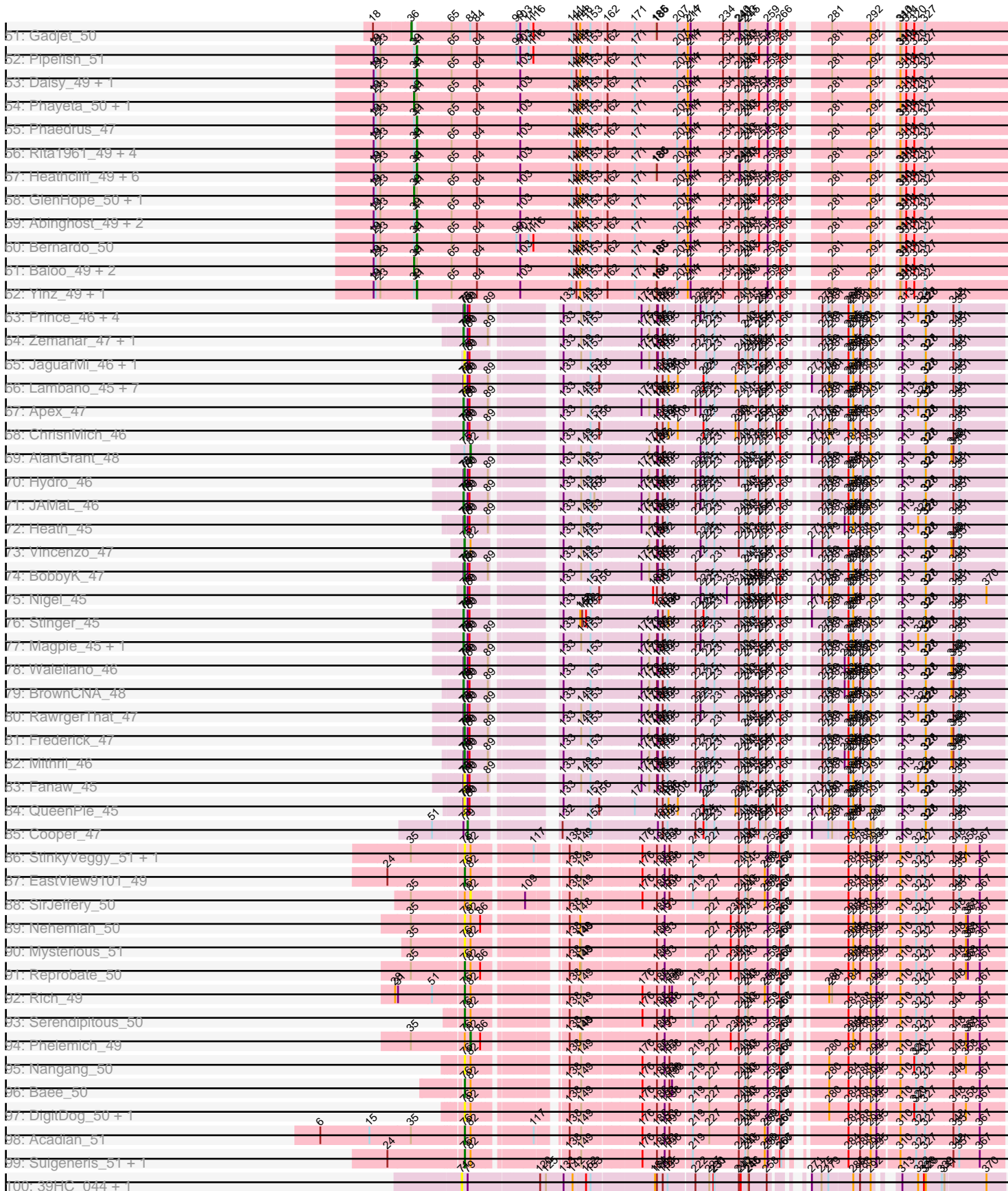


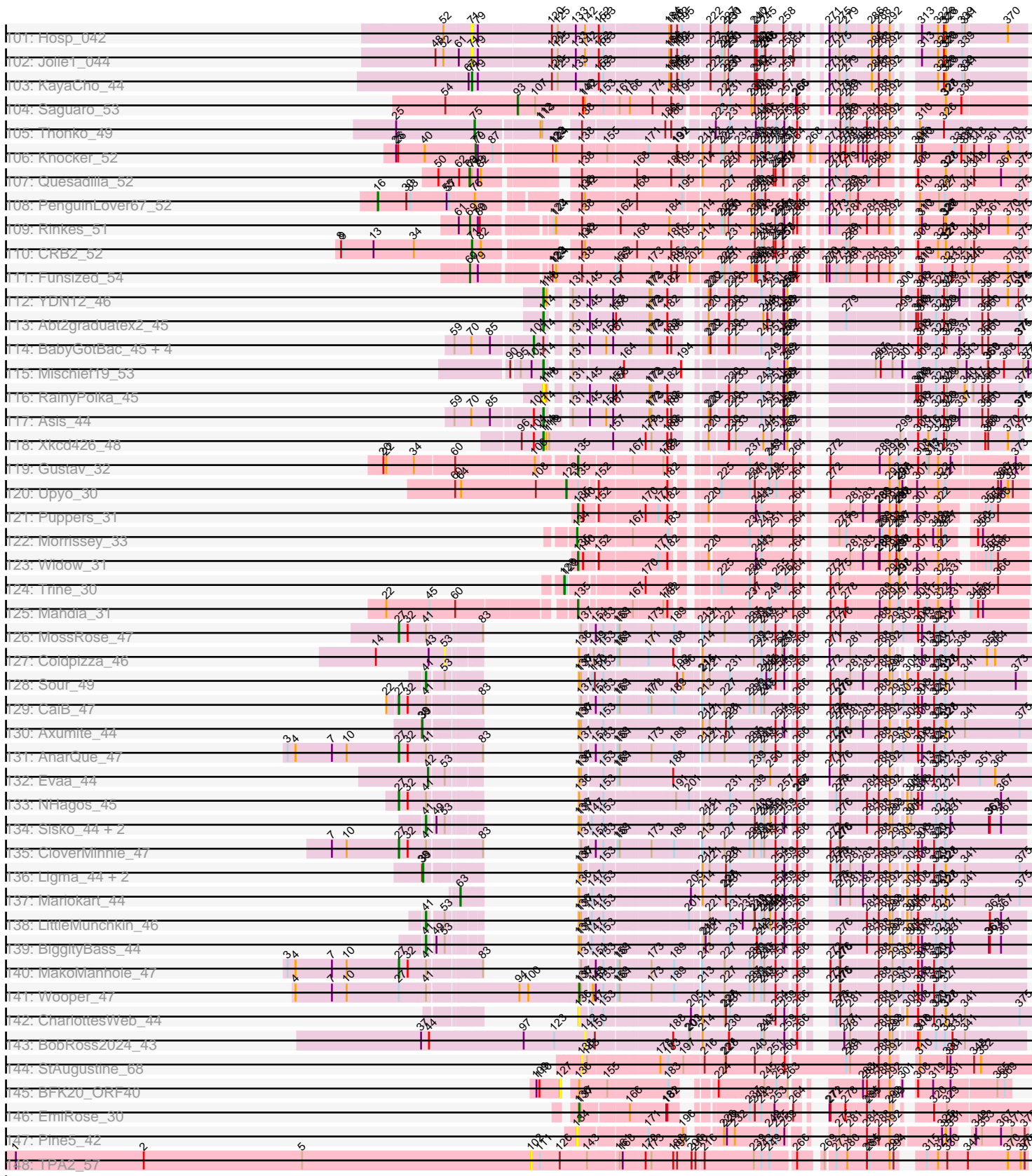
Pham 192190

1: Mikota_51 + 93	11	12	1	29	36	81	108	138	153	168	171	188	200	212	220	229	239	250	260	282	288	292	300	308	316	324	332	340	348	356	364	372	380	388	396	404	412	420	428	436	444	452	460	468	476	484	492	500	508	516	524	532	540	548	556	564	572	580	588	596	604	612	620	628	636	644	652	660	668	676	684	692	700	708	716	724	732	740	748	756	764	772	780	788	796	804	812	820	828	836	844	852	860	868	876	884	892	900	908	916	924	932	940	948	956	964	972	980	988	996	1004	1012	1020	1028	1036	1044	1052	1060	1068	1076	1084	1092	1100	1108	1116	1124	1132	1140	1148	1156	1164	1172	1180	1188	1196	1204	1212	1220	1228	1236	1244	1252	1260	1268	1276	1284	1292	1300	1308	1316	1324	1332	1340	1348	1356	1364	1372	1380	1388	1396	1404	1412	1420	1428	1436	1444	1452	1460	1468	1476	1484	1492	1500	1508	1516	1524	1532	1540	1548	1556	1564	1572	1580	1588	1596	1604	1612	1620	1628	1636	1644	1652	1660	1668	1676	1684	1692	1700	1708	1716	1724	1732	1740	1748	1756	1764	1772	1780	1788	1796	1804	1812	1820	1828	1836	1844	1852	1860	1868	1876	1884	1892	1900	1908	1916	1924	1932	1940	1948	1956	1964	1972	1980	1988	1996	2004	2012	2020	2028	2036	2044	2052	2060	2068	2076	2084	2092	2100	2108	2116	2124	2132	2140	2148	2156	2164	2172	2180	2188	2196	2204	2212	2220	2228	2236	2244	2252	2260	2268	2276	2284	2292	2300	2308	2316	2324	2332	2340	2348	2356	2364	2372	2380	2388	2396	2404	2412	2420	2428	2436	2444	2452	2460	2468	2476	2484	2492	2500	2508	2516	2524	2532	2540	2548	2556	2564	2572	2580	2588	2596	2604	2612	2620	2628	2636	2644	2652	2660	2668	2676	2684	2692	2700	2708	2716	2724	2732	2740	2748	2756	2764	2772	2780	2788	2796	2804	2812	2820	2828	2836	2844	2852	2860	2868	2876	2884	2892	2900	2908	2916	2924	2932	2940	2948	2956	2964	2972	2980	2988	2996	3004	3012	3020	3028	3036	3044	3052	3060	3068	3076	3084	3092	3100	3108	3116	3124	3132	3140	3148	3156	3164	3172	3180	3188	3196	3204	3212	3220	3228	3236	3244	3252	3260	3268	3276	3284	3292	3300	3308	3316	3324	3332	3340	3348	3356	3364	3372	3380	3388	3396	3404	3412	3420	3428	3436	3444	3452	3460	3468	3476	3484	3492	3500	3508	3516	3524	3532	3540	3548	3556	3564	3572	3580	3588	3596	3604	3612	3620	3628	3636	3644	3652	3660	3668	3676	3684	3692	3700	3708	3716	3724	3732	3740	3748	3756	3764	3772	3780	3788	3796	3804	3812	3820	3828	3836	3844	3852	3860	3868	3876	3884	3892	3900	3908	3916	3924	3932	3940	3948	3956	3964	3972	3980	3988	3996	4004	4012	4020	4028	4036	4044	4052	4060	4068	4076	4084	4092	4100	4108	4116	4124	4132	4140	4148	4156	4164	4172	4180	4188	4196	4204	4212	4220	4228	4236	4244	4252	4260	4268	4276	4284	4292	4300	4308	4316	4324	4332	4340	4348	4356	4364	4372	4380	4388	4396	4404	4412	4420	4428	4436	4444	4452	4460	4468	4476	4484	4492	4500	4508	4516	4524	4532	4540	4548	4556	4564	4572	4580	4588	4596	4604	4612	4620	4628	4636	4644	4652	4660	4668	4676	4684	4692	4700	4708	4716	4724	4732	4740	4748	4756	4764	4772	4780	4788	4796	4804	4812	4820	4828	4836	4844	4852	4860	4868	4876	4884	4892	4900	4908	4916	4924	4932	4940	4948	4956	4964	4972	4980	4988	4996	5004	5012	5020	5028	5036	5044	5052	5060	5068	5076	5084	5092	5100	5108	5116	5124	5132	5140	5148	5156	5164	5172	5180	5188	5196	5204	5212	5220	5228	5236	5244	5252	5260	5268	5276	5284	5292	5300	5308	5316	5324	5332	5340	5348	5356	5364	5372	5380	5388	5396	5404	5412	5420	5428	5436	5444	5452	5460	5468	5476	5484	5492	5500	5508	5516	5524	5532	5540	5548	5556	5564	5572	5580	5588	5596	5604	5612	5620	5628	5636	5644	5652	5660	5668	5676	5684	5692	5700	5708	5716	5724	5732	5740	5748	5756	5764	5772	5780	5788	5796	5804	5812	5820	5828	5836	5844	5852	5860	5868	5876	5884	5892	5900	5908	5916	5924	5932	5940	5948	5956	5964	5972	5980	5988	5996	6004	6012	6020	6028	6036	6044	6052	6060	6068	6076	6084	6092	6100	6108	6116	6124	6132	6140	6148	6156	6164	6172	6180	6188	6196	6204	6212	6220	6228	6236	6244	6252	6260	6268	6276	6284	6292	6300	6308	6316	6324	6332	6340	6348	6356	6364	6372	6380	6388	6396	6404	6412	6420	6428	6436	6444	6452	6460	6468	6476	6484	6492	6500	6508	6516	6524	6532	6540	6548	6556	6564	6572	6580	6588	6596	6604	6612	6620	6628	6636	6644	6652	6660	6668	6676	6684	6692	6700	6708	6716	6724	6732	6740	6748	6756	6764	6772	6780	6788	6796	6804	6812	6820	6828	6836	6844	6852	6860	6868	6876	6884	6892	6900	6908	6916	6924	6932	6940	6948	6956	6964	6972	6980	6988	6996	7004	7012	7020	7028	7036	7044	7052	7060	7068	7076	7084	7092	7100	7108	7116	7124	7132	7140	7148	7156	7164	7172	7180	7188	7196	7204	7212	7220	7228	7236	7244	7252	7260	7268	7276	7284	7292	7300	7308	7316	7324	7332	7340	7348	7356	7364	7372	7380	7388	7396	7404	7412	7420	7428	7436	7444	7452	7460	7468	7476	7484	7492	7500	7508	7516	7524	7532	7540	7548	7556	7564	7572	7580	7588	7596	7604	7612	7620	7628	7636	7644	7652	7660	7668	7676	7684	7692	7700	7708	7716	7724	7732	7740	7748	7756	7764	7772	7780	7788	7796	7804	7812	7820	7828	7836	7844	7852	7860	7868	7876	7884	7892	7900	7908	7916	7924	7932	7940	7948	7956	7964	7972	7980	7988	7996	8004	8012	8020	8028	8036	8044	8052	8060	8068	8076	8084	8092	8100	8108	8116	8124	8132	8140	8148	8156	8164	8172	8180	8188	8196	8204	8212	8220	8228	8236	8244	8252	8260	8268	8276	8284	8292	8300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Pham 192190



Pham 192190



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 192190 Report

This analysis was run 11/02/24 on database version 579.

Pham number 192190 has 475 members, 50 are drafts.

