 21588), (370, 21786), (378, 21831), (381, 21843), (385, 21852), (400, 21903), (437, 22083), (443, 22098), (459, 22167), (463, 22179), (476, 22242), (485, 22284), (494, 22323), (495, 22329), (496, 22338), (500, 22359), (513, 22419), (539, 22536), (550, 22578), (570, 22650), (572, 22659), (577, 22680), (594, 22752), (599, 22773), (614, 22869), (648, 23016), (664, 23097), (680, 23244),

Gene: Balomoji\_25 Start: 22017, Stop: 24413, Start Num: 94

Candidate Starts for Balomoji\_25:

(Start: 94 @22017 has 128 MA's), (170, 22194), (174, 22215), (232, 22362), (263, 22503), (271, 22536), (281, 22569), (287, 22605), (319, 22698), (342, 22758), (348, 22776), (365, 22857), (420, 23085), (428, 23130), (481, 23325), (482, 23331), (485, 23340), (494, 23385), (496, 23400), (529, 23556), (532, 23574), (535, 23583), (550, 23637), (567, 23712), (568, 23715), (613, 23925), (615, 23937), (648, 24051), (680, 24267), (691, 24351), (696, 24375), (698, 24384),

Gene: Barbarian\_25 Start: 21152, Stop: 23548, Start Num: 94

Candidate Starts for Barbarian\_25:

(Start: 94 @21152 has 128 MA's), (170, 21329), (174, 21350), (232, 21497), (263, 21638), (271, 21671), (281, 21704), (287, 21740), (319, 21833), (342, 21893), (348, 21911), (365, 21992), (420, 22220), (428, 22265), (481, 22460), (482, 22466), (485, 22475), (494, 22520), (496, 22535), (529, 22691), (532, 22709), (535, 22718), (550, 22772), (567, 22847), (568, 22850), (613, 23060), (615, 23072), (648, 23186), (680, 23402), (691, 23486), (696, 23510), (698, 23519),

Gene: Barnyard\_36 Start: 26772, Stop: 29858, Start Num: 2

Candidate Starts for Barnyard\_36:

(1, 26745), (Start: 2 @26772 has 2 MA's), (3, 26775), (4, 26895), (5, 26907), (6, 26925), (7, 26928), (8, 26982), (9, 26991), (11, 27012), (14, 27084), (16, 27120), (Start: 19 @27195 has 1 MA's), (26, 27273), (27, 27282), (28, 27288), (32, 27315), (65, 27432), (86, 27483), (87, 27486), (101, 27516), (114, 27540), (124, 27558), (170, 27690), (171, 27702), (197, 27783), (237, 27933), (258, 28017), (265, 28053), (282, 28107), (283, 28110), (287, 28128), (302, 28146), (315, 28182), (342, 28263), (358, 28323), (362, 28341), (369, 28377), (377, 28419), (382, 28431), (391, 28461), (397, 28473), (399, 28482), (414, 28557), (430, 28644), (460, 28752), (470, 28797), (474, 28818), (485, 28866), (493, 28905), (495, 28917), (498, 28941), (499, 28947), (505, 28977), (516, 29019), (518, 29037), (522, 29058), (528, 29079), (531, 29100), (537, 29118), (539, 29127), (552, 29181), (558, 29190), (571, 29232), (593, 29325), (601, 29358), (617, 29478), (625, 29505), (645, 29598), (655, 29652), (677, 29796),

Gene: BarrelRoll\_27 Start: 20864, Stop: 23296, Start Num: 80

Candidate Starts for BarrelRoll\_27:

(Start: 80 @20864 has 96 MA's), (126, 20963), (218, 21224), (225, 21245), (270, 21452), (280, 21485), (285, 21515), (314, 21587), (319, 21611), (370, 21809), (378, 21854), (381, 21866), (385, 21875), (400, 21926), (437, 22106), (443, 22121), (459, 22190), (463, 22202), (476, 22265), (485, 22307), (494, 22346), (495, 22352), (496, 22361), (500, 22382), (513, 22442), (539, 22559), (550, 22601), (570, 22673), (572, 22682), (577, 22703), (594, 22775), (599, 22796), (614, 22892), (648, 23039), (664, 23120), (680, 23267),

Gene: Bask21\_26 Start: 21463, Stop: 23859, Start Num: 94

Candidate Starts for Bask21\_26:

(Start: 94 @21463 has 128 MA's), (170, 21640), (174, 21661), (232, 21808), (263, 21949), (271, 21982), (281, 22015), (287, 22051), (319, 22144), (342, 22204), (348, 22222), (365, 22303), (420, 22531), (428, 22576), (481, 22771), (482, 22777), (485, 22786), (494, 22831), (496, 22846), (529, 23002), (532, 23020), (535, 23029), (567, 23158), (568, 23161), (613, 23371), (615, 23383), (648, 23497), (680, 23713), (691, 23797), (696, 23821), (698, 23830),

Gene: Batiatus\_18 Start: 17448, Stop: 19985, Start Num: 53

Candidate Starts for Batiatus\_18:

(47, 17436), (Start: 53 @17448 has 241 MA's), (61, 17469), (Start: 71 @17490 has 1 MA's), (90, 17529), (129, 17598), (130, 17607), (131, 17610), (141, 17628), (155, 17661), (158, 17676), (172, 17724), (208, 17835), (209, 17838), (221, 17868), (224, 17880), (225, 17883), (242, 17961), (251, 17985), (262, 18051), (272, 18096), (281, 18126), (283, 18132), (284, 18150), (293, 18174), (296, 18183), (310, 18216), (312, 18222), (319, 18252), (336, 18291), (339, 18303), (342, 18312), (346, 18327), (348, 18330), (370, 18441), (371, 18444), (373, 18453), (374, 18459), (377, 18474), (379, 18477), (387, 18498), (397, 18528), (400, 18540), (406, 18573), (428, 18684), (429, 18687), (439, 18714), (442, 18720), (455, 18774), (456, 18777), (479, 18864), (481, 18879), (484, 18891), (485, 18894), (497, 18960), (502, 18984), (505, 19005), (507, 19014), (520, 19074), (521, 19077), (529, 19113), (532, 19131), (537, 19143), (539, 19152), (547, 19179), (564, 19248), (567, 19266), (571, 19275), (573, 19287), (579, 19323), (588, 19353), (595, 19374), (602, 19398), (607, 19434), (614, 19488), (629, 19548), (637, 19590), (654, 19668), (666, 19725), (670, 19749), (676, 19803), (680, 19851), (688, 19893), (690, 19917), (691, 19920),

Gene: Beakin\_19 Start: 17255, Stop: 19786, Start Num: 53

Candidate Starts for Beakin\_19:

(47, 17243), (Start: 53 @17255 has 241 MA's), (61, 17276), (Start: 71 @17297 has 1 MA's), (90, 17336), (129, 17405), (130, 17414), (131, 17417), (141, 17435), (155, 17468), (158, 17483), (172, 17525), (208, 17636), (209, 17639), (221, 17669), (225, 17684), (242, 17762), (251, 17786), (262,

17852), (272, 17897), (281, 17927), (283, 17933), (284, 17951), (293, 17975), (296, 17984), (310, 18017), (312, 18023), (319, 18053), (336, 18092), (339, 18104), (342, 18113), (346, 18128), (348, 18131), (370, 18242), (371, 18245), (373, 18254), (374, 18260), (377, 18275), (379, 18278), (387, 18299), (397, 18329), (400, 18341), (406, 18374), (420, 18440), (428, 18485), (429, 18488), (439, 18515), (442, 18521), (455, 18575), (456, 18578), (479, 18665), (481, 18680), (484, 18692), (485, 18695), (497, 18761), (502, 18785), (505, 18806), (507, 18815), (520, 18875), (521, 18878), (529, 18914), (532, 18932), (539, 18953), (547, 18980), (564, 19049), (567, 19067), (571, 19076), (573, 19088), (579, 19124), (595, 19175), (600, 19193), (607, 19235), (614, 19289), (637, 19391), (654, 19469), (666, 19526), (670, 19550), (676, 19604), (680, 19652), (690, 19718), (691, 19721),

Gene: Beanstalk\_20 Start: 17400, Stop: 19937, Start Num: 53

Candidate Starts for Beanstalk\_20:

(Start: 53 @17400 has 241 MA's), (61, 17421), (Start: 71 @17442 has 1 MA's), (90, 17481), (129, 17550), (130, 17559), (131, 17562), (141, 17580), (155, 17613), (158, 17628), (206, 17781), (209, 17790), (225, 17835), (250, 17934), (251, 17937), (262, 18003), (281, 18078), (283, 18084), (284, 18102), (293, 18126), (296, 18135), (310, 18168), (312, 18174), (319, 18204), (336, 18243), (339, 18255), (342, 18264), (346, 18279), (348, 18282), (370, 18393), (371, 18396), (373, 18405), (374, 18411), (377, 18426), (379, 18429), (387, 18450), (397, 18480), (400, 18492), (406, 18525), (428, 18636), (429, 18639), (439, 18666), (442, 18672), (455, 18726), (456, 18729), (479, 18816), (481, 18831), (484, 18843), (485, 18846), (497, 18912), (502, 18936), (505, 18957), (507, 18966), (520, 19026), (521, 19029), (532, 19083), (537, 19095), (539, 19104), (547, 19131), (563, 19188), (564, 19200), (567, 19218), (571, 19227), (573, 19239), (579, 19275), (588, 19305), (595, 19326), (602, 19350), (607, 19386), (614, 19440), (629, 19500), (637, 19542), (666, 19677), (670, 19701), (676, 19755), (680, 19803), (688, 19845), (690, 19869), (691, 19872),

Gene: Beckerton\_29 Start: 26219, Stop: 29062, Start Num: 17

Candidate Starts for Beckerton\_29:

(Start: 17 @26219 has 8 MA's), (30, 26351), (31, 26363), (35, 26372), (49, 26441), (52, 26447), (75, 26507), (83, 26528), (102, 26576), (124, 26618), (134, 26642), (151, 26675), (160, 26711), (165, 26723), (191, 26816), (209, 26873), (220, 26912), (253, 27038), (263, 27107), (270, 27137), (283, 27179), (296, 27230), (330, 27320), (336, 27338), (356, 27419), (365, 27458), (369, 27479), (406, 27617), (413, 27656), (427, 27719), (456, 27821), (504, 28046), (589, 28409), (598, 28436), (649, 28679), (652, 28712), (658, 28736), (675, 28856), (686, 28934), (698, 29021), (702, 29036), (704, 29042),

Gene: Becksu\_26 Start: 22467, Stop: 24863, Start Num: 94

Candidate Starts for Becksu\_26:

(Start: 94 @22467 has 128 MA's), (170, 22644), (174, 22665), (232, 22812), (263, 22953), (271, 22986), (281, 23019), (287, 23055), (319, 23148), (342, 23208), (348, 23226), (375, 23358), (389, 23403), (420, 23535), (428, 23580), (450, 23640), (478, 23754), (481, 23775), (491, 23814), (494, 23835), (496, 23850), (527, 24000), (529, 24006), (532, 24024), (549, 24078), (567, 24162), (593, 24255), (648, 24501), (680, 24717), (691, 24801), (698, 24834),

Gene: Beezoo\_27 Start: 20888, Stop: 23320, Start Num: 80

Candidate Starts for Beezoo\_27:

(Start: 80 @20888 has 96 MA's), (126, 20987), (218, 21248), (225, 21269), (270, 21476), (280, 21509), (285, 21539), (301, 21578), (314, 21611), (319, 21635), (337, 21680), (370, 21833), (378, 21878), (381, 21890), (385, 21899), (400, 21950), (437, 22130), (443, 22145), (459, 22214), (463, 22226), (476, 22289), (485, 22331), (494, 22370), (495, 22376), (496, 22385), (500, 22406), (513, 22466), (539, 22583), (570, 22697), (572, 22706), (577, 22727), (594, 22799), (599, 22820), (614, 22916), (664, 23144), (680, 23291),

Gene: Bella96\_27 Start: 20822, Stop: 23254, Start Num: 80

Candidate Starts for Bella96\_27:

(72, 20804), (Start: 80 @20822 has 96 MA's), (98, 20870), (126, 20921), (218, 21182), (225, 21203), (280, 21443), (285, 21473), (286, 21476), (319, 21569), (323, 21581), (337, 21614), (370, 21767), (381, 21824), (385, 21833), (400, 21884), (437, 22064), (443, 22079), (459, 22148), (463, 22160), (470, 22196), (476, 22223), (485, 22265), (494, 22304), (495, 22310), (496, 22319), (500, 22340), (513, 22400), (520, 22433), (522, 22448), (539, 22517), (550, 22559), (570, 22631), (572, 22640), (577, 22661), (594, 22733), (614, 22850), (648, 22997), (664, 23078), (673, 23153), (680, 23225),

Gene: Belladonna\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Belladonna\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Bench\_28 Start: 22144, Stop: 24540, Start Num: 94

Candidate Starts for Bench\_28:

(Start: 94 @22144 has 128 MA's), (170, 22321), (174, 22342), (232, 22489), (271, 22663), (281, 22696), (287, 22732), (319, 22825), (342, 22885), (348, 22903), (375, 23035), (389, 23080), (420, 23212), (428, 23257), (450, 23317), (478, 23431), (481, 23452), (491, 23491), (494, 23512), (496, 23527), (527, 23677), (529, 23683), (532, 23701), (549, 23755), (567, 23839), (593, 23932), (648, 24178), (680, 24394), (691, 24478), (698, 24511),

Gene: Bern\_27 Start: 20832, Stop: 23264, Start Num: 80

Candidate Starts for Bern\_27:

(Start: 80 @20832 has 96 MA's), (100, 20883), (106, 20892), (126, 20931), (218, 21192), (225, 21213), (279, 21450), (280, 21453), (285, 21483), (286, 21486), (289, 21498), (314, 21555), (319, 21579), (321, 21585), (337, 21624), (370, 21777), (378, 21822), (381, 21834), (385, 21843), (396, 21879), (400, 21894), (437, 22074), (443, 22089), (459, 22158), (476, 22233), (485, 22275), (494, 22314), (495, 22320), (496, 22329), (500, 22350), (502, 22356), (513, 22410), (520, 22443), (522, 22458), (539, 22527), (541, 22533), (550, 22569), (572, 22650), (585, 22707), (594, 22743), (599, 22764), (614, 22860), (636, 22971), (664, 23088), (673, 23163), (680, 23235),

Gene: BigBubba\_27 Start: 22047, Stop: 24443, Start Num: 94

Candidate Starts for BigBubba\_27:

(Start: 94 @22047 has 128 MA's), (170, 22224), (174, 22245), (232, 22392), (263, 22533), (271, 22566), (281, 22599), (287, 22635), (319, 22728), (342, 22788), (348, 22806), (375, 22938), (389, 22983), (420, 23115), (428, 23160), (478, 23334), (481, 23355), (491, 23394), (494, 23415), (496, 23430), (529, 23586), (532, 23604), (549, 23658), (567, 23742), (593, 23835), (648, 24081), (680, 24297), (691, 24381), (698, 24414),

Gene: BilboSwaggins\_26 Start: 22284, Stop: 24680, Start Num: 94

Candidate Starts for BilboSwaggins\_26:

(Start: 94 @22284 has 128 MA's), (170, 22461), (174, 22482), (232, 22629), (263, 22770), (271, 22803), (281, 22836), (287, 22872), (319, 22965), (342, 23025), (348, 23043), (365, 23124), (420, 23352), (428, 23397), (481, 23592), (482, 23598), (485, 23607), (494, 23652), (496, 23667), (529, 23823), (532, 23841), (535, 23850), (567, 23979), (568, 23982), (613, 24192), (615, 24204), (648, 24318), (680, 24534), (691, 24618), (696, 24642), (698, 24651),

Gene: Bipolar\_18 Start: 17398, Stop: 19890, Start Num: 53

Candidate Starts for Bipolar\_18:

(48, 17386), (Start: 53 @17398 has 241 MA's), (61, 17419), (Start: 71 @17440 has 1 MA's), (90, 17479), (129, 17548), (130, 17557), (131, 17560), (141, 17578), (155, 17611), (166, 17644), (172, 17677), (197, 17731), (209, 17767), (212, 17776), (223, 17794), (228, 17818), (234, 17842), (259, 17950), (263, 17974), (269, 17989), (272, 17998), (281, 18022), (283, 18028), (284, 18046), (287, 18058), (291, 18064), (293, 18070), (295, 18076), (296, 18079), (300, 18088), (303, 18097), (310, 18112), (319, 18148), (336, 18187), (339, 18199), (342, 18208), (362, 18292), (379, 18373), (389, 18403), (390, 18406), (400, 18436), (405, 18463), (407, 18472), (416, 18523), (418, 18532), (420, 18535), (427, 18571), (433, 18592), (446, 18628), (482, 18781), (494, 18835), (502, 18880), (504, 18898), (505, 18901), (514, 18940), (546, 19087), (549, 19096), (565, 19165), (567, 19180), (607, 19345), (619, 19432), (632, 19480), (648, 19531), (662, 19609), (692, 19831), (694, 19834), (698, 19861),

Gene: BirdsNest\_33 Start: 28321, Stop: 30801, Start Num: 39

Candidate Starts for BirdsNest\_33:

(Start: 39 @28321 has 6 MA's), (76, 28435), (89, 28468), (256, 28945), (271, 29011), (274, 29023), (282, 29041), (309, 29107), (321, 29149), (354, 29242), (358, 29263), (410, 29476), (447, 29632), (453, 29665), (460, 29692), (472, 29746), (501, 29896), (505, 29920), (516, 29962), (574, 30193), (598, 30292), (665, 30634), (677, 30739), (681, 30784),

Gene: Blarby\_25 Start: 17613, Stop: 20210, Start Num: 42

Candidate Starts for Blarby\_25:

(38, 17604), (42, 17613), (Start: 54 @17673 has 1 MA's), (65, 17706), (69, 17709), (118, 17808), (172, 17949), (208, 18060), (209, 18063), (221, 18093), (224, 18105), (225, 18108), (251, 18210), (262, 18276), (272, 18321), (281, 18351), (283, 18357), (284, 18375), (293, 18399), (296, 18408), (310, 18441), (312, 18447), (319, 18477), (336, 18516), (339, 18528), (342, 18537), (346, 18552), (348, 18555), (370, 18666), (371, 18669), (373, 18678), (374, 18684), (377, 18699), (379, 18702), (387, 18723), (397, 18753), (400, 18765), (406, 18798), (428, 18909), (429, 18912), (439, 18939), (442, 18945), (455, 18999), (456, 19002), (479, 19089), (481, 19104), (484, 19116), (485, 19119), (497, 19185), (505, 19230), (507, 19239), (520, 19299), (521, 19302), (529, 19338), (532, 19356), (539, 19377), (547, 19404), (564, 19473), (567, 19491), (571, 19500), (573, 19512), (579, 19548), (588, 19578), (595, 19599), (600, 19617), (607, 19659), (614, 19713), (637, 19815), (666, 19950), (670, 19974), (676, 20028), (680, 20076), (688, 20118), (690, 20142), (691, 20145),

Gene: Blessica\_59 Start: 36409, Stop: 38919, Start Num: 60

Candidate Starts for Blessica\_59:

(Start: 60 @36409 has 33 MA's), (74, 36442), (108, 36511), (109, 36514), (122, 36538), (131, 36562), (145, 36586), (155, 36619), (214, 36826), (217, 36838), (218, 36841), (254, 36988), (257, 37018), (262, 37042), (272, 37072), (273, 37075), (281, 37102), (284, 37126), (295, 37156), (315, 37213), (320, 37237), (336, 37273), (339, 37285), (346, 37309), (348, 37312), (356, 37354), (377, 37450), (379, 37453), (447, 37708), (481, 37852), (494, 37912), (504, 37984), (505, 37987), (526, 38083), (567, 38257), (573, 38278), (598, 38371), (601, 38383), (614, 38473), (633, 38548), (653, 38593), (684, 38794), (689, 38848), (694, 38863),

Gene: Blexus\_18 Start: 17586, Stop: 20123, Start Num: 53

Candidate Starts for Blexus\_18:

(Start: 53 @17586 has 241 MA's), (61, 17607), (Start: 71 @17628 has 1 MA's), (90, 17667), (129, 17736), (130, 17745), (131, 17748), (141, 17766), (158, 17814), (172, 17862), (208, 17973), (209, 17976), (225, 18021), (242, 18099), (251, 18123), (262, 18189), (281, 18264), (283, 18270), (284, 18288), (293, 18312), (296, 18321), (310, 18354), (312, 18360), (319, 18390), (330, 18411), (339, 18441), (342, 18450), (366, 18558), (369, 18570), (370, 18579), (371, 18582), (374, 18597), (377, 18612), (379, 18615), (387, 18636), (400, 18678), (406, 18711), (428, 18822), (429, 18825), (439, 18852), (442, 18858), (455, 18912), (456, 18915), (467, 18942), (481, 19017), (484, 19029), (485, 19032), (497, 19098), (501, 19119), (502, 19122), (505, 19143), (507, 19152), (516, 19194), (520,

19212), (521, 19215), (527, 19245), (532, 19269), (537, 19281), (539, 19290), (564, 19386), (567, 19404), (571, 19413), (573, 19425), (579, 19461), (588, 19491), (593, 19500), (595, 19512), (607, 19572), (614, 19626), (629, 19686), (637, 19728), (666, 19863), (670, 19887), (676, 19941), (680, 19989), (688, 20031), (690, 20055), (691, 20058),

Gene: Blizzard\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Blizzard\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: BlueCrab\_18 Start: 17568, Stop: 20105, Start Num: 53

Candidate Starts for BlueCrab\_18:

(47, 17556), (Start: 53 @17568 has 241 MA's), (61, 17589), (Start: 71 @17610 has 1 MA's), (90, 17649), (129, 17718), (130, 17727), (131, 17730), (141, 17748), (158, 17796), (172, 17844), (208, 17955), (209, 17958), (225, 18003), (242, 18081), (251, 18105), (262, 18171), (272, 18216), (281, 18246), (283, 18252), (284, 18270), (293, 18294), (296, 18303), (310, 18336), (312, 18342), (319, 18372), (336, 18411), (339, 18423), (342, 18432), (346, 18447), (348, 18450), (370, 18561), (371, 18564), (373, 18573), (374, 18579), (377, 18594), (379, 18597), (387, 18618), (397, 18648), (400, 18660), (406, 18693), (428, 18804), (429, 18807), (439, 18834), (442, 18840), (455, 18894), (456, 18897), (481, 18999), (484, 19011), (485, 19014), (497, 19080), (502, 19104), (505, 19125), (507, 19134), (520, 19194), (521, 19197), (529, 19233), (532, 19251), (539, 19272), (547, 19299), (564, 19368), (567, 19386), (571, 19395), (573, 19407), (579, 19443), (595, 19494), (600, 19512), (607, 19554), (614, 19608), (637, 19710), (666, 19845), (670, 19869), (676, 19923), (685, 19992), (690, 20037), (691, 20040),

Gene: BobaPhett\_18 Start: 17397, Stop: 19922, Start Num: 53

Candidate Starts for BobaPhett\_18:

(Start: 53 @17397 has 241 MA's), (61, 17418), (68, 17439), (90, 17478), (129, 17547), (130, 17556), (131, 17559), (141, 17577), (158, 17625), (172, 17673), (208, 17784), (209, 17787), (222, 17820), (225, 17832), (242, 17910), (257, 17976), (263, 18009), (277, 18063), (281, 18075), (295, 18129), (296, 18132), (300, 18141), (313, 18174), (328, 18213), (330, 18216), (335, 18231), (336, 18234), (343, 18261), (345, 18267), (346, 18270), (348, 18273), (354, 18300), (357, 18318), (358, 18321), (373, 18396), (377, 18417), (379, 18420), (388, 18447), (397, 18471), (406, 18516), (407, 18519), (416, 18570), (429, 18633), (433, 18642), (441, 18666), (470, 18771), (471, 18774), (481, 18825), (482, 18831), (484, 18837), (485, 18840), (494, 18885), (496, 18900), (501, 18927), (505, 18951), (516, 19002), (520, 19020), (521, 19023), (522, 19035), (537, 19089), (567, 19212), (581, 19275), (600, 19338), (609, 19413), (657, 19614), (687, 19824), (693, 19863), (694, 19866),

Gene: Bobi\_20 Start: 17987, Stop: 20524, Start Num: 53

Candidate Starts for Bobi\_20:

(47, 17975), (Start: 53 @17987 has 241 MA's), (61, 18008), (Start: 71 @18029 has 1 MA's), (90, 18068), (129, 18137), (130, 18146), (131, 18149), (141, 18167), (155, 18200), (158, 18215), (172, 18263), (208, 18374), (209, 18377), (221, 18407), (224, 18419), (225, 18422), (242, 18500), (251, 18524), (262, 18590), (272, 18635), (281, 18665), (283, 18671), (284, 18689), (293, 18713), (296, 18722), (310, 18755), (312, 18761), (319, 18791), (336, 18830), (339, 18842), (342, 18851), (346, 18866), (348, 18869), (370, 18980), (371, 18983), (373, 18992), (374, 18998), (377, 19013), (379, 19016), (397, 19067), (400, 19079), (406, 19112), (420, 19178), (428, 19223), (429, 19226), (439, 19253), (442, 19259), (455, 19313), (456, 19316), (479, 19403), (481, 19418), (484, 19430), (485, 19433), (497, 19499), (505, 19544), (507, 19553), (520, 19613), (521, 19616), (529, 19652), (532,

19670), (537, 19682), (539, 19691), (547, 19718), (564, 19787), (567, 19805), (571, 19814), (573, 19826), (579, 19862), (588, 19892), (595, 19913), (602, 19937), (607, 19973), (614, 20027), (629, 20087), (637, 20129), (666, 20264), (670, 20288), (676, 20342), (680, 20390), (688, 20432), (690, 20456), (691, 20459),

Gene: BobtimousPrime\_28 Start: 26139, Stop: 28982, Start Num: 17

Candidate Starts for BobtimousPrime\_28:

(Start: 17 @26139 has 8 MA's), (30, 26271), (31, 26283), (35, 26292), (49, 26361), (75, 26427), (83, 26448), (102, 26496), (124, 26538), (134, 26562), (151, 26595), (160, 26631), (165, 26643), (191, 26736), (209, 26793), (220, 26832), (263, 27027), (270, 27057), (283, 27099), (330, 27240), (336, 27258), (356, 27339), (365, 27378), (369, 27399), (406, 27537), (413, 27576), (456, 27741), (475, 27813), (484, 27855), (488, 27867), (504, 27966), (589, 28329), (649, 28599), (652, 28632), (658, 28656), (675, 28776), (686, 28854), (698, 28941), (702, 28956), (704, 28962),

Gene: BodEinwohner17\_18 Start: 17569, Stop: 20106, Start Num: 53

Candidate Starts for BodEinwohner17\_18:

(Start: 53 @17569 has 241 MA's), (61, 17590), (Start: 71 @17611 has 1 MA's), (90, 17650), (129, 17719), (130, 17728), (131, 17731), (141, 17749), (158, 17797), (206, 17950), (209, 17959), (225, 18004), (250, 18103), (251, 18106), (262, 18172), (281, 18247), (283, 18253), (284, 18271), (293, 18295), (296, 18304), (310, 18337), (312, 18343), (319, 18373), (330, 18394), (339, 18424), (342, 18433), (346, 18448), (348, 18451), (366, 18541), (369, 18553), (370, 18562), (371, 18565), (374, 18580), (377, 18595), (379, 18598), (387, 18619), (400, 18661), (406, 18694), (428, 18805), (429, 18808), (439, 18835), (442, 18841), (455, 18895), (456, 18898), (467, 18925), (481, 19000), (484, 19012), (485, 19015), (497, 19081), (501, 19102), (502, 19105), (505, 19126), (507, 19135), (516, 19177), (520, 19195), (521, 19198), (527, 19228), (532, 19252), (537, 19264), (539, 19273), (564, 19369), (567, 19387), (571, 19396), (573, 19408), (579, 19444), (588, 19474), (593, 19483), (595, 19495), (607, 19555), (614, 19609), (629, 19669), (637, 19711), (666, 19846), (670, 19870), (676, 19924), (680, 19972), (688, 20014), (690, 20038), (691, 20041),

Gene: Bogg\_26 Start: 21184, Stop: 23580, Start Num: 94

Candidate Starts for Bogg\_26:

(Start: 94 @21184 has 128 MA's), (170, 21361), (174, 21382), (232, 21529), (263, 21670), (271, 21703), (281, 21736), (287, 21772), (319, 21865), (342, 21925), (348, 21943), (375, 22075), (389, 22120), (420, 22252), (428, 22297), (450, 22357), (478, 22471), (481, 22492), (491, 22531), (494, 22552), (496, 22567), (527, 22717), (529, 22723), (532, 22741), (549, 22795), (567, 22879), (593, 22972), (648, 23218), (680, 23434), (691, 23518), (698, 23551),

Gene: Bogie\_20 Start: 18761, Stop: 21265, Start Num: 60

Candidate Starts for Bogie\_20:

(Start: 60 @18761 has 33 MA's), (131, 18914), (250, 19319), (254, 19334), (257, 19364), (258, 19370), (262, 19388), (293, 19496), (312, 19547), (348, 19658), (349, 19661), (356, 19700), (365, 19733), (379, 19799), (400, 19859), (405, 19886), (406, 19892), (481, 20198), (494, 20258), (500, 20306), (501, 20309), (504, 20330), (505, 20333), (567, 20594), (600, 20717), (601, 20720), (614, 20810), (627, 20867), (633, 20888), (657, 20948), (686, 21149), (689, 21191),

Gene: Boiiii\_27 Start: 20914, Stop: 23346, Start Num: 80

Candidate Starts for Boiiii\_27:

(Start: 80 @20914 has 96 MA's), (126, 21013), (218, 21274), (225, 21295), (270, 21502), (280, 21535), (285, 21565), (314, 21637), (319, 21661), (370, 21859), (378, 21904), (381, 21916), (385, 21925), (400, 21976), (437, 22156), (443, 22171), (459, 22240), (463, 22252), (476, 22315), (485, 22357), (494, 22396), (495, 22402), (496, 22411), (500, 22432), (513, 22492), (539, 22609), (550, 22651), (570, 22723), (572, 22732), (577, 22753), (594, 22825), (599, 22846), (614, 22942), (648, 23089), (664, 23170), (680, 23317),

Gene: Boilgate\_24 Start: 21197, Stop: 23551, Start Num: 77

Candidate Starts for Boilgate\_24:

(Start: 77 @21197 has 1 MA's), (128, 21308), (141, 21338), (172, 21431), (174, 21440), (190, 21482), (197, 21494), (202, 21506), (205, 21518), (229, 21605), (257, 21728), (258, 21734), (311, 21866), (334, 21938), (337, 21950), (339, 21956), (354, 22004), (370, 22088), (384, 22142), (391, 22172), (395, 22181), (397, 22184), (402, 22214), (447, 22391), (466, 22469), (472, 22502), (484, 22562), (485, 22565), (494, 22610), (495, 22616), (496, 22625), (502, 22655), (507, 22685), (509, 22697), (522, 22754), (528, 22775), (543, 22832), (544, 22835), (564, 22910), (571, 22937), (573, 22949), (575, 22955), (577, 22964), (597, 23048), (612, 23144), (614, 23153), (623, 23192), (641, 23276), (654, 23336), (662, 23363), (681, 23522),

Gene: Boomer\_19 Start: 17212, Stop: 19749, Start Num: 53

Candidate Starts for Boomer\_19:

(Start: 53 @17212 has 241 MA's), (61, 17233), (Start: 71 @17254 has 1 MA's), (90, 17293), (129, 17362), (130, 17371), (131, 17374), (141, 17392), (155, 17425), (158, 17440), (172, 17488), (208, 17599), (209, 17602), (221, 17632), (225, 17647), (242, 17725), (251, 17749), (262, 17815), (272, 17860), (281, 17890), (283, 17896), (284, 17914), (293, 17938), (296, 17947), (310, 17980), (312, 17986), (319, 18016), (330, 18037), (336, 18055), (339, 18067), (342, 18076), (346, 18091), (348, 18094), (364, 18172), (370, 18205), (371, 18208), (373, 18217), (374, 18223), (377, 18238), (379, 18241), (387, 18262), (397, 18292), (400, 18304), (406, 18337), (428, 18448), (429, 18451), (439, 18478), (442, 18484), (455, 18538), (456, 18541), (479, 18628), (481, 18643), (484, 18655), (485, 18658), (497, 18724), (502, 18748), (505, 18769), (507, 18778), (520, 18838), (521, 18841), (527, 18871), (532, 18895), (537, 18907), (539, 18916), (547, 18943), (564, 19012), (567, 19030), (571, 19039), (573, 19051), (579, 19087), (588, 19117), (595, 19138), (602, 19162), (607, 19198), (614, 19252), (629, 19312), (637, 19354), (654, 19432), (666, 19489), (670, 19513), (676, 19567), (680, 19615), (690, 19681), (691, 19684),

Gene: Bora\_56 Start: 35766, Stop: 38276, Start Num: 60

Candidate Starts for Bora\_56:

(Start: 60 @35766 has 33 MA's), (74, 35799), (108, 35868), (109, 35871), (122, 35895), (131, 35919), (145, 35943), (155, 35976), (199, 36129), (214, 36183), (217, 36195), (218, 36198), (254, 36345), (257, 36375), (262, 36399), (272, 36429), (273, 36432), (281, 36459), (284, 36483), (295, 36513), (315, 36570), (336, 36630), (339, 36642), (346, 36666), (348, 36669), (356, 36711), (377, 36807), (379, 36810), (447, 37065), (481, 37209), (494, 37269), (504, 37341), (505, 37344), (526, 37440), (567, 37614), (571, 37623), (573, 37635), (598, 37728), (601, 37740), (614, 37830), (633, 37905), (653, 37950), (684, 38151), (689, 38205), (694, 38220),

Gene: Brewer\_26 Start: 22532, Stop: 24928, Start Num: 94

Candidate Starts for Brewer\_26:

(Start: 94 @22532 has 128 MA's), (170, 22709), (174, 22730), (232, 22877), (263, 23018), (271, 23051), (281, 23084), (287, 23120), (319, 23213), (342, 23273), (348, 23291), (375, 23423), (389, 23468), (420, 23600), (428, 23645), (478, 23819), (481, 23840), (491, 23879), (494, 23900), (496, 23915), (529, 24071), (532, 24089), (549, 24143), (567, 24227), (593, 24320), (648, 24566), (680, 24782), (691, 24866), (698, 24899),

Gene: BronnyJames\_30 Start: 25923, Stop: 28418, Start Num: 53

Candidate Starts for BronnyJames\_30:

(Start: 53 @25923 has 241 MA's), (141, 26118), (155, 26154), (158, 26169), (192, 26256), (197, 26271), (209, 26307), (211, 26313), (225, 26346), (228, 26358), (269, 26529), (272, 26538), (281, 26562), (295, 26616), (310, 26652), (312, 26658), (319, 26688), (333, 26718), (339, 26739), (342, 26748), (346, 26763), (362, 26832), (379, 26913), (382, 26922), (389, 26943), (390, 26946), (400, 26976), (407, 27012), (416, 27063), (418, 27072), (420, 27075), (425, 27102), (427, 27111), (433,

27132), (455, 27210), (456, 27213), (475, 27285), (482, 27321), (484, 27327), (493, 27369), (494, 27375), (501, 27417), (502, 27420), (505, 27441), (506, 27447), (507, 27450), (514, 27480), (546, 27621), (549, 27630), (550, 27639), (557, 27672), (564, 27696), (565, 27699), (567, 27714), (573, 27735), (579, 27771), (581, 27777), (584, 27783), (589, 27804), (598, 27831), (619, 27966), (635, 28038), (639, 28044), (648, 28062), (666, 28161), (680, 28278), (692, 28359), (694, 28362), (698, 28389),

Gene: Brookers\_19 Start: 17254, Stop: 19731, Start Num: 53

Candidate Starts for Brookers\_19:

(48, 17242), (Start: 53 @17254 has 241 MA's), (61, 17275), (Start: 71 @17296 has 1 MA's), (90, 17335), (129, 17404), (130, 17413), (131, 17416), (141, 17434), (155, 17467), (158, 17482), (192, 17569), (197, 17584), (209, 17620), (211, 17626), (225, 17659), (228, 17671), (269, 17842), (272, 17851), (281, 17875), (295, 17929), (310, 17965), (312, 17971), (319, 18001), (333, 18031), (339, 18052), (342, 18061), (362, 18145), (374, 18208), (379, 18226), (382, 18235), (389, 18256), (390, 18259), (397, 18277), (400, 18289), (405, 18316), (407, 18325), (416, 18376), (418, 18385), (420, 18388), (425, 18415), (427, 18424), (433, 18445), (455, 18523), (456, 18526), (482, 18634), (484, 18640), (494, 18688), (501, 18730), (502, 18733), (505, 18754), (506, 18760), (507, 18763), (514, 18793), (546, 18934), (550, 18952), (557, 18985), (564, 19009), (565, 19012), (567, 19027), (573, 19048), (579, 19084), (581, 19090), (589, 19117), (598, 19144), (619, 19279), (632, 19327), (635, 19351), (639, 19357), (648, 19375), (666, 19474), (669, 19495), (671, 19513), (680, 19591), (685, 19612), (694, 19675), (696, 19693), (701, 19711),

Gene: Bruin\_26 Start: 22307, Stop: 24703, Start Num: 94

Candidate Starts for Bruin\_26:

(Start: 94 @22307 has 128 MA's), (170, 22484), (174, 22505), (232, 22652), (263, 22793), (271, 22826), (281, 22859), (287, 22895), (319, 22988), (342, 23048), (348, 23066), (375, 23198), (389, 23243), (420, 23375), (428, 23420), (478, 23594), (481, 23615), (491, 23654), (494, 23675), (496, 23690), (529, 23846), (532, 23864), (549, 23918), (567, 24002), (593, 24095), (648, 24341), (680, 24557), (691, 24641), (698, 24674),

Gene: Brujita\_21 Start: 19089, Stop: 21620, Start Num: 56

Candidate Starts for Brujita\_21:

(Start: 56 @19089 has 2 MA's), (63, 19113), (115, 19224), (119, 19233), (131, 19260), (177, 19407), (250, 19674), (254, 19689), (257, 19719), (258, 19725), (262, 19743), (293, 19851), (312, 19902), (348, 20013), (349, 20016), (356, 20055), (365, 20088), (379, 20154), (400, 20214), (405, 20241), (406, 20247), (481, 20553), (494, 20613), (500, 20661), (501, 20664), (504, 20685), (505, 20688), (567, 20949), (600, 21072), (601, 21075), (614, 21165), (627, 21222), (633, 21243), (657, 21303), (686, 21504), (689, 21546),

Gene: Brushbloom\_19 Start: 17281, Stop: 19818, Start Num: 53

Candidate Starts for Brushbloom\_19:

(Start: 53 @17281 has 241 MA's), (61, 17302), (Start: 71 @17323 has 1 MA's), (88, 17359), (90, 17362), (129, 17431), (130, 17440), (131, 17443), (141, 17461), (155, 17494), (158, 17509), (172, 17557), (206, 17662), (208, 17668), (209, 17671), (224, 17713), (225, 17716), (251, 17818), (262, 17884), (272, 17929), (281, 17959), (283, 17965), (284, 17983), (293, 18007), (296, 18016), (310, 18049), (312, 18055), (330, 18106), (336, 18124), (339, 18136), (342, 18145), (346, 18160), (349, 18166), (370, 18274), (373, 18286), (374, 18292), (377, 18307), (379, 18310), (387, 18331), (397, 18361), (400, 18373), (406, 18406), (420, 18472), (428, 18517), (429, 18520), (439, 18547), (442, 18553), (455, 18607), (456, 18610), (467, 18637), (481, 18712), (484, 18724), (485, 18727), (497, 18793), (502, 18817), (507, 18847), (516, 18889), (520, 18907), (521, 18910), (529, 18946), (532, 18964), (539, 18985), (547, 19012), (564, 19081), (567, 19099), (571, 19108), (573, 19120), (579, 19156), (595, 19207), (600, 19225), (607, 19267), (614, 19321), (637, 19423), (654, 19501), (666, 19558), (670, 19582), (676, 19636), (680, 19684), (688, 19726), (690, 19750), (691, 19753),

Gene: Bubbles123\_19 Start: 18112, Stop: 20649, Start Num: 53

Candidate Starts for Bubbles123\_19:

(Start: 53 @18112 has 241 MA's), (61, 18133), (Start: 71 @18154 has 1 MA's), (90, 18193), (129, 18262), (130, 18271), (131, 18274), (141, 18292), (155, 18325), (158, 18340), (172, 18388), (208, 18499), (209, 18502), (224, 18544), (225, 18547), (251, 18649), (262, 18715), (272, 18760), (281, 18790), (283, 18796), (284, 18814), (293, 18838), (296, 18847), (310, 18880), (312, 18886), (336, 18955), (339, 18967), (342, 18976), (346, 18991), (349, 18997), (370, 19105), (373, 19117), (374, 19123), (377, 19138), (379, 19141), (387, 19162), (397, 19192), (400, 19204), (406, 19237), (420, 19303), (428, 19348), (429, 19351), (439, 19378), (442, 19384), (455, 19438), (456, 19441), (467, 19468), (481, 19543), (484, 19555), (485, 19558), (497, 19624), (502, 19648), (507, 19678), (516, 19720), (520, 19738), (521, 19741), (529, 19777), (532, 19795), (539, 19816), (547, 19843), (564, 19912), (567, 19930), (571, 19939), (573, 19951), (579, 19987), (595, 20038), (602, 20062), (607, 20098), (614, 20152), (637, 20254), (654, 20332), (666, 20389), (670, 20413), (680, 20515), (688, 20557), (690, 20581), (691, 20584),

Gene: Buck\_25 Start: 22240, Stop: 24636, Start Num: 94

Candidate Starts for Buck\_25:

(Start: 94 @22240 has 128 MA's), (170, 22417), (174, 22438), (232, 22585), (263, 22726), (271, 22759), (281, 22792), (287, 22828), (319, 22921), (342, 22981), (348, 22999), (375, 23131), (389, 23176), (420, 23308), (428, 23353), (450, 23413), (478, 23527), (481, 23548), (491, 23587), (494, 23608), (496, 23623), (527, 23773), (529, 23779), (532, 23797), (549, 23851), (567, 23935), (593, 24028), (648, 24274), (680, 24490), (691, 24574), (698, 24607),

Gene: Budgie\_28 Start: 21675, Stop: 24068, Start Num: 94

Candidate Starts for Budgie\_28:

(Start: 94 @21675 has 128 MA's), (170, 21852), (174, 21873), (247, 22077), (250, 22083), (270, 22191), (271, 22194), (287, 22263), (336, 22392), (342, 22413), (365, 22512), (368, 22530), (420, 22740), (428, 22785), (481, 22980), (482, 22986), (485, 22995), (494, 23040), (496, 23055), (529, 23211), (532, 23229), (535, 23238), (567, 23367), (568, 23370), (613, 23580), (615, 23592), (660, 23775), (662, 23781), (680, 23922), (691, 24006), (696, 24030), (698, 24039),

Gene: BugsBunny\_24 Start: 21873, Stop: 24269, Start Num: 94

Candidate Starts for BugsBunny\_24:

(Start: 94 @21873 has 128 MA's), (170, 22050), (174, 22071), (232, 22218), (263, 22359), (271, 22392), (281, 22425), (287, 22461), (319, 22554), (342, 22614), (348, 22632), (375, 22764), (389, 22809), (420, 22941), (428, 22986), (450, 23046), (478, 23160), (481, 23181), (491, 23220), (494, 23241), (496, 23256), (527, 23406), (529, 23412), (532, 23430), (549, 23484), (567, 23568), (593, 23661), (648, 23907), (680, 24123), (691, 24207), (698, 24240),

Gene: Burwell21\_18 Start: 17404, Stop: 19956, Start Num: 53

Candidate Starts for Burwell21\_18:

(Start: 53 @17404 has 241 MA's), (90, 17485), (129, 17554), (130, 17563), (131, 17566), (141, 17584), (158, 17632), (171, 17677), (208, 17791), (209, 17794), (213, 17806), (222, 17827), (224, 17836), (225, 17839), (235, 17887), (242, 17917), (257, 17983), (263, 18016), (272, 18052), (279, 18076), (295, 18136), (296, 18139), (303, 18157), (328, 18220), (330, 18223), (336, 18241), (342, 18262), (348, 18280), (354, 18307), (358, 18328), (365, 18361), (373, 18403), (374, 18409), (375, 18412), (379, 18427), (388, 18454), (389, 18457), (397, 18478), (400, 18490), (406, 18523), (425, 18616), (455, 18724), (461, 18748), (467, 18754), (469, 18772), (470, 18775), (475, 18799), (481, 18829), (488, 18853), (494, 18889), (495, 18895), (496, 18904), (501, 18931), (511, 18994), (516, 19018), (517, 19033), (527, 19075), (541, 19126), (565, 19222), (567, 19237), (571, 19246), (576, 19270), (593, 19333), (602, 19369), (663, 19675), (670, 19720), (680, 19822),

Gene: BuzzLyseyear\_20 Start: 17791, Stop: 20328, Start Num: 53

Candidate Starts for BuzzLyseyear\_20:

(Start: 53 @17791 has 241 MA's), (61, 17812), (Start: 71 @17833 has 1 MA's), (90, 17872), (129, 17941), (130, 17950), (131, 17953), (141, 17971), (158, 18019), (206, 18172), (209, 18181), (225, 18226), (250, 18325), (251, 18328), (262, 18394), (281, 18469), (283, 18475), (284, 18493), (293, 18517), (295, 18523), (296, 18526), (310, 18559), (312, 18565), (319, 18595), (330, 18616), (339, 18646), (342, 18655), (346, 18670), (348, 18673), (370, 18784), (371, 18787), (373, 18796), (374, 18802), (377, 18817), (379, 18820), (387, 18841), (397, 18871), (400, 18883), (406, 18916), (428, 19027), (429, 19030), (439, 19057), (442, 19063), (455, 19117), (456, 19120), (479, 19207), (481, 19222), (484, 19234), (485, 19237), (497, 19303), (502, 19327), (505, 19348), (507, 19357), (520, 19417), (521, 19420), (529, 19456), (532, 19474), (537, 19486), (539, 19495), (547, 19522), (563, 19579), (564, 19591), (567, 19609), (571, 19618), (573, 19630), (579, 19666), (588, 19696), (593, 19705), (595, 19717), (607, 19777), (614, 19831), (629, 19891), (637, 19933), (666, 20068), (670, 20092), (676, 20146), (680, 20194), (688, 20236), (690, 20260), (691, 20263),

Gene: ByChance\_18 Start: 17408, Stop: 19933, Start Num: 53

Candidate Starts for ByChance\_18:

(Start: 53 @17408 has 241 MA's), (90, 17489), (129, 17558), (130, 17567), (131, 17570), (141, 17588), (158, 17636), (172, 17684), (208, 17795), (209, 17798), (222, 17831), (225, 17843), (242, 17921), (257, 17987), (263, 18020), (277, 18074), (281, 18086), (295, 18140), (296, 18143), (300, 18152), (313, 18185), (328, 18224), (330, 18227), (335, 18242), (336, 18245), (343, 18272), (345, 18278), (346, 18281), (348, 18284), (354, 18311), (357, 18329), (358, 18332), (373, 18407), (377, 18428), (379, 18431), (388, 18458), (397, 18482), (406, 18527), (407, 18530), (416, 18581), (429, 18644), (433, 18653), (441, 18677), (470, 18782), (471, 18785), (481, 18836), (482, 18842), (484, 18848), (485, 18851), (494, 18896), (496, 18911), (501, 18938), (505, 18962), (516, 19013), (520, 19031), (521, 19034), (522, 19046), (537, 19100), (549, 19142), (581, 19286), (598, 19340), (599, 19346), (600, 19349), (605, 19385), (606, 19388), (608, 19397), (609, 19424), (657, 19625), (680, 19796), (687, 19835), (693, 19874), (694, 19877),

Gene: Byougenkin\_18 Start: 17418, Stop: 19949, Start Num: 53

Candidate Starts for Byougenkin\_18:

(Start: 53 @17418 has 241 MA's), (96, 17508), (129, 17568), (130, 17577), (131, 17580), (141, 17598), (155, 17631), (158, 17646), (172, 17694), (208, 17805), (209, 17808), (221, 17838), (225, 17853), (242, 17931), (251, 17955), (262, 18021), (272, 18066), (281, 18096), (283, 18102), (284, 18120), (293, 18144), (295, 18150), (296, 18153), (310, 18186), (312, 18192), (336, 18261), (342, 18282), (346, 18297), (348, 18300), (370, 18411), (373, 18423), (374, 18429), (377, 18444), (379, 18447), (387, 18468), (400, 18510), (406, 18543), (428, 18654), (429, 18657), (439, 18684), (442, 18690), (455, 18744), (456, 18747), (479, 18834), (481, 18849), (484, 18861), (485, 18864), (497, 18930), (502, 18954), (505, 18975), (507, 18984), (520, 19044), (521, 19047), (529, 19083), (532, 19101), (537, 19113), (539, 19122), (547, 19149), (564, 19218), (567, 19236), (571, 19245), (573, 19257), (579, 19293), (588, 19323), (595, 19344), (602, 19368), (607, 19404), (614, 19458), (629, 19518), (637, 19560), (654, 19638), (666, 19695), (670, 19719), (676, 19773), (680, 19821), (688, 19857), (690, 19881), (691, 19884),

Gene: CREW\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for CREW\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Cabrinians\_18 Start: 17398, Stop: 19950, Start Num: 53

Candidate Starts for Cabrinians\_18:

(Start: 53 @17398 has 241 MA's), (90, 17479), (129, 17548), (130, 17557), (131, 17560), (141, 17578), (158, 17626), (171, 17671), (208, 17785), (209, 17788), (213, 17800), (222, 17821), (224, 17830), (225, 17833), (235, 17881), (242, 17911), (257, 17977), (263, 18010), (272, 18046), (279, 18070), (295, 18130), (296, 18133), (303, 18151), (328, 18214), (330, 18217), (336, 18235), (342, 18256), (348, 18274), (354, 18301), (358, 18322), (365, 18355), (373, 18397), (374, 18403), (375, 18406), (379, 18421), (388, 18448), (389, 18451), (397, 18472), (400, 18484), (406, 18517), (425, 18610), (455, 18718), (461, 18742), (467, 18748), (469, 18766), (470, 18769), (475, 18793), (481, 18823), (488, 18847), (494, 18883), (495, 18889), (496, 18898), (501, 18925), (511, 18988), (516, 19012), (517, 19027), (527, 19069), (541, 19120), (565, 19216), (567, 19231), (571, 19240), (576, 19264), (593, 19327), (602, 19363), (663, 19669), (670, 19714), (680, 19816),

Gene: Cactus\_27 Start: 21496, Stop: 23892, Start Num: 94

Candidate Starts for Cactus\_27:

(Start: 94 @21496 has 128 MA's), (170, 21673), (174, 21694), (232, 21841), (263, 21982), (271, 22015), (281, 22048), (287, 22084), (319, 22177), (342, 22237), (348, 22255), (365, 22336), (420, 22564), (428, 22609), (481, 22804), (482, 22810), (485, 22819), (494, 22864), (496, 22879), (529, 23035), (532, 23053), (535, 23062), (567, 23191), (568, 23194), (613, 23404), (615, 23416), (648, 23530), (680, 23746), (691, 23830), (696, 23854), (698, 23863),

Gene: CallaLilly\_27 Start: 20835, Stop: 23267, Start Num: 80

Candidate Starts for CallaLilly\_27:

(Start: 80 @20835 has 96 MA's), (126, 20934), (218, 21195), (225, 21216), (270, 21423), (280, 21456), (285, 21486), (314, 21558), (319, 21582), (370, 21780), (378, 21825), (381, 21837), (385, 21846), (400, 21897), (437, 22077), (443, 22092), (459, 22161), (463, 22173), (476, 22236), (485, 22278), (494, 22317), (495, 22323), (496, 22332), (500, 22353), (513, 22413), (539, 22530), (550, 22572), (570, 22644), (572, 22653), (577, 22674), (594, 22746), (599, 22767), (614, 22863), (648, 23010), (664, 23091), (680, 23238),

Gene: Cambiare\_23 Start: 21228, Stop: 23705, Start Num: 33

Candidate Starts for Cambiare\_23:

(Start: 33 @21228 has 9 MA's), (65, 21336), (111, 21426), (144, 21474), (157, 21516), (221, 21693), (251, 21810), (270, 21909), (309, 21990), (321, 22032), (332, 22056), (341, 22083), (342, 22086), (345, 22098), (365, 22179), (375, 22230), (410, 22359), (412, 22371), (439, 22497), (455, 22557), (458, 22572), (460, 22578), (474, 22647), (502, 22785), (516, 22848), (522, 22887), (555, 23022), (560, 23031), (571, 23079), (574, 23094), (600, 23205), (655, 23499), (666, 23550), (677, 23643),

Gene: Capricorn\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Capricorn\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: CaptainTrips\_19 Start: 18092, Stop: 20629, Start Num: 53

Candidate Starts for CaptainTrips\_19:

(Start: 53 @18092 has 241 MA's), (96, 18182), (129, 18242), (130, 18251), (131, 18254), (141, 18272), (155, 18305), (158, 18320), (172, 18368), (208, 18479), (209, 18482), (221, 18512), (224, 18524), (225, 18527), (242, 18605), (251, 18629), (262, 18695), (272, 18740), (281, 18770), (283, 18776), (284, 18794), (293, 18818), (296, 18827), (310, 18860), (312, 18866), (319, 18896), (336, 18935),

(339, 18947), (342, 18956), (346, 18971), (348, 18974), (370, 19085), (371, 19088), (373, 19097), (374, 19103), (377, 19118), (379, 19121), (387, 19142), (397, 19172), (400, 19184), (406, 19217), (428, 19328), (429, 19331), (439, 19358), (442, 19364), (455, 19418), (456, 19421), (479, 19508), (481, 19523), (484, 19535), (485, 19538), (497, 19604), (502, 19628), (505, 19649), (507, 19658), (520, 19718), (521, 19721), (529, 19757), (532, 19775), (537, 19787), (539, 19796), (547, 19823), (564, 19892), (567, 19910), (571, 19919), (573, 19931), (579, 19967), (588, 19997), (595, 20018), (602, 20042), (607, 20078), (614, 20132), (629, 20192), (637, 20234), (654, 20312), (666, 20369), (670, 20393), (676, 20447), (680, 20495), (688, 20537), (690, 20561), (691, 20564),

Gene: CaseJules\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for CaseJules\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Catdawg\_58 Start: 36145, Stop: 38655, Start Num: 60

Candidate Starts for Catdawg\_58:

(Start: 60 @36145 has 33 MA's), (74, 36178), (108, 36247), (109, 36250), (122, 36274), (131, 36298), (145, 36322), (155, 36355), (214, 36562), (217, 36574), (218, 36577), (254, 36724), (257, 36754), (262, 36778), (272, 36808), (273, 36811), (281, 36838), (284, 36862), (295, 36892), (315, 36949), (320, 36973), (336, 37009), (339, 37021), (346, 37045), (348, 37048), (356, 37090), (377, 37186), (379, 37189), (447, 37444), (481, 37588), (494, 37648), (504, 37720), (505, 37723), (526, 37819), (567, 37993), (573, 38014), (598, 38107), (601, 38119), (614, 38209), (633, 38284), (653, 38329), (684, 38530), (689, 38584), (694, 38599),

Gene: Causa\_36 Start: 31862, Stop: 33766, Start Num: 246

Candidate Starts for Causa\_36:

(Start: 246 @31862 has 2 MA's), (271, 31973), (276, 31991), (294, 32060), (352, 32231), (368, 32306), (398, 32408), (408, 32453), (420, 32513), (426, 32537), (435, 32567), (487, 32753), (501, 32831), (510, 32885), (525, 32948), (536, 32996), (544, 33032), (545, 33035), (549, 33047), (553, 33071), (603, 33248), (604, 33254), (610, 33299), (611, 33302), (621, 33353), (661, 33485), (680, 33629), (693, 33710), (703, 33755),

Gene: Cborch11\_30 Start: 25681, Stop: 28524, Start Num: 17

Candidate Starts for Cborch11\_30:

(Start: 17 @25681 has 8 MA's), (30, 25813), (31, 25825), (35, 25834), (49, 25903), (52, 25909), (75, 25969), (83, 25990), (102, 26038), (124, 26080), (134, 26104), (151, 26137), (160, 26173), (165, 26185), (191, 26278), (209, 26335), (220, 26374), (253, 26500), (263, 26569), (270, 26599), (283, 26641), (296, 26692), (330, 26782), (336, 26800), (356, 26881), (365, 26920), (369, 26941), (406, 27079), (413, 27118), (427, 27181), (456, 27283), (504, 27508), (589, 27871), (598, 27898), (649, 28141), (652, 28174), (658, 28198), (675, 28318), (686, 28396), (698, 28483), (702, 28498), (704, 28504),

Gene: Che8\_18 Start: 17426, Stop: 19963, Start Num: 53

Candidate Starts for Che8\_18:

(Start: 53 @17426 has 241 MA's), (61, 17447), (Start: 71 @17468 has 1 MA's), (90, 17507), (129, 17576), (130, 17585), (131, 17588), (141, 17606), (155, 17639), (158, 17654), (208, 17813), (209, 17816), (221, 17846), (225, 17861), (242, 17939), (251, 17963), (262, 18029), (281, 18104), (283, 18110), (284, 18128), (293, 18152), (295, 18158), (296, 18161), (310, 18194), (312, 18200), (319, 18230), (330, 18251), (339, 18281), (342, 18290), (366, 18398), (369, 18410), (370, 18419), (371,

18422), (373, 18431), (374, 18437), (377, 18452), (379, 18455), (387, 18476), (397, 18506), (400, 18518), (406, 18551), (439, 18692), (442, 18698), (455, 18752), (456, 18755), (467, 18782), (481, 18857), (484, 18869), (485, 18872), (490, 18893), (497, 18938), (502, 18962), (507, 18992), (516, 19034), (520, 19052), (521, 19055), (529, 19091), (532, 19109), (537, 19121), (539, 19130), (547, 19157), (563, 19214), (564, 19226), (567, 19244), (571, 19253), (573, 19265), (579, 19301), (588, 19331), (593, 19340), (595, 19352), (607, 19412), (614, 19466), (637, 19568), (654, 19646), (666, 19703), (670, 19727), (676, 19781), (680, 19829), (685, 19850), (690, 19895), (691, 19898),

Gene: Che9d\_24 Start: 17101, Stop: 19650, Start Num: 40

Candidate Starts for Che9d\_24:

(37, 17092), (Start: 40 @17101 has 7 MA's), (Start: 53 @17161 has 241 MA's), (67, 17197), (118, 17296), (172, 17437), (192, 17476), (197, 17491), (209, 17527), (211, 17533), (212, 17536), (223, 17554), (228, 17578), (234, 17602), (235, 17605), (269, 17749), (272, 17758), (281, 17782), (284, 17806), (293, 17830), (295, 17836), (303, 17857), (305, 17860), (312, 17878), (319, 17908), (333, 17938), (339, 17959), (362, 18052), (365, 18067), (366, 18076), (370, 18097), (371, 18100), (382, 18142), (397, 18184), (398, 18187), (400, 18196), (405, 18223), (407, 18232), (414, 18271), (418, 18292), (420, 18295), (427, 18331), (433, 18352), (455, 18430), (456, 18433), (472, 18487), (484, 18547), (500, 18634), (502, 18640), (505, 18661), (514, 18697), (525, 18751), (527, 18760), (546, 18838), (550, 18856), (559, 18892), (561, 18895), (564, 18913), (567, 18931), (579, 18988), (584, 19000), (602, 19063), (607, 19096), (619, 19183), (632, 19231), (635, 19255), (643, 19282), (648, 19291), (653, 19330), (662, 19369), (666, 19393), (669, 19414), (680, 19510), (685, 19531), (692, 19591), (694, 19594), (698, 19621),

Gene: Cheese puff\_20 Start: 18248, Stop: 20785, Start Num: 53

Candidate Starts for Cheese puff\_20:

(Start: 53 @18248 has 241 MA's), (61, 18269), (Start: 71 @18290 has 1 MA's), (90, 18329), (129, 18398), (130, 18407), (131, 18410), (141, 18428), (155, 18461), (158, 18476), (206, 18629), (209, 18638), (225, 18683), (250, 18782), (251, 18785), (262, 18851), (272, 18896), (281, 18926), (283, 18932), (284, 18950), (293, 18974), (295, 18980), (296, 18983), (310, 19016), (312, 19022), (319, 19052), (336, 19091), (339, 19103), (342, 19112), (346, 19127), (348, 19130), (370, 19241), (371, 19244), (373, 19253), (374, 19259), (377, 19274), (379, 19277), (387, 19298), (397, 19328), (400, 19340), (406, 19373), (428, 19484), (429, 19487), (439, 19514), (442, 19520), (455, 19574), (456, 19577), (468, 19613), (479, 19664), (481, 19679), (484, 19691), (485, 19694), (497, 19760), (502, 19784), (505, 19805), (507, 19814), (520, 19874), (521, 19877), (529, 19913), (532, 19931), (537, 19943), (539, 19952), (547, 19979), (563, 20036), (564, 20048), (567, 20066), (571, 20075), (573, 20087), (579, 20123), (588, 20153), (593, 20162), (595, 20174), (602, 20198), (607, 20234), (614, 20288), (629, 20348), (637, 20390), (654, 20468), (666, 20525), (670, 20549), (676, 20603), (680, 20651), (688, 20693), (690, 20717), (691, 20720),

Gene: CheetoDust\_27 Start: 20889, Stop: 23321, Start Num: 80

Candidate Starts for CheetoDust\_27:

(Start: 80 @20889 has 96 MA's), (126, 20988), (218, 21249), (270, 21477), (279, 21507), (280, 21510), (285, 21540), (314, 21612), (319, 21636), (337, 21681), (370, 21834), (378, 21879), (381, 21891), (385, 21900), (400, 21951), (437, 22131), (443, 22146), (455, 22197), (459, 22215), (463, 22227), (472, 22269), (476, 22290), (485, 22332), (494, 22371), (495, 22377), (496, 22386), (500, 22407), (509, 22455), (513, 22467), (522, 22515), (539, 22584), (550, 22626), (567, 22695), (570, 22698), (572, 22707), (577, 22728), (599, 22821), (614, 22917), (628, 22980), (648, 23064), (664, 23145), (673, 23220),

Gene: Chevrolet\_18 Start: 17438, Stop: 19975, Start Num: 53

Candidate Starts for Chevrolet\_18:

(Start: 53 @17438 has 241 MA's), (61, 17459), (Start: 71 @17480 has 1 MA's), (90, 17519), (129, 17588), (130, 17597), (131, 17600), (141, 17618), (155, 17651), (158, 17666), (208, 17825), (209,

17828), (221, 17858), (225, 17873), (242, 17951), (250, 17972), (251, 17975), (262, 18041), (281, 18116), (283, 18122), (293, 18164), (295, 18170), (296, 18173), (310, 18206), (312, 18212), (319, 18242), (330, 18263), (339, 18293), (342, 18302), (366, 18410), (369, 18422), (370, 18431), (371, 18434), (373, 18443), (374, 18449), (377, 18464), (379, 18467), (387, 18488), (400, 18530), (406, 18563), (439, 18704), (442, 18710), (455, 18764), (456, 18767), (467, 18794), (479, 18854), (481, 18869), (484, 18881), (485, 18884), (497, 18950), (502, 18974), (505, 18995), (507, 19004), (520, 19064), (521, 19067), (529, 19103), (532, 19121), (537, 19133), (539, 19142), (547, 19169), (564, 19238), (567, 19256), (571, 19265), (573, 19277), (579, 19313), (588, 19343), (607, 19424), (614, 19478), (629, 19538), (637, 19580), (654, 19658), (666, 19715), (670, 19739), (676, 19793), (680, 19841), (688, 19883), (690, 19907), (691, 19910),

Gene: ChickenDinner\_19 Start: 17271, Stop: 19796, Start Num: 53

Candidate Starts for ChickenDinner\_19:

(Start: 53 @17271 has 241 MA's), (61, 17292), (Start: 71 @17313 has 1 MA's), (90, 17352), (129, 17421), (130, 17430), (131, 17433), (141, 17451), (155, 17484), (158, 17499), (172, 17547), (208, 17658), (209, 17661), (225, 17706), (242, 17784), (251, 17808), (262, 17874), (263, 17883), (281, 17949), (283, 17955), (284, 17973), (293, 17997), (295, 18003), (296, 18006), (310, 18039), (312, 18045), (319, 18075), (330, 18096), (342, 18135), (346, 18150), (349, 18156), (379, 18300), (397, 18351), (419, 18462), (429, 18513), (438, 18537), (467, 18630), (475, 18675), (478, 18684), (481, 18705), (484, 18717), (485, 18720), (494, 18765), (502, 18810), (504, 18828), (505, 18831), (516, 18882), (527, 18933), (529, 18939), (532, 18957), (537, 18969), (539, 18978), (549, 19011), (567, 19092), (584, 19161), (593, 19188), (599, 19215), (608, 19266), (614, 19314), (669, 19557), (680, 19662), (685, 19683), (693, 19737), (697, 19761),

Gene: ChosenOne\_25 Start: 21491, Stop: 23887, Start Num: 94

Candidate Starts for ChosenOne\_25:

(Start: 94 @21491 has 128 MA's), (170, 21668), (174, 21689), (232, 21836), (271, 22010), (281, 22043), (287, 22079), (319, 22172), (342, 22232), (348, 22250), (375, 22382), (389, 22427), (420, 22559), (428, 22604), (450, 22664), (478, 22778), (481, 22799), (491, 22838), (494, 22859), (496, 22874), (527, 23024), (529, 23030), (532, 23048), (549, 23102), (567, 23186), (593, 23279), (648, 23525), (680, 23741), (691, 23825), (698, 23858),

Gene: ChotaBhai\_26 Start: 21533, Stop: 23929, Start Num: 94

Candidate Starts for ChotaBhai\_26:

(Start: 94 @21533 has 128 MA's), (170, 21710), (174, 21731), (232, 21878), (263, 22019), (271, 22052), (281, 22085), (287, 22121), (319, 22214), (342, 22274), (348, 22292), (375, 22424), (389, 22469), (420, 22601), (428, 22646), (478, 22820), (481, 22841), (491, 22880), (494, 22901), (496, 22916), (529, 23072), (532, 23090), (549, 23144), (567, 23228), (593, 23321), (648, 23567), (680, 23783), (691, 23867), (698, 23900),

Gene: Chris\_26 Start: 20139, Stop: 22598, Start Num: 80

Candidate Starts for Chris\_26:

(Start: 80 @20139 has 96 MA's), (83, 20148), (98, 20187), (155, 20310), (171, 20367), (208, 20472), (225, 20520), (231, 20547), (265, 20709), (295, 20820), (298, 20829), (299, 20838), (307, 20859), (319, 20907), (353, 21009), (383, 21168), (404, 21249), (424, 21351), (437, 21405), (453, 21465), (468, 21528), (472, 21543), (473, 21555), (476, 21564), (485, 21606), (494, 21651), (496, 21666), (515, 21753), (519, 21777), (577, 22014), (600, 22110), (624, 22248), (644, 22332), (679, 22563), (680, 22569),

Gene: Chuckly\_18 Start: 17569, Stop: 20106, Start Num: 53

Candidate Starts for Chuckly\_18:

(47, 17557), (Start: 53 @17569 has 241 MA's), (61, 17590), (Start: 71 @17611 has 1 MA's), (90, 17650), (129, 17719), (130, 17728), (131, 17731), (141, 17749), (155, 17782), (158, 17797), (172,

17845), (208, 17956), (209, 17959), (221, 17989), (224, 18001), (225, 18004), (242, 18082), (251, 18106), (262, 18172), (272, 18217), (281, 18247), (283, 18253), (284, 18271), (293, 18295), (296, 18304), (310, 18337), (312, 18343), (319, 18373), (336, 18412), (339, 18424), (342, 18433), (346, 18448), (349, 18454), (370, 18562), (371, 18565), (373, 18574), (374, 18580), (377, 18595), (379, 18598), (387, 18619), (397, 18649), (400, 18661), (406, 18694), (420, 18760), (428, 18805), (429, 18808), (439, 18835), (442, 18841), (455, 18895), (456, 18898), (479, 18985), (481, 19000), (484, 19012), (485, 19015), (497, 19081), (502, 19105), (505, 19126), (507, 19135), (520, 19195), (521, 19198), (529, 19234), (532, 19252), (539, 19273), (547, 19300), (564, 19369), (567, 19387), (571, 19396), (573, 19408), (579, 19444), (588, 19474), (595, 19495), (602, 19519), (607, 19555), (614, 19609), (629, 19669), (637, 19711), (666, 19846), (670, 19870), (676, 19924), (680, 19972), (688, 20014), (690, 20038), (691, 20041),

Gene: Cjw1\_26 Start: 23044, Stop: 25440, Start Num: 94

Candidate Starts for Cjw1\_26:

(Start: 94 @23044 has 128 MA's), (170, 23221), (174, 23242), (232, 23389), (271, 23563), (281, 23596), (287, 23632), (342, 23785), (348, 23803), (375, 23935), (389, 23980), (420, 24112), (428, 24157), (450, 24217), (478, 24331), (481, 24352), (491, 24391), (494, 24412), (496, 24427), (527, 24577), (529, 24583), (532, 24601), (549, 24655), (567, 24739), (593, 24832), (648, 25078), (680, 25294), (691, 25378), (698, 25411),

Gene: Clank\_18 Start: 17552, Stop: 20029, Start Num: 53

Candidate Starts for Clank\_18:

(Start: 53 @17552 has 241 MA's), (61, 17573), (Start: 71 @17594 has 1 MA's), (90, 17633), (129, 17702), (130, 17711), (131, 17714), (141, 17732), (155, 17765), (158, 17780), (192, 17867), (197, 17882), (209, 17918), (211, 17924), (225, 17957), (228, 17969), (269, 18140), (272, 18149), (281, 18173), (295, 18227), (310, 18263), (312, 18269), (319, 18299), (333, 18329), (339, 18350), (342, 18359), (346, 18374), (362, 18443), (379, 18524), (382, 18533), (389, 18554), (390, 18557), (400, 18587), (407, 18623), (416, 18674), (418, 18683), (420, 18686), (425, 18713), (427, 18722), (433, 18743), (455, 18821), (456, 18824), (475, 18896), (482, 18932), (484, 18938), (493, 18980), (494, 18986), (501, 19028), (502, 19031), (505, 19052), (506, 19058), (507, 19061), (514, 19091), (546, 19232), (549, 19241), (550, 19250), (557, 19283), (564, 19307), (565, 19310), (567, 19325), (573, 19346), (579, 19382), (581, 19388), (584, 19394), (589, 19415), (598, 19442), (619, 19577), (635, 19649), (639, 19655), (648, 19673), (666, 19772), (680, 19889), (692, 19970), (694, 19973), (698, 20000),

Gene: Clipper\_27 Start: 20889, Stop: 23321, Start Num: 80

Candidate Starts for Clipper\_27:

(Start: 80 @20889 has 96 MA's), (126, 20988), (218, 21249), (225, 21270), (270, 21477), (280, 21510), (285, 21540), (314, 21612), (319, 21636), (337, 21681), (370, 21834), (378, 21879), (381, 21891), (385, 21900), (400, 21951), (437, 22131), (443, 22146), (459, 22215), (463, 22227), (476, 22290), (485, 22332), (494, 22371), (495, 22377), (496, 22386), (500, 22407), (513, 22467), (539, 22584), (550, 22626), (570, 22698), (572, 22707), (577, 22728), (594, 22800), (599, 22821), (614, 22917), (664, 23145), (680, 23292),

Gene: Cloudyecho\_22 Start: 20645, Stop: 23107, Start Num: 33

Candidate Starts for Cloudyecho\_22:

(Start: 33 @20645 has 9 MA's), (64, 20750), (65, 20753), (132, 20873), (150, 20906), (152, 20915), (162, 20948), (200, 21053), (251, 21236), (261, 21296), (310, 21419), (321, 21458), (341, 21509), (365, 21605), (369, 21626), (380, 21680), (404, 21761), (406, 21770), (412, 21797), (437, 21917), (447, 21944), (460, 22004), (472, 22052), (474, 22067), (489, 22133), (516, 22268), (528, 22328), (532, 22352), (607, 22652), (613, 22703), (615, 22715), (634, 22811), (645, 22847), (665, 22940), (677, 23045),

Gene: Coco12\_20 Start: 17795, Stop: 20272, Start Num: 53

Candidate Starts for Coco12\_20:

(48, 17783), (Start: 53 @17795 has 241 MA's), (61, 17816), (Start: 71 @17837 has 1 MA's), (90, 17876), (129, 17945), (130, 17954), (131, 17957), (141, 17975), (155, 18008), (158, 18023), (192, 18110), (197, 18125), (209, 18161), (211, 18167), (225, 18200), (228, 18212), (269, 18383), (272, 18392), (281, 18416), (295, 18470), (310, 18506), (312, 18512), (319, 18542), (333, 18572), (339, 18593), (342, 18602), (362, 18686), (374, 18749), (379, 18767), (382, 18776), (389, 18797), (390, 18800), (397, 18818), (400, 18830), (405, 18857), (407, 18866), (416, 18917), (418, 18926), (420, 18929), (425, 18956), (427, 18965), (433, 18986), (455, 19064), (456, 19067), (482, 19175), (484, 19181), (494, 19229), (501, 19271), (502, 19274), (505, 19295), (506, 19301), (507, 19304), (514, 19334), (546, 19475), (550, 19493), (557, 19526), (564, 19550), (565, 19553), (567, 19568), (573, 19589), (579, 19625), (581, 19631), (589, 19658), (598, 19685), (619, 19820), (632, 19868), (635, 19892), (639, 19898), (648, 19916), (666, 20015), (669, 20036), (671, 20054), (680, 20132), (685, 20153), (694, 20216), (696, 20234), (701, 20252),

Gene: Command613\_27 Start: 22552, Stop: 24948, Start Num: 94

Candidate Starts for Command613\_27:

(Start: 94 @22552 has 128 MA's), (170, 22729), (174, 22750), (232, 22897), (263, 23038), (271, 23071), (281, 23104), (287, 23140), (319, 23233), (342, 23293), (348, 23311), (365, 23392), (420, 23620), (428, 23665), (481, 23860), (482, 23866), (485, 23875), (494, 23920), (496, 23935), (529, 24091), (532, 24109), (535, 24118), (567, 24247), (568, 24250), (613, 24460), (615, 24472), (648, 24586), (680, 24802), (691, 24886), (696, 24910), (698, 24919),

Gene: Contagion\_25 Start: 21791, Stop: 24187, Start Num: 94

Candidate Starts for Contagion\_25:

(Start: 94 @21791 has 128 MA's), (170, 21968), (174, 21989), (232, 22136), (263, 22277), (271, 22310), (281, 22343), (287, 22379), (319, 22472), (342, 22532), (348, 22550), (375, 22682), (389, 22727), (420, 22859), (428, 22904), (478, 23078), (481, 23099), (491, 23138), (494, 23159), (496, 23174), (529, 23330), (532, 23348), (549, 23402), (567, 23486), (593, 23579), (648, 23825), (680, 24041), (691, 24125), (698, 24158),

Gene: Cookies\_26 Start: 22153, Stop: 24549, Start Num: 94

Candidate Starts for Cookies\_26:

(Start: 94 @22153 has 128 MA's), (170, 22330), (174, 22351), (232, 22498), (263, 22639), (271, 22672), (281, 22705), (287, 22741), (319, 22834), (342, 22894), (348, 22912), (375, 23044), (389, 23089), (420, 23221), (428, 23266), (450, 23326), (478, 23440), (481, 23461), (491, 23500), (494, 23521), (496, 23536), (527, 23686), (529, 23692), (532, 23710), (549, 23764), (567, 23848), (593, 23941), (648, 24187), (680, 24403), (691, 24487), (698, 24520),

Gene: Corium\_18 Start: 17437, Stop: 19974, Start Num: 53

Candidate Starts for Corium\_18:

(47, 17425), (Start: 53 @17437 has 241 MA's), (61, 17458), (Start: 71 @17479 has 1 MA's), (90, 17518), (129, 17587), (130, 17596), (131, 17599), (141, 17617), (155, 17650), (158, 17665), (172, 17713), (208, 17824), (209, 17827), (221, 17857), (224, 17869), (225, 17872), (242, 17950), (251, 17974), (262, 18040), (272, 18085), (281, 18115), (283, 18121), (284, 18139), (293, 18163), (296, 18172), (310, 18205), (312, 18211), (319, 18241), (336, 18280), (339, 18292), (342, 18301), (346, 18316), (348, 18319), (370, 18430), (371, 18433), (373, 18442), (374, 18448), (377, 18463), (379, 18466), (387, 18487), (397, 18517), (400, 18529), (406, 18562), (428, 18673), (429, 18676), (439, 18703), (442, 18709), (455, 18763), (456, 18766), (479, 18853), (481, 18868), (484, 18880), (485, 18883), (497, 18949), (502, 18973), (505, 18994), (507, 19003), (520, 19063), (521, 19066), (529, 19102), (532, 19120), (537, 19132), (539, 19141), (547, 19168), (564, 19237), (567, 19255), (571, 19264), (573, 19276), (579, 19312), (588, 19342), (595, 19363), (602, 19387), (607, 19423), (614, 19477), (629, 19537), (637, 19579), (654, 19657), (666, 19714), (670, 19738), (676, 19792), (680,

19840), (688, 19882), (690, 19906), (691, 19909),

Gene: Corndog\_61 Start: 37139, Stop: 39649, Start Num: 60

Candidate Starts for Corndog\_61:

(Start: 60 @37139 has 33 MA's), (74, 37172), (108, 37241), (109, 37244), (122, 37268), (131, 37292), (145, 37316), (155, 37349), (214, 37556), (217, 37568), (218, 37571), (254, 37718), (257, 37748), (262, 37772), (272, 37802), (273, 37805), (281, 37832), (284, 37856), (295, 37886), (315, 37943), (336, 38003), (339, 38015), (346, 38039), (348, 38042), (356, 38084), (377, 38180), (379, 38183), (447, 38438), (481, 38582), (494, 38642), (504, 38714), (505, 38717), (526, 38813), (567, 38987), (573, 39008), (598, 39101), (601, 39113), (614, 39203), (633, 39278), (653, 39323), (684, 39524), (689, 39578), (694, 39593),

Gene: Cornie\_20 Start: 18264, Stop: 20744, Start Num: 54

Candidate Starts for Cornie\_20:

(Start: 54 @18264 has 1 MA's), (Start: 56 @18270 has 2 MA's), (61, 18276), (Start: 94 @18339 has 128 MA's), (95, 18342), (110, 18369), (136, 18423), (141, 18432), (155, 18465), (166, 18498), (172, 18531), (192, 18570), (197, 18585), (209, 18621), (211, 18627), (212, 18630), (223, 18648), (225, 18660), (228, 18672), (234, 18696), (235, 18699), (259, 18804), (263, 18828), (269, 18843), (272, 18852), (281, 18876), (283, 18882), (284, 18900), (287, 18912), (291, 18918), (293, 18924), (295, 18930), (296, 18933), (300, 18942), (303, 18951), (310, 18966), (319, 19002), (336, 19041), (339, 19053), (342, 19062), (362, 19146), (379, 19227), (382, 19236), (390, 19260), (400, 19290), (407, 19326), (416, 19377), (418, 19386), (420, 19389), (425, 19416), (427, 19425), (433, 19446), (446, 19482), (455, 19524), (456, 19527), (472, 19581), (484, 19641), (500, 19728), (502, 19734), (505, 19755), (514, 19791), (525, 19845), (527, 19854), (546, 19932), (550, 19950), (559, 19986), (561, 19989), (564, 20007), (567, 20025), (579, 20082), (584, 20094), (602, 20157), (607, 20190), (619, 20277), (632, 20325), (635, 20349), (643, 20376), (648, 20385), (653, 20424), (662, 20463), (666, 20487), (669, 20508), (680, 20604), (685, 20625), (692, 20685), (694, 20688), (698, 20715),

Gene: Cornucopia\_19 Start: 17435, Stop: 19972, Start Num: 53

Candidate Starts for Cornucopia\_19:

(Start: 53 @17435 has 241 MA's), (61, 17456), (Start: 71 @17477 has 1 MA's), (90, 17516), (129, 17585), (130, 17594), (131, 17597), (141, 17615), (158, 17663), (206, 17816), (209, 17825), (225, 17870), (250, 17969), (251, 17972), (262, 18038), (281, 18113), (283, 18119), (284, 18137), (293, 18161), (296, 18170), (310, 18203), (312, 18209), (319, 18239), (330, 18260), (336, 18278), (339, 18290), (342, 18299), (346, 18314), (348, 18317), (370, 18428), (371, 18431), (373, 18440), (374, 18446), (377, 18461), (379, 18464), (387, 18485), (397, 18515), (400, 18527), (406, 18560), (428, 18671), (429, 18674), (439, 18701), (442, 18707), (455, 18761), (456, 18764), (470, 18812), (479, 18851), (481, 18866), (484, 18878), (485, 18881), (490, 18902), (497, 18947), (502, 18971), (507, 19001), (516, 19043), (520, 19061), (521, 19064), (529, 19100), (532, 19118), (537, 19130), (539, 19139), (549, 19172), (564, 19235), (567, 19253), (571, 19262), (573, 19274), (588, 19340), (595, 19361), (602, 19385), (607, 19421), (614, 19475), (629, 19535), (637, 19577), (654, 19655), (666, 19712), (670, 19736), (676, 19790), (680, 19838), (688, 19880), (690, 19904), (691, 19907),

Gene: Cosmo\_43 Start: 28347, Stop: 30914, Start Num: 53

Candidate Starts for Cosmo\_43:

(Start: 53 @28347 has 241 MA's), (81, 28416), (136, 28539), (139, 28545), (141, 28548), (153, 28572), (157, 28593), (206, 28749), (207, 28755), (209, 28761), (218, 28791), (219, 28797), (225, 28818), (227, 28827), (239, 28887), (252, 28923), (258, 28965), (283, 29064), (288, 29097), (295, 29112), (296, 29115), (312, 29154), (330, 29205), (336, 29223), (342, 29244), (343, 29250), (351, 29277), (356, 29304), (370, 29373), (376, 29397), (382, 29418), (389, 29439), (393, 29448), (400, 29469), (406, 29502), (407, 29505), (416, 29556), (420, 29568), (436, 29634), (443, 29652), (451, 29691), (481, 29808), (492, 29853), (501, 29910), (505, 29934), (507, 29943), (510, 29961), (520, 30006), (527, 30039), (534, 30075), (578, 30249), (579, 30267), (581, 30273), (599, 30330), (665, 30654),

(667, 30672), (674, 30723), (681, 30786), (690, 30861),

Gene: Courthouse\_36 Start: 27742, Stop: 30249, Start Num: 53

Candidate Starts for Courthouse\_36:

(Start: 53 @27742 has 241 MA's), (141, 27937), (155, 27973), (158, 27988), (192, 28075), (197, 28090), (225, 28165), (228, 28177), (235, 28204), (259, 28309), (269, 28348), (272, 28357), (281, 28381), (283, 28387), (284, 28405), (291, 28423), (296, 28438), (300, 28447), (303, 28456), (310, 28471), (317, 28498), (319, 28507), (336, 28546), (339, 28558), (342, 28567), (362, 28651), (379, 28732), (389, 28762), (390, 28765), (400, 28795), (405, 28822), (407, 28831), (416, 28882), (418, 28891), (420, 28894), (427, 28930), (433, 28951), (446, 28987), (482, 29140), (494, 29194), (502, 29239), (504, 29257), (505, 29260), (514, 29299), (546, 29446), (549, 29455), (565, 29524), (567, 29539), (607, 29704), (619, 29791), (632, 29839), (648, 29890), (662, 29968), (692, 30190), (694, 30193), (698, 30220),

Gene: CrimD\_27 Start: 20850, Stop: 23282, Start Num: 80

Candidate Starts for CrimD\_27:

(Start: 80 @20850 has 96 MA's), (126, 20949), (218, 21210), (270, 21438), (280, 21471), (285, 21501), (314, 21573), (319, 21597), (337, 21642), (370, 21795), (378, 21840), (381, 21852), (385, 21861), (396, 21897), (400, 21912), (437, 22092), (443, 22107), (459, 22176), (463, 22188), (476, 22251), (485, 22293), (494, 22332), (495, 22338), (496, 22347), (500, 22368), (513, 22428), (539, 22545), (550, 22587), (572, 22668), (577, 22689), (599, 22782), (614, 22878), (664, 23106),

Gene: CrystalP\_26 Start: 22284, Stop: 24680, Start Num: 94

Candidate Starts for CrystalP\_26:

(Start: 94 @22284 has 128 MA's), (170, 22461), (174, 22482), (232, 22629), (263, 22770), (271, 22803), (281, 22836), (287, 22872), (319, 22965), (342, 23025), (348, 23043), (365, 23124), (420, 23352), (428, 23397), (481, 23592), (482, 23598), (485, 23607), (494, 23652), (496, 23667), (529, 23823), (532, 23841), (535, 23850), (567, 23979), (568, 23982), (613, 24192), (615, 24204), (648, 24318), (680, 24534), (691, 24618), (696, 24642), (698, 24651),

Gene: Czyszczone1\_27 Start: 22029, Stop: 24425, Start Num: 94

Candidate Starts for Czyszczone1\_27:

(Start: 94 @22029 has 128 MA's), (170, 22206), (174, 22227), (232, 22374), (271, 22548), (281, 22581), (287, 22617), (319, 22710), (342, 22770), (348, 22788), (375, 22920), (389, 22965), (420, 23097), (428, 23142), (450, 23202), (478, 23316), (481, 23337), (491, 23376), (494, 23397), (496, 23412), (527, 23562), (529, 23568), (532, 23586), (549, 23640), (567, 23724), (593, 23817), (648, 24063), (680, 24279), (691, 24363), (698, 24396),

Gene: DLane\_18 Start: 17386, Stop: 19923, Start Num: 53

Candidate Starts for DLane\_18:

(47, 17374), (Start: 53 @17386 has 241 MA's), (61, 17407), (Start: 71 @17428 has 1 MA's), (90, 17467), (129, 17536), (130, 17545), (131, 17548), (141, 17566), (155, 17599), (158, 17614), (172, 17662), (208, 17773), (209, 17776), (221, 17806), (223, 17809), (225, 17821), (242, 17899), (251, 17923), (262, 17989), (272, 18034), (281, 18064), (283, 18070), (284, 18088), (293, 18112), (296, 18121), (310, 18154), (312, 18160), (319, 18190), (339, 18241), (342, 18250), (346, 18265), (348, 18268), (370, 18379), (371, 18382), (373, 18391), (374, 18397), (377, 18412), (379, 18415), (387, 18436), (397, 18466), (400, 18478), (406, 18511), (428, 18622), (429, 18625), (439, 18652), (442, 18658), (455, 18712), (456, 18715), (481, 18817), (484, 18829), (485, 18832), (497, 18898), (502, 18922), (505, 18943), (507, 18952), (520, 19012), (521, 19015), (529, 19051), (532, 19069), (537, 19081), (539, 19090), (547, 19117), (564, 19186), (567, 19204), (571, 19213), (573, 19225), (579, 19261), (588, 19291), (595, 19312), (602, 19336), (607, 19372), (614, 19426), (629, 19486), (637, 19528), (654, 19606), (666, 19663), (670, 19687), (676, 19741), (680, 19789), (688, 19831), (690, 19855), (691, 19858),

Gene: DRBy19\_18 Start: 17429, Stop: 19966, Start Num: 53

Candidate Starts for DRBy19\_18:

(Start: 53 @17429 has 241 MA's), (61, 17450), (Start: 71 @17471 has 1 MA's), (90, 17510), (129, 17579), (130, 17588), (131, 17591), (141, 17609), (158, 17657), (206, 17810), (209, 17819), (225, 17864), (242, 17942), (251, 17966), (262, 18032), (272, 18077), (281, 18107), (283, 18113), (284, 18131), (293, 18155), (296, 18164), (310, 18197), (312, 18203), (319, 18233), (336, 18272), (342, 18293), (346, 18308), (348, 18311), (371, 18425), (373, 18434), (374, 18440), (379, 18458), (387, 18479), (397, 18509), (400, 18521), (406, 18554), (428, 18665), (429, 18668), (439, 18695), (442, 18701), (455, 18755), (456, 18758), (479, 18845), (481, 18860), (485, 18875), (502, 18965), (505, 18986), (507, 18995), (520, 19055), (521, 19058), (529, 19094), (532, 19112), (537, 19124), (539, 19133), (547, 19160), (564, 19229), (567, 19247), (571, 19256), (573, 19268), (579, 19304), (588, 19334), (595, 19355), (602, 19379), (607, 19415), (614, 19469), (637, 19571), (654, 19649), (666, 19706), (670, 19730), (676, 19784), (680, 19832), (688, 19874), (693, 19907), (694, 19910),

Gene: DaWorst\_20 Start: 17930, Stop: 20467, Start Num: 53

Candidate Starts for DaWorst\_20:

(Start: 53 @17930 has 241 MA's), (61, 17951), (Start: 71 @17972 has 1 MA's), (90, 18011), (129, 18080), (130, 18089), (131, 18092), (141, 18110), (155, 18143), (158, 18158), (208, 18317), (209, 18320), (221, 18350), (225, 18365), (242, 18443), (250, 18464), (251, 18467), (262, 18533), (281, 18608), (283, 18614), (293, 18656), (295, 18662), (296, 18665), (310, 18698), (312, 18704), (319, 18734), (330, 18755), (339, 18785), (342, 18794), (366, 18902), (369, 18914), (370, 18923), (371, 18926), (373, 18935), (374, 18941), (377, 18956), (379, 18959), (387, 18980), (400, 19022), (406, 19055), (439, 19196), (442, 19202), (455, 19256), (456, 19259), (467, 19286), (479, 19346), (481, 19361), (484, 19373), (485, 19376), (497, 19442), (502, 19466), (505, 19487), (507, 19496), (520, 19556), (521, 19559), (529, 19595), (532, 19613), (537, 19625), (539, 19634), (547, 19661), (564, 19730), (567, 19748), (571, 19757), (573, 19769), (579, 19805), (588, 19835), (607, 19916), (614, 19970), (629, 20030), (637, 20072), (654, 20150), (666, 20207), (670, 20231), (676, 20285), (680, 20333), (688, 20375), (690, 20399), (691, 20402),

Gene: DaddyRickover\_18 Start: 17568, Stop: 20105, Start Num: 53

Candidate Starts for DaddyRickover\_18:

(47, 17556), (Start: 53 @17568 has 241 MA's), (61, 17589), (Start: 71 @17610 has 1 MA's), (90, 17649), (129, 17718), (130, 17727), (131, 17730), (141, 17748), (158, 17796), (172, 17844), (208, 17955), (209, 17958), (225, 18003), (242, 18081), (251, 18105), (262, 18171), (272, 18216), (281, 18246), (283, 18252), (284, 18270), (293, 18294), (296, 18303), (310, 18336), (312, 18342), (319, 18372), (336, 18411), (339, 18423), (342, 18432), (346, 18447), (348, 18450), (370, 18561), (371, 18564), (373, 18573), (374, 18579), (377, 18594), (379, 18597), (387, 18618), (397, 18648), (400, 18660), (406, 18693), (428, 18804), (429, 18807), (439, 18834), (442, 18840), (455, 18894), (456, 18897), (481, 18999), (484, 19011), (485, 19014), (497, 19080), (502, 19104), (505, 19125), (507, 19134), (520, 19194), (521, 19197), (529, 19233), (532, 19251), (539, 19272), (547, 19299), (564, 19368), (567, 19386), (571, 19395), (573, 19407), (579, 19443), (595, 19494), (600, 19512), (607, 19554), (614, 19608), (637, 19710), (666, 19845), (670, 19869), (676, 19923), (685, 19992), (690, 20037), (691, 20040),

Gene: Daenerys\_18 Start: 17400, Stop: 19937, Start Num: 53

Candidate Starts for Daenerys\_18:

(47, 17388), (Start: 53 @17400 has 241 MA's), (61, 17421), (Start: 71 @17442 has 1 MA's), (90, 17481), (129, 17550), (130, 17559), (131, 17562), (141, 17580), (158, 17628), (172, 17676), (208, 17787), (209, 17790), (225, 17835), (242, 17913), (251, 17937), (262, 18003), (272, 18048), (281, 18078), (283, 18084), (284, 18102), (293, 18126), (296, 18135), (310, 18168), (312, 18174), (319, 18204), (336, 18243), (339, 18255), (342, 18264), (346, 18279), (348, 18282), (370, 18393), (371, 18396), (373, 18405), (374, 18411), (377, 18426), (379, 18429), (387, 18450), (397, 18480), (400,

18492), (406, 18525), (428, 18636), (429, 18639), (439, 18666), (442, 18672), (455, 18726), (456, 18729), (481, 18831), (484, 18843), (485, 18846), (497, 18912), (502, 18936), (505, 18957), (507, 18966), (520, 19026), (521, 19029), (529, 19065), (532, 19083), (539, 19104), (547, 19131), (564, 19200), (567, 19218), (571, 19227), (573, 19239), (579, 19275), (595, 19326), (600, 19344), (607, 19386), (614, 19440), (637, 19542), (666, 19677), (670, 19701), (676, 19755), (685, 19824), (690, 19869), (691, 19872),

Gene: Daikon\_24 Start: 22021, Stop: 24417, Start Num: 94

Candidate Starts for Daikon\_24:

(Start: 94 @22021 has 128 MA's), (170, 22198), (174, 22219), (232, 22366), (263, 22507), (271, 22540), (281, 22573), (287, 22609), (319, 22702), (342, 22762), (348, 22780), (382, 22936), (389, 22957), (416, 23077), (420, 23089), (428, 23134), (481, 23329), (485, 23344), (494, 23389), (496, 23404), (529, 23560), (532, 23578), (535, 23587), (567, 23716), (568, 23719), (613, 23929), (615, 23941), (648, 24055), (680, 24271), (691, 24355), (696, 24379), (698, 24388),

Gene: Dalmuri\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Dalmuri\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Damien\_29 Start: 25682, Stop: 28525, Start Num: 17

Candidate Starts for Damien\_29:

(Start: 17 @25682 has 8 MA's), (30, 25814), (31, 25826), (35, 25835), (49, 25904), (52, 25910), (75, 25970), (83, 25991), (102, 26039), (124, 26081), (134, 26105), (151, 26138), (160, 26174), (165, 26186), (191, 26279), (209, 26336), (220, 26375), (253, 26501), (263, 26570), (270, 26600), (283, 26642), (296, 26693), (330, 26783), (336, 26801), (356, 26882), (365, 26921), (369, 26942), (406, 27080), (413, 27119), (427, 27182), (456, 27284), (504, 27509), (589, 27872), (598, 27899), (649, 28142), (652, 28175), (658, 28199), (675, 28319), (686, 28397), (698, 28484), (702, 28499), (704, 28505),

Gene: Dante\_18 Start: 17416, Stop: 19953, Start Num: 53

Candidate Starts for Dante\_18:

(47, 17404), (Start: 53 @17416 has 241 MA's), (61, 17437), (Start: 71 @17458 has 1 MA's), (90, 17497), (129, 17566), (130, 17575), (131, 17578), (141, 17596), (155, 17629), (158, 17644), (172, 17692), (206, 17797), (208, 17803), (209, 17806), (224, 17848), (225, 17851), (242, 17929), (251, 17953), (262, 18019), (272, 18064), (281, 18094), (283, 18100), (284, 18118), (293, 18142), (296, 18151), (310, 18184), (312, 18190), (319, 18220), (336, 18259), (339, 18271), (342, 18280), (346, 18295), (348, 18298), (370, 18409), (371, 18412), (373, 18421), (374, 18427), (377, 18442), (379, 18445), (387, 18466), (397, 18496), (406, 18541), (428, 18652), (429, 18655), (439, 18682), (442, 18688), (455, 18742), (456, 18745), (481, 18847), (484, 18859), (485, 18862), (497, 18928), (502, 18952), (505, 18973), (507, 18982), (520, 19042), (521, 19045), (529, 19081), (532, 19099), (537, 19111), (539, 19120), (547, 19147), (564, 19216), (567, 19234), (571, 19243), (573, 19255), (579, 19291), (588, 19321), (595, 19342), (602, 19366), (607, 19402), (614, 19456), (629, 19516), (637, 19558), (654, 19636), (666, 19693), (670, 19717), (676, 19771), (680, 19819), (688, 19861), (690, 19885), (691, 19888),

Gene: DartGoblin\_27 Start: 20819, Stop: 23251, Start Num: 80

Candidate Starts for DartGoblin\_27:

(72, 20801), (Start: 80 @20819 has 96 MA's), (98, 20867), (126, 20918), (218, 21179), (225, 21200), (280, 21440), (285, 21470), (286, 21473), (319, 21566), (323, 21578), (337, 21611), (370, 21764), (381, 21821), (385, 21830), (400, 21881), (437, 22061), (443, 22076), (459, 22145), (463, 22157), (470, 22193), (476, 22220), (485, 22262), (494, 22301), (495, 22307), (496, 22316), (500, 22337), (513, 22397), (520, 22430), (522, 22445), (539, 22514), (550, 22556), (570, 22628), (572, 22637), (577, 22658), (594, 22730), (614, 22847), (648, 22994), (664, 23075), (673, 23150), (680, 23222),

Gene: DeadP\_18 Start: 17430, Stop: 19967, Start Num: 53

Candidate Starts for DeadP\_18:

(47, 17418), (Start: 53 @17430 has 241 MA's), (61, 17451), (Start: 71 @17472 has 1 MA's), (90, 17511), (129, 17580), (130, 17589), (131, 17592), (141, 17610), (155, 17643), (158, 17658), (172, 17706), (206, 17811), (208, 17817), (209, 17820), (224, 17862), (225, 17865), (242, 17943), (262, 18033), (272, 18078), (281, 18108), (283, 18114), (284, 18132), (293, 18156), (296, 18165), (310, 18198), (312, 18204), (319, 18234), (336, 18273), (339, 18285), (342, 18294), (346, 18309), (348, 18312), (370, 18423), (371, 18426), (373, 18435), (374, 18441), (377, 18456), (379, 18459), (387, 18480), (397, 18510), (400, 18522), (406, 18555), (428, 18666), (429, 18669), (439, 18696), (442, 18702), (455, 18756), (456, 18759), (479, 18846), (481, 18861), (484, 18873), (485, 18876), (497, 18942), (502, 18966), (505, 18987), (507, 18996), (520, 19056), (521, 19059), (529, 19095), (532, 19113), (537, 19125), (539, 19134), (547, 19161), (564, 19230), (567, 19248), (571, 19257), (573, 19269), (579, 19305), (588, 19335), (595, 19356), (602, 19380), (607, 19416), (614, 19470), (629, 19530), (637, 19572), (666, 19707), (670, 19731), (676, 19785), (680, 19833), (688, 19875), (690, 19899), (691, 19902),

Gene: Deb65\_18 Start: 17397, Stop: 19934, Start Num: 53

Candidate Starts for Deb65\_18:

(Start: 53 @17397 has 241 MA's), (61, 17418), (Start: 71 @17439 has 1 MA's), (90, 17478), (129, 17547), (130, 17556), (131, 17559), (141, 17577), (158, 17625), (172, 17673), (208, 17784), (209, 17787), (225, 17832), (242, 17910), (251, 17934), (262, 18000), (281, 18075), (283, 18081), (284, 18099), (293, 18123), (296, 18132), (310, 18165), (312, 18171), (319, 18201), (330, 18222), (339, 18252), (342, 18261), (366, 18369), (369, 18381), (370, 18390), (371, 18393), (374, 18408), (377, 18423), (379, 18426), (387, 18447), (400, 18489), (406, 18522), (428, 18633), (429, 18636), (439, 18663), (442, 18669), (455, 18723), (456, 18726), (467, 18753), (481, 18828), (484, 18840), (485, 18843), (497, 18909), (501, 18930), (502, 18933), (505, 18954), (507, 18963), (516, 19005), (520, 19023), (521, 19026), (527, 19056), (532, 19080), (537, 19092), (539, 19101), (564, 19197), (567, 19215), (571, 19224), (573, 19236), (579, 19272), (588, 19302), (593, 19311), (595, 19323), (607, 19383), (614, 19437), (629, 19497), (637, 19539), (666, 19674), (670, 19698), (676, 19752), (680, 19800), (688, 19842), (690, 19866), (691, 19869),

Gene: Deby\_27 Start: 20846, Stop: 23278, Start Num: 80

Candidate Starts for Deby\_27:

(Start: 80 @20846 has 96 MA's), (126, 20945), (218, 21206), (225, 21227), (270, 21434), (280, 21467), (285, 21497), (314, 21569), (319, 21593), (370, 21791), (378, 21836), (381, 21848), (385, 21857), (400, 21908), (437, 22088), (443, 22103), (459, 22172), (463, 22184), (476, 22247), (485, 22289), (494, 22328), (495, 22334), (496, 22343), (500, 22364), (513, 22424), (520, 22457), (522, 22472), (523, 22475), (536, 22529), (539, 22541), (570, 22655), (572, 22664), (577, 22685), (594, 22757), (599, 22778), (614, 22874), (664, 23102), (680, 23249),

Gene: Demsculpinboyz\_24 Start: 17086, Stop: 19635, Start Num: 40

Candidate Starts for Demsculpinboyz\_24:

(37, 17077), (Start: 40 @17086 has 7 MA's), (Start: 53 @17146 has 241 MA's), (65, 17179), (67, 17182), (104, 17251), (118, 17281), (192, 17461), (197, 17476), (209, 17512), (211, 17518), (223, 17539), (228, 17563), (234, 17587), (269, 17734), (272, 17743), (281, 17767), (284, 17791), (293, 17815), (295, 17821), (303, 17842), (312, 17863), (319, 17893), (333, 17923), (339, 17944), (362,

18037), (365, 18052), (366, 18061), (368, 18070), (370, 18082), (371, 18085), (397, 18169), (398, 18172), (400, 18181), (405, 18208), (407, 18217), (414, 18256), (418, 18277), (420, 18280), (427, 18316), (433, 18337), (455, 18415), (456, 18418), (484, 18532), (500, 18619), (502, 18625), (505, 18646), (514, 18682), (525, 18736), (527, 18745), (546, 18823), (550, 18841), (559, 18877), (561, 18880), (564, 18898), (567, 18916), (579, 18973), (584, 18985), (602, 19048), (607, 19081), (619, 19168), (632, 19216), (635, 19240), (648, 19276), (653, 19315), (662, 19354), (666, 19378), (669, 19399), (680, 19495), (685, 19516), (692, 19576), (694, 19579), (698, 19606),

Gene: Devera\_27 Start: 20893, Stop: 23325, Start Num: 80

Candidate Starts for Devera\_27:

(Start: 80 @20893 has 96 MA's), (98, 20941), (126, 20992), (218, 21253), (225, 21274), (270, 21481), (280, 21514), (285, 21544), (314, 21616), (319, 21640), (337, 21685), (370, 21838), (381, 21895), (385, 21904), (396, 21940), (400, 21955), (437, 22135), (443, 22150), (459, 22219), (463, 22231), (476, 22294), (485, 22336), (494, 22375), (495, 22381), (496, 22390), (500, 22411), (513, 22471), (522, 22519), (536, 22576), (539, 22588), (550, 22630), (570, 22702), (572, 22711), (594, 22804), (599, 22825), (614, 22921), (626, 22975), (648, 23068), (664, 23149), (680, 23296),

Gene: DillTech15\_18 Start: 17434, Stop: 19971, Start Num: 53

Candidate Starts for DillTech15\_18:

(Start: 53 @17434 has 241 MA's), (61, 17455), (Start: 71 @17476 has 1 MA's), (90, 17515), (129, 17584), (130, 17593), (131, 17596), (141, 17614), (155, 17647), (158, 17662), (206, 17815), (209, 17824), (225, 17869), (250, 17968), (251, 17971), (262, 18037), (272, 18082), (281, 18112), (283, 18118), (284, 18136), (293, 18160), (295, 18166), (296, 18169), (310, 18202), (312, 18208), (319, 18238), (336, 18277), (339, 18289), (342, 18298), (346, 18313), (348, 18316), (370, 18427), (371, 18430), (373, 18439), (374, 18445), (377, 18460), (379, 18463), (387, 18484), (397, 18514), (400, 18526), (406, 18559), (428, 18670), (429, 18673), (439, 18700), (442, 18706), (455, 18760), (456, 18763), (479, 18850), (481, 18865), (484, 18877), (485, 18880), (497, 18946), (502, 18970), (505, 18991), (507, 19000), (520, 19060), (521, 19063), (529, 19099), (532, 19117), (537, 19129), (539, 19138), (547, 19165), (564, 19234), (567, 19252), (571, 19261), (573, 19273), (579, 19309), (588, 19339), (593, 19348), (595, 19360), (602, 19384), (607, 19420), (614, 19474), (629, 19534), (637, 19576), (666, 19711), (670, 19735), (676, 19789), (680, 19837), (688, 19879), (690, 19903), (691, 19906),

Gene: DirtMcgirt\_19 Start: 17221, Stop: 19758, Start Num: 53

Candidate Starts for DirtMcgirt\_19:

(47, 17209), (Start: 53 @17221 has 241 MA's), (61, 17242), (Start: 71 @17263 has 1 MA's), (90, 17302), (129, 17371), (130, 17380), (131, 17383), (141, 17401), (155, 17434), (158, 17449), (172, 17497), (206, 17602), (209, 17611), (224, 17653), (225, 17656), (242, 17734), (251, 17758), (262, 17824), (272, 17869), (281, 17899), (283, 17905), (284, 17923), (293, 17947), (296, 17956), (310, 17989), (312, 17995), (319, 18025), (336, 18064), (339, 18076), (342, 18085), (346, 18100), (348, 18103), (370, 18214), (373, 18226), (374, 18232), (377, 18247), (379, 18250), (387, 18271), (397, 18301), (400, 18313), (406, 18346), (428, 18457), (429, 18460), (439, 18487), (442, 18493), (455, 18547), (456, 18550), (467, 18577), (481, 18652), (484, 18664), (485, 18667), (497, 18733), (502, 18757), (507, 18787), (516, 18829), (520, 18847), (521, 18850), (529, 18886), (532, 18904), (539, 18925), (547, 18952), (564, 19021), (567, 19039), (571, 19048), (573, 19060), (579, 19096), (588, 19126), (593, 19135), (595, 19147), (607, 19207), (614, 19261), (629, 19321), (637, 19363), (654, 19441), (666, 19498), (670, 19522), (676, 19576), (680, 19624), (688, 19666), (690, 19690), (691, 19693),

Gene: DmpstrDiver\_37 Start: 30383, Stop: 32890, Start Num: 53

Candidate Starts for DmpstrDiver\_37:

(42, 30326), (Start: 53 @30383 has 241 MA's), (141, 30578), (155, 30614), (158, 30629), (172, 30677), (197, 30731), (209, 30767), (211, 30773), (212, 30776), (223, 30794), (225, 30806), (228, 30818),

(235, 30845), (259, 30950), (269, 30989), (272, 30998), (281, 31022), (283, 31028), (284, 31046), (291, 31064), (296, 31079), (300, 31088), (303, 31097), (310, 31112), (317, 31139), (319, 31148), (336, 31187), (339, 31199), (342, 31208), (362, 31292), (379, 31373), (389, 31403), (390, 31406), (400, 31436), (405, 31463), (407, 31472), (416, 31523), (418, 31532), (420, 31535), (427, 31571), (433, 31592), (446, 31628), (482, 31781), (494, 31835), (502, 31880), (504, 31898), (505, 31901), (514, 31940), (546, 32087), (549, 32096), (565, 32165), (567, 32180), (607, 32345), (619, 32432), (632, 32480), (648, 32531), (662, 32609), (692, 32831), (694, 32834), (698, 32861),

Gene: DoRead\_18 Start: 17366, Stop: 19891, Start Num: 53

Candidate Starts for DoRead\_18:

(Start: 53 @17366 has 241 MA's), (61, 17387), (96, 17456), (129, 17516), (130, 17525), (131, 17528), (141, 17546), (158, 17594), (172, 17642), (208, 17753), (209, 17756), (216, 17777), (222, 17789), (225, 17801), (242, 17879), (257, 17945), (263, 17978), (277, 18032), (281, 18044), (293, 18092), (295, 18098), (296, 18101), (300, 18110), (313, 18143), (328, 18182), (330, 18185), (335, 18200), (343, 18230), (345, 18236), (346, 18239), (348, 18242), (354, 18269), (357, 18287), (358, 18290), (368, 18341), (369, 18344), (373, 18365), (374, 18371), (375, 18374), (377, 18386), (379, 18389), (388, 18416), (397, 18440), (400, 18452), (416, 18539), (429, 18602), (433, 18611), (441, 18635), (470, 18740), (471, 18743), (481, 18794), (482, 18800), (484, 18806), (485, 18809), (494, 18854), (496, 18869), (501, 18896), (505, 18920), (507, 18929), (520, 18989), (521, 18992), (522, 19004), (532, 19046), (537, 19058), (549, 19100), (581, 19244), (600, 19307), (609, 19382), (657, 19583), (687, 19793), (693, 19832), (694, 19835),

Gene: DocMcStuffins\_19 Start: 17271, Stop: 19796, Start Num: 53

Candidate Starts for DocMcStuffins\_19:

(Start: 53 @17271 has 241 MA's), (61, 17292), (Start: 71 @17313 has 1 MA's), (90, 17352), (129, 17421), (130, 17430), (131, 17433), (141, 17451), (155, 17484), (158, 17499), (172, 17547), (208, 17658), (209, 17661), (225, 17706), (242, 17784), (251, 17808), (262, 17874), (263, 17883), (281, 17949), (283, 17955), (284, 17973), (293, 17997), (295, 18003), (296, 18006), (310, 18039), (312, 18045), (319, 18075), (330, 18096), (342, 18135), (346, 18150), (349, 18156), (379, 18300), (397, 18351), (419, 18462), (429, 18513), (438, 18537), (467, 18630), (475, 18675), (478, 18684), (481, 18705), (484, 18717), (485, 18720), (494, 18765), (502, 18810), (504, 18828), (505, 18831), (516, 18882), (527, 18933), (529, 18939), (532, 18957), (537, 18969), (539, 18978), (549, 19011), (567, 19092), (584, 19161), (593, 19188), (599, 19215), (608, 19266), (614, 19314), (669, 19557), (680, 19662), (685, 19683), (693, 19737), (697, 19761),

Gene: DoctorDiddles\_26 Start: 21446, Stop: 23842, Start Num: 94

Candidate Starts for DoctorDiddles\_26:

(Start: 94 @21446 has 128 MA's), (170, 21623), (174, 21644), (232, 21791), (271, 21965), (281, 21998), (287, 22034), (319, 22127), (342, 22187), (348, 22205), (375, 22337), (389, 22382), (420, 22514), (428, 22559), (450, 22619), (478, 22733), (481, 22754), (491, 22793), (494, 22814), (496, 22829), (527, 22979), (529, 22985), (532, 23003), (549, 23057), (567, 23141), (593, 23234), (648, 23480), (680, 23696), (691, 23780), (698, 23813),

Gene: Dole\_27 Start: 20895, Stop: 23327, Start Num: 80

Candidate Starts for Dole\_27:

(Start: 80 @20895 has 96 MA's), (98, 20943), (126, 20994), (218, 21255), (225, 21276), (270, 21483), (280, 21516), (285, 21546), (314, 21618), (319, 21642), (337, 21687), (370, 21840), (381, 21897), (385, 21906), (396, 21942), (400, 21957), (437, 22137), (443, 22152), (459, 22221), (463, 22233), (476, 22296), (485, 22338), (494, 22377), (495, 22383), (496, 22392), (500, 22413), (513, 22473), (522, 22521), (536, 22578), (539, 22590), (550, 22632), (570, 22704), (572, 22713), (594, 22806), (599, 22827), (614, 22923), (626, 22977), (648, 23070), (664, 23151), (680, 23298),

Gene: Donkeykong\_18 Start: 17574, Stop: 20111, Start Num: 53

Candidate Starts for Donkeykong\_18:

(47, 17562), (Start: 53 @17574 has 241 MA's), (61, 17595), (Start: 71 @17616 has 1 MA's), (90, 17655), (129, 17724), (130, 17733), (131, 17736), (141, 17754), (155, 17787), (158, 17802), (172, 17850), (208, 17961), (209, 17964), (221, 17994), (224, 18006), (225, 18009), (242, 18087), (251, 18111), (262, 18177), (272, 18222), (281, 18252), (283, 18258), (284, 18276), (293, 18300), (296, 18309), (310, 18342), (312, 18348), (319, 18378), (336, 18417), (339, 18429), (342, 18438), (346, 18453), (348, 18456), (370, 18567), (371, 18570), (373, 18579), (374, 18585), (377, 18600), (379, 18603), (387, 18624), (397, 18654), (400, 18666), (406, 18699), (420, 18765), (428, 18810), (429, 18813), (439, 18840), (442, 18846), (455, 18900), (456, 18903), (481, 19005), (484, 19017), (485, 19020), (497, 19086), (502, 19110), (505, 19131), (507, 19140), (520, 19200), (521, 19203), (529, 19239), (532, 19257), (537, 19269), (539, 19278), (547, 19305), (564, 19374), (567, 19392), (571, 19401), (573, 19413), (579, 19449), (588, 19479), (595, 19500), (602, 19524), (607, 19560), (614, 19614), (629, 19674), (637, 19716), (654, 19794), (666, 19851), (670, 19875), (676, 19929), (680, 19977), (688, 20019), (690, 20043), (691, 20046),

Gene: Doomphist\_18 Start: 17534, Stop: 20071, Start Num: 53

Candidate Starts for Doomphist\_18:

(Start: 53 @17534 has 241 MA's), (61, 17555), (Start: 71 @17576 has 1 MA's), (90, 17615), (129, 17684), (130, 17693), (131, 17696), (141, 17714), (158, 17762), (208, 17921), (209, 17924), (225, 17969), (242, 18047), (251, 18071), (262, 18137), (281, 18212), (283, 18218), (284, 18236), (293, 18260), (295, 18266), (296, 18269), (310, 18302), (312, 18308), (319, 18338), (330, 18359), (339, 18389), (342, 18398), (366, 18506), (369, 18518), (370, 18527), (371, 18530), (374, 18545), (377, 18560), (379, 18563), (387, 18584), (400, 18626), (406, 18659), (428, 18770), (429, 18773), (439, 18800), (442, 18806), (455, 18860), (456, 18863), (467, 18890), (481, 18965), (484, 18977), (485, 18980), (497, 19046), (501, 19067), (502, 19070), (505, 19091), (507, 19100), (520, 19160), (521, 19163), (529, 19199), (532, 19217), (537, 19229), (539, 19238), (547, 19265), (563, 19322), (564, 19334), (567, 19352), (571, 19361), (573, 19373), (579, 19409), (588, 19439), (593, 19448), (595, 19460), (607, 19520), (614, 19574), (629, 19634), (637, 19676), (666, 19811), (670, 19835), (676, 19889), (680, 19937), (688, 19979), (690, 20003), (691, 20006),

Gene: Doomslug\_20 Start: 17255, Stop: 19792, Start Num: 53

Candidate Starts for Doomslug\_20:

(47, 17243), (Start: 53 @17255 has 241 MA's), (61, 17276), (Start: 71 @17297 has 1 MA's), (90, 17336), (129, 17405), (130, 17414), (131, 17417), (141, 17435), (155, 17468), (158, 17483), (172, 17531), (208, 17642), (209, 17645), (221, 17675), (224, 17687), (225, 17690), (242, 17768), (251, 17792), (262, 17858), (272, 17903), (281, 17933), (283, 17939), (284, 17957), (293, 17981), (296, 17990), (310, 18023), (312, 18029), (319, 18059), (336, 18098), (339, 18110), (342, 18119), (346, 18134), (348, 18137), (370, 18248), (371, 18251), (373, 18260), (374, 18266), (377, 18281), (379, 18284), (387, 18305), (397, 18335), (400, 18347), (406, 18380), (428, 18491), (429, 18494), (439, 18521), (442, 18527), (455, 18581), (456, 18584), (479, 18671), (481, 18686), (484, 18698), (485, 18701), (497, 18767), (502, 18791), (505, 18812), (507, 18821), (520, 18881), (521, 18884), (529, 18920), (532, 18938), (537, 18950), (539, 18959), (547, 18986), (564, 19055), (567, 19073), (571, 19082), (573, 19094), (579, 19130), (588, 19160), (595, 19181), (602, 19205), (607, 19241), (614, 19295), (629, 19355), (637, 19397), (654, 19475), (666, 19532), (670, 19556), (676, 19610), (680, 19658), (688, 19700), (690, 19724), (691, 19727),

Gene: Dorothy\_18 Start: 17358, Stop: 19895, Start Num: 53

Candidate Starts for Dorothy\_18:

(47, 17346), (Start: 53 @17358 has 241 MA's), (61, 17379), (Start: 71 @17400 has 1 MA's), (90, 17439), (129, 17508), (130, 17517), (131, 17520), (141, 17538), (158, 17586), (172, 17634), (208, 17745), (209, 17748), (225, 17793), (242, 17871), (251, 17895), (262, 17961), (272, 18006), (281, 18036), (283, 18042), (284, 18060), (293, 18084), (296, 18093), (310, 18126), (312, 18132), (319, 18162), (336, 18201), (339, 18213), (342, 18222), (346, 18237), (348, 18240), (370, 18351), (371,

18354), (373, 18363), (374, 18369), (377, 18384), (379, 18387), (387, 18408), (397, 18438), (400, 18450), (406, 18483), (428, 18594), (429, 18597), (439, 18624), (442, 18630), (455, 18684), (456, 18687), (481, 18789), (484, 18801), (485, 18804), (497, 18870), (502, 18894), (505, 18915), (507, 18924), (520, 18984), (521, 18987), (529, 19023), (532, 19041), (539, 19062), (547, 19089), (564, 19158), (567, 19176), (571, 19185), (573, 19197), (579, 19233), (595, 19284), (600, 19302), (607, 19344), (614, 19398), (637, 19500), (666, 19635), (670, 19659), (676, 19713), (685, 19782), (690, 19827), (691, 19830),

Gene: DosHalletts\_19 Start: 17327, Stop: 19879, Start Num: 53

Candidate Starts for DosHalletts\_19:

(Start: 53 @17327 has 241 MA's), (96, 17417), (129, 17477), (130, 17486), (131, 17489), (141, 17507), (158, 17555), (171, 17600), (208, 17714), (209, 17717), (213, 17729), (222, 17750), (224, 17759), (225, 17762), (242, 17840), (257, 17906), (263, 17939), (272, 17975), (279, 17999), (295, 18059), (296, 18062), (303, 18080), (328, 18143), (330, 18146), (336, 18164), (342, 18185), (348, 18203), (354, 18230), (358, 18251), (365, 18284), (373, 18326), (374, 18332), (375, 18335), (379, 18350), (388, 18377), (389, 18380), (397, 18401), (400, 18413), (406, 18446), (425, 18539), (455, 18647), (461, 18671), (467, 18677), (469, 18695), (470, 18698), (475, 18722), (481, 18752), (488, 18776), (494, 18812), (495, 18818), (496, 18827), (501, 18854), (511, 18917), (516, 18941), (517, 18956), (527, 18998), (541, 19049), (565, 19145), (567, 19160), (571, 19169), (576, 19193), (593, 19256), (602, 19292), (663, 19598), (670, 19643), (680, 19745),

Gene: DotProduct\_18 Start: 17408, Stop: 19939, Start Num: 53

Candidate Starts for DotProduct\_18:

(47, 17396), (Start: 53 @17408 has 241 MA's), (61, 17429), (Start: 71 @17450 has 1 MA's), (90, 17489), (129, 17558), (130, 17567), (131, 17570), (141, 17588), (155, 17621), (158, 17636), (172, 17678), (208, 17789), (209, 17792), (223, 17825), (224, 17834), (225, 17837), (242, 17915), (262, 18005), (272, 18050), (281, 18080), (283, 18086), (284, 18104), (293, 18128), (296, 18137), (310, 18170), (312, 18176), (319, 18206), (339, 18257), (342, 18266), (346, 18281), (348, 18284), (370, 18395), (371, 18398), (373, 18407), (374, 18413), (377, 18428), (379, 18431), (387, 18452), (397, 18482), (400, 18494), (406, 18527), (428, 18638), (429, 18641), (442, 18674), (455, 18728), (456, 18731), (481, 18833), (484, 18845), (485, 18848), (497, 18914), (502, 18938), (505, 18959), (507, 18968), (520, 19028), (521, 19031), (529, 19067), (532, 19085), (537, 19097), (539, 19106), (547, 19133), (564, 19202), (567, 19220), (571, 19229), (573, 19241), (579, 19277), (588, 19307), (595, 19328), (602, 19352), (607, 19388), (614, 19442), (629, 19502), (637, 19544), (654, 19622), (666, 19679), (670, 19703), (676, 19757), (680, 19805), (688, 19847), (690, 19871), (691, 19874),

Gene: Doug\_19 Start: 17950, Stop: 20487, Start Num: 53

Candidate Starts for Doug\_19:

(47, 17938), (Start: 53 @17950 has 241 MA's), (61, 17971), (Start: 71 @17992 has 1 MA's), (90, 18031), (129, 18100), (130, 18109), (131, 18112), (141, 18130), (155, 18163), (158, 18178), (172, 18226), (206, 18331), (208, 18337), (209, 18340), (224, 18382), (225, 18385), (242, 18463), (262, 18553), (272, 18598), (281, 18628), (283, 18634), (284, 18652), (293, 18676), (296, 18685), (310, 18718), (312, 18724), (319, 18754), (336, 18793), (339, 18805), (342, 18814), (346, 18829), (348, 18832), (370, 18943), (371, 18946), (373, 18955), (374, 18961), (377, 18976), (379, 18979), (387, 19000), (397, 19030), (400, 19042), (406, 19075), (420, 19141), (428, 19186), (429, 19189), (439, 19216), (442, 19222), (455, 19276), (456, 19279), (479, 19366), (481, 19381), (484, 19393), (485, 19396), (497, 19462), (502, 19486), (505, 19507), (507, 19516), (520, 19576), (521, 19579), (529, 19615), (532, 19633), (537, 19645), (539, 19654), (547, 19681), (564, 19750), (567, 19768), (571, 19777), (573, 19789), (579, 19825), (588, 19855), (595, 19876), (602, 19900), (607, 19936), (614, 19990), (629, 20050), (637, 20092), (654, 20170), (666, 20227), (670, 20251), (676, 20305), (680, 20353), (690, 20419), (691, 20422),

Gene: DrDrey\_27 Start: 22776, Stop: 25172, Start Num: 94

Candidate Starts for DrDrey\_27:

(Start: 94 @22776 has 128 MA's), (170, 22953), (174, 22974), (232, 23121), (271, 23295), (281, 23328), (287, 23364), (319, 23457), (342, 23517), (348, 23535), (375, 23667), (389, 23712), (420, 23844), (428, 23889), (450, 23949), (478, 24063), (481, 24084), (491, 24123), (494, 24144), (496, 24159), (527, 24309), (529, 24315), (532, 24333), (549, 24387), (567, 24471), (593, 24564), (648, 24810), (680, 25026), (691, 25110), (698, 25143),

Gene: DrHayes\_27 Start: 20840, Stop: 23272, Start Num: 80

Candidate Starts for DrHayes\_27:

(72, 20822), (Start: 80 @20840 has 96 MA's), (98, 20888), (126, 20939), (218, 21200), (225, 21221), (279, 21458), (280, 21461), (285, 21491), (286, 21494), (314, 21563), (319, 21587), (321, 21593), (323, 21599), (337, 21632), (370, 21785), (381, 21842), (385, 21851), (400, 21902), (437, 22082), (443, 22097), (459, 22166), (463, 22178), (470, 22214), (476, 22241), (485, 22283), (494, 22322), (495, 22328), (496, 22337), (500, 22358), (513, 22418), (520, 22451), (523, 22469), (539, 22535), (550, 22577), (570, 22649), (572, 22658), (577, 22679), (594, 22751), (614, 22868), (648, 23015), (664, 23096), (673, 23171), (680, 23243),

Gene: DrLupo\_38 Start: 27172, Stop: 30258, Start Num: 2

Candidate Starts for DrLupo\_38:

(1, 27145), (Start: 2 @27172 has 2 MA's), (3, 27175), (6, 27325), (7, 27328), (10, 27403), (11, 27412), (12, 27415), (14, 27484), (16, 27520), (Start: 19 @27595 has 1 MA's), (27, 27682), (34, 27718), (36, 27727), (Start: 44 @27748 has 2 MA's), (61, 27817), (Start: 71 @27841 has 1 MA's), (86, 27883), (87, 27886), (101, 27916), (124, 27958), (147, 28009), (170, 28090), (171, 28102), (190, 28162), (197, 28183), (208, 28222), (232, 28303), (238, 28336), (269, 28468), (282, 28507), (289, 28531), (302, 28546), (337, 28648), (341, 28660), (344, 28672), (345, 28675), (389, 28852), (400, 28885), (404, 28909), (415, 28966), (460, 29152), (474, 29218), (485, 29266), (495, 29317), (498, 29341), (499, 29347), (516, 29419), (520, 29443), (522, 29458), (539, 29527), (645, 29998), (655, 30052), (677, 30196),

Gene: Drago\_19 Start: 17219, Stop: 19756, Start Num: 53

Candidate Starts for Drago\_19:

(47, 17207), (Start: 53 @17219 has 241 MA's), (61, 17240), (Start: 71 @17261 has 1 MA's), (90, 17300), (129, 17369), (130, 17378), (131, 17381), (141, 17399), (155, 17432), (158, 17447), (172, 17495), (206, 17600), (209, 17609), (224, 17651), (225, 17654), (242, 17732), (251, 17756), (262, 17822), (272, 17867), (281, 17897), (283, 17903), (284, 17921), (293, 17945), (296, 17954), (310, 17987), (312, 17993), (319, 18023), (336, 18062), (339, 18074), (342, 18083), (346, 18098), (348, 18101), (370, 18212), (373, 18224), (374, 18230), (377, 18245), (379, 18248), (387, 18269), (397, 18299), (400, 18311), (406, 18344), (420, 18410), (428, 18455), (429, 18458), (439, 18485), (442, 18491), (455, 18545), (456, 18548), (467, 18575), (481, 18650), (484, 18662), (485, 18665), (497, 18731), (502, 18755), (507, 18785), (516, 18827), (520, 18845), (521, 18848), (529, 18884), (532, 18902), (539, 18923), (547, 18950), (564, 19019), (567, 19037), (571, 19046), (573, 19058), (579, 19094), (588, 19124), (593, 19133), (595, 19145), (607, 19205), (614, 19259), (629, 19319), (637, 19361), (654, 19439), (666, 19496), (670, 19520), (676, 19574), (680, 19622), (688, 19664), (690, 19688), (691, 19691),

Gene: Duke13\_36 Start: 29781, Stop: 32336, Start Num: 53

Candidate Starts for Duke13\_36:

(41, 29724), (Start: 53 @29781 has 241 MA's), (141, 29976), (155, 30012), (158, 30027), (172, 30075), (208, 30186), (209, 30189), (225, 30234), (242, 30312), (251, 30336), (262, 30402), (272, 30447), (281, 30477), (283, 30483), (284, 30501), (293, 30525), (296, 30534), (310, 30567), (312, 30573), (319, 30603), (336, 30642), (339, 30654), (342, 30663), (346, 30678), (348, 30681), (370, 30792), (371, 30795), (373, 30804), (374, 30810), (377, 30825), (379, 30828), (387, 30849), (397, 30879), (400, 30891), (406, 30924), (428, 31035), (429, 31038), (439, 31065), (442, 31071), (455, 31125),

(456, 31128), (481, 31230), (484, 31242), (485, 31245), (497, 31311), (502, 31335), (505, 31356), (507, 31365), (520, 31425), (521, 31428), (529, 31464), (532, 31482), (539, 31503), (547, 31530), (564, 31599), (567, 31617), (571, 31626), (573, 31638), (579, 31674), (595, 31725), (600, 31743), (607, 31785), (614, 31839), (637, 31941), (666, 32076), (670, 32100), (676, 32154), (685, 32223), (690, 32268), (691, 32271),

Gene: Dumbo\_26 Start: 21751, Stop: 24147, Start Num: 94

Candidate Starts for Dumbo\_26:

(Start: 94 @21751 has 128 MA's), (170, 21928), (174, 21949), (232, 22096), (271, 22270), (281, 22303), (287, 22339), (319, 22432), (342, 22492), (348, 22510), (375, 22642), (389, 22687), (420, 22819), (428, 22864), (450, 22924), (478, 23038), (481, 23059), (491, 23098), (494, 23119), (496, 23134), (527, 23284), (529, 23290), (532, 23308), (549, 23362), (567, 23446), (593, 23539), (648, 23785), (680, 24001), (691, 24085), (698, 24118),

Gene: Durfee\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Durfee\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Dusk\_25 Start: 21943, Stop: 24339, Start Num: 94

Candidate Starts for Dusk\_25:

(Start: 94 @21943 has 128 MA's), (170, 22120), (174, 22141), (232, 22288), (263, 22429), (271, 22462), (281, 22495), (287, 22531), (319, 22624), (342, 22684), (348, 22702), (365, 22783), (420, 23011), (428, 23056), (481, 23251), (482, 23257), (485, 23266), (494, 23311), (496, 23326), (529, 23482), (532, 23500), (535, 23509), (550, 23563), (567, 23638), (568, 23641), (613, 23851), (615, 23863), (648, 23977), (680, 24193), (691, 24277), (696, 24301), (698, 24310),

Gene: Dylan\_58 Start: 36190, Stop: 38700, Start Num: 60

Candidate Starts for Dylan\_58:

(Start: 60 @36190 has 33 MA's), (74, 36223), (108, 36292), (109, 36295), (122, 36319), (131, 36343), (145, 36367), (155, 36400), (214, 36607), (217, 36619), (218, 36622), (254, 36769), (257, 36799), (262, 36823), (272, 36853), (273, 36856), (281, 36883), (284, 36907), (295, 36937), (315, 36994), (336, 37054), (339, 37066), (346, 37090), (348, 37093), (356, 37135), (377, 37231), (379, 37234), (447, 37489), (481, 37633), (494, 37693), (504, 37765), (505, 37768), (526, 37864), (567, 38038), (573, 38059), (598, 38152), (601, 38164), (614, 38254), (633, 38329), (653, 38374), (684, 38575), (689, 38629), (694, 38644),

Gene: Easy2Say\_28 Start: 23534, Stop: 25930, Start Num: 94

Candidate Starts for Easy2Say\_28:

(Start: 94 @23534 has 128 MA's), (170, 23711), (174, 23732), (232, 23879), (263, 24020), (271, 24053), (281, 24086), (287, 24122), (319, 24215), (342, 24275), (348, 24293), (375, 24425), (389, 24470), (420, 24602), (428, 24647), (450, 24707), (478, 24821), (481, 24842), (491, 24881), (494, 24902), (496, 24917), (527, 25067), (529, 25073), (532, 25091), (549, 25145), (567, 25229), (593, 25322), (648, 25568), (680, 25784), (691, 25868), (698, 25901),

Gene: Efra2\_27 Start: 20082, Stop: 22514, Start Num: 80

Candidate Starts for Efra2\_27:

(Start: 80 @20082 has 96 MA's), (98, 20130), (100, 20133), (106, 20142), (218, 20442), (225, 20463), (280, 20703), (314, 20805), (319, 20829), (321, 20835), (337, 20874), (370, 21027), (381, 21084),

(385, 21093), (400, 21144), (439, 21330), (443, 21339), (445, 21345), (455, 21390), (459, 21408), (476, 21483), (485, 21525), (494, 21564), (495, 21570), (496, 21579), (500, 21600), (509, 21648), (520, 21693), (522, 21708), (539, 21777), (550, 21819), (572, 21900), (594, 21993), (599, 22014), (614, 22110), (664, 22338), (671, 22392), (673, 22413), (680, 22485), (683, 22503),

Gene: Eish\_18 Start: 17540, Stop: 20077, Start Num: 53

Candidate Starts for Eish\_18:

(Start: 53 @17540 has 241 MA's), (61, 17561), (Start: 71 @17582 has 1 MA's), (90, 17621), (129, 17690), (130, 17699), (131, 17702), (141, 17720), (155, 17753), (158, 17768), (172, 17816), (206, 17921), (209, 17930), (225, 17975), (242, 18053), (251, 18077), (262, 18143), (281, 18218), (283, 18224), (284, 18242), (293, 18266), (295, 18272), (296, 18275), (310, 18308), (312, 18314), (319, 18344), (330, 18365), (339, 18395), (342, 18404), (366, 18512), (369, 18524), (370, 18533), (371, 18536), (373, 18545), (374, 18551), (377, 18566), (379, 18569), (387, 18590), (397, 18620), (400, 18632), (406, 18665), (407, 18668), (420, 18731), (439, 18806), (442, 18812), (455, 18866), (456, 18869), (467, 18896), (481, 18971), (484, 18983), (485, 18986), (497, 19052), (505, 19097), (507, 19106), (520, 19166), (521, 19169), (529, 19205), (532, 19223), (539, 19244), (564, 19340), (567, 19358), (571, 19367), (573, 19379), (579, 19415), (588, 19445), (607, 19526), (614, 19580), (637, 19682), (666, 19817), (670, 19841), (676, 19895), (680, 19943), (688, 19985), (690, 20009), (691, 20012),

Gene: EleanorGeorge\_18 Start: 17568, Stop: 20105, Start Num: 53

Candidate Starts for EleanorGeorge\_18:

(47, 17556), (Start: 53 @17568 has 241 MA's), (61, 17589), (Start: 71 @17610 has 1 MA's), (90, 17649), (129, 17718), (130, 17727), (131, 17730), (141, 17748), (155, 17781), (158, 17796), (172, 17844), (208, 17955), (209, 17958), (221, 17988), (224, 18000), (225, 18003), (242, 18081), (251, 18105), (262, 18171), (272, 18216), (281, 18246), (283, 18252), (284, 18270), (293, 18294), (296, 18303), (310, 18336), (312, 18342), (319, 18372), (336, 18411), (339, 18423), (342, 18432), (346, 18447), (348, 18450), (370, 18561), (371, 18564), (373, 18573), (374, 18579), (377, 18594), (379, 18597), (387, 18618), (397, 18648), (400, 18660), (406, 18693), (428, 18804), (429, 18807), (439, 18834), (442, 18840), (455, 18894), (456, 18897), (479, 18984), (481, 18999), (484, 19011), (485, 19014), (497, 19080), (502, 19104), (505, 19125), (507, 19134), (520, 19194), (521, 19197), (529, 19233), (532, 19251), (537, 19263), (539, 19272), (547, 19299), (564, 19368), (567, 19386), (571, 19395), (573, 19407), (579, 19443), (588, 19473), (595, 19494), (602, 19518), (607, 19554), (614, 19608), (629, 19668), (637, 19710), (654, 19788), (666, 19845), (670, 19869), (676, 19923), (680, 19971), (688, 20013), (690, 20037), (691, 20040),

Gene: Elite2014\_25 Start: 21491, Stop: 23887, Start Num: 94

Candidate Starts for Elite2014\_25:

(Start: 94 @21491 has 128 MA's), (170, 21668), (174, 21689), (232, 21836), (271, 22010), (281, 22043), (287, 22079), (319, 22172), (342, 22232), (348, 22250), (375, 22382), (389, 22427), (420, 22559), (428, 22604), (450, 22664), (478, 22778), (481, 22799), (491, 22838), (494, 22859), (496, 22874), (527, 23024), (529, 23030), (532, 23048), (549, 23102), (567, 23186), (593, 23279), (648, 23525), (680, 23741), (691, 23825), (698, 23858),

Gene: Elph10\_27 Start: 21754, Stop: 24150, Start Num: 94

Candidate Starts for Elph10\_27:

(Start: 94 @21754 has 128 MA's), (170, 21931), (174, 21952), (232, 22099), (271, 22273), (281, 22306), (287, 22342), (319, 22435), (342, 22495), (348, 22513), (375, 22645), (389, 22690), (420, 22822), (428, 22867), (450, 22927), (478, 23041), (481, 23062), (491, 23101), (494, 23122), (496, 23137), (527, 23287), (529, 23293), (532, 23311), (549, 23365), (567, 23449), (593, 23542), (648, 23788), (680, 24004), (691, 24088), (698, 24121),

Gene: Emerson\_27 Start: 20872, Stop: 23304, Start Num: 80

Candidate Starts for Emerson\_27:

(Start: 80 @20872 has 96 MA's), (126, 20971), (218, 21232), (225, 21253), (270, 21460), (280, 21493), (285, 21523), (314, 21595), (319, 21619), (337, 21664), (370, 21817), (378, 21862), (381, 21874), (385, 21883), (400, 21934), (437, 22114), (443, 22129), (459, 22198), (463, 22210), (476, 22273), (485, 22315), (494, 22354), (495, 22360), (496, 22369), (500, 22390), (513, 22450), (539, 22567), (550, 22609), (570, 22681), (572, 22690), (577, 22711), (594, 22783), (599, 22804), (614, 22900), (628, 22963), (664, 23128), (680, 23275),

Gene: EmiMonkey\_18 Start: 17352, Stop: 19889, Start Num: 53

Candidate Starts for EmiMonkey\_18:

(Start: 53 @17352 has 241 MA's), (61, 17373), (Start: 71 @17394 has 1 MA's), (90, 17433), (129, 17502), (130, 17511), (131, 17514), (141, 17532), (158, 17580), (206, 17733), (209, 17742), (225, 17787), (250, 17886), (251, 17889), (262, 17955), (281, 18030), (283, 18036), (284, 18054), (293, 18078), (295, 18084), (296, 18087), (310, 18120), (312, 18126), (319, 18156), (330, 18177), (339, 18207), (342, 18216), (346, 18231), (348, 18234), (370, 18345), (371, 18348), (373, 18357), (374, 18363), (377, 18378), (379, 18381), (387, 18402), (397, 18432), (400, 18444), (406, 18477), (428, 18588), (429, 18591), (439, 18618), (442, 18624), (455, 18678), (456, 18681), (481, 18783), (484, 18795), (485, 18798), (497, 18864), (502, 18888), (505, 18909), (507, 18918), (520, 18978), (521, 18981), (529, 19017), (532, 19035), (537, 19047), (539, 19056), (547, 19083), (563, 19140), (564, 19152), (567, 19170), (571, 19179), (573, 19191), (579, 19227), (588, 19257), (593, 19266), (595, 19278), (607, 19338), (614, 19392), (629, 19452), (637, 19494), (666, 19629), (670, 19653), (676, 19707), (680, 19755), (688, 19797), (690, 19821), (691, 19824),

Gene: Emma\_18 Start: 17448, Stop: 19985, Start Num: 53

Candidate Starts for Emma\_18:

(47, 17436), (Start: 53 @17448 has 241 MA's), (61, 17469), (Start: 71 @17490 has 1 MA's), (90, 17529), (129, 17598), (130, 17607), (131, 17610), (141, 17628), (155, 17661), (158, 17676), (172, 17724), (208, 17835), (209, 17838), (221, 17868), (225, 17883), (242, 17961), (251, 17985), (262, 18051), (272, 18096), (281, 18126), (283, 18132), (284, 18150), (293, 18174), (296, 18183), (310, 18216), (312, 18222), (319, 18252), (336, 18291), (339, 18303), (342, 18312), (346, 18327), (348, 18330), (370, 18441), (371, 18444), (373, 18453), (374, 18459), (377, 18474), (379, 18477), (387, 18498), (397, 18528), (400, 18540), (406, 18573), (420, 18639), (428, 18684), (429, 18687), (439, 18714), (442, 18720), (455, 18774), (456, 18777), (479, 18864), (481, 18879), (484, 18891), (485, 18894), (497, 18960), (502, 18984), (505, 19005), (507, 19014), (516, 19056), (520, 19074), (521, 19077), (529, 19113), (532, 19131), (537, 19143), (539, 19152), (547, 19179), (564, 19248), (567, 19266), (571, 19275), (573, 19287), (579, 19323), (588, 19353), (595, 19374), (602, 19398), (607, 19434), (614, 19488), (629, 19548), (637, 19590), (666, 19725), (670, 19749), (676, 19803), (680, 19851), (688, 19893), (690, 19917), (691, 19920),

Gene: Emmaloid\_19 Start: 17189, Stop: 19726, Start Num: 53

Candidate Starts for Emmaloid\_19:

(Start: 53 @17189 has 241 MA's), (61, 17210), (Start: 71 @17231 has 1 MA's), (90, 17270), (129, 17339), (130, 17348), (131, 17351), (141, 17369), (158, 17417), (206, 17570), (209, 17579), (225, 17624), (250, 17723), (251, 17726), (262, 17792), (281, 17867), (283, 17873), (284, 17891), (293, 17915), (295, 17921), (296, 17924), (310, 17957), (312, 17963), (319, 17993), (330, 18014), (339, 18044), (342, 18053), (346, 18068), (348, 18071), (370, 18182), (371, 18185), (373, 18194), (374, 18200), (377, 18215), (379, 18218), (387, 18239), (397, 18269), (400, 18281), (406, 18314), (428, 18425), (429, 18428), (439, 18455), (442, 18461), (455, 18515), (456, 18518), (481, 18620), (484, 18632), (485, 18635), (497, 18701), (502, 18725), (505, 18746), (507, 18755), (520, 18815), (521, 18818), (529, 18854), (532, 18872), (537, 18884), (539, 18893), (547, 18920), (563, 18977), (564, 18989), (567, 19007), (571, 19016), (573, 19028), (579, 19064), (588, 19094), (593, 19103), (595, 19115), (607, 19175), (614, 19229), (629, 19289), (637, 19331), (666, 19466), (670, 19490), (676, 19544), (680, 19592), (688, 19634), (690, 19658), (691, 19661),

Gene: Emmina\_27 Start: 22115, Stop: 24511, Start Num: 94

Candidate Starts for Emmina\_27:

(Start: 94 @22115 has 128 MA's), (170, 22292), (174, 22313), (232, 22460), (271, 22634), (281, 22667), (287, 22703), (319, 22796), (342, 22856), (348, 22874), (375, 23006), (389, 23051), (420, 23183), (428, 23228), (450, 23288), (478, 23402), (481, 23423), (491, 23462), (494, 23483), (496, 23498), (527, 23648), (529, 23654), (532, 23672), (549, 23726), (567, 23810), (593, 23903), (648, 24149), (680, 24365), (691, 24449), (698, 24482),

Gene: Empress\_19 Start: 18749, Stop: 21286, Start Num: 53

Candidate Starts for Empress\_19:

(47, 18737), (Start: 53 @18749 has 241 MA's), (61, 18770), (Start: 71 @18791 has 1 MA's), (90, 18830), (129, 18899), (130, 18908), (131, 18911), (141, 18929), (158, 18977), (172, 19025), (208, 19136), (209, 19139), (225, 19184), (242, 19262), (251, 19286), (262, 19352), (272, 19397), (281, 19427), (283, 19433), (284, 19451), (293, 19475), (296, 19484), (310, 19517), (312, 19523), (319, 19553), (336, 19592), (339, 19604), (342, 19613), (346, 19628), (348, 19631), (370, 19742), (371, 19745), (373, 19754), (374, 19760), (377, 19775), (379, 19778), (387, 19799), (397, 19829), (400, 19841), (406, 19874), (428, 19985), (429, 19988), (439, 20015), (442, 20021), (455, 20075), (456, 20078), (481, 20180), (484, 20192), (485, 20195), (497, 20261), (502, 20285), (505, 20306), (507, 20315), (520, 20375), (521, 20378), (529, 20414), (532, 20432), (539, 20453), (547, 20480), (563, 20537), (564, 20549), (567, 20567), (571, 20576), (573, 20588), (579, 20624), (588, 20654), (593, 20663), (595, 20675), (607, 20735), (614, 20789), (629, 20849), (637, 20891), (666, 21026), (670, 21050), (676, 21104), (680, 21152), (685, 21173), (690, 21218), (691, 21221),

Gene: Enby\_19 Start: 17219, Stop: 19756, Start Num: 53

Candidate Starts for Enby\_19:

(47, 17207), (Start: 53 @17219 has 241 MA's), (61, 17240), (Start: 71 @17261 has 1 MA's), (90, 17300), (129, 17369), (130, 17378), (131, 17381), (141, 17399), (155, 17432), (158, 17447), (172, 17495), (206, 17600), (209, 17609), (224, 17651), (225, 17654), (242, 17732), (251, 17756), (262, 17822), (272, 17867), (281, 17897), (283, 17903), (284, 17921), (293, 17945), (296, 17954), (310, 17987), (312, 17993), (319, 18023), (336, 18062), (339, 18074), (342, 18083), (346, 18098), (348, 18101), (370, 18212), (373, 18224), (374, 18230), (377, 18245), (379, 18248), (387, 18269), (397, 18299), (400, 18311), (406, 18344), (420, 18410), (428, 18455), (429, 18458), (439, 18485), (442, 18491), (455, 18545), (456, 18548), (467, 18575), (481, 18650), (484, 18662), (485, 18665), (497, 18731), (502, 18755), (507, 18785), (516, 18827), (520, 18845), (521, 18848), (529, 18884), (532, 18902), (539, 18923), (547, 18950), (564, 19019), (567, 19037), (571, 19046), (573, 19058), (579, 19094), (588, 19124), (593, 19133), (595, 19145), (607, 19205), (614, 19259), (629, 19319), (637, 19361), (654, 19439), (666, 19496), (670, 19520), (676, 19574), (680, 19622), (688, 19664), (690, 19688), (691, 19691),

Gene: EniyanLRS\_40 Start: 28045, Stop: 30612, Start Num: 53

Candidate Starts for EniyanLRS\_40:

(Start: 53 @28045 has 241 MA's), (81, 28114), (136, 28237), (139, 28243), (141, 28246), (153, 28270), (157, 28291), (206, 28447), (207, 28453), (209, 28459), (218, 28489), (219, 28495), (225, 28516), (227, 28525), (239, 28585), (258, 28663), (283, 28762), (288, 28795), (295, 28810), (296, 28813), (312, 28852), (330, 28903), (336, 28921), (342, 28942), (343, 28948), (356, 29002), (370, 29071), (376, 29095), (382, 29116), (389, 29137), (393, 29146), (400, 29167), (406, 29200), (407, 29203), (416, 29254), (420, 29266), (436, 29332), (443, 29350), (451, 29389), (481, 29506), (492, 29551), (501, 29608), (505, 29632), (507, 29641), (510, 29659), (520, 29704), (527, 29737), (534, 29773), (578, 29947), (579, 29965), (581, 29971), (599, 30028), (665, 30352), (667, 30370), (674, 30421), (681, 30484), (690, 30559),

Gene: Enzomatic\_20 Start: 17446, Stop: 19983, Start Num: 53

Candidate Starts for Enzomatic\_20:

(Start: 53 @17446 has 241 MA's), (61, 17467), (Start: 71 @17488 has 1 MA's), (88, 17524), (90, 17527), (129, 17596), (130, 17605), (131, 17608), (141, 17626), (155, 17659), (158, 17674), (172, 17722), (206, 17827), (208, 17833), (209, 17836), (224, 17878), (225, 17881), (251, 17983), (262, 18049), (272, 18094), (281, 18124), (283, 18130), (284, 18148), (293, 18172), (296, 18181), (310, 18214), (312, 18220), (330, 18271), (336, 18289), (339, 18301), (342, 18310), (346, 18325), (349, 18331), (370, 18439), (373, 18451), (374, 18457), (377, 18472), (379, 18475), (387, 18496), (397, 18526), (400, 18538), (406, 18571), (420, 18637), (428, 18682), (429, 18685), (439, 18712), (442, 18718), (455, 18772), (456, 18775), (479, 18862), (481, 18877), (484, 18889), (485, 18892), (497, 18958), (505, 19003), (507, 19012), (520, 19072), (521, 19075), (529, 19111), (532, 19129), (537, 19141), (539, 19150), (547, 19177), (564, 19246), (567, 19264), (571, 19273), (573, 19285), (579, 19321), (588, 19351), (595, 19372), (602, 19396), (607, 19432), (614, 19486), (629, 19546), (637, 19588), (654, 19666), (666, 19723), (670, 19747), (676, 19801), (680, 19849), (688, 19891), (690, 19915), (691, 19918),

Gene: Eradicator\_18 Start: 17363, Stop: 19915, Start Num: 53

Candidate Starts for Eradicator\_18:

(Start: 53 @17363 has 241 MA's), (61, 17384), (96, 17453), (129, 17513), (130, 17522), (131, 17525), (155, 17576), (158, 17591), (172, 17639), (208, 17750), (209, 17753), (222, 17786), (224, 17795), (225, 17798), (242, 17876), (257, 17942), (263, 17975), (277, 18029), (281, 18041), (293, 18089), (296, 18098), (300, 18107), (313, 18140), (330, 18182), (335, 18197), (343, 18227), (345, 18233), (346, 18236), (348, 18239), (354, 18266), (358, 18287), (365, 18320), (373, 18362), (374, 18368), (375, 18371), (377, 18383), (379, 18386), (388, 18413), (397, 18437), (400, 18449), (406, 18482), (411, 18503), (425, 18575), (429, 18596), (461, 18707), (469, 18731), (470, 18734), (475, 18758), (481, 18788), (488, 18812), (494, 18848), (495, 18854), (496, 18863), (511, 18953), (516, 18977), (517, 18992), (527, 19034), (529, 19040), (541, 19085), (565, 19181), (567, 19196), (571, 19205), (576, 19229), (593, 19292), (614, 19418), (663, 19634), (670, 19679), (680, 19781), (694, 19859),

Gene: Estave1\_18 Start: 17517, Stop: 20006, Start Num: 53

Candidate Starts for Estave1\_18:

(Start: 53 @17517 has 241 MA's), (61, 17538), (Start: 71 @17559 has 1 MA's), (90, 17598), (129, 17667), (130, 17676), (131, 17679), (141, 17697), (155, 17730), (158, 17745), (172, 17793), (197, 17847), (209, 17883), (212, 17892), (223, 17910), (225, 17922), (228, 17934), (234, 17958), (235, 17961), (269, 18105), (272, 18114), (281, 18138), (284, 18162), (293, 18186), (295, 18192), (303, 18213), (312, 18234), (319, 18264), (333, 18294), (339, 18315), (362, 18408), (365, 18423), (366, 18432), (370, 18453), (371, 18456), (397, 18540), (398, 18543), (400, 18552), (405, 18579), (407, 18588), (414, 18627), (418, 18648), (420, 18651), (427, 18687), (433, 18708), (455, 18786), (456, 18789), (472, 18843), (484, 18903), (502, 18996), (505, 19017), (514, 19053), (525, 19107), (527, 19116), (546, 19194), (550, 19212), (559, 19248), (561, 19251), (564, 19269), (565, 19272), (567, 19287), (579, 19344), (584, 19356), (607, 19452), (619, 19539), (632, 19587), (635, 19611), (643, 19638), (648, 19647), (653, 19686), (662, 19725), (666, 19749), (669, 19770), (680, 19866), (685, 19887), (694, 19950), (698, 19977), (701, 19986),

Gene: Eureka\_26 Start: 22269, Stop: 24665, Start Num: 94

Candidate Starts for Eureka\_26:

(Start: 94 @22269 has 128 MA's), (170, 22446), (174, 22467), (232, 22614), (263, 22755), (271, 22788), (281, 22821), (287, 22857), (319, 22950), (342, 23010), (348, 23028), (365, 23109), (420, 23337), (428, 23382), (481, 23577), (482, 23583), (485, 23592), (494, 23637), (496, 23652), (529, 23808), (532, 23826), (535, 23835), (550, 23889), (567, 23964), (568, 23967), (613, 24177), (615, 24189), (648, 24303), (680, 24519), (691, 24603), (696, 24627), (698, 24636),

Gene: FairyPath\_26 Start: 22481, Stop: 24877, Start Num: 94

Candidate Starts for FairyPath\_26:

(Start: 94 @22481 has 128 MA's), (170, 22658), (174, 22679), (232, 22826), (263, 22967), (271, 23000), (281, 23033), (287, 23069), (319, 23162), (342, 23222), (348, 23240), (382, 23396), (389, 23417), (416, 23537), (420, 23549), (428, 23594), (481, 23789), (482, 23795), (485, 23804), (494, 23849), (496, 23864), (529, 24020), (532, 24038), (535, 24047), (550, 24101), (567, 24176), (568, 24179), (613, 24389), (615, 24401), (648, 24515), (680, 24731), (691, 24815), (696, 24839), (698, 24848),

Gene: Familton\_59 Start: 36102, Stop: 38612, Start Num: 60

Candidate Starts for Familton\_59:

(Start: 60 @36102 has 33 MA's), (74, 36135), (108, 36204), (109, 36207), (122, 36231), (131, 36255), (145, 36279), (155, 36312), (214, 36519), (217, 36531), (218, 36534), (254, 36681), (257, 36711), (262, 36735), (272, 36765), (273, 36768), (281, 36795), (284, 36819), (295, 36849), (315, 36906), (320, 36930), (336, 36966), (339, 36978), (346, 37002), (348, 37005), (356, 37047), (377, 37143), (379, 37146), (447, 37401), (481, 37545), (494, 37605), (504, 37677), (505, 37680), (526, 37776), (567, 37950), (573, 37971), (598, 38064), (601, 38076), (614, 38166), (633, 38241), (653, 38286), (684, 38487), (689, 38541), (694, 38556),

Gene: Fancypants\_18 Start: 17408, Stop: 19945, Start Num: 53

Candidate Starts for Fancypants\_18:

(47, 17396), (Start: 53 @17408 has 241 MA's), (61, 17429), (Start: 71 @17450 has 1 MA's), (90, 17489), (129, 17558), (130, 17567), (131, 17570), (141, 17588), (155, 17621), (158, 17636), (172, 17684), (208, 17795), (209, 17798), (221, 17828), (224, 17840), (225, 17843), (242, 17921), (251, 17945), (262, 18011), (272, 18056), (281, 18086), (283, 18092), (284, 18110), (293, 18134), (296, 18143), (310, 18176), (312, 18182), (319, 18212), (336, 18251), (339, 18263), (342, 18272), (346, 18287), (348, 18290), (370, 18401), (371, 18404), (373, 18413), (374, 18419), (377, 18434), (379, 18437), (387, 18458), (397, 18488), (400, 18500), (406, 18533), (428, 18644), (429, 18647), (439, 18674), (442, 18680), (455, 18734), (456, 18737), (481, 18839), (484, 18851), (485, 18854), (497, 18920), (502, 18944), (505, 18965), (507, 18974), (520, 19034), (521, 19037), (522, 19049), (529, 19073), (532, 19091), (537, 19103), (539, 19112), (547, 19139), (564, 19208), (567, 19226), (571, 19235), (573, 19247), (579, 19283), (588, 19313), (595, 19334), (602, 19358), (607, 19394), (614, 19448), (629, 19508), (637, 19550), (654, 19628), (666, 19685), (670, 19709), (676, 19763), (680, 19811), (688, 19853), (690, 19877), (691, 19880),

Gene: Fastidio\_18 Start: 17365, Stop: 19902, Start Num: 53

Candidate Starts for Fastidio\_18:

(47, 17353), (Start: 53 @17365 has 241 MA's), (61, 17386), (Start: 71 @17407 has 1 MA's), (90, 17446), (129, 17515), (130, 17524), (131, 17527), (141, 17545), (155, 17578), (158, 17593), (172, 17641), (208, 17752), (209, 17755), (221, 17785), (224, 17797), (225, 17800), (242, 17878), (251, 17902), (262, 17968), (272, 18013), (281, 18043), (283, 18049), (284, 18067), (293, 18091), (296, 18100), (310, 18133), (312, 18139), (319, 18169), (336, 18208), (339, 18220), (342, 18229), (346, 18244), (348, 18247), (370, 18358), (371, 18361), (373, 18370), (374, 18376), (377, 18391), (379, 18394), (387, 18415), (397, 18445), (400, 18457), (406, 18490), (428, 18601), (429, 18604), (439, 18631), (442, 18637), (455, 18691), (456, 18694), (479, 18781), (481, 18796), (484, 18808), (485, 18811), (497, 18877), (501, 18898), (502, 18901), (505, 18922), (516, 18973), (520, 18991), (521, 18994), (529, 19030), (532, 19048), (537, 19060), (539, 19069), (563, 19153), (564, 19165), (567, 19183), (571, 19192), (573, 19204), (579, 19240), (588, 19270), (602, 19315), (607, 19351), (614, 19405), (637, 19507), (654, 19585), (666, 19642), (670, 19666), (676, 19720), (680, 19768), (688, 19810), (690, 19834), (691, 19837),

Gene: Filch\_27 Start: 22042, Stop: 24438, Start Num: 94

Candidate Starts for Filch\_27:

(Start: 94 @22042 has 128 MA's), (170, 22219), (174, 22240), (232, 22387), (263, 22528), (271, 22561), (281, 22594), (287, 22630), (319, 22723), (342, 22783), (348, 22801), (375, 22933), (389,

22978), (420, 23110), (428, 23155), (450, 23215), (478, 23329), (481, 23350), (491, 23389), (494, 23410), (496, 23425), (527, 23575), (529, 23581), (532, 23599), (549, 23653), (567, 23737), (593, 23830), (648, 24076), (680, 24292), (691, 24376), (698, 24409),

Gene: Filuzino\_18 Start: 17390, Stop: 19927, Start Num: 53

Candidate Starts for Filuzino\_18:

(47, 17378), (Start: 53 @17390 has 241 MA's), (61, 17411), (Start: 71 @17432 has 1 MA's), (90, 17471), (129, 17540), (130, 17549), (131, 17552), (141, 17570), (155, 17603), (158, 17618), (172, 17666), (208, 17777), (209, 17780), (221, 17810), (225, 17825), (242, 17903), (251, 17927), (262, 17993), (272, 18038), (281, 18068), (283, 18074), (284, 18092), (293, 18116), (296, 18125), (310, 18158), (312, 18164), (319, 18194), (336, 18233), (339, 18245), (342, 18254), (346, 18269), (348, 18272), (370, 18383), (371, 18386), (373, 18395), (374, 18401), (377, 18416), (379, 18419), (387, 18440), (397, 18470), (400, 18482), (406, 18515), (428, 18626), (429, 18629), (439, 18656), (442, 18662), (455, 18716), (456, 18719), (481, 18821), (484, 18833), (485, 18836), (497, 18902), (502, 18926), (505, 18947), (507, 18956), (520, 19016), (521, 19019), (529, 19055), (532, 19073), (537, 19085), (539, 19094), (547, 19121), (564, 19190), (567, 19208), (571, 19217), (573, 19229), (579, 19265), (588, 19295), (595, 19316), (602, 19340), (607, 19376), (614, 19430), (629, 19490), (637, 19532), (654, 19610), (666, 19667), (670, 19691), (676, 19745), (680, 19793), (688, 19835), (690, 19859), (691, 19862),

Gene: FireRed\_26 Start: 22312, Stop: 24708, Start Num: 94

Candidate Starts for FireRed\_26:

(Start: 94 @22312 has 128 MA's), (170, 22489), (174, 22510), (232, 22657), (263, 22798), (271, 22831), (281, 22864), (287, 22900), (319, 22993), (342, 23053), (348, 23071), (375, 23203), (389, 23248), (420, 23380), (428, 23425), (450, 23485), (478, 23599), (481, 23620), (491, 23659), (494, 23680), (496, 23695), (527, 23845), (529, 23851), (532, 23869), (549, 23923), (567, 24007), (593, 24100), (648, 24346), (680, 24562), (691, 24646), (698, 24679),

Gene: Firecracker\_59 Start: 36292, Stop: 38802, Start Num: 60

Candidate Starts for Firecracker\_59:

(Start: 60 @36292 has 33 MA's), (74, 36325), (108, 36394), (109, 36397), (122, 36421), (131, 36445), (145, 36469), (155, 36502), (214, 36709), (217, 36721), (218, 36724), (254, 36871), (257, 36901), (262, 36925), (272, 36955), (273, 36958), (281, 36985), (284, 37009), (295, 37039), (315, 37096), (336, 37156), (339, 37168), (346, 37192), (348, 37195), (356, 37237), (377, 37333), (379, 37336), (428, 37540), (447, 37591), (481, 37735), (494, 37795), (504, 37867), (505, 37870), (526, 37966), (567, 38140), (573, 38161), (598, 38254), (601, 38266), (614, 38356), (633, 38431), (653, 38476), (684, 38677), (689, 38731), (694, 38746),

Gene: Firehouse51\_19 Start: 17957, Stop: 20494, Start Num: 53

Candidate Starts for Firehouse51\_19:

(47, 17945), (Start: 53 @17957 has 241 MA's), (61, 17978), (Start: 71 @17999 has 1 MA's), (90, 18038), (129, 18107), (130, 18116), (131, 18119), (141, 18137), (155, 18170), (158, 18185), (172, 18233), (208, 18344), (209, 18347), (221, 18377), (224, 18389), (225, 18392), (242, 18470), (251, 18494), (262, 18560), (272, 18605), (281, 18635), (283, 18641), (284, 18659), (293, 18683), (296, 18692), (310, 18725), (312, 18731), (319, 18761), (336, 18800), (339, 18812), (342, 18821), (346, 18836), (348, 18839), (370, 18950), (371, 18953), (373, 18962), (374, 18968), (377, 18983), (379, 18986), (387, 19007), (397, 19037), (400, 19049), (406, 19082), (428, 19193), (429, 19196), (439, 19223), (442, 19229), (455, 19283), (456, 19286), (481, 19388), (484, 19400), (485, 19403), (497, 19469), (502, 19493), (505, 19514), (507, 19523), (520, 19583), (521, 19586), (529, 19622), (532, 19640), (537, 19652), (539, 19661), (547, 19688), (564, 19757), (567, 19775), (571, 19784), (573, 19796), (579, 19832), (588, 19862), (595, 19883), (602, 19907), (607, 19943), (614, 19997), (629, 20057), (637, 20099), (654, 20177), (666, 20234), (670, 20258), (676, 20312), (680, 20360), (688, 20402), (690, 20426), (691, 20429),

Gene: FlagStaff\_22 Start: 20643, Stop: 23102, Start Num: 33

Candidate Starts for FlagStaff\_22:

(Start: 33 @20643 has 9 MA's), (46, 20703), (65, 20751), (162, 20946), (251, 21234), (271, 21336), (280, 21360), (341, 21504), (345, 21519), (365, 21600), (380, 21675), (400, 21732), (404, 21756), (412, 21792), (455, 21978), (460, 21999), (472, 22047), (474, 22062), (489, 22128), (496, 22170), (516, 22263), (518, 22281), (532, 22347), (552, 22428), (574, 22494), (607, 22647), (621, 22737), (634, 22806), (645, 22842), (665, 22935), (677, 23040), (679, 23076),

Gene: Flathead\_19 Start: 17265, Stop: 19802, Start Num: 53

Candidate Starts for Flathead\_19:

(47, 17253), (Start: 53 @17265 has 241 MA's), (61, 17286), (Start: 71 @17307 has 1 MA's), (90, 17346), (129, 17415), (130, 17424), (131, 17427), (141, 17445), (155, 17478), (158, 17493), (172, 17541), (208, 17652), (209, 17655), (221, 17685), (224, 17697), (225, 17700), (242, 17778), (251, 17802), (262, 17868), (272, 17913), (281, 17943), (283, 17949), (284, 17967), (293, 17991), (296, 18000), (310, 18033), (312, 18039), (319, 18069), (336, 18108), (339, 18120), (342, 18129), (346, 18144), (348, 18147), (370, 18258), (371, 18261), (373, 18270), (374, 18276), (377, 18291), (379, 18294), (387, 18315), (397, 18345), (400, 18357), (406, 18390), (420, 18456), (428, 18501), (429, 18504), (439, 18531), (442, 18537), (455, 18591), (456, 18594), (479, 18681), (481, 18696), (484, 18708), (485, 18711), (497, 18777), (502, 18801), (505, 18822), (507, 18831), (520, 18891), (521, 18894), (529, 18930), (532, 18948), (537, 18960), (539, 18969), (547, 18996), (564, 19065), (567, 19083), (571, 19092), (573, 19104), (579, 19140), (588, 19170), (595, 19191), (602, 19215), (607, 19251), (614, 19305), (629, 19365), (637, 19407), (666, 19542), (670, 19566), (676, 19620), (680, 19668), (688, 19710), (690, 19734), (691, 19737),

Gene: Florinda\_18 Start: 17419, Stop: 19956, Start Num: 53

Candidate Starts for Florinda\_18:

(Start: 53 @17419 has 241 MA's), (61, 17440), (Start: 71 @17461 has 1 MA's), (90, 17500), (129, 17569), (130, 17578), (131, 17581), (141, 17599), (155, 17632), (158, 17647), (172, 17695), (208, 17806), (209, 17809), (221, 17839), (225, 17854), (242, 17932), (251, 17956), (262, 18022), (272, 18067), (281, 18097), (283, 18103), (284, 18121), (293, 18145), (296, 18154), (310, 18187), (312, 18193), (319, 18223), (336, 18262), (342, 18283), (346, 18298), (348, 18301), (371, 18415), (373, 18424), (374, 18430), (379, 18448), (387, 18469), (397, 18499), (400, 18511), (406, 18544), (428, 18655), (429, 18658), (439, 18685), (442, 18691), (455, 18745), (456, 18748), (479, 18835), (481, 18850), (485, 18865), (502, 18955), (505, 18976), (507, 18985), (520, 19045), (521, 19048), (527, 19078), (532, 19102), (539, 19123), (564, 19219), (567, 19237), (571, 19246), (573, 19258), (579, 19294), (588, 19324), (595, 19345), (602, 19369), (607, 19405), (614, 19459), (629, 19519), (637, 19561), (654, 19639), (666, 19696), (670, 19720), (676, 19774), (680, 19822), (688, 19864), (690, 19888), (691, 19891),

Gene: Flypotenuse\_24 Start: 21900, Stop: 24296, Start Num: 94

Candidate Starts for Flypotenuse\_24:

(Start: 94 @21900 has 128 MA's), (170, 22077), (174, 22098), (232, 22245), (263, 22386), (271, 22419), (281, 22452), (287, 22488), (319, 22581), (342, 22641), (348, 22659), (375, 22791), (420, 22968), (428, 23013), (478, 23187), (481, 23208), (491, 23247), (494, 23268), (496, 23283), (529, 23439), (532, 23457), (549, 23511), (567, 23595), (640, 23919), (680, 24150), (691, 24234), (698, 24267),

Gene: FoghornLeghorn\_25 Start: 21788, Stop: 24184, Start Num: 94

Candidate Starts for FoghornLeghorn\_25:

(Start: 94 @21788 has 128 MA's), (170, 21965), (174, 21986), (232, 22133), (263, 22274), (271, 22307), (281, 22340), (287, 22376), (319, 22469), (342, 22529), (348, 22547), (375, 22679), (389, 22724), (420, 22856), (428, 22901), (478, 23075), (481, 23096), (491, 23135), (494, 23156), (496,

23171), (529, 23327), (532, 23345), (549, 23399), (567, 23483), (593, 23576), (648, 23822), (680, 24038), (691, 24122), (698, 24155),

Gene: ForDig\_26 Start: 27555, Stop: 30056, Start Num: 39

Candidate Starts for ForDig\_26:

(Start: 39 @27555 has 6 MA's), (45, 27576), (51, 27612), (76, 27669), (132, 27789), (143, 27807), (166, 27879), (168, 27885), (183, 27939), (200, 27975), (251, 28158), (258, 28203), (264, 28242), (282, 28296), (309, 28344), (327, 28401), (340, 28437), (345, 28455), (358, 28503), (375, 28587), (386, 28623), (397, 28653), (404, 28689), (409, 28707), (455, 28914), (457, 28926), (460, 28935), (474, 29004), (476, 29010), (477, 29013), (479, 29022), (486, 29055), (494, 29097), (496, 29112), (512, 29193), (516, 29205), (518, 29223), (520, 29229), (522, 29244), (524, 29250), (544, 29331), (574, 29436), (591, 29508), (616, 29667), (677, 29988),

Gene: FoulBall\_58 Start: 36096, Stop: 38606, Start Num: 60

Candidate Starts for FoulBall\_58:

(Start: 60 @36096 has 33 MA's), (74, 36129), (108, 36198), (109, 36201), (122, 36225), (131, 36249), (145, 36273), (155, 36306), (214, 36513), (217, 36525), (218, 36528), (254, 36675), (257, 36705), (262, 36729), (272, 36759), (273, 36762), (281, 36789), (284, 36813), (295, 36843), (315, 36900), (320, 36924), (336, 36960), (339, 36972), (346, 36996), (348, 36999), (356, 37041), (377, 37137), (379, 37140), (447, 37395), (481, 37539), (494, 37599), (504, 37671), (505, 37674), (526, 37770), (567, 37944), (573, 37965), (598, 38058), (601, 38070), (614, 38160), (633, 38235), (653, 38280), (684, 38481), (689, 38535), (694, 38550),

Gene: Frankie\_19 Start: 17503, Stop: 20040, Start Num: 53

Candidate Starts for Frankie\_19:

(Start: 53 @17503 has 241 MA's), (61, 17524), (Start: 71 @17545 has 1 MA's), (90, 17584), (129, 17653), (130, 17662), (131, 17665), (141, 17683), (155, 17716), (158, 17731), (172, 17779), (208, 17890), (209, 17893), (221, 17923), (225, 17938), (242, 18016), (251, 18040), (262, 18106), (272, 18151), (281, 18181), (283, 18187), (284, 18205), (293, 18229), (296, 18238), (310, 18271), (312, 18277), (319, 18307), (336, 18346), (342, 18367), (346, 18382), (349, 18388), (379, 18532), (387, 18553), (397, 18583), (400, 18595), (406, 18628), (418, 18691), (420, 18694), (439, 18769), (442, 18775), (455, 18829), (456, 18832), (467, 18859), (468, 18868), (481, 18934), (484, 18946), (485, 18949), (497, 19015), (501, 19036), (502, 19039), (505, 19060), (516, 19111), (520, 19129), (521, 19132), (527, 19162), (532, 19186), (539, 19207), (549, 19240), (564, 19303), (567, 19321), (571, 19330), (573, 19342), (588, 19408), (593, 19417), (595, 19429), (629, 19603), (637, 19645), (654, 19723), (666, 19780), (670, 19804), (676, 19858), (680, 19906), (690, 19972), (691, 19975),

Gene: FreddyB\_18 Start: 17407, Stop: 19959, Start Num: 53

Candidate Starts for FreddyB\_18:

(Start: 53 @17407 has 241 MA's), (90, 17488), (129, 17557), (130, 17566), (131, 17569), (141, 17587), (158, 17635), (171, 17680), (208, 17794), (209, 17797), (213, 17809), (222, 17830), (224, 17839), (225, 17842), (235, 17890), (242, 17920), (257, 17986), (263, 18019), (272, 18055), (279, 18079), (295, 18139), (296, 18142), (303, 18160), (328, 18223), (330, 18226), (336, 18244), (342, 18265), (348, 18283), (354, 18310), (358, 18331), (365, 18364), (373, 18406), (374, 18412), (375, 18415), (379, 18430), (388, 18457), (397, 18481), (400, 18493), (406, 18526), (425, 18619), (455, 18727), (461, 18751), (469, 18775), (470, 18778), (475, 18802), (481, 18832), (488, 18856), (494, 18892), (495, 18898), (496, 18907), (501, 18934), (511, 18997), (516, 19021), (517, 19036), (527, 19078), (541, 19129), (565, 19225), (567, 19240), (571, 19249), (576, 19273), (593, 19336), (602, 19372), (663, 19678), (670, 19723), (680, 19825),

Gene: Fruitloop\_18 Start: 17429, Stop: 19966, Start Num: 53

Candidate Starts for Fruitloop\_18:

(47, 17417), (Start: 53 @17429 has 241 MA's), (61, 17450), (Start: 71 @17471 has 1 MA's), (90, 17510), (129, 17579), (130, 17588), (131, 17591), (141, 17609), (155, 17642), (158, 17657), (172, 17705), (208, 17816), (209, 17819), (221, 17849), (224, 17861), (225, 17864), (242, 17942), (251, 17966), (262, 18032), (272, 18077), (281, 18107), (283, 18113), (284, 18131), (293, 18155), (296, 18164), (310, 18197), (312, 18203), (319, 18233), (336, 18272), (339, 18284), (342, 18293), (346, 18308), (348, 18311), (370, 18422), (371, 18425), (373, 18434), (374, 18440), (377, 18455), (379, 18458), (387, 18479), (397, 18509), (400, 18521), (406, 18554), (428, 18665), (429, 18668), (439, 18695), (442, 18701), (455, 18755), (456, 18758), (479, 18845), (481, 18860), (484, 18872), (485, 18875), (497, 18941), (502, 18965), (505, 18986), (507, 18995), (520, 19055), (521, 19058), (529, 19094), (532, 19112), (537, 19124), (539, 19133), (547, 19160), (564, 19229), (567, 19247), (571, 19256), (573, 19268), (579, 19304), (588, 19334), (595, 19355), (602, 19379), (607, 19415), (614, 19469), (629, 19529), (637, 19571), (654, 19649), (666, 19706), (670, 19730), (676, 19784), (680, 19832), (688, 19874), (690, 19898), (691, 19901),

Gene: Funsized\_34 Start: 32646, Stop: 35123, Start Num: 39

Candidate Starts for Funsized\_34:

(Start: 39 @32646 has 6 MA's), (43, 32655), (65, 32742), (68, 32748), (84, 32778), (102, 32817), (105, 32820), (125, 32847), (127, 32850), (132, 32865), (143, 32883), (169, 32958), (190, 33021), (210, 33078), (221, 33105), (225, 33120), (226, 33123), (251, 33222), (280, 33354), (282, 33360), (290, 33384), (313, 33420), (323, 33459), (341, 33504), (345, 33519), (357, 33564), (365, 33600), (369, 33621), (392, 33708), (415, 33810), (437, 33909), (448, 33939), (455, 33975), (458, 33990), (460, 33996), (474, 34065), (476, 34071), (488, 34122), (516, 34263), (520, 34287), (528, 34323), (545, 34389), (555, 34434), (571, 34491), (574, 34506), (577, 34518), (599, 34611), (601, 34617), (602, 34620), (613, 34710), (615, 34722), (642, 34848), (665, 34953), (681, 35106),

Gene: GUmbie\_18 Start: 17402, Stop: 19939, Start Num: 53

Candidate Starts for GUmbie\_18:

(Start: 53 @17402 has 241 MA's), (61, 17423), (Start: 71 @17444 has 1 MA's), (90, 17483), (129, 17552), (130, 17561), (131, 17564), (141, 17582), (155, 17615), (158, 17630), (206, 17783), (209, 17792), (225, 17837), (250, 17936), (251, 17939), (262, 18005), (281, 18080), (283, 18086), (293, 18128), (295, 18134), (296, 18137), (310, 18170), (312, 18176), (319, 18206), (330, 18227), (339, 18257), (342, 18266), (346, 18281), (348, 18284), (370, 18395), (371, 18398), (373, 18407), (374, 18413), (377, 18428), (379, 18431), (387, 18452), (397, 18482), (400, 18494), (406, 18527), (428, 18638), (429, 18641), (439, 18668), (442, 18674), (455, 18728), (456, 18731), (479, 18818), (481, 18833), (484, 18845), (485, 18848), (497, 18914), (502, 18938), (505, 18959), (507, 18968), (516, 19010), (520, 19028), (521, 19031), (527, 19061), (532, 19085), (537, 19097), (539, 19106), (564, 19202), (567, 19220), (571, 19229), (573, 19241), (579, 19277), (588, 19307), (593, 19316), (595, 19328), (607, 19388), (614, 19442), (629, 19502), (637, 19544), (666, 19679), (670, 19703), (676, 19757), (680, 19805), (688, 19847), (690, 19871), (691, 19874),

Gene: Gage\_28 Start: 22274, Stop: 24670, Start Num: 94

Candidate Starts for Gage\_28:

(Start: 94 @22274 has 128 MA's), (170, 22451), (174, 22472), (232, 22619), (263, 22760), (271, 22793), (281, 22826), (287, 22862), (319, 22955), (342, 23015), (348, 23033), (375, 23165), (389, 23210), (420, 23342), (428, 23387), (450, 23447), (478, 23561), (481, 23582), (491, 23621), (494, 23642), (496, 23657), (527, 23807), (529, 23813), (532, 23831), (549, 23885), (567, 23969), (593, 24062), (648, 24308), (680, 24524), (691, 24608), (698, 24641),

Gene: Gaia\_21 Start: 19931, Stop: 22501, Start Num: 44

Candidate Starts for Gaia\_21:

(Start: 44 @19931 has 2 MA's), (70, 20021), (107, 20090), (113, 20099), (116, 20102), (142, 20156), (148, 20168), (166, 20216), (175, 20261), (204, 20333), (209, 20354), (216, 20375), (224, 20396), (225, 20399), (257, 20543), (263, 20576), (283, 20633), (296, 20684), (303, 20702), (339, 20798),

(342, 20807), (343, 20813), (346, 20822), (348, 20825), (354, 20852), (358, 20873), (365, 20906), (366, 20915), (370, 20936), (373, 20948), (377, 20969), (397, 21023), (400, 21035), (406, 21068), (421, 21143), (427, 21170), (461, 21293), (470, 21320), (475, 21344), (481, 21374), (488, 21398), (495, 21440), (496, 21449), (517, 21578), (523, 21605), (537, 21656), (565, 21767), (567, 21782), (631, 22073), (666, 22241), (670, 22265), (688, 22409), (691, 22436), (693, 22442), (694, 22445),

Gene: Galactic\_18 Start: 17394, Stop: 19931, Start Num: 53

Candidate Starts for Galactic\_18:

(47, 17382), (Start: 53 @17394 has 241 MA's), (61, 17415), (Start: 71 @17436 has 1 MA's), (90, 17475), (129, 17544), (130, 17553), (131, 17556), (141, 17574), (155, 17607), (158, 17622), (172, 17670), (208, 17781), (209, 17784), (221, 17814), (225, 17829), (242, 17907), (251, 17931), (262, 17997), (272, 18042), (281, 18072), (283, 18078), (284, 18096), (293, 18120), (296, 18129), (310, 18162), (312, 18168), (319, 18198), (336, 18237), (339, 18249), (342, 18258), (346, 18273), (348, 18276), (370, 18387), (371, 18390), (373, 18399), (374, 18405), (377, 18420), (379, 18423), (387, 18444), (397, 18474), (400, 18486), (406, 18519), (428, 18630), (429, 18633), (439, 18660), (442, 18666), (455, 18720), (456, 18723), (481, 18825), (484, 18837), (485, 18840), (497, 18906), (502, 18930), (505, 18951), (507, 18960), (520, 19020), (521, 19023), (529, 19059), (532, 19077), (537, 19089), (539, 19098), (547, 19125), (564, 19194), (567, 19212), (571, 19221), (573, 19233), (579, 19269), (588, 19299), (595, 19320), (602, 19344), (607, 19380), (614, 19434), (629, 19494), (637, 19536), (654, 19614), (666, 19671), (670, 19695), (676, 19749), (680, 19797), (688, 19839), (690, 19863), (691, 19866),

Gene: Gandolph\_18 Start: 17413, Stop: 19965, Start Num: 53

Candidate Starts for Gandolph\_18:

(Start: 53 @17413 has 241 MA's), (90, 17494), (129, 17563), (130, 17572), (131, 17575), (141, 17593), (158, 17641), (171, 17686), (208, 17800), (209, 17803), (213, 17815), (222, 17836), (224, 17845), (225, 17848), (235, 17896), (242, 17926), (257, 17992), (263, 18025), (272, 18061), (279, 18085), (295, 18145), (296, 18148), (303, 18166), (328, 18229), (330, 18232), (336, 18250), (342, 18271), (348, 18289), (354, 18316), (358, 18337), (365, 18370), (373, 18412), (374, 18418), (375, 18421), (379, 18436), (388, 18463), (389, 18466), (397, 18487), (400, 18499), (406, 18532), (425, 18625), (455, 18733), (461, 18757), (467, 18763), (469, 18781), (470, 18784), (475, 18808), (481, 18838), (488, 18862), (494, 18898), (495, 18904), (496, 18913), (501, 18940), (511, 19003), (516, 19027), (517, 19042), (527, 19084), (541, 19135), (565, 19231), (567, 19246), (571, 19255), (576, 19279), (593, 19342), (602, 19378), (663, 19684), (670, 19729), (680, 19831),

Gene: Ganymede\_28 Start: 20892, Stop: 23324, Start Num: 80

Candidate Starts for Ganymede\_28:

(Start: 80 @20892 has 96 MA's), (126, 20991), (218, 21252), (225, 21273), (270, 21480), (280, 21513), (285, 21543), (314, 21615), (319, 21639), (337, 21684), (370, 21837), (378, 21882), (381, 21894), (385, 21903), (400, 21954), (437, 22134), (443, 22149), (459, 22218), (463, 22230), (476, 22293), (485, 22335), (494, 22374), (495, 22380), (496, 22389), (500, 22410), (513, 22470), (539, 22587), (550, 22629), (570, 22701), (572, 22710), (577, 22731), (594, 22803), (599, 22824), (614, 22920), (628, 22983), (648, 23067), (654, 23109), (664, 23148),

Gene: Gator\_24 Start: 21899, Stop: 24295, Start Num: 94

Candidate Starts for Gator\_24:

(Start: 94 @21899 has 128 MA's), (170, 22076), (174, 22097), (232, 22244), (263, 22385), (271, 22418), (281, 22451), (287, 22487), (319, 22580), (342, 22640), (348, 22658), (365, 22739), (420, 22967), (428, 23012), (481, 23207), (482, 23213), (485, 23222), (494, 23267), (496, 23282), (529, 23438), (532, 23456), (535, 23465), (550, 23519), (567, 23594), (568, 23597), (613, 23807), (615, 23819), (648, 23933), (680, 24149), (691, 24233), (696, 24257), (698, 24266),

Gene: Gemini\_29 Start: 22791, Stop: 25187, Start Num: 94

Candidate Starts for Gemini\_29:

(Start: 94 @22791 has 128 MA's), (170, 22968), (174, 22989), (232, 23136), (263, 23277), (271, 23310), (281, 23343), (287, 23379), (319, 23472), (342, 23532), (348, 23550), (375, 23682), (389, 23727), (420, 23859), (428, 23904), (450, 23964), (478, 24078), (481, 24099), (491, 24138), (494, 24159), (496, 24174), (527, 24324), (529, 24330), (532, 24348), (549, 24402), (567, 24486), (593, 24579), (648, 24825), (680, 25041), (691, 25125), (698, 25158),

Gene: Geraldini\_27 Start: 20888, Stop: 23320, Start Num: 80

Candidate Starts for Geraldini\_27:

(Start: 80 @20888 has 96 MA's), (126, 20987), (174, 21128), (218, 21248), (225, 21269), (270, 21476), (280, 21509), (285, 21539), (314, 21611), (319, 21635), (370, 21833), (378, 21878), (381, 21890), (385, 21899), (400, 21950), (437, 22130), (443, 22145), (459, 22214), (463, 22226), (476, 22289), (485, 22331), (494, 22370), (495, 22376), (496, 22385), (500, 22406), (513, 22466), (539, 22583), (550, 22625), (570, 22697), (572, 22706), (577, 22727), (594, 22799), (599, 22820), (614, 22916), (628, 22979), (648, 23063), (654, 23105), (664, 23144),

Gene: Geralt\_18 Start: 17396, Stop: 19933, Start Num: 53

Candidate Starts for Geralt\_18:

(Start: 53 @17396 has 241 MA's), (61, 17417), (Start: 71 @17438 has 1 MA's), (90, 17477), (129, 17546), (130, 17555), (131, 17558), (141, 17576), (158, 17624), (172, 17672), (208, 17783), (209, 17786), (225, 17831), (242, 17909), (251, 17933), (262, 17999), (281, 18074), (283, 18080), (284, 18098), (293, 18122), (296, 18131), (310, 18164), (312, 18170), (319, 18200), (330, 18221), (339, 18251), (342, 18260), (366, 18368), (369, 18380), (370, 18389), (371, 18392), (374, 18407), (377, 18422), (379, 18425), (387, 18446), (400, 18488), (406, 18521), (428, 18632), (429, 18635), (439, 18662), (442, 18668), (455, 18722), (456, 18725), (467, 18752), (481, 18827), (484, 18839), (485, 18842), (497, 18908), (501, 18929), (502, 18932), (505, 18953), (507, 18962), (516, 19004), (520, 19022), (521, 19025), (527, 19055), (532, 19079), (537, 19091), (539, 19100), (564, 19196), (567, 19214), (571, 19223), (573, 19235), (579, 19271), (588, 19301), (593, 19310), (595, 19322), (607, 19382), (614, 19436), (629, 19496), (637, 19538), (666, 19673), (670, 19697), (676, 19751), (680, 19799), (688, 19841), (690, 19865), (691, 19868),

Gene: GigiOuiOui\_18 Start: 17527, Stop: 20064, Start Num: 53

Candidate Starts for GigiOuiOui\_18:

(Start: 53 @17527 has 241 MA's), (61, 17548), (Start: 71 @17569 has 1 MA's), (90, 17608), (129, 17677), (130, 17686), (131, 17689), (141, 17707), (158, 17755), (206, 17908), (209, 17917), (225, 17962), (250, 18061), (251, 18064), (262, 18130), (281, 18205), (283, 18211), (284, 18229), (293, 18253), (295, 18259), (296, 18262), (310, 18295), (312, 18301), (319, 18331), (330, 18352), (339, 18382), (342, 18391), (346, 18406), (348, 18409), (370, 18520), (371, 18523), (373, 18532), (374, 18538), (377, 18553), (379, 18556), (387, 18577), (397, 18607), (400, 18619), (406, 18652), (428, 18763), (429, 18766), (439, 18793), (442, 18799), (455, 18853), (456, 18856), (481, 18958), (484, 18970), (485, 18973), (497, 19039), (502, 19063), (505, 19084), (507, 19093), (520, 19153), (521, 19156), (529, 19192), (532, 19210), (537, 19222), (539, 19231), (547, 19258), (563, 19315), (564, 19327), (567, 19345), (571, 19354), (573, 19366), (579, 19402), (588, 19432), (593, 19441), (595, 19453), (607, 19513), (614, 19567), (629, 19627), (637, 19669), (666, 19804), (670, 19828), (676, 19882), (680, 19930), (688, 19972), (690, 19996), (691, 19999),

Gene: Girafales\_19 Start: 17227, Stop: 19764, Start Num: 53

Candidate Starts for Girafales\_19:

(Start: 53 @17227 has 241 MA's), (61, 17248), (Start: 71 @17269 has 1 MA's), (90, 17308), (129, 17377), (130, 17386), (131, 17389), (141, 17407), (155, 17440), (158, 17455), (172, 17503), (208, 17614), (209, 17617), (221, 17647), (225, 17662), (242, 17740), (251, 17764), (262, 17830), (272, 17875), (281, 17905), (283, 17911), (284, 17929), (293, 17953), (296, 17962), (310, 17995), (312, 18001), (319, 18031), (336, 18070), (342, 18091), (346, 18106), (348, 18109), (371, 18223), (373,

18232), (374, 18238), (379, 18256), (387, 18277), (397, 18307), (400, 18319), (406, 18352), (428, 18463), (429, 18466), (439, 18493), (442, 18499), (455, 18553), (456, 18556), (479, 18643), (481, 18658), (485, 18673), (502, 18763), (505, 18784), (507, 18793), (520, 18853), (521, 18856), (527, 18886), (532, 18910), (539, 18931), (564, 19027), (567, 19045), (571, 19054), (573, 19066), (579, 19102), (588, 19132), (595, 19153), (602, 19177), (607, 19213), (614, 19267), (629, 19327), (637, 19369), (654, 19447), (666, 19504), (670, 19528), (676, 19582), (680, 19630), (688, 19672), (690, 19696), (691, 19699),

Gene: Girr\_18 Start: 17371, Stop: 19908, Start Num: 53

Candidate Starts for Girr\_18:

(Start: 53 @17371 has 241 MA's), (61, 17392), (Start: 71 @17413 has 1 MA's), (90, 17452), (129, 17521), (130, 17530), (131, 17533), (141, 17551), (155, 17584), (158, 17599), (206, 17752), (209, 17761), (225, 17806), (250, 17905), (251, 17908), (262, 17974), (281, 18049), (283, 18055), (293, 18097), (295, 18103), (296, 18106), (310, 18139), (312, 18145), (319, 18175), (330, 18196), (339, 18226), (342, 18235), (346, 18250), (348, 18253), (370, 18364), (371, 18367), (373, 18376), (374, 18382), (377, 18397), (379, 18400), (387, 18421), (397, 18451), (400, 18463), (406, 18496), (428, 18607), (429, 18610), (439, 18637), (442, 18643), (455, 18697), (456, 18700), (479, 18787), (481, 18802), (484, 18814), (485, 18817), (497, 18883), (502, 18907), (505, 18928), (507, 18937), (516, 18979), (520, 18997), (521, 19000), (527, 19030), (532, 19054), (537, 19066), (539, 19075), (564, 19171), (567, 19189), (571, 19198), (573, 19210), (579, 19246), (588, 19276), (593, 19285), (595, 19297), (607, 19357), (614, 19411), (629, 19471), (637, 19513), (666, 19648), (670, 19672), (676, 19726), (680, 19774), (688, 19816), (690, 19840), (691, 19843),

Gene: Glexan\_24 Start: 21900, Stop: 24296, Start Num: 94

Candidate Starts for Glexan\_24:

(Start: 94 @21900 has 128 MA's), (170, 22077), (174, 22098), (232, 22245), (263, 22386), (271, 22419), (281, 22452), (287, 22488), (319, 22581), (342, 22641), (348, 22659), (375, 22791), (420, 22968), (428, 23013), (478, 23187), (481, 23208), (491, 23247), (494, 23268), (496, 23283), (529, 23439), (532, 23457), (549, 23511), (567, 23595), (640, 23919), (680, 24150), (691, 24234), (698, 24267),

Gene: GodSpeed\_23 Start: 20676, Stop: 23147, Start Num: 33

Candidate Starts for GodSpeed\_23:

(Start: 33 @20676 has 9 MA's), (65, 20784), (132, 20904), (162, 20982), (251, 21270), (258, 21315), (261, 21330), (280, 21396), (310, 21453), (341, 21543), (345, 21558), (365, 21639), (380, 21714), (400, 21771), (404, 21795), (412, 21831), (460, 22038), (472, 22092), (476, 22113), (496, 22215), (516, 22308), (518, 22326), (528, 22368), (552, 22473), (574, 22539), (583, 22581), (599, 22644), (602, 22653), (607, 22692), (620, 22779), (677, 23085), (679, 23121), (681, 23130),

Gene: Goku\_26 Start: 21998, Stop: 24394, Start Num: 94

Candidate Starts for Goku\_26:

(Start: 94 @21998 has 128 MA's), (170, 22175), (174, 22196), (232, 22343), (263, 22484), (271, 22517), (281, 22550), (287, 22586), (319, 22679), (342, 22739), (348, 22757), (365, 22838), (420, 23066), (428, 23111), (481, 23306), (482, 23312), (485, 23321), (494, 23366), (496, 23381), (529, 23537), (532, 23555), (535, 23564), (550, 23618), (567, 23693), (568, 23696), (613, 23906), (615, 23918), (648, 24032), (680, 24248), (691, 24332), (696, 24356), (698, 24365),

Gene: GoldenSpark\_28 Start: 22274, Stop: 24670, Start Num: 94

Candidate Starts for GoldenSpark\_28:

(Start: 94 @22274 has 128 MA's), (170, 22451), (174, 22472), (232, 22619), (271, 22793), (281, 22826), (287, 22862), (319, 22955), (342, 23015), (348, 23033), (375, 23165), (389, 23210), (420, 23342), (428, 23387), (450, 23447), (478, 23561), (481, 23582), (491, 23621), (494, 23642), (496, 23657), (527, 23807), (529, 23813), (532, 23831), (549, 23885), (567, 23969), (648, 24308), (680,

24524), (691, 24608), (698, 24641),

Gene: Goldilocks\_27 Start: 21694, Stop: 24090, Start Num: 94

Candidate Starts for Goldilocks\_27:

(Start: 94 @21694 has 128 MA's), (170, 21871), (174, 21892), (232, 22039), (263, 22180), (271, 22213), (281, 22246), (287, 22282), (319, 22375), (342, 22435), (348, 22453), (375, 22585), (389, 22630), (420, 22762), (428, 22807), (450, 22867), (478, 22981), (481, 23002), (491, 23041), (494, 23062), (496, 23077), (527, 23227), (529, 23233), (532, 23251), (549, 23305), (567, 23389), (593, 23482), (648, 23728), (680, 23944), (691, 24028), (698, 24061),

Gene: Gonephishing\_34 Start: 28088, Stop: 30448, Start Num: 141

Candidate Starts for Gonephishing\_34:

(Start: 53 @27893 has 241 MA's), (141, 28088), (155, 28124), (158, 28139), (172, 28187), (208, 28298), (209, 28301), (221, 28331), (225, 28346), (242, 28424), (251, 28448), (262, 28514), (272, 28559), (281, 28589), (283, 28595), (284, 28613), (293, 28637), (296, 28646), (310, 28679), (312, 28685), (319, 28715), (336, 28754), (339, 28766), (342, 28775), (346, 28790), (348, 28793), (370, 28904), (371, 28907), (373, 28916), (374, 28922), (377, 28937), (379, 28940), (397, 28991), (400, 29003), (406, 29036), (420, 29102), (428, 29147), (429, 29150), (439, 29177), (442, 29183), (455, 29237), (456, 29240), (479, 29327), (481, 29342), (484, 29354), (485, 29357), (497, 29423), (505, 29468), (507, 29477), (520, 29537), (521, 29540), (529, 29576), (532, 29594), (537, 29606), (539, 29615), (547, 29642), (564, 29711), (567, 29729), (571, 29738), (573, 29750), (579, 29786), (588, 29816), (595, 29837), (602, 29861), (607, 29897), (614, 29951), (629, 30011), (637, 30053), (666, 30188), (670, 30212), (676, 30266), (680, 30314), (688, 30356), (690, 30380), (691, 30383),

Gene: GooberAzure\_28 Start: 22274, Stop: 24670, Start Num: 94

Candidate Starts for GooberAzure\_28:

(Start: 94 @22274 has 128 MA's), (170, 22451), (174, 22472), (232, 22619), (263, 22760), (271, 22793), (281, 22826), (287, 22862), (319, 22955), (342, 23015), (348, 23033), (375, 23165), (389, 23210), (420, 23342), (428, 23387), (450, 23447), (478, 23561), (481, 23582), (491, 23621), (494, 23642), (496, 23657), (527, 23807), (529, 23813), (532, 23831), (549, 23885), (567, 23969), (593, 24062), (648, 24308), (680, 24524), (691, 24608), (698, 24641),

Gene: Gorge\_18 Start: 17383, Stop: 19926, Start Num: 53

Candidate Starts for Gorge\_18:

(Start: 53 @17383 has 241 MA's), (61, 17404), (68, 17425), (90, 17464), (129, 17533), (130, 17542), (131, 17545), (141, 17563), (158, 17611), (172, 17659), (208, 17770), (209, 17773), (222, 17806), (225, 17818), (242, 17896), (257, 17962), (263, 17995), (277, 18049), (281, 18061), (295, 18115), (296, 18118), (300, 18127), (313, 18160), (328, 18199), (330, 18202), (335, 18217), (336, 18220), (343, 18247), (345, 18253), (346, 18256), (348, 18259), (354, 18286), (357, 18304), (358, 18307), (373, 18382), (377, 18403), (379, 18406), (388, 18433), (397, 18457), (406, 18502), (407, 18505), (416, 18556), (429, 18619), (433, 18628), (441, 18652), (470, 18757), (471, 18760), (481, 18811), (482, 18817), (484, 18823), (485, 18826), (494, 18871), (496, 18886), (501, 18913), (505, 18937), (516, 18988), (520, 19006), (521, 19009), (522, 19021), (537, 19075), (567, 19198), (581, 19261), (600, 19324), (609, 19399), (657, 19600), (687, 19828), (693, 19867), (694, 19870),

Gene: Greep\_27 Start: 22604, Stop: 25000, Start Num: 94

Candidate Starts for Greep\_27:

(Start: 94 @22604 has 128 MA's), (170, 22781), (174, 22802), (232, 22949), (263, 23090), (271, 23123), (281, 23156), (287, 23192), (319, 23285), (342, 23345), (348, 23363), (375, 23495), (389, 23540), (420, 23672), (428, 23717), (478, 23891), (481, 23912), (491, 23951), (494, 23972), (496, 23987), (529, 24143), (532, 24161), (549, 24215), (567, 24299), (593, 24392), (648, 24638), (680, 24854), (691, 24938), (698, 24971),

Gene: Grimmer\_19 Start: 18060, Stop: 20597, Start Num: 53

Candidate Starts for Grimmer\_19:

(Start: 53 @18060 has 241 MA's), (61, 18081), (Start: 71 @18102 has 1 MA's), (90, 18141), (129, 18210), (130, 18219), (131, 18222), (141, 18240), (158, 18288), (208, 18447), (209, 18450), (225, 18495), (242, 18573), (250, 18594), (251, 18597), (262, 18663), (281, 18738), (283, 18744), (293, 18786), (295, 18792), (296, 18795), (310, 18828), (312, 18834), (319, 18864), (330, 18885), (339, 18915), (342, 18924), (366, 19032), (369, 19044), (370, 19053), (371, 19056), (373, 19065), (374, 19071), (377, 19086), (379, 19089), (387, 19110), (397, 19140), (400, 19152), (406, 19185), (407, 19188), (420, 19251), (428, 19296), (429, 19299), (439, 19326), (442, 19332), (455, 19386), (456, 19389), (467, 19416), (481, 19491), (484, 19503), (485, 19506), (497, 19572), (501, 19593), (502, 19596), (505, 19617), (520, 19686), (521, 19689), (529, 19725), (532, 19743), (539, 19764), (564, 19860), (567, 19878), (571, 19887), (573, 19899), (579, 19935), (588, 19965), (607, 20046), (614, 20100), (637, 20202), (666, 20337), (670, 20361), (676, 20415), (685, 20484), (690, 20529), (691, 20532),

Gene: Guanica15\_27 Start: 20098, Stop: 22530, Start Num: 80

Candidate Starts for Guanica15\_27:

(Start: 80 @20098 has 96 MA's), (98, 20146), (100, 20149), (106, 20158), (218, 20458), (225, 20479), (280, 20719), (314, 20821), (319, 20845), (321, 20851), (337, 20890), (370, 21043), (381, 21100), (385, 21109), (400, 21160), (439, 21346), (443, 21355), (445, 21361), (455, 21406), (459, 21424), (476, 21499), (485, 21541), (494, 21580), (495, 21586), (496, 21595), (500, 21616), (509, 21664), (520, 21709), (522, 21724), (539, 21793), (550, 21835), (572, 21916), (594, 22009), (599, 22030), (614, 22126), (664, 22354), (671, 22408), (673, 22429), (680, 22501), (683, 22519),

Gene: Guppsters\_19 Start: 17584, Stop: 20109, Start Num: 53

Candidate Starts for Guppsters\_19:

(Start: 53 @17584 has 241 MA's), (96, 17674), (129, 17734), (130, 17743), (131, 17746), (141, 17764), (158, 17812), (171, 17857), (208, 17971), (209, 17974), (216, 17995), (222, 18007), (225, 18019), (242, 18097), (257, 18163), (263, 18196), (277, 18250), (281, 18262), (295, 18316), (296, 18319), (300, 18328), (313, 18361), (330, 18403), (335, 18418), (343, 18448), (345, 18454), (346, 18457), (348, 18460), (354, 18487), (357, 18505), (358, 18508), (373, 18583), (377, 18604), (379, 18607), (388, 18634), (397, 18658), (400, 18670), (416, 18757), (429, 18820), (433, 18829), (441, 18853), (470, 18958), (471, 18961), (481, 19012), (482, 19018), (484, 19024), (485, 19027), (494, 19072), (496, 19087), (501, 19114), (505, 19138), (507, 19147), (520, 19207), (521, 19210), (522, 19222), (532, 19264), (537, 19276), (567, 19399), (581, 19462), (600, 19525), (609, 19600), (657, 19801), (680, 19972), (687, 20011), (693, 20050), (694, 20053),

Gene: Hades\_18 Start: 17406, Stop: 19958, Start Num: 53

Candidate Starts for Hades\_18:

(Start: 53 @17406 has 241 MA's), (96, 17496), (129, 17556), (130, 17565), (131, 17568), (141, 17586), (158, 17634), (171, 17679), (208, 17793), (209, 17796), (213, 17808), (222, 17829), (224, 17838), (225, 17841), (242, 17919), (257, 17985), (263, 18018), (272, 18054), (279, 18078), (295, 18138), (296, 18141), (303, 18159), (328, 18222), (330, 18225), (336, 18243), (342, 18264), (348, 18282), (354, 18309), (358, 18330), (365, 18363), (373, 18405), (374, 18411), (375, 18414), (379, 18429), (388, 18456), (389, 18459), (397, 18480), (400, 18492), (406, 18525), (425, 18618), (455, 18726), (461, 18750), (467, 18756), (469, 18774), (470, 18777), (475, 18801), (481, 18831), (488, 18855), (494, 18891), (495, 18897), (496, 18906), (501, 18933), (511, 18996), (516, 19020), (517, 19035), (527, 19077), (541, 19128), (565, 19224), (567, 19239), (571, 19248), (576, 19272), (593, 19335), (602, 19371), (663, 19677), (670, 19722), (680, 19824),

Gene: Hamulus\_18 Start: 17403, Stop: 19940, Start Num: 53

Candidate Starts for Hamulus\_18:

(47, 17391), (Start: 53 @17403 has 241 MA's), (61, 17424), (Start: 71 @17445 has 1 MA's), (90, 17484), (129, 17553), (130, 17562), (131, 17565), (141, 17583), (155, 17616), (158, 17631), (172, 17679), (206, 17784), (208, 17790), (209, 17793), (221, 17823), (224, 17835), (225, 17838), (242, 17916), (251, 17940), (262, 18006), (281, 18081), (283, 18087), (284, 18105), (293, 18129), (296, 18138), (310, 18171), (312, 18177), (319, 18207), (336, 18246), (339, 18258), (342, 18267), (346, 18282), (348, 18285), (370, 18396), (371, 18399), (373, 18408), (374, 18414), (377, 18429), (379, 18432), (387, 18453), (397, 18483), (400, 18495), (406, 18528), (420, 18594), (428, 18639), (429, 18642), (439, 18669), (442, 18675), (455, 18729), (456, 18732), (479, 18819), (481, 18834), (484, 18846), (485, 18849), (497, 18915), (505, 18960), (507, 18969), (520, 19029), (521, 19032), (529, 19068), (532, 19086), (537, 19098), (539, 19107), (547, 19134), (564, 19203), (567, 19221), (571, 19230), (573, 19242), (579, 19278), (588, 19308), (595, 19329), (602, 19353), (607, 19389), (614, 19443), (629, 19503), (637, 19545), (666, 19680), (670, 19704), (676, 19758), (680, 19806), (688, 19848), (690, 19872), (691, 19875),

Gene: HanKaySha\_27 Start: 22026, Stop: 24422, Start Num: 94

Candidate Starts for HanKaySha\_27:

(Start: 94 @22026 has 128 MA's), (170, 22203), (174, 22224), (232, 22371), (271, 22545), (281, 22578), (287, 22614), (319, 22707), (342, 22767), (348, 22785), (375, 22917), (389, 22962), (420, 23094), (428, 23139), (450, 23199), (478, 23313), (481, 23334), (491, 23373), (494, 23394), (496, 23409), (527, 23559), (529, 23565), (532, 23583), (549, 23637), (567, 23721), (593, 23814), (648, 24060), (680, 24276), (691, 24360), (698, 24393),

Gene: Hannaconda\_33 Start: 26378, Stop: 28873, Start Num: 53

Candidate Starts for Hannaconda\_33:

(Start: 53 @26378 has 241 MA's), (141, 26573), (155, 26609), (158, 26624), (192, 26711), (197, 26726), (209, 26762), (211, 26768), (225, 26801), (228, 26813), (269, 26984), (272, 26993), (281, 27017), (295, 27071), (310, 27107), (312, 27113), (319, 27143), (333, 27173), (339, 27194), (342, 27203), (346, 27218), (362, 27287), (379, 27368), (382, 27377), (389, 27398), (390, 27401), (400, 27431), (407, 27467), (416, 27518), (418, 27527), (420, 27530), (425, 27557), (427, 27566), (433, 27587), (455, 27665), (456, 27668), (475, 27740), (482, 27776), (484, 27782), (493, 27824), (494, 27830), (501, 27872), (502, 27875), (505, 27896), (506, 27902), (507, 27905), (514, 27935), (546, 28076), (549, 28085), (550, 28094), (557, 28127), (564, 28151), (565, 28154), (567, 28169), (573, 28190), (579, 28226), (581, 28232), (584, 28238), (589, 28259), (598, 28286), (619, 28421), (635, 28493), (639, 28499), (648, 28517), (666, 28616), (680, 28733), (692, 28814), (694, 28817), (698, 28844),

Gene: Harella\_25 Start: 22416, Stop: 24812, Start Num: 94

Candidate Starts for Harella\_25:

(Start: 94 @22416 has 128 MA's), (170, 22593), (174, 22614), (232, 22761), (263, 22902), (271, 22935), (281, 22968), (287, 23004), (319, 23097), (342, 23157), (348, 23175), (375, 23307), (420, 23484), (428, 23529), (478, 23703), (481, 23724), (491, 23763), (494, 23784), (496, 23799), (529, 23955), (532, 23973), (549, 24027), (567, 24111), (640, 24435), (680, 24666), (691, 24750), (698, 24783),

Gene: Harley\_18 Start: 17393, Stop: 19930, Start Num: 53

Candidate Starts for Harley\_18:

(Start: 53 @17393 has 241 MA's), (61, 17414), (Start: 71 @17435 has 1 MA's), (90, 17474), (129, 17543), (130, 17552), (131, 17555), (141, 17573), (158, 17621), (208, 17780), (209, 17783), (225, 17828), (250, 17927), (251, 17930), (262, 17996), (281, 18071), (283, 18077), (284, 18095), (293, 18119), (295, 18125), (296, 18128), (310, 18161), (312, 18167), (319, 18197), (330, 18218), (336, 18236), (342, 18257), (366, 18365), (369, 18377), (370, 18386), (371, 18389), (373, 18398), (374, 18404), (377, 18419), (379, 18422), (387, 18443), (400, 18485), (406, 18518), (407, 18521), (420, 18584), (428, 18629), (429, 18632), (442, 18665), (455, 18719), (456, 18722), (467, 18749), (481,

18824), (484, 18836), (485, 18839), (497, 18905), (501, 18926), (502, 18929), (505, 18950), (516, 19001), (520, 19019), (521, 19022), (527, 19052), (532, 19076), (537, 19088), (539, 19097), (564, 19193), (567, 19211), (571, 19220), (573, 19232), (579, 19268), (588, 19298), (593, 19307), (595, 19319), (602, 19343), (607, 19379), (629, 19493), (637, 19535), (666, 19670), (670, 19694), (676, 19748), (680, 19796), (685, 19817), (690, 19862), (691, 19865),

Gene: Hawkeye\_32 Start: 24298, Stop: 27204, Start Num: 13

Candidate Starts for Hawkeye\_32:

(Start: 13 @24298 has 1 MA's), (Start: 17 @24391 has 8 MA's), (18, 24412), (20, 24433), (21, 24442), (66, 24658), (195, 25009), (227, 25105), (245, 25180), (310, 25429), (317, 25456), (362, 25609), (366, 25633), (374, 25672), (431, 25903), (434, 25906), (467, 26014), (481, 26089), (495, 26155), (532, 26347), (537, 26359), (550, 26410), (579, 26542), (626, 26761), (671, 26992), (681, 27076),

Gene: HedwigODU\_27 Start: 20881, Stop: 23313, Start Num: 80

Candidate Starts for HedwigODU\_27:

(Start: 80 @20881 has 96 MA's), (126, 20980), (218, 21241), (225, 21262), (270, 21469), (280, 21502), (285, 21532), (314, 21604), (319, 21628), (337, 21673), (370, 21826), (378, 21871), (381, 21883), (385, 21892), (400, 21943), (437, 22123), (443, 22138), (459, 22207), (463, 22219), (485, 22324), (494, 22363), (495, 22369), (496, 22378), (513, 22459), (522, 22507), (541, 22582), (550, 22618), (572, 22699), (577, 22720), (599, 22813), (614, 22909), (648, 23056), (654, 23098), (664, 23137), (673, 23212),

Gene: Hegedechwinu\_19 Start: 17254, Stop: 19785, Start Num: 53

Candidate Starts for Hegedechwinu\_19:

(47, 17242), (Start: 53 @17254 has 241 MA's), (61, 17275), (Start: 71 @17296 has 1 MA's), (90, 17335), (129, 17404), (130, 17413), (131, 17416), (141, 17434), (155, 17467), (158, 17482), (172, 17524), (208, 17635), (209, 17638), (221, 17668), (225, 17683), (242, 17761), (262, 17851), (272, 17896), (281, 17926), (283, 17932), (284, 17950), (293, 17974), (296, 17983), (310, 18016), (312, 18022), (319, 18052), (336, 18091), (339, 18103), (342, 18112), (346, 18127), (348, 18130), (370, 18241), (371, 18244), (373, 18253), (374, 18259), (377, 18274), (379, 18277), (387, 18298), (397, 18328), (400, 18340), (406, 18373), (428, 18484), (429, 18487), (439, 18514), (442, 18520), (455, 18574), (456, 18577), (481, 18679), (484, 18691), (485, 18694), (497, 18760), (502, 18784), (505, 18805), (507, 18814), (520, 18874), (521, 18877), (529, 18913), (532, 18931), (537, 18943), (539, 18952), (547, 18979), (564, 19048), (567, 19066), (571, 19075), (573, 19087), (579, 19123), (588, 19153), (595, 19174), (602, 19198), (607, 19234), (614, 19288), (629, 19348), (637, 19390), (654, 19468), (666, 19525), (670, 19549), (676, 19603), (680, 19651), (688, 19693), (690, 19717), (691, 19720),

Gene: Henry\_26 Start: 22283, Stop: 24679, Start Num: 94

Candidate Starts for Henry\_26:

(Start: 94 @22283 has 128 MA's), (170, 22460), (174, 22481), (232, 22628), (263, 22769), (271, 22802), (281, 22835), (287, 22871), (319, 22964), (342, 23024), (348, 23042), (382, 23198), (389, 23219), (416, 23339), (420, 23351), (428, 23396), (481, 23591), (485, 23606), (494, 23651), (496, 23666), (529, 23822), (532, 23840), (535, 23849), (567, 23978), (568, 23981), (613, 24191), (615, 24203), (648, 24317), (680, 24533), (691, 24617), (696, 24641), (698, 24650),

Gene: Highbury\_27 Start: 21945, Stop: 24341, Start Num: 94

Candidate Starts for Highbury\_27:

(Start: 94 @21945 has 128 MA's), (170, 22122), (174, 22143), (232, 22290), (263, 22431), (271, 22464), (281, 22497), (287, 22533), (319, 22626), (342, 22686), (348, 22704), (375, 22836), (389, 22881), (420, 23013), (428, 23058), (450, 23118), (478, 23232), (481, 23253), (491, 23292), (494, 23313), (496, 23328), (527, 23478), (529, 23484), (532, 23502), (549, 23556), (567, 23640), (593, 23733), (648, 23979), (680, 24195), (691, 24279), (698, 24312),

Gene: Hlubikazi\_18 Start: 17495, Stop: 20032, Start Num: 53

Candidate Starts for Hlubikazi\_18:

(Start: 53 @17495 has 241 MA's), (61, 17516), (Start: 71 @17537 has 1 MA's), (90, 17576), (129, 17645), (130, 17654), (131, 17657), (141, 17675), (158, 17723), (208, 17882), (209, 17885), (224, 17927), (225, 17930), (242, 18008), (250, 18029), (251, 18032), (262, 18098), (281, 18173), (283, 18179), (293, 18221), (295, 18227), (296, 18230), (310, 18263), (312, 18269), (319, 18299), (330, 18320), (339, 18350), (342, 18359), (366, 18467), (369, 18479), (370, 18488), (371, 18491), (373, 18500), (374, 18506), (377, 18521), (379, 18524), (387, 18545), (400, 18587), (406, 18620), (439, 18761), (442, 18767), (455, 18821), (456, 18824), (467, 18851), (481, 18926), (484, 18938), (485, 18941), (497, 19007), (502, 19031), (505, 19052), (507, 19061), (520, 19121), (521, 19124), (529, 19160), (532, 19178), (539, 19199), (547, 19226), (564, 19295), (567, 19313), (571, 19322), (573, 19334), (579, 19370), (588, 19400), (607, 19481), (629, 19595), (637, 19637), (666, 19772), (670, 19796), (676, 19850), (690, 19964), (691, 19967),

Gene: Holt\_27 Start: 21564, Stop: 23960, Start Num: 94

Candidate Starts for Holt\_27:

(Start: 94 @21564 has 128 MA's), (170, 21741), (174, 21762), (232, 21909), (263, 22050), (271, 22083), (281, 22116), (287, 22152), (319, 22245), (342, 22305), (348, 22323), (375, 22455), (389, 22500), (420, 22632), (428, 22677), (450, 22737), (478, 22851), (481, 22872), (491, 22911), (494, 22932), (496, 22947), (527, 23097), (529, 23103), (532, 23121), (549, 23175), (567, 23259), (593, 23352), (648, 23598), (680, 23814), (691, 23898), (698, 23931),

Gene: Homura\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Homura\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Hoonter\_28 Start: 22274, Stop: 24670, Start Num: 94

Candidate Starts for Hoonter\_28:

(Start: 94 @22274 has 128 MA's), (170, 22451), (174, 22472), (232, 22619), (271, 22793), (281, 22826), (287, 22862), (319, 22955), (342, 23015), (348, 23033), (375, 23165), (389, 23210), (420, 23342), (428, 23387), (450, 23447), (478, 23561), (481, 23582), (491, 23621), (494, 23642), (496, 23657), (527, 23807), (529, 23813), (532, 23831), (549, 23885), (567, 23969), (593, 24062), (648, 24308), (680, 24524), (691, 24608), (698, 24641),

Gene: Hohey\_28 Start: 22561, Stop: 24957, Start Num: 94

Candidate Starts for Hohey\_28:

(Start: 94 @22561 has 128 MA's), (170, 22738), (174, 22759), (232, 22906), (271, 23080), (281, 23113), (287, 23149), (319, 23242), (342, 23302), (348, 23320), (375, 23452), (389, 23497), (420, 23629), (428, 23674), (450, 23734), (478, 23848), (481, 23869), (491, 23908), (494, 23929), (496, 23944), (527, 24094), (529, 24100), (532, 24118), (549, 24172), (567, 24256), (593, 24349), (648, 24595), (680, 24811), (691, 24895), (698, 24928),

Gene: Hosp\_024 Start: 25768, Stop: 28263, Start Num: 39

Candidate Starts for Hosp\_024:

(Start: 39 @25768 has 6 MA's), (51, 25825), (76, 25882), (132, 26002), (143, 26020), (166, 26092), (168, 26098), (183, 26152), (200, 26188), (251, 26371), (258, 26416), (264, 26455), (282, 26509), (309, 26557), (318, 26587), (327, 26614), (340, 26650), (345, 26668), (353, 26692), (358, 26716),

(375, 26800), (386, 26836), (397, 26866), (404, 26902), (409, 26920), (455, 27127), (457, 27139), (460, 27148), (476, 27223), (477, 27226), (479, 27235), (485, 27265), (486, 27268), (494, 27310), (496, 27325), (512, 27406), (516, 27418), (520, 27442), (522, 27457), (524, 27463), (544, 27544), (571, 27634), (574, 27649), (614, 27859), (616, 27880), (622, 27898), (677, 28195),

Gene: HufflyPuff\_25 Start: 22268, Stop: 24664, Start Num: 94

Candidate Starts for HufflyPuff\_25:

(Start: 94 @22268 has 128 MA's), (170, 22445), (174, 22466), (232, 22613), (263, 22754), (271, 22787), (281, 22820), (287, 22856), (319, 22949), (342, 23009), (348, 23027), (375, 23159), (389, 23204), (420, 23336), (428, 23381), (450, 23441), (478, 23555), (481, 23576), (491, 23615), (494, 23636), (496, 23651), (527, 23801), (529, 23807), (532, 23825), (549, 23879), (567, 23963), (593, 24056), (648, 24302), (680, 24518), (691, 24602), (698, 24635),

Gene: Hyperbowlee\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Hyperbowlee\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: IHOP\_26 Start: 22460, Stop: 24856, Start Num: 94

Candidate Starts for IHOP\_26:

(Start: 94 @22460 has 128 MA's), (170, 22637), (174, 22658), (232, 22805), (263, 22946), (271, 22979), (281, 23012), (287, 23048), (319, 23141), (342, 23201), (348, 23219), (382, 23375), (389, 23396), (416, 23516), (420, 23528), (428, 23573), (481, 23768), (482, 23774), (485, 23783), (494, 23828), (496, 23843), (529, 23999), (532, 24017), (535, 24026), (550, 24080), (567, 24155), (568, 24158), (613, 24368), (615, 24380), (648, 24494), (680, 24710), (691, 24794), (696, 24818), (698, 24827),

Gene: IMpilo\_18 Start: 17430, Stop: 19967, Start Num: 53

Candidate Starts for IMpilo\_18:

(47, 17418), (Start: 53 @17430 has 241 MA's), (61, 17451), (Start: 71 @17472 has 1 MA's), (90, 17511), (129, 17580), (130, 17589), (131, 17592), (141, 17610), (155, 17643), (158, 17658), (172, 17706), (208, 17817), (209, 17820), (221, 17850), (224, 17862), (225, 17865), (242, 17943), (251, 17967), (262, 18033), (272, 18078), (281, 18108), (283, 18114), (284, 18132), (293, 18156), (296, 18165), (310, 18198), (312, 18204), (319, 18234), (336, 18273), (339, 18285), (342, 18294), (346, 18309), (348, 18312), (370, 18423), (371, 18426), (373, 18435), (374, 18441), (377, 18456), (379, 18459), (387, 18480), (397, 18510), (400, 18522), (406, 18555), (428, 18666), (429, 18669), (439, 18696), (442, 18702), (455, 18756), (456, 18759), (481, 18861), (484, 18873), (485, 18876), (497, 18942), (502, 18966), (505, 18987), (507, 18996), (520, 19056), (521, 19059), (529, 19095), (532, 19113), (537, 19125), (539, 19134), (547, 19161), (564, 19230), (567, 19248), (571, 19257), (573, 19269), (579, 19305), (588, 19335), (595, 19356), (602, 19380), (607, 19416), (614, 19470), (629, 19530), (637, 19572), (654, 19650), (666, 19707), (670, 19731), (676, 19785), (680, 19833), (688, 19875), (690, 19899), (691, 19902),

Gene: IbOuu\_18 Start: 17397, Stop: 19934, Start Num: 53

Candidate Starts for IbOuu\_18:

(47, 17385), (Start: 53 @17397 has 241 MA's), (61, 17418), (Start: 71 @17439 has 1 MA's), (90, 17478), (129, 17547), (130, 17556), (131, 17559), (141, 17577), (158, 17625), (172, 17673), (208, 17784), (209, 17787), (225, 17832), (242, 17910), (251, 17934), (262, 18000), (272, 18045), (281, 18075), (283, 18081), (284, 18099), (293, 18123), (296, 18132), (310, 18165), (312, 18171), (319,

18201), (336, 18240), (339, 18252), (342, 18261), (346, 18276), (348, 18279), (370, 18390), (371, 18393), (373, 18402), (374, 18408), (377, 18423), (379, 18426), (387, 18447), (397, 18477), (400, 18489), (406, 18522), (428, 18633), (429, 18636), (439, 18663), (442, 18669), (455, 18723), (456, 18726), (481, 18828), (484, 18840), (485, 18843), (497, 18909), (502, 18933), (505, 18954), (507, 18963), (520, 19023), (521, 19026), (529, 19062), (532, 19080), (539, 19101), (547, 19128), (564, 19197), (567, 19215), (571, 19224), (573, 19236), (579, 19272), (595, 19323), (600, 19341), (607, 19383), (614, 19437), (637, 19539), (666, 19674), (670, 19698), (676, 19752), (685, 19821), (690, 19866), (691, 19869),

Gene: lbhubesi\_18 Start: 17393, Stop: 19930, Start Num: 53

Candidate Starts for lbhubesi\_18:

(Start: 53 @17393 has 241 MA's), (61, 17414), (Start: 71 @17435 has 1 MA's), (90, 17474), (129, 17543), (130, 17552), (131, 17555), (141, 17573), (158, 17621), (208, 17780), (209, 17783), (225, 17828), (250, 17927), (251, 17930), (262, 17996), (281, 18071), (283, 18077), (284, 18095), (293, 18119), (295, 18125), (296, 18128), (310, 18161), (312, 18167), (319, 18197), (330, 18218), (336, 18236), (342, 18257), (366, 18365), (369, 18377), (370, 18386), (371, 18389), (373, 18398), (374, 18404), (377, 18419), (379, 18422), (387, 18443), (400, 18485), (406, 18518), (407, 18521), (420, 18584), (428, 18629), (429, 18632), (442, 18665), (455, 18719), (456, 18722), (467, 18749), (481, 18824), (484, 18836), (485, 18839), (497, 18905), (501, 18926), (502, 18929), (505, 18950), (516, 19001), (520, 19019), (521, 19022), (527, 19052), (532, 19076), (537, 19088), (539, 19097), (564, 19193), (567, 19211), (571, 19220), (573, 19232), (579, 19268), (588, 19298), (593, 19307), (595, 19319), (602, 19343), (607, 19379), (629, 19493), (637, 19535), (666, 19670), (670, 19694), (676, 19748), (680, 19796), (685, 19817), (690, 19862), (691, 19865),

Gene: lcee\_25 Start: 21943, Stop: 24339, Start Num: 94

Candidate Starts for lcee\_25:

(Start: 94 @21943 has 128 MA's), (170, 22120), (174, 22141), (232, 22288), (263, 22429), (271, 22462), (281, 22495), (287, 22531), (319, 22624), (342, 22684), (348, 22702), (365, 22783), (420, 23011), (428, 23056), (481, 23251), (482, 23257), (485, 23266), (494, 23311), (496, 23326), (529, 23482), (532, 23500), (535, 23509), (567, 23638), (568, 23641), (613, 23851), (615, 23863), (648, 23977), (680, 24193), (691, 24277), (696, 24301), (698, 24310),

Gene: ldergollasper\_58 Start: 36096, Stop: 38606, Start Num: 60

Candidate Starts for ldergollasper\_58:

(Start: 60 @36096 has 33 MA's), (74, 36129), (108, 36198), (109, 36201), (122, 36225), (131, 36249), (145, 36273), (155, 36306), (214, 36513), (217, 36525), (218, 36528), (254, 36675), (257, 36705), (262, 36729), (272, 36759), (273, 36762), (281, 36789), (284, 36813), (295, 36843), (315, 36900), (320, 36924), (336, 36960), (339, 36972), (346, 36996), (348, 36999), (356, 37041), (377, 37137), (379, 37140), (447, 37395), (481, 37539), (494, 37599), (504, 37671), (505, 37674), (526, 37770), (567, 37944), (573, 37965), (598, 38058), (601, 38070), (614, 38160), (633, 38235), (653, 38280), (684, 38481), (689, 38535), (694, 38550),

Gene: illumine\_27 Start: 20895, Stop: 23327, Start Num: 80

Candidate Starts for illumine\_27:

(Start: 80 @20895 has 96 MA's), (98, 20943), (126, 20994), (218, 21255), (225, 21276), (270, 21483), (280, 21516), (285, 21546), (314, 21618), (319, 21642), (337, 21687), (370, 21840), (381, 21897), (385, 21906), (396, 21942), (400, 21957), (437, 22137), (443, 22152), (459, 22221), (463, 22233), (476, 22296), (485, 22338), (494, 22377), (495, 22383), (496, 22392), (500, 22413), (513, 22473), (522, 22521), (536, 22578), (539, 22590), (550, 22632), (570, 22704), (572, 22713), (594, 22806), (599, 22827), (614, 22923), (626, 22977), (648, 23070), (664, 23151), (680, 23298),

Gene: lmara\_56 Start: 35896, Stop: 38406, Start Num: 60

Candidate Starts for lmara\_56:

(Start: 60 @35896 has 33 MA's), (74, 35929), (108, 35998), (109, 36001), (122, 36025), (131, 36049), (145, 36073), (155, 36106), (214, 36313), (217, 36325), (218, 36328), (254, 36475), (257, 36505), (262, 36529), (272, 36559), (273, 36562), (281, 36589), (284, 36613), (295, 36643), (315, 36700), (320, 36724), (336, 36760), (339, 36772), (346, 36796), (348, 36799), (356, 36841), (377, 36937), (379, 36940), (447, 37195), (481, 37339), (494, 37399), (504, 37471), (505, 37474), (526, 37570), (567, 37744), (573, 37765), (598, 37858), (601, 37870), (614, 37960), (633, 38035), (653, 38080), (684, 38281), (689, 38335), (694, 38350),

Gene: Inca\_25 Start: 20963, Stop: 23359, Start Num: 94

Candidate Starts for Inca\_25:

(Start: 94 @20963 has 128 MA's), (170, 21140), (174, 21161), (232, 21308), (263, 21449), (271, 21482), (281, 21515), (287, 21551), (319, 21644), (342, 21704), (348, 21722), (375, 21854), (389, 21899), (420, 22031), (428, 22076), (450, 22136), (478, 22250), (481, 22271), (491, 22310), (494, 22331), (496, 22346), (527, 22496), (529, 22502), (532, 22520), (549, 22574), (567, 22658), (593, 22751), (648, 22997), (680, 23213), (691, 23297), (698, 23330),

Gene: Inky\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Inky\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Inventum\_18 Start: 17532, Stop: 20069, Start Num: 53

Candidate Starts for Inventum\_18:

(Start: 53 @17532 has 241 MA's), (61, 17553), (Start: 71 @17574 has 1 MA's), (90, 17613), (129, 17682), (130, 17691), (131, 17694), (141, 17712), (158, 17760), (172, 17808), (208, 17919), (209, 17922), (225, 17967), (242, 18045), (251, 18069), (262, 18135), (281, 18210), (283, 18216), (284, 18234), (293, 18258), (296, 18267), (310, 18300), (312, 18306), (319, 18336), (330, 18357), (339, 18387), (342, 18396), (366, 18504), (369, 18516), (370, 18525), (371, 18528), (374, 18543), (377, 18558), (379, 18561), (387, 18582), (400, 18624), (406, 18657), (428, 18768), (429, 18771), (439, 18798), (442, 18804), (455, 18858), (456, 18861), (467, 18888), (481, 18963), (484, 18975), (485, 18978), (497, 19044), (501, 19065), (502, 19068), (505, 19089), (507, 19098), (516, 19140), (520, 19158), (521, 19161), (527, 19191), (532, 19215), (537, 19227), (539, 19236), (564, 19332), (567, 19350), (571, 19359), (573, 19371), (579, 19407), (588, 19437), (593, 19446), (595, 19458), (607, 19518), (614, 19572), (629, 19632), (637, 19674), (666, 19809), (670, 19833), (676, 19887), (680, 19935), (688, 19977), (690, 20001), (691, 20004),

Gene: IrishSherpFalk\_19 Start: 18757, Stop: 21294, Start Num: 53

Candidate Starts for IrishSherpFalk\_19:

(Start: 53 @18757 has 241 MA's), (61, 18778), (Start: 71 @18799 has 1 MA's), (90, 18838), (129, 18907), (130, 18916), (131, 18919), (141, 18937), (158, 18985), (206, 19138), (209, 19147), (225, 19192), (250, 19291), (251, 19294), (262, 19360), (281, 19435), (283, 19441), (284, 19459), (293, 19483), (295, 19489), (296, 19492), (310, 19525), (312, 19531), (319, 19561), (330, 19582), (339, 19612), (342, 19621), (346, 19636), (348, 19639), (370, 19750), (371, 19753), (373, 19762), (374, 19768), (377, 19783), (379, 19786), (387, 19807), (397, 19837), (400, 19849), (406, 19882), (428, 19993), (429, 19996), (439, 20023), (442, 20029), (455, 20083), (456, 20086), (479, 20173), (481, 20188), (484, 20200), (485, 20203), (497, 20269), (502, 20293), (505, 20314), (507, 20323), (520, 20383), (521, 20386), (529, 20422), (532, 20440), (537, 20452), (539, 20461), (547, 20488), (563, 20545), (564, 20557), (567, 20575), (571, 20584), (573, 20596), (579, 20632), (588, 20662), (593, 20671), (595, 20683), (607, 20743), (614, 20797), (629, 20857), (637, 20899), (666, 21034), (670,

21058), (676, 21112), (680, 21160), (688, 21202), (690, 21226), (691, 21229),

Gene: Island3\_21 Start: 19089, Stop: 21620, Start Num: 56

Candidate Starts for Island3\_21:

(Start: 56 @19089 has 2 MA's), (63, 19113), (115, 19224), (119, 19233), (131, 19260), (177, 19407), (250, 19674), (254, 19689), (257, 19719), (258, 19725), (262, 19743), (293, 19851), (312, 19902), (348, 20013), (349, 20016), (356, 20055), (365, 20088), (379, 20154), (400, 20214), (405, 20241), (406, 20247), (481, 20553), (494, 20613), (500, 20661), (501, 20664), (504, 20685), (505, 20688), (567, 20949), (600, 21072), (601, 21075), (614, 21165), (627, 21222), (633, 21243), (657, 21303), (686, 21504), (689, 21546),

Gene: JAWS\_27 Start: 20866, Stop: 23298, Start Num: 80

Candidate Starts for JAWS\_27:

(Start: 80 @20866 has 96 MA's), (126, 20965), (218, 21226), (225, 21247), (270, 21454), (280, 21487), (285, 21517), (314, 21589), (319, 21613), (370, 21811), (378, 21856), (381, 21868), (385, 21877), (400, 21928), (437, 22108), (443, 22123), (459, 22192), (463, 22204), (476, 22267), (485, 22309), (494, 22348), (495, 22354), (496, 22363), (500, 22384), (513, 22444), (539, 22561), (550, 22603), (570, 22675), (572, 22684), (577, 22705), (594, 22777), (599, 22798), (614, 22894), (648, 23041), (664, 23122), (680, 23269),

Gene: Jabbawokkie\_26 Start: 17616, Stop: 20168, Start Num: 40

Candidate Starts for Jabbawokkie\_26:

(37, 17607), (Start: 40 @17616 has 7 MA's), (Start: 53 @17676 has 241 MA's), (67, 17712), (118, 17811), (172, 17952), (192, 17991), (197, 18006), (209, 18042), (211, 18048), (212, 18051), (223, 18069), (228, 18093), (234, 18117), (235, 18120), (269, 18264), (272, 18273), (281, 18297), (284, 18321), (293, 18345), (295, 18351), (303, 18372), (305, 18375), (312, 18393), (319, 18426), (333, 18456), (339, 18477), (362, 18570), (365, 18585), (366, 18594), (370, 18615), (371, 18618), (382, 18660), (397, 18702), (398, 18705), (400, 18714), (405, 18741), (407, 18750), (414, 18789), (418, 18810), (420, 18813), (427, 18849), (433, 18870), (455, 18948), (456, 18951), (472, 19005), (484, 19065), (500, 19152), (502, 19158), (505, 19179), (514, 19215), (525, 19269), (527, 19278), (546, 19356), (550, 19374), (559, 19410), (561, 19413), (564, 19431), (567, 19449), (579, 19506), (584, 19518), (602, 19581), (607, 19614), (619, 19701), (632, 19749), (635, 19773), (648, 19809), (653, 19848), (662, 19887), (666, 19911), (669, 19932), (680, 20028), (685, 20049), (692, 20109), (694, 20112), (698, 20139),

Gene: JacoRen57\_20 Start: 18844, Stop: 20730, Start Num: 248

Candidate Starts for JacoRen57\_20:

(Start: 248 @18844 has 1 MA's), (266, 18928), (308, 19060), (334, 19135), (345, 19171), (347, 19174), (368, 19261), (372, 19279), (377, 19306), (398, 19363), (417, 19462), (442, 19543), (454, 19588), (469, 19633), (481, 19684), (483, 19693), (497, 19762), (507, 19816), (520, 19876), (539, 19960), (548, 19996), (551, 20017), (553, 20023), (561, 20032), (569, 20071), (602, 20182), (603, 20203), (610, 20266), (611, 20269), (618, 20311), (630, 20350), (690, 20665), (692, 20671), (695, 20680), (697, 20695), (699, 20704), (703, 20719),

Gene: JalFarm20\_20 Start: 17767, Stop: 20304, Start Num: 53

Candidate Starts for JalFarm20\_20:

(47, 17755), (Start: 53 @17767 has 241 MA's), (61, 17788), (Start: 71 @17809 has 1 MA's), (90, 17848), (129, 17917), (130, 17926), (131, 17929), (141, 17947), (155, 17980), (158, 17995), (172, 18043), (208, 18154), (209, 18157), (221, 18187), (224, 18199), (225, 18202), (242, 18280), (251, 18304), (262, 18370), (272, 18415), (281, 18445), (283, 18451), (284, 18469), (293, 18493), (296, 18502), (310, 18535), (312, 18541), (319, 18571), (336, 18610), (339, 18622), (342, 18631), (346, 18646), (348, 18649), (370, 18760), (371, 18763), (373, 18772), (374, 18778), (377, 18793), (379, 18796), (387, 18817), (397, 18847), (400, 18859), (406, 18892), (428, 19003), (429, 19006), (439,

19033), (442, 19039), (455, 19093), (456, 19096), (479, 19183), (481, 19198), (484, 19210), (485, 19213), (497, 19279), (502, 19303), (505, 19324), (507, 19333), (520, 19393), (521, 19396), (529, 19432), (532, 19450), (537, 19462), (539, 19471), (547, 19498), (564, 19567), (567, 19585), (571, 19594), (573, 19606), (579, 19642), (588, 19672), (595, 19693), (602, 19717), (607, 19753), (614, 19807), (629, 19867), (637, 19909), (654, 19987), (666, 20044), (670, 20068), (676, 20122), (680, 20170), (688, 20212), (690, 20236), (691, 20239),

Gene: James\_18 Start: 17397, Stop: 19922, Start Num: 53

Candidate Starts for James\_18:

(Start: 53 @17397 has 241 MA's), (61, 17418), (68, 17439), (90, 17478), (129, 17547), (130, 17556), (131, 17559), (141, 17577), (158, 17625), (172, 17673), (208, 17784), (209, 17787), (222, 17820), (225, 17832), (242, 17910), (257, 17976), (263, 18009), (277, 18063), (281, 18075), (295, 18129), (296, 18132), (300, 18141), (313, 18174), (328, 18213), (330, 18216), (335, 18231), (336, 18234), (343, 18261), (345, 18267), (346, 18270), (348, 18273), (354, 18300), (357, 18318), (358, 18321), (373, 18396), (377, 18417), (379, 18420), (388, 18447), (397, 18471), (406, 18516), (407, 18519), (416, 18570), (429, 18633), (433, 18642), (441, 18666), (470, 18771), (471, 18774), (481, 18825), (482, 18831), (484, 18837), (485, 18840), (494, 18885), (496, 18900), (501, 18927), (505, 18951), (516, 19002), (520, 19020), (521, 19023), (522, 19035), (537, 19089), (567, 19212), (581, 19275), (600, 19338), (609, 19413), (657, 19614), (687, 19824), (693, 19863), (694, 19866),

Gene: JangDynasty\_58 Start: 36182, Stop: 38692, Start Num: 60

Candidate Starts for JangDynasty\_58:

(Start: 60 @36182 has 33 MA's), (74, 36215), (108, 36284), (109, 36287), (122, 36311), (131, 36335), (145, 36359), (155, 36392), (214, 36599), (217, 36611), (218, 36614), (254, 36761), (257, 36791), (262, 36815), (272, 36845), (273, 36848), (281, 36875), (284, 36899), (295, 36929), (315, 36986), (320, 37010), (336, 37046), (339, 37058), (346, 37082), (348, 37085), (356, 37127), (377, 37223), (379, 37226), (447, 37481), (481, 37625), (494, 37685), (504, 37757), (505, 37760), (526, 37856), (567, 38030), (573, 38051), (598, 38144), (601, 38156), (614, 38246), (633, 38321), (653, 38366), (684, 38567), (689, 38621), (694, 38636),

Gene: Jant\_18 Start: 17553, Stop: 20090, Start Num: 53

Candidate Starts for Jant\_18:

(47, 17541), (Start: 53 @17553 has 241 MA's), (61, 17574), (Start: 71 @17595 has 1 MA's), (90, 17634), (129, 17703), (130, 17712), (131, 17715), (141, 17733), (155, 17766), (158, 17781), (172, 17829), (206, 17934), (208, 17940), (209, 17943), (221, 17973), (224, 17985), (225, 17988), (242, 18066), (251, 18090), (262, 18156), (272, 18201), (281, 18231), (283, 18237), (284, 18255), (293, 18279), (296, 18288), (310, 18321), (312, 18327), (319, 18357), (336, 18396), (339, 18408), (342, 18417), (346, 18432), (348, 18435), (370, 18546), (371, 18549), (373, 18558), (374, 18564), (377, 18579), (379, 18582), (387, 18603), (397, 18633), (400, 18645), (406, 18678), (428, 18789), (429, 18792), (439, 18819), (442, 18825), (455, 18879), (456, 18882), (481, 18984), (484, 18996), (485, 18999), (497, 19065), (502, 19089), (505, 19110), (507, 19119), (520, 19179), (521, 19182), (529, 19218), (532, 19236), (537, 19248), (539, 19257), (547, 19284), (564, 19353), (567, 19371), (571, 19380), (573, 19392), (579, 19428), (588, 19458), (595, 19479), (602, 19503), (607, 19539), (614, 19593), (629, 19653), (637, 19695), (666, 19830), (670, 19854), (680, 19956), (688, 19998), (690, 20022), (691, 20025),

Gene: Jacob\_18 Start: 17405, Stop: 19957, Start Num: 53

Candidate Starts for Jacob\_18:

(Start: 53 @17405 has 241 MA's), (90, 17486), (129, 17555), (130, 17564), (131, 17567), (141, 17585), (158, 17633), (171, 17678), (208, 17792), (209, 17795), (213, 17807), (222, 17828), (224, 17837), (225, 17840), (235, 17888), (242, 17918), (257, 17984), (263, 18017), (272, 18053), (279, 18077), (295, 18137), (296, 18140), (303, 18158), (328, 18221), (330, 18224), (336, 18242), (342, 18263), (348, 18281), (354, 18308), (358, 18329), (365, 18362), (373, 18404), (374, 18410), (375, 18413),

(379, 18428), (388, 18455), (389, 18458), (397, 18479), (400, 18491), (406, 18524), (425, 18617), (455, 18725), (461, 18749), (467, 18755), (469, 18773), (470, 18776), (475, 18800), (481, 18830), (488, 18854), (494, 18890), (495, 18896), (496, 18905), (501, 18932), (511, 18995), (516, 19019), (517, 19034), (527, 19076), (541, 19127), (565, 19223), (567, 19238), (571, 19247), (576, 19271), (593, 19334), (602, 19370), (663, 19676), (670, 19721), (680, 19823),

Gene: Jarvi\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Jarvi\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Jayhawk\_27 Start: 20879, Stop: 23311, Start Num: 80

Candidate Starts for Jayhawk\_27:

(Start: 80 @20879 has 96 MA's), (126, 20978), (218, 21239), (225, 21260), (270, 21467), (280, 21500), (285, 21530), (314, 21602), (319, 21626), (337, 21671), (370, 21824), (378, 21869), (381, 21881), (385, 21890), (400, 21941), (437, 22121), (443, 22136), (459, 22205), (463, 22217), (485, 22322), (494, 22361), (495, 22367), (496, 22376), (513, 22457), (522, 22505), (541, 22580), (550, 22616), (572, 22697), (577, 22718), (599, 22811), (614, 22907), (648, 23054), (654, 23096), (664, 23135), (673, 23210),

Gene: JeTaime\_28 Start: 23085, Stop: 25481, Start Num: 94

Candidate Starts for JeTaime\_28:

(Start: 94 @23085 has 128 MA's), (170, 23262), (174, 23283), (232, 23430), (271, 23604), (281, 23637), (287, 23673), (319, 23766), (342, 23826), (348, 23844), (375, 23976), (389, 24021), (420, 24153), (428, 24198), (450, 24258), (478, 24372), (481, 24393), (491, 24432), (494, 24453), (496, 24468), (527, 24618), (529, 24624), (532, 24642), (549, 24696), (567, 24780), (593, 24873), (648, 25119), (680, 25335), (691, 25419), (698, 25452),

Gene: Jeckyll\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Jeckyll\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Jinglebell\_17 Start: 17634, Stop: 20171, Start Num: 53

Candidate Starts for Jinglebell\_17:

(Start: 53 @17634 has 241 MA's), (61, 17655), (Start: 71 @17676 has 1 MA's), (90, 17715), (129, 17784), (130, 17793), (131, 17796), (141, 17814), (158, 17862), (208, 18021), (209, 18024), (224, 18066), (225, 18069), (242, 18147), (250, 18168), (251, 18171), (262, 18237), (263, 18246), (272, 18282), (281, 18312), (283, 18318), (293, 18360), (295, 18366), (296, 18369), (310, 18402), (312, 18408), (319, 18438), (330, 18459), (339, 18489), (342, 18498), (366, 18606), (369, 18618), (370, 18627), (371, 18630), (373, 18639), (374, 18645), (377, 18660), (379, 18663), (387, 18684), (400, 18726), (406, 18759), (439, 18900), (442, 18906), (455, 18960), (456, 18963), (467, 18990), (481, 19065), (484, 19077), (485, 19080), (497, 19146), (501, 19167), (502, 19170), (505, 19191), (516, 19242), (520, 19260), (521, 19263), (527, 19293), (532, 19317), (537, 19329), (564, 19434), (567, 19452), (571, 19461), (573, 19473), (579, 19509), (588, 19539), (595, 19560), (602, 19584), (607,

19620), (629, 19734), (637, 19776), (654, 19854), (666, 19911), (670, 19935), (676, 19989), (680, 20037), (688, 20079), (690, 20103), (691, 20106),

Gene: Job42\_21 Start: 19082, Stop: 21619, Start Num: 53

Candidate Starts for Job42\_21:

(Start: 53 @19082 has 241 MA's), (Start: 71 @19124 has 1 MA's), (96, 19172), (129, 19232), (130, 19241), (131, 19244), (141, 19262), (155, 19295), (158, 19310), (172, 19358), (208, 19469), (209, 19472), (221, 19502), (224, 19514), (225, 19517), (242, 19595), (251, 19619), (262, 19685), (272, 19730), (281, 19760), (283, 19766), (284, 19784), (293, 19808), (296, 19817), (310, 19850), (312, 19856), (319, 19886), (336, 19925), (339, 19937), (342, 19946), (346, 19961), (348, 19964), (370, 20075), (371, 20078), (373, 20087), (374, 20093), (377, 20108), (379, 20111), (387, 20132), (397, 20162), (400, 20174), (406, 20207), (428, 20318), (429, 20321), (439, 20348), (442, 20354), (455, 20408), (456, 20411), (481, 20513), (484, 20525), (485, 20528), (497, 20594), (502, 20618), (505, 20639), (507, 20648), (520, 20708), (521, 20711), (529, 20747), (532, 20765), (537, 20777), (539, 20786), (547, 20813), (564, 20882), (567, 20900), (571, 20909), (573, 20921), (579, 20957), (588, 20987), (595, 21008), (602, 21032), (607, 21068), (614, 21122), (629, 21182), (637, 21224), (654, 21302), (666, 21359), (670, 21383), (676, 21437), (680, 21485), (688, 21527), (690, 21551), (691, 21554),

Gene: JoeyJr\_18 Start: 17568, Stop: 20105, Start Num: 53

Candidate Starts for JoeyJr\_18:

(47, 17556), (Start: 53 @17568 has 241 MA's), (61, 17589), (Start: 71 @17610 has 1 MA's), (90, 17649), (129, 17718), (130, 17727), (131, 17730), (141, 17748), (158, 17796), (172, 17844), (208, 17955), (209, 17958), (225, 18003), (242, 18081), (251, 18105), (262, 18171), (272, 18216), (281, 18246), (283, 18252), (284, 18270), (293, 18294), (296, 18303), (310, 18336), (312, 18342), (319, 18372), (336, 18411), (339, 18423), (342, 18432), (346, 18447), (348, 18450), (370, 18561), (371, 18564), (373, 18573), (374, 18579), (377, 18594), (379, 18597), (387, 18618), (397, 18648), (400, 18660), (406, 18693), (428, 18804), (429, 18807), (439, 18834), (442, 18840), (455, 18894), (456, 18897), (481, 18999), (484, 19011), (485, 19014), (497, 19080), (502, 19104), (505, 19125), (507, 19134), (520, 19194), (521, 19197), (529, 19233), (532, 19251), (539, 19272), (547, 19299), (564, 19368), (567, 19386), (571, 19395), (573, 19407), (579, 19443), (595, 19494), (600, 19512), (607, 19554), (614, 19608), (637, 19710), (666, 19845), (670, 19869), (676, 19923), (685, 19992), (690, 20037), (691, 20040),

Gene: Jolie1\_026 Start: 27564, Stop: 30065, Start Num: 39

Candidate Starts for Jolie1\_026:

(Start: 39 @27564 has 6 MA's), (45, 27585), (51, 27621), (76, 27678), (132, 27798), (143, 27816), (166, 27888), (168, 27894), (183, 27948), (200, 27984), (251, 28167), (258, 28212), (264, 28251), (282, 28305), (327, 28410), (340, 28446), (345, 28464), (358, 28512), (375, 28596), (386, 28632), (397, 28662), (404, 28698), (409, 28716), (455, 28923), (457, 28935), (460, 28944), (476, 29019), (477, 29022), (485, 29061), (494, 29106), (496, 29121), (512, 29202), (516, 29214), (518, 29232), (520, 29238), (522, 29253), (524, 29259), (544, 29340), (571, 29430), (574, 29445), (591, 29517), (600, 29556), (614, 29655), (677, 29997),

Gene: Jolie2\_22 Start: 19776, Stop: 22241, Start Num: 33

Candidate Starts for Jolie2\_22:

(22, 19692), (23, 19707), (24, 19728), (Start: 33 @19776 has 9 MA's), (65, 19884), (78, 19905), (91, 19938), (221, 20241), (264, 20433), (280, 20484), (306, 20529), (340, 20628), (343, 20640), (345, 20646), (362, 20712), (365, 20727), (375, 20778), (409, 20898), (410, 20907), (455, 21105), (464, 21141), (470, 21180), (496, 21309), (503, 21354), (516, 21405), (528, 21465), (538, 21510), (571, 21621), (577, 21648), (600, 21747), (601, 21750), (613, 21843), (622, 21885), (647, 21990), (677, 22179), (680, 22221),

Gene: Joy99\_27 Start: 20841, Stop: 23273, Start Num: 80

Candidate Starts for Joy99\_27:

(Start: 80 @20841 has 96 MA's), (126, 20940), (218, 21201), (225, 21222), (270, 21429), (280, 21462), (285, 21492), (314, 21564), (319, 21588), (370, 21786), (378, 21831), (381, 21843), (385, 21852), (400, 21903), (437, 22083), (443, 22098), (459, 22167), (463, 22179), (476, 22242), (485, 22284), (494, 22323), (495, 22329), (496, 22338), (500, 22359), (513, 22419), (539, 22536), (550, 22578), (570, 22650), (577, 22680), (594, 22752), (599, 22773), (614, 22869), (648, 23016), (664, 23097), (680, 23244),

Gene: Juice456\_20 Start: 18519, Stop: 21056, Start Num: 53

Candidate Starts for Juice456\_20:

(47, 18507), (Start: 53 @18519 has 241 MA's), (61, 18540), (Start: 71 @18561 has 1 MA's), (90, 18600), (129, 18669), (130, 18678), (131, 18681), (141, 18699), (155, 18732), (158, 18747), (172, 18795), (208, 18906), (209, 18909), (221, 18939), (224, 18951), (225, 18954), (242, 19032), (251, 19056), (262, 19122), (272, 19167), (281, 19197), (283, 19203), (284, 19221), (293, 19245), (296, 19254), (310, 19287), (312, 19293), (319, 19323), (336, 19362), (339, 19374), (342, 19383), (346, 19398), (348, 19401), (370, 19512), (371, 19515), (373, 19524), (374, 19530), (377, 19545), (379, 19548), (387, 19569), (397, 19599), (400, 19611), (406, 19644), (428, 19755), (429, 19758), (439, 19785), (442, 19791), (455, 19845), (456, 19848), (479, 19935), (481, 19950), (484, 19962), (485, 19965), (497, 20031), (502, 20055), (505, 20076), (507, 20085), (516, 20127), (520, 20145), (521, 20148), (529, 20184), (532, 20202), (537, 20214), (539, 20223), (547, 20250), (564, 20319), (567, 20337), (571, 20346), (573, 20358), (579, 20394), (588, 20424), (595, 20445), (602, 20469), (607, 20505), (614, 20559), (629, 20619), (637, 20661), (654, 20739), (666, 20796), (670, 20820), (676, 20874), (680, 20922), (688, 20964), (690, 20988), (691, 20991),

Gene: Juniper1\_18 Start: 17394, Stop: 19931, Start Num: 53

Candidate Starts for Juniper1\_18:

(Start: 53 @17394 has 241 MA's), (61, 17415), (Start: 71 @17436 has 1 MA's), (90, 17475), (129, 17544), (130, 17553), (131, 17556), (141, 17574), (155, 17607), (158, 17622), (208, 17781), (209, 17784), (225, 17829), (242, 17907), (251, 17931), (262, 17997), (281, 18072), (283, 18078), (293, 18120), (295, 18126), (296, 18129), (310, 18162), (312, 18168), (319, 18198), (330, 18219), (339, 18249), (342, 18258), (366, 18366), (369, 18378), (370, 18387), (371, 18390), (373, 18399), (374, 18405), (377, 18420), (379, 18423), (387, 18444), (400, 18486), (406, 18519), (428, 18630), (429, 18633), (439, 18660), (442, 18666), (455, 18720), (456, 18723), (467, 18750), (468, 18759), (481, 18825), (484, 18837), (485, 18840), (497, 18906), (501, 18927), (502, 18930), (505, 18951), (516, 19002), (520, 19020), (521, 19023), (527, 19053), (532, 19077), (537, 19089), (539, 19098), (564, 19194), (567, 19212), (571, 19221), (573, 19233), (579, 19269), (588, 19299), (595, 19320), (602, 19344), (607, 19380), (629, 19494), (637, 19536), (666, 19671), (670, 19695), (676, 19749), (685, 19818), (690, 19863), (691, 19866), (693, 19872),

Gene: Kanye\_28 Start: 23270, Stop: 25666, Start Num: 94

Candidate Starts for Kanye\_28:

(Start: 94 @23270 has 128 MA's), (170, 23447), (174, 23468), (232, 23615), (263, 23756), (271, 23789), (281, 23822), (287, 23858), (319, 23951), (342, 24011), (348, 24029), (375, 24161), (389, 24206), (420, 24338), (428, 24383), (450, 24443), (478, 24557), (481, 24578), (491, 24617), (494, 24638), (496, 24653), (527, 24803), (529, 24809), (532, 24827), (549, 24881), (567, 24965), (593, 25058), (648, 25304), (680, 25520), (691, 25604), (698, 25637),

Gene: Karhdo\_18 Start: 17528, Stop: 20065, Start Num: 53

Candidate Starts for Karhdo\_18:

(47, 17516), (Start: 53 @17528 has 241 MA's), (61, 17549), (Start: 71 @17570 has 1 MA's), (90, 17609), (129, 17678), (130, 17687), (131, 17690), (141, 17708), (155, 17741), (158, 17756), (172, 17804), (208, 17915), (209, 17918), (221, 17948), (224, 17960), (225, 17963), (242, 18041), (251,

18065), (262, 18131), (272, 18176), (281, 18206), (283, 18212), (284, 18230), (293, 18254), (296, 18263), (310, 18296), (312, 18302), (319, 18332), (336, 18371), (339, 18383), (342, 18392), (346, 18407), (348, 18410), (370, 18521), (371, 18524), (373, 18533), (374, 18539), (377, 18554), (379, 18557), (387, 18578), (397, 18608), (400, 18620), (406, 18653), (428, 18764), (429, 18767), (439, 18794), (442, 18800), (455, 18854), (456, 18857), (479, 18944), (481, 18959), (484, 18971), (485, 18974), (497, 19040), (502, 19064), (505, 19085), (507, 19094), (516, 19136), (520, 19154), (521, 19157), (527, 19187), (532, 19211), (537, 19223), (539, 19232), (564, 19328), (567, 19346), (571, 19355), (573, 19367), (579, 19403), (588, 19433), (593, 19442), (595, 19454), (607, 19514), (614, 19568), (629, 19628), (637, 19670), (666, 19805), (670, 19829), (676, 19883), (680, 19931), (688, 19973), (690, 19997), (691, 20000),

Gene: KashFlow\_30 Start: 26008, Stop: 28503, Start Num: 53

Candidate Starts for KashFlow\_30:

(Start: 53 @26008 has 241 MA's), (141, 26203), (155, 26239), (158, 26254), (192, 26341), (197, 26356), (209, 26392), (211, 26398), (225, 26431), (228, 26443), (269, 26614), (272, 26623), (281, 26647), (295, 26701), (310, 26737), (312, 26743), (319, 26773), (333, 26803), (339, 26824), (342, 26833), (346, 26848), (362, 26917), (379, 26998), (382, 27007), (389, 27028), (390, 27031), (400, 27061), (407, 27097), (416, 27148), (418, 27157), (420, 27160), (425, 27187), (427, 27196), (433, 27217), (455, 27295), (456, 27298), (475, 27370), (482, 27406), (484, 27412), (493, 27454), (494, 27460), (501, 27502), (502, 27505), (505, 27526), (506, 27532), (507, 27535), (514, 27565), (546, 27706), (549, 27715), (550, 27724), (557, 27757), (564, 27781), (565, 27784), (567, 27799), (573, 27820), (579, 27856), (581, 27862), (584, 27868), (589, 27889), (598, 27916), (619, 28051), (635, 28123), (639, 28129), (648, 28147), (666, 28246), (680, 28363), (692, 28444), (694, 28447), (698, 28474),

Gene: KayaCho\_26 Start: 27566, Stop: 30061, Start Num: 39

Candidate Starts for KayaCho\_26:

(Start: 39 @27566 has 6 MA's), (51, 27623), (65, 27662), (102, 27737), (143, 27818), (166, 27890), (183, 27950), (200, 27986), (251, 28169), (258, 28214), (282, 28307), (309, 28355), (327, 28412), (340, 28448), (345, 28466), (354, 28493), (358, 28514), (375, 28598), (386, 28634), (397, 28664), (404, 28700), (409, 28718), (455, 28925), (457, 28937), (460, 28946), (474, 29015), (476, 29021), (477, 29024), (485, 29063), (494, 29108), (500, 29147), (512, 29204), (516, 29216), (520, 29240), (522, 29255), (524, 29261), (544, 29342), (574, 29447), (614, 29657), (616, 29678), (662, 29870), (677, 29993), (681, 30038),

Gene: Kenuha5\_18 Start: 17523, Stop: 20015, Start Num: 53

Candidate Starts for Kenuha5\_18:

(48, 17511), (Start: 53 @17523 has 241 MA's), (61, 17544), (Start: 71 @17565 has 1 MA's), (90, 17604), (129, 17673), (130, 17682), (131, 17685), (141, 17703), (155, 17736), (166, 17769), (172, 17802), (197, 17856), (209, 17892), (211, 17898), (212, 17901), (223, 17919), (225, 17931), (228, 17943), (234, 17967), (253, 18030), (269, 18114), (272, 18123), (281, 18147), (284, 18171), (293, 18195), (295, 18201), (303, 18222), (312, 18243), (319, 18273), (333, 18303), (339, 18324), (362, 18417), (365, 18432), (366, 18441), (370, 18462), (371, 18465), (397, 18549), (398, 18552), (400, 18561), (405, 18588), (407, 18597), (414, 18636), (418, 18657), (420, 18660), (427, 18696), (433, 18717), (455, 18795), (456, 18798), (472, 18852), (484, 18912), (502, 19005), (504, 19023), (505, 19026), (514, 19062), (525, 19116), (527, 19125), (546, 19203), (550, 19221), (559, 19257), (561, 19260), (564, 19278), (565, 19281), (567, 19296), (573, 19317), (579, 19353), (584, 19365), (602, 19428), (607, 19461), (619, 19548), (632, 19596), (635, 19620), (643, 19647), (648, 19656), (653, 19695), (662, 19734), (666, 19758), (669, 19779), (680, 19875), (685, 19896), (694, 19959), (698, 19986), (701, 19995),

Gene: Kersh\_19 Start: 17568, Stop: 20060, Start Num: 53

Candidate Starts for Kersh\_19:

(Start: 53 @17568 has 241 MA's), (61, 17589), (Start: 71 @17610 has 1 MA's), (90, 17649), (129, 17718), (130, 17727), (131, 17730), (141, 17748), (155, 17781), (166, 17814), (172, 17847), (197, 17901), (209, 17937), (212, 17946), (223, 17964), (228, 17988), (234, 18012), (259, 18120), (263, 18144), (269, 18159), (272, 18168), (281, 18192), (283, 18198), (284, 18216), (287, 18228), (291, 18234), (293, 18240), (295, 18246), (296, 18249), (300, 18258), (303, 18267), (310, 18282), (319, 18318), (336, 18357), (339, 18369), (342, 18378), (362, 18462), (379, 18543), (382, 18552), (390, 18576), (400, 18606), (407, 18642), (416, 18693), (418, 18702), (420, 18705), (427, 18741), (433, 18762), (455, 18840), (456, 18843), (472, 18897), (484, 18957), (500, 19044), (502, 19050), (505, 19071), (514, 19107), (525, 19161), (527, 19170), (546, 19248), (550, 19266), (559, 19302), (561, 19305), (564, 19323), (567, 19341), (579, 19398), (584, 19410), (602, 19473), (607, 19506), (619, 19593), (632, 19641), (635, 19665), (643, 19692), (648, 19701), (653, 19740), (662, 19779), (666, 19803), (669, 19824), (680, 19920), (685, 19941), (692, 20001), (694, 20004), (698, 20031),

Gene: KiSi\_26 Start: 20041, Stop: 22500, Start Num: 80

Candidate Starts for KiSi\_26:

(Start: 80 @20041 has 96 MA's), (98, 20089), (155, 20212), (171, 20269), (174, 20281), (208, 20374), (216, 20398), (231, 20449), (265, 20611), (295, 20722), (307, 20761), (314, 20785), (353, 20908), (366, 20980), (383, 21067), (401, 21133), (404, 21148), (424, 21250), (437, 21304), (453, 21364), (472, 21442), (473, 21454), (476, 21463), (485, 21505), (496, 21565), (515, 21652), (519, 21676), (534, 21748), (550, 21805), (577, 21916), (580, 21940), (587, 21961), (600, 22012), (621, 22141), (649, 22246), (680, 22471),

Gene: Kimberlium\_20 Start: 18519, Stop: 21056, Start Num: 53

Candidate Starts for Kimberlium\_20:

(47, 18507), (Start: 53 @18519 has 241 MA's), (61, 18540), (Start: 71 @18561 has 1 MA's), (90, 18600), (129, 18669), (130, 18678), (131, 18681), (141, 18699), (155, 18732), (158, 18747), (172, 18795), (208, 18906), (209, 18909), (221, 18939), (224, 18951), (225, 18954), (242, 19032), (251, 19056), (262, 19122), (272, 19167), (281, 19197), (283, 19203), (284, 19221), (293, 19245), (296, 19254), (310, 19287), (312, 19293), (319, 19323), (336, 19362), (339, 19374), (342, 19383), (346, 19398), (348, 19401), (370, 19512), (371, 19515), (373, 19524), (374, 19530), (377, 19545), (379, 19548), (387, 19569), (397, 19599), (400, 19611), (406, 19644), (428, 19755), (429, 19758), (439, 19785), (442, 19791), (455, 19845), (456, 19848), (479, 19935), (481, 19950), (484, 19962), (485, 19965), (497, 20031), (502, 20055), (505, 20076), (507, 20085), (516, 20127), (520, 20145), (521, 20148), (529, 20184), (532, 20202), (537, 20214), (539, 20223), (547, 20250), (564, 20319), (567, 20337), (571, 20346), (573, 20358), (579, 20394), (588, 20424), (595, 20445), (602, 20469), (607, 20505), (614, 20559), (629, 20619), (637, 20661), (654, 20739), (666, 20796), (670, 20820), (676, 20874), (680, 20922), (688, 20964), (690, 20988), (691, 20991),

Gene: Kimchi\_28 Start: 22277, Stop: 24673, Start Num: 94

Candidate Starts for Kimchi\_28:

(Start: 94 @22277 has 128 MA's), (170, 22454), (174, 22475), (232, 22622), (263, 22763), (271, 22796), (281, 22829), (287, 22865), (319, 22958), (342, 23018), (348, 23036), (375, 23168), (389, 23213), (420, 23345), (428, 23390), (450, 23450), (478, 23564), (481, 23585), (491, 23624), (494, 23645), (496, 23660), (527, 23810), (529, 23816), (532, 23834), (549, 23888), (567, 23972), (593, 24065), (648, 24311), (680, 24527), (691, 24611), (698, 24644),

Gene: KingJulian\_18 Start: 17437, Stop: 19974, Start Num: 53

Candidate Starts for KingJulian\_18:

(47, 17425), (Start: 53 @17437 has 241 MA's), (61, 17458), (Start: 71 @17479 has 1 MA's), (90, 17518), (129, 17587), (130, 17596), (131, 17599), (141, 17617), (155, 17650), (158, 17665), (172, 17713), (208, 17824), (209, 17827), (221, 17857), (224, 17869), (225, 17872), (242, 17950), (251, 17974), (262, 18040), (272, 18085), (281, 18115), (283, 18121), (284, 18139), (293, 18163), (296, 18172), (310, 18205), (312, 18211), (319, 18241), (336, 18280), (339, 18292), (342, 18301), (346,

18316), (348, 18319), (370, 18430), (371, 18433), (373, 18442), (374, 18448), (377, 18463), (379, 18466), (387, 18487), (397, 18517), (400, 18529), (406, 18562), (428, 18673), (429, 18676), (439, 18703), (442, 18709), (455, 18763), (456, 18766), (479, 18853), (481, 18868), (484, 18880), (485, 18883), (497, 18949), (502, 18973), (505, 18994), (507, 19003), (520, 19063), (521, 19066), (529, 19102), (532, 19120), (537, 19132), (539, 19141), (547, 19168), (564, 19237), (567, 19255), (571, 19264), (573, 19276), (579, 19312), (588, 19342), (595, 19363), (602, 19387), (607, 19423), (614, 19477), (629, 19537), (637, 19579), (654, 19657), (666, 19714), (670, 19738), (676, 19792), (680, 19840), (688, 19882), (690, 19906), (691, 19909),

Gene: KingMidas\_19 Start: 18701, Stop: 21238, Start Num: 53

Candidate Starts for KingMidas\_19:

(47, 18689), (Start: 53 @18701 has 241 MA's), (61, 18722), (Start: 71 @18743 has 1 MA's), (90, 18782), (129, 18851), (130, 18860), (131, 18863), (141, 18881), (158, 18929), (172, 18977), (208, 19088), (209, 19091), (225, 19136), (242, 19214), (251, 19238), (262, 19304), (272, 19349), (281, 19379), (283, 19385), (284, 19403), (293, 19427), (296, 19436), (310, 19469), (312, 19475), (319, 19505), (336, 19544), (339, 19556), (342, 19565), (346, 19580), (348, 19583), (370, 19694), (371, 19697), (373, 19706), (374, 19712), (377, 19727), (379, 19730), (387, 19751), (397, 19781), (400, 19793), (406, 19826), (428, 19937), (429, 19940), (439, 19967), (442, 19973), (455, 20027), (456, 20030), (481, 20132), (484, 20144), (485, 20147), (497, 20213), (502, 20237), (505, 20258), (507, 20267), (520, 20327), (521, 20330), (529, 20366), (532, 20384), (539, 20405), (547, 20432), (564, 20501), (567, 20519), (571, 20528), (573, 20540), (579, 20576), (595, 20627), (600, 20645), (607, 20687), (614, 20741), (637, 20843), (666, 20978), (670, 21002), (676, 21056), (685, 21125), (690, 21170), (691, 21173),

Gene: KingPhillip3\_57 Start: 36111, Stop: 38621, Start Num: 60

Candidate Starts for KingPhillip3\_57:

(Start: 60 @36111 has 33 MA's), (74, 36144), (108, 36213), (109, 36216), (122, 36240), (131, 36264), (145, 36288), (155, 36321), (214, 36528), (217, 36540), (218, 36543), (254, 36690), (257, 36720), (262, 36744), (272, 36774), (273, 36777), (281, 36804), (284, 36828), (295, 36858), (315, 36915), (320, 36939), (336, 36975), (339, 36987), (346, 37011), (348, 37014), (356, 37056), (377, 37152), (379, 37155), (447, 37410), (481, 37554), (494, 37614), (504, 37686), (505, 37689), (526, 37785), (567, 37959), (573, 37980), (598, 38073), (601, 38085), (614, 38175), (633, 38250), (653, 38295), (684, 38496), (689, 38550), (694, 38565),

Gene: Kingsley\_19 Start: 17253, Stop: 19730, Start Num: 53

Candidate Starts for Kingsley\_19:

(48, 17241), (Start: 53 @17253 has 241 MA's), (61, 17274), (Start: 71 @17295 has 1 MA's), (90, 17334), (129, 17403), (130, 17412), (131, 17415), (141, 17433), (155, 17466), (158, 17481), (192, 17568), (197, 17583), (209, 17619), (211, 17625), (225, 17658), (228, 17670), (269, 17841), (272, 17850), (281, 17874), (295, 17928), (310, 17964), (312, 17970), (319, 18000), (333, 18030), (339, 18051), (342, 18060), (362, 18144), (374, 18207), (379, 18225), (382, 18234), (389, 18255), (390, 18258), (397, 18276), (400, 18288), (405, 18315), (407, 18324), (416, 18375), (418, 18384), (420, 18387), (425, 18414), (427, 18423), (433, 18444), (455, 18522), (456, 18525), (482, 18633), (484, 18639), (494, 18687), (501, 18729), (502, 18732), (505, 18753), (506, 18759), (507, 18762), (514, 18792), (546, 18933), (550, 18951), (557, 18984), (564, 19008), (565, 19011), (567, 19026), (573, 19047), (579, 19083), (581, 19089), (589, 19116), (598, 19143), (619, 19278), (632, 19326), (635, 19350), (639, 19356), (648, 19374), (666, 19473), (669, 19494), (671, 19512), (680, 19590), (685, 19611), (694, 19674), (696, 19692), (701, 19710),

Gene: Konstantine\_34 Start: 26883, Stop: 29726, Start Num: 17

Candidate Starts for Konstantine\_34:

(Start: 17 @26883 has 8 MA's), (30, 27015), (31, 27027), (35, 27036), (49, 27105), (75, 27171), (83, 27192), (102, 27240), (124, 27282), (134, 27306), (151, 27339), (160, 27375), (165, 27387), (191,

27480), (209, 27537), (220, 27576), (263, 27771), (270, 27801), (283, 27843), (330, 27984), (336, 28002), (356, 28083), (365, 28122), (369, 28143), (406, 28281), (413, 28320), (427, 28383), (456, 28485), (504, 28710), (589, 29073), (598, 29100), (649, 29343), (652, 29376), (658, 29400), (675, 29520), (686, 29598), (698, 29685), (702, 29700), (704, 29706),

Gene: Kostya\_26 Start: 22283, Stop: 24679, Start Num: 94

Candidate Starts for Kostya\_26:

(Start: 94 @22283 has 128 MA's), (170, 22460), (174, 22481), (232, 22628), (263, 22769), (271, 22802), (281, 22835), (287, 22871), (319, 22964), (342, 23024), (348, 23042), (365, 23123), (420, 23351), (428, 23396), (481, 23591), (482, 23597), (485, 23606), (494, 23651), (496, 23666), (529, 23822), (532, 23840), (535, 23849), (567, 23978), (568, 23981), (613, 24191), (615, 24203), (648, 24317), (680, 24533), (691, 24617), (696, 24641), (698, 24650),

Gene: Krakatau\_19 Start: 18095, Stop: 20632, Start Num: 53

Candidate Starts for Krakatau\_19:

(Start: 53 @18095 has 241 MA's), (61, 18116), (Start: 71 @18137 has 1 MA's), (90, 18176), (129, 18245), (130, 18254), (131, 18257), (141, 18275), (155, 18308), (158, 18323), (172, 18371), (208, 18482), (209, 18485), (221, 18515), (224, 18527), (225, 18530), (251, 18632), (262, 18698), (272, 18743), (281, 18773), (283, 18779), (284, 18797), (293, 18821), (296, 18830), (310, 18863), (312, 18869), (319, 18899), (336, 18938), (339, 18950), (342, 18959), (346, 18974), (349, 18980), (370, 19088), (371, 19091), (373, 19100), (374, 19106), (377, 19121), (379, 19124), (387, 19145), (397, 19175), (400, 19187), (406, 19220), (428, 19331), (429, 19334), (439, 19361), (442, 19367), (455, 19421), (456, 19424), (481, 19526), (484, 19538), (485, 19541), (497, 19607), (502, 19631), (505, 19652), (507, 19661), (520, 19721), (521, 19724), (529, 19760), (532, 19778), (537, 19790), (539, 19799), (547, 19826), (564, 19895), (567, 19913), (571, 19922), (573, 19934), (579, 19970), (588, 20000), (595, 20021), (602, 20045), (607, 20081), (614, 20135), (629, 20195), (637, 20237), (654, 20315), (666, 20372), (670, 20396), (676, 20450), (680, 20498), (690, 20564), (691, 20567),

Gene: Krili\_57 Start: 35606, Stop: 38116, Start Num: 60

Candidate Starts for Krili\_57:

(Start: 60 @35606 has 33 MA's), (74, 35639), (108, 35708), (109, 35711), (122, 35735), (131, 35759), (145, 35783), (155, 35816), (214, 36023), (217, 36035), (218, 36038), (254, 36185), (257, 36215), (262, 36239), (272, 36269), (273, 36272), (281, 36299), (284, 36323), (295, 36353), (315, 36410), (320, 36434), (336, 36470), (339, 36482), (346, 36506), (348, 36509), (356, 36551), (377, 36647), (379, 36650), (447, 36905), (481, 37049), (494, 37109), (504, 37181), (505, 37184), (526, 37280), (567, 37454), (573, 37475), (598, 37568), (601, 37580), (614, 37670), (633, 37745), (653, 37790), (684, 37991), (689, 38045), (694, 38060),

Gene: KristaRAM\_19 Start: 18070, Stop: 20607, Start Num: 53

Candidate Starts for KristaRAM\_19:

(47, 18058), (Start: 53 @18070 has 241 MA's), (61, 18091), (Start: 71 @18112 has 1 MA's), (90, 18151), (129, 18220), (130, 18229), (131, 18232), (141, 18250), (155, 18283), (158, 18298), (172, 18346), (208, 18457), (209, 18460), (221, 18490), (224, 18502), (225, 18505), (242, 18583), (251, 18607), (262, 18673), (272, 18718), (281, 18748), (283, 18754), (284, 18772), (293, 18796), (296, 18805), (310, 18838), (312, 18844), (319, 18874), (336, 18913), (339, 18925), (342, 18934), (346, 18949), (348, 18952), (370, 19063), (371, 19066), (373, 19075), (374, 19081), (377, 19096), (379, 19099), (387, 19120), (397, 19150), (400, 19162), (406, 19195), (428, 19306), (429, 19309), (439, 19336), (442, 19342), (455, 19396), (456, 19399), (479, 19486), (481, 19501), (484, 19513), (485, 19516), (497, 19582), (502, 19606), (505, 19627), (507, 19636), (520, 19696), (521, 19699), (529, 19735), (532, 19753), (537, 19765), (539, 19774), (547, 19801), (564, 19870), (567, 19888), (571, 19897), (573, 19909), (579, 19945), (588, 19975), (595, 19996), (602, 20020), (607, 20056), (614, 20110), (629, 20170), (637, 20212), (654, 20290), (666, 20347), (670, 20371), (676, 20425), (680, 20473), (688, 20515), (690, 20539), (691, 20542),

Gene: Kumao\_30 Start: 23701, Stop: 26268, Start Num: 53

Candidate Starts for Kumao\_30:

(Start: 53 @23701 has 241 MA's), (81, 23767), (141, 23899), (153, 23923), (162, 23956), (180, 24031), (188, 24049), (206, 24100), (224, 24166), (269, 24370), (296, 24469), (310, 24502), (325, 24553), (360, 24676), (361, 24679), (406, 24856), (420, 24922), (436, 24988), (443, 25006), (448, 25021), (451, 25045), (480, 25150), (481, 25162), (508, 25300), (527, 25399), (529, 25405), (534, 25435), (546, 25477), (590, 25660), (593, 25663), (598, 25684), (599, 25690), (614, 25789), (622, 25828), (644, 25915), (665, 26014), (672, 26065), (674, 26083), (679, 26137), (690, 26212),

Gene: LaterM\_27 Start: 20812, Stop: 23244, Start Num: 80

Candidate Starts for LaterM\_27:

(Start: 80 @20812 has 96 MA's), (103, 20869), (126, 20911), (218, 21172), (225, 21193), (270, 21400), (280, 21433), (285, 21463), (314, 21535), (319, 21559), (337, 21604), (370, 21757), (381, 21814), (385, 21823), (396, 21859), (400, 21874), (437, 22054), (443, 22069), (459, 22138), (463, 22150), (476, 22213), (485, 22255), (494, 22294), (495, 22300), (496, 22309), (500, 22330), (513, 22390), (522, 22438), (523, 22441), (527, 22456), (537, 22498), (539, 22507), (553, 22564), (570, 22621), (572, 22630), (577, 22651), (587, 22696), (599, 22744), (614, 22840), (664, 23068), (680, 23215),

Gene: Latretium\_19 Start: 18077, Stop: 20614, Start Num: 53

Candidate Starts for Latretium\_19:

(47, 18065), (Start: 53 @18077 has 241 MA's), (61, 18098), (Start: 71 @18119 has 1 MA's), (90, 18158), (129, 18227), (130, 18236), (131, 18239), (141, 18257), (158, 18305), (208, 18464), (209, 18467), (221, 18497), (225, 18512), (242, 18590), (250, 18611), (251, 18614), (262, 18680), (281, 18755), (283, 18761), (284, 18779), (293, 18803), (295, 18809), (296, 18812), (310, 18845), (312, 18851), (319, 18881), (330, 18902), (339, 18932), (342, 18941), (366, 19049), (370, 19070), (371, 19073), (373, 19082), (374, 19088), (377, 19103), (379, 19106), (387, 19127), (400, 19169), (406, 19202), (439, 19343), (442, 19349), (455, 19403), (456, 19406), (467, 19433), (481, 19508), (484, 19520), (485, 19523), (497, 19589), (502, 19613), (505, 19634), (507, 19643), (520, 19703), (521, 19706), (529, 19742), (532, 19760), (539, 19781), (547, 19808), (563, 19865), (564, 19877), (567, 19895), (571, 19904), (573, 19916), (579, 19952), (588, 19982), (607, 20063), (614, 20117), (629, 20177), (637, 20219), (666, 20354), (670, 20378), (676, 20432), (688, 20522), (690, 20546), (691, 20549),

Gene: LeMond\_26 Start: 20112, Stop: 22571, Start Num: 80

Candidate Starts for LeMond\_26:

(Start: 80 @20112 has 96 MA's), (98, 20160), (155, 20283), (171, 20340), (174, 20352), (208, 20445), (216, 20469), (231, 20520), (265, 20682), (295, 20793), (307, 20832), (314, 20856), (353, 20979), (366, 21051), (383, 21138), (404, 21219), (424, 21321), (437, 21375), (453, 21435), (472, 21513), (473, 21525), (476, 21534), (485, 21576), (494, 21621), (496, 21636), (515, 21723), (519, 21747), (534, 21819), (550, 21876), (577, 21987), (580, 22011), (587, 22032), (600, 22083), (621, 22212), (649, 22317), (680, 22542),

Gene: Lemuria\_23 Start: 20578, Stop: 23055, Start Num: 33

Candidate Starts for Lemuria\_23:

(Start: 33 @20578 has 9 MA's), (65, 20686), (84, 20722), (91, 20740), (221, 21052), (280, 21295), (306, 21340), (341, 21442), (345, 21457), (362, 21523), (365, 21538), (375, 21589), (386, 21625), (404, 21691), (410, 21718), (455, 21916), (470, 21991), (516, 22216), (528, 22276), (538, 22321), (577, 22459), (600, 22555), (622, 22693), (677, 22993),

Gene: Leozinho\_19 Start: 17243, Stop: 19780, Start Num: 53

Candidate Starts for Leozinho\_19:

(47, 17231), (Start: 53 @17243 has 241 MA's), (61, 17264), (Start: 71 @17285 has 1 MA's), (90, 17324), (129, 17393), (130, 17402), (131, 17405), (141, 17423), (155, 17456), (158, 17471), (172, 17519), (208, 17630), (209, 17633), (221, 17663), (224, 17675), (225, 17678), (242, 17756), (251, 17780), (262, 17846), (272, 17891), (281, 17921), (283, 17927), (284, 17945), (293, 17969), (296, 17978), (310, 18011), (312, 18017), (319, 18047), (336, 18086), (339, 18098), (342, 18107), (346, 18122), (348, 18125), (370, 18236), (371, 18239), (373, 18248), (374, 18254), (377, 18269), (379, 18272), (387, 18293), (397, 18323), (400, 18335), (406, 18368), (428, 18479), (429, 18482), (439, 18509), (442, 18515), (455, 18569), (456, 18572), (481, 18674), (484, 18686), (485, 18689), (497, 18755), (502, 18779), (505, 18800), (507, 18809), (520, 18869), (521, 18872), (529, 18908), (532, 18926), (537, 18938), (539, 18947), (547, 18974), (564, 19043), (567, 19061), (571, 19070), (573, 19082), (579, 19118), (588, 19148), (595, 19169), (602, 19193), (607, 19229), (614, 19283), (629, 19343), (637, 19385), (654, 19463), (666, 19520), (670, 19544), (676, 19598), (680, 19646), (688, 19688), (690, 19712), (691, 19715),

Gene: Leperchaun\_18 Start: 17387, Stop: 19939, Start Num: 53

Candidate Starts for Leperchaun\_18:

(Start: 53 @17387 has 241 MA's), (61, 17408), (68, 17429), (90, 17468), (129, 17537), (130, 17546), (131, 17549), (141, 17567), (155, 17600), (158, 17615), (172, 17663), (208, 17774), (209, 17777), (222, 17810), (224, 17819), (225, 17822), (242, 17900), (257, 17966), (263, 17999), (277, 18053), (281, 18065), (293, 18113), (296, 18122), (300, 18131), (313, 18164), (330, 18206), (335, 18221), (343, 18251), (345, 18257), (346, 18260), (348, 18263), (354, 18290), (358, 18311), (365, 18344), (373, 18386), (374, 18392), (375, 18395), (377, 18407), (379, 18410), (388, 18437), (397, 18461), (400, 18473), (406, 18506), (411, 18527), (425, 18599), (429, 18620), (461, 18731), (469, 18755), (470, 18758), (475, 18782), (481, 18812), (488, 18836), (494, 18872), (495, 18878), (496, 18887), (511, 18977), (516, 19001), (517, 19016), (527, 19058), (529, 19064), (541, 19109), (565, 19205), (567, 19220), (571, 19229), (576, 19253), (593, 19316), (663, 19658), (670, 19703), (680, 19805),

Gene: LilMcDreamy\_27 Start: 29183, Stop: 31675, Start Num: 39

Candidate Starts for LilMcDreamy\_27:

(Start: 39 @29183 has 6 MA's), (59, 29261), (93, 29336), (282, 29906), (290, 29930), (334, 30029), (341, 30053), (343, 30062), (354, 30095), (357, 30113), (367, 30161), (399, 30275), (404, 30302), (412, 30341), (429, 30437), (437, 30461), (455, 30527), (476, 30623), (484, 30662), (512, 30806), (522, 30857), (530, 30896), (533, 30905), (546, 30950), (574, 31061), (600, 31172), (614, 31271), (651, 31430), (668, 31532), (677, 31613),

Gene: LilMoolah\_18 Start: 17531, Stop: 20056, Start Num: 53

Candidate Starts for LilMoolah\_18:

(Start: 53 @17531 has 241 MA's), (61, 17552), (68, 17573), (90, 17612), (129, 17681), (130, 17690), (131, 17693), (141, 17711), (158, 17759), (172, 17807), (208, 17918), (209, 17921), (222, 17954), (225, 17966), (242, 18044), (257, 18110), (263, 18143), (277, 18197), (281, 18209), (295, 18263), (296, 18266), (300, 18275), (313, 18308), (328, 18347), (330, 18350), (335, 18365), (336, 18368), (343, 18395), (345, 18401), (346, 18404), (348, 18407), (354, 18434), (357, 18452), (358, 18455), (373, 18530), (377, 18551), (379, 18554), (388, 18581), (397, 18605), (406, 18650), (407, 18653), (416, 18704), (429, 18767), (433, 18776), (441, 18800), (470, 18905), (471, 18908), (481, 18959), (482, 18965), (484, 18971), (485, 18974), (494, 19019), (496, 19034), (501, 19061), (505, 19085), (516, 19136), (520, 19154), (521, 19157), (522, 19169), (537, 19223), (567, 19346), (581, 19409), (600, 19472), (609, 19547), (657, 19748), (687, 19958), (693, 19997), (694, 20000),

Gene: Lilac\_28 Start: 21781, Stop: 24177, Start Num: 94

Candidate Starts for Lilac\_28:

(Start: 94 @21781 has 128 MA's), (170, 21958), (174, 21979), (232, 22126), (271, 22300), (281, 22333), (287, 22369), (319, 22462), (342, 22522), (348, 22540), (375, 22672), (389, 22717), (420, 22849), (428, 22894), (450, 22954), (478, 23068), (481, 23089), (491, 23128), (494, 23149), (496,

23164), (527, 23314), (529, 23320), (532, 23338), (549, 23392), (567, 23476), (593, 23569), (648, 23815), (680, 24031), (691, 24115), (698, 24148),

Gene: Lilizi\_28 Start: 21989, Stop: 24385, Start Num: 94

Candidate Starts for Lilizi\_28:

(Start: 94 @21989 has 128 MA's), (170, 22166), (174, 22187), (232, 22334), (271, 22508), (281, 22541), (287, 22577), (319, 22670), (342, 22730), (348, 22748), (375, 22880), (389, 22925), (420, 23057), (428, 23102), (450, 23162), (478, 23276), (481, 23297), (491, 23336), (494, 23357), (496, 23372), (527, 23522), (529, 23528), (532, 23546), (549, 23600), (567, 23684), (593, 23777), (648, 24023), (680, 24239), (691, 24323), (698, 24356),

Gene: Lilpickle\_25 Start: 21491, Stop: 23887, Start Num: 94

Candidate Starts for Lilpickle\_25:

(Start: 94 @21491 has 128 MA's), (170, 21668), (174, 21689), (232, 21836), (271, 22010), (281, 22043), (287, 22079), (319, 22172), (342, 22232), (348, 22250), (375, 22382), (389, 22427), (420, 22559), (428, 22604), (450, 22664), (478, 22778), (481, 22799), (491, 22838), (494, 22859), (496, 22874), (527, 23024), (529, 23030), (532, 23048), (549, 23102), (567, 23186), (593, 23279), (648, 23525), (680, 23741), (691, 23825), (698, 23858),

Gene: LindNT\_27 Start: 20846, Stop: 23278, Start Num: 80

Candidate Starts for LindNT\_27:

(Start: 80 @20846 has 96 MA's), (126, 20945), (218, 21206), (270, 21434), (280, 21467), (285, 21497), (314, 21569), (319, 21593), (337, 21638), (370, 21791), (378, 21836), (381, 21848), (385, 21857), (396, 21893), (400, 21908), (437, 22088), (443, 22103), (459, 22172), (463, 22184), (476, 22247), (485, 22289), (494, 22328), (495, 22334), (496, 22343), (500, 22364), (513, 22424), (539, 22541), (550, 22583), (570, 22655), (572, 22664), (577, 22685), (594, 22757), (599, 22778), (614, 22874), (664, 23102), (680, 23249),

Gene: LittleE\_39 Start: 30972, Stop: 33527, Start Num: 53

Candidate Starts for LittleE\_39:

(Start: 53 @30972 has 241 MA's), (141, 31167), (155, 31203), (158, 31218), (172, 31266), (208, 31377), (209, 31380), (221, 31410), (225, 31425), (242, 31503), (251, 31527), (262, 31593), (272, 31638), (281, 31668), (283, 31674), (284, 31692), (293, 31716), (296, 31725), (310, 31758), (312, 31764), (319, 31794), (336, 31833), (339, 31845), (342, 31854), (346, 31869), (348, 31872), (370, 31983), (371, 31986), (373, 31995), (374, 32001), (377, 32016), (379, 32019), (397, 32070), (400, 32082), (406, 32115), (420, 32181), (428, 32226), (429, 32229), (439, 32256), (442, 32262), (455, 32316), (456, 32319), (479, 32406), (481, 32421), (484, 32433), (485, 32436), (497, 32502), (505, 32547), (507, 32556), (520, 32616), (521, 32619), (529, 32655), (532, 32673), (537, 32685), (539, 32694), (547, 32721), (564, 32790), (567, 32808), (571, 32817), (573, 32829), (579, 32865), (588, 32895), (595, 32916), (602, 32940), (607, 32976), (614, 33030), (629, 33090), (637, 33132), (666, 33267), (670, 33291), (676, 33345), (680, 33393), (688, 33435), (690, 33459), (691, 33462),

Gene: LittleMinkey\_35 Start: 28887, Stop: 31370, Start Num: 39

Candidate Starts for LittleMinkey\_35:

(Start: 39 @28887 has 6 MA's), (43, 28896), (76, 29001), (78, 29004), (89, 29034), (102, 29058), (105, 29061), (251, 29478), (256, 29514), (271, 29580), (282, 29610), (309, 29676), (321, 29718), (354, 29811), (358, 29832), (369, 29886), (405, 30024), (410, 30045), (425, 30129), (453, 30234), (460, 30261), (472, 30315), (505, 30489), (516, 30531), (625, 31017), (677, 31308), (679, 31344), (681, 31353),

Gene: LittleShirley\_19 Start: 17218, Stop: 19755, Start Num: 53

Candidate Starts for LittleShirley\_19:

(Start: 53 @17218 has 241 MA's), (61, 17239), (Start: 71 @17260 has 1 MA's), (90, 17299), (129, 17368), (130, 17377), (131, 17380), (141, 17398), (158, 17446), (206, 17599), (209, 17608), (225, 17653), (250, 17752), (251, 17755), (262, 17821), (281, 17896), (283, 17902), (284, 17920), (293, 17944), (295, 17950), (296, 17953), (310, 17986), (312, 17992), (319, 18022), (330, 18043), (339, 18073), (342, 18082), (346, 18097), (348, 18100), (370, 18211), (371, 18214), (373, 18223), (374, 18229), (377, 18244), (379, 18247), (387, 18268), (397, 18298), (400, 18310), (406, 18343), (428, 18454), (429, 18457), (439, 18484), (442, 18490), (455, 18544), (456, 18547), (481, 18649), (484, 18661), (485, 18664), (497, 18730), (502, 18754), (505, 18775), (507, 18784), (520, 18844), (521, 18847), (529, 18883), (532, 18901), (537, 18913), (539, 18922), (547, 18949), (563, 19006), (564, 19018), (567, 19036), (571, 19045), (573, 19057), (579, 19093), (588, 19123), (593, 19132), (595, 19144), (607, 19204), (614, 19258), (629, 19318), (637, 19360), (666, 19495), (670, 19519), (676, 19573), (680, 19621), (688, 19663), (690, 19687), (691, 19690),

Gene: Lizziana\_18 Start: 17406, Stop: 19931, Start Num: 53

Candidate Starts for Lizziana\_18:

(Start: 53 @17406 has 241 MA's), (90, 17487), (129, 17556), (130, 17565), (131, 17568), (141, 17586), (158, 17634), (171, 17679), (208, 17793), (209, 17796), (213, 17808), (222, 17829), (224, 17838), (225, 17841), (235, 17889), (242, 17919), (257, 17985), (263, 18018), (272, 18054), (279, 18078), (295, 18138), (296, 18141), (303, 18159), (328, 18222), (330, 18225), (336, 18243), (342, 18264), (348, 18282), (354, 18309), (358, 18330), (365, 18363), (374, 18411), (375, 18414), (377, 18426), (379, 18429), (388, 18456), (397, 18480), (406, 18525), (433, 18651), (441, 18675), (471, 18783), (481, 18834), (484, 18846), (485, 18849), (494, 18894), (496, 18909), (501, 18936), (505, 18960), (516, 19011), (520, 19029), (521, 19032), (522, 19044), (537, 19098), (549, 19140), (581, 19284), (598, 19338), (599, 19344), (600, 19347), (605, 19383), (606, 19386), (608, 19395), (609, 19422), (657, 19623), (680, 19794), (687, 19833), (693, 19872), (694, 19875),

Gene: Llama\_18 Start: 17634, Stop: 20171, Start Num: 53

Candidate Starts for Llama\_18:

(Start: 53 @17634 has 241 MA's), (61, 17655), (Start: 71 @17676 has 1 MA's), (90, 17715), (129, 17784), (130, 17793), (131, 17796), (141, 17814), (158, 17862), (208, 18021), (209, 18024), (224, 18066), (225, 18069), (242, 18147), (250, 18168), (251, 18171), (262, 18237), (263, 18246), (272, 18282), (281, 18312), (283, 18318), (293, 18360), (295, 18366), (296, 18369), (310, 18402), (312, 18408), (319, 18438), (330, 18459), (339, 18489), (342, 18498), (366, 18606), (369, 18618), (370, 18627), (371, 18630), (373, 18639), (374, 18645), (377, 18660), (379, 18663), (387, 18684), (400, 18726), (406, 18759), (439, 18900), (442, 18906), (455, 18960), (456, 18963), (467, 18990), (481, 19065), (484, 19077), (485, 19080), (497, 19146), (501, 19167), (502, 19170), (505, 19191), (516, 19242), (520, 19260), (521, 19263), (527, 19293), (532, 19317), (537, 19329), (564, 19434), (567, 19452), (571, 19461), (573, 19473), (579, 19509), (588, 19539), (595, 19560), (602, 19584), (607, 19620), (629, 19734), (637, 19776), (654, 19854), (666, 19911), (670, 19935), (676, 19989), (680, 20037), (688, 20079), (690, 20103), (691, 20106),

Gene: Llij\_18 Start: 17383, Stop: 19920, Start Num: 53

Candidate Starts for Llij\_18:

(Start: 53 @17383 has 241 MA's), (96, 17473), (129, 17533), (130, 17542), (131, 17545), (141, 17563), (158, 17611), (172, 17659), (206, 17764), (208, 17770), (209, 17773), (224, 17815), (225, 17818), (251, 17920), (262, 17986), (272, 18031), (281, 18061), (283, 18067), (284, 18085), (293, 18109), (296, 18118), (310, 18151), (312, 18157), (330, 18208), (336, 18226), (339, 18238), (342, 18247), (346, 18262), (349, 18268), (370, 18376), (373, 18388), (374, 18394), (377, 18409), (379, 18412), (387, 18433), (397, 18463), (400, 18475), (406, 18508), (420, 18574), (428, 18619), (429, 18622), (439, 18649), (442, 18655), (455, 18709), (456, 18712), (467, 18739), (481, 18814), (484, 18826), (485, 18829), (497, 18895), (501, 18916), (502, 18919), (507, 18949), (516, 18991), (520, 19009), (521, 19012), (527, 19042), (532, 19066), (537, 19078), (539, 19087), (564, 19183), (567, 19201), (571, 19210), (573, 19222), (588, 19288), (593, 19297), (595, 19309), (607, 19369), (637, 19525),

(666, 19660), (670, 19684), (676, 19738), (685, 19807), (690, 19852), (691, 19855),

Gene: Llorens\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Llorens\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Lorde\_19 Start: 17219, Stop: 19756, Start Num: 53

Candidate Starts for Lorde\_19:

(47, 17207), (Start: 53 @17219 has 241 MA's), (61, 17240), (Start: 71 @17261 has 1 MA's), (90, 17300), (129, 17369), (130, 17378), (131, 17381), (141, 17399), (155, 17432), (158, 17447), (172, 17495), (206, 17600), (209, 17609), (224, 17651), (225, 17654), (242, 17732), (251, 17756), (262, 17822), (272, 17867), (281, 17897), (283, 17903), (284, 17921), (293, 17945), (296, 17954), (310, 17987), (312, 17993), (319, 18023), (336, 18062), (339, 18074), (342, 18083), (346, 18098), (348, 18101), (370, 18212), (373, 18224), (374, 18230), (377, 18245), (379, 18248), (387, 18269), (397, 18299), (400, 18311), (406, 18344), (420, 18410), (428, 18455), (429, 18458), (439, 18485), (442, 18491), (455, 18545), (456, 18548), (467, 18575), (481, 18650), (484, 18662), (485, 18665), (497, 18731), (502, 18755), (507, 18785), (516, 18827), (520, 18845), (521, 18848), (529, 18884), (532, 18902), (539, 18923), (547, 18950), (564, 19019), (567, 19037), (571, 19046), (573, 19058), (579, 19094), (588, 19124), (593, 19133), (595, 19145), (607, 19205), (614, 19259), (629, 19319), (637, 19361), (654, 19439), (666, 19496), (670, 19520), (676, 19574), (680, 19622), (688, 19664), (690, 19688), (691, 19691),

Gene: Lucia\_19 Start: 17421, Stop: 19973, Start Num: 53

Candidate Starts for Lucia\_19:

(Start: 53 @17421 has 241 MA's), (61, 17442), (68, 17463), (90, 17502), (129, 17571), (130, 17580), (131, 17583), (141, 17601), (155, 17634), (158, 17649), (172, 17697), (208, 17808), (209, 17811), (222, 17844), (224, 17853), (225, 17856), (242, 17934), (257, 18000), (263, 18033), (277, 18087), (281, 18099), (293, 18147), (296, 18156), (300, 18165), (313, 18198), (330, 18240), (335, 18255), (343, 18285), (345, 18291), (346, 18294), (348, 18297), (354, 18324), (358, 18345), (365, 18378), (373, 18420), (374, 18426), (375, 18429), (377, 18441), (379, 18444), (388, 18471), (397, 18495), (400, 18507), (406, 18540), (411, 18561), (425, 18633), (429, 18654), (461, 18765), (469, 18789), (470, 18792), (475, 18816), (481, 18846), (488, 18870), (494, 18906), (495, 18912), (496, 18921), (511, 19011), (516, 19035), (517, 19050), (527, 19092), (529, 19098), (541, 19143), (565, 19239), (567, 19254), (571, 19263), (576, 19287), (593, 19350), (614, 19476), (663, 19692), (670, 19737), (680, 19839), (694, 19917),

Gene: Lucky2013\_36 Start: 27869, Stop: 30376, Start Num: 53

Candidate Starts for Lucky2013\_36:

(Start: 53 @27869 has 241 MA's), (141, 28064), (155, 28100), (158, 28115), (192, 28202), (197, 28217), (225, 28292), (228, 28304), (235, 28331), (259, 28436), (269, 28475), (272, 28484), (281, 28508), (283, 28514), (284, 28532), (291, 28550), (296, 28565), (300, 28574), (303, 28583), (310, 28598), (317, 28625), (319, 28634), (336, 28673), (339, 28685), (342, 28694), (362, 28778), (379, 28859), (389, 28889), (390, 28892), (400, 28922), (405, 28949), (407, 28958), (416, 29009), (418, 29018), (420, 29021), (427, 29057), (433, 29078), (446, 29114), (482, 29267), (494, 29321), (502, 29366), (504, 29384), (505, 29387), (514, 29426), (546, 29573), (549, 29582), (565, 29651), (567, 29666), (607, 29831), (619, 29918), (632, 29966), (648, 30017), (662, 30095), (692, 30317), (694, 30320), (698, 30347),

Gene: LunaBlu\_19 Start: 17477, Stop: 20014, Start Num: 53

Candidate Starts for LunaBlu\_19:

(Start: 53 @17477 has 241 MA's), (96, 17567), (129, 17627), (130, 17636), (131, 17639), (141, 17657), (155, 17690), (158, 17705), (172, 17753), (208, 17864), (209, 17867), (221, 17897), (225, 17912), (242, 17990), (262, 18080), (272, 18125), (281, 18155), (283, 18161), (284, 18179), (293, 18203), (296, 18212), (310, 18245), (312, 18251), (319, 18281), (336, 18320), (339, 18332), (342, 18341), (346, 18356), (348, 18359), (370, 18470), (373, 18482), (374, 18488), (377, 18503), (379, 18506), (387, 18527), (397, 18557), (400, 18569), (406, 18602), (420, 18668), (428, 18713), (429, 18716), (439, 18743), (442, 18749), (455, 18803), (456, 18806), (481, 18908), (484, 18920), (485, 18923), (497, 18989), (502, 19013), (507, 19043), (520, 19103), (521, 19106), (529, 19142), (532, 19160), (537, 19172), (539, 19181), (547, 19208), (564, 19277), (567, 19295), (571, 19304), (573, 19316), (579, 19352), (588, 19382), (595, 19403), (602, 19427), (607, 19463), (614, 19517), (629, 19577), (637, 19619), (654, 19697), (666, 19754), (670, 19778), (676, 19832), (680, 19880), (688, 19922), (690, 19946), (691, 19949),

Gene: LunaStella\_20 Start: 17940, Stop: 20417, Start Num: 55

Candidate Starts for LunaStella\_20:

(Start: 55 @17940 has 3 MA's), (61, 17952), (95, 18015), (110, 18042), (136, 18096), (141, 18105), (146, 18111), (155, 18138), (166, 18171), (192, 18243), (197, 18258), (209, 18294), (212, 18303), (223, 18321), (228, 18345), (234, 18369), (269, 18516), (272, 18525), (281, 18549), (284, 18573), (293, 18597), (295, 18603), (303, 18624), (312, 18645), (319, 18675), (333, 18705), (339, 18726), (362, 18819), (365, 18834), (366, 18843), (368, 18852), (370, 18864), (371, 18867), (397, 18951), (398, 18954), (400, 18963), (405, 18990), (407, 18999), (414, 19038), (418, 19059), (420, 19062), (427, 19098), (433, 19119), (455, 19197), (456, 19200), (472, 19254), (484, 19314), (500, 19401), (502, 19407), (504, 19425), (505, 19428), (514, 19464), (525, 19518), (527, 19527), (546, 19605), (550, 19623), (559, 19659), (561, 19662), (564, 19680), (565, 19683), (567, 19698), (579, 19755), (584, 19767), (602, 19830), (607, 19863), (619, 19950), (632, 19998), (635, 20022), (643, 20049), (648, 20058), (653, 20097), (662, 20136), (666, 20160), (669, 20181), (680, 20277), (685, 20298), (694, 20361), (698, 20388), (701, 20397),

Gene: Lunahalos\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Lunahalos\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: MISSy\_25 Start: 21796, Stop: 24192, Start Num: 94

Candidate Starts for MISSy\_25:

(Start: 94 @21796 has 128 MA's), (170, 21973), (174, 21994), (232, 22141), (263, 22282), (271, 22315), (281, 22348), (287, 22384), (319, 22477), (342, 22537), (348, 22555), (375, 22687), (389, 22732), (420, 22864), (428, 22909), (450, 22969), (478, 23083), (481, 23104), (491, 23143), (494, 23164), (496, 23179), (527, 23329), (529, 23335), (532, 23353), (549, 23407), (567, 23491), (593, 23584), (648, 23830), (680, 24046), (691, 24130), (698, 24163),

Gene: MOOREtheMARYer\_23 Start: 20802, Stop: 23264, Start Num: 33

Candidate Starts for MOOREtheMARYer\_23:

(Start: 33 @20802 has 9 MA's), (132, 21030), (152, 21072), (162, 21105), (200, 21210), (251, 21393), (261, 21453), (310, 21576), (321, 21615), (340, 21663), (341, 21666), (365, 21762), (369, 21783), (380, 21837), (404, 21918), (406, 21927), (412, 21954), (437, 22074), (447, 22101), (460, 22161), (472, 22209), (474, 22224), (489, 22290), (496, 22332), (516, 22425), (602, 22770), (607, 22809),

(620, 22896), (634, 22968), (665, 23097), (677, 23202), (681, 23247),

Gene: MPhalcon\_25 Start: 21790, Stop: 24186, Start Num: 94

Candidate Starts for MPhalcon\_25:

(Start: 94 @21790 has 128 MA's), (170, 21967), (174, 21988), (232, 22135), (263, 22276), (271, 22309), (281, 22342), (287, 22378), (319, 22471), (342, 22531), (348, 22549), (375, 22681), (389, 22726), (420, 22858), (428, 22903), (450, 22963), (478, 23077), (481, 23098), (491, 23137), (494, 23158), (496, 23173), (527, 23323), (529, 23329), (532, 23347), (549, 23401), (567, 23485), (593, 23578), (648, 23824), (680, 24040), (691, 24124), (698, 24157),

Gene: MacKat\_27 Start: 20889, Stop: 23321, Start Num: 80

Candidate Starts for MacKat\_27:

(Start: 80 @20889 has 96 MA's), (126, 20988), (218, 21249), (225, 21270), (270, 21477), (280, 21510), (285, 21540), (314, 21612), (319, 21636), (337, 21681), (370, 21834), (378, 21879), (381, 21891), (385, 21900), (400, 21951), (437, 22131), (443, 22146), (459, 22215), (463, 22227), (476, 22290), (485, 22332), (494, 22371), (495, 22377), (496, 22386), (500, 22407), (513, 22467), (539, 22584), (550, 22626), (570, 22698), (572, 22707), (577, 22728), (594, 22800), (599, 22821), (614, 22917), (664, 23145), (680, 23292),

Gene: MadKillah\_59 Start: 35875, Stop: 38385, Start Num: 60

Candidate Starts for MadKillah\_59:

(Start: 60 @35875 has 33 MA's), (74, 35908), (108, 35977), (109, 35980), (122, 36004), (131, 36028), (145, 36052), (155, 36085), (214, 36292), (217, 36304), (218, 36307), (254, 36454), (257, 36484), (262, 36508), (272, 36538), (273, 36541), (281, 36568), (284, 36592), (295, 36622), (315, 36679), (320, 36703), (336, 36739), (339, 36751), (346, 36775), (348, 36778), (356, 36820), (377, 36916), (379, 36919), (447, 37174), (481, 37318), (494, 37378), (504, 37450), (505, 37453), (526, 37549), (567, 37723), (573, 37744), (598, 37837), (601, 37849), (614, 37939), (633, 38014), (653, 38059), (684, 38260), (689, 38314), (694, 38329),

Gene: MadMen\_19 Start: 17637, Stop: 20129, Start Num: 53

Candidate Starts for MadMen\_19:

(Start: 53 @17637 has 241 MA's), (61, 17658), (Start: 71 @17679 has 1 MA's), (90, 17718), (129, 17787), (130, 17796), (131, 17799), (141, 17817), (155, 17850), (166, 17883), (172, 17916), (192, 17955), (197, 17970), (209, 18006), (212, 18015), (223, 18033), (228, 18057), (234, 18081), (269, 18228), (272, 18237), (281, 18261), (284, 18285), (293, 18309), (295, 18315), (303, 18336), (312, 18357), (319, 18387), (333, 18417), (339, 18438), (362, 18531), (365, 18546), (366, 18555), (370, 18576), (371, 18579), (397, 18663), (398, 18666), (400, 18675), (405, 18702), (407, 18711), (414, 18750), (418, 18771), (420, 18774), (427, 18810), (433, 18831), (455, 18909), (456, 18912), (472, 18966), (484, 19026), (502, 19119), (504, 19137), (505, 19140), (514, 19176), (525, 19230), (527, 19239), (546, 19317), (550, 19335), (559, 19371), (561, 19374), (564, 19392), (565, 19395), (567, 19410), (579, 19467), (584, 19479), (607, 19575), (619, 19662), (632, 19710), (635, 19734), (648, 19770), (653, 19809), (662, 19848), (666, 19872), (669, 19893), (680, 19989), (685, 20010), (694, 20073), (698, 20100), (701, 20109),

Gene: MadamMonkfish\_26 Start: 21702, Stop: 24098, Start Num: 94

Candidate Starts for MadamMonkfish\_26:

(Start: 94 @21702 has 128 MA's), (170, 21879), (174, 21900), (232, 22047), (271, 22221), (281, 22254), (287, 22290), (319, 22383), (342, 22443), (348, 22461), (375, 22593), (389, 22638), (420, 22770), (428, 22815), (450, 22875), (478, 22989), (481, 23010), (491, 23049), (494, 23070), (496, 23085), (527, 23235), (529, 23241), (532, 23259), (549, 23313), (567, 23397), (593, 23490), (648, 23736), (680, 23952), (691, 24036), (698, 24069),