Phages represented in each track:

- Track 1 : Mikota\_51, Fozzie\_50, CamL\_51, Mosaic\_50, Altwerkus\_50, BlueHusk\_51, MRabcd\_50, ThreeOh3D2\_52, Windsor\_50, LeiMonet\_52, Daka\_52, ShiVal\_51, YouGoGlencoco\_51, Serendipity\_51, Kloppinator\_52, IsaacEli\_52, Fringe\_52, DirtJuice\_51, Toni\_50, Chorkpop\_51, Pipsqueak\_51, Virapocalypse\_51, Rimu\_53, Burr\_50, Morty\_52, Grand2040\_50, MrPhizzler\_50, Vaticameos\_47, Prickles\_51, JangoPhett\_51, Horchata\_51, True\_50, Solosis\_50, Timmi\_50, Riggan\_51, Mcshane\_50, Olive\_51, Swish\_52, BlackStallion\_52, Gareth\_50, Phipps\_51, Jillium\_50, Slatt\_51, Quisquiliae\_51, Kikipoo\_52, Robyn\_50, DaddyDaniels\_51, Lasso\_51, Tooj\_51, Samaymay\_51, QueenBeane\_51, Mana\_50, Olak\_50, Dingo\_51, Roscoe\_52, JacAttac\_52, Puhltonio\_51, Longacauda\_50, Sigman\_52, Badfish\_52, LemonSlice\_51, Morgushi\_51, Bluephacebaby\_50, FriarPreacher\_50, EmpTee\_51, Podrick\_51, Cannibal\_51, Beaglebox\_50, Kwadwo\_50, Buckeye\_51, Sheila\_51, Haleema\_50, Scrick\_51, LostAndPhound\_50, Katniss\_52, Dice\_50, Pacifista\_50, Chaelin\_51, Spartan300\_51, Cher\_50, Scoot17C\_52, Held\_51, Lego3393\_50, Simielle\_50, Vaishali24\_50, Roliet\_51, Phamished\_52, Nyala\_50, FluffyNinja\_52, Chah\_53, Megatron\_52, Banjo\_50, Vortex\_51, Tomlahar\_51
- Track 2 : HighStump\_51, Hartsy\_51, Piglet\_0051, Kahve\_50, Eugenia\_51, Mutante\_50, Placalicious\_50, Zaider\_52, Frankicide\_51, Surely\_51, Childish\_50, ABU\_52, Serpentine\_0051, Soile\_51, Nacho\_0052, Vista\_51, Waterdiva\_51, UncleHowie\_51, Mecca\_50, Kimbrough\_51, Craff\_52, Matalotodo\_51, Zelda\_51, Brilliant\_51, Charles1\_51, Usavi\_51, Omniscient\_51, Murdoc\_51, Squiggle\_51, FugateOSU\_50, Gwilliam\_52, OliverWalter\_51, PG1\_52
- Track 3 : Apizium\_51
- Track 4 : Jiminy\_50, JakeO\_50, Struggle\_50, Hocus\_50, JDog\_50
- Track 5 : KlimbOn\_51, Newman\_51, Inverness\_51
- Track 6 : Weher20\_51, ImtiyazSitla\_51, Dati\_51, Emiris\_52, Trypo\_52, CharlieGBrown\_50, Maskar\_51, Phergie\_51, BatteryCK\_50, Phleuron\_50, Etaye\_51, Melc17\_51, MichaelPhcott\_50, PhenghisKhan\_50, KingTut\_42, PhrankReynolds\_49, Inchworm\_52, Carthage\_49, Mag7\_50, Ashraf\_51, Oline\_50, Gophee\_51, Kailash\_51, MelsMeow\_51, Lumine\_50, Durga\_52, Magic8\_51, Kwksand96\_50, Cobra\_51
- Track 7 : Suffolk\_51, Anderson\_51, Oosterbaan\_51, Lulumae\_50, Chunky\_51
- Track 8 : Skippy\_51, Phunky\_51, Roy17\_51, HSavage\_51, Cornobble\_50, Haimas\_51, Dione\_50, Orwigg\_52, Lulwa\_51, CheetO\_51, Hamish\_51, Bishoperium\_50, Nicole21\_51, Freya\_50, DoesntMatter\_50, OSmaximus\_52, Phareon\_51, Hertubise\_51, PhrodoBaggins\_51, LasagnaCat\_52, Thora\_51,



LuckyMarjie\_50, Eremos\_51, Telesworld\_50, RedMaple\_51, Giraffe\_51, Iridoclysis\_51, Numberten\_51, Harvey\_51, Plmatters\_51

- Track 9 : Coletti\_50, Jiraiya\_53, Keitherie\_51, PinheadLarry\_51, Thunderbird\_50, Chute\_50
- Track 10 : Sophia\_50, Hetaeria\_51, Andre\_52, UAch1\_51, Fang\_52, ProfessorX\_51, Pops\_51, Gyarad\_0051, DonSanchon\_50
- Track 11 : Basato\_52
- Track 12 : Crownjwl\_51
- Track 13 : Soto\_51
- Track 14 : Boehler\_51
- Track 15 : Cosmolli16\_50, AbsoluteMadLad\_50, AltPhacts\_51, Mesh1\_51
- Track 16 : Labeouficaum\_50, Derpp\_50, Squid\_51, MitKao\_51, Zonia\_51, Wallhey\_50, Potter\_50, TyrionL\_50, TomBombadil\_51, GeneCoco\_51, SassyCat97\_50, Xavier\_50, Pinkman\_50
- Track 17 : TallGrassMM\_51, Maru\_50, Daffy\_51, MiniBoss\_51, DelRivs\_50, Selr12\_51, Ricotta\_50, Legolas\_51, Adriana\_52, Orion\_52, Colbert\_51, KingVeVeVe\_51, Megamind20\_51, PhatCats2014\_52, Orfeu\_50, Yoshand\_52, SilverBell\_51
- Track 18 : Pherdinand\_52
- Track 19 : Doddsville\_51
- Track 20 : Virgeve\_50, Schueller\_51, Veritas\_50
- Track 21 : Duggie\_50
- Track 22 : Valjean\_51, Mulan\_51, HenryJackson\_50, PhatLouie\_51, LeeLot\_51, Swiphy\_53
- Track 23 : Antonia\_50, Vivaldi\_52
- Track 24 : DuchessDung\_50
- Track 25 : Aelin\_50
- Track 26 : SDcharge11\_51
- Track 27 : Manad\_51, Lopsy\_50
- Track 28 : KLucky39\_51
- Track 29 : Schadenfreude\_50
- Track 30 : CampRoach\_52
- Track 31 : Imvubu\_43
- Track 32 : Indlovu\_48
- Track 33 : LilMcDreamy\_48
- Track 34 : Zenteno07\_55
- Track 35 : Hashim76\_54
- Track 36 : BirdsNest\_53
- Track 37 : MasterPo\_50, Bananafish\_50, Phantasmagoria\_50, Faze9\_49, Eaglehorse\_50, Boyle\_50, Ares\_50
- Track 38 : FrenchFry\_50, Lars\_50, Glass\_50, LizLemon\_50
- Track 39 : Calamitous\_50
- Track 40 : Holeinone\_50
- Track 41 : Blocker23\_50, Lephleur\_50, Rhinoforte\_50, Kheth\_50
- Track 42 : Coffee\_50, Arbiter\_49, Tinciduntolum\_51, Kaleb\_50, Brownie5\_50, West99\_50, Opia\_50, Allegro\_50, Hedgerow\_50, Tres\_50, Rosebush\_49
- Track 43 : ItsyBitsy1\_50
- Track 44 : TA17A\_50, Sabella\_49
- Track 45 : Qyrzula\_47
- Track 46 : Vic9\_50
- Track 47 : Godines\_50
- Track 48 : Laurie\_49
- Track 49 : Yahalom\_49, LestyG\_49, RomaT\_49, Kronus\_48

- Track 50 : Nozo\_49, Philly\_48, Compostia\_50, Corofin\_49, Morty007\_49, Halfpint\_48, Chandler\_49, OrangeOswald\_49, SynergyX\_49, Jackstina\_46, Kamiyu\_49, Akoma\_49, Tydolla\_49
- Track 51 : Gadget\_50
- Track 52 : Pipefish\_51
- Track 53 : Daisy\_49, Neos5\_49
- Track 54 : Phayeta\_50, SlippinJimmy\_49
- Track 55 : Phaedrus\_47
- Track 56 : Rita1961\_49, Obutu\_49, Gervas\_49, Mortcellus\_48, MmasiCarm\_49
- Track 57 : Heathcliff\_49, HarveySr\_49, Devonte\_49, Deenasa\_49, Athena\_50, Briakila\_50, RagingRooster\_49
- Track 58 : GlenHope\_50, Marley1013\_49
- Track 59 : Abinghost\_49, Casbah\_48, Phlyer\_49
- Track 60 : Bernardo\_50
- Track 61 : Baloo\_49, Ben11\_48, Audrey\_49
- Track 62 : Yinz\_49, ChaChing\_49
- Track 63 : Prince\_46, VioletZ\_48, Austelle\_47, Lolalove\_47, Mudslide\_46
- Track 64 : Zemanar\_47, Hangman\_46
- Track 65 : JaguarMi\_46, Xincheng\_45
- Track 66 : Lambano\_45, Epah\_45, GinPorsche\_45, Hally898\_45, Antihero\_45, Nanao\_45, Ahwei\_45, Poster\_45
- Track 67 : Apex\_47
- Track 68 : ChrisnMich\_46
- Track 69 : AlanGrant\_48
- Track 70 : Hydro\_46
- Track 71 : JAMaL\_46
- Track 72 : Heath\_45
- Track 73 : Vincenzo\_47
- Track 74 : BobbyK\_47
- Track 75 : Nigel\_45
- Track 76 : Stinger\_45
- Track 77 : Magpie\_45, Fortunato\_47
- Track 78 : Waleliano\_46
- Track 79 : BrownCNA\_48
- Track 80 : RawrgerThat\_47
- Track 81 : Frederick\_47
- Track 82 : Mithril\_46
- Track 83 : Fanaw\_45
- Track 84 : QueenPie\_45
- Track 85 : Cooper\_47
- Track 86 : StinkyVeggy\_51, KarasumaRum\_51
- Track 87 : EastView9101\_49
- Track 88 : SirJeffery\_50
- Track 89 : Nehemiah\_50
- Track 90 : Mysterious\_51
- Track 91 : Reprobate\_50
- Track 92 : Rich\_49
- Track 93 : Serendipitous\_50
- Track 94 : Phelemich\_49
- Track 95 : Nangang\_50
- Track 96 : Bae\_50
- Track 97 : DigitDog\_50, Shenyu\_50
- Track 98 : Acadian\_51

- Track 99 : Suigeneris\_51, Donny\_51
- Track 100 : 39HC\_044, 40BC\_044
- Track 101 : Hosp\_042
- Track 102 : Jolie1\_044
- Track 103 : KayaCho\_44
- Track 104 : Saguario\_53
- Track 105 : Thonko\_49
- Track 106 : Knocker\_52
- Track 107 : Quesadilla\_52
- Track 108 : PenguinLover67\_52
- Track 109 : Rinkes\_51
- Track 110 : CRB2\_52
- Track 111 : Funsized\_54
- Track 112 : YDN12\_46
- Track 113 : Abt2graduatex2\_45
- Track 114 : BabyGotBac\_45, TP1604\_44, Salete\_44, Maih\_43, BayC\_44
- Track 115 : Mischief19\_53
- Track 116 : RainyPolka\_45
- Track 117 : Asis\_44
- Track 118 : Xkcd426\_48
- Track 119 : Gustav\_32
- Track 120 : Upyo\_30
- Track 121 : Puppies\_31
- Track 122 : Morrissey\_33
- Track 123 : Widow\_31
- Track 124 : Trine\_30
- Track 125 : Mahdia\_31
- Track 126 : MossRose\_47
- Track 127 : Coldpizza\_46
- Track 128 : Sour\_49
- Track 129 : CaiB\_47
- Track 130 : Axumite\_44
- Track 131 : AnarQue\_47
- Track 132 : Evaa\_44
- Track 133 : NHagos\_45
- Track 134 : Sisko\_44, AnClar\_45, Yago84\_44
- Track 135 : CloverMinnie\_47
- Track 136 : Ligma\_44, Fresco\_44, Shatter\_44
- Track 137 : Mariokart\_44
- Track 138 : LittleMunchkin\_46
- Track 139 : BiggityBass\_44
- Track 140 : MakoManhole\_47
- Track 141 : Wooper\_47
- Track 142 : CharlottesWeb\_44
- Track 143 : BobRoss2024\_43
- Track 144 : StAugustine\_68
- Track 145 : BFK20\_ORF40
- Track 146 : EmiRose\_30
- Track 147 : Pine5\_42
- Track 148 : TPA2\_57

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

The start number called the most often in the published annotations is 76, it was called in 220 of the 425 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU\_52, Acadian\_51, Altwerkus\_50, Andre\_52, Ashraf\_51, Badfish\_52, Bae\_50, Banjo\_50, BatteryCK\_50, Beaglebox\_50, Bishoperium\_50, BlackStallion\_52, BlueHusk\_51, Bluephacebaby\_50, Brilliant\_51, Buckeye\_51, Burr\_50, CamL\_51, CampRoach\_52, Cannibal\_51, Carthage\_49, Chaelin\_51, Chah\_53, Charles1\_51, CharlieGBrown\_50, CheetO\_51, Cher\_50, Childish\_50, Chorkpop\_51, Cobra\_51, Cornobble\_50, Craff\_52, DaddyDaniels\_51, Daka\_52, Dati\_51, Derpp\_50, Dice\_50, DigitDog\_50, Dingo\_51, Dione\_50, DirtJuice\_51, DoesntMatter\_50, DonSanchon\_50, Donny\_51, Durga\_52, EastView9101\_49, Emiris\_52, EmpTee\_51, Eremos\_51, Etaye\_51, Eugenia\_51, Fang\_52, FluffyNinja\_52, Fozzie\_50, Frankicide\_51, Freya\_50, FriarPreacher\_50, Fringe\_52, FugateOSU\_50, Gareth\_50, GeneCoco\_51, Giraffe\_51, Gophee\_51, Grand2040\_50, Gwilliam\_52, Gyarad\_0051, HSavage\_51, Haimas\_51, Haleema\_50, Hamish\_51, Hartsy\_51, Harvey\_51, Held\_51, Hertubise\_51, Hetaeria\_51, HighStump\_51, Horchata\_51, ImtiyazSitla\_51, Inchworm\_52, Indlovu\_48, Inverness\_51, Iridoclysis\_51, IsaacEli\_52, JacAttac\_52, JangoPhett\_51, Jillium\_50, Kahve\_50, Kailash\_51, KarasumaRum\_51, Katniss\_52, Kikipoo\_52, Kimbrough\_51, KingTut\_42, KlimbOn\_51, Kloppinator\_52, Kwadwo\_50, Kwksand96\_50, Labeouficaum\_50, LasagnaCat\_52, Lasso\_51, Lego3393\_50, LeiMonet\_52, LemonSlice\_51, Longacauda\_50, Lopsy\_50, LostAndPhound\_50, LuckyMarjie\_50, Lulwa\_51, Lumine\_50, MRabcd\_50, Mag7\_50, Magic8\_51, Mana\_50, Manad\_51, Maskar\_51, Matalotodo\_51, Mcshane\_50, Mecca\_50, Megatron\_52, Melc17\_51, MelsMeow\_51, MichaelPhcott\_50, Mikota\_51, MitKao\_51, Morgushi\_51, Morty\_52, Mosaic\_50, MrPhizzler\_50, Murdoc\_51, Mutante\_50, Mysterious\_51, Nacho\_0052, Nangang\_50, Nehemiah\_50, Newman\_51, Nicole21\_51, Numberten\_51, Nyala\_50, OSmaximus\_52, Olak\_50, Oline\_50, Olive\_51, OliverWalter\_51, Omniscient\_51, Orwigg\_52, PG1\_52, Pacifista\_50, Phamished\_52, Phareon\_51, PhenghisKhan\_50, Pherdinand\_52, Phergie\_51, Phipps\_51, Phleuron\_50, PhrankReynolds\_49, PhrodoBaggins\_51, Phunky\_51, Piglet\_0051, Pinkman\_50, Pipsqueak\_51, Placalicious\_50, Plmatters\_51, Podrick\_51, Pops\_51, Potter\_50, Prickles\_51, ProfessorX\_51, Puhltonio\_51, QueenBeane\_51, Quisquilliae\_51, RedMaple\_51, Reprobate\_50, Rich\_49, Riggan\_51, Rimu\_53, Robyn\_50, Roliet\_51, Roscoe\_52, Roy17\_51, Samaymay\_51, SassyCat97\_50, Scoot17C\_52, Scrick\_51, Serendipitous\_50, Serendipity\_51, Serpentine\_0051, Sheila\_51, Shenyu\_50, ShiVal\_51, Sigman\_52, Simielle\_50, Skippy\_51, Slatt\_51, Soile\_51, Solosis\_50, Sophia\_50, Soto\_51, Spartan300\_51, Squid\_51, Squiggle\_51, StinkyVeggy\_51, Suigeneris\_51, Surely\_51, Swish\_52, Telesworld\_50, Thora\_51, ThreeOh3D2\_52, Timmi\_50, TomBombadil\_51, Tomlarah\_51, Toni\_50, Tooj\_51, True\_50, Trypo\_52, TyrionL\_50, UAch1\_51, UncleHowie\_51, Usavi\_51, Vaishali24\_50, Vaticameos\_47, Virapocalypse\_51, Vista\_51, Vortex\_51, Wallhey\_50, Waterdiva\_51, Weher20\_51, Windsor\_50, Xavier\_50, YouGoGlencoco\_51, Zaider\_52, Zelda\_51, Zonia\_51,

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

- Adriana\_52, Anderson\_51, Boehler\_51, Chunky\_51, Colbert\_51, Daffy\_51, DelRivs\_50, Doddsville\_51, HenryJackson\_50, KLucky39\_51, KingVeVeVe\_51, LeeLot\_51, Legolas\_51, Lulumae\_50, Maru\_50, Megamind20\_51, MiniBoss\_51, Mulan\_51, Oosterbaan\_51, Orfeu\_50, Orion\_52, PenguinLover67\_52,



PhatCats2014\_52, PhatLouie\_51, Phelemich\_49, Ricotta\_50, Selr12\_51, SilverBell\_51, SirJeffery\_50, Suffolk\_51, Swiphy\_53, TallGrassMM\_51, Valjean\_51, Yoshand\_52,

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

- 39HC\_044, 40BC\_044, Abinghost\_49, AbsoluteMadLad\_50, Abt2graduatex2\_45, Aelin\_50, Ahwei\_45, Akoma\_49, AlanGrant\_48, Allegro\_50, AltPhacts\_51, AnClar\_45, AnarQue\_47, Antihero\_45, Antonia\_50, Apex\_47, Apizium\_51, Arbiter\_49, Ares\_50, Asis\_44, Athena\_50, Audrey\_49, Austelle\_47, Axumite\_44, BFK20\_ORF40, BabyGotBac\_45, Baloo\_49, Bananafish\_50, Basato\_52, BayC\_44, Ben11\_48, Bernardo\_50, BiggityBass\_44, BirdsNest\_53, Blocker23\_50, BobRoss2024\_43, BobbyK\_47, Boyle\_50, Briakila\_50, BrownCNA\_48, Brownie5\_50, CRB2\_52, CaiB\_47, Calamitous\_50, Casbah\_48, ChaChing\_49, Chandler\_49, CharlottesWeb\_44, ChrisnMich\_46, Chute\_50, CloverMinnie\_47, Coffee\_50, Coldpizza\_46, Coletti\_50, Compostia\_50, Cooper\_47, Corofin\_49, Cosmolli16\_50, Crownjwl\_51, Daisy\_49, Deenasa\_49, Devonte\_49, DuchessDung\_50, Duggie\_50, Eaglehorse\_50, EmiRose\_30, Epah\_45, Evaa\_44, Fanaw\_45, Faze9\_49, Fortunato\_47, Frederick\_47, FrenchFry\_50, Fresco\_44, Funsized\_54, Gadget\_50, Gervas\_49, GinPorsche\_45, Glass\_50, GlenHope\_50, Godines\_50, Gustav\_32, Halfpint\_48, Hally898\_45, Hangman\_46, HarveySr\_49, Hashim76\_54, Heath\_45, Heathcliff\_49, Hedgerow\_50, Hocus\_50, Holeinone\_50, Hosp\_042, Hydro\_46, Imvubu\_43, ItsyBitsy1\_50, JAMaL\_46, JDog\_50, Jackstina\_46, JaguarMi\_46, JakeO\_50, Jiminy\_50, Jiraiya\_53, Jolie1\_044, Kaleb\_50, Kamiyu\_49, KayaCho\_44, Keitherie\_51, Kheth\_50, Knocker\_52, Kronus\_48, Lambano\_45, Lars\_50, Laurie\_49, Lephleur\_50, LestyG\_49, Ligma\_44, LilMcDreamy\_48, LittleMunchkin\_46, LizLemon\_50, Lolalove\_47, Magpie\_45, Mahdia\_31, Maih\_43, MakoManhole\_47, Mariokart\_44, Marley1013\_49, MasterPo\_50, Mesh1\_51, Mischief19\_53, Mithril\_46, MmasiCarm\_49, Morrissey\_33, Mortcellus\_48, Morty007\_49, MossRose\_47, Mudslide\_46, NHagos\_45, Nanao\_45, Neos5\_49, Nigel\_45, Nozo\_49, Obutu\_49, Opia\_50, OrangeOswald\_49, Phaedrus\_47, Phantasmagoria\_50, Phayeta\_50, Philly\_48, Phlyer\_49, Pine5\_42, PinheadLarry\_51, Pipefish\_51, Poster\_45, Prince\_46, Puppies\_31, QueenPie\_45, Quesadilla\_52, Qyrzula\_47, RagingRooster\_49, RainyPolka\_45, RawrgerThat\_47, Rhinoforte\_50, Rinkes\_51, Rita1961\_49, RomaT\_49, Rosebush\_49, SDcharge11\_51, Sabella\_49, Saguaro\_53, Salete\_44, Schadenfreude\_50, Schueller\_51, Shatter\_44, Sisko\_44, SlippinJimmy\_49, Sour\_49, StAugustine\_68, Stinger\_45, Struggle\_50, SynergyX\_49, TA17A\_50, TP1604\_44, TPA2\_57, Thonko\_49, Thunderbird\_50, Tinciduntolum\_51, Tres\_50, Trine\_30, Tydolla\_49, Upyo\_30, Veritas\_50, Vic9\_50, Vincenzo\_47, VioletZ\_48, Virgeve\_50, Vivaldi\_52, Waleliano\_46, West99\_50, Widow\_31, Wooper\_47, Xincheng\_45, Xkcd426\_48, YDN12\_46, Yago84\_44, Yahalom\_49, Yinz\_49, Zemanar\_47, Zenteno07\_55,

### Summary by start number:

Start 16:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PenguinLover67\_52 (B9),

Start 27:

- Found in 7 of 475 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 6 of 425

- Called 85.7% of time when present
- Phage (with cluster) where this start called: AnarQue\_47 (DR), CaiB\_47 (DR), CloverMinnie\_47 (DR), MakoManhole\_47 (DR), MossRose\_47 (DR), NHagos\_45 (DR),

#### Start 36:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gadget\_50 (B3),

#### Start 38:

- Found in 4 of 475 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Axumite\_44 (DR),

#### Start 39:

- Found in 50 of 475 ( 10.5% ) of genes in pham
- Manual Annotations of this start: 12 of 425
- Called 28.0% of time when present
- Phage (with cluster) where this start called: Audrey\_49 (B3), Baloo\_49 (B3), Ben11\_48 (B3), Fresco\_44 (DR), GlenHope\_50 (B3), Kronus\_48 (B3), LestyG\_49 (B3), Ligma\_44 (DR), Marley1013\_49 (B3), Phayeta\_50 (B3), RomaT\_49 (B3), Shatter\_44 (DR), SlippinJimmy\_49 (B3), Yahalom\_49 (B3),

#### Start 41:

- Found in 59 of 475 ( 12.4% ) of genes in pham
- Manual Annotations of this start: 41 of 425
- Called 69.5% of time when present
- Phage (with cluster) where this start called: Abinghost\_49 (B3), Akoma\_49 (B3), AnClar\_45 (DR), Athena\_50 (B3), Bernardo\_50 (B3), BiggityBass\_44 (DR), Briakila\_50 (B3), Casbah\_48 (B3), ChaChing\_49 (B3), Chandler\_49 (B3), Compostia\_50 (B3), Corofin\_49 (B3), Daisy\_49 (B3), Deenasa\_49 (B3), Devonte\_49 (B3), Gervas\_49 (B3), Halfpint\_48 (B3), HarveySr\_49 (B3), Heathcliff\_49 (B3), Jackstina\_46 (B3), Kamiyu\_49 (B3), LittleMunchkin\_46 (DR), MmasiCarm\_49 (B3), Mortcellus\_48 (B3), Morty007\_49 (B3), Neos5\_49 (B3), Nozo\_49 (B3), Obutu\_49 (B3), OrangeOswald\_49 (B3), Phaedrus\_47 (B3), Philly\_48 (B3), Phlyer\_49 (B3), Pipefish\_51 (B3), RagingRooster\_49 (B3), Rita1961\_49 (B3), Sisko\_44 (DR), Sour\_49 (DR), SynergyX\_49 (B3), Tydolla\_49 (B3), Yago84\_44 (DR), Yinz\_49 (B3),

#### Start 42:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Evaa\_44 (DR),

#### Start 46:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zenteno07\_55 (B13),

Start 47:

- Found in 2 of 475 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdsNest\_53 (B13), Hashim76\_54 (B13),

Start 53:

- Found in 8 of 475 ( 1.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Coldpizza\_46 (DR),

Start 63:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mariokart\_44 (DR),

Start 66:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilMcDreamy\_48 (B12),

Start 68:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Quesadilla\_52 (B9),

Start 69:

- Found in 2 of 475 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Funsized\_54 (B9), Rinkes\_51 (B9),

Start 71:

- Found in 7 of 475 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 2 of 425
- Called 85.7% of time when present
- Phage (with cluster) where this start called: 39HC\_044 (B6), 40BC\_044 (B6), CRB2\_52 (B9), Hosp\_042 (B6), Jolie1\_044 (B6), KayaCho\_44 (B6),

Start 73:

- Found in 32 of 475 ( 6.7% ) of genes in pham
- Manual Annotations of this start: 9 of 425
- Called 28.1% of time when present
- Phage (with cluster) where this start called: Apex\_47 (B4), BrownCNA\_48 (B4), ChrisnMich\_46 (B4), Fortunato\_47 (B4), Hangman\_46 (B4), JAMaL\_46 (B4), Magpie\_45 (B4), Stinger\_45 (B4), Zemanar\_47 (B4),

Start 74:

- Found in 27 of 475 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 18 of 425
- Called 81.5% of time when present
- Phage (with cluster) where this start called: AbsoluteMadLad\_50 (B1), Aelin\_50 (B1), AltPhacts\_51 (B1), Apizium\_51 (B1), Basato\_52 (B1), Chute\_50 (B1), Coletti\_50 (B1), Cosmolli16\_50 (B1), DuchessDung\_50 (B1), Hocus\_50 (B1), JDog\_50 (B1), JakeO\_50 (B1), Jiminy\_50 (B1), Jiraiya\_53 (B1), Keitherie\_51 (B1), Mesh1\_51 (B1), PinheadLarry\_51 (B1), Schueller\_51 (B1), Struggle\_50 (B1), Thunderbird\_50 (B1), Veritas\_50 (B1), Virgeve\_50 (B1),

#### Start 75:

- Found in 37 of 475 ( 7.8% ) of genes in pham
- Manual Annotations of this start: 15 of 425
- Called 73.0% of time when present
- Phage (with cluster) where this start called: Ahwei\_45 (B4), Antihero\_45 (B4), Austelle\_47 (B4), BobbyK\_47 (B4), Epah\_45 (B4), Fanaw\_45 (B4), Frederick\_47 (B4), GinPorsche\_45 (B4), Hally898\_45 (B4), Heath\_45 (B4), Hydro\_46 (B4), JaguarMi\_46 (B4), Lambano\_45 (B4), Lolalove\_47 (B4), Mithril\_46 (B4), Mudslide\_46 (B4), Nanao\_45 (B4), Nigel\_45 (B4), Poster\_45 (B4), Prince\_46 (B4), QueenPie\_45 (B4), RawrgerThat\_47 (B4), Thonko\_49 (B8), Vincenzo\_47 (B4), VioletZ\_48 (B4), Waleliano\_46 (B4), Xincheng\_45 (B4),

#### Start 76:

- Found in 266 of 475 ( 56.0% ) of genes in pham
- Manual Annotations of this start: 220 of 425
- Called 87.2% of time when present
- Phage (with cluster) where this start called: ABU\_52 (B1), Acadian\_51 (B5), Altwerkus\_50 (B1), Andre\_52 (B1), Ashraf\_51 (B1), Badfish\_52 (B1), Bae\_50 (B5), Banjo\_50 (B1), BatteryCK\_50 (B1), Beaglebox\_50 (B1), Bishoperium\_50 (B1), BlackStallion\_52 (B1), BlueHusk\_51 (B1), Bluephacebaby\_50 (B1), Brilliant\_51 (B1), Buckeye\_51 (B1), Burr\_50 (B1), CamL\_51 (B1), CampRoach\_52 (B1), Cannibal\_51 (B1), Carthage\_49 (B1), Chaelin\_51 (B1), Chah\_53 (B1), Charles1\_51 (B1), CharlieGBrown\_50 (B1), CheetO\_51 (B1), Cher\_50 (B1), Childish\_50 (B1), Chorkpop\_51 (B1), Cobra\_51 (B1), Cornobble\_50 (B1), Craff\_52 (B1), DaddyDaniels\_51 (B1), Daka\_52 (B1), Dati\_51 (B1), Derpp\_50 (B1), Dice\_50 (B1), DigitDog\_50 (B5), Dingo\_51 (B1), Dione\_50 (B1), DirtJuice\_51 (B1), DoesntMatter\_50 (B1), DonSanchon\_50 (B1), Donny\_51 (B5), Durga\_52 (B1), EastView9101\_49 (B5), Emiris\_52 (B1), EmpTee\_51 (B1), Eremos\_51 (B1), Etaye\_51 (B1), Eugenia\_51 (B1), Fang\_52 (B1), FluffyNinja\_52 (B1), Fozzie\_50 (B1), Frankicide\_51 (B1), Freya\_50 (B1), FriarPreacher\_50 (B1), Fringe\_52 (B1), FugateOSU\_50 (B1), Gareth\_50 (B1), GeneCoco\_51 (B1), Giraffe\_51 (B1), Gophee\_51 (B1), Grand2040\_50 (B1), Gwilliam\_52 (B1), Gyarad\_0051 (B1), HSavage\_51 (B1), Haimas\_51 (B1), Haleema\_50 (B1), Hamish\_51 (B1), Hartsy\_51 (B1), Harvey\_51 (B1), Held\_51 (B1), Hertubise\_51 (B1), Hetaeria\_51 (B1), HighStump\_51 (B1), Horchata\_51 (B1), ImtiyazSitla\_51 (B1), Inchworm\_52 (B1), Indlovu\_48 (B11), Inverness\_51 (B1), Iridoclysis\_51 (B1), IsaacEli\_52 (B1), JacAttac\_52 (B1), JangoPhett\_51 (B1), Jillium\_50 (B1), Kahve\_50 (B1), Kailash\_51 (B1), KarasumaRum\_51 (B5), Katniss\_52 (B1), Kikipoo\_52 (B1), Kimbrough\_51 (B1), KingTut\_42 (B1), KlimbOn\_51 (B1), Kloppinator\_52 (B1), Kwadwo\_50 (B1), Kwksand96\_50 (B1), Labeouficaum\_50 (B1), LasagnaCat\_52 (B1), Lasso\_51 (B1), Lego3393\_50 (B1), LeiMonet\_52 (B1), LemonSlice\_51 (B1), Longacauda\_50 (B1), Lopsy\_50 (B1), LostAndPhound\_50 (B1), LuckyMarjie\_50 (B1), Lulwa\_51 (B1), Lumine\_50 (B1), MRabcd\_50 (B1), Mag7\_50 (B1), Magic8\_51 (B1), Mana\_50 (B1),