Gene: Madiba\_19 Start: 17273, Stop: 19762, Start Num: 53

Candidate Starts for Madiba\_19:

(Start: 53 @17273 has 241 MA's), (61, 17294), (Start: 71 @17315 has 1 MA's), (90, 17354), (129, 17423), (130, 17432), (131, 17435), (141, 17453), (158, 17501), (197, 17603), (209, 17639), (211, 17645), (212, 17648), (223, 17666), (228, 17690), (234, 17714), (253, 17777), (269, 17861), (272, 17870), (281, 17894), (284, 17918), (293, 17942), (295, 17948), (303, 17969), (312, 17990), (319, 18020), (333, 18050), (339, 18071), (362, 18164), (365, 18179), (366, 18188), (370, 18209), (371, 18212), (397, 18296), (398, 18299), (400, 18308), (405, 18335), (407, 18344), (414, 18383), (418, 18404), (420, 18407), (427, 18443), (433, 18464), (455, 18542), (456, 18545), (472, 18599), (484, 18659), (502, 18752), (504, 18770), (505, 18773), (514, 18809), (525, 18863), (527, 18872), (546, 18950), (550, 18968), (559, 19004), (561, 19007), (564, 19025), (565, 19028), (567, 19043), (579, 19100), (584, 19112), (607, 19208), (619, 19295), (632, 19343), (635, 19367), (643, 19394), (648, 19403), (653, 19442), (662, 19481), (666, 19505), (669, 19526), (680, 19622), (685, 19643), (694, 19706), (698, 19733), (701, 19742),

Gene: Mahavrat\_18 Start: 17394, Stop: 19931, Start Num: 53

Candidate Starts for Mahavrat\_18:

(Start: 53 @17394 has 241 MA's), (61, 17415), (Start: 71 @17436 has 1 MA's), (90, 17475), (129, 17544), (130, 17553), (131, 17556), (141, 17574), (155, 17607), (158, 17622), (208, 17781), (209, 17784), (225, 17829), (242, 17907), (251, 17931), (262, 17997), (281, 18072), (283, 18078), (293, 18120), (295, 18126), (296, 18129), (310, 18162), (312, 18168), (319, 18198), (330, 18219), (339, 18249), (342, 18258), (366, 18366), (369, 18378), (370, 18387), (371, 18390), (373, 18399), (374, 18405), (377, 18420), (379, 18423), (387, 18444), (400, 18486), (406, 18519), (428, 18630), (429, 18633), (439, 18660), (442, 18666), (455, 18720), (456, 18723), (467, 18750), (468, 18759), (481, 18825), (484, 18837), (485, 18840), (497, 18906), (501, 18927), (502, 18930), (505, 18951), (516, 19002), (520, 19020), (521, 19023), (527, 19053), (532, 19077), (537, 19089), (539, 19098), (564, 19194), (567, 19212), (571, 19221), (573, 19233), (579, 19269), (588, 19299), (595, 19320), (602, 19344), (607, 19380), (629, 19494), (637, 19536), (666, 19671), (670, 19695), (676, 19749), (685, 19818), (690, 19863), (691, 19866), (693, 19872),

Gene: Manda\_27 Start: 22769, Stop: 25165, Start Num: 94

Candidate Starts for Manda\_27:

(Start: 94 @22769 has 128 MA's), (170, 22946), (174, 22967), (232, 23114), (263, 23255), (271, 23288), (281, 23321), (287, 23357), (319, 23450), (342, 23510), (348, 23528), (375, 23660), (389, 23705), (420, 23837), (428, 23882), (450, 23942), (478, 24056), (481, 24077), (491, 24116), (494, 24137), (496, 24152), (527, 24302), (529, 24308), (532, 24326), (549, 24380), (567, 24464), (593, 24557), (648, 24803), (680, 25019), (691, 25103), (698, 25136),

Gene: Mandlovu\_18 Start: 17495, Stop: 20032, Start Num: 53

Candidate Starts for Mandlovu\_18:

(Start: 53 @17495 has 241 MA's), (61, 17516), (Start: 71 @17537 has 1 MA's), (90, 17576), (129, 17645), (130, 17654), (131, 17657), (141, 17675), (158, 17723), (208, 17882), (209, 17885), (224, 17927), (225, 17930), (242, 18008), (250, 18029), (251, 18032), (262, 18098), (281, 18173), (283, 18179), (293, 18221), (295, 18227), (296, 18230), (310, 18263), (312, 18269), (319, 18299), (330, 18320), (339, 18350), (342, 18359), (366, 18467), (369, 18479), (370, 18488), (371, 18491), (373, 18500), (374, 18506), (377, 18521), (379, 18524), (387, 18545), (400, 18587), (406, 18620), (439, 18761), (442, 18767), (455, 18821), (456, 18824), (467, 18851), (481, 18926), (484, 18938), (485, 18941), (497, 19007), (502, 19031), (505, 19052), (507, 19061), (520, 19121), (521, 19124), (529, 19160), (532, 19178), (539, 19199), (547, 19226), (564, 19295), (567, 19313), (571, 19322), (573, 19334), (579, 19370), (588, 19400), (607, 19481), (629, 19595), (637, 19637), (666, 19772), (670, 19796), (676, 19850), (690, 19964), (691, 19967),

Gene: Mantra\_18 Start: 17496, Stop: 20033, Start Num: 53

Candidate Starts for Mantra\_18:

(Start: 53 @17496 has 241 MA's), (61, 17517), (Start: 71 @17538 has 1 MA's), (90, 17577), (129, 17646), (130, 17655), (131, 17658), (141, 17676), (158, 17724), (206, 17877), (209, 17886), (225, 17931), (250, 18030), (251, 18033), (262, 18099), (281, 18174), (283, 18180), (284, 18198), (293, 18222), (295, 18228), (296, 18231), (310, 18264), (312, 18270), (319, 18300), (330, 18321), (339, 18351), (342, 18360), (346, 18375), (348, 18378), (370, 18489), (371, 18492), (373, 18501), (374, 18507), (377, 18522), (379, 18525), (387, 18546), (397, 18576), (400, 18588), (406, 18621), (428, 18732), (429, 18735), (439, 18762), (442, 18768), (455, 18822), (456, 18825), (479, 18912), (481, 18927), (484, 18939), (485, 18942), (497, 19008), (502, 19032), (505, 19053), (507, 19062), (520, 19122), (521, 19125), (529, 19161), (532, 19179), (537, 19191), (539, 19200), (547, 19227), (563, 19284), (564, 19296), (567, 19314), (571, 19323), (573, 19335), (579, 19371), (588, 19401), (593, 19410), (595, 19422), (607, 19482), (614, 19536), (629, 19596), (637, 19638), (666, 19773), (670, 19797), (676, 19851), (680, 19899), (688, 19941), (690, 19965), (691, 19968),

Gene: Maravista\_18 Start: 17343, Stop: 19880, Start Num: 53

Candidate Starts for Maravista\_18:

(47, 17331), (Start: 53 @17343 has 241 MA's), (61, 17364), (Start: 71 @17385 has 1 MA's), (90, 17424), (129, 17493), (130, 17502), (131, 17505), (141, 17523), (155, 17556), (158, 17571), (172, 17619), (208, 17730), (209, 17733), (221, 17763), (224, 17775), (225, 17778), (242, 17856), (251, 17880), (262, 17946), (272, 17991), (281, 18021), (283, 18027), (284, 18045), (293, 18069), (296, 18078), (310, 18111), (312, 18117), (319, 18147), (336, 18186), (339, 18198), (342, 18207), (346, 18222), (348, 18225), (370, 18336), (371, 18339), (373, 18348), (374, 18354), (377, 18369), (379, 18372), (387, 18393), (397, 18423), (400, 18435), (406, 18468), (428, 18579), (429, 18582), (439, 18609), (442, 18615), (455, 18669), (456, 18672), (481, 18774), (484, 18786), (485, 18789), (497, 18855), (502, 18879), (505, 18900), (507, 18909), (520, 18969), (521, 18972), (529, 19008), (532, 19026), (537, 19038), (539, 19047), (547, 19074), (564, 19143), (567, 19161), (571, 19170), (573, 19182), (579, 19218), (588, 19248), (595, 19269), (602, 19293), (607, 19329), (614, 19383), (629, 19443), (637, 19485), (666, 19620), (670, 19644), (676, 19698), (680, 19746), (685, 19767), (688, 19788), (690, 19812), (691, 19815),

Gene: MarkPhew\_27 Start: 19997, Stop: 22450, Start Num: 80

Candidate Starts for MarkPhew\_27:

(Start: 80 @19997 has 96 MA's), (98, 20045), (155, 20168), (171, 20225), (174, 20237), (216, 20354), (231, 20405), (259, 20534), (265, 20567), (295, 20678), (298, 20687), (299, 20696), (307, 20717), (319, 20765), (353, 20867), (383, 21026), (404, 21107), (424, 21209), (473, 21413), (476, 21422), (485, 21464), (494, 21509), (496, 21524), (534, 21707), (550, 21764), (577, 21866), (580, 21890), (596, 21947), (600, 21962), (621, 22091), (649, 22196), (679, 22415),

Gene: Marker\_19 Start: 17246, Stop: 19783, Start Num: 53

Candidate Starts for Marker\_19:

(Start: 53 @17246 has 241 MA's), (61, 17267), (Start: 71 @17288 has 1 MA's), (90, 17327), (129, 17396), (130, 17405), (131, 17408), (141, 17426), (158, 17474), (206, 17627), (209, 17636), (225, 17681), (250, 17780), (251, 17783), (262, 17849), (281, 17924), (283, 17930), (284, 17948), (293, 17972), (296, 17981), (310, 18014), (312, 18020), (319, 18050), (330, 18071), (336, 18089), (339, 18101), (342, 18110), (346, 18125), (348, 18128), (370, 18239), (371, 18242), (373, 18251), (374, 18257), (377, 18272), (379, 18275), (387, 18296), (397, 18326), (400, 18338), (406, 18371), (428, 18482), (429, 18485), (439, 18512), (442, 18518), (455, 18572), (456, 18575), (470, 18623), (479, 18662), (481, 18677), (484, 18689), (485, 18692), (490, 18713), (497, 18758), (502, 18782), (507, 18812), (516, 18854), (520, 18872), (521, 18875), (529, 18911), (532, 18929), (537, 18941), (539, 18950), (549, 18983), (564, 19046), (567, 19064), (571, 19073), (573, 19085), (588, 19151), (595, 19172), (602, 19196), (607, 19232), (614, 19286), (629, 19346), (637, 19388), (654, 19466), (666, 19523), (670, 19547), (676, 19601), (680, 19649), (688, 19691), (690, 19715), (691, 19718),

Gene: Marshawn\_28 Start: 20676, Stop: 23132, Start Num: 80

Candidate Starts for Marshawn\_28:

(Start: 80 @20676 has 96 MA's), (89, 20703), (126, 20775), (155, 20847), (171, 20904), (174, 20916), (186, 20949), (210, 21015), (216, 21033), (225, 21057), (226, 21060), (231, 21084), (249, 21156), (265, 21246), (275, 21282), (298, 21366), (314, 21420), (319, 21441), (321, 21447), (337, 21486), (353, 21543), (383, 21702), (394, 21741), (404, 21783), (409, 21801), (424, 21885), (429, 21915), (437, 21939), (449, 21972), (451, 21993), (472, 22077), (476, 22098), (485, 22140), (495, 22191), (496, 22200), (502, 22227), (515, 22287), (529, 22353), (532, 22374), (534, 22383), (549, 22431), (557, 22470), (570, 22515), (577, 22545), (587, 22590), (600, 22641), (602, 22647), (621, 22770), (638, 22839), (650, 22881), (678, 23067), (679, 23097),

Gene: Marshmallow\_26 Start: 22283, Stop: 24679, Start Num: 94

Candidate Starts for Marshmallow\_26:

(Start: 94 @22283 has 128 MA's), (170, 22460), (174, 22481), (232, 22628), (263, 22769), (271, 22802), (281, 22835), (287, 22871), (319, 22964), (342, 23024), (348, 23042), (365, 23123), (420, 23351), (428, 23396), (481, 23591), (482, 23597), (485, 23606), (494, 23651), (496, 23666), (529, 23822), (532, 23840), (535, 23849), (567, 23978), (568, 23981), (613, 24191), (615, 24203), (648, 24317), (680, 24533), (691, 24617), (696, 24641), (698, 24650),

Gene: Martik\_18 Start: 17406, Stop: 19958, Start Num: 53

Candidate Starts for Martik\_18:

(Start: 53 @17406 has 241 MA's), (90, 17487), (129, 17556), (130, 17565), (131, 17568), (141, 17586), (158, 17634), (171, 17679), (208, 17793), (209, 17796), (213, 17808), (222, 17829), (224, 17838), (225, 17841), (235, 17889), (242, 17919), (257, 17985), (263, 18018), (272, 18054), (279, 18078), (295, 18138), (296, 18141), (303, 18159), (328, 18222), (330, 18225), (336, 18243), (342, 18264), (348, 18282), (354, 18309), (358, 18330), (365, 18363), (373, 18405), (374, 18411), (375, 18414), (379, 18429), (388, 18456), (389, 18459), (397, 18480), (400, 18492), (406, 18525), (425, 18618), (455, 18726), (461, 18750), (467, 18756), (469, 18774), (470, 18777), (475, 18801), (481, 18831), (488, 18855), (494, 18891), (495, 18897), (496, 18906), (501, 18933), (511, 18996), (516, 19020), (517, 19035), (527, 19077), (541, 19128), (565, 19224), (567, 19239), (571, 19248), (576, 19272), (593, 19335), (602, 19371), (663, 19677), (670, 19722), (680, 19824),

Gene: MaryV\_43 Start: 28332, Stop: 30899, Start Num: 53

Candidate Starts for MaryV\_43:

(Start: 53 @28332 has 241 MA's), (81, 28401), (136, 28524), (139, 28530), (141, 28533), (153, 28557), (157, 28578), (206, 28734), (207, 28740), (209, 28746), (218, 28776), (219, 28782), (225, 28803), (227, 28812), (239, 28872), (258, 28950), (283, 29049), (288, 29082), (295, 29097), (296, 29100), (312, 29139), (330, 29190), (336, 29208), (342, 29229), (343, 29235), (351, 29262), (356, 29289), (370, 29358), (376, 29382), (382, 29403), (389, 29424), (393, 29433), (400, 29454), (406, 29487), (407, 29490), (416, 29541), (420, 29553), (436, 29619), (443, 29637), (451, 29676), (481, 29793), (492, 29838), (501, 29895), (505, 29919), (507, 29928), (510, 29946), (520, 29991), (527, 30024), (534, 30060), (578, 30234), (579, 30252), (581, 30258), (599, 30315), (665, 30639), (667, 30657), (674, 30708), (681, 30771), (690, 30846),

Gene: Mattes\_18 Start: 17397, Stop: 19922, Start Num: 53

Candidate Starts for Mattes\_18:

(Start: 53 @17397 has 241 MA's), (61, 17418), (68, 17439), (90, 17478), (129, 17547), (130, 17556), (131, 17559), (141, 17577), (158, 17625), (172, 17673), (208, 17784), (209, 17787), (222, 17820), (225, 17832), (242, 17910), (257, 17976), (263, 18009), (277, 18063), (281, 18075), (295, 18129), (296, 18132), (300, 18141), (313, 18174), (328, 18213), (330, 18216), (335, 18231), (336, 18234), (343, 18261), (345, 18267), (346, 18270), (348, 18273), (354, 18300), (357, 18318), (358, 18321), (373, 18396), (377, 18417), (379, 18420), (388, 18447), (397, 18471), (406, 18516), (407, 18519), (416, 18570), (429, 18633), (433, 18642), (441, 18666), (470, 18771), (471, 18774), (481, 18825), (482, 18831), (484, 18837), (485, 18840), (494, 18885), (496, 18900), (501, 18927), (505, 18951),

(516, 19002), (520, 19020), (521, 19023), (522, 19035), (537, 19089), (567, 19212), (581, 19275), (600, 19338), (609, 19413), (657, 19614), (687, 19824), (693, 19863), (694, 19866),

Gene: Maxxinista\_27 Start: 21751, Stop: 24147, Start Num: 94

Candidate Starts for Maxxinista\_27:

(Start: 94 @21751 has 128 MA's), (170, 21928), (174, 21949), (232, 22096), (271, 22270), (281, 22303), (287, 22339), (319, 22432), (342, 22492), (348, 22510), (375, 22642), (389, 22687), (420, 22819), (428, 22864), (450, 22924), (478, 23038), (481, 23059), (491, 23098), (494, 23119), (496, 23134), (527, 23284), (529, 23290), (532, 23308), (549, 23362), (567, 23446), (593, 23539), (648, 23785), (680, 24001), (691, 24085), (698, 24118),

Gene: MeaningOfLife\_27 Start: 20848, Stop: 23280, Start Num: 80

Candidate Starts for MeaningOfLife\_27:

(Start: 80 @20848 has 96 MA's), (126, 20947), (174, 21088), (218, 21208), (225, 21229), (270, 21436), (280, 21469), (285, 21499), (314, 21571), (319, 21595), (370, 21793), (378, 21838), (381, 21850), (385, 21859), (400, 21910), (437, 22090), (443, 22105), (459, 22174), (463, 22186), (476, 22249), (485, 22291), (494, 22330), (495, 22336), (496, 22345), (500, 22366), (513, 22426), (539, 22543), (550, 22585), (570, 22657), (572, 22666), (577, 22687), (594, 22759), (599, 22780), (614, 22876), (628, 22939), (648, 23023), (654, 23065), (664, 23104),

Gene: Medindi\_18 Start: 17393, Stop: 19930, Start Num: 53

Candidate Starts for Medindi\_18:

(47, 17381), (Start: 53 @17393 has 241 MA's), (61, 17414), (Start: 71 @17435 has 1 MA's), (90, 17474), (129, 17543), (130, 17552), (131, 17555), (141, 17573), (155, 17606), (158, 17621), (172, 17669), (208, 17780), (209, 17783), (221, 17813), (223, 17816), (225, 17828), (242, 17906), (251, 17930), (262, 17996), (272, 18041), (281, 18071), (283, 18077), (284, 18095), (293, 18119), (296, 18128), (310, 18161), (312, 18167), (319, 18197), (339, 18248), (342, 18257), (346, 18272), (348, 18275), (370, 18386), (371, 18389), (373, 18398), (374, 18404), (377, 18419), (379, 18422), (387, 18443), (397, 18473), (400, 18485), (406, 18518), (428, 18629), (429, 18632), (439, 18659), (442, 18665), (455, 18719), (456, 18722), (481, 18824), (484, 18836), (485, 18839), (497, 18905), (501, 18926), (502, 18929), (505, 18950), (507, 18959), (520, 19019), (521, 19022), (529, 19058), (532, 19076), (537, 19088), (539, 19097), (547, 19124), (564, 19193), (567, 19211), (571, 19220), (573, 19232), (579, 19268), (588, 19298), (595, 19319), (602, 19343), (607, 19379), (614, 19433), (629, 19493), (637, 19535), (654, 19613), (666, 19670), (670, 19694), (676, 19748), (680, 19796), (688, 19838), (690, 19862), (691, 19865),

Gene: Megatron06\_31 Start: 26215, Stop: 29058, Start Num: 17

Candidate Starts for Megatron06\_31:

(Start: 17 @26215 has 8 MA's), (30, 26347), (31, 26359), (35, 26368), (49, 26437), (52, 26443), (75, 26503), (83, 26524), (102, 26572), (124, 26614), (134, 26638), (151, 26671), (160, 26707), (165, 26719), (191, 26812), (209, 26869), (220, 26908), (253, 27034), (263, 27103), (270, 27133), (283, 27175), (296, 27226), (330, 27316), (336, 27334), (356, 27415), (365, 27454), (369, 27475), (406, 27613), (413, 27652), (427, 27715), (456, 27817), (504, 28042), (589, 28405), (598, 28432), (649, 28675), (652, 28708), (658, 28732), (675, 28852), (686, 28930), (698, 29017), (702, 29032), (704, 29038),

Gene: Megsy\_27 Start: 20849, Stop: 23281, Start Num: 80

Candidate Starts for Megsy\_27:

(Start: 80 @20849 has 96 MA's), (126, 20948), (218, 21209), (270, 21437), (280, 21470), (285, 21500), (314, 21572), (319, 21596), (370, 21794), (378, 21839), (381, 21851), (385, 21860), (400, 21911), (437, 22091), (443, 22106), (459, 22175), (463, 22187), (476, 22250), (485, 22292), (494, 22331), (495, 22337), (496, 22346), (500, 22367), (513, 22427), (539, 22544), (550, 22586), (570, 22658), (572, 22667), (577, 22688), (594, 22760), (599, 22781), (614, 22877), (664, 23105), (680, 23252),

Gene: Melissauern88\_18 Start: 17470, Stop: 19965, Start Num: 71

Candidate Starts for Melissauern88\_18:

(47, 17416), (Start: 53 @17428 has 241 MA's), (61, 17449), (Start: 71 @17470 has 1 MA's), (90, 17509), (129, 17578), (130, 17587), (131, 17590), (141, 17608), (155, 17641), (158, 17656), (172, 17704), (208, 17815), (209, 17818), (221, 17848), (224, 17860), (225, 17863), (242, 17941), (251, 17965), (262, 18031), (272, 18076), (281, 18106), (283, 18112), (284, 18130), (293, 18154), (296, 18163), (310, 18196), (312, 18202), (319, 18232), (336, 18271), (339, 18283), (342, 18292), (346, 18307), (348, 18310), (370, 18421), (371, 18424), (373, 18433), (374, 18439), (377, 18454), (379, 18457), (387, 18478), (397, 18508), (400, 18520), (406, 18553), (428, 18664), (429, 18667), (439, 18694), (442, 18700), (455, 18754), (456, 18757), (479, 18844), (481, 18859), (484, 18871), (485, 18874), (497, 18940), (502, 18964), (505, 18985), (507, 18994), (520, 19054), (521, 19057), (529, 19093), (532, 19111), (537, 19123), (539, 19132), (547, 19159), (564, 19228), (567, 19246), (571, 19255), (573, 19267), (579, 19303), (588, 19333), (595, 19354), (602, 19378), (607, 19414), (614, 19468), (629, 19528), (637, 19570), (654, 19648), (666, 19705), (670, 19729), (676, 19783), (680, 19831), (688, 19873), (690, 19897), (691, 19900),

Gene: Mercurio\_24 Start: 21194, Stop: 23665, Start Num: 33

Candidate Starts for Mercurio\_24:

(Start: 33 @21194 has 9 MA's), (50, 21260), (65, 21302), (129, 21410), (174, 21533), (200, 21596), (224, 21674), (280, 21905), (297, 21938), (306, 21950), (341, 22052), (354, 22094), (362, 22133), (365, 22148), (375, 22199), (386, 22235), (404, 22301), (410, 22328), (455, 22526), (470, 22601), (474, 22622), (496, 22730), (503, 22775), (516, 22826), (520, 22850), (528, 22886), (532, 22910), (538, 22931), (577, 23069), (600, 23165), (622, 23303),

Gene: MiaZeal\_36 Start: 27554, Stop: 30061, Start Num: 53

Candidate Starts for MiaZeal\_36:

(Start: 53 @27554 has 241 MA's), (141, 27749), (155, 27785), (158, 27800), (192, 27887), (197, 27902), (225, 27977), (228, 27989), (235, 28016), (259, 28121), (269, 28160), (272, 28169), (281, 28193), (283, 28199), (284, 28217), (296, 28250), (300, 28259), (303, 28268), (310, 28283), (317, 28310), (319, 28319), (336, 28358), (339, 28370), (342, 28379), (362, 28463), (379, 28544), (389, 28574), (390, 28577), (400, 28607), (405, 28634), (407, 28643), (416, 28694), (418, 28703), (420, 28706), (427, 28742), (433, 28763), (446, 28799), (482, 28952), (494, 29006), (502, 29051), (504, 29069), (505, 29072), (514, 29111), (546, 29258), (549, 29267), (565, 29336), (567, 29351), (607, 29516), (619, 29603), (632, 29651), (648, 29702), (662, 29780), (692, 30002), (694, 30005), (698, 30032),

Gene: MilleniumForce\_19 Start: 18211, Stop: 20748, Start Num: 53

Candidate Starts for MilleniumForce\_19:

(47, 18199), (Start: 53 @18211 has 241 MA's), (61, 18232), (Start: 71 @18253 has 1 MA's), (90, 18292), (129, 18361), (130, 18370), (131, 18373), (141, 18391), (155, 18424), (158, 18439), (172, 18487), (208, 18598), (209, 18601), (221, 18631), (224, 18643), (225, 18646), (242, 18724), (251, 18748), (262, 18814), (272, 18859), (281, 18889), (283, 18895), (284, 18913), (293, 18937), (296, 18946), (310, 18979), (312, 18985), (319, 19015), (336, 19054), (339, 19066), (342, 19075), (346, 19090), (348, 19093), (370, 19204), (371, 19207), (373, 19216), (374, 19222), (377, 19237), (379, 19240), (387, 19261), (397, 19291), (400, 19303), (406, 19336), (428, 19447), (429, 19450), (439, 19477), (442, 19483), (455, 19537), (456, 19540), (481, 19642), (484, 19654), (485, 19657), (497, 19723), (502, 19747), (505, 19768), (507, 19777), (520, 19837), (521, 19840), (529, 19876), (532, 19894), (537, 19906), (539, 19915), (547, 19942), (564, 20011), (567, 20029), (571, 20038), (573, 20050), (579, 20086), (588, 20116), (595, 20137), (602, 20161), (607, 20197), (614, 20251), (629, 20311), (637, 20353), (654, 20431), (666, 20488), (670, 20512), (676, 20566), (680, 20614), (688, 20656), (690, 20680), (691, 20683),

Gene: Mindy\_26 Start: 22062, Stop: 24458, Start Num: 94

Candidate Starts for Mindy\_26:

(Start: 94 @22062 has 128 MA's), (170, 22239), (174, 22260), (232, 22407), (263, 22548), (271, 22581), (281, 22614), (287, 22650), (319, 22743), (342, 22803), (348, 22821), (382, 22977), (389, 22998), (416, 23118), (420, 23130), (428, 23175), (481, 23370), (485, 23385), (494, 23430), (496, 23445), (529, 23601), (532, 23619), (535, 23628), (567, 23757), (568, 23760), (613, 23970), (615, 23982), (648, 24096), (680, 24312), (691, 24396), (696, 24420), (698, 24429),

Gene: Minerva\_39 Start: 31221, Stop: 33764, Start Num: 53

Candidate Starts for Minerva\_39:

(41, 31164), (Start: 53 @31221 has 241 MA's), (138, 31410), (158, 31467), (171, 31512), (208, 31626), (209, 31629), (216, 31650), (222, 31662), (225, 31674), (242, 31752), (257, 31818), (263, 31851), (272, 31887), (279, 31911), (295, 31971), (296, 31974), (303, 31992), (328, 32055), (330, 32058), (336, 32076), (342, 32097), (348, 32115), (354, 32142), (358, 32163), (365, 32196), (374, 32244), (375, 32247), (379, 32262), (388, 32289), (397, 32313), (406, 32358), (433, 32484), (455, 32562), (471, 32616), (481, 32667), (482, 32673), (484, 32679), (485, 32682), (494, 32727), (496, 32742), (501, 32769), (505, 32793), (516, 32844), (520, 32862), (521, 32865), (522, 32877), (537, 32931), (549, 32973), (581, 33117), (598, 33171), (599, 33177), (600, 33180), (605, 33216), (606, 33219), (608, 33228), (609, 33255), (657, 33456), (680, 33627), (687, 33666), (694, 33708),

Gene: MinionDave\_19 Start: 18080, Stop: 20617, Start Num: 53

Candidate Starts for MinionDave\_19:

(Start: 53 @18080 has 241 MA's), (96, 18170), (129, 18230), (130, 18239), (131, 18242), (141, 18260), (155, 18293), (158, 18308), (172, 18356), (208, 18467), (209, 18470), (221, 18500), (224, 18512), (225, 18515), (242, 18593), (251, 18617), (262, 18683), (272, 18728), (281, 18758), (283, 18764), (284, 18782), (293, 18806), (296, 18815), (310, 18848), (312, 18854), (319, 18884), (336, 18923), (339, 18935), (342, 18944), (346, 18959), (348, 18962), (370, 19073), (371, 19076), (373, 19085), (374, 19091), (377, 19106), (379, 19109), (387, 19130), (397, 19160), (400, 19172), (406, 19205), (428, 19316), (429, 19319), (439, 19346), (442, 19352), (455, 19406), (456, 19409), (479, 19496), (481, 19511), (484, 19523), (485, 19526), (497, 19592), (502, 19616), (505, 19637), (507, 19646), (520, 19706), (521, 19709), (529, 19745), (532, 19763), (537, 19775), (539, 19784), (547, 19811), (564, 19880), (567, 19898), (571, 19907), (573, 19919), (579, 19955), (588, 19985), (595, 20006), (602, 20030), (607, 20066), (614, 20120), (629, 20180), (637, 20222), (654, 20300), (666, 20357), (670, 20381), (676, 20435), (680, 20483), (688, 20525), (690, 20549), (691, 20552),

Gene: Miniwave\_26 Start: 22481, Stop: 24877, Start Num: 94

Candidate Starts for Miniwave\_26:

(Start: 94 @22481 has 128 MA's), (170, 22658), (174, 22679), (232, 22826), (263, 22967), (271, 23000), (281, 23033), (287, 23069), (319, 23162), (342, 23222), (348, 23240), (375, 23372), (389, 23417), (420, 23549), (428, 23594), (450, 23654), (478, 23768), (481, 23789), (491, 23828), (494, 23849), (496, 23864), (527, 24014), (529, 24020), (532, 24038), (549, 24092), (567, 24176), (593, 24269), (648, 24515), (680, 24731), (691, 24815), (698, 24848),

Gene: Minnie\_19 Start: 17940, Stop: 20477, Start Num: 53

Candidate Starts for Minnie\_19:

(47, 17928), (Start: 53 @17940 has 241 MA's), (61, 17961), (Start: 71 @17982 has 1 MA's), (90, 18021), (129, 18090), (130, 18099), (131, 18102), (141, 18120), (155, 18153), (158, 18168), (172, 18216), (208, 18327), (209, 18330), (221, 18360), (224, 18372), (225, 18375), (242, 18453), (251, 18477), (262, 18543), (272, 18588), (281, 18618), (283, 18624), (284, 18642), (293, 18666), (296, 18675), (310, 18708), (312, 18714), (319, 18744), (336, 18783), (339, 18795), (342, 18804), (346, 18819), (348, 18822), (370, 18933), (371, 18936), (373, 18945), (374, 18951), (377, 18966), (379, 18969), (387, 18990), (397, 19020), (400, 19032), (406, 19065), (428, 19176), (429, 19179), (439, 19206), (442, 19212), (455, 19266), (456, 19269), (481, 19371), (484, 19383), (485, 19386), (497,

19452), (502, 19476), (505, 19497), (507, 19506), (520, 19566), (521, 19569), (529, 19605), (532, 19623), (537, 19635), (539, 19644), (547, 19671), (564, 19740), (567, 19758), (571, 19767), (573, 19779), (579, 19815), (588, 19845), (595, 19866), (602, 19890), (607, 19926), (614, 19980), (629, 20040), (637, 20082), (654, 20160), (666, 20217), (670, 20241), (676, 20295), (680, 20343), (688, 20385), (690, 20409), (691, 20412),

Gene: Misfit\_26 Start: 22371, Stop: 24767, Start Num: 94

Candidate Starts for Misfit\_26:

(Start: 94 @22371 has 128 MA's), (170, 22548), (174, 22569), (232, 22716), (263, 22857), (271, 22890), (281, 22923), (287, 22959), (319, 23052), (342, 23112), (348, 23130), (375, 23262), (389, 23307), (420, 23439), (428, 23484), (450, 23544), (478, 23658), (481, 23679), (491, 23718), (494, 23739), (496, 23754), (527, 23904), (529, 23910), (532, 23928), (549, 23982), (567, 24066), (593, 24159), (648, 24405), (680, 24621), (691, 24705), (698, 24738),

Gene: Misha28\_19 Start: 17273, Stop: 19798, Start Num: 53

Candidate Starts for Misha28\_19:

(Start: 53 @17273 has 241 MA's), (61, 17294), (Start: 71 @17315 has 1 MA's), (90, 17354), (129, 17423), (130, 17432), (131, 17435), (141, 17453), (155, 17486), (158, 17501), (172, 17549), (208, 17660), (209, 17663), (225, 17708), (242, 17786), (251, 17810), (262, 17876), (272, 17921), (281, 17951), (283, 17957), (284, 17975), (293, 17999), (296, 18008), (310, 18041), (312, 18047), (319, 18077), (336, 18116), (339, 18128), (342, 18137), (346, 18152), (348, 18155), (379, 18302), (397, 18353), (419, 18464), (429, 18515), (438, 18539), (467, 18632), (475, 18677), (478, 18686), (481, 18707), (484, 18719), (485, 18722), (494, 18767), (502, 18812), (504, 18830), (505, 18833), (516, 18884), (527, 18935), (529, 18941), (532, 18959), (537, 18971), (539, 18980), (549, 19013), (567, 19094), (584, 19163), (593, 19190), (599, 19217), (608, 19268), (614, 19316), (669, 19559), (680, 19664), (685, 19685), (693, 19739), (697, 19763),

Gene: MisterCuddles\_18 Start: 17371, Stop: 19908, Start Num: 53

Candidate Starts for MisterCuddles\_18:

(Start: 53 @17371 has 241 MA's), (61, 17392), (Start: 71 @17413 has 1 MA's), (90, 17452), (129, 17521), (130, 17530), (131, 17533), (141, 17551), (155, 17584), (158, 17599), (206, 17752), (209, 17761), (225, 17806), (250, 17905), (251, 17908), (262, 17974), (281, 18049), (283, 18055), (293, 18097), (295, 18103), (296, 18106), (310, 18139), (312, 18145), (319, 18175), (330, 18196), (339, 18226), (342, 18235), (346, 18250), (348, 18253), (370, 18364), (371, 18367), (373, 18376), (374, 18382), (377, 18397), (379, 18400), (387, 18421), (397, 18451), (400, 18463), (406, 18496), (428, 18607), (429, 18610), (439, 18637), (442, 18643), (455, 18697), (456, 18700), (479, 18787), (481, 18802), (484, 18814), (485, 18817), (497, 18883), (502, 18907), (505, 18928), (507, 18937), (516, 18979), (520, 18997), (521, 19000), (527, 19030), (532, 19054), (537, 19066), (539, 19075), (564, 19171), (567, 19189), (571, 19198), (573, 19210), (579, 19246), (588, 19276), (593, 19285), (595, 19297), (607, 19357), (614, 19411), (629, 19471), (637, 19513), (666, 19648), (670, 19672), (676, 19726), (680, 19774), (688, 19816), (690, 19840), (691, 19843),

Gene: Modragons\_18 Start: 17634, Stop: 20171, Start Num: 53

Candidate Starts for Modragons\_18:

(Start: 53 @17634 has 241 MA's), (61, 17655), (Start: 71 @17676 has 1 MA's), (90, 17715), (129, 17784), (130, 17793), (131, 17796), (141, 17814), (158, 17862), (208, 18021), (209, 18024), (224, 18066), (225, 18069), (242, 18147), (250, 18168), (251, 18171), (262, 18237), (263, 18246), (272, 18282), (281, 18312), (283, 18318), (293, 18360), (295, 18366), (296, 18369), (310, 18402), (312, 18408), (319, 18438), (330, 18459), (339, 18489), (342, 18498), (366, 18606), (369, 18618), (370, 18627), (371, 18630), (373, 18639), (374, 18645), (377, 18660), (379, 18663), (387, 18684), (400, 18726), (406, 18759), (439, 18900), (442, 18906), (455, 18960), (456, 18963), (467, 18990), (481, 19065), (484, 19077), (485, 19080), (497, 19146), (501, 19167), (502, 19170), (505, 19191), (516, 19242), (520, 19260), (521, 19263), (527, 19293), (532, 19317), (537, 19329), (564, 19434), (567,

19452), (571, 19461), (573, 19473), (579, 19509), (588, 19539), (595, 19560), (602, 19584), (607, 19620), (629, 19734), (637, 19776), (654, 19854), (666, 19911), (670, 19935), (676, 19989), (680, 20037), (688, 20079), (690, 20103), (691, 20106),

Gene: Moldemort\_27 Start: 22026, Stop: 24422, Start Num: 94

Candidate Starts for Moldemort\_27:

(Start: 94 @22026 has 128 MA's), (170, 22203), (174, 22224), (232, 22371), (271, 22545), (281, 22578), (287, 22614), (319, 22707), (342, 22767), (348, 22785), (375, 22917), (389, 22962), (420, 23094), (428, 23139), (450, 23199), (478, 23313), (481, 23334), (491, 23373), (494, 23394), (496, 23409), (527, 23559), (529, 23565), (532, 23583), (549, 23637), (567, 23721), (593, 23814), (648, 24060), (680, 24276), (691, 24360), (698, 24393),

Gene: MollyToe\_26 Start: 22455, Stop: 24851, Start Num: 94

Candidate Starts for MollyToe\_26:

(Start: 94 @22455 has 128 MA's), (170, 22632), (174, 22653), (232, 22800), (263, 22941), (271, 22974), (281, 23007), (287, 23043), (319, 23136), (342, 23196), (348, 23214), (375, 23346), (389, 23391), (420, 23523), (428, 23568), (478, 23742), (481, 23763), (491, 23802), (494, 23823), (496, 23838), (529, 23994), (532, 24012), (549, 24066), (567, 24150), (593, 24243), (648, 24489), (680, 24705), (691, 24789), (698, 24822),

Gene: MooMoo\_18 Start: 17135, Stop: 19570, Start Num: 53

Candidate Starts for MooMoo\_18:

(Start: 53 @17135 has 241 MA's), (57, 17147), (65, 17168), (85, 17213), (92, 17231), (97, 17243), (133, 17318), (170, 17414), (181, 17441), (185, 17450), (193, 17468), (194, 17471), (198, 17480), (228, 17555), (230, 17564), (233, 17573), (260, 17651), (281, 17717), (283, 17723), (291, 17759), (292, 17762), (293, 17765), (295, 17771), (300, 17783), (303, 17792), (310, 17807), (325, 17858), (335, 17879), (336, 17882), (342, 17903), (350, 17927), (359, 17972), (370, 18032), (371, 18035), (376, 18056), (382, 18077), (393, 18110), (397, 18119), (406, 18164), (407, 18167), (409, 18173), (414, 18206), (416, 18218), (418, 18227), (420, 18230), (450, 18335), (456, 18368), (484, 18482), (495, 18536), (500, 18569), (501, 18572), (502, 18575), (504, 18593), (514, 18632), (527, 18695), (546, 18773), (550, 18791), (564, 18848), (565, 18851), (568, 18869), (581, 18929), (586, 18944), (602, 18998), (614, 19085), (635, 19190), (649, 19217), (662, 19289), (666, 19313), (680, 19430), (685, 19451), (692, 19511), (694, 19514), (698, 19541), (701, 19550),

Gene: Moonbeam\_19 Start: 17889, Stop: 20426, Start Num: 53

Candidate Starts for Moonbeam\_19:

(47, 17877), (Start: 53 @17889 has 241 MA's), (61, 17910), (Start: 71 @17931 has 1 MA's), (90, 17970), (129, 18039), (130, 18048), (131, 18051), (141, 18069), (155, 18102), (158, 18117), (172, 18165), (208, 18276), (209, 18279), (221, 18309), (224, 18321), (225, 18324), (242, 18402), (251, 18426), (262, 18492), (272, 18537), (281, 18567), (283, 18573), (284, 18591), (293, 18615), (296, 18624), (310, 18657), (312, 18663), (319, 18693), (336, 18732), (339, 18744), (342, 18753), (346, 18768), (348, 18771), (370, 18882), (371, 18885), (373, 18894), (374, 18900), (377, 18915), (379, 18918), (387, 18939), (397, 18969), (400, 18981), (406, 19014), (428, 19125), (429, 19128), (439, 19155), (442, 19161), (455, 19215), (456, 19218), (479, 19305), (481, 19320), (484, 19332), (485, 19335), (497, 19401), (502, 19425), (505, 19446), (507, 19455), (516, 19497), (520, 19515), (521, 19518), (529, 19554), (532, 19572), (537, 19584), (539, 19593), (547, 19620), (564, 19689), (567, 19707), (571, 19716), (573, 19728), (579, 19764), (588, 19794), (595, 19815), (602, 19839), (607, 19875), (614, 19929), (629, 19989), (637, 20031), (654, 20109), (666, 20166), (670, 20190), (676, 20244), (680, 20292), (688, 20334), (690, 20358), (691, 20361),

Gene: Mori\_58 Start: 36137, Stop: 38647, Start Num: 60

Candidate Starts for Mori\_58:

(Start: 60 @36137 has 33 MA's), (74, 36170), (108, 36239), (109, 36242), (122, 36266), (131, 36290), (145, 36314), (155, 36347), (214, 36554), (217, 36566), (218, 36569), (254, 36716), (257, 36746), (262, 36770), (272, 36800), (273, 36803), (281, 36830), (284, 36854), (295, 36884), (315, 36941), (320, 36965), (336, 37001), (339, 37013), (346, 37037), (348, 37040), (356, 37082), (377, 37178), (379, 37181), (447, 37436), (481, 37580), (494, 37640), (504, 37712), (505, 37715), (526, 37811), (567, 37985), (573, 38006), (598, 38099), (601, 38111), (614, 38201), (633, 38276), (653, 38321), (684, 38522), (689, 38576), (694, 38591),

Gene: Mosby\_25 Start: 21791, Stop: 24187, Start Num: 94

Candidate Starts for Mosby\_25:

(Start: 94 @21791 has 128 MA's), (170, 21968), (174, 21989), (232, 22136), (263, 22277), (271, 22310), (281, 22343), (287, 22379), (319, 22472), (342, 22532), (348, 22550), (375, 22682), (389, 22727), (420, 22859), (428, 22904), (478, 23078), (481, 23099), (491, 23138), (494, 23159), (496, 23174), (529, 23330), (532, 23348), (549, 23402), (567, 23486), (593, 23579), (648, 23825), (680, 24041), (691, 24125), (698, 24158),

Gene: Mova\_19 Start: 17248, Stop: 19785, Start Num: 53

Candidate Starts for Mova\_19:

(Start: 53 @17248 has 241 MA's), (61, 17269), (Start: 71 @17290 has 1 MA's), (90, 17329), (129, 17398), (130, 17407), (131, 17410), (141, 17428), (155, 17461), (158, 17476), (208, 17635), (209, 17638), (225, 17683), (242, 17761), (251, 17785), (262, 17851), (281, 17926), (283, 17932), (284, 17950), (293, 17974), (296, 17983), (310, 18016), (312, 18022), (319, 18052), (330, 18073), (336, 18091), (342, 18112), (346, 18127), (348, 18130), (366, 18220), (370, 18241), (371, 18244), (373, 18253), (374, 18259), (377, 18274), (379, 18277), (387, 18298), (400, 18340), (406, 18373), (420, 18439), (428, 18484), (429, 18487), (439, 18514), (442, 18520), (455, 18574), (456, 18577), (467, 18604), (479, 18664), (481, 18679), (484, 18691), (485, 18694), (497, 18760), (502, 18784), (507, 18814), (516, 18856), (520, 18874), (521, 18877), (529, 18913), (532, 18931), (537, 18943), (539, 18952), (547, 18979), (564, 19048), (567, 19066), (571, 19075), (573, 19087), (579, 19123), (588, 19153), (595, 19174), (602, 19198), (607, 19234), (614, 19288), (637, 19390), (666, 19525), (670, 19549), (676, 19603), (680, 19651), (688, 19693), (690, 19717), (691, 19720),

Gene: Mozy\_19 Start: 17298, Stop: 19835, Start Num: 53

Candidate Starts for Mozy\_19:

(Start: 53 @17298 has 241 MA's), (61, 17319), (Start: 71 @17340 has 1 MA's), (90, 17379), (129, 17448), (130, 17457), (131, 17460), (141, 17478), (155, 17511), (158, 17526), (208, 17685), (209, 17688), (221, 17718), (225, 17733), (242, 17811), (250, 17832), (251, 17835), (262, 17901), (281, 17976), (283, 17982), (293, 18024), (295, 18030), (296, 18033), (310, 18066), (312, 18072), (319, 18102), (330, 18123), (339, 18153), (342, 18162), (370, 18291), (371, 18294), (373, 18303), (374, 18309), (377, 18324), (379, 18327), (387, 18348), (397, 18378), (400, 18390), (406, 18423), (407, 18426), (420, 18489), (439, 18564), (442, 18570), (455, 18624), (456, 18627), (467, 18654), (481, 18729), (484, 18741), (485, 18744), (497, 18810), (502, 18834), (507, 18864), (520, 18924), (521, 18927), (529, 18963), (532, 18981), (539, 19002), (564, 19098), (567, 19116), (571, 19125), (573, 19137), (579, 19173), (595, 19224), (607, 19284), (614, 19338), (637, 19440), (654, 19518), (666, 19575), (670, 19599), (676, 19653), (680, 19701), (688, 19743), (690, 19767), (691, 19770),

Gene: MulchExplorer\_21 Start: 18519, Stop: 21056, Start Num: 53

Candidate Starts for MulchExplorer\_21:

(47, 18507), (Start: 53 @18519 has 241 MA's), (61, 18540), (Start: 71 @18561 has 1 MA's), (90, 18600), (129, 18669), (130, 18678), (131, 18681), (141, 18699), (155, 18732), (158, 18747), (172, 18795), (208, 18906), (209, 18909), (221, 18939), (224, 18951), (225, 18954), (242, 19032), (251, 19056), (262, 19122), (272, 19167), (281, 19197), (283, 19203), (284, 19221), (293, 19245), (296, 19254), (310, 19287), (312, 19293), (319, 19323), (336, 19362), (339, 19374), (342, 19383), (346, 19398), (348, 19401), (370, 19512), (371, 19515), (373, 19524), (374, 19530), (377, 19545), (379,

19548), (387, 19569), (397, 19599), (400, 19611), (406, 19644), (428, 19755), (429, 19758), (439, 19785), (442, 19791), (455, 19845), (456, 19848), (479, 19935), (481, 19950), (484, 19962), (485, 19965), (497, 20031), (502, 20055), (505, 20076), (507, 20085), (516, 20127), (520, 20145), (521, 20148), (529, 20184), (532, 20202), (537, 20214), (539, 20223), (547, 20250), (564, 20319), (567, 20337), (571, 20346), (573, 20358), (579, 20394), (588, 20424), (595, 20445), (602, 20469), (607, 20505), (614, 20559), (629, 20619), (637, 20661), (654, 20739), (666, 20796), (670, 20820), (676, 20874), (680, 20922), (688, 20964), (690, 20988), (691, 20991),

Gene: Murai\_59 Start: 36318, Stop: 38828, Start Num: 60

Candidate Starts for Murai\_59:

(Start: 60 @36318 has 33 MA's), (74, 36351), (108, 36420), (109, 36423), (122, 36447), (131, 36471), (145, 36495), (155, 36528), (214, 36735), (217, 36747), (218, 36750), (254, 36897), (257, 36927), (262, 36951), (272, 36981), (273, 36984), (281, 37011), (284, 37035), (295, 37065), (315, 37122), (336, 37182), (339, 37194), (346, 37218), (348, 37221), (356, 37263), (377, 37359), (379, 37362), (447, 37617), (481, 37761), (494, 37821), (504, 37893), (505, 37896), (526, 37992), (567, 38166), (573, 38187), (598, 38280), (601, 38292), (614, 38382), (633, 38457), (653, 38502), (684, 38703), (689, 38757), (694, 38772),

Gene: Murica\_25 Start: 22268, Stop: 24664, Start Num: 94

Candidate Starts for Murica\_25:

(Start: 94 @22268 has 128 MA's), (170, 22445), (174, 22466), (232, 22613), (263, 22754), (271, 22787), (281, 22820), (287, 22856), (319, 22949), (342, 23009), (348, 23027), (375, 23159), (389, 23204), (420, 23336), (428, 23381), (450, 23441), (478, 23555), (481, 23576), (491, 23615), (494, 23636), (496, 23651), (527, 23801), (529, 23807), (532, 23825), (549, 23879), (567, 23963), (593, 24056), (648, 24302), (680, 24518), (691, 24602), (698, 24635),

Gene: Murphy\_27 Start: 22263, Stop: 24659, Start Num: 94

Candidate Starts for Murphy\_27:

(Start: 94 @22263 has 128 MA's), (170, 22440), (174, 22461), (232, 22608), (263, 22749), (271, 22782), (281, 22815), (287, 22851), (319, 22944), (342, 23004), (348, 23022), (375, 23154), (389, 23199), (420, 23331), (428, 23376), (450, 23436), (478, 23550), (481, 23571), (491, 23610), (494, 23631), (496, 23646), (527, 23796), (529, 23802), (532, 23820), (549, 23874), (567, 23958), (593, 24051), (648, 24297), (680, 24513), (691, 24597), (698, 24630),

Gene: Murucutumbu\_27 Start: 20831, Stop: 23263, Start Num: 80

Candidate Starts for Murucutumbu\_27:

(Start: 80 @20831 has 96 MA's), (126, 20930), (218, 21191), (225, 21212), (280, 21452), (285, 21482), (286, 21485), (314, 21554), (319, 21578), (337, 21623), (370, 21776), (381, 21833), (385, 21842), (396, 21878), (400, 21893), (437, 22073), (443, 22088), (459, 22157), (476, 22232), (485, 22274), (494, 22313), (495, 22319), (496, 22328), (513, 22409), (539, 22526), (550, 22568), (570, 22640), (572, 22649), (577, 22670), (599, 22763), (614, 22859), (664, 23087), (680, 23234),

Gene: Mutaforma13\_18 Start: 17444, Stop: 19981, Start Num: 53

Candidate Starts for Mutaforma13\_18:

(47, 17432), (Start: 53 @17444 has 241 MA's), (61, 17465), (Start: 71 @17486 has 1 MA's), (88, 17522), (90, 17525), (129, 17594), (130, 17603), (131, 17606), (141, 17624), (155, 17657), (158, 17672), (172, 17720), (206, 17825), (208, 17831), (209, 17834), (221, 17864), (224, 17876), (225, 17879), (251, 17981), (262, 18047), (272, 18092), (281, 18122), (283, 18128), (284, 18146), (293, 18170), (296, 18179), (310, 18212), (312, 18218), (330, 18269), (336, 18287), (339, 18299), (342, 18308), (346, 18323), (349, 18329), (370, 18437), (373, 18449), (374, 18455), (377, 18470), (379, 18473), (387, 18494), (397, 18524), (400, 18536), (406, 18569), (420, 18635), (428, 18680), (429, 18683), (439, 18710), (442, 18716), (455, 18770), (456, 18773), (467, 18800), (481, 18875), (484, 18887), (485, 18890), (497, 18956), (502, 18980), (507, 19010), (516, 19052), (520, 19070), (521,

19073), (529, 19109), (532, 19127), (539, 19148), (547, 19175), (564, 19244), (567, 19262), (571, 19271), (573, 19283), (579, 19319), (595, 19370), (600, 19388), (607, 19430), (614, 19484), (637, 19586), (666, 19721), (670, 19745), (676, 19799), (680, 19847), (688, 19889), (690, 19913), (691, 19916),

Gene: Mwanjiwa\_18 Start: 17382, Stop: 19919, Start Num: 53

Candidate Starts for Mwanjiwa\_18:

(Start: 53 @17382 has 241 MA's), (61, 17403), (Start: 71 @17424 has 1 MA's), (90, 17463), (129, 17532), (130, 17541), (131, 17544), (141, 17562), (155, 17595), (158, 17610), (208, 17769), (209, 17772), (225, 17817), (242, 17895), (251, 17919), (262, 17985), (272, 18030), (281, 18060), (283, 18066), (284, 18084), (293, 18108), (296, 18117), (310, 18150), (312, 18156), (330, 18207), (336, 18225), (339, 18237), (342, 18246), (346, 18261), (370, 18375), (373, 18387), (374, 18393), (377, 18408), (379, 18411), (387, 18432), (397, 18462), (400, 18474), (406, 18507), (420, 18573), (428, 18618), (429, 18621), (439, 18648), (455, 18708), (456, 18711), (481, 18813), (484, 18825), (485, 18828), (497, 18894), (501, 18915), (502, 18918), (505, 18939), (507, 18948), (520, 19008), (521, 19011), (529, 19047), (532, 19065), (537, 19077), (539, 19086), (547, 19113), (564, 19182), (567, 19200), (571, 19209), (573, 19221), (579, 19257), (588, 19287), (595, 19308), (602, 19332), (607, 19368), (614, 19422), (637, 19524), (654, 19602), (666, 19659), (670, 19683), (676, 19737), (680, 19785), (688, 19827), (690, 19851), (691, 19854),

Gene: Mynx\_27 Start: 20895, Stop: 23327, Start Num: 80

Candidate Starts for Mynx\_27:

(Start: 80 @20895 has 96 MA's), (126, 20994), (218, 21255), (225, 21276), (270, 21483), (280, 21516), (285, 21546), (314, 21618), (319, 21642), (337, 21687), (370, 21840), (378, 21885), (381, 21897), (385, 21906), (400, 21957), (437, 22137), (443, 22152), (459, 22221), (463, 22233), (476, 22296), (485, 22338), (494, 22377), (495, 22383), (496, 22392), (500, 22413), (513, 22473), (539, 22590), (550, 22632), (570, 22704), (572, 22713), (577, 22734), (594, 22806), (599, 22827), (614, 22923), (628, 22986), (664, 23151), (680, 23298),

Gene: Myrale\_26 Start: 22154, Stop: 24550, Start Num: 94

Candidate Starts for Myrale\_26:

(Start: 94 @22154 has 128 MA's), (170, 22331), (174, 22352), (232, 22499), (263, 22640), (271, 22673), (281, 22706), (287, 22742), (319, 22835), (342, 22895), (348, 22913), (365, 22994), (420, 23222), (428, 23267), (481, 23462), (482, 23468), (485, 23477), (494, 23522), (496, 23537), (529, 23693), (532, 23711), (535, 23720), (550, 23774), (567, 23849), (568, 23852), (613, 24062), (615, 24074), (648, 24188), (680, 24404), (691, 24488), (696, 24512), (698, 24521),

Gene: Nala\_26 Start: 22310, Stop: 24706, Start Num: 94

Candidate Starts for Nala\_26:

(Start: 94 @22310 has 128 MA's), (170, 22487), (174, 22508), (232, 22655), (263, 22796), (271, 22829), (281, 22862), (287, 22898), (319, 22991), (342, 23051), (348, 23069), (375, 23201), (389, 23246), (420, 23378), (428, 23423), (450, 23483), (478, 23597), (481, 23618), (491, 23657), (494, 23678), (496, 23693), (527, 23843), (529, 23849), (532, 23867), (549, 23921), (567, 24005), (593, 24098), (648, 24344), (680, 24560), (691, 24644), (698, 24677),

Gene: Nebkiss\_22 Start: 19932, Stop: 22502, Start Num: 44

Candidate Starts for Nebkiss\_22:

(Start: 44 @19932 has 2 MA's), (57, 19989), (70, 20022), (113, 20100), (116, 20103), (142, 20157), (148, 20169), (166, 20217), (175, 20262), (204, 20334), (209, 20355), (216, 20376), (224, 20397), (225, 20400), (234, 20445), (257, 20544), (269, 20589), (283, 20634), (296, 20685), (303, 20703), (342, 20808), (343, 20814), (346, 20823), (348, 20826), (354, 20853), (358, 20874), (365, 20907), (366, 20916), (370, 20937), (373, 20949), (377, 20970), (397, 21024), (400, 21036), (406, 21069), (421, 21144), (427, 21171), (461, 21294), (470, 21321), (475, 21345), (481, 21375), (488, 21399),

(495, 21441), (496, 21450), (517, 21579), (523, 21606), (537, 21657), (565, 21768), (567, 21783), (631, 22074), (666, 22242), (670, 22266), (688, 22410), (691, 22437), (693, 22443), (694, 22446),

Gene: NelitzaMV\_26 Start: 22353, Stop: 24749, Start Num: 94

Candidate Starts for NelitzaMV\_26:

(Start: 94 @22353 has 128 MA's), (170, 22530), (174, 22551), (232, 22698), (263, 22839), (271, 22872), (281, 22905), (287, 22941), (319, 23034), (342, 23094), (348, 23112), (382, 23268), (389, 23289), (416, 23409), (420, 23421), (428, 23466), (481, 23661), (485, 23676), (494, 23721), (496, 23736), (529, 23892), (532, 23910), (535, 23919), (567, 24048), (568, 24051), (613, 24261), (615, 24273), (648, 24387), (680, 24603), (691, 24687), (696, 24711), (698, 24720),

Gene: NewHope4\_19 Start: 17446, Stop: 19983, Start Num: 53

Candidate Starts for NewHope4\_19:

(Start: 53 @17446 has 241 MA's), (61, 17467), (Start: 71 @17488 has 1 MA's), (88, 17524), (90, 17527), (129, 17596), (130, 17605), (131, 17608), (141, 17626), (155, 17659), (158, 17674), (172, 17722), (206, 17827), (208, 17833), (209, 17836), (224, 17878), (225, 17881), (251, 17983), (262, 18049), (272, 18094), (281, 18124), (283, 18130), (284, 18148), (293, 18172), (296, 18181), (310, 18214), (312, 18220), (330, 18271), (336, 18289), (339, 18301), (342, 18310), (346, 18325), (349, 18331), (370, 18439), (373, 18451), (374, 18457), (377, 18472), (379, 18475), (387, 18496), (397, 18526), (400, 18538), (406, 18571), (420, 18637), (428, 18682), (429, 18685), (439, 18712), (442, 18718), (455, 18772), (456, 18775), (479, 18862), (481, 18877), (484, 18889), (485, 18892), (497, 18958), (505, 19003), (507, 19012), (520, 19072), (521, 19075), (529, 19111), (532, 19129), (537, 19141), (539, 19150), (547, 19177), (564, 19246), (567, 19264), (571, 19273), (573, 19285), (579, 19321), (588, 19351), (595, 19372), (602, 19396), (607, 19432), (614, 19486), (629, 19546), (637, 19588), (654, 19666), (666, 19723), (670, 19747), (676, 19801), (680, 19849), (688, 19891), (690, 19915), (691, 19918),

Gene: Nibb\_26 Start: 20138, Stop: 22591, Start Num: 80

Candidate Starts for Nibb\_26:

(Start: 80 @20138 has 96 MA's), (155, 20309), (171, 20366), (174, 20378), (216, 20495), (225, 20519), (231, 20546), (259, 20675), (265, 20708), (295, 20819), (298, 20828), (299, 20837), (307, 20858), (319, 20906), (353, 21008), (383, 21167), (404, 21248), (424, 21350), (472, 21542), (476, 21563), (485, 21605), (494, 21650), (496, 21665), (534, 21848), (550, 21905), (559, 21938), (577, 22007), (580, 22031), (596, 22088), (600, 22103), (611, 22181), (646, 22328), (649, 22337),

Gene: Nibley\_31 Start: 26436, Stop: 28931, Start Num: 53

Candidate Starts for Nibley\_31:

(Start: 53 @26436 has 241 MA's), (141, 26631), (155, 26667), (158, 26682), (192, 26769), (197, 26784), (209, 26820), (211, 26826), (225, 26859), (228, 26871), (269, 27042), (272, 27051), (281, 27075), (295, 27129), (310, 27165), (312, 27171), (319, 27201), (333, 27231), (339, 27252), (342, 27261), (346, 27276), (362, 27345), (379, 27426), (382, 27435), (389, 27456), (390, 27459), (400, 27489), (407, 27525), (416, 27576), (418, 27585), (420, 27588), (425, 27615), (427, 27624), (433, 27645), (455, 27723), (456, 27726), (475, 27798), (482, 27834), (484, 27840), (493, 27882), (494, 27888), (501, 27930), (502, 27933), (505, 27954), (506, 27960), (507, 27963), (514, 27993), (546, 28134), (549, 28143), (550, 28152), (557, 28185), (564, 28209), (565, 28212), (567, 28227), (573, 28248), (579, 28284), (581, 28290), (584, 28296), (589, 28317), (598, 28344), (619, 28479), (635, 28551), (639, 28557), (648, 28575), (666, 28674), (680, 28791), (692, 28872), (694, 28875), (698, 28902),

Gene: Nichirin\_18 Start: 17599, Stop: 20136, Start Num: 53

Candidate Starts for Nichirin\_18:

(Start: 53 @17599 has 241 MA's), (61, 17620), (Start: 71 @17641 has 1 MA's), (90, 17680), (129, 17749), (130, 17758), (131, 17761), (141, 17779), (158, 17827), (208, 17986), (209, 17989), (225,

18034), (242, 18112), (250, 18133), (251, 18136), (262, 18202), (281, 18277), (283, 18283), (293, 18325), (295, 18331), (296, 18334), (310, 18367), (312, 18373), (319, 18403), (330, 18424), (339, 18454), (342, 18463), (366, 18571), (369, 18583), (370, 18592), (371, 18595), (373, 18604), (374, 18610), (377, 18625), (379, 18628), (387, 18649), (400, 18691), (406, 18724), (439, 18865), (442, 18871), (455, 18925), (456, 18928), (467, 18955), (481, 19030), (484, 19042), (485, 19045), (497, 19111), (501, 19132), (502, 19135), (505, 19156), (516, 19207), (520, 19225), (521, 19228), (527, 19258), (532, 19282), (539, 19303), (547, 19330), (549, 19336), (564, 19399), (567, 19417), (571, 19426), (573, 19438), (579, 19474), (588, 19504), (595, 19525), (629, 19699), (637, 19741), (654, 19819), (666, 19876), (670, 19900), (671, 19915), (676, 19954), (680, 20002), (688, 20044), (690, 20068), (691, 20071),

Gene: NiebruSaylor\_57 Start: 35525, Stop: 38035, Start Num: 60

Candidate Starts for NiebruSaylor\_57:

(Start: 60 @35525 has 33 MA's), (74, 35558), (108, 35627), (109, 35630), (122, 35654), (131, 35678), (145, 35702), (155, 35735), (214, 35942), (217, 35954), (218, 35957), (254, 36104), (257, 36134), (262, 36158), (272, 36188), (273, 36191), (281, 36218), (284, 36242), (295, 36272), (315, 36329), (320, 36353), (336, 36389), (339, 36401), (346, 36425), (348, 36428), (356, 36470), (377, 36566), (379, 36569), (447, 36824), (481, 36968), (494, 37028), (504, 37100), (505, 37103), (526, 37199), (567, 37373), (573, 37394), (598, 37487), (601, 37499), (614, 37589), (633, 37664), (653, 37709), (684, 37910), (689, 37964), (694, 37979),

Gene: Nimbo\_18 Start: 17400, Stop: 19937, Start Num: 53

Candidate Starts for Nimbo\_18:

(Start: 53 @17400 has 241 MA's), (61, 17421), (Start: 71 @17442 has 1 MA's), (90, 17481), (129, 17550), (130, 17559), (131, 17562), (141, 17580), (158, 17628), (172, 17676), (208, 17787), (209, 17790), (225, 17835), (242, 17913), (251, 17937), (262, 18003), (281, 18078), (283, 18084), (284, 18102), (293, 18126), (296, 18135), (310, 18168), (312, 18174), (319, 18204), (330, 18225), (339, 18255), (342, 18264), (366, 18372), (369, 18384), (370, 18393), (371, 18396), (374, 18411), (377, 18426), (379, 18429), (387, 18450), (400, 18492), (406, 18525), (428, 18636), (429, 18639), (439, 18666), (442, 18672), (455, 18726), (456, 18729), (467, 18756), (481, 18831), (484, 18843), (485, 18846), (497, 18912), (501, 18933), (502, 18936), (505, 18957), (507, 18966), (516, 19008), (520, 19026), (521, 19029), (527, 19059), (532, 19083), (537, 19095), (539, 19104), (564, 19200), (567, 19218), (571, 19227), (573, 19239), (579, 19275), (588, 19305), (593, 19314), (595, 19326), (607, 19386), (614, 19440), (629, 19500), (637, 19542), (666, 19677), (670, 19701), (676, 19755), (680, 19803), (688, 19845), (690, 19869), (691, 19872),

Gene: Nimrod\_26 Start: 22529, Stop: 24925, Start Num: 94

Candidate Starts for Nimrod\_26:

(Start: 94 @22529 has 128 MA's), (170, 22706), (174, 22727), (232, 22874), (263, 23015), (271, 23048), (281, 23081), (287, 23117), (319, 23210), (342, 23270), (348, 23288), (375, 23420), (389, 23465), (420, 23597), (428, 23642), (450, 23702), (478, 23816), (481, 23837), (491, 23876), (494, 23897), (496, 23912), (527, 24062), (529, 24068), (532, 24086), (549, 24140), (567, 24224), (593, 24317), (648, 24563), (680, 24779), (691, 24863), (698, 24896),

Gene: Nitzel\_19 Start: 18136, Stop: 20673, Start Num: 53

Candidate Starts for Nitzel\_19:

(Start: 53 @18136 has 241 MA's), (61, 18157), (Start: 71 @18178 has 1 MA's), (90, 18217), (129, 18286), (130, 18295), (131, 18298), (141, 18316), (155, 18349), (158, 18364), (172, 18412), (206, 18517), (208, 18523), (209, 18526), (224, 18568), (225, 18571), (251, 18673), (262, 18739), (272, 18784), (281, 18814), (283, 18820), (284, 18838), (293, 18862), (296, 18871), (310, 18904), (312, 18910), (330, 18961), (336, 18979), (339, 18991), (342, 19000), (346, 19015), (349, 19021), (370, 19129), (373, 19141), (374, 19147), (377, 19162), (379, 19165), (387, 19186), (397, 19216), (400, 19228), (406, 19261), (420, 19327), (428, 19372), (429, 19375), (439, 19402), (442, 19408), (455,

19462), (456, 19465), (467, 19492), (481, 19567), (484, 19579), (485, 19582), (497, 19648), (502, 19672), (507, 19702), (516, 19744), (520, 19762), (521, 19765), (529, 19801), (532, 19819), (537, 19831), (539, 19840), (547, 19867), (564, 19936), (567, 19954), (571, 19963), (573, 19975), (579, 20011), (595, 20062), (600, 20080), (607, 20122), (614, 20176), (629, 20236), (637, 20278), (666, 20413), (670, 20437), (676, 20491), (680, 20539), (688, 20581), (690, 20605), (691, 20608),

Gene: Nivrat\_18 Start: 17405, Stop: 19930, Start Num: 53

Candidate Starts for Nivrat\_18:

(Start: 53 @17405 has 241 MA's), (90, 17486), (129, 17555), (130, 17564), (131, 17567), (141, 17585), (158, 17633), (171, 17678), (208, 17792), (209, 17795), (213, 17807), (222, 17828), (224, 17837), (225, 17840), (235, 17888), (242, 17918), (257, 17984), (263, 18017), (272, 18053), (279, 18077), (295, 18137), (296, 18140), (303, 18158), (328, 18221), (330, 18224), (336, 18242), (342, 18263), (348, 18281), (354, 18308), (358, 18329), (365, 18362), (374, 18410), (375, 18413), (377, 18425), (379, 18428), (388, 18455), (397, 18479), (406, 18524), (433, 18650), (441, 18674), (471, 18782), (481, 18833), (484, 18845), (485, 18848), (494, 18893), (496, 18908), (501, 18935), (505, 18959), (516, 19010), (520, 19028), (521, 19031), (522, 19043), (537, 19097), (549, 19139), (581, 19283), (598, 19337), (599, 19343), (600, 19346), (605, 19382), (606, 19385), (608, 19394), (609, 19421), (657, 19622), (680, 19793), (687, 19832), (693, 19871), (694, 19874),

Gene: NoShow\_21 Start: 18882, Stop: 21146, Start Num: 112

Candidate Starts for NoShow\_21:

(Start: 112 @18882 has 1 MA's), (163, 19005), (167, 19014), (189, 19098), (197, 19122), (201, 19131), (225, 19209), (250, 19311), (265, 19398), (306, 19488), (322, 19545), (331, 19563), (334, 19569), (338, 19584), (343, 19599), (346, 19608), (404, 19800), (425, 19908), (470, 20088), (474, 20109), (477, 20118), (489, 20175), (492, 20187), (496, 20217), (507, 20271), (516, 20304), (523, 20346), (528, 20364), (556, 20469), (564, 20499), (598, 20640), (601, 20652), (655, 20943), (680, 21126),

Gene: NoSleep\_27 Start: 22023, Stop: 24419, Start Num: 94

Candidate Starts for NoSleep\_27:

(Start: 94 @22023 has 128 MA's), (170, 22200), (174, 22221), (232, 22368), (271, 22542), (281, 22575), (287, 22611), (319, 22704), (342, 22764), (348, 22782), (375, 22914), (389, 22959), (420, 23091), (428, 23136), (450, 23196), (478, 23310), (481, 23331), (491, 23370), (494, 23391), (496, 23406), (527, 23556), (529, 23562), (532, 23580), (549, 23634), (567, 23718), (593, 23811), (648, 24057), (680, 24273), (691, 24357), (698, 24390),

Gene: NonchalantPear\_26 Start: 21979, Stop: 24375, Start Num: 94

Candidate Starts for NonchalantPear\_26:

(Start: 94 @21979 has 128 MA's), (170, 22156), (174, 22177), (232, 22324), (263, 22465), (271, 22498), (281, 22531), (287, 22567), (319, 22660), (342, 22720), (348, 22738), (375, 22870), (389, 22915), (420, 23047), (428, 23092), (450, 23152), (478, 23266), (481, 23287), (491, 23326), (494, 23347), (496, 23362), (527, 23512), (529, 23518), (532, 23536), (549, 23590), (567, 23674), (593, 23767), (648, 24013), (680, 24229), (691, 24313), (698, 24346),

Gene: NormanBulbieJr\_18 Start: 17393, Stop: 19945, Start Num: 53

Candidate Starts for NormanBulbieJr\_18:

(Start: 53 @17393 has 241 MA's), (90, 17474), (129, 17543), (130, 17552), (131, 17555), (141, 17573), (158, 17621), (171, 17666), (208, 17780), (209, 17783), (213, 17795), (222, 17816), (224, 17825), (225, 17828), (235, 17876), (242, 17906), (257, 17972), (263, 18005), (272, 18041), (279, 18065), (295, 18125), (296, 18128), (303, 18146), (328, 18209), (330, 18212), (336, 18230), (342, 18251), (348, 18269), (354, 18296), (358, 18317), (365, 18350), (373, 18392), (374, 18398), (375, 18401), (379, 18416), (388, 18443), (389, 18446), (397, 18467), (400, 18479), (406, 18512), (425, 18605), (455, 18713), (461, 18737), (467, 18743), (469, 18761), (470, 18764), (475, 18788), (481, 18818), (488, 18842), (494, 18878), (495, 18884), (496, 18893), (501, 18920), (511, 18983), (516, 19007),

(517, 19022), (527, 19064), (541, 19115), (565, 19211), (567, 19226), (571, 19235), (576, 19259), (593, 19322), (602, 19358), (663, 19664), (670, 19709), (680, 19811),

Gene: NovoPizza\_23 Start: 21830, Stop: 24478, Start Num: 19

Candidate Starts for NovoPizza\_23:

(Start: 19 @21830 has 1 MA's), (29, 21926), (107, 22154), (123, 22187), (135, 22217), (140, 22226), (143, 22229), (166, 22304), (182, 22373), (187, 22388), (196, 22412), (211, 22463), (225, 22502), (240, 22571), (244, 22583), (254, 22616), (282, 22736), (334, 22850), (337, 22862), (354, 22916), (364, 22967), (370, 23000), (404, 23126), (416, 23186), (424, 23228), (432, 23267), (455, 23348), (458, 23363), (464, 23378), (474, 23435), (485, 23483), (490, 23504), (496, 23543), (507, 23603), (514, 23627), (516, 23636), (518, 23654), (520, 23660), (522, 23675), (523, 23678), (530, 23714), (562, 23810), (571, 23852), (592, 23942), (593, 23945), (600, 23975), (617, 24098), (624, 24119), (656, 24272), (682, 24470),

Gene: Oaker\_29 Start: 25939, Stop: 28782, Start Num: 17

Candidate Starts for Oaker\_29:

(Start: 17 @25939 has 8 MA's), (30, 26071), (31, 26083), (35, 26092), (49, 26161), (52, 26167), (75, 26227), (83, 26248), (102, 26296), (124, 26338), (134, 26362), (151, 26395), (160, 26431), (165, 26443), (191, 26536), (209, 26593), (220, 26632), (263, 26827), (270, 26857), (283, 26899), (296, 26950), (330, 27040), (336, 27058), (356, 27139), (365, 27178), (369, 27199), (406, 27337), (413, 27376), (427, 27439), (456, 27541), (504, 27766), (589, 28129), (598, 28156), (649, 28399), (652, 28432), (658, 28456), (675, 28576), (686, 28654), (698, 28741), (702, 28756), (704, 28762),

Gene: Ochi17\_18 Start: 17634, Stop: 20171, Start Num: 53

Candidate Starts for Ochi17\_18:

(Start: 53 @17634 has 241 MA's), (61, 17655), (Start: 71 @17676 has 1 MA's), (90, 17715), (129, 17784), (130, 17793), (131, 17796), (141, 17814), (158, 17862), (208, 18021), (209, 18024), (224, 18066), (225, 18069), (242, 18147), (250, 18168), (251, 18171), (262, 18237), (263, 18246), (272, 18282), (281, 18312), (283, 18318), (293, 18360), (295, 18366), (296, 18369), (310, 18402), (312, 18408), (319, 18438), (330, 18459), (339, 18489), (342, 18498), (366, 18606), (369, 18618), (370, 18627), (371, 18630), (373, 18639), (374, 18645), (377, 18660), (379, 18663), (387, 18684), (400, 18726), (406, 18759), (439, 18900), (442, 18906), (455, 18960), (456, 18963), (467, 18990), (481, 19065), (484, 19077), (485, 19080), (497, 19146), (501, 19167), (502, 19170), (505, 19191), (516, 19242), (520, 19260), (521, 19263), (527, 19293), (532, 19317), (537, 19329), (564, 19434), (567, 19452), (571, 19461), (573, 19473), (579, 19509), (588, 19539), (595, 19560), (602, 19584), (607, 19620), (629, 19734), (637, 19776), (654, 19854), (666, 19911), (670, 19935), (676, 19989), (680, 20037), (688, 20079), (690, 20103), (691, 20106),

Gene: OfUltron\_18 Start: 17634, Stop: 20171, Start Num: 53

Candidate Starts for OfUltron\_18:

(Start: 53 @17634 has 241 MA's), (61, 17655), (Start: 71 @17676 has 1 MA's), (90, 17715), (129, 17784), (130, 17793), (131, 17796), (141, 17814), (158, 17862), (208, 18021), (209, 18024), (224, 18066), (225, 18069), (242, 18147), (250, 18168), (251, 18171), (262, 18237), (263, 18246), (272, 18282), (281, 18312), (283, 18318), (293, 18360), (295, 18366), (296, 18369), (310, 18402), (312, 18408), (319, 18438), (330, 18459), (339, 18489), (342, 18498), (366, 18606), (369, 18618), (370, 18627), (371, 18630), (373, 18639), (374, 18645), (377, 18660), (379, 18663), (387, 18684), (400, 18726), (406, 18759), (439, 18900), (442, 18906), (455, 18960), (456, 18963), (467, 18990), (481, 19065), (484, 19077), (485, 19080), (497, 19146), (501, 19167), (502, 19170), (505, 19191), (516, 19242), (520, 19260), (521, 19263), (527, 19293), (532, 19317), (537, 19329), (564, 19434), (567, 19452), (571, 19461), (573, 19473), (579, 19509), (588, 19539), (595, 19560), (602, 19584), (607, 19620), (629, 19734), (637, 19776), (654, 19854), (666, 19911), (670, 19935), (676, 19989), (680, 20037), (688, 20079), (690, 20103), (691, 20106),

Gene: Ogotogo\_21 Start: 17660, Stop: 20149, Start Num: 53

Candidate Starts for Ogotogo\_21:

(Start: 53 @17660 has 241 MA's), (61, 17681), (Start: 71 @17702 has 1 MA's), (90, 17741), (129, 17810), (130, 17819), (131, 17822), (141, 17840), (158, 17888), (172, 17936), (197, 17990), (209, 18026), (211, 18032), (212, 18035), (223, 18053), (228, 18077), (234, 18101), (253, 18164), (269, 18248), (272, 18257), (281, 18281), (284, 18305), (293, 18329), (295, 18335), (303, 18356), (312, 18377), (319, 18407), (333, 18437), (339, 18458), (362, 18551), (365, 18566), (366, 18575), (370, 18596), (371, 18599), (397, 18683), (398, 18686), (400, 18695), (405, 18722), (407, 18731), (414, 18770), (418, 18791), (420, 18794), (427, 18830), (433, 18851), (455, 18929), (456, 18932), (472, 18986), (484, 19046), (502, 19139), (504, 19157), (505, 19160), (514, 19196), (525, 19250), (527, 19259), (546, 19337), (550, 19355), (559, 19391), (561, 19394), (564, 19412), (565, 19415), (567, 19430), (573, 19451), (579, 19487), (584, 19499), (602, 19562), (607, 19595), (619, 19682), (632, 19730), (635, 19754), (643, 19781), (648, 19790), (653, 19829), (662, 19868), (666, 19892), (669, 19913), (680, 20009), (685, 20030), (694, 20093), (698, 20120), (701, 20129),

Gene: Oksu\_19 Start: 17479, Stop: 20016, Start Num: 53

Candidate Starts for Oksu\_19:

(Start: 53 @17479 has 241 MA's), (61, 17500), (Start: 71 @17521 has 1 MA's), (90, 17560), (129, 17629), (130, 17638), (131, 17641), (141, 17659), (158, 17707), (206, 17860), (209, 17869), (225, 17914), (250, 18013), (251, 18016), (262, 18082), (281, 18157), (283, 18163), (284, 18181), (293, 18205), (295, 18211), (296, 18214), (310, 18247), (312, 18253), (319, 18283), (330, 18304), (339, 18334), (342, 18343), (346, 18358), (348, 18361), (370, 18472), (371, 18475), (373, 18484), (374, 18490), (377, 18505), (379, 18508), (387, 18529), (400, 18571), (406, 18604), (439, 18745), (442, 18751), (455, 18805), (456, 18808), (467, 18835), (481, 18910), (484, 18922), (485, 18925), (497, 18991), (501, 19012), (502, 19015), (505, 19036), (516, 19087), (520, 19105), (521, 19108), (527, 19138), (532, 19162), (537, 19174), (564, 19279), (567, 19297), (571, 19306), (573, 19318), (579, 19354), (588, 19384), (595, 19405), (602, 19429), (607, 19465), (629, 19579), (637, 19621), (654, 19699), (666, 19756), (670, 19780), (676, 19834), (680, 19882), (688, 19924), (690, 19948), (691, 19951),

Gene: OldBen\_18 Start: 17370, Stop: 19907, Start Num: 53

Candidate Starts for OldBen\_18:

(47, 17358), (Start: 53 @17370 has 241 MA's), (61, 17391), (Start: 71 @17412 has 1 MA's), (90, 17451), (129, 17520), (130, 17529), (131, 17532), (141, 17550), (158, 17598), (172, 17646), (208, 17757), (209, 17760), (225, 17805), (242, 17883), (251, 17907), (262, 17973), (272, 18018), (281, 18048), (283, 18054), (284, 18072), (293, 18096), (296, 18105), (310, 18138), (312, 18144), (319, 18174), (336, 18213), (339, 18225), (342, 18234), (346, 18249), (348, 18252), (370, 18363), (371, 18366), (373, 18375), (374, 18381), (377, 18396), (379, 18399), (387, 18420), (397, 18450), (400, 18462), (406, 18495), (428, 18606), (429, 18609), (439, 18636), (442, 18642), (455, 18696), (456, 18699), (481, 18801), (484, 18813), (485, 18816), (497, 18882), (502, 18906), (505, 18927), (507, 18936), (520, 18996), (521, 18999), (529, 19035), (532, 19053), (539, 19074), (547, 19101), (564, 19170), (567, 19188), (571, 19197), (573, 19209), (579, 19245), (595, 19296), (600, 19314), (607, 19356), (614, 19410), (637, 19512), (666, 19647), (670, 19671), (676, 19725), (685, 19794), (690, 19839), (691, 19842),

Gene: OlympiaSaint\_18 Start: 17593, Stop: 20145, Start Num: 53

Candidate Starts for OlympiaSaint\_18:

(Start: 53 @17593 has 241 MA's), (90, 17674), (129, 17743), (130, 17752), (131, 17755), (141, 17773), (158, 17821), (171, 17866), (208, 17980), (209, 17983), (213, 17995), (222, 18016), (224, 18025), (225, 18028), (235, 18076), (242, 18106), (257, 18172), (263, 18205), (272, 18241), (279, 18265), (295, 18325), (296, 18328), (303, 18346), (328, 18409), (330, 18412), (336, 18430), (342, 18451), (348, 18469), (354, 18496), (358, 18517), (365, 18550), (373, 18592), (374, 18598), (375, 18601), (379, 18616), (388, 18643), (389, 18646), (397, 18667), (400, 18679), (406, 18712), (425, 18805),

(455, 18913), (461, 18937), (467, 18943), (469, 18961), (470, 18964), (475, 18988), (481, 19018), (488, 19042), (494, 19078), (495, 19084), (496, 19093), (501, 19120), (511, 19183), (516, 19207), (517, 19222), (527, 19264), (541, 19315), (565, 19411), (567, 19426), (571, 19435), (576, 19459), (593, 19522), (602, 19558), (663, 19864), (670, 19909), (680, 20011),

Gene: Omega\_38 Start: 31431, Stop: 33986, Start Num: 53

Candidate Starts for Omega\_38:

(Start: 53 @31431 has 241 MA's), (141, 31626), (155, 31662), (158, 31677), (172, 31725), (208, 31836), (209, 31839), (221, 31869), (225, 31884), (242, 31962), (251, 31986), (262, 32052), (272, 32097), (281, 32127), (283, 32133), (284, 32151), (293, 32175), (296, 32184), (310, 32217), (312, 32223), (319, 32253), (336, 32292), (339, 32304), (342, 32313), (346, 32328), (348, 32331), (370, 32442), (371, 32445), (373, 32454), (374, 32460), (377, 32475), (379, 32478), (387, 32499), (397, 32529), (400, 32541), (406, 32574), (420, 32640), (428, 32685), (429, 32688), (439, 32715), (442, 32721), (455, 32775), (456, 32778), (479, 32865), (481, 32880), (484, 32892), (485, 32895), (497, 32961), (505, 33006), (507, 33015), (520, 33075), (521, 33078), (529, 33114), (532, 33132), (537, 33144), (539, 33153), (547, 33180), (564, 33249), (567, 33267), (571, 33276), (573, 33288), (579, 33324), (588, 33354), (595, 33375), (602, 33399), (607, 33435), (614, 33489), (629, 33549), (637, 33591), (666, 33726), (670, 33750), (676, 33804), (680, 33852), (688, 33894), (690, 33918), (691, 33921),

Gene: Optimus\_37 Start: 30775, Stop: 33330, Start Num: 53

Candidate Starts for Optimus\_37:

(41, 30718), (Start: 53 @30775 has 241 MA's), (141, 30970), (155, 31006), (158, 31021), (172, 31069), (206, 31174), (209, 31183), (225, 31228), (250, 31327), (251, 31330), (262, 31396), (281, 31471), (283, 31477), (284, 31495), (293, 31519), (296, 31528), (310, 31561), (312, 31567), (319, 31597), (336, 31636), (339, 31648), (342, 31657), (370, 31786), (371, 31789), (373, 31798), (374, 31804), (377, 31819), (379, 31822), (387, 31843), (397, 31873), (400, 31885), (406, 31918), (428, 32029), (429, 32032), (439, 32059), (442, 32065), (455, 32119), (456, 32122), (481, 32224), (484, 32236), (485, 32239), (497, 32305), (502, 32329), (505, 32350), (516, 32401), (520, 32419), (521, 32422), (527, 32452), (532, 32476), (537, 32488), (539, 32497), (564, 32593), (567, 32611), (571, 32620), (573, 32632), (588, 32698), (593, 32707), (595, 32719), (607, 32779), (637, 32935), (666, 33070), (670, 33094), (676, 33148), (685, 33217), (690, 33262), (691, 33265),

Gene: OrionPax\_27 Start: 22029, Stop: 24425, Start Num: 94

Candidate Starts for OrionPax\_27:

(Start: 94 @22029 has 128 MA's), (170, 22206), (174, 22227), (232, 22374), (271, 22548), (281, 22581), (287, 22617), (319, 22710), (342, 22770), (348, 22788), (375, 22920), (389, 22965), (420, 23097), (428, 23142), (450, 23202), (478, 23316), (481, 23337), (491, 23376), (494, 23397), (496, 23412), (527, 23562), (529, 23568), (532, 23586), (549, 23640), (567, 23724), (593, 23817), (648, 24063), (680, 24279), (691, 24363), (698, 24396),

Gene: Oscar\_26 Start: 20113, Stop: 22572, Start Num: 80

Candidate Starts for Oscar\_26:

(Start: 80 @20113 has 96 MA's), (98, 20161), (155, 20284), (171, 20341), (174, 20353), (208, 20446), (216, 20470), (231, 20521), (265, 20683), (295, 20794), (307, 20833), (314, 20857), (353, 20980), (366, 21052), (383, 21139), (401, 21205), (404, 21220), (424, 21322), (437, 21376), (453, 21436), (472, 21514), (473, 21526), (476, 21535), (485, 21577), (494, 21622), (496, 21637), (515, 21724), (519, 21748), (534, 21820), (550, 21877), (577, 21988), (580, 22012), (587, 22033), (600, 22084), (621, 22213), (649, 22318), (680, 22543),

Gene: Ovechkin\_18 Start: 17427, Stop: 19964, Start Num: 53

Candidate Starts for Ovechkin\_18:

(Start: 53 @17427 has 241 MA's), (61, 17448), (Start: 71 @17469 has 1 MA's), (88, 17505), (90, 17508), (129, 17577), (130, 17586), (131, 17589), (141, 17607), (155, 17640), (158, 17655), (172, 17703), (208, 17814), (209, 17817), (221, 17847), (224, 17859), (225, 17862), (242, 17940), (251, 17964), (262, 18030), (272, 18075), (281, 18105), (283, 18111), (284, 18129), (293, 18153), (296, 18162), (310, 18195), (312, 18201), (319, 18231), (336, 18270), (339, 18282), (342, 18291), (346, 18306), (348, 18309), (370, 18420), (371, 18423), (373, 18432), (374, 18438), (377, 18453), (379, 18456), (387, 18477), (397, 18507), (400, 18519), (406, 18552), (428, 18663), (429, 18666), (439, 18693), (442, 18699), (455, 18753), (456, 18756), (481, 18858), (484, 18870), (485, 18873), (497, 18939), (502, 18963), (505, 18984), (507, 18993), (520, 19053), (521, 19056), (529, 19092), (532, 19110), (537, 19122), (539, 19131), (547, 19158), (564, 19227), (567, 19245), (571, 19254), (573, 19266), (579, 19302), (588, 19332), (595, 19353), (602, 19377), (607, 19413), (614, 19467), (629, 19527), (637, 19569), (654, 19647), (666, 19704), (670, 19728), (676, 19782), (680, 19830), (688, 19872), (690, 19896), (691, 19899),

Gene: OwlsT2W\_20 Start: 17765, Stop: 20317, Start Num: 53

Candidate Starts for OwlsT2W\_20:

(Start: 53 @17765 has 241 MA's), (96, 17855), (129, 17915), (130, 17924), (131, 17927), (141, 17945), (158, 17993), (171, 18038), (208, 18152), (209, 18155), (213, 18167), (222, 18188), (224, 18197), (225, 18200), (242, 18278), (257, 18344), (263, 18377), (272, 18413), (279, 18437), (295, 18497), (296, 18500), (303, 18518), (328, 18581), (330, 18584), (336, 18602), (342, 18623), (348, 18641), (354, 18668), (358, 18689), (365, 18722), (373, 18764), (374, 18770), (375, 18773), (379, 18788), (388, 18815), (389, 18818), (397, 18839), (400, 18851), (406, 18884), (425, 18977), (455, 19085), (461, 19109), (467, 19115), (469, 19133), (470, 19136), (475, 19160), (481, 19190), (488, 19214), (494, 19250), (495, 19256), (496, 19265), (501, 19292), (511, 19355), (516, 19379), (517, 19394), (527, 19436), (541, 19487), (565, 19583), (567, 19598), (571, 19607), (576, 19631), (593, 19694), (602, 19730), (663, 20036), (670, 20081), (680, 20183),

Gene: PHappiness\_18 Start: 17378, Stop: 19915, Start Num: 53

Candidate Starts for PHappiness\_18:

(47, 17366), (Start: 53 @17378 has 241 MA's), (61, 17399), (Start: 71 @17420 has 1 MA's), (90, 17459), (129, 17528), (130, 17537), (131, 17540), (141, 17558), (158, 17606), (172, 17654), (208, 17765), (209, 17768), (225, 17813), (242, 17891), (251, 17915), (262, 17981), (272, 18026), (281, 18056), (283, 18062), (284, 18080), (293, 18104), (296, 18113), (310, 18146), (312, 18152), (319, 18182), (336, 18221), (339, 18233), (342, 18242), (346, 18257), (348, 18260), (370, 18371), (371, 18374), (373, 18383), (374, 18389), (377, 18404), (379, 18407), (387, 18428), (397, 18458), (400, 18470), (406, 18503), (428, 18614), (429, 18617), (439, 18644), (442, 18650), (455, 18704), (456, 18707), (481, 18809), (484, 18821), (485, 18824), (497, 18890), (502, 18914), (505, 18935), (507, 18944), (520, 19004), (521, 19007), (529, 19043), (532, 19061), (539, 19082), (547, 19109), (564, 19178), (567, 19196), (571, 19205), (573, 19217), (579, 19253), (595, 19304), (600, 19322), (607, 19364), (614, 19418), (637, 19520), (666, 19655), (670, 19679), (676, 19733), (685, 19802), (690, 19847), (691, 19850),

Gene: PMC\_18 Start: 17383, Stop: 19920, Start Num: 53

Candidate Starts for PMC\_18:

(Start: 53 @17383 has 241 MA's), (96, 17473), (129, 17533), (130, 17542), (131, 17545), (141, 17563), (158, 17611), (172, 17659), (206, 17764), (208, 17770), (209, 17773), (224, 17815), (225, 17818), (251, 17920), (262, 17986), (272, 18031), (281, 18061), (283, 18067), (284, 18085), (293, 18109), (296, 18118), (310, 18151), (312, 18157), (330, 18208), (336, 18226), (339, 18238), (342, 18247), (346, 18262), (349, 18268), (370, 18376), (373, 18388), (374, 18394), (377, 18409), (379, 18412), (387, 18433), (397, 18463), (400, 18475), (406, 18508), (420, 18574), (428, 18619), (429, 18622), (439, 18649), (442, 18655), (455, 18709), (456, 18712), (467, 18739), (481, 18814), (484, 18826), (485, 18829), (497, 18895), (501, 18916), (502, 18919), (507, 18949), (516, 18991), (520, 19009), (521, 19012), (527, 19042), (532, 19066), (537, 19078), (539, 19087), (564, 19183), (567, 19201),

(571, 19210), (573, 19222), (588, 19288), (593, 19297), (595, 19309), (607, 19369), (637, 19525), (666, 19660), (670, 19684), (676, 19738), (685, 19807), (690, 19852), (691, 19855),

Gene: Pacc40\_18 Start: 17568, Stop: 20105, Start Num: 53

Candidate Starts for Pacc40\_18:

(47, 17556), (Start: 53 @17568 has 241 MA's), (61, 17589), (Start: 71 @17610 has 1 MA's), (90, 17649), (129, 17718), (130, 17727), (131, 17730), (141, 17748), (158, 17796), (172, 17844), (208, 17955), (209, 17958), (225, 18003), (242, 18081), (251, 18105), (262, 18171), (272, 18216), (281, 18246), (283, 18252), (284, 18270), (293, 18294), (296, 18303), (310, 18336), (312, 18342), (319, 18372), (336, 18411), (339, 18423), (342, 18432), (346, 18447), (348, 18450), (370, 18561), (371, 18564), (373, 18573), (374, 18579), (377, 18594), (379, 18597), (387, 18618), (397, 18648), (400, 18660), (406, 18693), (428, 18804), (429, 18807), (439, 18834), (442, 18840), (455, 18894), (456, 18897), (481, 18999), (484, 19011), (485, 19014), (497, 19080), (502, 19104), (505, 19125), (507, 19134), (520, 19194), (521, 19197), (529, 19233), (532, 19251), (539, 19272), (547, 19299), (564, 19368), (567, 19386), (571, 19395), (573, 19407), (579, 19443), (595, 19494), (600, 19512), (607, 19554), (614, 19608), (637, 19710), (666, 19845), (670, 19869), (676, 19923), (685, 19992), (690, 20037), (691, 20040),

Gene: Pace1224\_22 Start: 20643, Stop: 23102, Start Num: 33

Candidate Starts for Pace1224\_22:

(Start: 33 @20643 has 9 MA's), (46, 20703), (65, 20751), (162, 20946), (251, 21234), (271, 21336), (280, 21360), (341, 21504), (345, 21519), (365, 21600), (380, 21675), (400, 21732), (404, 21756), (412, 21792), (455, 21978), (460, 21999), (472, 22047), (474, 22062), (489, 22128), (496, 22170), (516, 22263), (518, 22281), (532, 22347), (552, 22428), (574, 22494), (607, 22647), (621, 22737), (634, 22806), (645, 22842), (665, 22935), (677, 23040), (679, 23076),

Gene: PaddyBaddy\_27 Start: 22039, Stop: 24435, Start Num: 94

Candidate Starts for PaddyBaddy\_27:

(Start: 94 @22039 has 128 MA's), (170, 22216), (174, 22237), (232, 22384), (271, 22558), (281, 22591), (287, 22627), (319, 22720), (342, 22780), (348, 22798), (375, 22930), (389, 22975), (420, 23107), (428, 23152), (450, 23212), (478, 23326), (481, 23347), (491, 23386), (494, 23407), (496, 23422), (527, 23572), (529, 23578), (532, 23596), (549, 23650), (567, 23734), (593, 23827), (648, 24073), (680, 24289), (691, 24373), (698, 24406),

Gene: Padfoot\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Padfoot\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Padpat\_27 Start: 20872, Stop: 23304, Start Num: 80

Candidate Starts for Padpat\_27:

(Start: 80 @20872 has 96 MA's), (126, 20971), (218, 21232), (225, 21253), (270, 21460), (280, 21493), (285, 21523), (314, 21595), (319, 21619), (337, 21664), (370, 21817), (378, 21862), (381, 21874), (385, 21883), (400, 21934), (437, 22114), (443, 22129), (459, 22198), (463, 22210), (476, 22273), (485, 22315), (494, 22354), (495, 22360), (496, 22369), (500, 22390), (513, 22450), (539, 22567), (550, 22609), (570, 22681), (572, 22690), (577, 22711), (594, 22783), (599, 22804), (614, 22900), (628, 22963), (664, 23128), (680, 23275),

Gene: PaintedDog\_20 Start: 18529, Stop: 21066, Start Num: 56

Candidate Starts for PaintedDog\_20:

(15, 18220), (Start: 56 @18529 has 2 MA's), (63, 18553), (99, 18634), (115, 18664), (119, 18673), (131, 18700), (136, 18709), (203, 18919), (214, 18964), (217, 18976), (218, 18979), (250, 19114), (257, 19159), (262, 19183), (268, 19201), (279, 19237), (281, 19243), (293, 19291), (312, 19342), (314, 19351), (336, 19414), (346, 19450), (348, 19453), (349, 19456), (379, 19594), (405, 19681), (406, 19687), (428, 19798), (481, 19993), (494, 20053), (504, 20125), (505, 20128), (507, 20137), (567, 20398), (593, 20491), (599, 20518), (601, 20524), (627, 20671), (633, 20692), (689, 20992),

Gene: Palpatine\_26 Start: 22301, Stop: 24697, Start Num: 94

Candidate Starts for Palpatine\_26:

(Start: 94 @22301 has 128 MA's), (170, 22478), (174, 22499), (232, 22646), (263, 22787), (271, 22820), (281, 22853), (287, 22889), (319, 22982), (342, 23042), (348, 23060), (375, 23192), (389, 23237), (420, 23369), (428, 23414), (450, 23474), (478, 23588), (481, 23609), (491, 23648), (494, 23669), (496, 23684), (527, 23834), (529, 23840), (532, 23858), (549, 23912), (567, 23996), (593, 24089), (648, 24335), (680, 24551), (691, 24635), (698, 24668),

Gene: Paperbeatsrock\_28 Start: 23264, Stop: 25660, Start Num: 94

Candidate Starts for Paperbeatsrock\_28:

(Start: 94 @23264 has 128 MA's), (170, 23441), (174, 23462), (232, 23609), (263, 23750), (271, 23783), (281, 23816), (287, 23852), (319, 23945), (342, 24005), (348, 24023), (375, 24155), (389, 24200), (420, 24332), (428, 24377), (450, 24437), (478, 24551), (481, 24572), (491, 24611), (494, 24632), (496, 24647), (527, 24797), (529, 24803), (532, 24821), (549, 24875), (567, 24959), (593, 25052), (648, 25298), (680, 25514), (691, 25598), (698, 25631),

Gene: Pat3\_25 Start: 21010, Stop: 23406, Start Num: 94

Candidate Starts for Pat3\_25:

(Start: 94 @21010 has 128 MA's), (170, 21187), (174, 21208), (232, 21355), (263, 21496), (271, 21529), (281, 21562), (287, 21598), (319, 21691), (342, 21751), (348, 21769), (375, 21901), (389, 21946), (420, 22078), (428, 22123), (478, 22297), (481, 22318), (491, 22357), (494, 22378), (496, 22393), (529, 22549), (532, 22567), (549, 22621), (567, 22705), (640, 23029), (680, 23260), (691, 23344), (698, 23377),

Gene: PatoPoderoso\_18 Start: 17437, Stop: 19974, Start Num: 53

Candidate Starts for PatoPoderoso\_18:

(47, 17425), (Start: 53 @17437 has 241 MA's), (61, 17458), (Start: 71 @17479 has 1 MA's), (90, 17518), (129, 17587), (130, 17596), (131, 17599), (141, 17617), (155, 17650), (158, 17665), (172, 17713), (208, 17824), (209, 17827), (221, 17857), (224, 17869), (225, 17872), (242, 17950), (251, 17974), (262, 18040), (272, 18085), (281, 18115), (283, 18121), (284, 18139), (293, 18163), (296, 18172), (310, 18205), (312, 18211), (319, 18241), (336, 18280), (339, 18292), (342, 18301), (346, 18316), (348, 18319), (370, 18430), (371, 18433), (373, 18442), (374, 18448), (377, 18463), (379, 18466), (387, 18487), (397, 18517), (400, 18529), (406, 18562), (428, 18673), (429, 18676), (439, 18703), (442, 18709), (455, 18763), (456, 18766), (479, 18853), (481, 18868), (484, 18880), (485, 18883), (497, 18949), (502, 18973), (505, 18994), (507, 19003), (520, 19063), (521, 19066), (529, 19102), (532, 19120), (537, 19132), (539, 19141), (547, 19168), (564, 19237), (567, 19255), (571, 19264), (573, 19276), (579, 19312), (588, 19342), (595, 19363), (602, 19387), (607, 19423), (614, 19477), (629, 19537), (637, 19579), (654, 19657), (666, 19714), (670, 19738), (676, 19792), (680, 19840), (688, 19882), (690, 19906), (691, 19909),

Gene: Peel\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Peel\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355),

(494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Peridot\_20 Start: 17209, Stop: 19746, Start Num: 53

Candidate Starts for Peridot\_20:

(47, 17197), (Start: 53 @17209 has 241 MA's), (61, 17230), (Start: 71 @17251 has 1 MA's), (90, 17290), (130, 17368), (131, 17371), (141, 17389), (155, 17422), (158, 17437), (172, 17485), (208, 17596), (209, 17599), (225, 17644), (242, 17722), (262, 17812), (281, 17887), (283, 17893), (284, 17911), (293, 17935), (295, 17941), (296, 17944), (310, 17977), (312, 17983), (319, 18013), (330, 18034), (339, 18064), (342, 18073), (346, 18088), (348, 18091), (370, 18202), (371, 18205), (373, 18214), (374, 18220), (377, 18235), (379, 18238), (387, 18259), (397, 18289), (400, 18301), (406, 18334), (428, 18445), (429, 18448), (439, 18475), (442, 18481), (455, 18535), (456, 18538), (481, 18640), (484, 18652), (485, 18655), (497, 18721), (502, 18745), (505, 18766), (507, 18775), (520, 18835), (521, 18838), (529, 18874), (532, 18892), (537, 18904), (539, 18913), (547, 18940), (563, 18997), (564, 19009), (567, 19027), (571, 19036), (573, 19048), (579, 19084), (588, 19114), (593, 19123), (595, 19135), (607, 19195), (614, 19249), (629, 19309), (637, 19351), (666, 19486), (670, 19510), (676, 19564), (680, 19612), (688, 19654), (690, 19678), (691, 19681),

Gene: Petra64142\_28 Start: 22744, Stop: 25140, Start Num: 94

Candidate Starts for Petra64142\_28:

(Start: 94 @22744 has 128 MA's), (170, 22921), (174, 22942), (232, 23089), (263, 23230), (271, 23263), (281, 23296), (287, 23332), (319, 23425), (342, 23485), (348, 23503), (375, 23635), (389, 23680), (420, 23812), (428, 23857), (450, 23917), (478, 24031), (481, 24052), (491, 24091), (494, 24112), (496, 24127), (527, 24277), (529, 24283), (532, 24301), (549, 24355), (567, 24439), (593, 24532), (648, 24778), (680, 24994), (691, 25078), (698, 25111),

Gene: Phaja\_26 Start: 22460, Stop: 24856, Start Num: 94

Candidate Starts for Phaja\_26:

(Start: 94 @22460 has 128 MA's), (170, 22637), (174, 22658), (232, 22805), (263, 22946), (271, 22979), (281, 23012), (287, 23048), (319, 23141), (342, 23201), (348, 23219), (382, 23375), (389, 23396), (416, 23516), (420, 23528), (428, 23573), (481, 23768), (482, 23774), (485, 23783), (494, 23828), (496, 23843), (529, 23999), (532, 24017), (535, 24026), (550, 24080), (567, 24155), (568, 24158), (613, 24368), (615, 24380), (648, 24494), (680, 24710), (691, 24794), (696, 24818), (698, 24827),

Gene: Phalconet\_18 Start: 17448, Stop: 19979, Start Num: 53

Candidate Starts for Phalconet\_18:

(47, 17436), (Start: 53 @17448 has 241 MA's), (61, 17469), (Start: 71 @17490 has 1 MA's), (90, 17529), (129, 17598), (130, 17607), (131, 17610), (155, 17661), (158, 17676), (172, 17718), (208, 17829), (209, 17832), (221, 17862), (225, 17877), (242, 17955), (262, 18045), (272, 18090), (281, 18120), (283, 18126), (284, 18144), (293, 18168), (296, 18177), (310, 18210), (312, 18216), (319, 18246), (336, 18285), (339, 18297), (342, 18306), (346, 18321), (348, 18324), (370, 18435), (371, 18438), (373, 18447), (374, 18453), (377, 18468), (379, 18471), (387, 18492), (397, 18522), (400, 18534), (406, 18567), (420, 18633), (428, 18678), (429, 18681), (439, 18708), (442, 18714), (455, 18768), (456, 18771), (479, 18858), (481, 18873), (484, 18885), (485, 18888), (497, 18954), (505, 18999), (507, 19008), (520, 19068), (521, 19071), (529, 19107), (532, 19125), (537, 19137), (539, 19146), (547, 19173), (564, 19242), (567, 19260), (571, 19269), (573, 19281), (579, 19317), (588, 19347), (595, 19368), (602, 19392), (607, 19428), (614, 19482), (629, 19542), (637, 19584), (654, 19662), (666, 19719), (670, 19743), (676, 19797), (680, 19845), (688, 19887), (690, 19911), (691, 19914),

Gene: Phanphagia\_18 Start: 17450, Stop: 19927, Start Num: 53

Candidate Starts for Phanphagia\_18:

(48, 17438), (Start: 53 @17450 has 241 MA's), (61, 17471), (Start: 71 @17492 has 1 MA's), (90, 17531), (129, 17600), (130, 17609), (131, 17612), (141, 17630), (155, 17663), (158, 17678), (192, 17765), (197, 17780), (209, 17816), (211, 17822), (225, 17855), (228, 17867), (269, 18038), (272, 18047), (281, 18071), (295, 18125), (310, 18161), (312, 18167), (319, 18197), (333, 18227), (339, 18248), (342, 18257), (362, 18341), (374, 18404), (379, 18422), (382, 18431), (389, 18452), (390, 18455), (397, 18473), (400, 18485), (405, 18512), (407, 18521), (416, 18572), (418, 18581), (420, 18584), (425, 18611), (427, 18620), (433, 18641), (455, 18719), (456, 18722), (482, 18830), (484, 18836), (494, 18884), (501, 18926), (502, 18929), (505, 18950), (506, 18956), (507, 18959), (514, 18989), (546, 19130), (550, 19148), (557, 19181), (564, 19205), (565, 19208), (567, 19223), (573, 19244), (579, 19280), (581, 19286), (589, 19313), (598, 19340), (619, 19475), (632, 19523), (635, 19547), (639, 19553), (648, 19571), (666, 19670), (669, 19691), (671, 19709), (680, 19787), (685, 19808), (694, 19871), (696, 19889), (701, 19907),

Gene: Pharsalus\_27 Start: 23064, Stop: 25460, Start Num: 94

Candidate Starts for Pharsalus\_27:

(Start: 94 @23064 has 128 MA's), (170, 23241), (174, 23262), (232, 23409), (263, 23550), (271, 23583), (281, 23616), (287, 23652), (319, 23745), (342, 23805), (348, 23823), (375, 23955), (389, 24000), (420, 24132), (428, 24177), (450, 24237), (478, 24351), (481, 24372), (491, 24411), (494, 24432), (496, 24447), (527, 24597), (529, 24603), (532, 24621), (549, 24675), (567, 24759), (593, 24852), (648, 25098), (680, 25314), (691, 25398), (698, 25431),

Gene: Phasih\_19 Start: 17939, Stop: 20476, Start Num: 53

Candidate Starts for Phasih\_19:

(Start: 53 @17939 has 241 MA's), (61, 17960), (Start: 71 @17981 has 1 MA's), (90, 18020), (129, 18089), (130, 18098), (131, 18101), (141, 18119), (155, 18152), (158, 18167), (206, 18320), (209, 18329), (225, 18374), (250, 18473), (251, 18476), (262, 18542), (281, 18617), (283, 18623), (293, 18665), (295, 18671), (296, 18674), (310, 18707), (312, 18713), (319, 18743), (330, 18764), (339, 18794), (342, 18803), (346, 18818), (348, 18821), (370, 18932), (371, 18935), (373, 18944), (374, 18950), (377, 18965), (379, 18968), (387, 18989), (397, 19019), (400, 19031), (406, 19064), (428, 19175), (429, 19178), (439, 19205), (442, 19211), (455, 19265), (456, 19268), (479, 19355), (481, 19370), (484, 19382), (485, 19385), (497, 19451), (502, 19475), (505, 19496), (507, 19505), (516, 19547), (520, 19565), (521, 19568), (527, 19598), (532, 19622), (537, 19634), (539, 19643), (564, 19739), (567, 19757), (571, 19766), (573, 19778), (579, 19814), (588, 19844), (593, 19853), (595, 19865), (607, 19925), (614, 19979), (629, 20039), (637, 20081), (666, 20216), (670, 20240), (676, 20294), (680, 20342), (688, 20384), (690, 20408), (691, 20411),

Gene: PhatBacter\_26 Start: 22312, Stop: 24708, Start Num: 94

Candidate Starts for PhatBacter\_26:

(Start: 94 @22312 has 128 MA's), (170, 22489), (174, 22510), (232, 22657), (263, 22798), (271, 22831), (281, 22864), (287, 22900), (319, 22993), (342, 23053), (348, 23071), (375, 23203), (389, 23248), (420, 23380), (428, 23425), (450, 23485), (478, 23599), (481, 23620), (491, 23659), (494, 23680), (496, 23695), (527, 23845), (529, 23851), (532, 23869), (549, 23923), (567, 24007), (593, 24100), (648, 24346), (680, 24562), (691, 24646), (698, 24679),

Gene: Phatniss\_19 Start: 17901, Stop: 20438, Start Num: 53

Candidate Starts for Phatniss\_19:

(47, 17889), (Start: 53 @17901 has 241 MA's), (61, 17922), (Start: 71 @17943 has 1 MA's), (90, 17982), (129, 18051), (130, 18060), (131, 18063), (141, 18081), (155, 18114), (158, 18129), (172, 18177), (206, 18282), (209, 18291), (224, 18333), (225, 18336), (242, 18414), (251, 18438), (262, 18504), (272, 18549), (281, 18579), (283, 18585), (284, 18603), (293, 18627), (296, 18636), (310, 18669), (312, 18675), (319, 18705), (336, 18744), (339, 18756), (342, 18765), (346, 18780), (348, 18783), (370, 18894), (373, 18906), (374, 18912), (377, 18927), (379, 18930), (387, 18951), (397,

18981), (400, 18993), (406, 19026), (420, 19092), (428, 19137), (429, 19140), (439, 19167), (442, 19173), (455, 19227), (456, 19230), (467, 19257), (481, 19332), (484, 19344), (485, 19347), (497, 19413), (502, 19437), (507, 19467), (516, 19509), (520, 19527), (521, 19530), (529, 19566), (532, 19584), (539, 19605), (547, 19632), (564, 19701), (567, 19719), (571, 19728), (573, 19740), (579, 19776), (588, 19806), (593, 19815), (595, 19827), (607, 19887), (614, 19941), (629, 20001), (637, 20043), (654, 20121), (666, 20178), (670, 20202), (676, 20256), (680, 20304), (688, 20346), (690, 20370), (691, 20373),

Gene: Phaux\_25 Start: 22310, Stop: 24706, Start Num: 94

Candidate Starts for Phaux\_25:

(Start: 94 @22310 has 128 MA's), (170, 22487), (174, 22508), (232, 22655), (263, 22796), (271, 22829), (281, 22862), (287, 22898), (319, 22991), (342, 23051), (348, 23069), (375, 23201), (389, 23246), (420, 23378), (428, 23423), (450, 23483), (478, 23597), (481, 23618), (491, 23657), (494, 23678), (496, 23693), (527, 23843), (529, 23849), (532, 23867), (549, 23921), (567, 24005), (593, 24098), (648, 24344), (680, 24560), (691, 24644), (698, 24677),

Gene: PhesterPhotato\_18 Start: 17419, Stop: 19956, Start Num: 53

Candidate Starts for PhesterPhotato\_18:

(47, 17407), (Start: 53 @17419 has 241 MA's), (61, 17440), (Start: 71 @17461 has 1 MA's), (90, 17500), (129, 17569), (130, 17578), (131, 17581), (141, 17599), (155, 17632), (158, 17647), (172, 17695), (208, 17806), (209, 17809), (221, 17839), (225, 17854), (242, 17932), (251, 17956), (262, 18022), (272, 18067), (281, 18097), (283, 18103), (284, 18121), (293, 18145), (296, 18154), (310, 18187), (312, 18193), (319, 18223), (336, 18262), (339, 18274), (342, 18283), (346, 18298), (348, 18301), (370, 18412), (371, 18415), (373, 18424), (374, 18430), (377, 18445), (379, 18448), (387, 18469), (397, 18499), (400, 18511), (406, 18544), (428, 18655), (429, 18658), (439, 18685), (442, 18691), (455, 18745), (456, 18748), (481, 18850), (484, 18862), (485, 18865), (497, 18931), (502, 18955), (505, 18976), (507, 18985), (520, 19045), (521, 19048), (529, 19084), (532, 19102), (537, 19114), (539, 19123), (547, 19150), (564, 19219), (567, 19237), (571, 19246), (573, 19258), (579, 19294), (588, 19324), (595, 19345), (602, 19369), (607, 19405), (614, 19459), (629, 19519), (637, 19561), (654, 19639), (666, 19696), (670, 19720), (671, 19735), (676, 19774), (680, 19822), (688, 19864), (690, 19888), (691, 19891),

Gene: Philus\_18 Start: 17405, Stop: 19942, Start Num: 53

Candidate Starts for Philus\_18:

(Start: 53 @17405 has 241 MA's), (61, 17426), (Start: 71 @17447 has 1 MA's), (90, 17486), (129, 17555), (130, 17564), (131, 17567), (141, 17585), (158, 17633), (206, 17786), (209, 17795), (225, 17840), (242, 17918), (251, 17942), (262, 18008), (272, 18053), (281, 18083), (283, 18089), (284, 18107), (293, 18131), (296, 18140), (310, 18173), (312, 18179), (319, 18209), (336, 18248), (342, 18269), (346, 18284), (348, 18287), (371, 18401), (373, 18410), (374, 18416), (379, 18434), (387, 18455), (397, 18485), (400, 18497), (406, 18530), (428, 18641), (429, 18644), (439, 18671), (442, 18677), (455, 18731), (456, 18734), (479, 18821), (481, 18836), (485, 18851), (502, 18941), (505, 18962), (507, 18971), (520, 19031), (521, 19034), (529, 19070), (532, 19088), (537, 19100), (539, 19109), (547, 19136), (564, 19205), (567, 19223), (571, 19232), (573, 19244), (579, 19280), (588, 19310), (595, 19331), (602, 19355), (607, 19391), (614, 19445), (637, 19547), (654, 19625), (666, 19682), (670, 19706), (676, 19760), (680, 19808), (688, 19850), (693, 19883), (694, 19886),

Gene: PhlipPhlop\_18 Start: 17352, Stop: 19889, Start Num: 53

Candidate Starts for PhlipPhlop\_18:

(Start: 53 @17352 has 241 MA's), (61, 17373), (Start: 71 @17394 has 1 MA's), (90, 17433), (129, 17502), (130, 17511), (131, 17514), (141, 17532), (158, 17580), (206, 17733), (209, 17742), (225, 17787), (250, 17886), (251, 17889), (262, 17955), (281, 18030), (283, 18036), (284, 18054), (293, 18078), (295, 18084), (296, 18087), (310, 18120), (312, 18126), (319, 18156), (330, 18177), (339, 18207), (342, 18216), (346, 18231), (348, 18234), (370, 18345), (371, 18348), (373, 18357), (374,

18363), (377, 18378), (379, 18381), (387, 18402), (397, 18432), (400, 18444), (406, 18477), (428, 18588), (429, 18591), (439, 18618), (442, 18624), (455, 18678), (456, 18681), (481, 18783), (484, 18795), (485, 18798), (497, 18864), (502, 18888), (505, 18909), (507, 18918), (520, 18978), (521, 18981), (529, 19017), (532, 19035), (537, 19047), (539, 19056), (547, 19083), (563, 19140), (564, 19152), (567, 19170), (571, 19179), (573, 19191), (579, 19227), (588, 19257), (593, 19266), (595, 19278), (607, 19338), (614, 19392), (629, 19452), (637, 19494), (666, 19629), (670, 19653), (676, 19707), (680, 19755), (688, 19797), (690, 19821), (691, 19824),

Gene: Phreeze\_29 Start: 25682, Stop: 28525, Start Num: 17

Candidate Starts for Phreeze\_29:

(Start: 17 @25682 has 8 MA's), (30, 25814), (31, 25826), (35, 25835), (49, 25904), (75, 25970), (83, 25991), (102, 26039), (124, 26081), (134, 26105), (151, 26138), (160, 26174), (165, 26186), (191, 26279), (209, 26336), (220, 26375), (263, 26570), (270, 26600), (283, 26642), (330, 26783), (336, 26801), (356, 26882), (365, 26921), (369, 26942), (406, 27080), (413, 27119), (427, 27182), (456, 27284), (504, 27509), (589, 27872), (598, 27899), (649, 28142), (652, 28175), (658, 28199), (675, 28319), (686, 28397), (698, 28484), (702, 28499), (704, 28505),

Gene: Phrux\_26 Start: 22025, Stop: 24421, Start Num: 94

Candidate Starts for Phrux\_26:

(Start: 94 @22025 has 128 MA's), (170, 22202), (174, 22223), (232, 22370), (271, 22544), (281, 22577), (287, 22613), (319, 22706), (342, 22766), (348, 22784), (375, 22916), (389, 22961), (420, 23093), (428, 23138), (450, 23198), (478, 23312), (481, 23333), (491, 23372), (494, 23393), (496, 23408), (527, 23558), (529, 23564), (532, 23582), (549, 23636), (567, 23720), (593, 23813), (648, 24059), (680, 24275), (691, 24359), (698, 24392),

Gene: Piatt\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Piatt\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Pinnie\_23 Start: 21181, Stop: 23643, Start Num: 33

Candidate Starts for Pinnie\_23:

(Start: 33 @21181 has 9 MA's), (64, 21286), (65, 21289), (132, 21409), (152, 21451), (162, 21484), (200, 21589), (251, 21772), (261, 21832), (310, 21955), (321, 21994), (340, 22042), (341, 22045), (365, 22141), (369, 22162), (375, 22192), (380, 22216), (404, 22297), (406, 22306), (412, 22333), (437, 22453), (460, 22540), (472, 22588), (489, 22669), (496, 22711), (516, 22804), (532, 22888), (602, 23149), (607, 23188), (620, 23275), (634, 23347), (663, 23464), (665, 23476), (677, 23581), (681, 23626),

Gene: Piper2020\_19 Start: 17270, Stop: 19795, Start Num: 53

Candidate Starts for Piper2020\_19:

(Start: 53 @17270 has 241 MA's), (61, 17291), (Start: 71 @17312 has 1 MA's), (90, 17351), (129, 17420), (130, 17429), (131, 17432), (141, 17450), (155, 17483), (158, 17498), (172, 17546), (208, 17657), (209, 17660), (225, 17705), (242, 17783), (251, 17807), (262, 17873), (263, 17882), (281, 17948), (283, 17954), (284, 17972), (293, 17996), (295, 18002), (296, 18005), (310, 18038), (312, 18044), (319, 18074), (330, 18095), (342, 18134), (346, 18149), (349, 18155), (379, 18299), (397, 18350), (419, 18461), (429, 18512), (438, 18536), (467, 18629), (475, 18674), (478, 18683), (481, 18704), (484, 18716), (485, 18719), (494, 18764), (502, 18809), (504, 18827), (505, 18830), (516, 18881), (527, 18932), (529, 18938), (532, 18956), (537, 18968), (539, 18977), (549, 19010), (567,

19091), (584, 19160), (593, 19187), (599, 19214), (608, 19265), (614, 19313), (669, 19556), (680, 19661), (685, 19682), (693, 19736), (697, 19760),

Gene: Pisa1\_26 Start: 20946, Stop: 23378, Start Num: 80

Candidate Starts for Pisa1\_26:

(Start: 80 @20946 has 96 MA's), (100, 20997), (106, 21006), (218, 21306), (225, 21327), (279, 21564), (280, 21567), (285, 21597), (286, 21600), (314, 21669), (319, 21693), (321, 21699), (337, 21738), (350, 21777), (370, 21891), (378, 21936), (381, 21948), (385, 21957), (400, 22008), (437, 22188), (443, 22203), (459, 22272), (476, 22347), (485, 22389), (494, 22428), (495, 22434), (496, 22443), (500, 22464), (513, 22524), (522, 22572), (539, 22641), (550, 22683), (572, 22764), (585, 22821), (594, 22857), (599, 22878), (614, 22974), (628, 23037), (636, 23085), (664, 23202), (673, 23277),

Gene: Pisa4\_26 Start: 20946, Stop: 23378, Start Num: 80

Candidate Starts for Pisa4\_26:

(Start: 80 @20946 has 96 MA's), (100, 20997), (106, 21006), (218, 21306), (225, 21327), (279, 21564), (280, 21567), (285, 21597), (286, 21600), (314, 21669), (319, 21693), (321, 21699), (337, 21738), (350, 21777), (370, 21891), (378, 21936), (381, 21948), (385, 21957), (400, 22008), (437, 22188), (443, 22203), (459, 22272), (476, 22347), (485, 22389), (494, 22428), (495, 22434), (496, 22443), (500, 22464), (513, 22524), (522, 22572), (539, 22641), (550, 22683), (572, 22764), (585, 22821), (594, 22857), (599, 22878), (614, 22974), (628, 23037), (636, 23085), (664, 23202), (673, 23277),

Gene: Plumbus\_19 Start: 17226, Stop: 19763, Start Num: 53

Candidate Starts for Plumbus\_19:

(47, 17214), (Start: 53 @17226 has 241 MA's), (61, 17247), (Start: 71 @17268 has 1 MA's), (90, 17307), (129, 17376), (130, 17385), (131, 17388), (141, 17406), (155, 17439), (158, 17454), (172, 17502), (208, 17613), (209, 17616), (221, 17646), (224, 17658), (225, 17661), (242, 17739), (251, 17763), (262, 17829), (272, 17874), (281, 17904), (283, 17910), (284, 17928), (293, 17952), (296, 17961), (310, 17994), (312, 18000), (319, 18030), (336, 18069), (339, 18081), (342, 18090), (346, 18105), (348, 18108), (370, 18219), (371, 18222), (373, 18231), (374, 18237), (377, 18252), (379, 18255), (387, 18276), (397, 18306), (400, 18318), (406, 18351), (420, 18417), (428, 18462), (429, 18465), (439, 18492), (442, 18498), (455, 18552), (456, 18555), (479, 18642), (481, 18657), (484, 18669), (485, 18672), (497, 18738), (502, 18762), (505, 18783), (507, 18792), (520, 18852), (521, 18855), (529, 18891), (532, 18909), (537, 18921), (539, 18930), (547, 18957), (564, 19026), (567, 19044), (571, 19053), (573, 19065), (579, 19101), (588, 19131), (595, 19152), (602, 19176), (607, 19212), (614, 19266), (629, 19326), (637, 19368), (654, 19446), (666, 19503), (670, 19527), (676, 19581), (680, 19629), (688, 19671), (690, 19695), (691, 19698),

Gene: Poenanya\_18 Start: 17534, Stop: 20071, Start Num: 53

Candidate Starts for Poenanya\_18:

(Start: 53 @17534 has 241 MA's), (61, 17555), (Start: 71 @17576 has 1 MA's), (90, 17615), (129, 17684), (130, 17693), (131, 17696), (141, 17714), (158, 17762), (208, 17921), (209, 17924), (225, 17969), (242, 18047), (251, 18071), (262, 18137), (281, 18212), (283, 18218), (284, 18236), (293, 18260), (295, 18266), (296, 18269), (310, 18302), (312, 18308), (319, 18338), (330, 18359), (339, 18389), (342, 18398), (366, 18506), (369, 18518), (370, 18527), (371, 18530), (374, 18545), (377, 18560), (379, 18563), (387, 18584), (400, 18626), (406, 18659), (428, 18770), (429, 18773), (439, 18800), (442, 18806), (455, 18860), (456, 18863), (467, 18890), (481, 18965), (484, 18977), (485, 18980), (497, 19046), (501, 19067), (502, 19070), (505, 19091), (507, 19100), (520, 19160), (521, 19163), (529, 19199), (532, 19217), (537, 19229), (539, 19238), (547, 19265), (563, 19322), (564, 19334), (567, 19352), (571, 19361), (573, 19373), (579, 19409), (588, 19439), (593, 19448), (595, 19460), (607, 19520), (614, 19574), (629, 19634), (637, 19676), (666, 19811), (670, 19835), (676, 19889), (680, 19937), (688, 19979), (690, 20003), (691, 20006),

Gene: Pokerus\_26 Start: 20829, Stop: 23261, Start Num: 80

Candidate Starts for Pokerus\_26:

(Start: 80 @20829 has 96 MA's), (126, 20928), (218, 21189), (225, 21210), (270, 21417), (280, 21450), (285, 21480), (314, 21552), (319, 21576), (370, 21774), (378, 21819), (381, 21831), (385, 21840), (400, 21891), (437, 22071), (443, 22086), (459, 22155), (463, 22167), (476, 22230), (485, 22272), (494, 22311), (495, 22317), (496, 22326), (500, 22347), (513, 22407), (539, 22524), (550, 22566), (570, 22638), (572, 22647), (577, 22668), (594, 22740), (599, 22761), (614, 22857), (648, 23004), (664, 23085), (680, 23232),

Gene: Policronamos\_26 Start: 22312, Stop: 24708, Start Num: 94

Candidate Starts for Policronamos\_26:

(Start: 94 @22312 has 128 MA's), (170, 22489), (174, 22510), (232, 22657), (263, 22798), (271, 22831), (281, 22864), (287, 22900), (319, 22993), (342, 23053), (348, 23071), (365, 23152), (420, 23380), (428, 23425), (481, 23620), (482, 23626), (485, 23635), (494, 23680), (496, 23695), (529, 23851), (532, 23869), (535, 23878), (550, 23932), (567, 24007), (613, 24220), (615, 24232), (648, 24346), (680, 24562), (691, 24646), (696, 24670), (698, 24679),

Gene: Polka14\_19 Start: 17940, Stop: 20477, Start Num: 53

Candidate Starts for Polka14\_19:

(47, 17928), (Start: 53 @17940 has 241 MA's), (61, 17961), (Start: 71 @17982 has 1 MA's), (90, 18021), (129, 18090), (130, 18099), (131, 18102), (141, 18120), (158, 18168), (172, 18216), (208, 18327), (209, 18330), (225, 18375), (242, 18453), (251, 18477), (262, 18543), (272, 18588), (281, 18618), (283, 18624), (284, 18642), (293, 18666), (296, 18675), (310, 18708), (312, 18714), (319, 18744), (336, 18783), (339, 18795), (342, 18804), (346, 18819), (348, 18822), (370, 18933), (371, 18936), (373, 18945), (374, 18951), (377, 18966), (379, 18969), (387, 18990), (397, 19020), (400, 19032), (406, 19065), (428, 19176), (429, 19179), (439, 19206), (442, 19212), (455, 19266), (456, 19269), (481, 19371), (484, 19383), (485, 19386), (497, 19452), (502, 19476), (505, 19497), (507, 19506), (520, 19566), (521, 19569), (529, 19605), (532, 19623), (539, 19644), (547, 19671), (564, 19740), (567, 19758), (571, 19767), (573, 19779), (579, 19815), (595, 19866), (600, 19884), (607, 19926), (614, 19980), (637, 20082), (666, 20217), (670, 20241), (676, 20295), (685, 20364), (690, 20409), (691, 20412),

Gene: Pollywog\_21 Start: 18605, Stop: 21094, Start Num: 53

Candidate Starts for Pollywog\_21:

(Start: 53 @18605 has 241 MA's), (61, 18626), (Start: 71 @18647 has 1 MA's), (90, 18686), (129, 18755), (130, 18764), (131, 18767), (141, 18785), (158, 18833), (172, 18881), (197, 18935), (209, 18971), (211, 18977), (212, 18980), (223, 18998), (228, 19022), (234, 19046), (253, 19109), (269, 19193), (272, 19202), (281, 19226), (284, 19250), (293, 19274), (295, 19280), (303, 19301), (312, 19322), (319, 19352), (333, 19382), (339, 19403), (362, 19496), (365, 19511), (366, 19520), (370, 19541), (371, 19544), (397, 19628), (398, 19631), (400, 19640), (405, 19667), (407, 19676), (414, 19715), (418, 19736), (420, 19739), (427, 19775), (433, 19796), (455, 19874), (456, 19877), (472, 19931), (484, 19991), (502, 20084), (504, 20102), (505, 20105), (514, 20141), (525, 20195), (527, 20204), (546, 20282), (550, 20300), (559, 20336), (561, 20339), (564, 20357), (565, 20360), (567, 20375), (573, 20396), (579, 20432), (584, 20444), (602, 20507), (607, 20540), (619, 20627), (632, 20675), (635, 20699), (643, 20726), (648, 20735), (653, 20774), (662, 20813), (666, 20837), (669, 20858), (680, 20954), (685, 20975), (694, 21038), (698, 21065), (701, 21074),

Gene: Polo2Bam\_20 Start: 17446, Stop: 19983, Start Num: 53

Candidate Starts for Polo2Bam\_20:

(Start: 53 @17446 has 241 MA's), (61, 17467), (Start: 71 @17488 has 1 MA's), (88, 17524), (90, 17527), (129, 17596), (130, 17605), (131, 17608), (141, 17626), (155, 17659), (158, 17674), (172, 17722), (206, 17827), (208, 17833), (209, 17836), (224, 17878), (225, 17881), (251, 17983), (262, 18049), (272, 18094), (281, 18124), (283, 18130), (284, 18148), (293, 18172), (296, 18181), (310, 18214), (312, 18220), (330, 18271), (336, 18289), (339, 18301), (342, 18310), (346, 18325), (349,

18331), (370, 18439), (373, 18451), (374, 18457), (377, 18472), (379, 18475), (387, 18496), (397, 18526), (400, 18538), (406, 18571), (420, 18637), (428, 18682), (429, 18685), (439, 18712), (442, 18718), (455, 18772), (456, 18775), (479, 18862), (481, 18877), (484, 18889), (485, 18892), (497, 18958), (505, 19003), (507, 19012), (520, 19072), (521, 19075), (529, 19111), (532, 19129), (537, 19141), (539, 19150), (547, 19177), (564, 19246), (567, 19264), (571, 19273), (573, 19285), (579, 19321), (588, 19351), (595, 19372), (602, 19396), (607, 19432), (614, 19486), (629, 19546), (637, 19588), (654, 19666), (666, 19723), (670, 19747), (676, 19801), (680, 19849), (688, 19891), (690, 19915), (691, 19918),

Gene: PopTart\_18 Start: 17445, Stop: 19982, Start Num: 53

Candidate Starts for PopTart\_18:

(47, 17433), (Start: 53 @17445 has 241 MA's), (61, 17466), (Start: 71 @17487 has 1 MA's), (90, 17526), (129, 17595), (130, 17604), (131, 17607), (141, 17625), (155, 17658), (158, 17673), (208, 17832), (209, 17835), (225, 17880), (242, 17958), (251, 17982), (262, 18048), (281, 18123), (283, 18129), (284, 18147), (293, 18171), (295, 18177), (296, 18180), (310, 18213), (312, 18219), (319, 18249), (330, 18270), (339, 18300), (342, 18309), (361, 18390), (373, 18450), (374, 18456), (377, 18471), (379, 18474), (387, 18495), (400, 18537), (406, 18570), (407, 18573), (439, 18711), (442, 18717), (455, 18771), (456, 18774), (467, 18801), (481, 18876), (484, 18888), (485, 18891), (497, 18957), (502, 18981), (505, 19002), (507, 19011), (520, 19071), (521, 19074), (529, 19110), (532, 19128), (539, 19149), (564, 19245), (567, 19263), (571, 19272), (573, 19284), (579, 19320), (588, 19350), (607, 19431), (614, 19485), (637, 19587), (666, 19722), (670, 19746), (676, 19800), (680, 19848), (688, 19890), (690, 19914), (691, 19917),

Gene: Porcelain\_35 Start: 27554, Stop: 30061, Start Num: 53

Candidate Starts for Porcelain\_35:

(Start: 53 @27554 has 241 MA's), (141, 27749), (155, 27785), (158, 27800), (192, 27887), (197, 27902), (225, 27977), (228, 27989), (235, 28016), (259, 28121), (269, 28160), (272, 28169), (281, 28193), (283, 28199), (284, 28217), (291, 28235), (296, 28250), (300, 28259), (303, 28268), (310, 28283), (317, 28310), (319, 28319), (336, 28358), (339, 28370), (342, 28379), (362, 28463), (379, 28544), (389, 28574), (390, 28577), (400, 28607), (405, 28634), (407, 28643), (416, 28694), (418, 28703), (420, 28706), (427, 28742), (433, 28763), (446, 28799), (482, 28952), (494, 29006), (502, 29051), (504, 29069), (505, 29072), (514, 29111), (546, 29258), (549, 29267), (565, 29336), (567, 29351), (607, 29516), (619, 29603), (632, 29651), (648, 29702), (662, 29780), (692, 30002), (694, 30005), (698, 30032),

Gene: Porky\_26 Start: 22121, Stop: 24517, Start Num: 94

Candidate Starts for Porky\_26:

(Start: 94 @22121 has 128 MA's), (170, 22298), (174, 22319), (232, 22466), (263, 22607), (271, 22640), (281, 22673), (287, 22709), (319, 22802), (342, 22862), (348, 22880), (375, 23012), (389, 23057), (420, 23189), (428, 23234), (450, 23294), (478, 23408), (481, 23429), (491, 23468), (494, 23489), (496, 23504), (527, 23654), (529, 23660), (532, 23678), (549, 23732), (567, 23816), (593, 23909), (648, 24155), (680, 24371), (691, 24455), (698, 24488),

Gene: Priscilla\_18 Start: 17407, Stop: 19959, Start Num: 53

Candidate Starts for Priscilla\_18:

(Start: 53 @17407 has 241 MA's), (90, 17488), (129, 17557), (130, 17566), (131, 17569), (141, 17587), (158, 17635), (171, 17680), (208, 17794), (209, 17797), (213, 17809), (222, 17830), (224, 17839), (225, 17842), (235, 17890), (242, 17920), (257, 17986), (263, 18019), (272, 18055), (279, 18079), (295, 18139), (296, 18142), (303, 18160), (328, 18223), (330, 18226), (336, 18244), (342, 18265), (348, 18283), (354, 18310), (358, 18331), (365, 18364), (373, 18406), (374, 18412), (375, 18415), (379, 18430), (388, 18457), (389, 18460), (397, 18481), (400, 18493), (406, 18526), (425, 18619), (455, 18727), (461, 18751), (467, 18757), (469, 18775), (470, 18778), (475, 18802), (481, 18832), (488, 18856), (494, 18892), (495, 18898), (496, 18907), (501, 18934), (511, 18997), (516, 19021),

(517, 19036), (527, 19078), (541, 19129), (565, 19225), (567, 19240), (571, 19249), (576, 19273), (593, 19336), (602, 19372), (663, 19678), (670, 19723), (680, 19825),

Gene: Prithvi\_27 Start: 20846, Stop: 23278, Start Num: 80

Candidate Starts for Prithvi\_27:

(Start: 80 @20846 has 96 MA's), (126, 20945), (218, 21206), (270, 21434), (280, 21467), (285, 21497), (314, 21569), (319, 21593), (337, 21638), (370, 21791), (378, 21836), (381, 21848), (385, 21857), (396, 21893), (400, 21908), (437, 22088), (443, 22103), (459, 22172), (463, 22184), (476, 22247), (485, 22289), (494, 22328), (495, 22334), (496, 22343), (500, 22364), (513, 22424), (539, 22541), (550, 22583), (570, 22655), (572, 22664), (577, 22685), (594, 22757), (599, 22778), (614, 22874), (664, 23102), (680, 23249),

Gene: Ptowny\_26 Start: 21666, Stop: 24062, Start Num: 94

Candidate Starts for Ptowny\_26:

(Start: 94 @21666 has 128 MA's), (170, 21843), (174, 21864), (232, 22011), (271, 22185), (281, 22218), (287, 22254), (319, 22347), (342, 22407), (348, 22425), (367, 22518), (375, 22557), (389, 22602), (420, 22734), (428, 22779), (450, 22839), (478, 22953), (481, 22974), (491, 23013), (494, 23034), (496, 23049), (527, 23199), (529, 23205), (532, 23223), (549, 23277), (567, 23361), (593, 23454), (648, 23700), (680, 23916), (691, 24000), (698, 24033),

Gene: Puissant\_28 Start: 26145, Stop: 28988, Start Num: 17

Candidate Starts for Puissant\_28:

(Start: 17 @26145 has 8 MA's), (25, 26247), (30, 26277), (31, 26289), (35, 26298), (52, 26373), (73, 26427), (75, 26433), (83, 26454), (91, 26475), (102, 26502), (179, 26715), (183, 26727), (212, 26808), (215, 26817), (235, 26904), (236, 26910), (253, 26964), (279, 27093), (283, 27105), (319, 27225), (330, 27246), (365, 27384), (400, 27510), (456, 27747), (475, 27819), (484, 27861), (488, 27873), (504, 27972), (523, 28068), (579, 28308), (607, 28416), (649, 28608), (652, 28641), (658, 28665), (662, 28683), (675, 28785), (686, 28863), (693, 28920), (698, 28950), (702, 28965),

Gene: Pumpkin\_28 Start: 22364, Stop: 24760, Start Num: 94

Candidate Starts for Pumpkin\_28:

(Start: 94 @22364 has 128 MA's), (170, 22541), (174, 22562), (232, 22709), (271, 22883), (281, 22916), (287, 22952), (319, 23045), (342, 23105), (348, 23123), (375, 23255), (389, 23300), (420, 23432), (428, 23477), (450, 23537), (478, 23651), (481, 23672), (491, 23711), (494, 23732), (496, 23747), (527, 23897), (529, 23903), (532, 23921), (549, 23975), (567, 24059), (593, 24152), (648, 24398), (680, 24614), (691, 24698), (698, 24731),

Gene: Pygmy\_20 Start: 18761, Stop: 21265, Start Num: 60

Candidate Starts for Pygmy\_20:

(Start: 60 @18761 has 33 MA's), (62, 18770), (131, 18914), (250, 19319), (254, 19334), (257, 19364), (258, 19370), (262, 19388), (293, 19496), (312, 19547), (348, 19658), (349, 19661), (356, 19700), (365, 19733), (379, 19799), (400, 19859), (405, 19886), (406, 19892), (481, 20198), (494, 20258), (500, 20306), (501, 20309), (504, 20330), (505, 20333), (567, 20594), (600, 20717), (601, 20720), (614, 20810), (627, 20867), (633, 20888), (657, 20948), (686, 21149), (689, 21191),

Gene: Quallification\_27 Start: 22490, Stop: 24886, Start Num: 94

Candidate Starts for Quallification\_27:

(Start: 94 @22490 has 128 MA's), (170, 22667), (174, 22688), (232, 22835), (263, 22976), (271, 23009), (281, 23042), (287, 23078), (319, 23171), (342, 23231), (348, 23249), (375, 23381), (389, 23426), (420, 23558), (428, 23603), (450, 23663), (478, 23777), (481, 23798), (491, 23837), (494, 23858), (496, 23873), (527, 24023), (529, 24029), (532, 24047), (549, 24101), (567, 24185), (593, 24278), (648, 24524), (680, 24740), (691, 24824), (698, 24857),

Gene: QuickMath\_19 Start: 18743, Stop: 21280, Start Num: 53

Candidate Starts for QuickMath\_19:

(47, 18731), (Start: 53 @18743 has 241 MA's), (61, 18764), (Start: 71 @18785 has 1 MA's), (90, 18824), (129, 18893), (130, 18902), (131, 18905), (141, 18923), (155, 18956), (158, 18971), (172, 19019), (208, 19130), (209, 19133), (221, 19163), (224, 19175), (225, 19178), (242, 19256), (251, 19280), (262, 19346), (272, 19391), (281, 19421), (283, 19427), (284, 19445), (293, 19469), (296, 19478), (310, 19511), (312, 19517), (319, 19547), (336, 19586), (339, 19598), (342, 19607), (346, 19622), (348, 19625), (370, 19736), (371, 19739), (373, 19748), (374, 19754), (377, 19769), (379, 19772), (387, 19793), (397, 19823), (400, 19835), (406, 19868), (428, 19979), (429, 19982), (439, 20009), (442, 20015), (455, 20069), (456, 20072), (479, 20159), (481, 20174), (484, 20186), (485, 20189), (497, 20255), (502, 20279), (505, 20300), (507, 20309), (516, 20351), (520, 20369), (521, 20372), (529, 20408), (532, 20426), (537, 20438), (539, 20447), (547, 20474), (564, 20543), (567, 20561), (571, 20570), (573, 20582), (579, 20618), (588, 20648), (595, 20669), (602, 20693), (607, 20729), (614, 20783), (629, 20843), (637, 20885), (654, 20963), (666, 21020), (670, 21044), (676, 21098), (680, 21146), (688, 21188), (690, 21212), (691, 21215),

Gene: Quico\_19 Start: 17227, Stop: 19764, Start Num: 53

Candidate Starts for Quico\_19:

(Start: 53 @17227 has 241 MA's), (61, 17248), (Start: 71 @17269 has 1 MA's), (90, 17308), (129, 17377), (130, 17386), (131, 17389), (141, 17407), (155, 17440), (158, 17455), (172, 17503), (208, 17614), (209, 17617), (221, 17647), (225, 17662), (242, 17740), (251, 17764), (262, 17830), (272, 17875), (281, 17905), (283, 17911), (284, 17929), (293, 17953), (296, 17962), (310, 17995), (312, 18001), (319, 18031), (336, 18070), (342, 18091), (346, 18106), (348, 18109), (371, 18223), (373, 18232), (374, 18238), (379, 18256), (387, 18277), (397, 18307), (400, 18319), (406, 18352), (428, 18463), (429, 18466), (439, 18493), (442, 18499), (455, 18553), (456, 18556), (479, 18643), (481, 18658), (485, 18673), (502, 18763), (505, 18784), (507, 18793), (520, 18853), (521, 18856), (527, 18886), (532, 18910), (539, 18931), (564, 19027), (567, 19045), (571, 19054), (573, 19066), (579, 19102), (588, 19132), (595, 19153), (602, 19177), (607, 19213), (614, 19267), (629, 19327), (637, 19369), (654, 19447), (666, 19504), (670, 19528), (676, 19582), (680, 19630), (688, 19672), (690, 19696), (691, 19699),

Gene: QuincyRose\_26 Start: 20892, Stop: 23324, Start Num: 80

Candidate Starts for QuincyRose\_26:

(Start: 80 @20892 has 96 MA's), (126, 20991), (218, 21252), (225, 21273), (270, 21480), (280, 21513), (285, 21543), (314, 21615), (319, 21639), (337, 21684), (370, 21837), (378, 21882), (381, 21894), (385, 21903), (400, 21954), (437, 22134), (443, 22149), (459, 22218), (463, 22230), (476, 22293), (485, 22335), (494, 22374), (495, 22380), (496, 22389), (500, 22410), (513, 22470), (539, 22587), (550, 22629), (570, 22701), (572, 22710), (577, 22731), (594, 22803), (599, 22824), (614, 22920), (628, 22983), (648, 23067), (654, 23109), (664, 23148),

Gene: Radiance\_18 Start: 17380, Stop: 19917, Start Num: 53

Candidate Starts for Radiance\_18:

(47, 17368), (Start: 53 @17380 has 241 MA's), (61, 17401), (Start: 71 @17422 has 1 MA's), (90, 17461), (129, 17530), (130, 17539), (131, 17542), (141, 17560), (155, 17593), (158, 17608), (172, 17656), (206, 17761), (208, 17767), (209, 17770), (224, 17812), (225, 17815), (251, 17917), (262, 17983), (272, 18028), (281, 18058), (283, 18064), (284, 18082), (293, 18106), (296, 18115), (310, 18148), (312, 18154), (319, 18184), (339, 18235), (342, 18244), (366, 18352), (369, 18364), (370, 18373), (371, 18376), (374, 18391), (377, 18406), (379, 18409), (387, 18430), (397, 18460), (400, 18472), (406, 18505), (428, 18616), (429, 18619), (439, 18646), (442, 18652), (455, 18706), (456, 18709), (467, 18736), (481, 18811), (484, 18823), (485, 18826), (497, 18892), (501, 18913), (502, 18916), (505, 18937), (507, 18946), (520, 19006), (521, 19009), (527, 19039), (532, 19063), (537, 19075), (539, 19084), (564, 19180), (567, 19198), (571, 19207), (573, 19219), (588, 19285), (593, 19294), (595, 19306), (602, 19330), (607, 19366), (637, 19522), (666, 19657), (670, 19681), (676,

19735), (685, 19804), (690, 19849), (691, 19852),

Gene: Rakim\_27 Start: 22397, Stop: 24793, Start Num: 94

Candidate Starts for Rakim\_27:

(Start: 94 @22397 has 128 MA's), (170, 22574), (174, 22595), (232, 22742), (263, 22883), (271, 22916), (281, 22949), (287, 22985), (319, 23078), (342, 23138), (348, 23156), (365, 23237), (420, 23465), (428, 23510), (481, 23705), (482, 23711), (485, 23720), (494, 23765), (496, 23780), (529, 23936), (532, 23954), (535, 23963), (550, 24017), (567, 24092), (568, 24095), (613, 24305), (615, 24317), (648, 24431), (680, 24647), (691, 24731), (696, 24755), (698, 24764),

Gene: Ramen\_27 Start: 20878, Stop: 23310, Start Num: 80

Candidate Starts for Ramen\_27:

(Start: 80 @20878 has 96 MA's), (126, 20977), (218, 21238), (225, 21259), (270, 21466), (280, 21499), (285, 21529), (314, 21601), (319, 21625), (370, 21823), (378, 21868), (381, 21880), (385, 21889), (400, 21940), (437, 22120), (443, 22135), (459, 22204), (463, 22216), (476, 22279), (485, 22321), (494, 22360), (495, 22366), (496, 22375), (500, 22396), (513, 22456), (539, 22573), (550, 22615), (570, 22687), (572, 22696), (577, 22717), (594, 22789), (599, 22810), (614, 22906), (648, 23053), (664, 23134), (680, 23281),

Gene: Ramsey\_19 Start: 17429, Stop: 19966, Start Num: 53

Candidate Starts for Ramsey\_19:

(Start: 53 @17429 has 241 MA's), (61, 17450), (Start: 71 @17471 has 1 MA's), (90, 17510), (129, 17579), (130, 17588), (131, 17591), (141, 17609), (158, 17657), (208, 17816), (209, 17819), (225, 17864), (242, 17942), (251, 17966), (262, 18032), (281, 18107), (283, 18113), (284, 18131), (293, 18155), (295, 18161), (296, 18164), (310, 18197), (312, 18203), (319, 18233), (330, 18254), (339, 18284), (342, 18293), (366, 18401), (369, 18413), (370, 18422), (371, 18425), (374, 18440), (377, 18455), (379, 18458), (387, 18479), (400, 18521), (406, 18554), (428, 18665), (429, 18668), (439, 18695), (442, 18701), (455, 18755), (456, 18758), (467, 18785), (481, 18860), (484, 18872), (485, 18875), (497, 18941), (501, 18962), (502, 18965), (505, 18986), (507, 18995), (516, 19037), (520, 19055), (521, 19058), (527, 19088), (532, 19112), (537, 19124), (539, 19133), (564, 19229), (567, 19247), (571, 19256), (573, 19268), (579, 19304), (588, 19334), (593, 19343), (595, 19355), (607, 19415), (614, 19469), (629, 19529), (637, 19571), (666, 19706), (670, 19730), (676, 19784), (680, 19832), (688, 19874), (690, 19898), (691, 19901),

Gene: Rapunzel97\_27 Start: 20879, Stop: 23311, Start Num: 80

Candidate Starts for Rapunzel97\_27:

(Start: 80 @20879 has 96 MA's), (126, 20978), (218, 21239), (225, 21260), (270, 21467), (280, 21500), (285, 21530), (314, 21602), (319, 21626), (337, 21671), (370, 21824), (378, 21869), (381, 21881), (385, 21890), (400, 21941), (437, 22121), (443, 22136), (459, 22205), (463, 22217), (485, 22322), (494, 22361), (495, 22367), (496, 22376), (513, 22457), (522, 22505), (541, 22580), (550, 22616), (572, 22697), (577, 22718), (599, 22811), (614, 22907), (648, 23054), (654, 23096), (664, 23135), (673, 23210),

Gene: RedBird\_18 Start: 17357, Stop: 19894, Start Num: 53

Candidate Starts for RedBird\_18:

(Start: 53 @17357 has 241 MA's), (61, 17378), (Start: 71 @17399 has 1 MA's), (90, 17438), (129, 17507), (130, 17516), (131, 17519), (141, 17537), (158, 17585), (206, 17738), (209, 17747), (225, 17792), (250, 17891), (251, 17894), (262, 17960), (281, 18035), (283, 18041), (284, 18059), (293, 18083), (295, 18089), (296, 18092), (310, 18125), (312, 18131), (319, 18161), (330, 18182), (339, 18212), (342, 18221), (346, 18236), (348, 18239), (370, 18350), (371, 18353), (373, 18362), (374, 18368), (377, 18383), (379, 18386), (387, 18407), (397, 18437), (400, 18449), (406, 18482), (428, 18593), (429, 18596), (439, 18623), (442, 18629), (455, 18683), (456, 18686), (479, 18773), (481, 18788), (484, 18800), (485, 18803), (497, 18869), (502, 18893), (505, 18914), (507, 18923), (520,

18983), (521, 18986), (529, 19022), (532, 19040), (537, 19052), (539, 19061), (547, 19088), (563, 19145), (564, 19157), (567, 19175), (571, 19184), (573, 19196), (579, 19232), (588, 19262), (593, 19271), (595, 19283), (607, 19343), (614, 19397), (629, 19457), (637, 19499), (666, 19634), (670, 19658), (676, 19712), (680, 19760), (688, 19802), (690, 19826), (691, 19829),

Gene: Renaud18\_20 Start: 17833, Stop: 20313, Start Num: 55

Candidate Starts for Renaud18\_20:

(Start: 55 @17833 has 3 MA's), (58, 17839), (61, 17845), (Start: 94 @17908 has 128 MA's), (95, 17911), (110, 17938), (136, 17992), (141, 18001), (155, 18034), (166, 18067), (172, 18100), (192, 18139), (197, 18154), (209, 18190), (211, 18196), (212, 18199), (223, 18217), (225, 18229), (228, 18241), (234, 18265), (235, 18268), (269, 18412), (272, 18421), (281, 18445), (284, 18469), (293, 18493), (295, 18499), (303, 18520), (312, 18541), (319, 18571), (333, 18601), (339, 18622), (362, 18715), (365, 18730), (366, 18739), (370, 18760), (371, 18763), (382, 18805), (397, 18847), (398, 18850), (400, 18859), (405, 18886), (414, 18934), (418, 18955), (420, 18958), (427, 18994), (433, 19015), (455, 19093), (456, 19096), (472, 19150), (484, 19210), (502, 19303), (505, 19324), (514, 19360), (525, 19414), (527, 19423), (546, 19501), (550, 19519), (559, 19555), (561, 19558), (564, 19576), (565, 19579), (567, 19594), (573, 19615), (579, 19651), (584, 19663), (602, 19726), (607, 19759), (619, 19846), (632, 19894), (635, 19918), (643, 19945), (648, 19954), (653, 19993), (662, 20032), (666, 20056), (669, 20077), (680, 20173), (685, 20194), (694, 20257), (698, 20284), (701, 20293),

Gene: Rialto\_20 Start: 17909, Stop: 20446, Start Num: 53

Candidate Starts for Rialto\_20:

(Start: 53 @17909 has 241 MA's), (61, 17930), (Start: 71 @17951 has 1 MA's), (90, 17990), (129, 18059), (130, 18068), (131, 18071), (141, 18089), (158, 18137), (206, 18290), (209, 18299), (225, 18344), (250, 18443), (251, 18446), (262, 18512), (281, 18587), (283, 18593), (284, 18611), (293, 18635), (295, 18641), (296, 18644), (310, 18677), (312, 18683), (319, 18713), (330, 18734), (339, 18764), (342, 18773), (346, 18788), (348, 18791), (370, 18902), (371, 18905), (373, 18914), (374, 18920), (377, 18935), (379, 18938), (387, 18959), (397, 18989), (400, 19001), (406, 19034), (428, 19145), (429, 19148), (439, 19175), (442, 19181), (455, 19235), (456, 19238), (481, 19340), (484, 19352), (485, 19355), (497, 19421), (502, 19445), (505, 19466), (507, 19475), (520, 19535), (521, 19538), (529, 19574), (532, 19592), (537, 19604), (539, 19613), (547, 19640), (563, 19697), (564, 19709), (567, 19727), (571, 19736), (573, 19748), (579, 19784), (588, 19814), (593, 19823), (595, 19835), (607, 19895), (614, 19949), (629, 20009), (637, 20051), (666, 20186), (670, 20210), (676, 20264), (680, 20312), (688, 20354), (690, 20378), (691, 20381),

Gene: Rimmer\_25 Start: 21850, Stop: 24246, Start Num: 94

Candidate Starts for Rimmer\_25:

(Start: 94 @21850 has 128 MA's), (170, 22027), (174, 22048), (232, 22195), (263, 22336), (271, 22369), (281, 22402), (287, 22438), (319, 22531), (342, 22591), (348, 22609), (375, 22741), (389, 22786), (420, 22918), (428, 22963), (478, 23137), (481, 23158), (491, 23197), (494, 23218), (496, 23233), (529, 23389), (532, 23407), (549, 23461), (567, 23545), (593, 23638), (648, 23884), (680, 24100), (691, 24184), (698, 24217),