Manad\_51 (B1), Maskar\_51 (B1), Matalotodo\_51 (B1), Mcshane\_50 (B1), Mecca\_50 (B1), Megatron\_52 (B1), Melc17\_51 (B1), MelsMeow\_51 (B1), MichaelPhcott\_50 (B1), Mikota\_51 (B1), MitKao\_51 (B1), Morgushi\_51 (B1), Morty\_52 (B1), Mosaic\_50 (B1), MrPhizzler\_50 (B1), Murdoc\_51 (B1), Mutante\_50 (B1), Mysterious\_51 (B5), Nacho\_0052 (B1), Nangang\_50 (B5), Nehemiah\_50 (B5), Newman\_51 (B1), Nicole21\_51 (B1), Numberten\_51 (B1), Nyala\_50 (B1), OSmaximus\_52 (B1), Olak\_50 (B1), Oline\_50 (B1), Olive\_51 (B1), OliverWalter\_51 (B1), Omniscient\_51 (B1), Orwigg\_52 (B1), PG1\_52 (B1), Pacifista\_50 (B1), Phamished\_52 (B1), Phareon\_51 (B1), PhenghisKhan\_50 (B1), Pherdinand\_52 (B1), Phergie\_51 (B1), Phipps\_51 (B1), Phleuron\_50 (B1), PhrankReynolds\_49 (B1), PhrodoBaggins\_51 (B1), Phunky\_51 (B1), Piglet\_0051 (B1), Pinkman\_50 (B1), Pipsqueak\_51 (B1), Placalicious\_50 (B1), Plmatters\_51 (B1), Podrick\_51 (B1), Pops\_51 (B1), Potter\_50 (B1), Prickles\_51 (B1), ProfessorX\_51 (B1), Puhltonio\_51 (B1), QueenBeane\_51 (B1), Quisquilliae\_51 (B1), RedMaple\_51 (B1), Reprobate\_50 (B5), Rich\_49 (B5), Riggan\_51 (B1), Rimu\_53 (B1), Robyn\_50 (B1), Roliet\_51 (B1), Roscoe\_52 (B1), Roy17\_51 (B1), Samaymay\_51 (B1), SassyCat97\_50 (B1), Scoot17C\_52 (B1), Scrick\_51 (B1), Serendipitous\_50 (B5), Serendipity\_51 (B1), Serpentine\_0051 (B1), Sheila\_51 (B1), Shenyu\_50 (B5), ShiVal\_51 (B1), Sigman\_52 (B1), Simielle\_50 (B1), Skippy\_51 (B1), Slatt\_51 (B1), Soile\_51 (B1), Solosis\_50 (B1), Sophia\_50 (B1), Soto\_51 (B1), Spartan300\_51 (B1), Squid\_51 (B1), Squiggle\_51 (B1), StinkyVeggy\_51 (B5), Suigeneris\_51 (B5), Surely\_51 (B1), Swish\_52 (B1), Telesworld\_50 (B1), Thora\_51 (B1), ThreeOh3D2\_52 (B1), Timmi\_50 (B1), TomBombadil\_51 (B1), Tomlarah\_51 (B1), Toni\_50 (B1), Tooj\_51 (B1), True\_50 (B1), Trypo\_52 (B1), TyrionL\_50 (B1), UAch1\_51 (B1), UncleHowie\_51 (B1), Usavi\_51 (B1), Vaishali24\_50 (B1), Vaticameos\_47 (B1), Virapocalypse\_51 (B1), Vista\_51 (B1), Vortex\_51 (B1), Wallhey\_50 (B1), Waterdiva\_51 (B1), Weher20\_51 (B1), Windsor\_50 (B1), Xavier\_50 (B1), YouGoGlencoco\_51 (B1), Zaider\_52 (B1), Zelda\_51 (B1), Zonia\_51 (B1),

#### Start 77:

- Found in 2 of 475 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Imvubu\_43 (B10), Knocker\_52 (B9),

#### Start 78:

- Found in 309 of 475 ( 65.1% ) of genes in pham
- Manual Annotations of this start: 65 of 425
- Called 23.0% of time when present
- Phage (with cluster) where this start called: Adriana\_52 (B1), Allegro\_50 (B2), Anderson\_51 (B1), Antonia\_50 (B1), Arbiter\_49 (B2), Ares\_50 (B2), Bananafish\_50 (B2), Blocker23\_50 (B2), Boehler\_51 (B1), Boyle\_50 (B2), Brownie5\_50 (B2), Calamitous\_50 (B2), Chunky\_51 (B1), Coffee\_50 (B2), Colbert\_51 (B1), Crownjwl\_51 (B1), Daffy\_51 (B1), DelRivs\_50 (B1), Doddsville\_51 (B1), Duggie\_50 (B1), Eaglehorse\_50 (B2), Faze9\_49 (B2), FrenchFry\_50 (B2), Glass\_50 (B2), Godines\_50 (B2), Hedgerow\_50 (B2), HenryJackson\_50 (B1), Holeinone\_50 (B2), ItsyBitsy1\_50 (B2), KLucky39\_51 (B1), Kaleb\_50 (B2), Kheth\_50 (B2), KingVeVeVe\_51 (B1), Lars\_50 (B2), Laurie\_49 (B2), LeeLot\_51 (B1), Legolas\_51 (B1), Lephleur\_50 (B2), LizLemon\_50 (B2), Lulumae\_50 (B1), Maru\_50 (B1), MasterPo\_50 (B2), Megamind20\_51 (B1), MiniBoss\_51 (B1), Mulan\_51 (B1), Oosterbaan\_51 (B1), Opia\_50 (B2), Orfeu\_50 (B1), Orion\_52 (B1), Phantasmagoria\_50 (B2), PhatCats2014\_52 (B1), PhatLouie\_51 (B1), Qyrzula\_47 (B2), Rhinoforte\_50 (B2), Ricotta\_50 (B1), Rosebush\_49 (B2), Sabella\_49 (B2), Schadenfreude\_50 (B1),

Selr12\_51 (B1), SilverBell\_51 (B1), Suffolk\_51 (B1), Swiphy\_53 (B1), TA17A\_50 (B2), TallGrassMM\_51 (B1), Tinciduntolum\_51 (B2), Tres\_50 (B2), Valjean\_51 (B1), Vic9\_50 (B2), Vivaldi\_52 (B1), West99\_50 (B2), Yoshand\_52 (B1),

Start 79:

- Found in 300 of 475 ( 63.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 0.3% of time when present
- Phage (with cluster) where this start called: Cooper\_47 (B4),

Start 82:

- Found in 21 of 475 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 2 of 425
- Called 14.3% of time when present
- Phage (with cluster) where this start called: AlanGrant\_48 (B4), Phelemich\_49 (B5), SirJeffery\_50 (B5),

Start 93:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Saguaro\_53 (B7),

Start 102:

- Found in 1 of 475 ( 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: TPA2\_57 (singleton),

Start 104:

- Found in 7 of 475 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 5 of 425
- Called 71.4% of time when present
- Phage (with cluster) where this start called: BabyGotBac\_45 (BG), BayC\_44 (BG), Maih\_43 (BG), Salete\_44 (BG), TP1604\_44 (BG),

Start 114:

- Found in 11 of 475 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 5 of 425
- Called 54.5% of time when present
- Phage (with cluster) where this start called: Abt2graduatex2\_45 (BG), Asis\_44 (BG), Mischief19\_53 (BG), RainyPolka\_45 (BG), Xkcd426\_48 (BG), YDN12\_46 (BG),

Start 115:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SDcharge11\_51 (B1),

Start 127:

- Found in 1 of 475 ( 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: BFK20\_ORF40 (singleton),

#### Start 128:

- Found in 1 of 475 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trine\_30 (CD),

#### Start 129:

- Found in 2 of 475 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Upyo\_30 (CD),

#### Start 134:

- Found in 2 of 475 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 425
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Morrissey\_33 (CD), Pine5\_42 (singleton),

#### Start 135:

- Found in 5 of 475 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 4 of 425
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Gustav\_32 (CD), Mahdia\_31 (CD), Poppers\_31 (CD), Widow\_31 (CD),

#### Start 136:

- Found in 18 of 475 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 2 of 425
- Called 16.7% of time when present
- Phage (with cluster) where this start called: CharlottesWeb\_44 (DR), EmiRose\_30 (singleton), Wooper\_47 (DR),

#### Start 138:

- Found in 303 of 475 ( 63.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.3% of time when present
- Phage (with cluster) where this start called: StAugustine\_68 (singleton),

#### Start 142:

- Found in 8 of 475 ( 1.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 12.5% of time when present
- Phage (with cluster) where this start called: BobRoss2024\_43 (DR),

### **Summary by clusters:**

There are 17 clusters represented in this pham: singleton, BG, B10, B8, B3, CD, B4, B5, B6, B7, B12, B1, B2, B11, DR, B9, B13,

Info for manual annotations of cluster B1:

- Start number 74 was manually annotated 18 times for cluster B1.
- Start number 76 was manually annotated 211 times for cluster B1.
- Start number 78 was manually annotated 33 times for cluster B1.
- Start number 115 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B10:

- Start number 77 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 76 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 66 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 46 was manually annotated 1 time for cluster B13.
- Start number 47 was manually annotated 1 time for cluster B13.

Info for manual annotations of cluster B2:

- Start number 78 was manually annotated 32 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 36 was manually annotated 1 time for cluster B3.
- Start number 39 was manually annotated 9 times for cluster B3.
- Start number 41 was manually annotated 35 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 73 was manually annotated 9 times for cluster B4.
- Start number 75 was manually annotated 14 times for cluster B4.
- Start number 79 was manually annotated 1 time for cluster B4.
- Start number 82 was manually annotated 1 time for cluster B4.

Info for manual annotations of cluster B5:

- Start number 76 was manually annotated 8 times for cluster B5.
- Start number 82 was manually annotated 1 time for cluster B5.

Info for manual annotations of cluster B6:

- Start number 71 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B7:

- Start number 93 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 75 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 16 was manually annotated 1 time for cluster B9.
- Start number 68 was manually annotated 1 time for cluster B9.
- Start number 69 was manually annotated 2 times for cluster B9.
- Start number 71 was manually annotated 1 time for cluster B9.
- Start number 77 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster BG:

- Start number 104 was manually annotated 5 times for cluster BG.
- Start number 114 was manually annotated 5 times for cluster BG.

Info for manual annotations of cluster CD:

- Start number 128 was manually annotated 1 time for cluster CD.
- Start number 129 was manually annotated 1 time for cluster CD.
- Start number 134 was manually annotated 1 time for cluster CD.
- Start number 135 was manually annotated 4 times for cluster CD.

Info for manual annotations of cluster DR:

- Start number 27 was manually annotated 6 times for cluster DR.
- Start number 38 was manually annotated 1 time for cluster DR.
- Start number 39 was manually annotated 3 times for cluster DR.
- Start number 41 was manually annotated 6 times for cluster DR.
- Start number 42 was manually annotated 1 time for cluster DR.
- Start number 63 was manually annotated 1 time for cluster DR.
- Start number 136 was manually annotated 1 time for cluster DR.

### **Gene Information:**

Gene: 39HC\_044 Start: 43561, Stop: 42131, Start Num: 71

Candidate Starts for 39HC\_044:

(Start: 71 @43561 has 2 MA's), (Start: 79 @43543 has 1 MA's), (120, 43339), (125, 43321), (133, 43267), (142, 43240), (152, 43204), (153, 43192), (184, 43012), (186, 43006), (192, 42988), (195, 42973), (222, 42907), (227, 42865), (230, 42853), (231, 42850), (240, 42778), (242, 42772), (245, 42754), (246, 42751), (258, 42697), (271, 42643), (275, 42613), (279, 42592), (286, 42520), (288, 42499), (292, 42466), (313, 42427), (322, 42382), (326, 42364), (328, 42358), (339, 42313), (341, 42310), (370, 42187),

Gene: 40BC\_044 Start: 43561, Stop: 42131, Start Num: 71

Candidate Starts for 40BC\_044:

(Start: 71 @43561 has 2 MA's), (Start: 79 @43543 has 1 MA's), (120, 43339), (125, 43321), (133, 43267), (142, 43240), (152, 43204), (153, 43192), (184, 43012), (186, 43006), (192, 42988), (195, 42973), (222, 42907), (227, 42865), (230, 42853), (231, 42850), (240, 42778), (242, 42772), (245, 42754), (246, 42751), (258, 42697), (271, 42643), (275, 42613), (279, 42592), (286, 42520), (288, 42499), (292, 42466), (313, 42427), (322, 42382), (326, 42364), (328, 42358), (339, 42313), (341, 42310), (370, 42187),

Gene: ABU\_52 Start: 45373, Stop: 43970, Start Num: 76

Candidate Starts for ABU\_52:

(35, 45538), (Start: 76 @45373 has 220 MA's), (Start: 78 @45370 has 65 MA's), (Start: 79 @45364 has 1 MA's), (87, 45322), (101, 45250), (109, 45229), (138, 45133), (153, 45082), (165, 45016), (166, 45013), (169, 44989), (171, 44962), (186, 44896), (190, 44884), (200, 44848), (217, 44803), (223, 44773), (230, 44734), (235, 44695), (239, 44662), (240, 44659), (245, 44635), (254, 44602), (257, 44581), (266, 44551), (282, 44437), (286, 44395), (288, 44374), (292, 44341), (310, 44269), (313, 44263), (323, 44215), (334, 44170), (341, 44146), (346, 44131), (351, 44107),

Gene: Abinghost\_49 Start: 44867, Stop: 43254, Start Num: 41

Candidate Starts for Abinghost\_49:

(19, 44993), (21, 44987), (23, 44972), (Start: 39 @44876 has 12 MA's), (Start: 41 @44867 has 41 MA's), (65, 44771), (84, 44693), (103, 44558), (141, 44399), (144, 44384), (148, 44372), (153, 44342),

(162, 44300), (171, 44222), (207, 44090), (214, 44057), (217, 44048), (234, 43955), (240, 43907), (243, 43892), (245, 43883), (259, 43823), (266, 43799), (281, 43709), (292, 43598), (310, 43565), (311, 43562), (314, 43547), (320, 43526), (327, 43493),

Gene: AbsoluteMadLad\_50 Start: 45250, Stop: 43847, Start Num: 74

Candidate Starts for AbsoluteMadLad\_50:

(Start: 74 @45250 has 18 MA's), (Start: 78 @45247 has 65 MA's), (Start: 79 @45241 has 1 MA's), (87, 45199), (101, 45127), (109, 45106), (138, 45010), (153, 44959), (165, 44893), (166, 44890), (171, 44839), (186, 44773), (190, 44761), (200, 44725), (217, 44680), (223, 44650), (230, 44611), (235, 44572), (239, 44539), (240, 44536), (245, 44512), (254, 44479), (257, 44458), (266, 44428), (282, 44314), (286, 44272), (288, 44251), (292, 44218), (310, 44146), (313, 44140), (323, 44092), (334, 44047), (341, 44023), (346, 44008), (351, 43984),

Gene: Abt2graduatex2\_45 Start: 36400, Stop: 35234, Start Num: 114

Candidate Starts for Abt2graduatex2\_45:

(Start: 114 @36400 has 5 MA's), (131, 36361), (145, 36322), (157, 36256), (158, 36247), (172, 36151), (173, 36145), (182, 36100), (220, 36031), (230, 35980), (233, 35962), (244, 35884), (248, 35872), (251, 35860), (258, 35824), (259, 35821), (262, 35812), (279, 35728), (299, 35575), (306, 35542), (308, 35536), (312, 35527), (321, 35482), (326, 35458), (329, 35449), (354, 35359), (360, 35341), (375, 35245),

Gene: Acadian\_51 Start: 46143, Stop: 44758, Start Num: 76

Candidate Starts for Acadian\_51:

(6, 46572), (15, 46419), (35, 46293), (Start: 76 @46143 has 220 MA's), (Start: 82 @46125 has 2 MA's), (117, 45969), (138, 45906), (149, 45876), (176, 45711), (186, 45669), (193, 45651), (198, 45636), (219, 45585), (227, 45534), (240, 45447), (243, 45432), (245, 45423), (256, 45372), (259, 45363), (266, 45339), (267, 45336), (284, 45204), (288, 45171), (292, 45138), (295, 45120), (310, 45066), (321, 45021), (327, 44994), (348, 44913), (351, 44895), (367, 44832),

Gene: Adriana\_52 Start: 45368, Stop: 43968, Start Num: 78

Candidate Starts for Adriana\_52:

(11, 45749), (12, 45704), (17, 45662), (29, 45581), (35, 45536), (Start: 76 @45371 has 220 MA's), (Start: 78 @45368 has 65 MA's), (Start: 79 @45362 has 1 MA's), (87, 45320), (101, 45248), (109, 45227), (138, 45131), (153, 45080), (165, 45014), (166, 45011), (171, 44960), (186, 44894), (190, 44882), (200, 44846), (217, 44801), (223, 44771), (230, 44732), (235, 44693), (239, 44660), (240, 44657), (245, 44633), (254, 44600), (257, 44579), (266, 44549), (282, 44435), (286, 44393), (288, 44372), (292, 44339), (310, 44267), (313, 44261), (323, 44213), (334, 44168), (341, 44144), (346, 44129), (351, 44105),

Gene: Aelin\_50 Start: 44814, Stop: 43411, Start Num: 74

Candidate Starts for Aelin\_50:

(Start: 74 @44814 has 18 MA's), (Start: 78 @44811 has 65 MA's), (Start: 79 @44805 has 1 MA's), (87, 44763), (101, 44691), (109, 44670), (138, 44574), (153, 44523), (165, 44457), (166, 44454), (171, 44403), (186, 44337), (190, 44325), (200, 44289), (217, 44244), (223, 44214), (230, 44175), (235, 44136), (239, 44103), (240, 44100), (245, 44076), (254, 44043), (257, 44022), (266, 43992), (282, 43878), (286, 43836), (288, 43815), (292, 43782), (310, 43710), (313, 43704), (334, 43611), (341, 43587), (346, 43572), (351, 43548),

Gene: Ahwei\_45 Start: 44672, Stop: 43332, Start Num: 75

Candidate Starts for Ahwei\_45:

(Start: 73 @44675 has 9 MA's), (Start: 75 @44672 has 15 MA's), (Start: 79 @44663 has 1 MA's), (80, 44657), (89, 44606), (133, 44459), (153, 44393), (156, 44369), (186, 44207), (192, 44189), (195, 44174), (196, 44171), (208, 44144), (224, 44081), (225, 44072), (238, 43985), (243, 43961), (254,

43919), (255, 43916), (257, 43898), (266, 43868), (271, 43841), (276, 43808), (280, 43787), (281, 43778), (284, 43733), (285, 43727), (286, 43718), (288, 43697), (292, 43664), (313, 43625), (327, 43559), (328, 43556), (348, 43487), (351, 43469),

Gene: Akoma\_49 Start: 44878, Stop: 43265, Start Num: 41

Candidate Starts for Akoma\_49:

(19, 45004), (21, 44998), (23, 44983), (Start: 39 @44887 has 12 MA's), (Start: 41 @44878 has 41 MA's), (65, 44782), (84, 44704), (103, 44569), (141, 44410), (144, 44395), (148, 44383), (153, 44353), (162, 44311), (171, 44233), (207, 44101), (214, 44068), (217, 44059), (234, 43966), (240, 43918), (243, 43903), (245, 43894), (254, 43861), (259, 43834), (266, 43810), (281, 43720), (292, 43609), (310, 43576), (311, 43573), (314, 43558), (320, 43537), (327, 43504),

Gene: AlanGrant\_48 Start: 46262, Stop: 44940, Start Num: 82

Candidate Starts for AlanGrant\_48:

(Start: 75 @46277 has 15 MA's), (Start: 82 @46262 has 2 MA's), (133, 46067), (149, 46022), (153, 46001), (179, 45836), (186, 45815), (187, 45812), (192, 45797), (223, 45698), (225, 45680), (231, 45656), (240, 45584), (243, 45569), (249, 45545), (255, 45524), (257, 45506), (266, 45476), (271, 45449), (276, 45416), (279, 45398), (284, 45341), (288, 45305), (292, 45272), (313, 45233), (327, 45167), (328, 45164), (346, 45101), (348, 45095), (351, 45077),

Gene: Allegro\_50 Start: 44855, Stop: 43488, Start Num: 78

Candidate Starts for Allegro\_50:

(Start: 78 @44855 has 65 MA's), (88, 44792), (91, 44777), (121, 44666), (137, 44615), (152, 44567), (160, 44519), (183, 44378), (186, 44369), (209, 44324), (211, 44318), (212, 44312), (217, 44300), (235, 44195), (239, 44162), (243, 44144), (245, 44135), (254, 44102), (259, 44075), (266, 44051), (271, 44024), (274, 43997), (283, 43922), (288, 43877), (292, 43844), (302, 43823), (308, 43817), (318, 43784), (319, 43775), (321, 43766), (364, 43604), (367, 43586), (375, 43529),

Gene: AltPhacts\_51 Start: 45223, Stop: 43820, Start Num: 74

Candidate Starts for AltPhacts\_51:

(Start: 74 @45223 has 18 MA's), (Start: 78 @45220 has 65 MA's), (Start: 79 @45214 has 1 MA's), (87, 45172), (101, 45100), (109, 45079), (138, 44983), (153, 44932), (165, 44866), (166, 44863), (171, 44812), (186, 44746), (190, 44734), (200, 44698), (217, 44653), (223, 44623), (230, 44584), (235, 44545), (239, 44512), (240, 44509), (245, 44485), (254, 44452), (257, 44431), (266, 44401), (282, 44287), (286, 44245), (288, 44224), (292, 44191), (310, 44119), (313, 44113), (323, 44065), (334, 44020), (341, 43996), (346, 43981), (351, 43957),

Gene: Altwerkus\_50 Start: 44929, Stop: 43526, Start Num: 76

Candidate Starts for Altwerkus\_50:

(11, 45307), (12, 45262), (17, 45220), (29, 45139), (35, 45094), (Start: 76 @44929 has 220 MA's), (Start: 78 @44926 has 65 MA's), (Start: 79 @44920 has 1 MA's), (87, 44878), (101, 44806), (109, 44785), (138, 44689), (153, 44638), (165, 44572), (166, 44569), (171, 44518), (186, 44452), (190, 44440), (200, 44404), (217, 44359), (223, 44329), (230, 44290), (235, 44251), (239, 44218), (240, 44215), (245, 44191), (254, 44158), (257, 44137), (266, 44107), (282, 43993), (286, 43951), (288, 43930), (292, 43897), (310, 43825), (313, 43819), (323, 43771), (334, 43726), (341, 43702), (346, 43687), (351, 43663),

Gene: AnClar\_45 Start: 40751, Stop: 39486, Start Num: 41

Candidate Starts for AnClar\_45:

(Start: 41 @40751 has 41 MA's), (49, 40733), (53, 40712), (Start: 136 @40625 has 2 MA's), (137, 40619), (147, 40598), (153, 40568), (215, 40310), (221, 40292), (231, 40235), (240, 40163), (243, 40148), (245, 40139), (250, 40121), (254, 40106), (259, 40079), (266, 40055), (276, 39995), (284, 39920), (288, 39887), (292, 39854), (293, 39845), (304, 39821), (305, 39809), (321, 39743), (327,

39716), (331, 39704), (361, 39596), (362, 39593), (367, 39560),

Gene: AnarQue\_47 Start: 40325, Stop: 38934, Start Num: 27

Candidate Starts for AnarQue\_47:

(3, 40664), (4, 40640), (7, 40529), (10, 40484), (Start: 27 @40325 has 6 MA's), (32, 40298), (Start: 41 @40247 has 41 MA's), (83, 40103), (137, 40097), (151, 40064), (153, 40046), (159, 40013), (161, 40007), (173, 39917), (189, 39857), (213, 39788), (221, 39767), (227, 39725), (237, 39653), (239, 39641), (243, 39623), (245, 39614), (254, 39581), (266, 39530), (272, 39500), (275, 39473), (276, 39470), (288, 39362), (293, 39320), (303, 39287), (308, 39242), (313, 39230), (320, 39197), (321, 39191), (327, 39164),

Gene: Anderson\_51 Start: 45225, Stop: 43825, Start Num: 78

Candidate Starts for Anderson\_51:

(35, 45393), (Start: 76 @45228 has 220 MA's), (Start: 78 @45225 has 65 MA's), (Start: 79 @45219 has 1 MA's), (87, 45177), (101, 45105), (109, 45084), (138, 44988), (153, 44937), (165, 44871), (166, 44868), (171, 44817), (186, 44751), (190, 44739), (200, 44703), (217, 44658), (223, 44628), (230, 44589), (235, 44550), (239, 44517), (240, 44514), (245, 44490), (254, 44457), (257, 44436), (266, 44406), (282, 44292), (286, 44250), (288, 44229), (292, 44196), (310, 44124), (313, 44118), (323, 44070), (334, 44025), (341, 44001), (346, 43986), (351, 43962),

Gene: Andre\_52 Start: 45365, Stop: 43962, Start Num: 76

Candidate Starts for Andre\_52:

(11, 45743), (12, 45698), (17, 45656), (29, 45575), (35, 45530), (Start: 76 @45365 has 220 MA's), (Start: 78 @45362 has 65 MA's), (Start: 79 @45356 has 1 MA's), (87, 45314), (101, 45242), (109, 45221), (138, 45125), (153, 45074), (165, 45008), (166, 45005), (169, 44981), (171, 44954), (186, 44888), (190, 44876), (200, 44840), (217, 44795), (223, 44765), (230, 44726), (235, 44687), (239, 44654), (240, 44651), (245, 44627), (254, 44594), (257, 44573), (266, 44543), (282, 44429), (286, 44387), (288, 44366), (292, 44333), (310, 44261), (313, 44255), (323, 44207), (334, 44162), (341, 44138), (346, 44123), (351, 44099),

Gene: Antihero\_45 Start: 44672, Stop: 43332, Start Num: 75

Candidate Starts for Antihero\_45:

(Start: 73 @44675 has 9 MA's), (Start: 75 @44672 has 15 MA's), (Start: 79 @44663 has 1 MA's), (80, 44657), (89, 44606), (133, 44459), (153, 44393), (156, 44369), (186, 44207), (192, 44189), (195, 44174), (196, 44171), (208, 44144), (224, 44081), (225, 44072), (238, 43985), (243, 43961), (254, 43919), (255, 43916), (257, 43898), (266, 43868), (271, 43841), (276, 43808), (280, 43787), (281, 43778), (284, 43733), (285, 43727), (286, 43718), (288, 43697), (292, 43664), (313, 43625), (327, 43559), (328, 43556), (348, 43487), (351, 43469),

Gene: Antonia\_50 Start: 44811, Stop: 43411, Start Num: 78

Candidate Starts for Antonia\_50:

(Start: 74 @44814 has 18 MA's), (Start: 78 @44811 has 65 MA's), (Start: 79 @44805 has 1 MA's), (87, 44763), (101, 44691), (109, 44670), (138, 44574), (153, 44523), (165, 44457), (166, 44454), (171, 44403), (186, 44337), (190, 44325), (200, 44289), (217, 44244), (223, 44214), (230, 44175), (235, 44136), (239, 44103), (240, 44100), (245, 44076), (254, 44043), (257, 44022), (266, 43992), (282, 43878), (286, 43836), (288, 43815), (292, 43782), (310, 43710), (313, 43704), (334, 43611), (341, 43587), (346, 43572), (351, 43548),

Gene: Apex\_47 Start: 45919, Stop: 44576, Start Num: 73

Candidate Starts for Apex\_47:

(Start: 73 @45919 has 9 MA's), (Start: 75 @45916 has 15 MA's), (Start: 79 @45907 has 1 MA's), (80, 45901), (89, 45850), (133, 45703), (149, 45658), (153, 45637), (175, 45496), (179, 45472), (186, 45451), (187, 45448), (192, 45433), (195, 45418), (222, 45349), (223, 45334), (225, 45316), (231,



45292), (240, 45220), (245, 45196), (254, 45163), (255, 45160), (257, 45142), (266, 45112), (276, 45052), (279, 45034), (281, 45022), (284, 44977), (285, 44971), (286, 44962), (291, 44932), (292, 44908), (313, 44869), (322, 44824), (327, 44803), (328, 44800), (348, 44731), (351, 44713),

Gene: Apizium\_51 Start: 45129, Stop: 43726, Start Num: 74

Candidate Starts for Apizium\_51:

(11, 45504), (12, 45459), (17, 45417), (29, 45336), (35, 45291), (Start: 74 @45129 has 18 MA's), (Start: 78 @45126 has 65 MA's), (87, 45078), (101, 45006), (109, 44985), (138, 44889), (153, 44838), (165, 44772), (166, 44769), (171, 44718), (186, 44652), (190, 44640), (200, 44604), (217, 44559), (223, 44529), (230, 44490), (235, 44451), (239, 44418), (240, 44415), (245, 44391), (254, 44358), (257, 44337), (266, 44307), (282, 44193), (286, 44151), (288, 44130), (292, 44097), (310, 44025), (313, 44019), (323, 43971), (334, 43926), (341, 43902), (346, 43887), (351, 43863),

Gene: Arbitr\_49 Start: 44958, Stop: 43591, Start Num: 78

Candidate Starts for Arbitr\_49:

(Start: 78 @44958 has 65 MA's), (88, 44895), (91, 44880), (121, 44769), (137, 44718), (152, 44670), (160, 44622), (183, 44481), (186, 44472), (209, 44427), (211, 44421), (212, 44415), (217, 44403), (235, 44298), (239, 44265), (243, 44247), (245, 44238), (254, 44205), (259, 44178), (266, 44154), (271, 44127), (274, 44100), (283, 44025), (288, 43980), (292, 43947), (302, 43926), (308, 43920), (318, 43887), (319, 43878), (321, 43869), (364, 43707), (367, 43689), (375, 43632),