Gene: Rinke\_33 Start: 31333, Stop: 33816, Start Num: 39

Candidate Starts for Rinke\_33:

(Start: 39 @31333 has 6 MA's), (43, 31342), (65, 31429), (68, 31435), (76, 31447), (83, 31462), (102, 31504), (105, 31507), (143, 31570), (190, 31708), (206, 31747), (210, 31765), (225, 31807), (226, 31810), (251, 31909), (264, 31984), (271, 32011), (272, 32014), (278, 32035), (282, 32047), (341, 32209), (343, 32218), (345, 32224), (356, 32266), (357, 32269), (373, 32347), (381, 32380), (392, 32413), (399, 32431), (411, 32488), (422, 32557), (429, 32593), (472, 32758), (474, 32773), (489, 32839), (495, 32872), (496, 32881), (516, 32968), (528, 33028), (532, 33052), (545, 33097), (546, 33100), (550, 33118), (571, 33199), (614, 33421), (615, 33430), (677, 33754),

Gene: Rita\_18 Start: 17410, Stop: 19947, Start Num: 53

Candidate Starts for Rita\_18:

(Start: 53 @17410 has 241 MA's), (96, 17500), (129, 17560), (130, 17569), (131, 17572), (141, 17590), (158, 17638), (171, 17683), (208, 17797), (209, 17800), (221, 17830), (224, 17842), (225, 17845), (242, 17923), (251, 17947), (262, 18013), (272, 18058), (281, 18088), (283, 18094), (284, 18112), (293, 18136), (296, 18145), (310, 18178), (312, 18184), (319, 18214), (336, 18253), (339, 18265), (342, 18274), (346, 18289), (348, 18292), (370, 18403), (371, 18406), (373, 18415), (374, 18421), (377, 18436), (379, 18439), (387, 18460), (397, 18490), (400, 18502), (406, 18535), (428, 18646), (429, 18649), (439, 18676), (442, 18682), (455, 18736), (456, 18739), (481, 18841), (484, 18853), (485, 18856), (497, 18922), (502, 18946), (505, 18967), (507, 18976), (520, 19036), (521, 19039), (529, 19075), (532, 19093), (537, 19105), (539, 19114), (547, 19141), (564, 19210), (567, 19228), (571, 19237), (573, 19249), (579, 19285), (588, 19315), (595, 19336), (602, 19360), (607, 19396), (614, 19450), (629, 19510), (637, 19552), (654, 19630), (666, 19687), (670, 19711), (676, 19765), (680, 19813), (688, 19855), (690, 19879), (691, 19882),

Gene: RitaG\_18 Start: 17539, Stop: 20091, Start Num: 53

Candidate Starts for RitaG\_18:

(Start: 53 @17539 has 241 MA's), (61, 17560), (68, 17581), (90, 17620), (129, 17689), (130, 17698), (131, 17701), (141, 17719), (155, 17752), (158, 17767), (172, 17815), (208, 17926), (209, 17929), (222, 17962), (224, 17971), (225, 17974), (242, 18052), (257, 18118), (263, 18151), (277, 18205), (281, 18217), (293, 18265), (296, 18274), (300, 18283), (313, 18316), (330, 18358), (335, 18373), (343, 18403), (345, 18409), (346, 18412), (348, 18415), (354, 18442), (358, 18463), (365, 18496), (373, 18538), (374, 18544), (375, 18547), (377, 18559), (379, 18562), (388, 18589), (397, 18613), (400, 18625), (406, 18658), (411, 18679), (425, 18751), (429, 18772), (461, 18883), (469, 18907), (470, 18910), (475, 18934), (481, 18964), (488, 18988), (494, 19024), (495, 19030), (496, 19039), (511, 19129), (516, 19153), (517, 19168), (527, 19210), (529, 19216), (541, 19261), (565, 19357), (567, 19372), (571, 19381), (576, 19405), (593, 19468), (614, 19594), (663, 19810), (670, 19855), (680, 19957), (694, 20035),

Gene: RiverMonster\_26 Start: 22039, Stop: 24435, Start Num: 94

Candidate Starts for RiverMonster\_26:

(Start: 94 @22039 has 128 MA's), (170, 22216), (174, 22237), (232, 22384), (271, 22558), (281, 22591), (287, 22627), (319, 22720), (342, 22780), (348, 22798), (375, 22930), (389, 22975), (420, 23107), (428, 23152), (450, 23212), (478, 23326), (481, 23347), (491, 23386), (494, 23407), (496, 23422), (527, 23572), (529, 23578), (532, 23596), (549, 23650), (567, 23734), (593, 23827), (648, 24073), (680, 24289), (691, 24373), (698, 24406),

Gene: Rockne\_18 Start: 17383, Stop: 19920, Start Num: 53

Candidate Starts for Rockne\_18:

(Start: 53 @17383 has 241 MA's), (96, 17473), (129, 17533), (130, 17542), (131, 17545), (141, 17563), (158, 17611), (172, 17659), (206, 17764), (208, 17770), (209, 17773), (224, 17815), (225, 17818), (251, 17920), (262, 17986), (272, 18031), (281, 18061), (283, 18067), (284, 18085), (293, 18109), (296, 18118), (310, 18151), (312, 18157), (330, 18208), (336, 18226), (339, 18238), (342, 18247), (346, 18262), (349, 18268), (370, 18376), (373, 18388), (374, 18394), (377, 18409), (379, 18412), (387, 18433), (397, 18463), (400, 18475), (406, 18508), (420, 18574), (428, 18619), (429, 18622), (439, 18649), (442, 18655), (455, 18709), (456, 18712), (467, 18739), (481, 18814), (484, 18826), (485, 18829), (497, 18895), (501, 18916), (502, 18919), (507, 18949), (516, 18991), (520, 19009), (521, 19012), (527, 19042), (532, 19066), (537, 19078), (539, 19087), (564, 19183), (567, 19201), (571, 19210), (573, 19222), (588, 19288), (593, 19297), (595, 19309), (607, 19369), (637, 19525), (666, 19660), (670, 19684), (676, 19738), (685, 19807), (690, 19852), (691, 19855),

Gene: RockyHorror\_19 Start: 17258, Stop: 19795, Start Num: 53

Candidate Starts for RockyHorror\_19:

(Start: 53 @17258 has 241 MA's), (61, 17279), (Start: 71 @17300 has 1 MA's), (90, 17339), (129, 17408), (130, 17417), (131, 17420), (141, 17438), (158, 17486), (206, 17639), (209, 17648), (225, 17693), (250, 17792), (251, 17795), (262, 17861), (281, 17936), (283, 17942), (284, 17960), (293, 17984), (295, 17990), (296, 17993), (310, 18026), (312, 18032), (319, 18062), (330, 18083), (339, 18113), (342, 18122), (346, 18137), (348, 18140), (370, 18251), (371, 18254), (373, 18263), (374, 18269), (377, 18284), (379, 18287), (387, 18308), (397, 18338), (400, 18350), (406, 18383), (428, 18494), (429, 18497), (439, 18524), (442, 18530), (455, 18584), (456, 18587), (479, 18674), (481, 18689), (484, 18701), (485, 18704), (497, 18770), (502, 18794), (505, 18815), (507, 18824), (520, 18884), (521, 18887), (529, 18923), (532, 18941), (537, 18953), (539, 18962), (547, 18989), (563, 19046), (564, 19058), (567, 19076), (571, 19085), (573, 19097), (579, 19133), (588, 19163), (593, 19172), (595, 19184), (607, 19244), (614, 19298), (629, 19358), (637, 19400), (666, 19535), (670, 19559), (676, 19613), (680, 19661), (688, 19703), (690, 19727), (691, 19730),

Gene: Rosmarinus\_27 Start: 20900, Stop: 23332, Start Num: 80

Candidate Starts for Rosmarinus\_27:

(Start: 80 @20900 has 96 MA's), (126, 20999), (218, 21260), (225, 21281), (270, 21488), (280, 21521), (285, 21551), (314, 21623), (319, 21647), (370, 21845), (378, 21890), (381, 21902), (385, 21911), (400, 21962), (437, 22142), (443, 22157), (459, 22226), (463, 22238), (476, 22301), (485, 22343), (494, 22382), (495, 22388), (496, 22397), (500, 22418), (513, 22478), (539, 22595), (550, 22637), (570, 22709), (572, 22718), (577, 22739), (594, 22811), (599, 22832), (614, 22928), (648, 23075), (664, 23156), (680, 23303),

Gene: Royals2015\_18 Start: 17417, Stop: 19948, Start Num: 53

Candidate Starts for Royals2015\_18:

(Start: 53 @17417 has 241 MA's), (61, 17438), (96, 17507), (129, 17567), (130, 17576), (131, 17579), (141, 17597), (155, 17630), (158, 17645), (171, 17690), (208, 17804), (209, 17807), (213, 17819), (223, 17840), (224, 17849), (225, 17852), (242, 17930), (257, 17996), (263, 18029), (272, 18065), (279, 18089), (295, 18149), (296, 18152), (303, 18170), (326, 18233), (329, 18236), (336, 18254), (342, 18275), (348, 18293), (354, 18320), (358, 18341), (365, 18374), (374, 18422), (375, 18425), (377, 18437), (379, 18440), (387, 18461), (397, 18491), (400, 18503), (406, 18536), (420, 18602), (428, 18647), (429, 18650), (439, 18677), (442, 18683), (455, 18737), (456, 18740), (467, 18767), (481, 18842), (484, 18854), (485, 18857), (497, 18923), (502, 18947), (507, 18977), (516, 19019), (520, 19037), (521, 19040), (529, 19076), (532, 19094), (539, 19115), (547, 19142), (564, 19211), (567, 19229), (571, 19238), (573, 19250), (579, 19286), (595, 19337), (600, 19355), (607, 19397), (614, 19451), (637, 19553), (654, 19631), (666, 19688), (670, 19712), (676, 19766), (680, 19814), (690, 19880), (691, 19883),

Gene: Ruby\_18 Start: 17371, Stop: 19908, Start Num: 53

Candidate Starts for Ruby\_18:

(Start: 53 @17371 has 241 MA's), (61, 17392), (Start: 71 @17413 has 1 MA's), (90, 17452), (129, 17521), (130, 17530), (131, 17533), (141, 17551), (155, 17584), (158, 17599), (206, 17752), (209, 17761), (225, 17806), (250, 17905), (251, 17908), (262, 17974), (281, 18049), (283, 18055), (293, 18097), (295, 18103), (296, 18106), (310, 18139), (312, 18145), (319, 18175), (330, 18196), (339, 18226), (342, 18235), (346, 18250), (348, 18253), (370, 18364), (371, 18367), (373, 18376), (374, 18382), (377, 18397), (379, 18400), (387, 18421), (397, 18451), (400, 18463), (406, 18496), (428, 18607), (429, 18610), (439, 18637), (442, 18643), (455, 18697), (456, 18700), (479, 18787), (481, 18802), (484, 18814), (485, 18817), (497, 18883), (502, 18907), (505, 18928), (507, 18937), (516, 18979), (520, 18997), (521, 19000), (527, 19030), (532, 19054), (537, 19066), (539, 19075), (564, 19171), (567, 19189), (571, 19198), (573, 19210), (579, 19246), (588, 19276), (593, 19285), (595, 19297), (607, 19357), (614, 19411), (629, 19471), (637, 19513), (666, 19648), (670, 19672), (676, 19726), (680, 19774), (688, 19816), (690, 19840), (691, 19843),

Gene: Ryadel\_62 Start: 36906, Stop: 39416, Start Num: 60

Candidate Starts for Ryadel\_62:

(Start: 60 @36906 has 33 MA's), (74, 36939), (108, 37008), (109, 37011), (122, 37035), (131, 37059), (145, 37083), (155, 37116), (214, 37323), (217, 37335), (218, 37338), (254, 37485), (257, 37515), (262, 37539), (272, 37569), (273, 37572), (281, 37599), (284, 37623), (295, 37653), (315, 37710), (336, 37770), (339, 37782), (346, 37806), (348, 37809), (356, 37851), (377, 37947), (379, 37950), (447, 38205), (481, 38349), (494, 38409), (504, 38481), (505, 38484), (526, 38580), (567, 38754), (571, 38763), (573, 38775), (598, 38868), (601, 38880), (614, 38970), (633, 39045), (653, 39090), (684, 39291), (689, 39345), (694, 39360),

Gene: SG4\_18 Start: 17548, Stop: 20085, Start Num: 53

Candidate Starts for SG4\_18:

(Start: 53 @17548 has 241 MA's), (61, 17569), (Start: 71 @17590 has 1 MA's), (88, 17626), (90, 17629), (129, 17698), (130, 17707), (131, 17710), (141, 17728), (155, 17761), (158, 17776), (172, 17824), (208, 17935), (209, 17938), (221, 17968), (224, 17980), (225, 17983), (242, 18061), (251, 18085), (262, 18151), (272, 18196), (281, 18226), (283, 18232), (284, 18250), (293, 18274), (296, 18283), (310, 18316), (312, 18322), (330, 18373), (336, 18391), (339, 18403), (342, 18412), (346, 18427), (348, 18430), (370, 18541), (371, 18544), (373, 18553), (374, 18559), (377, 18574), (379, 18577), (387, 18598), (397, 18628), (400, 18640), (406, 18673), (420, 18739), (428, 18784), (429, 18787), (439, 18814), (442, 18820), (455, 18874), (456, 18877), (481, 18979), (484, 18991), (485, 18994), (497, 19060), (502, 19084), (505, 19105), (507, 19114), (520, 19174), (521, 19177), (529, 19213), (532, 19231), (537, 19243), (539, 19252), (547, 19279), (564, 19348), (567, 19366), (571, 19375), (573, 19387), (579, 19423), (588, 19453), (595, 19474), (602, 19498), (607, 19534), (614, 19588), (629, 19648), (637, 19690), (666, 19825), (670, 19849), (676, 19903), (680, 19951), (690, 20017), (691, 20020),

Gene: Saal\_18 Start: 17383, Stop: 19920, Start Num: 53

Candidate Starts for Saal\_18:

(Start: 53 @17383 has 241 MA's), (61, 17404), (Start: 71 @17425 has 1 MA's), (90, 17464), (129, 17533), (130, 17542), (131, 17545), (141, 17563), (158, 17611), (206, 17764), (209, 17773), (225, 17818), (242, 17896), (251, 17920), (262, 17986), (272, 18031), (281, 18061), (283, 18067), (284, 18085), (293, 18109), (296, 18118), (310, 18151), (312, 18157), (319, 18187), (336, 18226), (342, 18247), (346, 18262), (348, 18265), (371, 18379), (373, 18388), (374, 18394), (379, 18412), (387, 18433), (397, 18463), (400, 18475), (406, 18508), (428, 18619), (429, 18622), (439, 18649), (442, 18655), (455, 18709), (456, 18712), (479, 18799), (481, 18814), (485, 18829), (502, 18919), (505, 18940), (507, 18949), (520, 19009), (521, 19012), (529, 19048), (532, 19066), (537, 19078), (539, 19087), (547, 19114), (564, 19183), (567, 19201), (571, 19210), (573, 19222), (579, 19258), (588, 19288), (595, 19309), (602, 19333), (607, 19369), (614, 19423), (637, 19525), (654, 19603), (666, 19660), (670, 19684), (676, 19738), (680, 19786), (688, 19828), (693, 19861), (694, 19864),

Gene: Sabbb\_19 Start: 17625, Stop: 20168, Start Num: 53

Candidate Starts for Sabbb\_19:

(Start: 53 @17625 has 241 MA's), (61, 17646), (68, 17667), (90, 17706), (129, 17775), (130, 17784), (131, 17787), (141, 17805), (158, 17853), (172, 17901), (208, 18012), (209, 18015), (222, 18048), (225, 18060), (242, 18138), (257, 18204), (263, 18237), (277, 18291), (281, 18303), (295, 18357), (296, 18360), (300, 18369), (313, 18402), (328, 18441), (330, 18444), (335, 18459), (336, 18462), (343, 18489), (345, 18495), (346, 18498), (348, 18501), (354, 18528), (357, 18546), (358, 18549), (373, 18624), (377, 18645), (379, 18648), (388, 18675), (397, 18699), (406, 18744), (407, 18747), (416, 18798), (429, 18861), (433, 18870), (441, 18894), (470, 18999), (471, 19002), (481, 19053), (482, 19059), (484, 19065), (485, 19068), (494, 19113), (496, 19128), (501, 19155), (505, 19179), (516, 19230), (520, 19248), (521, 19251), (522, 19263), (537, 19317), (567, 19440), (581, 19503), (600, 19566), (609, 19641), (657, 19842), (687, 20070), (693, 20109), (694, 20112),

Gene: Saints25\_27 Start: 21945, Stop: 24341, Start Num: 94

Candidate Starts for Saints25\_27:

(Start: 94 @21945 has 128 MA's), (170, 22122), (174, 22143), (232, 22290), (263, 22431), (271, 22464), (281, 22497), (287, 22533), (319, 22626), (342, 22686), (348, 22704), (375, 22836), (389, 22881), (420, 23013), (428, 23058), (450, 23118), (478, 23232), (481, 23253), (491, 23292), (494, 23313), (496, 23328), (527, 23478), (529, 23484), (532, 23502), (549, 23556), (567, 23640), (593, 23733), (648, 23979), (680, 24195), (691, 24279), (698, 24312),

Gene: SamuelLPlaqson\_27 Start: 20840, Stop: 23272, Start Num: 80

Candidate Starts for SamuelLPlaqson\_27:

(72, 20822), (Start: 80 @20840 has 96 MA's), (98, 20888), (126, 20939), (218, 21200), (225, 21221), (279, 21458), (280, 21461), (285, 21491), (286, 21494), (314, 21563), (319, 21587), (321, 21593), (323, 21599), (337, 21632), (370, 21785), (381, 21842), (385, 21851), (400, 21902), (437, 22082), (443, 22097), (459, 22166), (463, 22178), (470, 22214), (476, 22241), (485, 22283), (494, 22322), (495, 22328), (496, 22337), (500, 22358), (513, 22418), (520, 22451), (523, 22469), (539, 22535), (550, 22577), (570, 22649), (572, 22658), (577, 22679), (594, 22751), (614, 22868), (648, 23015), (664, 23096), (673, 23171), (680, 23243),

Gene: Sandalphon\_19 Start: 17954, Stop: 20491, Start Num: 53

Candidate Starts for Sandalphon\_19:

(47, 17942), (Start: 53 @17954 has 241 MA's), (61, 17975), (Start: 71 @17996 has 1 MA's), (90, 18035), (129, 18104), (130, 18113), (131, 18116), (155, 18167), (158, 18182), (172, 18230), (208, 18341), (209, 18344), (221, 18374), (224, 18386), (225, 18389), (242, 18467), (251, 18491), (262, 18557), (272, 18602), (281, 18632), (283, 18638), (284, 18656), (293, 18680), (296, 18689), (310, 18722), (312, 18728), (319, 18758), (336, 18797), (339, 18809), (342, 18818), (346, 18833), (348, 18836), (370, 18947), (371, 18950), (373, 18959), (374, 18965), (377, 18980), (379, 18983), (387, 19004), (397, 19034), (400, 19046), (406, 19079), (428, 19190), (429, 19193), (439, 19220), (442, 19226), (455, 19280), (456, 19283), (481, 19385), (484, 19397), (485, 19400), (497, 19466), (502, 19490), (505, 19511), (507, 19520), (520, 19580), (521, 19583), (529, 19619), (532, 19637), (537, 19649), (539, 19658), (547, 19685), (564, 19754), (567, 19772), (571, 19781), (573, 19793), (579, 19829), (588, 19859), (595, 19880), (602, 19904), (607, 19940), (614, 19994), (629, 20054), (637, 20096), (654, 20174), (666, 20231), (670, 20255), (676, 20309), (680, 20357), (688, 20399), (690, 20423), (691, 20426),

Gene: Sassafra\_18 Start: 17532, Stop: 20069, Start Num: 53

Candidate Starts for Sassafra\_18:

(Start: 53 @17532 has 241 MA's), (61, 17553), (Start: 71 @17574 has 1 MA's), (90, 17613), (129, 17682), (130, 17691), (131, 17694), (141, 17712), (158, 17760), (172, 17808), (208, 17919), (209, 17922), (225, 17967), (242, 18045), (251, 18069), (262, 18135), (281, 18210), (283, 18216), (284, 18234), (293, 18258), (296, 18267), (310, 18300), (312, 18306), (319, 18336), (330, 18357), (339, 18387), (342, 18396), (366, 18504), (369, 18516), (370, 18525), (371, 18528), (374, 18543), (377, 18558), (379, 18561), (387, 18582), (400, 18624), (406, 18657), (428, 18768), (429, 18771), (439, 18798), (442, 18804), (455, 18858), (456, 18861), (467, 18888), (481, 18963), (484, 18975), (485, 18978), (497, 19044), (501, 19065), (502, 19068), (505, 19089), (507, 19098), (516, 19140), (520, 19158), (521, 19161), (527, 19191), (532, 19215), (537, 19227), (539, 19236), (564, 19332), (567, 19350), (571, 19359), (573, 19371), (579, 19407), (588, 19437), (593, 19446), (595, 19458), (607, 19518), (614, 19572), (629, 19632), (637, 19674), (666, 19809), (670, 19833), (676, 19887), (680, 19935), (688, 19977), (690, 20001), (691, 20004),

Gene: Sassay\_25 Start: 21788, Stop: 24184, Start Num: 94

Candidate Starts for Sassay\_25:

(Start: 94 @21788 has 128 MA's), (170, 21965), (174, 21986), (232, 22133), (263, 22274), (271, 22307), (281, 22340), (287, 22376), (319, 22469), (342, 22529), (348, 22547), (375, 22679), (389,

22724), (420, 22856), (428, 22901), (450, 22961), (478, 23075), (481, 23096), (491, 23135), (494, 23156), (496, 23171), (527, 23321), (529, 23327), (532, 23345), (549, 23399), (567, 23483), (593, 23576), (648, 23822), (680, 24038), (691, 24122), (698, 24155),

Gene: SassyB\_18 Start: 17445, Stop: 19982, Start Num: 53

Candidate Starts for SassyB\_18:

(47, 17433), (Start: 53 @17445 has 241 MA's), (61, 17466), (Start: 71 @17487 has 1 MA's), (90, 17526), (129, 17595), (130, 17604), (131, 17607), (141, 17625), (155, 17658), (158, 17673), (208, 17832), (209, 17835), (225, 17880), (242, 17958), (251, 17982), (262, 18048), (281, 18123), (283, 18129), (284, 18147), (293, 18171), (295, 18177), (296, 18180), (310, 18213), (312, 18219), (319, 18249), (330, 18270), (339, 18300), (342, 18309), (361, 18390), (373, 18450), (374, 18456), (377, 18471), (379, 18474), (387, 18495), (400, 18537), (406, 18570), (407, 18573), (439, 18711), (442, 18717), (455, 18771), (456, 18774), (467, 18801), (481, 18876), (484, 18888), (485, 18891), (497, 18957), (502, 18981), (505, 19002), (507, 19011), (520, 19071), (521, 19074), (529, 19110), (532, 19128), (539, 19149), (564, 19245), (567, 19263), (571, 19272), (573, 19284), (579, 19320), (588, 19350), (607, 19431), (614, 19485), (637, 19587), (666, 19722), (670, 19746), (676, 19800), (680, 19848), (688, 19890), (690, 19914), (691, 19917),

Gene: Scarlett\_26 Start: 20115, Stop: 22574, Start Num: 80

Candidate Starts for Scarlett\_26:

(Start: 80 @20115 has 96 MA's), (98, 20163), (155, 20286), (171, 20343), (174, 20355), (208, 20448), (216, 20472), (231, 20523), (265, 20685), (295, 20796), (307, 20835), (314, 20859), (353, 20982), (366, 21054), (383, 21141), (404, 21222), (424, 21324), (437, 21378), (453, 21438), (472, 21516), (473, 21528), (476, 21537), (485, 21579), (494, 21624), (496, 21639), (515, 21726), (519, 21750), (528, 21789), (534, 21822), (550, 21879), (577, 21990), (580, 22014), (587, 22035), (600, 22086), (621, 22215), (649, 22320), (680, 22545),

Gene: SchoolBus\_58 Start: 36090, Stop: 38600, Start Num: 60

Candidate Starts for SchoolBus\_58:

(Start: 60 @36090 has 33 MA's), (74, 36123), (108, 36192), (109, 36195), (122, 36219), (131, 36243), (145, 36267), (155, 36300), (214, 36507), (217, 36519), (218, 36522), (254, 36669), (257, 36699), (262, 36723), (272, 36753), (273, 36756), (281, 36783), (284, 36807), (295, 36837), (315, 36894), (320, 36918), (336, 36954), (339, 36966), (346, 36990), (348, 36993), (356, 37035), (377, 37131), (379, 37134), (447, 37389), (481, 37533), (494, 37593), (504, 37665), (505, 37668), (526, 37764), (567, 37938), (573, 37959), (598, 38052), (601, 38064), (614, 38154), (633, 38229), (653, 38274), (684, 38475), (689, 38529), (694, 38544),

Gene: Schuy\_59 Start: 35881, Stop: 38391, Start Num: 60

Candidate Starts for Schuy\_59:

(Start: 60 @35881 has 33 MA's), (74, 35914), (108, 35983), (109, 35986), (122, 36010), (131, 36034), (145, 36058), (155, 36091), (214, 36298), (217, 36310), (218, 36313), (254, 36460), (257, 36490), (262, 36514), (272, 36544), (273, 36547), (281, 36574), (284, 36598), (295, 36628), (315, 36685), (320, 36709), (336, 36745), (339, 36757), (346, 36781), (348, 36784), (356, 36826), (377, 36922), (379, 36925), (447, 37180), (481, 37324), (494, 37384), (504, 37456), (505, 37459), (526, 37555), (567, 37729), (573, 37750), (598, 37843), (601, 37855), (614, 37945), (633, 38020), (653, 38065), (684, 38266), (689, 38320), (694, 38335),

Gene: Scottish\_19 Start: 18701, Stop: 21238, Start Num: 53

Candidate Starts for Scottish\_19:

(47, 18689), (Start: 53 @18701 has 241 MA's), (61, 18722), (Start: 71 @18743 has 1 MA's), (90, 18782), (129, 18851), (130, 18860), (131, 18863), (141, 18881), (158, 18929), (172, 18977), (208, 19088), (209, 19091), (225, 19136), (242, 19214), (251, 19238), (262, 19304), (272, 19349), (281, 19379), (283, 19385), (284, 19403), (293, 19427), (296, 19436), (310, 19469), (312, 19475), (319,

19505), (336, 19544), (339, 19556), (342, 19565), (346, 19580), (348, 19583), (370, 19694), (371, 19697), (373, 19706), (374, 19712), (377, 19727), (379, 19730), (387, 19751), (397, 19781), (400, 19793), (406, 19826), (428, 19937), (429, 19940), (439, 19967), (442, 19973), (455, 20027), (456, 20030), (481, 20132), (484, 20144), (485, 20147), (497, 20213), (502, 20237), (505, 20258), (507, 20267), (520, 20327), (521, 20330), (529, 20366), (532, 20384), (539, 20405), (547, 20432), (564, 20501), (567, 20519), (571, 20528), (573, 20540), (579, 20576), (595, 20627), (600, 20645), (607, 20687), (614, 20741), (637, 20843), (666, 20978), (670, 21002), (676, 21056), (685, 21125), (690, 21170), (691, 21173),

Gene: SeaLumen\_19 Start: 17446, Stop: 19983, Start Num: 53

Candidate Starts for SeaLumen\_19:

(Start: 53 @17446 has 241 MA's), (61, 17467), (Start: 71 @17488 has 1 MA's), (88, 17524), (90, 17527), (129, 17596), (130, 17605), (131, 17608), (141, 17626), (155, 17659), (158, 17674), (172, 17722), (206, 17827), (208, 17833), (209, 17836), (224, 17878), (225, 17881), (251, 17983), (262, 18049), (272, 18094), (281, 18124), (283, 18130), (284, 18148), (293, 18172), (296, 18181), (310, 18214), (312, 18220), (330, 18271), (336, 18289), (339, 18301), (342, 18310), (346, 18325), (349, 18331), (370, 18439), (373, 18451), (374, 18457), (377, 18472), (379, 18475), (387, 18496), (397, 18526), (400, 18538), (406, 18571), (420, 18637), (428, 18682), (429, 18685), (439, 18712), (442, 18718), (455, 18772), (456, 18775), (479, 18862), (481, 18877), (484, 18889), (485, 18892), (497, 18958), (505, 19003), (507, 19012), (520, 19072), (521, 19075), (529, 19111), (532, 19129), (537, 19141), (539, 19150), (547, 19177), (564, 19246), (567, 19264), (571, 19273), (573, 19285), (579, 19321), (588, 19351), (595, 19372), (602, 19396), (607, 19432), (614, 19486), (629, 19546), (637, 19588), (654, 19666), (666, 19723), (670, 19747), (676, 19801), (680, 19849), (688, 19891), (690, 19915), (691, 19918),

Gene: Seabastian\_18 Start: 17634, Stop: 20171, Start Num: 53

Candidate Starts for Seabastian\_18:

(Start: 53 @17634 has 241 MA's), (61, 17655), (Start: 71 @17676 has 1 MA's), (90, 17715), (129, 17784), (130, 17793), (131, 17796), (141, 17814), (158, 17862), (208, 18021), (209, 18024), (224, 18066), (225, 18069), (242, 18147), (250, 18168), (251, 18171), (262, 18237), (263, 18246), (272, 18282), (281, 18312), (283, 18318), (293, 18360), (295, 18366), (296, 18369), (310, 18402), (312, 18408), (319, 18438), (330, 18459), (339, 18489), (342, 18498), (366, 18606), (369, 18618), (370, 18627), (371, 18630), (373, 18639), (374, 18645), (377, 18660), (379, 18663), (387, 18684), (400, 18726), (406, 18759), (439, 18900), (442, 18906), (455, 18960), (456, 18963), (467, 18990), (481, 19065), (484, 19077), (485, 19080), (497, 19146), (501, 19167), (502, 19170), (505, 19191), (516, 19242), (520, 19260), (521, 19263), (527, 19293), (532, 19317), (537, 19329), (564, 19434), (567, 19452), (571, 19461), (573, 19473), (579, 19509), (588, 19539), (595, 19560), (602, 19584), (607, 19620), (629, 19734), (637, 19776), (654, 19854), (666, 19911), (670, 19935), (676, 19989), (680, 20037), (688, 20079), (690, 20103), (691, 20106),

Gene: Seagreen\_19 Start: 17241, Stop: 19778, Start Num: 53

Candidate Starts for Seagreen\_19:

(47, 17229), (Start: 53 @17241 has 241 MA's), (61, 17262), (Start: 71 @17283 has 1 MA's), (90, 17322), (129, 17391), (130, 17400), (131, 17403), (141, 17421), (155, 17454), (158, 17469), (172, 17517), (206, 17622), (208, 17628), (209, 17631), (224, 17673), (225, 17676), (242, 17754), (251, 17778), (262, 17844), (272, 17889), (281, 17919), (283, 17925), (284, 17943), (293, 17967), (296, 17976), (310, 18009), (312, 18015), (319, 18045), (336, 18084), (339, 18096), (342, 18105), (346, 18120), (348, 18123), (370, 18234), (371, 18237), (373, 18246), (374, 18252), (377, 18267), (379, 18270), (387, 18291), (397, 18321), (400, 18333), (406, 18366), (428, 18477), (429, 18480), (439, 18507), (442, 18513), (455, 18567), (456, 18570), (481, 18672), (484, 18684), (485, 18687), (497, 18753), (502, 18777), (505, 18798), (507, 18807), (520, 18867), (521, 18870), (529, 18906), (532, 18924), (537, 18936), (539, 18945), (547, 18972), (564, 19041), (567, 19059), (571, 19068), (573, 19080), (579, 19116), (588, 19146), (595, 19167), (602, 19191), (607, 19227), (614, 19281), (629,

19341), (637, 19383), (654, 19461), (666, 19518), (670, 19542), (676, 19596), (680, 19644), (688, 19686), (690, 19710), (691, 19713),

Gene: Shaboozey\_30 Start: 25923, Stop: 28418, Start Num: 53

Candidate Starts for Shaboozey\_30:

(Start: 53 @25923 has 241 MA's), (141, 26118), (155, 26154), (158, 26169), (192, 26256), (197, 26271), (209, 26307), (211, 26313), (225, 26346), (228, 26358), (269, 26529), (272, 26538), (281, 26562), (295, 26616), (310, 26652), (312, 26658), (319, 26688), (333, 26718), (339, 26739), (342, 26748), (346, 26763), (362, 26832), (379, 26913), (382, 26922), (389, 26943), (390, 26946), (400, 26976), (407, 27012), (416, 27063), (418, 27072), (420, 27075), (425, 27102), (427, 27111), (433, 27132), (455, 27210), (456, 27213), (475, 27285), (482, 27321), (484, 27327), (493, 27369), (494, 27375), (501, 27417), (502, 27420), (505, 27441), (506, 27447), (507, 27450), (514, 27480), (546, 27621), (549, 27630), (550, 27639), (557, 27672), (564, 27696), (565, 27699), (567, 27714), (573, 27735), (579, 27771), (581, 27777), (584, 27783), (589, 27804), (598, 27831), (619, 27966), (635, 28038), (639, 28044), (648, 28062), (666, 28161), (680, 28278), (692, 28359), (694, 28362), (698, 28389),

Gene: ShamWow\_26 Start: 22284, Stop: 24680, Start Num: 94

Candidate Starts for ShamWow\_26:

(Start: 94 @22284 has 128 MA's), (170, 22461), (174, 22482), (232, 22629), (263, 22770), (271, 22803), (281, 22836), (287, 22872), (319, 22965), (342, 23025), (348, 23043), (382, 23199), (389, 23220), (416, 23340), (420, 23352), (428, 23397), (481, 23592), (485, 23607), (494, 23652), (496, 23667), (529, 23823), (532, 23841), (535, 23850), (567, 23979), (568, 23982), (613, 24192), (615, 24204), (648, 24318), (680, 24534), (691, 24618), (696, 24642), (698, 24651),

Gene: Shauna1\_18 Start: 17450, Stop: 19927, Start Num: 53

Candidate Starts for Shauna1\_18:

(48, 17438), (Start: 53 @17450 has 241 MA's), (61, 17471), (Start: 71 @17492 has 1 MA's), (90, 17531), (129, 17600), (130, 17609), (131, 17612), (141, 17630), (155, 17663), (158, 17678), (192, 17765), (197, 17780), (209, 17816), (211, 17822), (225, 17855), (228, 17867), (269, 18038), (272, 18047), (281, 18071), (295, 18125), (310, 18161), (312, 18167), (319, 18197), (333, 18227), (339, 18248), (342, 18257), (362, 18341), (374, 18404), (379, 18422), (382, 18431), (389, 18452), (390, 18455), (397, 18473), (400, 18485), (405, 18512), (407, 18521), (416, 18572), (418, 18581), (420, 18584), (425, 18611), (427, 18620), (433, 18641), (455, 18719), (456, 18722), (482, 18830), (484, 18836), (494, 18884), (501, 18926), (502, 18929), (505, 18950), (506, 18956), (507, 18959), (514, 18989), (546, 19130), (550, 19148), (557, 19181), (564, 19205), (565, 19208), (567, 19223), (573, 19244), (579, 19280), (581, 19286), (589, 19313), (598, 19340), (619, 19475), (632, 19523), (635, 19547), (648, 19571), (666, 19670), (669, 19691), (671, 19709), (680, 19787), (685, 19808), (694, 19871), (696, 19889), (701, 19907),

Gene: ShereKhan\_28 Start: 23267, Stop: 25663, Start Num: 94

Candidate Starts for ShereKhan\_28:

(Start: 94 @23267 has 128 MA's), (170, 23444), (174, 23465), (232, 23612), (263, 23753), (271, 23786), (281, 23819), (287, 23855), (319, 23948), (342, 24008), (348, 24026), (375, 24158), (389, 24203), (420, 24335), (428, 24380), (450, 24440), (478, 24554), (481, 24575), (491, 24614), (494, 24635), (496, 24650), (527, 24800), (529, 24806), (532, 24824), (549, 24878), (567, 24962), (593, 25055), (648, 25301), (680, 25517), (691, 25601), (698, 25634),

Gene: ShiLan\_18 Start: 17405, Stop: 19957, Start Num: 53

Candidate Starts for ShiLan\_18:

(Start: 53 @17405 has 241 MA's), (90, 17486), (129, 17555), (130, 17564), (131, 17567), (141, 17585), (158, 17633), (171, 17678), (208, 17792), (209, 17795), (213, 17807), (222, 17828), (224, 17837), (225, 17840), (235, 17888), (242, 17918), (257, 17984), (263, 18017), (272, 18053), (279, 18077),

(295, 18137), (296, 18140), (303, 18158), (328, 18221), (330, 18224), (336, 18242), (342, 18263), (348, 18281), (354, 18308), (358, 18329), (365, 18362), (373, 18404), (374, 18410), (375, 18413), (379, 18428), (388, 18455), (389, 18458), (397, 18479), (400, 18491), (406, 18524), (425, 18617), (455, 18725), (461, 18749), (467, 18755), (469, 18773), (470, 18776), (475, 18800), (481, 18830), (488, 18854), (494, 18890), (495, 18896), (496, 18905), (501, 18932), (511, 18995), (516, 19019), (517, 19034), (527, 19076), (541, 19127), (565, 19223), (567, 19238), (571, 19247), (576, 19271), (593, 19334), (602, 19370), (663, 19676), (670, 19721), (680, 19823),

Gene: ShiaSurprise\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for ShiaSurprise\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Shida\_58 Start: 35788, Stop: 38298, Start Num: 60

Candidate Starts for Shida\_58:

(Start: 60 @35788 has 33 MA's), (74, 35821), (108, 35890), (109, 35893), (122, 35917), (131, 35941), (145, 35965), (155, 35998), (214, 36205), (217, 36217), (218, 36220), (254, 36367), (257, 36397), (262, 36421), (272, 36451), (273, 36454), (281, 36481), (284, 36505), (295, 36535), (315, 36592), (336, 36652), (339, 36664), (346, 36688), (348, 36691), (356, 36733), (377, 36829), (379, 36832), (447, 37087), (481, 37231), (494, 37291), (504, 37363), (505, 37366), (526, 37462), (567, 37636), (573, 37657), (598, 37750), (601, 37762), (614, 37852), (633, 37927), (653, 37972), (684, 38173), (689, 38227), (694, 38242),

Gene: Shipwreck\_20 Start: 18739, Stop: 21243, Start Num: 60

Candidate Starts for Shipwreck\_20:

(Start: 60 @18739 has 33 MA's), (131, 18892), (250, 19297), (254, 19312), (257, 19342), (258, 19348), (262, 19366), (293, 19474), (312, 19525), (348, 19636), (349, 19639), (356, 19678), (365, 19711), (379, 19777), (400, 19837), (405, 19864), (406, 19870), (481, 20176), (494, 20236), (500, 20284), (501, 20287), (504, 20308), (505, 20311), (567, 20572), (600, 20695), (601, 20698), (614, 20788), (627, 20845), (633, 20866), (657, 20926), (686, 21127), (689, 21169),

Gene: ShowerHandel\_18 Start: 17406, Stop: 19958, Start Num: 53

Candidate Starts for ShowerHandel\_18:

(Start: 53 @17406 has 241 MA's), (90, 17487), (129, 17556), (130, 17565), (131, 17568), (141, 17586), (158, 17634), (171, 17679), (208, 17793), (209, 17796), (213, 17808), (222, 17829), (224, 17838), (225, 17841), (235, 17889), (242, 17919), (257, 17985), (263, 18018), (272, 18054), (279, 18078), (295, 18138), (296, 18141), (303, 18159), (328, 18222), (330, 18225), (336, 18243), (342, 18264), (348, 18282), (354, 18309), (358, 18330), (365, 18363), (373, 18405), (374, 18411), (375, 18414), (379, 18429), (388, 18456), (389, 18459), (397, 18480), (400, 18492), (406, 18525), (425, 18618), (455, 18726), (461, 18750), (467, 18756), (469, 18774), (470, 18777), (475, 18801), (481, 18831), (488, 18855), (494, 18891), (495, 18897), (496, 18906), (501, 18933), (511, 18996), (516, 19020), (517, 19035), (527, 19077), (541, 19128), (565, 19224), (567, 19239), (571, 19248), (576, 19272), (593, 19335), (602, 19371), (663, 19677), (670, 19722), (680, 19824),

Gene: ShroomBoi\_18 Start: 17435, Stop: 19912, Start Num: 53

Candidate Starts for ShroomBoi\_18:

(Start: 53 @17435 has 241 MA's), (61, 17456), (Start: 71 @17477 has 1 MA's), (90, 17516), (129, 17585), (130, 17594), (131, 17597), (141, 17615), (158, 17663), (192, 17750), (197, 17765), (209, 17801), (211, 17807), (225, 17840), (228, 17852), (269, 18023), (272, 18032), (281, 18056), (295,

18110), (310, 18146), (312, 18152), (319, 18182), (333, 18212), (339, 18233), (342, 18242), (346, 18257), (362, 18326), (379, 18407), (382, 18416), (390, 18440), (400, 18470), (407, 18506), (416, 18557), (418, 18566), (420, 18569), (425, 18596), (427, 18605), (433, 18626), (455, 18704), (482, 18815), (484, 18821), (494, 18869), (501, 18911), (502, 18914), (505, 18935), (506, 18941), (507, 18944), (514, 18974), (546, 19115), (550, 19133), (557, 19166), (564, 19190), (565, 19193), (567, 19208), (573, 19229), (579, 19265), (581, 19271), (584, 19277), (589, 19298), (598, 19325), (619, 19460), (632, 19508), (635, 19532), (639, 19538), (648, 19556), (666, 19655), (680, 19772), (692, 19853), (694, 19856), (698, 19883),

Gene: SiSi\_18 Start: 17389, Stop: 19926, Start Num: 53

Candidate Starts for SiSi\_18:

(47, 17377), (Start: 53 @17389 has 241 MA's), (61, 17410), (Start: 71 @17431 has 1 MA's), (90, 17470), (129, 17539), (130, 17548), (131, 17551), (141, 17569), (155, 17602), (158, 17617), (172, 17665), (208, 17776), (209, 17779), (221, 17809), (224, 17821), (225, 17824), (242, 17902), (251, 17926), (262, 17992), (272, 18037), (281, 18067), (283, 18073), (284, 18091), (293, 18115), (296, 18124), (310, 18157), (312, 18163), (319, 18193), (336, 18232), (339, 18244), (342, 18253), (346, 18268), (348, 18271), (370, 18382), (373, 18394), (374, 18400), (377, 18415), (379, 18418), (387, 18439), (397, 18469), (400, 18481), (406, 18514), (420, 18580), (428, 18625), (429, 18628), (439, 18655), (442, 18661), (455, 18715), (456, 18718), (467, 18745), (481, 18820), (484, 18832), (485, 18835), (497, 18901), (502, 18925), (507, 18955), (516, 18997), (520, 19015), (521, 19018), (529, 19054), (532, 19072), (539, 19093), (547, 19120), (564, 19189), (567, 19207), (571, 19216), (573, 19228), (579, 19264), (595, 19315), (600, 19333), (607, 19375), (614, 19429), (629, 19489), (637, 19531), (654, 19609), (666, 19666), (670, 19690), (676, 19744), (680, 19792), (690, 19858), (691, 19861),

Gene: SilverChicken\_24 Start: 17093, Stop: 19555, Start Num: 82

Candidate Starts for SilverChicken\_24:

(79, 17084), (82, 17093), (120, 17153), (137, 17189), (156, 17234), (159, 17246), (173, 17288), (184, 17315), (191, 17333), (194, 17345), (206, 17378), (207, 17381), (225, 17438), (227, 17447), (234, 17483), (250, 17537), (257, 17582), (262, 17606), (263, 17615), (269, 17642), (296, 17738), (303, 17756), (310, 17771), (312, 17777), (316, 17795), (328, 17819), (343, 17867), (346, 17876), (348, 17879), (358, 17927), (361, 17942), (368, 17978), (369, 17981), (374, 18008), (375, 18011), (377, 18023), (387, 18047), (390, 18059), (397, 18077), (400, 18089), (406, 18122), (411, 18143), (425, 18215), (429, 18236), (461, 18347), (467, 18353), (469, 18371), (470, 18374), (475, 18398), (481, 18428), (488, 18452), (494, 18488), (495, 18494), (496, 18503), (501, 18530), (511, 18593), (516, 18617), (517, 18632), (527, 18674), (529, 18680), (541, 18725), (565, 18821), (567, 18836), (571, 18845), (576, 18869), (593, 18932), (602, 18968), (614, 19058), (663, 19274), (669, 19316), (670, 19319), (680, 19421),

Gene: Simpliphy\_27 Start: 22029, Stop: 24425, Start Num: 94

Candidate Starts for Simpliphy\_27:

(Start: 94 @22029 has 128 MA's), (170, 22206), (174, 22227), (232, 22374), (271, 22548), (281, 22581), (287, 22617), (319, 22710), (342, 22770), (348, 22788), (375, 22920), (389, 22965), (420, 23097), (428, 23142), (450, 23202), (478, 23316), (481, 23337), (491, 23376), (494, 23397), (496, 23412), (527, 23562), (529, 23568), (532, 23586), (549, 23640), (567, 23724), (593, 23817), (648, 24063), (680, 24279), (691, 24363), (698, 24396),

Gene: SimranZ1\_19 Start: 17257, Stop: 19794, Start Num: 53

Candidate Starts for SimranZ1\_19:

(Start: 53 @17257 has 241 MA's), (61, 17278), (Start: 71 @17299 has 1 MA's), (90, 17338), (129, 17407), (130, 17416), (131, 17419), (141, 17437), (158, 17485), (208, 17644), (209, 17647), (221, 17677), (224, 17689), (225, 17692), (242, 17770), (251, 17794), (262, 17860), (281, 17935), (283, 17941), (284, 17959), (293, 17983), (296, 17992), (310, 18025), (312, 18031), (319, 18061), (330,

18082), (336, 18100), (339, 18112), (342, 18121), (351, 18154), (370, 18250), (371, 18253), (373, 18262), (374, 18268), (377, 18283), (379, 18286), (387, 18307), (400, 18349), (406, 18382), (420, 18448), (428, 18493), (429, 18496), (439, 18523), (442, 18529), (455, 18583), (456, 18586), (467, 18613), (470, 18634), (481, 18688), (484, 18700), (485, 18703), (497, 18769), (502, 18793), (505, 18814), (507, 18823), (516, 18865), (520, 18883), (521, 18886), (529, 18922), (532, 18940), (537, 18952), (539, 18961), (547, 18988), (563, 19045), (564, 19057), (567, 19075), (571, 19084), (573, 19096), (579, 19132), (588, 19162), (595, 19183), (602, 19207), (607, 19243), (637, 19399), (666, 19534), (670, 19558), (676, 19612), (680, 19660), (690, 19726), (691, 19729),

Gene: SirDuracell\_25 Start: 20950, Stop: 23346, Start Num: 94

Candidate Starts for SirDuracell\_25:

(Start: 94 @20950 has 128 MA's), (170, 21127), (174, 21148), (232, 21295), (263, 21436), (271, 21469), (281, 21502), (287, 21538), (319, 21631), (342, 21691), (348, 21709), (365, 21790), (420, 22018), (428, 22063), (481, 22258), (482, 22264), (485, 22273), (494, 22318), (496, 22333), (529, 22489), (532, 22507), (535, 22516), (567, 22645), (568, 22648), (613, 22858), (615, 22870), (648, 22984), (680, 23200), (691, 23284), (696, 23308), (698, 23317),

Gene: SirPhilip\_26 Start: 19755, Stop: 22217, Start Num: 80

Candidate Starts for SirPhilip\_26:

(Start: 80 @19755 has 96 MA's), (89, 19782), (98, 19803), (155, 19926), (161, 19944), (172, 19986), (174, 19995), (208, 20088), (216, 20112), (319, 20523), (383, 20784), (394, 20823), (403, 20862), (404, 20865), (437, 21024), (443, 21039), (462, 21117), (465, 21123), (476, 21183), (485, 21225), (494, 21270), (495, 21276), (496, 21285), (499, 21306), (520, 21402), (524, 21423), (534, 21471), (545, 21507), (554, 21546), (570, 21597), (577, 21627), (594, 21699), (611, 21801), (614, 21816), (636, 21924), (646, 21954), (677, 22146), (681, 22191),

Gene: Slim\_19 Start: 17189, Stop: 19726, Start Num: 53

Candidate Starts for Slim\_19:

(Start: 53 @17189 has 241 MA's), (61, 17210), (Start: 71 @17231 has 1 MA's), (90, 17270), (129, 17339), (130, 17348), (131, 17351), (141, 17369), (158, 17417), (206, 17570), (209, 17579), (225, 17624), (250, 17723), (251, 17726), (262, 17792), (281, 17867), (283, 17873), (284, 17891), (293, 17915), (295, 17921), (296, 17924), (310, 17957), (312, 17963), (319, 17993), (330, 18014), (339, 18044), (342, 18053), (346, 18068), (348, 18071), (370, 18182), (371, 18185), (373, 18194), (374, 18200), (377, 18215), (379, 18218), (387, 18239), (397, 18269), (400, 18281), (406, 18314), (428, 18425), (429, 18428), (439, 18455), (442, 18461), (455, 18515), (456, 18518), (481, 18620), (484, 18632), (485, 18635), (497, 18701), (502, 18725), (505, 18746), (507, 18755), (520, 18815), (521, 18818), (529, 18854), (532, 18872), (537, 18884), (539, 18893), (547, 18920), (563, 18977), (564, 18989), (567, 19007), (571, 19016), (573, 19028), (579, 19064), (588, 19094), (593, 19103), (595, 19115), (607, 19175), (614, 19229), (629, 19289), (637, 19331), (666, 19466), (670, 19490), (676, 19544), (680, 19592), (688, 19634), (690, 19658), (691, 19661),

Gene: Slimphazie\_27 Start: 20879, Stop: 23311, Start Num: 80

Candidate Starts for Slimphazie\_27:

(Start: 80 @20879 has 96 MA's), (126, 20978), (218, 21239), (225, 21260), (270, 21467), (280, 21500), (285, 21530), (314, 21602), (319, 21626), (337, 21671), (370, 21824), (378, 21869), (381, 21881), (385, 21890), (400, 21941), (437, 22121), (443, 22136), (459, 22205), (463, 22217), (485, 22322), (494, 22361), (495, 22367), (496, 22376), (513, 22457), (522, 22505), (541, 22580), (550, 22616), (572, 22697), (577, 22718), (599, 22811), (614, 22907), (648, 23054), (654, 23096), (664, 23135), (673, 23210),

Gene: Smooch\_61 Start: 37810, Stop: 40320, Start Num: 60

Candidate Starts for Smooch\_61:

(Start: 60 @37810 has 33 MA's), (74, 37843), (108, 37912), (109, 37915), (122, 37939), (131, 37963), (145, 37987), (155, 38020), (214, 38227), (217, 38239), (218, 38242), (254, 38389), (257, 38419), (262, 38443), (272, 38473), (273, 38476), (281, 38503), (284, 38527), (295, 38557), (315, 38614), (336, 38674), (339, 38686), (346, 38710), (348, 38713), (356, 38755), (377, 38851), (379, 38854), (428, 39058), (447, 39109), (481, 39253), (494, 39313), (504, 39385), (505, 39388), (526, 39484), (567, 39658), (573, 39679), (598, 39772), (601, 39784), (614, 39874), (633, 39949), (653, 39994), (684, 40195), (689, 40249), (694, 40264),

Gene: SophKB\_26 Start: 22283, Stop: 24679, Start Num: 94

Candidate Starts for SophKB\_26:

(Start: 94 @22283 has 128 MA's), (170, 22460), (174, 22481), (232, 22628), (263, 22769), (271, 22802), (281, 22835), (287, 22871), (319, 22964), (342, 23024), (348, 23042), (375, 23174), (389, 23219), (420, 23351), (428, 23396), (450, 23456), (478, 23570), (481, 23591), (491, 23630), (494, 23651), (496, 23666), (527, 23816), (529, 23822), (532, 23840), (549, 23894), (567, 23978), (593, 24071), (648, 24317), (680, 24533), (691, 24617), (698, 24650),

Gene: Sotrice96\_26 Start: 22239, Stop: 24635, Start Num: 94

Candidate Starts for Sotrice96\_26:

(Start: 94 @22239 has 128 MA's), (170, 22416), (174, 22437), (232, 22584), (263, 22725), (271, 22758), (281, 22791), (287, 22827), (319, 22920), (342, 22980), (348, 22998), (365, 23079), (420, 23307), (428, 23352), (481, 23547), (482, 23553), (485, 23562), (494, 23607), (496, 23622), (529, 23778), (532, 23796), (535, 23805), (567, 23934), (568, 23937), (613, 24147), (615, 24159), (648, 24273), (680, 24489), (691, 24573), (696, 24597), (698, 24606),

Gene: Soul22\_24 Start: 17091, Stop: 19640, Start Num: 40

Candidate Starts for Soul22\_24:

(37, 17082), (Start: 40 @17091 has 7 MA's), (Start: 53 @17151 has 241 MA's), (67, 17187), (118, 17286), (172, 17427), (192, 17466), (197, 17481), (209, 17517), (211, 17523), (212, 17526), (223, 17544), (228, 17568), (234, 17592), (235, 17595), (269, 17739), (272, 17748), (281, 17772), (284, 17796), (293, 17820), (295, 17826), (303, 17847), (312, 17868), (319, 17898), (333, 17928), (339, 17949), (362, 18042), (365, 18057), (366, 18066), (370, 18087), (371, 18090), (382, 18132), (397, 18174), (398, 18177), (400, 18186), (405, 18213), (407, 18222), (414, 18261), (418, 18282), (420, 18285), (427, 18321), (433, 18342), (455, 18420), (456, 18423), (472, 18477), (484, 18537), (500, 18624), (502, 18630), (504, 18648), (505, 18651), (514, 18687), (525, 18741), (527, 18750), (546, 18828), (550, 18846), (559, 18882), (561, 18885), (564, 18903), (565, 18906), (567, 18921), (579, 18978), (584, 18990), (602, 19053), (607, 19086), (619, 19173), (632, 19221), (635, 19245), (643, 19272), (648, 19281), (653, 19320), (662, 19359), (666, 19383), (669, 19404), (680, 19500), (685, 19521), (694, 19584), (698, 19611), (701, 19620),

Gene: Sparkdehlily\_18 Start: 17429, Stop: 19966, Start Num: 53

Candidate Starts for Sparkdehlily\_18:

(Start: 53 @17429 has 241 MA's), (61, 17450), (Start: 71 @17471 has 1 MA's), (90, 17510), (129, 17579), (130, 17588), (131, 17591), (141, 17609), (158, 17657), (206, 17810), (209, 17819), (225, 17864), (242, 17942), (251, 17966), (262, 18032), (272, 18077), (281, 18107), (283, 18113), (284, 18131), (293, 18155), (296, 18164), (310, 18197), (312, 18203), (319, 18233), (336, 18272), (342, 18293), (346, 18308), (348, 18311), (371, 18425), (373, 18434), (374, 18440), (379, 18458), (387, 18479), (397, 18509), (400, 18521), (406, 18554), (428, 18665), (429, 18668), (439, 18695), (442, 18701), (455, 18755), (456, 18758), (479, 18845), (481, 18860), (485, 18875), (502, 18965), (505, 18986), (507, 18995), (520, 19055), (521, 19058), (529, 19094), (532, 19112), (537, 19124), (539, 19133), (547, 19160), (564, 19229), (567, 19247), (571, 19256), (573, 19268), (579, 19304), (588, 19334), (595, 19355), (602, 19379), (607, 19415), (614, 19469), (637, 19571), (654, 19649), (666, 19706), (670, 19730), (676, 19784), (680, 19832), (688, 19874), (693, 19907), (694, 19910),

Gene: Spartacus\_19 Start: 17481, Stop: 20018, Start Num: 53

Candidate Starts for Spartacus\_19:

(Start: 53 @17481 has 241 MA's), (96, 17571), (129, 17631), (130, 17640), (131, 17643), (141, 17661), (155, 17694), (158, 17709), (172, 17757), (208, 17868), (209, 17871), (221, 17901), (225, 17916), (242, 17994), (262, 18084), (272, 18129), (281, 18159), (283, 18165), (284, 18183), (293, 18207), (296, 18216), (310, 18249), (312, 18255), (319, 18285), (336, 18324), (339, 18336), (342, 18345), (346, 18360), (348, 18363), (370, 18474), (371, 18477), (373, 18486), (374, 18492), (377, 18507), (379, 18510), (387, 18531), (397, 18561), (400, 18573), (406, 18606), (428, 18717), (429, 18720), (439, 18747), (442, 18753), (455, 18807), (456, 18810), (479, 18897), (481, 18912), (484, 18924), (485, 18927), (497, 18993), (505, 19038), (507, 19047), (520, 19107), (521, 19110), (529, 19146), (532, 19164), (537, 19176), (539, 19185), (547, 19212), (564, 19281), (567, 19299), (571, 19308), (573, 19320), (579, 19356), (588, 19386), (595, 19407), (602, 19431), (607, 19467), (614, 19521), (629, 19581), (637, 19623), (654, 19701), (666, 19758), (670, 19782), (676, 19836), (680, 19884), (688, 19926), (690, 19950), (691, 19953),

Gene: Spikelee\_19 Start: 17223, Stop: 19760, Start Num: 53

Candidate Starts for Spikelee\_19:

(Start: 53 @17223 has 241 MA's), (61, 17244), (Start: 71 @17265 has 1 MA's), (90, 17304), (129, 17373), (130, 17382), (131, 17385), (141, 17403), (158, 17451), (206, 17604), (209, 17613), (225, 17658), (250, 17757), (251, 17760), (262, 17826), (281, 17901), (283, 17907), (284, 17925), (293, 17949), (295, 17955), (296, 17958), (310, 17991), (312, 17997), (319, 18027), (330, 18048), (339, 18078), (342, 18087), (346, 18102), (348, 18105), (370, 18216), (371, 18219), (373, 18228), (374, 18234), (377, 18249), (379, 18252), (387, 18273), (397, 18303), (400, 18315), (406, 18348), (428, 18459), (429, 18462), (439, 18489), (442, 18495), (455, 18549), (456, 18552), (479, 18639), (481, 18654), (484, 18666), (485, 18669), (497, 18735), (502, 18759), (505, 18780), (507, 18789), (520, 18849), (521, 18852), (529, 18888), (532, 18906), (537, 18918), (539, 18927), (547, 18954), (563, 19011), (564, 19023), (567, 19041), (571, 19050), (573, 19062), (579, 19098), (588, 19128), (593, 19137), (595, 19149), (607, 19209), (614, 19263), (629, 19323), (637, 19365), (666, 19500), (670, 19524), (676, 19578), (680, 19626), (688, 19668), (690, 19692), (691, 19695),

Gene: Spock\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Spock\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Spoonbill\_18 Start: 17404, Stop: 19956, Start Num: 53

Candidate Starts for Spoonbill\_18:

(Start: 53 @17404 has 241 MA's), (90, 17485), (129, 17554), (130, 17563), (131, 17566), (141, 17584), (158, 17632), (171, 17677), (208, 17791), (209, 17794), (213, 17806), (222, 17827), (224, 17836), (225, 17839), (235, 17887), (242, 17917), (257, 17983), (263, 18016), (272, 18052), (279, 18076), (295, 18136), (296, 18139), (303, 18157), (328, 18220), (330, 18223), (336, 18241), (342, 18262), (348, 18280), (354, 18307), (358, 18328), (365, 18361), (373, 18403), (374, 18409), (375, 18412), (379, 18427), (388, 18454), (389, 18457), (397, 18478), (400, 18490), (406, 18523), (425, 18616), (455, 18724), (461, 18748), (467, 18754), (469, 18772), (470, 18775), (475, 18799), (481, 18829), (488, 18853), (494, 18889), (495, 18895), (496, 18904), (501, 18931), (511, 18994), (516, 19018), (517, 19033), (527, 19075), (541, 19126), (565, 19222), (567, 19237), (571, 19246), (576, 19270), (593, 19333), (602, 19369), (663, 19675), (670, 19720), (680, 19822),

Gene: Squint\_35 Start: 27671, Stop: 30178, Start Num: 53

Candidate Starts for Squint\_35:

(Start: 53 @27671 has 241 MA's), (141, 27866), (155, 27902), (158, 27917), (192, 28004), (197, 28019), (225, 28094), (228, 28106), (235, 28133), (259, 28238), (269, 28277), (272, 28286), (281, 28310), (283, 28316), (284, 28334), (291, 28352), (296, 28367), (300, 28376), (303, 28385), (310, 28400), (317, 28427), (319, 28436), (336, 28475), (339, 28487), (342, 28496), (362, 28580), (379, 28661), (389, 28691), (390, 28694), (400, 28724), (405, 28751), (407, 28760), (416, 28811), (418, 28820), (420, 28823), (427, 28859), (433, 28880), (446, 28916), (482, 29069), (494, 29123), (502, 29168), (504, 29186), (505, 29189), (514, 29228), (546, 29375), (549, 29384), (565, 29453), (567, 29468), (607, 29633), (619, 29720), (632, 29768), (648, 29819), (662, 29897), (692, 30119), (694, 30122), (698, 30149),

Gene: StAnnes\_18 Start: 17447, Stop: 19984, Start Num: 53

Candidate Starts for StAnnes\_18:

(47, 17435), (Start: 53 @17447 has 241 MA's), (61, 17468), (Start: 71 @17489 has 1 MA's), (90, 17528), (130, 17606), (131, 17609), (141, 17627), (155, 17660), (158, 17675), (172, 17723), (208, 17834), (209, 17837), (221, 17867), (224, 17879), (225, 17882), (242, 17960), (251, 17984), (262, 18050), (272, 18095), (281, 18125), (283, 18131), (284, 18149), (293, 18173), (296, 18182), (310, 18215), (312, 18221), (319, 18251), (339, 18302), (342, 18311), (346, 18326), (348, 18329), (370, 18440), (371, 18443), (373, 18452), (374, 18458), (377, 18473), (379, 18476), (387, 18497), (397, 18527), (400, 18539), (406, 18572), (428, 18683), (429, 18686), (439, 18713), (442, 18719), (455, 18773), (456, 18776), (479, 18863), (481, 18878), (484, 18890), (485, 18893), (497, 18959), (502, 18983), (505, 19004), (507, 19013), (520, 19073), (521, 19076), (529, 19112), (532, 19130), (537, 19142), (539, 19151), (547, 19178), (564, 19247), (567, 19265), (571, 19274), (573, 19286), (579, 19322), (588, 19352), (595, 19373), (602, 19397), (607, 19433), (614, 19487), (629, 19547), (637, 19589), (654, 19667), (666, 19724), (670, 19748), (676, 19802), (680, 19850), (688, 19892), (690, 19916), (691, 19919),

Gene: StAugustine\_34 Start: 31877, Stop: 33781, Start Num: 246

Candidate Starts for StAugustine\_34:

(Start: 246 @31877 has 2 MA's), (271, 31988), (276, 32006), (294, 32075), (352, 32246), (368, 32321), (398, 32423), (408, 32468), (420, 32528), (426, 32552), (435, 32582), (501, 32846), (510, 32900), (525, 32963), (536, 33011), (544, 33047), (545, 33050), (549, 33062), (553, 33086), (603, 33263), (604, 33269), (610, 33314), (611, 33317), (621, 33368), (661, 33500), (680, 33644), (693, 33725), (703, 33770),

Gene: Stank\_29 Start: 22790, Stop: 25186, Start Num: 94

Candidate Starts for Stank\_29:

(Start: 94 @22790 has 128 MA's), (170, 22967), (174, 22988), (232, 23135), (263, 23276), (271, 23309), (281, 23342), (287, 23378), (319, 23471), (342, 23531), (348, 23549), (375, 23681), (389, 23726), (420, 23858), (428, 23903), (450, 23963), (478, 24077), (481, 24098), (491, 24137), (494, 24158), (496, 24173), (527, 24323), (529, 24329), (532, 24347), (549, 24401), (567, 24485), (593, 24578), (648, 24824), (680, 25040), (691, 25124), (698, 25157),

Gene: Stap\_19 Start: 17430, Stop: 19967, Start Num: 53

Candidate Starts for Stap\_19:

(Start: 53 @17430 has 241 MA's), (61, 17451), (Start: 71 @17472 has 1 MA's), (90, 17511), (129, 17580), (130, 17589), (131, 17592), (141, 17610), (155, 17643), (158, 17658), (172, 17706), (206, 17811), (208, 17817), (209, 17820), (224, 17862), (225, 17865), (251, 17967), (262, 18033), (272, 18078), (281, 18108), (283, 18114), (284, 18132), (293, 18156), (296, 18165), (310, 18198), (312, 18204), (319, 18234), (336, 18273), (339, 18285), (342, 18294), (346, 18309), (348, 18312), (370, 18423), (371, 18426), (373, 18435), (374, 18441), (377, 18456), (379, 18459), (387, 18480), (397, 18510), (400, 18522), (406, 18555), (428, 18666), (429, 18669), (439, 18696), (442, 18702), (455, 18756), (456, 18759), (481, 18861), (484, 18873), (485, 18876), (497, 18942), (502, 18966), (505,

18987), (507, 18996), (520, 19056), (521, 19059), (529, 19095), (532, 19113), (537, 19125), (539, 19134), (547, 19161), (564, 19230), (567, 19248), (571, 19257), (573, 19269), (579, 19305), (595, 19356), (600, 19374), (607, 19416), (614, 19470), (629, 19530), (637, 19572), (654, 19650), (666, 19707), (670, 19731), (676, 19785), (680, 19833), (690, 19899), (691, 19902),

Gene: Starcevich\_19 Start: 17191, Stop: 19728, Start Num: 53

Candidate Starts for Starcevich\_19:

(Start: 53 @17191 has 241 MA's), (61, 17212), (Start: 71 @17233 has 1 MA's), (90, 17272), (129, 17341), (130, 17350), (131, 17353), (141, 17371), (158, 17419), (206, 17572), (209, 17581), (225, 17626), (250, 17725), (251, 17728), (262, 17794), (281, 17869), (283, 17875), (284, 17893), (293, 17917), (295, 17923), (296, 17926), (310, 17959), (312, 17965), (319, 17995), (330, 18016), (339, 18046), (342, 18055), (346, 18070), (348, 18073), (370, 18184), (371, 18187), (373, 18196), (374, 18202), (377, 18217), (379, 18220), (387, 18241), (397, 18271), (400, 18283), (406, 18316), (428, 18427), (429, 18430), (439, 18457), (442, 18463), (455, 18517), (456, 18520), (481, 18622), (484, 18634), (485, 18637), (497, 18703), (502, 18727), (505, 18748), (507, 18757), (520, 18817), (521, 18820), (529, 18856), (532, 18874), (537, 18886), (539, 18895), (547, 18922), (563, 18979), (564, 18991), (567, 19009), (571, 19018), (573, 19030), (579, 19066), (588, 19096), (593, 19105), (595, 19117), (607, 19177), (614, 19231), (629, 19291), (637, 19333), (666, 19468), (670, 19492), (676, 19546), (680, 19594), (688, 19636), (690, 19660), (691, 19663),

Gene: Stargaze\_22 Start: 20828, Stop: 23284, Start Num: 33

Candidate Starts for Stargaze\_22:

(Start: 33 @20828 has 9 MA's), (84, 20972), (132, 21056), (149, 21086), (167, 21131), (221, 21290), (251, 21407), (321, 21629), (341, 21680), (345, 21695), (369, 21797), (386, 21863), (409, 21947), (429, 22061), (455, 22151), (458, 22166), (460, 22172), (464, 22181), (470, 22220), (476, 22247), (479, 22259), (494, 22334), (512, 22430), (516, 22442), (522, 22481), (560, 22616), (567, 22649), (571, 22658), (577, 22685), (600, 22784), (609, 22862), (622, 22922), (655, 23078), (677, 23222), (680, 23264),

Gene: Stark\_27 Start: 22042, Stop: 24438, Start Num: 94

Candidate Starts for Stark\_27:

(Start: 94 @22042 has 128 MA's), (170, 22219), (174, 22240), (232, 22387), (271, 22561), (281, 22594), (287, 22630), (319, 22723), (342, 22783), (348, 22801), (375, 22933), (389, 22978), (420, 23110), (428, 23155), (450, 23215), (478, 23329), (481, 23350), (491, 23389), (494, 23410), (496, 23425), (527, 23575), (529, 23581), (532, 23599), (549, 23653), (567, 23737), (593, 23830), (648, 24076), (680, 24292), (691, 24376), (698, 24409),

Gene: StellaBean\_26 Start: 22283, Stop: 24679, Start Num: 94

Candidate Starts for StellaBean\_26:

(Start: 94 @22283 has 128 MA's), (170, 22460), (174, 22481), (232, 22628), (263, 22769), (271, 22802), (281, 22835), (287, 22871), (319, 22964), (342, 23024), (348, 23042), (375, 23174), (389, 23219), (420, 23351), (428, 23396), (450, 23456), (478, 23570), (481, 23591), (491, 23630), (494, 23651), (496, 23666), (527, 23816), (529, 23822), (532, 23840), (549, 23894), (567, 23978), (593, 24071), (648, 24317), (680, 24533), (691, 24617), (698, 24650),

Gene: Stinson\_28 Start: 21121, Stop: 23553, Start Num: 80

Candidate Starts for Stinson\_28:

(Start: 80 @21121 has 96 MA's), (83, 21130), (126, 21220), (218, 21481), (225, 21502), (270, 21709), (280, 21742), (285, 21772), (314, 21844), (319, 21868), (337, 21913), (370, 22066), (381, 22123), (385, 22132), (396, 22168), (400, 22183), (437, 22363), (443, 22378), (459, 22447), (463, 22459), (476, 22522), (485, 22564), (494, 22603), (495, 22609), (496, 22618), (500, 22639), (513, 22699), (522, 22747), (537, 22807), (539, 22816), (553, 22873), (570, 22930), (572, 22939), (577, 22960), (587, 23005), (599, 23053), (614, 23149), (664, 23377), (680, 23524),

Gene: StolenFromERC\_28 Start: 22274, Stop: 24670, Start Num: 94

Candidate Starts for StolenFromERC\_28:

(Start: 94 @22274 has 128 MA's), (170, 22451), (174, 22472), (232, 22619), (271, 22793), (281, 22826), (287, 22862), (319, 22955), (342, 23015), (348, 23033), (375, 23165), (389, 23210), (420, 23342), (428, 23387), (450, 23447), (478, 23561), (481, 23582), (491, 23621), (494, 23642), (496, 23657), (527, 23807), (529, 23813), (532, 23831), (549, 23885), (567, 23969), (593, 24062), (648, 24308), (680, 24524), (691, 24608), (698, 24641),

Gene: StormChicken\_26 Start: 22458, Stop: 24854, Start Num: 94

Candidate Starts for StormChicken\_26:

(Start: 94 @22458 has 128 MA's), (170, 22635), (174, 22656), (232, 22803), (263, 22944), (271, 22977), (281, 23010), (287, 23046), (319, 23139), (342, 23199), (348, 23217), (375, 23349), (389, 23394), (420, 23526), (428, 23571), (450, 23631), (478, 23745), (481, 23766), (491, 23805), (494, 23826), (496, 23841), (527, 23991), (529, 23997), (532, 24015), (549, 24069), (567, 24153), (593, 24246), (648, 24492), (680, 24708), (691, 24792), (698, 24825),

Gene: Strokeseat\_18 Start: 17495, Stop: 20032, Start Num: 53

Candidate Starts for Strokeseat\_18:

(Start: 53 @17495 has 241 MA's), (61, 17516), (Start: 71 @17537 has 1 MA's), (90, 17576), (129, 17645), (130, 17654), (131, 17657), (141, 17675), (158, 17723), (208, 17882), (209, 17885), (224, 17927), (225, 17930), (242, 18008), (250, 18029), (251, 18032), (262, 18098), (281, 18173), (283, 18179), (293, 18221), (295, 18227), (296, 18230), (310, 18263), (312, 18269), (319, 18299), (330, 18320), (339, 18350), (342, 18359), (366, 18467), (369, 18479), (370, 18488), (371, 18491), (373, 18500), (374, 18506), (377, 18521), (379, 18524), (387, 18545), (400, 18587), (406, 18620), (439, 18761), (442, 18767), (455, 18821), (456, 18824), (467, 18851), (481, 18926), (484, 18938), (485, 18941), (497, 19007), (502, 19031), (505, 19052), (507, 19061), (520, 19121), (521, 19124), (529, 19160), (532, 19178), (539, 19199), (547, 19226), (564, 19295), (567, 19313), (571, 19322), (573, 19334), (579, 19370), (588, 19400), (607, 19481), (629, 19595), (637, 19637), (666, 19772), (670, 19796), (676, 19850), (690, 19964), (691, 19967),

Gene: Sulley\_27 Start: 20845, Stop: 23277, Start Num: 80

Candidate Starts for Sulley\_27:

(Start: 80 @20845 has 96 MA's), (126, 20944), (218, 21205), (225, 21226), (270, 21433), (280, 21466), (285, 21496), (314, 21568), (319, 21592), (370, 21790), (378, 21835), (381, 21847), (385, 21856), (400, 21907), (437, 22087), (443, 22102), (459, 22171), (463, 22183), (476, 22246), (485, 22288), (494, 22327), (495, 22333), (496, 22342), (500, 22363), (513, 22423), (520, 22456), (522, 22471), (523, 22474), (536, 22528), (539, 22540), (570, 22654), (572, 22663), (577, 22684), (594, 22756), (599, 22777), (614, 22873), (664, 23101), (680, 23248),

Gene: SuperGrey\_19 Start: 18074, Stop: 20611, Start Num: 53

Candidate Starts for SuperGrey\_19:

(Start: 53 @18074 has 241 MA's), (61, 18095), (Start: 71 @18116 has 1 MA's), (90, 18155), (129, 18224), (130, 18233), (131, 18236), (141, 18254), (158, 18302), (208, 18461), (209, 18464), (225, 18509), (250, 18608), (251, 18611), (262, 18677), (281, 18752), (283, 18758), (284, 18776), (293, 18800), (295, 18806), (296, 18809), (310, 18842), (312, 18848), (319, 18878), (330, 18899), (339, 18929), (342, 18938), (346, 18953), (348, 18956), (370, 19067), (371, 19070), (373, 19079), (374, 19085), (377, 19100), (379, 19103), (387, 19124), (397, 19154), (400, 19166), (406, 19199), (428, 19310), (429, 19313), (439, 19340), (442, 19346), (455, 19400), (456, 19403), (479, 19490), (481, 19505), (484, 19517), (485, 19520), (497, 19586), (502, 19610), (505, 19631), (507, 19640), (520, 19700), (521, 19703), (529, 19739), (532, 19757), (537, 19769), (539, 19778), (547, 19805), (563, 19862), (564, 19874), (567, 19892), (571, 19901), (573, 19913), (579, 19949), (588, 19979), (593, 19988), (595, 20000), (607, 20060), (614, 20114), (629, 20174), (637, 20216), (654, 20294), (666,

20351), (670, 20375), (676, 20429), (680, 20477), (688, 20519), (690, 20543), (691, 20546),

Gene: Superphikiman\_36 Start: 27736, Stop: 30243, Start Num: 53

Candidate Starts for Superphikiman\_36:

(Start: 53 @27736 has 241 MA's), (141, 27931), (155, 27967), (158, 27982), (192, 28069), (197, 28084), (225, 28159), (228, 28171), (235, 28198), (259, 28303), (269, 28342), (272, 28351), (281, 28375), (283, 28381), (284, 28399), (291, 28417), (296, 28432), (300, 28441), (303, 28450), (310, 28465), (317, 28492), (319, 28501), (336, 28540), (339, 28552), (342, 28561), (362, 28645), (379, 28726), (389, 28756), (390, 28759), (400, 28789), (405, 28816), (407, 28825), (416, 28876), (418, 28885), (420, 28888), (427, 28924), (433, 28945), (446, 28981), (482, 29134), (494, 29188), (502, 29233), (504, 29251), (505, 29254), (514, 29293), (546, 29440), (549, 29449), (565, 29518), (567, 29533), (607, 29698), (619, 29785), (632, 29833), (648, 29884), (662, 29962), (692, 30184), (694, 30187), (698, 30214),

Gene: SwagPiggett\_18 Start: 17406, Stop: 19943, Start Num: 53

Candidate Starts for SwagPiggett\_18:

(Start: 53 @17406 has 241 MA's), (61, 17427), (Start: 71 @17448 has 1 MA's), (90, 17487), (129, 17556), (130, 17565), (131, 17568), (141, 17586), (158, 17634), (206, 17787), (209, 17796), (225, 17841), (242, 17919), (251, 17943), (262, 18009), (272, 18054), (281, 18084), (283, 18090), (284, 18108), (293, 18132), (296, 18141), (310, 18174), (312, 18180), (319, 18210), (336, 18249), (342, 18270), (346, 18285), (348, 18288), (371, 18402), (373, 18411), (374, 18417), (379, 18435), (387, 18456), (397, 18486), (400, 18498), (406, 18531), (428, 18642), (429, 18645), (439, 18672), (442, 18678), (455, 18732), (456, 18735), (479, 18822), (481, 18837), (485, 18852), (502, 18942), (505, 18963), (507, 18972), (520, 19032), (521, 19035), (529, 19071), (532, 19089), (537, 19101), (539, 19110), (547, 19137), (564, 19206), (567, 19224), (571, 19233), (573, 19245), (579, 19281), (588, 19311), (595, 19332), (602, 19356), (607, 19392), (614, 19446), (637, 19548), (654, 19626), (666, 19683), (670, 19707), (676, 19761), (680, 19809), (688, 19851), (693, 19884), (694, 19887),

Gene: TBrady12\_28 Start: 22274, Stop: 24670, Start Num: 94

Candidate Starts for TBrady12\_28:

(Start: 94 @22274 has 128 MA's), (170, 22451), (174, 22472), (232, 22619), (263, 22760), (271, 22793), (281, 22826), (287, 22862), (319, 22955), (342, 23015), (348, 23033), (375, 23165), (389, 23210), (420, 23342), (428, 23387), (450, 23447), (478, 23561), (481, 23582), (491, 23621), (494, 23642), (496, 23657), (527, 23807), (529, 23813), (532, 23831), (549, 23885), (567, 23969), (593, 24062), (648, 24308), (680, 24524), (691, 24608), (698, 24641),

Gene: TDanisky\_18 Start: 17429, Stop: 19966, Start Num: 53

Candidate Starts for TDanisky\_18:

(Start: 53 @17429 has 241 MA's), (61, 17450), (Start: 71 @17471 has 1 MA's), (90, 17510), (129, 17579), (130, 17588), (131, 17591), (141, 17609), (158, 17657), (206, 17810), (209, 17819), (225, 17864), (242, 17942), (251, 17966), (262, 18032), (272, 18077), (281, 18107), (283, 18113), (284, 18131), (293, 18155), (296, 18164), (310, 18197), (312, 18203), (319, 18233), (336, 18272), (342, 18293), (346, 18308), (348, 18311), (371, 18425), (373, 18434), (374, 18440), (379, 18458), (387, 18479), (397, 18509), (400, 18521), (406, 18554), (428, 18665), (429, 18668), (439, 18695), (442, 18701), (455, 18755), (456, 18758), (479, 18845), (481, 18860), (485, 18875), (502, 18965), (505, 18986), (507, 18995), (520, 19055), (521, 19058), (529, 19094), (532, 19112), (537, 19124), (539, 19133), (547, 19160), (564, 19229), (567, 19247), (571, 19256), (573, 19268), (579, 19304), (588, 19334), (595, 19355), (602, 19379), (607, 19415), (614, 19469), (637, 19571), (654, 19649), (666, 19706), (670, 19730), (676, 19784), (680, 19832), (688, 19874), (693, 19907), (694, 19910),

Gene: Tachez\_27 Start: 20841, Stop: 23273, Start Num: 80

Candidate Starts for Tachez\_27:

(Start: 80 @20841 has 96 MA's), (126, 20940), (218, 21201), (225, 21222), (270, 21429), (280, 21462), (285, 21492), (314, 21564), (319, 21588), (337, 21633), (370, 21786), (378, 21831), (381, 21843), (385, 21852), (400, 21903), (437, 22083), (443, 22098), (459, 22167), (463, 22179), (485, 22284), (494, 22323), (495, 22329), (496, 22338), (513, 22419), (522, 22467), (541, 22542), (550, 22578), (570, 22650), (572, 22659), (577, 22680), (599, 22773), (614, 22869), (648, 23016), (654, 23058), (664, 23097), (673, 23172),

Gene: TaiwanKao\_28 Start: 20852, Stop: 23284, Start Num: 80

Candidate Starts for TaiwanKao\_28:

(Start: 80 @20852 has 96 MA's), (126, 20951), (218, 21212), (270, 21440), (280, 21473), (285, 21503), (319, 21599), (337, 21644), (370, 21797), (378, 21842), (381, 21854), (385, 21863), (400, 21914), (437, 22094), (443, 22109), (459, 22178), (463, 22190), (476, 22253), (485, 22295), (494, 22334), (495, 22340), (496, 22349), (500, 22370), (513, 22430), (539, 22547), (550, 22589), (570, 22661), (572, 22670), (577, 22691), (594, 22763), (599, 22784), (614, 22880), (664, 23108), (680, 23255),

Gene: Taj\_18 Start: 17430, Stop: 19967, Start Num: 53

Candidate Starts for Taj\_18:

(47, 17418), (Start: 53 @17430 has 241 MA's), (61, 17451), (Start: 71 @17472 has 1 MA's), (90, 17511), (129, 17580), (130, 17589), (131, 17592), (141, 17610), (155, 17643), (158, 17658), (172, 17706), (206, 17811), (208, 17817), (209, 17820), (224, 17862), (225, 17865), (242, 17943), (262, 18033), (272, 18078), (281, 18108), (283, 18114), (284, 18132), (293, 18156), (296, 18165), (310, 18198), (312, 18204), (319, 18234), (336, 18273), (339, 18285), (342, 18294), (346, 18309), (348, 18312), (370, 18423), (371, 18426), (373, 18435), (374, 18441), (377, 18456), (379, 18459), (387, 18480), (397, 18510), (400, 18522), (406, 18555), (428, 18666), (429, 18669), (439, 18696), (442, 18702), (455, 18756), (456, 18759), (479, 18846), (481, 18861), (484, 18873), (485, 18876), (497, 18942), (502, 18966), (505, 18987), (507, 18996), (520, 19056), (521, 19059), (529, 19095), (532, 19113), (537, 19125), (539, 19134), (547, 19161), (564, 19230), (567, 19248), (571, 19257), (573, 19269), (579, 19305), (588, 19335), (595, 19356), (602, 19380), (607, 19416), (614, 19470), (629, 19530), (637, 19572), (666, 19707), (670, 19731), (676, 19785), (680, 19833), (688, 19875), (690, 19899), (691, 19902),

Gene: Tarkin\_28 Start: 23273, Stop: 25669, Start Num: 94

Candidate Starts for Tarkin\_28:

(Start: 94 @23273 has 128 MA's), (170, 23450), (174, 23471), (232, 23618), (263, 23759), (271, 23792), (281, 23825), (287, 23861), (319, 23954), (342, 24014), (348, 24032), (375, 24164), (389, 24209), (420, 24341), (428, 24386), (450, 24446), (478, 24560), (481, 24581), (491, 24620), (494, 24641), (496, 24656), (527, 24806), (529, 24812), (532, 24830), (549, 24884), (567, 24968), (593, 25061), (648, 25307), (680, 25523), (691, 25607), (698, 25640),

Gene: Tchotchke\_19 Start: 17331, Stop: 19868, Start Num: 53

Candidate Starts for Tchotchke\_19:

(Start: 53 @17331 has 241 MA's), (61, 17352), (Start: 71 @17373 has 1 MA's), (90, 17412), (129, 17481), (130, 17490), (131, 17493), (141, 17511), (158, 17559), (206, 17712), (209, 17721), (225, 17766), (250, 17865), (251, 17868), (262, 17934), (281, 18009), (283, 18015), (284, 18033), (293, 18057), (295, 18063), (296, 18066), (310, 18099), (312, 18105), (319, 18135), (330, 18156), (339, 18186), (342, 18195), (346, 18210), (348, 18213), (370, 18324), (371, 18327), (373, 18336), (374, 18342), (377, 18357), (379, 18360), (387, 18381), (397, 18411), (400, 18423), (406, 18456), (428, 18567), (429, 18570), (439, 18597), (442, 18603), (455, 18657), (456, 18660), (481, 18762), (484, 18774), (485, 18777), (497, 18843), (502, 18867), (505, 18888), (507, 18897), (520, 18957), (521, 18960), (529, 18996), (532, 19014), (537, 19026), (539, 19035), (547, 19062), (563, 19119), (564, 19131), (567, 19149), (571, 19158), (573, 19170), (579, 19206), (588, 19236), (593, 19245), (595, 19257), (607, 19317), (614, 19371), (629, 19431), (637, 19473), (666, 19608), (670, 19632), (676, 19686), (680, 19734), (688, 19776), (690, 19800), (691, 19803),

Gene: TeamEdward\_26 Start: 22455, Stop: 24851, Start Num: 94

Candidate Starts for TeamEdward\_26:

(Start: 94 @22455 has 128 MA's), (170, 22632), (174, 22653), (232, 22800), (263, 22941), (271, 22974), (281, 23007), (287, 23043), (319, 23136), (342, 23196), (348, 23214), (375, 23346), (389, 23391), (420, 23523), (428, 23568), (450, 23628), (478, 23742), (481, 23763), (491, 23802), (494, 23823), (496, 23838), (527, 23988), (529, 23994), (532, 24012), (549, 24066), (567, 24150), (593, 24243), (648, 24489), (680, 24705), (691, 24789), (698, 24822),

Gene: TeardropMSU\_25 Start: 22191, Stop: 24587, Start Num: 94

Candidate Starts for TeardropMSU\_25:

(Start: 94 @22191 has 128 MA's), (170, 22368), (174, 22389), (232, 22536), (263, 22677), (271, 22710), (281, 22743), (287, 22779), (319, 22872), (342, 22932), (348, 22950), (365, 23031), (420, 23259), (428, 23304), (481, 23499), (482, 23505), (485, 23514), (494, 23559), (496, 23574), (529, 23730), (532, 23748), (535, 23757), (550, 23811), (567, 23886), (568, 23889), (613, 24099), (615, 24111), (648, 24225), (680, 24441), (691, 24525), (696, 24549), (698, 24558),

Gene: Teaspoon\_27 Start: 22237, Stop: 24633, Start Num: 94

Candidate Starts for Teaspoon\_27:

(Start: 94 @22237 has 128 MA's), (170, 22414), (174, 22435), (232, 22582), (263, 22723), (271, 22756), (281, 22789), (287, 22825), (319, 22918), (342, 22978), (348, 22996), (375, 23128), (389, 23173), (420, 23305), (428, 23350), (450, 23410), (478, 23524), (481, 23545), (491, 23584), (494, 23605), (496, 23620), (527, 23770), (529, 23776), (532, 23794), (549, 23848), (567, 23932), (593, 24025), (648, 24271), (680, 24487), (691, 24571), (698, 24604),

Gene: TelAviv\_55 Start: 36063, Stop: 38573, Start Num: 60

Candidate Starts for TelAviv\_55:

(Start: 60 @36063 has 33 MA's), (74, 36096), (108, 36165), (109, 36168), (122, 36192), (131, 36216), (145, 36240), (155, 36273), (214, 36480), (217, 36492), (218, 36495), (254, 36642), (257, 36672), (262, 36696), (272, 36726), (273, 36729), (281, 36756), (284, 36780), (295, 36810), (315, 36867), (320, 36891), (336, 36927), (339, 36939), (346, 36963), (348, 36966), (356, 37008), (377, 37104), (379, 37107), (447, 37362), (481, 37506), (494, 37566), (504, 37638), (505, 37641), (526, 37737), (567, 37911), (573, 37932), (598, 38025), (601, 38037), (614, 38127), (633, 38202), (653, 38247), (684, 38448), (689, 38502), (694, 38517),

Gene: Terminus\_26 Start: 22371, Stop: 24767, Start Num: 94

Candidate Starts for Terminus\_26:

(Start: 94 @22371 has 128 MA's), (170, 22548), (174, 22569), (232, 22716), (263, 22857), (271, 22890), (281, 22923), (287, 22959), (319, 23052), (342, 23112), (348, 23130), (375, 23262), (389, 23307), (420, 23439), (428, 23484), (450, 23544), (478, 23658), (481, 23679), (491, 23718), (494, 23739), (496, 23754), (527, 23904), (529, 23910), (532, 23928), (549, 23982), (567, 24066), (593, 24159), (648, 24405), (680, 24621), (691, 24705), (698, 24738),

Gene: ThetaBob\_20 Start: 17751, Stop: 20231, Start Num: 55

Candidate Starts for ThetaBob\_20:

(Start: 55 @17751 has 3 MA's), (58, 17757), (61, 17763), (Start: 94 @17826 has 128 MA's), (95, 17829), (110, 17856), (136, 17910), (141, 17919), (155, 17952), (166, 17985), (172, 18018), (192, 18057), (197, 18072), (209, 18108), (211, 18114), (212, 18117), (223, 18135), (225, 18147), (228, 18159), (234, 18183), (235, 18186), (269, 18330), (272, 18339), (281, 18363), (284, 18387), (293, 18411), (295, 18417), (303, 18438), (305, 18441), (312, 18459), (319, 18489), (333, 18519), (339, 18540), (362, 18633), (365, 18648), (366, 18657), (370, 18678), (371, 18681), (382, 18723), (397, 18765), (398, 18768), (400, 18777), (405, 18804), (407, 18813), (414, 18852), (418, 18873), (420, 18876), (427, 18912), (433, 18933), (455, 19011), (456, 19014), (472, 19068), (484, 19128), (502,

19221), (505, 19242), (514, 19278), (525, 19332), (527, 19341), (546, 19419), (550, 19437), (559, 19473), (561, 19476), (564, 19494), (565, 19497), (567, 19512), (573, 19533), (579, 19569), (584, 19581), (602, 19644), (607, 19677), (619, 19764), (632, 19812), (635, 19836), (643, 19863), (648, 19872), (653, 19911), (662, 19950), (666, 19974), (669, 19995), (680, 20091), (685, 20112), (694, 20175), (698, 20202), (701, 20211),

Gene: Thimble\_26 Start: 21237, Stop: 23633, Start Num: 94

Candidate Starts for Thimble\_26:

(Start: 94 @21237 has 128 MA's), (170, 21414), (174, 21435), (232, 21582), (263, 21723), (271, 21756), (281, 21789), (287, 21825), (319, 21918), (342, 21978), (348, 21996), (375, 22128), (389, 22173), (420, 22305), (428, 22350), (450, 22410), (478, 22524), (481, 22545), (491, 22584), (494, 22605), (496, 22620), (527, 22770), (529, 22776), (532, 22794), (549, 22848), (567, 22932), (593, 23025), (648, 23271), (680, 23487), (691, 23571), (698, 23604),

Gene: Thresher\_27 Start: 23038, Stop: 25434, Start Num: 94

Candidate Starts for Thresher\_27:

(Start: 94 @23038 has 128 MA's), (170, 23215), (174, 23236), (232, 23383), (271, 23557), (281, 23590), (287, 23626), (319, 23719), (342, 23779), (348, 23797), (375, 23929), (389, 23974), (420, 24106), (428, 24151), (478, 24325), (481, 24346), (491, 24385), (494, 24406), (496, 24421), (527, 24571), (529, 24577), (532, 24595), (549, 24649), (567, 24733), (593, 24826), (648, 25072), (680, 25288), (691, 25372), (698, 25405),

Gene: Thumb\_29 Start: 25682, Stop: 28525, Start Num: 17

Candidate Starts for Thumb\_29:

(Start: 17 @25682 has 8 MA's), (30, 25814), (31, 25826), (35, 25835), (49, 25904), (75, 25970), (83, 25991), (102, 26039), (124, 26081), (134, 26105), (151, 26138), (160, 26174), (165, 26186), (191, 26279), (209, 26336), (220, 26375), (263, 26570), (270, 26600), (283, 26642), (330, 26783), (336, 26801), (356, 26882), (365, 26921), (369, 26942), (406, 27080), (413, 27119), (456, 27284), (475, 27356), (484, 27398), (488, 27410), (504, 27509), (589, 27872), (649, 28142), (652, 28175), (658, 28199), (675, 28319), (686, 28397), (698, 28484), (702, 28499), (704, 28505),

Gene: TiniBug\_27 Start: 20837, Stop: 23269, Start Num: 80

Candidate Starts for TiniBug\_27:

(72, 20819), (Start: 80 @20837 has 96 MA's), (98, 20885), (126, 20936), (218, 21197), (225, 21218), (279, 21455), (280, 21458), (285, 21488), (286, 21491), (314, 21560), (319, 21584), (321, 21590), (323, 21596), (337, 21629), (370, 21782), (381, 21839), (385, 21848), (400, 21899), (437, 22079), (443, 22094), (459, 22163), (463, 22175), (470, 22211), (476, 22238), (485, 22280), (494, 22319), (495, 22325), (496, 22334), (500, 22355), (513, 22415), (520, 22448), (523, 22466), (539, 22532), (550, 22574), (570, 22646), (572, 22655), (577, 22676), (594, 22748), (648, 23012), (664, 23093), (673, 23168), (680, 23240),

Gene: Tiri\_27 Start: 20884, Stop: 23316, Start Num: 80

Candidate Starts for Tiri\_27:

(Start: 80 @20884 has 96 MA's), (126, 20983), (218, 21244), (225, 21265), (270, 21472), (280, 21505), (285, 21535), (314, 21607), (319, 21631), (370, 21829), (378, 21874), (381, 21886), (385, 21895), (400, 21946), (437, 22126), (443, 22141), (459, 22210), (463, 22222), (476, 22285), (485, 22327), (494, 22366), (495, 22372), (496, 22381), (500, 22402), (513, 22462), (539, 22579), (550, 22621), (570, 22693), (572, 22702), (577, 22723), (594, 22795), (599, 22816), (614, 22912), (628, 22975), (654, 23101), (664, 23140), (680, 23287),

Gene: Tomaszewski\_25 Start: 21884, Stop: 24280, Start Num: 94

Candidate Starts for Tomaszewski\_25:

(Start: 94 @21884 has 128 MA's), (170, 22061), (174, 22082), (232, 22229), (263, 22370), (271, 22403), (281, 22436), (287, 22472), (319, 22565), (342, 22625), (348, 22643), (375, 22775), (389, 22820), (420, 22952), (428, 22997), (478, 23171), (481, 23192), (491, 23231), (494, 23252), (496, 23267), (529, 23423), (532, 23441), (549, 23495), (567, 23579), (593, 23672), (648, 23918), (680, 24134), (691, 24218), (698, 24251),

Gene: TootsiePop\_19 Start: 17273, Stop: 19798, Start Num: 53

Candidate Starts for TootsiePop\_19:

(Start: 53 @17273 has 241 MA's), (61, 17294), (Start: 71 @17315 has 1 MA's), (90, 17354), (129, 17423), (130, 17432), (131, 17435), (141, 17453), (155, 17486), (158, 17501), (172, 17549), (208, 17660), (209, 17663), (225, 17708), (242, 17786), (251, 17810), (262, 17876), (272, 17921), (281, 17951), (283, 17957), (284, 17975), (293, 17999), (296, 18008), (310, 18041), (312, 18047), (319, 18077), (336, 18116), (339, 18128), (342, 18137), (346, 18152), (348, 18155), (379, 18302), (397, 18353), (419, 18464), (429, 18515), (438, 18539), (467, 18632), (475, 18677), (478, 18686), (481, 18707), (484, 18719), (485, 18722), (494, 18767), (502, 18812), (504, 18830), (505, 18833), (516, 18884), (527, 18935), (529, 18941), (532, 18959), (537, 18971), (539, 18980), (549, 19013), (567, 19094), (584, 19163), (593, 19190), (599, 19217), (608, 19268), (614, 19316), (669, 19559), (680, 19664), (685, 19685), (693, 19739), (697, 19763),

Gene: Tootsieroll\_19 Start: 17239, Stop: 19776, Start Num: 53

Candidate Starts for Tootsieroll\_19:

(47, 17227), (Start: 53 @17239 has 241 MA's), (61, 17260), (Start: 71 @17281 has 1 MA's), (90, 17320), (129, 17389), (130, 17398), (131, 17401), (141, 17419), (155, 17452), (158, 17467), (172, 17515), (206, 17620), (208, 17626), (209, 17629), (224, 17671), (225, 17674), (251, 17776), (262, 17842), (272, 17887), (281, 17917), (283, 17923), (284, 17941), (293, 17965), (296, 17974), (310, 18007), (312, 18013), (319, 18043), (339, 18094), (342, 18103), (366, 18211), (369, 18223), (370, 18232), (371, 18235), (374, 18250), (377, 18265), (379, 18268), (387, 18289), (397, 18319), (400, 18331), (406, 18364), (428, 18475), (429, 18478), (439, 18505), (442, 18511), (455, 18565), (456, 18568), (467, 18595), (481, 18670), (484, 18682), (485, 18685), (497, 18751), (501, 18772), (502, 18775), (505, 18796), (507, 18805), (520, 18865), (521, 18868), (527, 18898), (532, 18922), (537, 18934), (539, 18943), (564, 19039), (567, 19057), (571, 19066), (573, 19078), (588, 19144), (593, 19153), (595, 19165), (602, 19189), (607, 19225), (637, 19381), (666, 19516), (670, 19540), (676, 19594), (685, 19663), (690, 19708), (691, 19711),

Gene: Topiatin\_20 Start: 18098, Stop: 20635, Start Num: 53

Candidate Starts for Topiatin\_20:

(47, 18086), (Start: 53 @18098 has 241 MA's), (61, 18119), (Start: 71 @18140 has 1 MA's), (90, 18179), (129, 18248), (130, 18257), (131, 18260), (141, 18278), (155, 18311), (158, 18326), (172, 18374), (208, 18485), (209, 18488), (221, 18518), (225, 18533), (242, 18611), (251, 18635), (262, 18701), (272, 18746), (281, 18776), (283, 18782), (284, 18800), (293, 18824), (296, 18833), (310, 18866), (312, 18872), (319, 18902), (336, 18941), (339, 18953), (342, 18962), (346, 18977), (348, 18980), (370, 19091), (371, 19094), (373, 19103), (374, 19109), (377, 19124), (379, 19127), (387, 19148), (397, 19178), (400, 19190), (406, 19223), (428, 19334), (429, 19337), (439, 19364), (442, 19370), (455, 19424), (456, 19427), (479, 19514), (481, 19529), (484, 19541), (485, 19544), (497, 19610), (502, 19634), (505, 19655), (507, 19664), (516, 19706), (520, 19724), (521, 19727), (529, 19763), (532, 19781), (537, 19793), (539, 19802), (547, 19829), (564, 19898), (567, 19916), (571, 19925), (573, 19937), (579, 19973), (588, 20003), (595, 20024), (602, 20048), (607, 20084), (614, 20138), (629, 20198), (637, 20240), (654, 20318), (666, 20375), (670, 20399), (676, 20453), (680, 20501), (688, 20543), (690, 20567), (691, 20570),

Gene: Topper\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Topper\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Toron\_20 Start: 17872, Stop: 20292, Start Num: 117

Candidate Starts for Toron\_20:

(117, 17872), (121, 17878), (126, 17884), (154, 17947), (163, 17971), (164, 17974), (178, 18037), (216, 18145), (219, 18154), (225, 18175), (227, 18184), (250, 18274), (257, 18319), (269, 18379), (296, 18475), (316, 18532), (328, 18556), (343, 18604), (346, 18613), (348, 18616), (358, 18664), (366, 18706), (371, 18730), (373, 18739), (374, 18745), (379, 18763), (387, 18784), (390, 18796), (397, 18814), (400, 18826), (406, 18859), (418, 18922), (420, 18925), (423, 18940), (425, 18952), (455, 19060), (461, 19084), (470, 19111), (472, 19117), (481, 19165), (488, 19189), (494, 19225), (495, 19231), (496, 19240), (516, 19354), (517, 19369), (537, 19447), (565, 19558), (567, 19573), (571, 19582), (593, 19669), (602, 19705), (607, 19741), (614, 19795), (666, 20032), (670, 20056), (685, 20179), (690, 20224), (697, 20257),

Gene: Totinger\_19 Start: 17189, Stop: 19726, Start Num: 53

Candidate Starts for Totinger\_19:

(Start: 53 @17189 has 241 MA's), (61, 17210), (Start: 71 @17231 has 1 MA's), (90, 17270), (129, 17339), (130, 17348), (131, 17351), (141, 17369), (158, 17417), (206, 17570), (209, 17579), (225, 17624), (250, 17723), (251, 17726), (262, 17792), (281, 17867), (283, 17873), (284, 17891), (293, 17915), (295, 17921), (296, 17924), (310, 17957), (312, 17963), (319, 17993), (330, 18014), (339, 18044), (342, 18053), (346, 18068), (348, 18071), (370, 18182), (371, 18185), (373, 18194), (374, 18200), (377, 18215), (379, 18218), (387, 18239), (397, 18269), (400, 18281), (406, 18314), (428, 18425), (429, 18428), (439, 18455), (442, 18461), (455, 18515), (456, 18518), (481, 18620), (484, 18632), (485, 18635), (497, 18701), (502, 18725), (505, 18746), (507, 18755), (520, 18815), (521, 18818), (529, 18854), (532, 18872), (537, 18884), (539, 18893), (547, 18920), (563, 18977), (564, 18989), (567, 19007), (571, 19016), (573, 19028), (579, 19064), (588, 19094), (593, 19103), (595, 19115), (607, 19175), (614, 19229), (629, 19289), (637, 19331), (666, 19466), (670, 19490), (676, 19544), (680, 19592), (688, 19634), (690, 19658), (691, 19661),

Gene: Toto\_26 Start: 22284, Stop: 24680, Start Num: 94

Candidate Starts for Toto\_26:

(Start: 94 @22284 has 128 MA's), (170, 22461), (174, 22482), (232, 22629), (263, 22770), (271, 22803), (281, 22836), (287, 22872), (319, 22965), (342, 23025), (348, 23043), (382, 23199), (389, 23220), (416, 23340), (420, 23352), (428, 23397), (481, 23592), (485, 23607), (494, 23652), (496, 23667), (529, 23823), (532, 23841), (535, 23850), (567, 23979), (568, 23982), (613, 24192), (615, 24204), (648, 24318), (680, 24534), (691, 24618), (696, 24642), (698, 24651),

Gene: Traaww1\_24 Start: 21929, Stop: 24325, Start Num: 94

Candidate Starts for Traaww1\_24:

(Start: 94 @21929 has 128 MA's), (170, 22106), (174, 22127), (232, 22274), (263, 22415), (271, 22448), (281, 22481), (287, 22517), (319, 22610), (342, 22670), (348, 22688), (365, 22769), (420, 22997), (428, 23042), (481, 23237), (482, 23243), (485, 23252), (494, 23297), (496, 23312), (529, 23468), (532, 23486), (535, 23495), (550, 23549), (567, 23624), (568, 23627), (613, 23837), (615, 23849), (648, 23963), (680, 24179), (691, 24263), (696, 24287), (698, 24296),

Gene: TreyKay\_27 Start: 20846, Stop: 23278, Start Num: 80

Candidate Starts for TreyKay\_27:

(Start: 80 @20846 has 96 MA's), (126, 20945), (218, 21206), (270, 21434), (280, 21467), (285, 21497), (314, 21569), (319, 21593), (337, 21638), (370, 21791), (378, 21836), (381, 21848), (385, 21857), (396, 21893), (400, 21908), (437, 22088), (443, 22103), (459, 22172), (463, 22184), (476, 22247), (485, 22289), (494, 22328), (495, 22334), (496, 22343), (500, 22364), (513, 22424), (539, 22541), (550, 22583), (570, 22655), (572, 22664), (577, 22685), (594, 22757), (599, 22778), (614, 22874), (664, 23102), (680, 23249),

Gene: TruffulaTree\_27 Start: 20875, Stop: 23307, Start Num: 80

Candidate Starts for TruffulaTree\_27:

(Start: 80 @20875 has 96 MA's), (126, 20974), (218, 21235), (225, 21256), (270, 21463), (280, 21496), (285, 21526), (314, 21598), (319, 21622), (337, 21667), (370, 21820), (378, 21865), (381, 21877), (385, 21886), (400, 21937), (437, 22117), (443, 22132), (459, 22201), (463, 22213), (476, 22276), (485, 22318), (494, 22357), (495, 22363), (496, 22372), (500, 22393), (513, 22453), (539, 22570), (550, 22612), (570, 22684), (572, 22693), (577, 22714), (594, 22786), (599, 22807), (614, 22903), (628, 22966), (664, 23131), (680, 23278),

Gene: Tuco\_27 Start: 22799, Stop: 25195, Start Num: 94

Candidate Starts for Tuco\_27:

(Start: 94 @22799 has 128 MA's), (170, 22976), (174, 22997), (232, 23144), (263, 23285), (271, 23318), (281, 23351), (287, 23387), (319, 23480), (342, 23540), (348, 23558), (365, 23639), (420, 23867), (428, 23912), (481, 24107), (482, 24113), (485, 24122), (494, 24167), (496, 24182), (529, 24338), (532, 24356), (535, 24365), (550, 24419), (567, 24494), (568, 24497), (613, 24707), (615, 24719), (648, 24833), (680, 25049), (691, 25133), (696, 25157), (698, 25166),

Gene: Tweety\_18 Start: 17451, Stop: 19988, Start Num: 53

Candidate Starts for Tweety\_18:

(47, 17439), (Start: 53 @17451 has 241 MA's), (61, 17472), (Start: 71 @17493 has 1 MA's), (90, 17532), (129, 17601), (130, 17610), (131, 17613), (141, 17631), (155, 17664), (158, 17679), (172, 17727), (208, 17838), (209, 17841), (221, 17871), (225, 17886), (242, 17964), (251, 17988), (262, 18054), (272, 18099), (281, 18129), (283, 18135), (284, 18153), (293, 18177), (296, 18186), (310, 18219), (312, 18225), (319, 18255), (336, 18294), (339, 18306), (342, 18315), (346, 18330), (348, 18333), (370, 18444), (371, 18447), (373, 18456), (374, 18462), (377, 18477), (379, 18480), (387, 18501), (397, 18531), (400, 18543), (406, 18576), (420, 18642), (428, 18687), (429, 18690), (439, 18717), (442, 18723), (455, 18777), (456, 18780), (479, 18867), (481, 18882), (484, 18894), (485, 18897), (497, 18963), (502, 18987), (505, 19008), (507, 19017), (516, 19059), (520, 19077), (521, 19080), (529, 19116), (532, 19134), (537, 19146), (539, 19155), (547, 19182), (564, 19251), (567, 19269), (571, 19278), (573, 19290), (579, 19326), (588, 19356), (595, 19377), (602, 19401), (607, 19437), (614, 19491), (629, 19551), (637, 19593), (666, 19728), (670, 19752), (676, 19806), (680, 19854), (688, 19896), (690, 19920), (691, 19923),

Gene: Twitch\_27 Start: 20912, Stop: 23344, Start Num: 80

Candidate Starts for Twitch\_27:

(Start: 80 @20912 has 96 MA's), (126, 21011), (218, 21272), (225, 21293), (270, 21500), (280, 21533), (285, 21563), (314, 21635), (319, 21659), (370, 21857), (378, 21902), (381, 21914), (385, 21923), (400, 21974), (437, 22154), (443, 22169), (459, 22238), (463, 22250), (476, 22313), (485, 22355), (494, 22394), (495, 22400), (496, 22409), (500, 22430), (513, 22490), (539, 22607), (550, 22649), (570, 22721), (572, 22730), (577, 22751), (594, 22823), (599, 22844), (614, 22940), (648, 23087), (664, 23168), (680, 23315),

Gene: Ukulele\_26 Start: 22042, Stop: 24438, Start Num: 94

Candidate Starts for Ukulele\_26:

(Start: 94 @22042 has 128 MA's), (170, 22219), (174, 22240), (232, 22387), (271, 22561), (281, 22594), (287, 22630), (319, 22723), (342, 22783), (348, 22801), (375, 22933), (389, 22978), (420,

23110), (428, 23155), (450, 23215), (478, 23329), (481, 23350), (491, 23389), (494, 23410), (496, 23425), (527, 23575), (529, 23581), (532, 23599), (549, 23653), (567, 23737), (593, 23830), (648, 24076), (680, 24292), (691, 24376), (698, 24409),

Gene: UncleRicky\_19 Start: 17219, Stop: 19756, Start Num: 53

Candidate Starts for UncleRicky\_19:

(47, 17207), (Start: 53 @17219 has 241 MA's), (61, 17240), (Start: 71 @17261 has 1 MA's), (90, 17300), (129, 17369), (130, 17378), (131, 17381), (141, 17399), (155, 17432), (158, 17447), (172, 17495), (206, 17600), (209, 17609), (224, 17651), (225, 17654), (242, 17732), (251, 17756), (262, 17822), (272, 17867), (281, 17897), (283, 17903), (284, 17921), (293, 17945), (296, 17954), (310, 17987), (312, 17993), (319, 18023), (336, 18062), (339, 18074), (342, 18083), (346, 18098), (348, 18101), (370, 18212), (373, 18224), (374, 18230), (377, 18245), (379, 18248), (387, 18269), (397, 18299), (400, 18311), (406, 18344), (420, 18410), (428, 18455), (429, 18458), (439, 18485), (442, 18491), (455, 18545), (456, 18548), (467, 18575), (481, 18650), (484, 18662), (485, 18665), (497, 18731), (502, 18755), (507, 18785), (516, 18827), (520, 18845), (521, 18848), (529, 18884), (532, 18902), (539, 18923), (547, 18950), (564, 19019), (567, 19037), (571, 19046), (573, 19058), (579, 19094), (588, 19124), (593, 19133), (595, 19145), (607, 19205), (614, 19259), (629, 19319), (637, 19361), (654, 19439), (666, 19496), (670, 19520), (676, 19574), (680, 19622), (688, 19664), (690, 19688), (691, 19691),

Gene: Urkel\_27 Start: 20840, Stop: 23272, Start Num: 80

Candidate Starts for Urkel\_27:

(72, 20822), (Start: 80 @20840 has 96 MA's), (98, 20888), (126, 20939), (218, 21200), (225, 21221), (279, 21458), (280, 21461), (285, 21491), (286, 21494), (314, 21563), (319, 21587), (321, 21593), (323, 21599), (337, 21632), (370, 21785), (381, 21842), (385, 21851), (400, 21902), (437, 22082), (443, 22097), (459, 22166), (463, 22178), (470, 22214), (476, 22241), (485, 22283), (494, 22322), (495, 22328), (496, 22337), (500, 22358), (513, 22418), (520, 22451), (523, 22469), (539, 22535), (550, 22577), (570, 22649), (572, 22658), (577, 22679), (594, 22751), (614, 22868), (648, 23015), (664, 23096), (673, 23171), (680, 23243),

Gene: VRedHorse\_18 Start: 17564, Stop: 20101, Start Num: 53

Candidate Starts for VRedHorse\_18:

(47, 17552), (Start: 53 @17564 has 241 MA's), (61, 17585), (Start: 71 @17606 has 1 MA's), (88, 17642), (90, 17645), (129, 17714), (130, 17723), (131, 17726), (141, 17744), (155, 17777), (158, 17792), (172, 17840), (206, 17945), (208, 17951), (209, 17954), (224, 17996), (225, 17999), (251, 18101), (262, 18167), (272, 18212), (281, 18242), (283, 18248), (284, 18266), (293, 18290), (296, 18299), (310, 18332), (312, 18338), (330, 18389), (336, 18407), (339, 18419), (342, 18428), (346, 18443), (349, 18449), (370, 18557), (373, 18569), (374, 18575), (377, 18590), (379, 18593), (387, 18614), (397, 18644), (400, 18656), (406, 18689), (420, 18755), (428, 18800), (429, 18803), (439, 18830), (442, 18836), (455, 18890), (456, 18893), (481, 18995), (484, 19007), (485, 19010), (497, 19076), (502, 19100), (505, 19121), (507, 19130), (520, 19190), (521, 19193), (529, 19229), (532, 19247), (539, 19268), (547, 19295), (564, 19364), (567, 19382), (571, 19391), (573, 19403), (579, 19439), (595, 19490), (600, 19508), (607, 19550), (614, 19604), (637, 19706), (654, 19784), (666, 19841), (670, 19865), (676, 19919), (680, 19967), (690, 20033), (691, 20036),

Gene: Vagabond\_58 Start: 35926, Stop: 38436, Start Num: 60

Candidate Starts for Vagabond\_58:

(Start: 60 @35926 has 33 MA's), (74, 35959), (108, 36028), (109, 36031), (122, 36055), (131, 36079), (145, 36103), (155, 36136), (214, 36343), (217, 36355), (218, 36358), (254, 36505), (257, 36535), (262, 36559), (272, 36589), (273, 36592), (281, 36619), (284, 36643), (295, 36673), (315, 36730), (320, 36754), (336, 36790), (339, 36802), (346, 36826), (348, 36829), (356, 36871), (377, 36967), (379, 36970), (447, 37225), (481, 37369), (494, 37429), (504, 37501), (505, 37504), (526, 37600), (567, 37774), (573, 37795), (598, 37888), (601, 37900), (614, 37990), (633, 38065), (653, 38110),

(684, 38311), (689, 38365), (694, 38380),

Gene: Veliki\_27 Start: 20915, Stop: 23347, Start Num: 80

Candidate Starts for Veliki\_27:

(Start: 80 @20915 has 96 MA's), (126, 21014), (218, 21275), (225, 21296), (270, 21503), (280, 21536), (285, 21566), (314, 21638), (319, 21662), (337, 21707), (370, 21860), (378, 21905), (381, 21917), (385, 21926), (400, 21977), (437, 22157), (443, 22172), (459, 22241), (463, 22253), (485, 22358), (494, 22397), (495, 22403), (496, 22412), (513, 22493), (522, 22541), (541, 22616), (550, 22652), (572, 22733), (577, 22754), (599, 22847), (614, 22943), (648, 23090), (654, 23132), (664, 23171), (673, 23246),

Gene: Veteran\_18 Start: 17402, Stop: 19939, Start Num: 53

Candidate Starts for Veteran\_18:

(Start: 53 @17402 has 241 MA's), (61, 17423), (Start: 71 @17444 has 1 MA's), (90, 17483), (129, 17552), (130, 17561), (131, 17564), (141, 17582), (155, 17615), (158, 17630), (206, 17783), (209, 17792), (225, 17837), (250, 17936), (251, 17939), (262, 18005), (281, 18080), (283, 18086), (293, 18128), (295, 18134), (296, 18137), (310, 18170), (312, 18176), (319, 18206), (330, 18227), (339, 18257), (342, 18266), (346, 18281), (348, 18284), (370, 18395), (371, 18398), (373, 18407), (374, 18413), (377, 18428), (379, 18431), (387, 18452), (397, 18482), (400, 18494), (406, 18527), (428, 18638), (429, 18641), (439, 18668), (442, 18674), (455, 18728), (456, 18731), (479, 18818), (481, 18833), (484, 18845), (485, 18848), (497, 18914), (502, 18938), (505, 18959), (507, 18968), (516, 19010), (520, 19028), (521, 19031), (527, 19061), (532, 19085), (537, 19097), (539, 19106), (564, 19202), (567, 19220), (571, 19229), (573, 19241), (579, 19277), (588, 19307), (593, 19316), (595, 19328), (607, 19388), (614, 19442), (629, 19502), (637, 19544), (666, 19679), (670, 19703), (676, 19757), (680, 19805), (688, 19847), (690, 19871), (691, 19874),

Gene: Violac\_19 Start: 17946, Stop: 20471, Start Num: 53

Candidate Starts for Violac\_19:

(Start: 53 @17946 has 241 MA's), (61, 17967), (68, 17988), (90, 18027), (129, 18096), (130, 18105), (131, 18108), (141, 18126), (158, 18174), (172, 18222), (208, 18333), (209, 18336), (222, 18369), (225, 18381), (242, 18459), (257, 18525), (263, 18558), (277, 18612), (281, 18624), (293, 18672), (295, 18678), (296, 18681), (300, 18690), (313, 18723), (328, 18762), (330, 18765), (335, 18780), (336, 18783), (343, 18810), (345, 18816), (346, 18819), (348, 18822), (354, 18849), (357, 18867), (358, 18870), (373, 18945), (377, 18966), (379, 18969), (388, 18996), (397, 19020), (406, 19065), (407, 19068), (416, 19119), (429, 19182), (433, 19191), (441, 19215), (470, 19320), (471, 19323), (481, 19374), (482, 19380), (484, 19386), (485, 19389), (494, 19434), (496, 19449), (501, 19476), (505, 19500), (507, 19509), (520, 19569), (521, 19572), (522, 19584), (532, 19626), (537, 19638), (567, 19761), (581, 19824), (600, 19887), (609, 19962), (657, 20163), (680, 20334), (687, 20373), (693, 20412), (694, 20415),

Gene: Vivum\_18 Start: 17344, Stop: 19881, Start Num: 53

Candidate Starts for Vivum\_18:

(Start: 53 @17344 has 241 MA's), (61, 17365), (Start: 71 @17386 has 1 MA's), (90, 17425), (129, 17494), (130, 17503), (131, 17506), (141, 17524), (158, 17572), (206, 17725), (209, 17734), (225, 17779), (250, 17878), (251, 17881), (262, 17947), (281, 18022), (283, 18028), (284, 18046), (293, 18070), (295, 18076), (296, 18079), (310, 18112), (312, 18118), (319, 18148), (330, 18169), (339, 18199), (342, 18208), (346, 18223), (348, 18226), (370, 18337), (371, 18340), (373, 18349), (374, 18355), (377, 18370), (379, 18373), (387, 18394), (397, 18424), (400, 18436), (406, 18469), (428, 18580), (429, 18583), (439, 18610), (442, 18616), (455, 18670), (456, 18673), (481, 18775), (484, 18787), (485, 18790), (497, 18856), (502, 18880), (505, 18901), (507, 18910), (520, 18970), (521, 18973), (529, 19009), (532, 19027), (537, 19039), (539, 19048), (547, 19075), (563, 19132), (564, 19144), (567, 19162), (571, 19171), (573, 19183), (579, 19219), (588, 19249), (593, 19258), (595, 19270), (607, 19330), (614, 19384), (629, 19444), (637, 19486), (666, 19621), (670, 19645), (676,

19699), (680, 19747), (688, 19789), (690, 19813), (691, 19816),

Gene: Vorrps\_58 Start: 36138, Stop: 38648, Start Num: 60

Candidate Starts for Vorrps\_58:

(Start: 60 @36138 has 33 MA's), (74, 36171), (108, 36240), (109, 36243), (122, 36267), (131, 36291), (145, 36315), (155, 36348), (214, 36555), (217, 36567), (218, 36570), (254, 36717), (257, 36747), (262, 36771), (272, 36801), (273, 36804), (281, 36831), (284, 36855), (295, 36885), (315, 36942), (320, 36966), (336, 37002), (339, 37014), (346, 37038), (348, 37041), (356, 37083), (377, 37179), (379, 37182), (447, 37437), (481, 37581), (494, 37641), (504, 37713), (505, 37716), (526, 37812), (567, 37986), (573, 38007), (598, 38100), (601, 38112), (614, 38202), (633, 38277), (653, 38322), (684, 38523), (689, 38577), (694, 38592),

Gene: Wachhund\_18 Start: 17422, Stop: 19959, Start Num: 53

Candidate Starts for Wachhund\_18:

(Start: 53 @17422 has 241 MA's), (61, 17443), (Start: 71 @17464 has 1 MA's), (90, 17503), (129, 17572), (130, 17581), (131, 17584), (141, 17602), (158, 17650), (208, 17809), (209, 17812), (225, 17857), (242, 17935), (250, 17956), (251, 17959), (262, 18025), (281, 18100), (283, 18106), (293, 18148), (295, 18154), (296, 18157), (310, 18190), (312, 18196), (319, 18226), (330, 18247), (339, 18277), (342, 18286), (366, 18394), (370, 18415), (371, 18418), (373, 18427), (374, 18433), (377, 18448), (379, 18451), (387, 18472), (397, 18502), (400, 18514), (406, 18547), (428, 18658), (429, 18661), (439, 18688), (442, 18694), (455, 18748), (456, 18751), (479, 18838), (481, 18853), (484, 18865), (485, 18868), (497, 18934), (505, 18979), (507, 18988), (520, 19048), (521, 19051), (529, 19087), (532, 19105), (537, 19117), (539, 19126), (547, 19153), (564, 19222), (567, 19240), (571, 19249), (573, 19261), (579, 19297), (588, 19327), (595, 19348), (602, 19372), (607, 19408), (614, 19462), (629, 19522), (637, 19564), (666, 19699), (670, 19723), (676, 19777), (680, 19825), (688, 19867), (690, 19891), (691, 19894),

Gene: Wanda\_39 Start: 29807, Stop: 32362, Start Num: 53

Candidate Starts for Wanda\_39:

(Start: 53 @29807 has 241 MA's), (141, 30002), (155, 30038), (158, 30053), (172, 30101), (208, 30212), (209, 30215), (221, 30245), (225, 30260), (242, 30338), (251, 30362), (262, 30428), (272, 30473), (281, 30503), (283, 30509), (284, 30527), (293, 30551), (296, 30560), (310, 30593), (312, 30599), (319, 30629), (336, 30668), (339, 30680), (342, 30689), (346, 30704), (348, 30707), (370, 30818), (371, 30821), (373, 30830), (374, 30836), (377, 30851), (379, 30854), (387, 30875), (397, 30905), (400, 30917), (406, 30950), (420, 31016), (428, 31061), (429, 31064), (439, 31091), (442, 31097), (455, 31151), (456, 31154), (479, 31241), (481, 31256), (484, 31268), (485, 31271), (497, 31337), (505, 31382), (507, 31391), (520, 31451), (521, 31454), (529, 31490), (532, 31508), (537, 31520), (539, 31529), (547, 31556), (564, 31625), (567, 31643), (571, 31652), (573, 31664), (579, 31700), (588, 31730), (595, 31751), (602, 31775), (607, 31811), (614, 31865), (629, 31925), (637, 31967), (666, 32102), (670, 32126), (676, 32180), (680, 32228), (688, 32270), (690, 32294), (691, 32297),

Gene: Wee\_19 Start: 17971, Stop: 20508, Start Num: 53

Candidate Starts for Wee\_19:

(47, 17959), (Start: 53 @17971 has 241 MA's), (61, 17992), (Start: 71 @18013 has 1 MA's), (90, 18052), (129, 18121), (130, 18130), (131, 18133), (141, 18151), (155, 18184), (158, 18199), (172, 18247), (206, 18352), (208, 18358), (209, 18361), (224, 18403), (225, 18406), (242, 18484), (262, 18574), (272, 18619), (281, 18649), (283, 18655), (284, 18673), (293, 18697), (296, 18706), (310, 18739), (312, 18745), (319, 18775), (336, 18814), (339, 18826), (342, 18835), (346, 18850), (348, 18853), (370, 18964), (371, 18967), (373, 18976), (374, 18982), (377, 18997), (379, 19000), (387, 19021), (397, 19051), (400, 19063), (406, 19096), (420, 19162), (428, 19207), (429, 19210), (439, 19237), (442, 19243), (455, 19297), (456, 19300), (479, 19387), (481, 19402), (484, 19414), (485, 19417), (497, 19483), (505, 19528), (507, 19537), (520, 19597), (521, 19600), (529, 19636), (532,

19654), (537, 19666), (539, 19675), (547, 19702), (564, 19771), (567, 19789), (571, 19798), (573, 19810), (579, 19846), (588, 19876), (595, 19897), (602, 19921), (607, 19957), (614, 20011), (629, 20071), (637, 20113), (666, 20248), (670, 20272), (676, 20326), (680, 20374), (688, 20416), (690, 20440), (691, 20443),

Gene: Weirido19\_22 Start: 19521, Stop: 21416, Start Num: 243

Candidate Starts for Weirido19\_22:

(241, 19515), (243, 19521), (267, 19635), (271, 19647), (304, 19758), (313, 19779), (318, 19800), (324, 19818), (367, 19962), (369, 19971), (372, 19986), (398, 20070), (420, 20175), (435, 20232), (440, 20247), (444, 20256), (445, 20259), (447, 20265), (469, 20337), (476, 20361), (480, 20376), (502, 20490), (505, 20511), (528, 20616), (540, 20667), (542, 20679), (549, 20703), (582, 20808), (589, 20829), (606, 20898), (615, 20964), (620, 20988), (677, 21234), (685, 21297), (693, 21357), (698, 21387), (700, 21393), (703, 21405),

Gene: Whatsapiecost\_18 Start: 17447, Stop: 19984, Start Num: 53

Candidate Starts for Whatsapiecost\_18:

(47, 17435), (Start: 53 @17447 has 241 MA's), (61, 17468), (Start: 71 @17489 has 1 MA's), (90, 17528), (129, 17597), (130, 17606), (131, 17609), (141, 17627), (155, 17660), (158, 17675), (172, 17723), (208, 17834), (209, 17837), (221, 17867), (224, 17879), (225, 17882), (242, 17960), (251, 17984), (262, 18050), (272, 18095), (281, 18125), (283, 18131), (284, 18149), (293, 18173), (296, 18182), (310, 18215), (312, 18221), (319, 18251), (336, 18290), (339, 18302), (342, 18311), (346, 18326), (348, 18329), (370, 18440), (371, 18443), (373, 18452), (374, 18458), (377, 18473), (379, 18476), (387, 18497), (397, 18527), (400, 18539), (406, 18572), (428, 18683), (429, 18686), (439, 18713), (442, 18719), (455, 18773), (456, 18776), (481, 18878), (484, 18890), (485, 18893), (497, 18959), (502, 18983), (505, 19004), (507, 19013), (520, 19073), (521, 19076), (529, 19112), (532, 19130), (537, 19142), (539, 19151), (547, 19178), (564, 19247), (567, 19265), (571, 19274), (573, 19286), (579, 19322), (588, 19352), (595, 19373), (602, 19397), (607, 19433), (614, 19487), (629, 19547), (637, 19589), (654, 19667), (666, 19724), (670, 19748), (676, 19802), (680, 19850), (688, 19892), (690, 19916), (691, 19919),

Gene: Whouxphf\_18 Start: 17504, Stop: 20041, Start Num: 53

Candidate Starts for Whouxphf\_18:

(Start: 53 @17504 has 241 MA's), (61, 17525), (Start: 71 @17546 has 1 MA's), (90, 17585), (129, 17654), (130, 17663), (131, 17666), (141, 17684), (158, 17732), (208, 17891), (209, 17894), (225, 17939), (250, 18038), (251, 18041), (281, 18182), (283, 18188), (293, 18230), (295, 18236), (296, 18239), (310, 18272), (312, 18278), (319, 18308), (330, 18329), (339, 18359), (342, 18368), (366, 18476), (369, 18488), (370, 18497), (371, 18500), (373, 18509), (374, 18515), (377, 18530), (379, 18533), (387, 18554), (400, 18596), (406, 18629), (439, 18770), (442, 18776), (455, 18830), (456, 18833), (467, 18860), (481, 18935), (484, 18947), (485, 18950), (497, 19016), (502, 19040), (505, 19061), (507, 19070), (516, 19112), (520, 19130), (521, 19133), (527, 19163), (532, 19187), (539, 19208), (564, 19304), (567, 19322), (571, 19331), (573, 19343), (579, 19379), (588, 19409), (593, 19418), (595, 19430), (607, 19490), (637, 19646), (654, 19724), (666, 19781), (670, 19805), (676, 19859), (680, 19907), (685, 19928), (690, 19973), (691, 19976),

Gene: Wiggin\_29 Start: 22788, Stop: 25184, Start Num: 94

Candidate Starts for Wiggin\_29:

(Start: 94 @22788 has 128 MA's), (170, 22965), (174, 22986), (232, 23133), (271, 23307), (281, 23340), (287, 23376), (319, 23469), (342, 23529), (348, 23547), (375, 23679), (389, 23724), (420, 23856), (428, 23901), (450, 23961), (478, 24075), (481, 24096), (491, 24135), (494, 24156), (496, 24171), (527, 24321), (529, 24327), (532, 24345), (549, 24399), (567, 24483), (593, 24576), (648, 24822), (680, 25038), (691, 25122), (698, 25155),

Gene: Wildcat\_43 Start: 28342, Stop: 30909, Start Num: 53

Candidate Starts for Wildcat\_43:

(Start: 53 @28342 has 241 MA's), (81, 28411), (136, 28534), (139, 28540), (141, 28543), (153, 28567), (157, 28588), (206, 28744), (207, 28750), (209, 28756), (218, 28786), (219, 28792), (225, 28813), (227, 28822), (239, 28882), (258, 28960), (283, 29059), (288, 29092), (295, 29107), (296, 29110), (312, 29149), (330, 29200), (336, 29218), (342, 29239), (343, 29245), (351, 29272), (356, 29299), (370, 29368), (376, 29392), (382, 29413), (389, 29434), (393, 29443), (400, 29464), (406, 29497), (407, 29500), (416, 29551), (420, 29563), (436, 29629), (443, 29647), (451, 29686), (481, 29803), (492, 29848), (501, 29905), (505, 29929), (507, 29938), (510, 29956), (520, 30001), (527, 30034), (534, 30070), (578, 30244), (579, 30262), (581, 30268), (599, 30325), (665, 30649), (667, 30667), (674, 30718), (681, 30781), (690, 30856),

Gene: Wildflower\_58 Start: 35650, Stop: 38160, Start Num: 60

Candidate Starts for Wildflower\_58:

(Start: 60 @35650 has 33 MA's), (74, 35683), (108, 35752), (109, 35755), (122, 35779), (131, 35803), (145, 35827), (155, 35860), (214, 36067), (217, 36079), (218, 36082), (254, 36229), (257, 36259), (262, 36283), (272, 36313), (273, 36316), (281, 36343), (284, 36367), (295, 36397), (315, 36454), (336, 36514), (339, 36526), (346, 36550), (348, 36553), (356, 36595), (377, 36691), (379, 36694), (447, 36949), (481, 37093), (494, 37153), (504, 37225), (505, 37228), (526, 37324), (567, 37498), (573, 37519), (598, 37612), (601, 37624), (614, 37714), (633, 37789), (653, 37834), (684, 38035), (689, 38089), (694, 38104),

Gene: WillSterrel\_19 Start: 18757, Stop: 21294, Start Num: 53

Candidate Starts for WillSterrel\_19:

(Start: 53 @18757 has 241 MA's), (61, 18778), (Start: 71 @18799 has 1 MA's), (90, 18838), (129, 18907), (130, 18916), (131, 18919), (141, 18937), (158, 18985), (206, 19138), (209, 19147), (225, 19192), (250, 19291), (251, 19294), (262, 19360), (281, 19435), (283, 19441), (284, 19459), (293, 19483), (295, 19489), (296, 19492), (310, 19525), (312, 19531), (319, 19561), (330, 19582), (339, 19612), (342, 19621), (346, 19636), (348, 19639), (370, 19750), (371, 19753), (373, 19762), (374, 19768), (377, 19783), (379, 19786), (387, 19807), (397, 19837), (400, 19849), (406, 19882), (428, 19993), (429, 19996), (439, 20023), (442, 20029), (455, 20083), (456, 20086), (479, 20173), (481, 20188), (484, 20200), (485, 20203), (497, 20269), (502, 20293), (505, 20314), (507, 20323), (520, 20383), (521, 20386), (529, 20422), (532, 20440), (537, 20452), (539, 20461), (547, 20488), (563, 20545), (564, 20557), (567, 20575), (571, 20584), (573, 20596), (579, 20632), (588, 20662), (593, 20671), (595, 20683), (607, 20743), (614, 20797), (629, 20857), (637, 20899), (666, 21034), (670, 21058), (676, 21112), (680, 21160), (688, 21202), (690, 21226), (691, 21229),

Gene: Willez\_25 Start: 21788, Stop: 24184, Start Num: 94

Candidate Starts for Willez\_25:

(Start: 94 @21788 has 128 MA's), (170, 21965), (174, 21986), (232, 22133), (263, 22274), (271, 22307), (281, 22340), (287, 22376), (319, 22469), (342, 22529), (348, 22547), (375, 22679), (389, 22724), (420, 22856), (428, 22901), (450, 22961), (478, 23075), (481, 23096), (491, 23135), (494, 23156), (496, 23171), (527, 23321), (529, 23327), (532, 23345), (549, 23399), (567, 23483), (593, 23576), (648, 23822), (680, 24038), (691, 24122), (698, 24155),

Gene: Winget\_59 Start: 36356, Stop: 38866, Start Num: 60

Candidate Starts for Winget\_59:

(Start: 60 @36356 has 33 MA's), (74, 36389), (108, 36458), (109, 36461), (122, 36485), (131, 36509), (145, 36533), (155, 36566), (214, 36773), (217, 36785), (218, 36788), (254, 36935), (257, 36965), (262, 36989), (272, 37019), (273, 37022), (281, 37049), (284, 37073), (295, 37103), (315, 37160), (320, 37184), (336, 37220), (339, 37232), (346, 37256), (348, 37259), (356, 37301), (377, 37397), (379, 37400), (447, 37655), (481, 37799), (494, 37859), (504, 37931), (505, 37934), (526, 38030), (567, 38204), (573, 38225), (598, 38318), (601, 38330), (614, 38420), (633, 38495), (653, 38540), (684, 38741), (689, 38795), (694, 38810),

Gene: Wogge42\_57 Start: 35797, Stop: 38307, Start Num: 60

Candidate Starts for Wogge42\_57:

(Start: 60 @35797 has 33 MA's), (74, 35830), (108, 35899), (109, 35902), (122, 35926), (131, 35950), (145, 35974), (155, 36007), (214, 36214), (217, 36226), (218, 36229), (254, 36376), (257, 36406), (262, 36430), (272, 36460), (273, 36463), (281, 36490), (284, 36514), (295, 36544), (315, 36601), (320, 36625), (336, 36661), (339, 36673), (346, 36697), (348, 36700), (356, 36742), (377, 36838), (379, 36841), (447, 37096), (481, 37240), (494, 37300), (504, 37372), (505, 37375), (526, 37471), (567, 37645), (573, 37666), (598, 37759), (601, 37771), (614, 37861), (633, 37936), (653, 37981), (684, 38182), (689, 38236), (694, 38251),

Gene: XFactor\_18 Start: 17403, Stop: 19940, Start Num: 53

Candidate Starts for XFactor\_18:

(47, 17391), (Start: 53 @17403 has 241 MA's), (61, 17424), (Start: 71 @17445 has 1 MA's), (90, 17484), (129, 17553), (130, 17562), (131, 17565), (141, 17583), (155, 17616), (158, 17631), (172, 17679), (208, 17790), (209, 17793), (221, 17823), (225, 17838), (242, 17916), (251, 17940), (262, 18006), (272, 18051), (281, 18081), (283, 18087), (284, 18105), (293, 18129), (296, 18138), (310, 18171), (312, 18177), (319, 18207), (336, 18246), (339, 18258), (342, 18267), (346, 18282), (348, 18285), (370, 18396), (371, 18399), (373, 18408), (374, 18414), (377, 18429), (379, 18432), (387, 18453), (397, 18483), (400, 18495), (406, 18528), (428, 18639), (429, 18642), (439, 18669), (442, 18675), (455, 18729), (456, 18732), (481, 18834), (484, 18846), (485, 18849), (497, 18915), (502, 18939), (505, 18960), (507, 18969), (520, 19029), (521, 19032), (529, 19068), (532, 19086), (537, 19098), (539, 19107), (547, 19134), (564, 19203), (567, 19221), (571, 19230), (573, 19242), (579, 19278), (588, 19308), (595, 19329), (602, 19353), (607, 19389), (614, 19443), (629, 19503), (637, 19545), (654, 19623), (666, 19680), (670, 19704), (676, 19758), (680, 19806), (688, 19848), (690, 19872), (691, 19875),

Gene: Xandras\_28 Start: 22274, Stop: 24670, Start Num: 94

Candidate Starts for Xandras\_28:

(Start: 94 @22274 has 128 MA's), (170, 22451), (174, 22472), (232, 22619), (271, 22793), (281, 22826), (287, 22862), (319, 22955), (342, 23015), (348, 23033), (375, 23165), (389, 23210), (420, 23342), (428, 23387), (450, 23447), (478, 23561), (481, 23582), (491, 23621), (494, 23642), (496, 23657), (527, 23807), (529, 23813), (532, 23831), (549, 23885), (567, 23969), (593, 24062), (648, 24308), (680, 24524), (691, 24608), (698, 24641),

Gene: YangYin\_22 Start: 20852, Stop: 23308, Start Num: 33

Candidate Starts for YangYin\_22:

(Start: 33 @20852 has 9 MA's), (84, 20996), (132, 21080), (149, 21110), (167, 21155), (221, 21314), (251, 21431), (321, 21653), (341, 21704), (369, 21821), (386, 21887), (409, 21971), (429, 22085), (455, 22175), (458, 22190), (460, 22196), (464, 22205), (470, 22244), (476, 22271), (479, 22283), (492, 22343), (494, 22358), (512, 22454), (516, 22466), (522, 22505), (560, 22640), (571, 22682), (577, 22709), (600, 22808), (622, 22946), (655, 23102), (677, 23246), (680, 23288),

Gene: YassJohnny\_27 Start: 22799, Stop: 25195, Start Num: 94

Candidate Starts for YassJohnny\_27:

(Start: 94 @22799 has 128 MA's), (170, 22976), (174, 22997), (232, 23144), (263, 23285), (271, 23318), (281, 23351), (287, 23387), (319, 23480), (342, 23540), (348, 23558), (375, 23690), (389, 23735), (420, 23867), (428, 23912), (478, 24086), (481, 24107), (491, 24146), (494, 24167), (496, 24182), (529, 24338), (532, 24356), (549, 24410), (567, 24494), (593, 24587), (648, 24833), (680, 25049), (691, 25133), (698, 25166),

Gene: Yorick\_18 Start: 17404, Stop: 19956, Start Num: 53

Candidate Starts for Yorick\_18:

(Start: 53 @17404 has 241 MA's), (90, 17485), (129, 17554), (130, 17563), (131, 17566), (141, 17584), (158, 17632), (171, 17677), (208, 17791), (209, 17794), (213, 17806), (222, 17827), (224, 17836), (225, 17839), (235, 17887), (242, 17917), (257, 17983), (263, 18016), (272, 18052), (279, 18076), (295, 18136), (296, 18139), (303, 18157), (328, 18220), (330, 18223), (336, 18241), (342, 18262), (348, 18280), (354, 18307), (358, 18328), (365, 18361), (373, 18403), (374, 18409), (375, 18412), (379, 18427), (388, 18454), (389, 18457), (397, 18478), (400, 18490), (406, 18523), (425, 18616), (455, 18724), (461, 18748), (467, 18754), (469, 18772), (470, 18775), (475, 18799), (481, 18829), (488, 18853), (494, 18889), (495, 18895), (496, 18904), (501, 18931), (511, 18994), (516, 19018), (517, 19033), (527, 19075), (541, 19126), (565, 19222), (567, 19237), (571, 19246), (576, 19270), (593, 19333), (602, 19369), (663, 19675), (670, 19720), (680, 19822),

Gene: Yoshi\_24 Start: 17092, Stop: 19641, Start Num: 40

Candidate Starts for Yoshi\_24:

(37, 17083), (Start: 40 @17092 has 7 MA's), (Start: 53 @17152 has 241 MA's), (65, 17185), (67, 17188), (104, 17257), (118, 17287), (192, 17467), (197, 17482), (209, 17518), (211, 17524), (223, 17545), (228, 17569), (234, 17593), (269, 17740), (272, 17749), (281, 17773), (284, 17797), (293, 17821), (295, 17827), (303, 17848), (312, 17869), (319, 17899), (333, 17929), (339, 17950), (362, 18043), (365, 18058), (366, 18067), (370, 18088), (371, 18091), (397, 18175), (398, 18178), (400, 18187), (407, 18223), (414, 18262), (418, 18283), (420, 18286), (427, 18322), (433, 18343), (455, 18421), (456, 18424), (472, 18478), (484, 18538), (500, 18625), (502, 18631), (504, 18649), (505, 18652), (514, 18688), (525, 18742), (527, 18751), (546, 18829), (550, 18847), (559, 18883), (561, 18886), (564, 18904), (565, 18907), (567, 18922), (579, 18979), (584, 18991), (602, 19054), (607, 19087), (619, 19174), (632, 19222), (635, 19246), (643, 19273), (648, 19282), (653, 19321), (662, 19360), (666, 19384), (669, 19405), (680, 19501), (685, 19522), (694, 19585), (698, 19612), (701, 19621),

Gene: Youngblood\_26 Start: 22452, Stop: 24848, Start Num: 94

Candidate Starts for Youngblood\_26:

(Start: 94 @22452 has 128 MA's), (170, 22629), (174, 22650), (232, 22797), (263, 22938), (271, 22971), (281, 23004), (287, 23040), (319, 23133), (342, 23193), (348, 23211), (375, 23343), (389, 23388), (420, 23520), (428, 23565), (450, 23625), (478, 23739), (481, 23760), (491, 23799), (494, 23820), (496, 23835), (529, 23991), (532, 24009), (549, 24063), (567, 24147), (593, 24240), (648, 24486), (680, 24702), (691, 24786), (698, 24819),

Gene: YoureAdopted\_26 Start: 20848, Stop: 23280, Start Num: 80

Candidate Starts for YoureAdopted\_26:

(Start: 80 @20848 has 96 MA's), (126, 20947), (218, 21208), (225, 21229), (270, 21436), (280, 21469), (285, 21499), (314, 21571), (319, 21595), (337, 21640), (370, 21793), (378, 21838), (381, 21850), (385, 21859), (400, 21910), (437, 22090), (443, 22105), (459, 22174), (463, 22186), (485, 22291), (494, 22330), (495, 22336), (496, 22345), (513, 22426), (522, 22474), (541, 22549), (550, 22585), (570, 22657), (572, 22666), (577, 22687), (599, 22780), (614, 22876), (648, 23023), (654, 23065), (664, 23104), (673, 23179),

Gene: YoyoKar\_56 Start: 35640, Stop: 38150, Start Num: 60

Candidate Starts for YoyoKar\_56:

(Start: 60 @35640 has 33 MA's), (74, 35673), (108, 35742), (109, 35745), (122, 35769), (131, 35793), (145, 35817), (155, 35850), (214, 36057), (217, 36069), (218, 36072), (254, 36219), (257, 36249), (262, 36273), (272, 36303), (273, 36306), (281, 36333), (284, 36357), (295, 36387), (315, 36444), (320, 36468), (336, 36504), (339, 36516), (346, 36540), (348, 36543), (356, 36585), (377, 36681), (379, 36684), (447, 36939), (481, 37083), (494, 37143), (504, 37215), (505, 37218), (526, 37314), (567, 37488), (573, 37509), (598, 37602), (601, 37614), (614, 37704), (633, 37779), (653, 37824), (684, 38025), (689, 38079), (694, 38094),

Gene: YungJamal\_63 Start: 37548, Stop: 40058, Start Num: 60

Candidate Starts for YungJamal\_63:

(Start: 60 @37548 has 33 MA's), (74, 37581), (108, 37650), (109, 37653), (122, 37677), (131, 37701), (145, 37725), (155, 37758), (214, 37965), (217, 37977), (218, 37980), (254, 38127), (257, 38157), (262, 38181), (272, 38211), (273, 38214), (281, 38241), (284, 38265), (295, 38295), (315, 38352), (336, 38412), (339, 38424), (346, 38448), (348, 38451), (356, 38493), (377, 38589), (379, 38592), (447, 38847), (481, 38991), (494, 39051), (504, 39123), (505, 39126), (526, 39222), (567, 39396), (573, 39417), (598, 39510), (601, 39522), (614, 39612), (633, 39687), (653, 39732), (684, 39933), (689, 39987), (694, 40002),

Gene: Yunkel11\_27 Start: 20098, Stop: 22530, Start Num: 80

Candidate Starts for Yunkel11\_27:

(Start: 80 @20098 has 96 MA's), (98, 20146), (100, 20149), (106, 20158), (218, 20458), (225, 20479), (280, 20719), (314, 20821), (319, 20845), (321, 20851), (337, 20890), (370, 21043), (381, 21100), (385, 21109), (400, 21160), (439, 21346), (443, 21355), (445, 21361), (455, 21406), (459, 21424), (476, 21499), (485, 21541), (494, 21580), (495, 21586), (496, 21595), (500, 21616), (509, 21664), (520, 21709), (522, 21724), (539, 21793), (550, 21835), (572, 21916), (594, 22009), (599, 22030), (614, 22126), (664, 22354), (671, 22408), (673, 22429), (680, 22501), (683, 22519),

Gene: Zabiza\_27 Start: 20879, Stop: 23311, Start Num: 80

Candidate Starts for Zabiza\_27:

(Start: 80 @20879 has 96 MA's), (126, 20978), (218, 21239), (225, 21260), (270, 21467), (280, 21500), (285, 21530), (314, 21602), (319, 21626), (337, 21671), (370, 21824), (378, 21869), (381, 21881), (385, 21890), (400, 21941), (437, 22121), (443, 22136), (459, 22205), (463, 22217), (485, 22322), (494, 22361), (495, 22367), (496, 22376), (513, 22457), (522, 22505), (541, 22580), (550, 22616), (572, 22697), (577, 22718), (599, 22811), (614, 22907), (648, 23054), (654, 23096), (664, 23135), (673, 23210),

Gene: Zakhe101\_58 Start: 36194, Stop: 38704, Start Num: 60

Candidate Starts for Zakhe101\_58:

(Start: 60 @36194 has 33 MA's), (74, 36227), (108, 36296), (109, 36299), (122, 36323), (131, 36347), (145, 36371), (155, 36404), (214, 36611), (217, 36623), (218, 36626), (254, 36773), (257, 36803), (262, 36827), (272, 36857), (273, 36860), (281, 36887), (284, 36911), (295, 36941), (315, 36998), (336, 37058), (339, 37070), (346, 37094), (348, 37097), (356, 37139), (377, 37235), (379, 37238), (447, 37493), (481, 37637), (494, 37697), (504, 37769), (505, 37772), (526, 37868), (567, 38042), (573, 38063), (598, 38156), (601, 38168), (614, 38258), (633, 38333), (653, 38378), (684, 38579), (689, 38633), (694, 38648),

Gene: Zapner\_25 Start: 17617, Stop: 20169, Start Num: 40

Candidate Starts for Zapner\_25:

(37, 17608), (Start: 40 @17617 has 7 MA's), (Start: 53 @17677 has 241 MA's), (67, 17713), (118, 17812), (172, 17953), (192, 17992), (197, 18007), (209, 18043), (211, 18049), (212, 18052), (223, 18070), (228, 18094), (234, 18118), (235, 18121), (269, 18265), (272, 18274), (281, 18298), (284, 18322), (293, 18346), (295, 18352), (303, 18373), (305, 18376), (312, 18394), (319, 18427), (333, 18457), (339, 18478), (362, 18571), (365, 18586), (366, 18595), (370, 18616), (371, 18619), (382, 18661), (397, 18703), (398, 18706), (400, 18715), (405, 18742), (407, 18751), (414, 18790), (418, 18811), (420, 18814), (427, 18850), (433, 18871), (455, 18949), (456, 18952), (472, 19006), (484, 19066), (500, 19153), (502, 19159), (505, 19180), (514, 19216), (525, 19270), (527, 19279), (546, 19357), (550, 19375), (559, 19411), (561, 19414), (564, 19432), (567, 19450), (579, 19507), (584, 19519), (602, 19582), (607, 19615), (619, 19702), (632, 19750), (635, 19774), (648, 19810), (653, 19849), (662, 19888), (666, 19912), (669, 19933), (680, 20029), (685, 20050), (692, 20110), (694, 20113), (698, 20140),

Gene: Zavala\_27 Start: 20854, Stop: 23286, Start Num: 80

Candidate Starts for Zavala\_27:

(Start: 80 @20854 has 96 MA's), (126, 20953), (218, 21214), (225, 21235), (270, 21442), (280, 21475), (285, 21505), (314, 21577), (319, 21601), (337, 21646), (370, 21799), (378, 21844), (381, 21856), (385, 21865), (400, 21916), (437, 22096), (443, 22111), (459, 22180), (463, 22192), (476, 22255), (485, 22297), (494, 22336), (495, 22342), (496, 22351), (500, 22372), (513, 22432), (539, 22549), (550, 22591), (570, 22663), (572, 22672), (577, 22693), (594, 22765), (599, 22786), (614, 22882), (628, 22945), (664, 23110), (680, 23257),

Gene: Zebo\_58 Start: 36099, Stop: 38609, Start Num: 60

Candidate Starts for Zebo\_58:

(Start: 60 @36099 has 33 MA's), (74, 36132), (108, 36201), (109, 36204), (122, 36228), (131, 36252), (145, 36276), (155, 36309), (214, 36516), (217, 36528), (218, 36531), (254, 36678), (257, 36708), (262, 36732), (272, 36762), (273, 36765), (281, 36792), (284, 36816), (295, 36846), (315, 36903), (320, 36927), (336, 36963), (339, 36975), (346, 36999), (348, 37002), (356, 37044), (377, 37140), (379, 37143), (447, 37398), (481, 37542), (494, 37602), (504, 37674), (505, 37677), (526, 37773), (567, 37947), (573, 37968), (598, 38061), (601, 38073), (614, 38163), (633, 38238), (653, 38283), (684, 38484), (689, 38538), (694, 38553),

Gene: Zerg\_18 Start: 17367, Stop: 19904, Start Num: 53

Candidate Starts for Zerg\_18:

(Start: 53 @17367 has 241 MA's), (96, 17457), (129, 17517), (130, 17526), (131, 17529), (141, 17547), (158, 17595), (206, 17748), (209, 17757), (225, 17802), (250, 17901), (251, 17904), (262, 17970), (281, 18045), (283, 18051), (284, 18069), (293, 18093), (295, 18099), (296, 18102), (310, 18135), (312, 18141), (319, 18171), (330, 18192), (339, 18222), (342, 18231), (346, 18246), (348, 18249), (370, 18360), (371, 18363), (373, 18372), (374, 18378), (377, 18393), (379, 18396), (387, 18417), (397, 18447), (400, 18459), (406, 18492), (428, 18603), (429, 18606), (439, 18633), (442, 18639), (455, 18693), (456, 18696), (479, 18783), (481, 18798), (484, 18810), (485, 18813), (497, 18879), (502, 18903), (505, 18924), (507, 18933), (520, 18993), (521, 18996), (529, 19032), (532, 19050), (537, 19062), (539, 19071), (547, 19098), (563, 19155), (564, 19167), (567, 19185), (571, 19194), (573, 19206), (579, 19242), (588, 19272), (593, 19281), (595, 19293), (607, 19353), (614, 19407), (629, 19467), (637, 19509), (666, 19644), (670, 19668), (676, 19722), (680, 19770), (688, 19812), (690, 19836), (691, 19839),

Gene: Zizzle\_18 Start: 17375, Stop: 19900, Start Num: 53

Candidate Starts for Zizzle\_18:

(Start: 53 @17375 has 241 MA's), (90, 17456), (129, 17525), (130, 17534), (131, 17537), (141, 17555), (158, 17603), (171, 17648), (208, 17762), (209, 17765), (222, 17798), (225, 17810), (242, 17888), (257, 17954), (263, 17987), (277, 18041), (281, 18053), (295, 18107), (296, 18110), (300, 18119), (313, 18152), (328, 18191), (330, 18194), (335, 18209), (336, 18212), (343, 18239), (345, 18245), (346, 18248), (348, 18251), (354, 18278), (357, 18296), (358, 18299), (373, 18374), (377, 18395), (379, 18398), (388, 18425), (397, 18449), (406, 18494), (407, 18497), (416, 18548), (429, 18611), (433, 18620), (441, 18644), (470, 18749), (471, 18752), (481, 18803), (482, 18809), (484, 18815), (485, 18818), (494, 18863), (496, 18878), (501, 18905), (505, 18929), (516, 18980), (520, 18998), (521, 19001), (522, 19013), (537, 19067), (567, 19190), (581, 19253), (600, 19316), (609, 19391), (657, 19592), (687, 19802), (693, 19841), (694, 19844),

Gene: xkcd\_27 Start: 22453, Stop: 24849, Start Num: 94

Candidate Starts for xkcd\_27:

(Start: 94 @22453 has 128 MA's), (170, 22630), (174, 22651), (232, 22798), (263, 22939), (271, 22972), (281, 23005), (287, 23041), (319, 23134), (342, 23194), (348, 23212), (375, 23344), (389, 23389), (420, 23521), (428, 23566), (478, 23740), (481, 23761), (491, 23800), (494, 23821), (496, 23836), (529, 23992), (532, 24010), (549, 24064), (567, 24148), (593, 24241), (648, 24487), (680,

24703), (691, 24787), (698, 24820),