Gene: Ares\_50 Start: 44927, Stop: 43560, Start Num: 78

Candidate Starts for Ares\_50:

(Start: 78 @44927 has 65 MA's), (88, 44864), (91, 44849), (121, 44738), (137, 44687), (152, 44639), (160, 44591), (183, 44450), (186, 44441), (209, 44396), (211, 44390), (212, 44384), (217, 44372), (235, 44267), (239, 44234), (245, 44207), (254, 44174), (259, 44147), (266, 44123), (271, 44096), (274, 44069), (283, 43994), (288, 43949), (292, 43916), (302, 43895), (308, 43889), (318, 43856), (319, 43847), (321, 43838), (364, 43676), (367, 43658), (375, 43601),

Gene: Ashraf\_51 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for Ashraf\_51:

(35, 45095), (Start: 76 @44930 has 220 MA's), (Start: 78 @44927 has 65 MA's), (Start: 79 @44921 has 1 MA's), (87, 44879), (101, 44807), (109, 44786), (138, 44690), (153, 44639), (165, 44573), (166, 44570), (171, 44519), (186, 44453), (190, 44441), (200, 44405), (217, 44360), (223, 44330), (230, 44291), (235, 44252), (239, 44219), (240, 44216), (242, 44210), (245, 44192), (254, 44159), (257, 44138), (266, 44108), (282, 43994), (286, 43952), (288, 43931), (292, 43898), (310, 43826), (313, 43820), (323, 43772), (334, 43727), (341, 43703), (346, 43688), (351, 43664),

Gene: Asis\_44 Start: 36151, Stop: 34985, Start Num: 114

Candidate Starts for Asis\_44:

(59, 36394), (70, 36343), (85, 36286), (Start: 104 @36175 has 5 MA's), (Start: 114 @36151 has 5 MA's), (131, 36112), (145, 36073), (154, 36028), (157, 36007), (172, 35902), (173, 35896), (182, 35851), (186, 35839), (220, 35782), (222, 35776), (230, 35731), (233, 35713), (243, 35641), (251, 35611), (258, 35575), (259, 35572), (262, 35563), (308, 35287), (312, 35278), (321, 35233), (326, 35209), (329, 35200), (337, 35167), (354, 35110), (360, 35092), (374, 34999), (375, 34996),

Gene: Athena\_50 Start: 45625, Stop: 44012, Start Num: 41

Candidate Starts for Athena\_50:

(19, 45751), (21, 45745), (23, 45730), (Start: 39 @45634 has 12 MA's), (Start: 41 @45625 has 41 MA's), (65, 45529), (84, 45451), (103, 45316), (141, 45157), (144, 45142), (148, 45130), (153, 45100), (162, 45058), (171, 44980), (185, 44914), (186, 44911), (207, 44848), (214, 44815), (217, 44806), (234, 44713), (240, 44665), (241, 44662), (243, 44650), (245, 44641), (259, 44581), (266, 44557), (281, 44467), (292, 44356), (310, 44323), (311, 44320), (314, 44305), (320, 44284), (327, 44251),

Gene: Audrey\_49 Start: 44882, Stop: 43260, Start Num: 39

Candidate Starts for Audrey\_49:

(19, 44999), (21, 44993), (23, 44978), (Start: 39 @44882 has 12 MA's), (Start: 41 @44873 has 41 MA's), (65, 44777), (84, 44699), (103, 44564), (141, 44405), (144, 44390), (148, 44378), (153, 44348), (162, 44306), (171, 44228), (185, 44162), (186, 44159), (207, 44096), (214, 44063), (217, 44054), (234, 43961), (240, 43913), (243, 43898), (245, 43889), (259, 43829), (266, 43805), (281, 43715), (292, 43604), (310, 43571), (311, 43568), (314, 43553), (320, 43532), (327, 43499),

Gene: Austelle\_47 Start: 46366, Stop: 45026, Start Num: 75

Candidate Starts for Austelle\_47:

(Start: 73 @46369 has 9 MA's), (Start: 75 @46366 has 15 MA's), (Start: 79 @46357 has 1 MA's), (80, 46351), (89, 46300), (133, 46153), (149, 46108), (153, 46087), (175, 45946), (179, 45922), (186, 45901), (187, 45898), (192, 45883), (195, 45868), (222, 45799), (223, 45784), (225, 45766), (231, 45742), (240, 45670), (245, 45646), (254, 45613), (255, 45610), (257, 45592), (266, 45562), (276, 45502), (279, 45484), (281, 45472), (284, 45427), (285, 45421), (286, 45412), (291, 45382), (292, 45358), (313, 45319), (322, 45274), (327, 45253), (328, 45250), (348, 45181), (351, 45163),

Gene: Axumite\_44 Start: 37985, Stop: 36669, Start Num: 38

Candidate Starts for Axumite\_44:

(Start: 38 @37985 has 1 MA's), (Start: 39 @37982 has 12 MA's), (Start: 136 @37823 has 2 MA's), (137, 37817), (153, 37766), (214, 37511), (221, 37490), (228, 37445), (231, 37433), (254, 37304), (259, 37277), (266, 37253), (272, 37223), (273, 37205), (276, 37193), (281, 37163), (283, 37130), (288, 37085), (292, 37052), (304, 37019), (308, 36992), (320, 36947), (321, 36941), (327, 36914), (328, 36911), (341, 36863), (375, 36701),

Gene: BFK20\_ORF40 Start: 30567, Stop: 29512, Start Num: 127

Candidate Starts for BFK20\_ORF40:

(109, 30639), (110, 30630), (127, 30567), (Start: 136 @30540 has 2 MA's), (155, 30456), (183, 30288), (224, 30213), (245, 30084), (255, 30048), (263, 30015), (283, 29880), (284, 29868), (288, 29835), (292, 29802), (301, 29784), (308, 29775), (319, 29730), (331, 29682), (365, 29553), (369, 29532),

Gene: BabyGotBac\_45 Start: 36175, Stop: 34985, Start Num: 104

Candidate Starts for BabyGotBac\_45:

(59, 36394), (70, 36343), (85, 36286), (Start: 104 @36175 has 5 MA's), (Start: 114 @36151 has 5 MA's), (131, 36112), (145, 36073), (154, 36028), (157, 36007), (172, 35902), (173, 35896), (182, 35851), (186, 35839), (220, 35782), (222, 35776), (230, 35731), (233, 35713), (243, 35641), (251, 35611), (258, 35575), (259, 35572), (262, 35563), (308, 35287), (312, 35278), (321, 35233), (326, 35209), (329, 35200), (337, 35167), (354, 35110), (360, 35092), (374, 34999), (375, 34996),

Gene: Badfish\_52 Start: 45396, Stop: 43993, Start Num: 76

Candidate Starts for Badfish\_52:

(11, 45774), (12, 45729), (17, 45687), (29, 45606), (35, 45561), (Start: 76 @45396 has 220 MA's), (Start: 78 @45393 has 65 MA's), (Start: 79 @45387 has 1 MA's), (87, 45345), (101, 45273), (109, 45252), (138, 45156), (153, 45105), (165, 45039), (166, 45036), (171, 44985), (186, 44919), (190, 44907), (200, 44871), (217, 44826), (223, 44796), (230, 44757), (235, 44718), (239, 44685), (240, 44682), (245, 44658), (254, 44625), (257, 44604), (266, 44574), (282, 44460), (286, 44418), (288, 44397), (292, 44364), (310, 44292), (313, 44286), (323, 44238), (334, 44193), (341, 44169), (346, 44154), (351, 44130),

Gene: Bae\_50 Start: 46015, Stop: 44636, Start Num: 76

Candidate Starts for Bae\_50:

(Start: 76 @46015 has 220 MA's), (Start: 82 @45997 has 2 MA's), (138, 45784), (149, 45754), (176, 45589), (186, 45547), (193, 45529), (198, 45514), (199, 45511), (219, 45463), (227, 45412), (240, 45325), (243, 45310), (245, 45301), (259, 45241), (266, 45217), (267, 45214), (280, 45136), (284, 45082), (288, 45049), (292, 45016), (295, 44998), (310, 44944), (321, 44899), (327, 44872), (348, 44791), (367, 44710),

Gene: Baloo\_49 Start: 44885, Stop: 43263, Start Num: 39

Candidate Starts for Baloo\_49:

(19, 45002), (21, 44996), (23, 44981), (Start: 39 @44885 has 12 MA's), (Start: 41 @44876 has 41 MA's), (65, 44780), (84, 44702), (103, 44567), (141, 44408), (144, 44393), (148, 44381), (153, 44351), (162, 44309), (171, 44231), (185, 44165), (186, 44162), (207, 44099), (214, 44066), (217, 44057), (234, 43964), (240, 43916), (243, 43901), (245, 43892), (259, 43832), (266, 43808), (281, 43718), (292, 43607), (310, 43574), (311, 43571), (314, 43556), (320, 43535), (327, 43502),

Gene: Bananafish\_50 Start: 44861, Stop: 43494, Start Num: 78

Candidate Starts for Bananafish\_50:

(Start: 78 @44861 has 65 MA's), (88, 44798), (91, 44783), (121, 44672), (137, 44621), (152, 44573), (160, 44525), (183, 44384), (186, 44375), (209, 44330), (211, 44324), (212, 44318), (217, 44306), (235, 44201), (239, 44168), (245, 44141), (254, 44108), (259, 44081), (266, 44057), (271, 44030), (274, 44003), (283, 43928), (288, 43883), (292, 43850), (302, 43829), (308, 43823), (318, 43790), (319, 43781), (321, 43772), (364, 43610), (367, 43592), (375, 43535),

Gene: Banjo\_50 Start: 44927, Stop: 43524, Start Num: 76

Candidate Starts for Banjo\_50:

(11, 45305), (12, 45260), (17, 45218), (29, 45137), (35, 45092), (Start: 76 @44927 has 220 MA's), (Start: 78 @44924 has 65 MA's), (Start: 79 @44918 has 1 MA's), (87, 44876), (101, 44804), (109, 44783), (138, 44687), (153, 44636), (165, 44570), (166, 44567), (171, 44516), (186, 44450), (190, 44438), (200, 44402), (217, 44357), (223, 44327), (230, 44288), (235, 44249), (239, 44216), (240, 44213), (245, 44189), (254, 44156), (257, 44135), (266, 44105), (282, 43991), (286, 43949), (288, 43928), (292, 43895), (310, 43823), (313, 43817), (323, 43769), (334, 43724), (341, 43700), (346, 43685), (351, 43661),

Gene: Basato\_52 Start: 45512, Stop: 44109, Start Num: 74

Candidate Starts for Basato\_52:

(35, 45674), (Start: 74 @45512 has 18 MA's), (Start: 78 @45509 has 65 MA's), (87, 45461), (101, 45389), (109, 45368), (138, 45272), (153, 45221), (165, 45155), (166, 45152), (171, 45101), (186, 45035), (190, 45023), (200, 44987), (217, 44942), (223, 44912), (230, 44873), (235, 44834), (239, 44801), (240, 44798), (245, 44774), (254, 44741), (257, 44720), (266, 44690), (282, 44576), (286, 44534), (288, 44513), (292, 44480), (310, 44408), (313, 44402), (323, 44354), (334, 44309), (341, 44285), (346, 44270), (351, 44246),

Gene: BatteryCK\_50 Start: 44870, Stop: 43467, Start Num: 76

Candidate Starts for BatteryCK\_50:

(35, 45035), (Start: 76 @44870 has 220 MA's), (Start: 78 @44867 has 65 MA's), (Start: 79 @44861 has 1 MA's), (87, 44819), (101, 44747), (109, 44726), (138, 44630), (153, 44579), (165, 44513), (166, 44510), (171, 44459), (186, 44393), (190, 44381), (200, 44345), (217, 44300), (223, 44270), (230, 44231), (235, 44192), (239, 44159), (240, 44156), (242, 44150), (245, 44132), (254, 44099), (257, 44078), (266, 44048), (282, 43934), (286, 43892), (288, 43871), (292, 43838), (310, 43766), (313, 43760), (323, 43712), (334, 43667), (341, 43643), (346, 43628), (351, 43604),

Gene: BayC\_44 Start: 36172, Stop: 34982, Start Num: 104

Candidate Starts for BayC\_44:

(59, 36391), (70, 36340), (85, 36283), (Start: 104 @36172 has 5 MA's), (Start: 114 @36148 has 5 MA's), (131, 36109), (145, 36070), (154, 36025), (157, 36004), (172, 35899), (173, 35893), (182, 35848), (186, 35836), (220, 35779), (222, 35773), (230, 35728), (233, 35710), (243, 35638), (251, 35608), (258, 35572), (259, 35569), (262, 35560), (308, 35284), (312, 35275), (321, 35230), (326, 35206), (329, 35197), (337, 35164), (354, 35107), (360, 35089), (374, 34996), (375, 34993),

Gene: Beaglebox\_50 Start: 44948, Stop: 43545, Start Num: 76

Candidate Starts for Beaglebox\_50:

(11, 45326), (12, 45281), (17, 45239), (29, 45158), (35, 45113), (Start: 76 @44948 has 220 MA's), (Start: 78 @44945 has 65 MA's), (Start: 79 @44939 has 1 MA's), (87, 44897), (101, 44825), (109, 44804), (138, 44708), (153, 44657), (165, 44591), (166, 44588), (171, 44537), (186, 44471), (190, 44459), (200, 44423), (217, 44378), (223, 44348), (230, 44309), (235, 44270), (239, 44237), (240, 44234), (245, 44210), (254, 44177), (257, 44156), (266, 44126), (282, 44012), (286, 43970), (288, 43949), (292, 43916), (310, 43844), (313, 43838), (323, 43790), (334, 43745), (341, 43721), (346, 43706), (351, 43682),

Gene: Ben11\_48 Start: 44706, Stop: 43084, Start Num: 39

Candidate Starts for Ben11\_48:

(19, 44823), (21, 44817), (23, 44802), (Start: 39 @44706 has 12 MA's), (Start: 41 @44697 has 41 MA's), (65, 44601), (84, 44523), (103, 44388), (141, 44229), (144, 44214), (148, 44202), (153, 44172), (162, 44130), (171, 44052), (185, 43986), (186, 43983), (207, 43920), (214, 43887), (217, 43878), (234, 43785), (240, 43737), (243, 43722), (245, 43713), (259, 43653), (266, 43629), (281, 43539), (292, 43428), (310, 43395), (311, 43392), (314, 43377), (320, 43356), (327, 43323),

Gene: Bernardo\_50 Start: 45419, Stop: 43809, Start Num: 41

Candidate Starts for Bernardo\_50:

(19, 45548), (21, 45542), (23, 45527), (Start: 39 @45428 has 12 MA's), (Start: 41 @45419 has 41 MA's), (65, 45323), (84, 45245), (99, 45122), (103, 45110), (111, 45086), (116, 45071), (141, 44954), (144, 44939), (148, 44927), (153, 44897), (162, 44855), (171, 44777), (207, 44645), (214, 44612), (217, 44603), (234, 44510), (240, 44462), (243, 44447), (245, 44438), (254, 44405), (259, 44378), (266, 44354), (281, 44264), (292, 44153), (310, 44120), (311, 44117), (314, 44102), (320, 44081), (327, 44048),

Gene: BiggityBass\_44 Start: 40224, Stop: 38959, Start Num: 41

Candidate Starts for BiggityBass\_44:

(Start: 41 @40224 has 41 MA's), (49, 40206), (53, 40185), (Start: 136 @40098 has 2 MA's), (137, 40092), (147, 40071), (153, 40041), (215, 39783), (217, 39777), (221, 39765), (231, 39708), (242, 39630), (243, 39621), (254, 39579), (259, 39552), (266, 39528), (276, 39468), (284, 39393), (288, 39360), (292, 39327), (293, 39318), (304, 39294), (305, 39282), (308, 39267), (313, 39255), (321, 39216), (327, 39189), (331, 39177), (361, 39069), (362, 39066), (367, 39033),

Gene: BirdsNest\_53 Start: 44482, Stop: 43088, Start Num: 47

Candidate Starts for BirdsNest\_53:

(Start: 47 @44482 has 1 MA's), (56, 44434), (72, 44356), (140, 44215), (153, 44167), (171, 44047), (173, 44038), (186, 43981), (204, 43924), (230, 43819), (231, 43816), (240, 43744), (245, 43720), (276, 43570), (288, 43453), (292, 43420), (293, 43411), (308, 43393), (313, 43381), (331, 43303), (341, 43264), (377, 43096),

Gene: Bishoperium\_50 Start: 44942, Stop: 43539, Start Num: 76

Candidate Starts for Bishoperium\_50:

(35, 45107), (Start: 76 @44942 has 220 MA's), (Start: 78 @44939 has 65 MA's), (Start: 79 @44933 has 1 MA's), (87, 44891), (101, 44819), (109, 44798), (138, 44702), (153, 44651), (165, 44585), (166, 44582), (171, 44531), (186, 44465), (190, 44453), (200, 44417), (217, 44372), (223, 44342), (230,

44303), (235, 44264), (239, 44231), (240, 44228), (245, 44204), (254, 44171), (257, 44150), (266, 44120), (282, 44006), (286, 43964), (288, 43943), (292, 43910), (310, 43838), (313, 43832), (323, 43784), (334, 43739), (341, 43715), (346, 43700), (351, 43676),

Gene: BlackStallion\_52 Start: 45402, Stop: 43999, Start Num: 76

Candidate Starts for BlackStallion\_52:

(11, 45780), (12, 45735), (17, 45693), (29, 45612), (35, 45567), (Start: 76 @45402 has 220 MA's), (Start: 78 @45399 has 65 MA's), (Start: 79 @45393 has 1 MA's), (87, 45351), (101, 45279), (109, 45258), (138, 45162), (153, 45111), (165, 45045), (166, 45042), (171, 44991), (186, 44925), (190, 44913), (200, 44877), (217, 44832), (223, 44802), (230, 44763), (235, 44724), (239, 44691), (240, 44688), (245, 44664), (254, 44631), (257, 44610), (266, 44580), (282, 44466), (286, 44424), (288, 44403), (292, 44370), (310, 44298), (313, 44292), (323, 44244), (334, 44199), (341, 44175), (346, 44160), (351, 44136),

Gene: Blocker23\_50 Start: 44979, Stop: 43612, Start Num: 78

Candidate Starts for Blocker23\_50:

(Start: 78 @44979 has 65 MA's), (88, 44916), (91, 44901), (121, 44790), (137, 44739), (152, 44691), (160, 44643), (183, 44502), (186, 44493), (209, 44448), (211, 44442), (212, 44436), (217, 44424), (235, 44319), (239, 44286), (245, 44259), (254, 44226), (259, 44199), (266, 44175), (271, 44148), (274, 44121), (283, 44046), (288, 44001), (292, 43968), (302, 43947), (308, 43941), (318, 43908), (321, 43890), (364, 43728), (367, 43710), (375, 43653),

Gene: BlueHusk\_51 Start: 44748, Stop: 43345, Start Num: 76

Candidate Starts for BlueHusk\_51:

(11, 45126), (12, 45081), (17, 45039), (29, 44958), (35, 44913), (Start: 76 @44748 has 220 MA's), (Start: 78 @44745 has 65 MA's), (Start: 79 @44739 has 1 MA's), (87, 44697), (101, 44625), (109, 44604), (138, 44508), (153, 44457), (165, 44391), (166, 44388), (171, 44337), (186, 44271), (190, 44259), (200, 44223), (217, 44178), (223, 44148), (230, 44109), (235, 44070), (239, 44037), (240, 44034), (245, 44010), (254, 43977), (257, 43956), (266, 43926), (282, 43812), (286, 43770), (288, 43749), (292, 43716), (310, 43644), (313, 43638), (323, 43590), (334, 43545), (341, 43521), (346, 43506), (351, 43482),

Gene: Bluephacebaby\_50 Start: 44945, Stop: 43542, Start Num: 76

Candidate Starts for Bluephacebaby\_50:

(11, 45323), (12, 45278), (17, 45236), (29, 45155), (35, 45110), (Start: 76 @44945 has 220 MA's), (Start: 78 @44942 has 65 MA's), (Start: 79 @44936 has 1 MA's), (87, 44894), (101, 44822), (109, 44801), (138, 44705), (153, 44654), (165, 44588), (166, 44585), (171, 44534), (186, 44468), (190, 44456), (200, 44420), (217, 44375), (223, 44345), (230, 44306), (235, 44267), (239, 44234), (240, 44231), (245, 44207), (254, 44174), (257, 44153), (266, 44123), (282, 44009), (286, 43967), (288, 43946), (292, 43913), (310, 43841), (313, 43835), (323, 43787), (334, 43742), (341, 43718), (346, 43703), (351, 43679),

Gene: BobRoss2024\_43 Start: 37803, Stop: 36655, Start Num: 142

Candidate Starts for BobRoss2024\_43:

(37, 38298), (44, 38274), (97, 37986), (123, 37893), (142, 37803), (150, 37773), (188, 37563), (201, 37515), (203, 37512), (214, 37482), (230, 37407), (243, 37317), (245, 37308), (259, 37248), (266, 37224), (277, 37152), (281, 37134), (288, 37056), (292, 37023), (293, 37014), (308, 36963), (310, 36957), (321, 36912), (327, 36885), (332, 36867), (341, 36834),

Gene: BobbyK\_47 Start: 45708, Stop: 44368, Start Num: 75

Candidate Starts for BobbyK\_47:

(Start: 73 @45711 has 9 MA's), (Start: 75 @45708 has 15 MA's), (Start: 79 @45699 has 1 MA's), (80, 45693), (89, 45642), (133, 45495), (149, 45450), (153, 45429), (175, 45288), (179, 45264), (186,

45243), (187, 45240), (192, 45225), (195, 45210), (222, 45141), (231, 45084), (243, 44997), (245, 44988), (254, 44955), (255, 44952), (257, 44934), (266, 44904), (276, 44844), (279, 44826), (281, 44814), (284, 44769), (285, 44763), (286, 44754), (288, 44733), (291, 44724), (292, 44700), (313, 44661), (327, 44595), (328, 44592), (348, 44523), (351, 44505),

Gene: Boehler\_51 Start: 45248, Stop: 43848, Start Num: 78

Candidate Starts for Boehler\_51:

(11, 45629), (12, 45584), (17, 45542), (29, 45461), (35, 45416), (Start: 76 @45251 has 220 MA's), (Start: 78 @45248 has 65 MA's), (Start: 79 @45242 has 1 MA's), (87, 45200), (101, 45128), (109, 45107), (138, 45011), (153, 44960), (165, 44894), (166, 44891), (171, 44840), (186, 44774), (190, 44762), (200, 44726), (217, 44681), (223, 44651), (230, 44612), (235, 44573), (239, 44540), (240, 44537), (245, 44513), (254, 44480), (257, 44459), (266, 44429), (286, 44273), (288, 44252), (292, 44219), (310, 44147), (313, 44141), (323, 44093), (334, 44048), (341, 44024), (346, 44009), (351, 43985),

Gene: Boyle\_50 Start: 44994, Stop: 43627, Start Num: 78

Candidate Starts for Boyle\_50:

(Start: 78 @44994 has 65 MA's), (88, 44931), (91, 44916), (121, 44805), (137, 44754), (152, 44706), (160, 44658), (183, 44517), (186, 44508), (209, 44463), (211, 44457), (212, 44451), (217, 44439), (235, 44334), (239, 44301), (245, 44274), (254, 44241), (259, 44214), (266, 44190), (271, 44163), (274, 44136), (283, 44061), (288, 44016), (292, 43983), (302, 43962), (308, 43956), (318, 43923), (319, 43914), (321, 43905), (364, 43743), (367, 43725), (375, 43668),

Gene: Briakila\_50 Start: 45645, Stop: 44032, Start Num: 41

Candidate Starts for Briakila\_50:

(19, 45771), (21, 45765), (23, 45750), (Start: 39 @45654 has 12 MA's), (Start: 41 @45645 has 41 MA's), (65, 45549), (84, 45471), (103, 45336), (141, 45177), (144, 45162), (148, 45150), (153, 45120), (162, 45078), (171, 45000), (185, 44934), (186, 44931), (207, 44868), (214, 44835), (217, 44826), (234, 44733), (240, 44685), (241, 44682), (243, 44670), (245, 44661), (259, 44601), (266, 44577), (281, 44487), (292, 44376), (310, 44343), (311, 44340), (314, 44325), (320, 44304), (327, 44271),

Gene: Brilliant\_51 Start: 44944, Stop: 43541, Start Num: 76

Candidate Starts for Brilliant\_51:

(35, 45109), (Start: 76 @44944 has 220 MA's), (Start: 78 @44941 has 65 MA's), (Start: 79 @44935 has 1 MA's), (87, 44893), (101, 44821), (109, 44800), (138, 44704), (153, 44653), (165, 44587), (166, 44584), (169, 44560), (171, 44533), (186, 44467), (190, 44455), (200, 44419), (217, 44374), (223, 44344), (230, 44305), (235, 44266), (239, 44233), (240, 44230), (245, 44206), (254, 44173), (257, 44152), (266, 44122), (282, 44008), (286, 43966), (288, 43945), (292, 43912), (310, 43840), (313, 43834), (323, 43786), (334, 43741), (341, 43717), (346, 43702), (351, 43678),

Gene: BrownCNA\_48 Start: 45990, Stop: 44647, Start Num: 73

Candidate Starts for BrownCNA\_48:

(Start: 73 @45990 has 9 MA's), (Start: 75 @45987 has 15 MA's), (Start: 79 @45978 has 1 MA's), (80, 45972), (89, 45921), (133, 45774), (153, 45708), (175, 45567), (179, 45543), (186, 45522), (187, 45519), (192, 45504), (195, 45489), (222, 45420), (225, 45387), (231, 45363), (240, 45291), (243, 45276), (245, 45267), (254, 45234), (255, 45231), (257, 45213), (266, 45183), (276, 45123), (279, 45105), (281, 45093), (283, 45060), (284, 45048), (285, 45042), (286, 45033), (288, 45012), (291, 45003), (292, 44979), (313, 44940), (327, 44874), (328, 44871), (346, 44808), (348, 44802), (351, 44784),

Gene: Brownie5\_50 Start: 45010, Stop: 43643, Start Num: 78

Candidate Starts for Brownie5\_50:



(Start: 78 @45010 has 65 MA's), (88, 44947), (91, 44932), (121, 44821), (137, 44770), (152, 44722), (160, 44674), (183, 44533), (186, 44524), (209, 44479), (211, 44473), (212, 44467), (217, 44455), (235, 44350), (239, 44317), (243, 44299), (245, 44290), (254, 44257), (259, 44230), (266, 44206), (271, 44179), (274, 44152), (283, 44077), (288, 44032), (292, 43999), (302, 43978), (308, 43972), (318, 43939), (319, 43930), (321, 43921), (364, 43759), (367, 43741), (375, 43684),

Gene: Buckeye\_51 Start: 45265, Stop: 43862, Start Num: 76

Candidate Starts for Buckeye\_51:

(11, 45643), (12, 45598), (17, 45556), (29, 45475), (35, 45430), (Start: 76 @45265 has 220 MA's), (Start: 78 @45262 has 65 MA's), (Start: 79 @45256 has 1 MA's), (87, 45214), (101, 45142), (109, 45121), (138, 45025), (153, 44974), (165, 44908), (166, 44905), (171, 44854), (186, 44788), (190, 44776), (200, 44740), (217, 44695), (223, 44665), (230, 44626), (235, 44587), (239, 44554), (240, 44551), (245, 44527), (254, 44494), (257, 44473), (266, 44443), (282, 44329), (286, 44287), (288, 44266), (292, 44233), (310, 44161), (313, 44155), (323, 44107), (334, 44062), (341, 44038), (346, 44023), (351, 43999),

Gene: Burr\_50 Start: 44939, Stop: 43536, Start Num: 76

Candidate Starts for Burr\_50:

(11, 45317), (12, 45272), (17, 45230), (29, 45149), (35, 45104), (Start: 76 @44939 has 220 MA's), (Start: 78 @44936 has 65 MA's), (Start: 79 @44930 has 1 MA's), (87, 44888), (101, 44816), (109, 44795), (138, 44699), (153, 44648), (165, 44582), (166, 44579), (171, 44528), (186, 44462), (190, 44450), (200, 44414), (217, 44369), (223, 44339), (230, 44300), (235, 44261), (239, 44228), (240, 44225), (245, 44201), (254, 44168), (257, 44147), (266, 44117), (282, 44003), (286, 43961), (288, 43940), (292, 43907), (310, 43835), (313, 43829), (323, 43781), (334, 43736), (341, 43712), (346, 43697), (351, 43673),

Gene: CRB2\_52 Start: 48176, Stop: 46818, Start Num: 71

Candidate Starts for CRB2\_52:

(8, 48560), (9, 48554), (13, 48461), (34, 48338), (Start: 71 @48176 has 2 MA's), (Start: 82 @48149 has 2 MA's), (138, 47927), (142, 47918), (168, 47786), (186, 47690), (195, 47657), (214, 47618), (231, 47540), (240, 47468), (243, 47453), (245, 47444), (252, 47417), (254, 47411), (257, 47390), (258, 47387), (279, 47282), (281, 47270), (308, 47129), (322, 47072), (327, 47051), (328, 47048), (341, 47000), (348, 46979), (375, 46841),

Gene: CaiB\_47 Start: 40311, Stop: 38920, Start Num: 27

Candidate Starts for CaiB\_47:

(22, 40341), (Start: 27 @40311 has 6 MA's), (32, 40284), (Start: 41 @40233 has 41 MA's), (83, 40089), (137, 40083), (151, 40050), (153, 40032), (159, 39999), (161, 39993), (171, 39912), (173, 39903), (189, 39843), (213, 39774), (227, 39711), (237, 39639), (239, 39627), (243, 39609), (245, 39600), (266, 39516), (272, 39486), (275, 39459), (276, 39456), (288, 39348), (293, 39306), (303, 39273), (308, 39228), (313, 39216), (320, 39183), (321, 39177), (327, 39150),

Gene: Calamitous\_50 Start: 44860, Stop: 43493, Start Num: 78

Candidate Starts for Calamitous\_50:

(Start: 78 @44860 has 65 MA's), (88, 44797), (91, 44782), (121, 44671), (137, 44620), (152, 44572), (160, 44524), (183, 44383), (186, 44374), (209, 44329), (211, 44323), (212, 44317), (217, 44305), (235, 44200), (239, 44167), (245, 44140), (254, 44107), (259, 44080), (266, 44056), (271, 44029), (274, 44002), (283, 43927), (288, 43882), (292, 43849), (302, 43828), (308, 43822), (318, 43789), (319, 43780), (321, 43771), (348, 43672), (364, 43609), (367, 43591), (375, 43534),

Gene: CamL\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for CamL\_51:

(11, 45612), (12, 45567), (17, 45525), (29, 45444), (35, 45399), (Start: 76 @45234 has 220 MA's), (Start: 78 @45231 has 65 MA's), (Start: 79 @45225 has 1 MA's), (87, 45183), (101, 45111), (109, 45090), (138, 44994), (153, 44943), (165, 44877), (166, 44874), (171, 44823), (186, 44757), (190, 44745), (200, 44709), (217, 44664), (223, 44634), (230, 44595), (235, 44556), (239, 44523), (240, 44520), (245, 44496), (254, 44463), (257, 44442), (266, 44412), (282, 44298), (286, 44256), (288, 44235), (292, 44202), (310, 44130), (313, 44124), (323, 44076), (334, 44031), (341, 44007), (346, 43992), (351, 43968),

Gene: CampRoach\_52 Start: 45368, Stop: 43965, Start Num: 76

Candidate Starts for CampRoach\_52:

(Start: 76 @45368 has 220 MA's), (Start: 78 @45365 has 65 MA's), (Start: 79 @45359 has 1 MA's), (87, 45317), (101, 45245), (109, 45224), (138, 45128), (153, 45077), (165, 45011), (166, 45008), (171, 44957), (186, 44891), (190, 44879), (200, 44843), (217, 44798), (223, 44768), (230, 44729), (235, 44690), (239, 44657), (240, 44654), (242, 44648), (245, 44630), (254, 44597), (257, 44576), (266, 44546), (282, 44432), (286, 44390), (288, 44369), (292, 44336), (310, 44264), (313, 44258), (323, 44210), (334, 44165), (341, 44141), (346, 44126), (351, 44102),

Gene: Cannibal\_51 Start: 45217, Stop: 43814, Start Num: 76

Candidate Starts for Cannibal\_51:

(11, 45595), (12, 45550), (17, 45508), (29, 45427), (35, 45382), (Start: 76 @45217 has 220 MA's), (Start: 78 @45214 has 65 MA's), (Start: 79 @45208 has 1 MA's), (87, 45166), (101, 45094), (109, 45073), (138, 44977), (153, 44926), (165, 44860), (166, 44857), (171, 44806), (186, 44740), (190, 44728), (200, 44692), (217, 44647), (223, 44617), (230, 44578), (235, 44539), (239, 44506), (240, 44503), (245, 44479), (254, 44446), (257, 44425), (266, 44395), (282, 44281), (286, 44239), (288, 44218), (292, 44185), (310, 44113), (313, 44107), (323, 44059), (334, 44014), (341, 43990), (346, 43975), (351, 43951),

Gene: Carthage\_49 Start: 44164, Stop: 42761, Start Num: 76

Candidate Starts for Carthage\_49:

(35, 44329), (Start: 76 @44164 has 220 MA's), (Start: 78 @44161 has 65 MA's), (Start: 79 @44155 has 1 MA's), (87, 44113), (101, 44041), (109, 44020), (138, 43924), (153, 43873), (165, 43807), (166, 43804), (171, 43753), (186, 43687), (190, 43675), (200, 43639), (217, 43594), (223, 43564), (230, 43525), (235, 43486), (239, 43453), (240, 43450), (242, 43444), (245, 43426), (254, 43393), (257, 43372), (266, 43342), (282, 43228), (286, 43186), (288, 43165), (292, 43132), (310, 43060), (313, 43054), (323, 43006), (334, 42961), (341, 42937), (346, 42922), (351, 42898),

Gene: Casbah\_48 Start: 44727, Stop: 43114, Start Num: 41

Candidate Starts for Casbah\_48:

(19, 44853), (21, 44847), (23, 44832), (Start: 39 @44736 has 12 MA's), (Start: 41 @44727 has 41 MA's), (65, 44631), (84, 44553), (103, 44418), (141, 44259), (144, 44244), (148, 44232), (153, 44202), (162, 44160), (171, 44082), (207, 43950), (214, 43917), (217, 43908), (234, 43815), (240, 43767), (243, 43752), (245, 43743), (259, 43683), (266, 43659), (281, 43569), (292, 43458), (310, 43425), (311, 43422), (314, 43407), (320, 43386), (327, 43353),

Gene: ChaChing\_49 Start: 44890, Stop: 43277, Start Num: 41

Candidate Starts for ChaChing\_49:

(19, 45016), (21, 45010), (23, 44995), (Start: 39 @44899 has 12 MA's), (Start: 41 @44890 has 41 MA's), (65, 44794), (84, 44716), (103, 44581), (141, 44422), (144, 44407), (148, 44395), (153, 44365), (162, 44323), (171, 44245), (185, 44179), (186, 44176), (207, 44113), (214, 44080), (217, 44071), (234, 43978), (240, 43930), (243, 43915), (245, 43906), (259, 43846), (266, 43822), (281, 43732), (292, 43621), (310, 43588), (311, 43585), (314, 43570), (320, 43549), (327, 43516),

Gene: Chaelin\_51 Start: 44940, Stop: 43537, Start Num: 76

Candidate Starts for Chaelin\_51:

(11, 45318), (12, 45273), (17, 45231), (29, 45150), (35, 45105), (Start: 76 @44940 has 220 MA's), (Start: 78 @44937 has 65 MA's), (Start: 79 @44931 has 1 MA's), (87, 44889), (101, 44817), (109, 44796), (138, 44700), (153, 44649), (165, 44583), (166, 44580), (171, 44529), (186, 44463), (190, 44451), (200, 44415), (217, 44370), (223, 44340), (230, 44301), (235, 44262), (239, 44229), (240, 44226), (245, 44202), (254, 44169), (257, 44148), (266, 44118), (282, 44004), (286, 43962), (288, 43941), (292, 43908), (310, 43836), (313, 43830), (323, 43782), (334, 43737), (341, 43713), (346, 43698), (351, 43674),

Gene: Chah\_53 Start: 45395, Stop: 43992, Start Num: 76

Candidate Starts for Chah\_53:

(11, 45773), (12, 45728), (17, 45686), (29, 45605), (35, 45560), (Start: 76 @45395 has 220 MA's), (Start: 78 @45392 has 65 MA's), (Start: 79 @45386 has 1 MA's), (87, 45344), (101, 45272), (109, 45251), (138, 45155), (153, 45104), (165, 45038), (166, 45035), (171, 44984), (186, 44918), (190, 44906), (200, 44870), (217, 44825), (223, 44795), (230, 44756), (235, 44717), (239, 44684), (240, 44681), (245, 44657), (254, 44624), (257, 44603), (266, 44573), (282, 44459), (286, 44417), (288, 44396), (292, 44363), (310, 44291), (313, 44285), (323, 44237), (334, 44192), (341, 44168), (346, 44153), (351, 44129),

Gene: Chandler\_49 Start: 45657, Stop: 44044, Start Num: 41

Candidate Starts for Chandler\_49:

(19, 45783), (21, 45777), (23, 45762), (Start: 39 @45666 has 12 MA's), (Start: 41 @45657 has 41 MA's), (65, 45561), (84, 45483), (103, 45348), (141, 45189), (144, 45174), (148, 45162), (153, 45132), (162, 45090), (171, 45012), (207, 44880), (214, 44847), (217, 44838), (234, 44745), (240, 44697), (243, 44682), (245, 44673), (254, 44640), (259, 44613), (266, 44589), (281, 44499), (292, 44388), (310, 44355), (311, 44352), (314, 44337), (320, 44316), (327, 44283),

Gene: Charles1\_51 Start: 45225, Stop: 43822, Start Num: 76

Candidate Starts for Charles1\_51:

(35, 45390), (Start: 76 @45225 has 220 MA's), (Start: 78 @45222 has 65 MA's), (Start: 79 @45216 has 1 MA's), (87, 45174), (101, 45102), (109, 45081), (138, 44985), (153, 44934), (165, 44868), (166, 44865), (169, 44841), (171, 44814), (186, 44748), (190, 44736), (200, 44700), (217, 44655), (223, 44625), (230, 44586), (235, 44547), (239, 44514), (240, 44511), (245, 44487), (254, 44454), (257, 44433), (266, 44403), (282, 44289), (286, 44247), (288, 44226), (292, 44193), (310, 44121), (313, 44115), (323, 44067), (334, 44022), (341, 43998), (346, 43983), (351, 43959),

Gene: CharlieGBrown\_50 Start: 44815, Stop: 43412, Start Num: 76

Candidate Starts for CharlieGBrown\_50:

(35, 44980), (Start: 76 @44815 has 220 MA's), (Start: 78 @44812 has 65 MA's), (Start: 79 @44806 has 1 MA's), (87, 44764), (101, 44692), (109, 44671), (138, 44575), (153, 44524), (165, 44458), (166, 44455), (171, 44404), (186, 44338), (190, 44326), (200, 44290), (217, 44245), (223, 44215), (230, 44176), (235, 44137), (239, 44104), (240, 44101), (242, 44095), (245, 44077), (254, 44044), (257, 44023), (266, 43993), (282, 43879), (286, 43837), (288, 43816), (292, 43783), (310, 43711), (313, 43705), (323, 43657), (334, 43612), (341, 43588), (346, 43573), (351, 43549),

Gene: CharlottesWeb\_44 Start: 37656, Stop: 36502, Start Num: 136

Candidate Starts for CharlottesWeb\_44:

(Start: 136 @37656 has 2 MA's), (147, 37629), (153, 37599), (205, 37362), (214, 37344), (227, 37281), (228, 37278), (231, 37266), (254, 37137), (259, 37110), (266, 37086), (273, 37038), (276, 37026), (281, 36996), (288, 36918), (292, 36885), (304, 36852), (308, 36825), (320, 36780), (321, 36774), (327, 36747), (328, 36744), (341, 36696), (375, 36534),

Gene: CheetO\_51 Start: 45257, Stop: 43854, Start Num: 76

Candidate Starts for CheetO\_51:

(35, 45422), (Start: 76 @45257 has 220 MA's), (Start: 78 @45254 has 65 MA's), (Start: 79 @45248 has 1 MA's), (87, 45206), (101, 45134), (109, 45113), (138, 45017), (153, 44966), (165, 44900), (166, 44897), (171, 44846), (186, 44780), (190, 44768), (200, 44732), (217, 44687), (223, 44657), (230, 44618), (235, 44579), (239, 44546), (240, 44543), (245, 44519), (254, 44486), (257, 44465), (266, 44435), (282, 44321), (286, 44279), (288, 44258), (292, 44225), (310, 44153), (313, 44147), (323, 44099), (334, 44054), (341, 44030), (346, 44015), (351, 43991),

Gene: Cher\_50 Start: 44962, Stop: 43559, Start Num: 76

Candidate Starts for Cher\_50:

(11, 45340), (12, 45295), (17, 45253), (29, 45172), (35, 45127), (Start: 76 @44962 has 220 MA's), (Start: 78 @44959 has 65 MA's), (Start: 79 @44953 has 1 MA's), (87, 44911), (101, 44839), (109, 44818), (138, 44722), (153, 44671), (165, 44605), (166, 44602), (171, 44551), (186, 44485), (190, 44473), (200, 44437), (217, 44392), (223, 44362), (230, 44323), (235, 44284), (239, 44251), (240, 44248), (245, 44224), (254, 44191), (257, 44170), (266, 44140), (282, 44026), (286, 43984), (288, 43963), (292, 43930), (310, 43858), (313, 43852), (323, 43804), (334, 43759), (341, 43735), (346, 43720), (351, 43696),

Gene: Childish\_50 Start: 44965, Stop: 43562, Start Num: 76

Candidate Starts for Childish\_50:

(35, 45130), (Start: 76 @44965 has 220 MA's), (Start: 78 @44962 has 65 MA's), (Start: 79 @44956 has 1 MA's), (87, 44914), (101, 44842), (109, 44821), (138, 44725), (153, 44674), (165, 44608), (166, 44605), (169, 44581), (171, 44554), (186, 44488), (190, 44476), (200, 44440), (217, 44395), (223, 44365), (230, 44326), (235, 44287), (239, 44254), (240, 44251), (245, 44227), (254, 44194), (257, 44173), (266, 44143), (282, 44029), (286, 43987), (288, 43966), (292, 43933), (310, 43861), (313, 43855), (323, 43807), (334, 43762), (341, 43738), (346, 43723), (351, 43699),

Gene: Chorkpop\_51 Start: 44973, Stop: 43570, Start Num: 76

Candidate Starts for Chorkpop\_51:

(11, 45351), (12, 45306), (17, 45264), (29, 45183), (35, 45138), (Start: 76 @44973 has 220 MA's), (Start: 78 @44970 has 65 MA's), (Start: 79 @44964 has 1 MA's), (87, 44922), (101, 44850), (109, 44829), (138, 44733), (153, 44682), (165, 44616), (166, 44613), (171, 44562), (186, 44496), (190, 44484), (200, 44448), (217, 44403), (223, 44373), (230, 44334), (235, 44295), (239, 44262), (240, 44259), (245, 44235), (254, 44202), (257, 44181), (266, 44151), (282, 44037), (286, 43995), (288, 43974), (292, 43941), (310, 43869), (313, 43863), (323, 43815), (334, 43770), (341, 43746), (346, 43731), (351, 43707),

Gene: ChrisnMich\_46 Start: 44677, Stop: 43334, Start Num: 73

Candidate Starts for ChrisnMich\_46:

(Start: 73 @44677 has 9 MA's), (Start: 75 @44674 has 15 MA's), (Start: 79 @44665 has 1 MA's), (80, 44659), (89, 44608), (133, 44461), (153, 44395), (156, 44371), (186, 44209), (192, 44191), (195, 44176), (196, 44173), (208, 44146), (224, 44083), (225, 44074), (238, 43987), (240, 43978), (243, 43963), (254, 43921), (255, 43918), (257, 43900), (264, 43882), (266, 43870), (271, 43843), (276, 43810), (280, 43789), (281, 43780), (284, 43735), (285, 43729), (286, 43720), (288, 43699), (292, 43666), (313, 43627), (327, 43561), (328, 43558), (348, 43489), (351, 43471),

Gene: Chunky\_51 Start: 45258, Stop: 43858, Start Num: 78

Candidate Starts for Chunky\_51:

(35, 45426), (Start: 76 @45261 has 220 MA's), (Start: 78 @45258 has 65 MA's), (Start: 79 @45252 has 1 MA's), (87, 45210), (101, 45138), (109, 45117), (138, 45021), (153, 44970), (165, 44904), (166, 44901), (171, 44850), (186, 44784), (190, 44772), (200, 44736), (217, 44691), (223, 44661), (230, 44622), (235, 44583), (239, 44550), (240, 44547), (245, 44523), (254, 44490), (257, 44469), (266, 44439), (282, 44325), (286, 44283), (288, 44262), (292, 44229), (310, 44157), (313, 44151), (323,

44103), (334, 44058), (341, 44034), (346, 44019), (351, 43995),

Gene: Chute\_50 Start: 45289, Stop: 43886, Start Num: 74

Candidate Starts for Chute\_50:

(35, 45451), (Start: 74 @45289 has 18 MA's), (Start: 78 @45286 has 65 MA's), (87, 45238), (101, 45166), (109, 45145), (138, 45049), (153, 44998), (165, 44932), (166, 44929), (169, 44905), (171, 44878), (186, 44812), (190, 44800), (200, 44764), (217, 44719), (223, 44689), (230, 44650), (235, 44611), (239, 44578), (240, 44575), (245, 44551), (254, 44518), (257, 44497), (266, 44467), (282, 44353), (286, 44311), (288, 44290), (292, 44257), (310, 44185), (313, 44179), (323, 44131), (334, 44086), (341, 44062), (346, 44047), (351, 44023),

Gene: CloverMinnie\_47 Start: 40251, Stop: 38860, Start Num: 27

Candidate Starts for CloverMinnie\_47:

(7, 40455), (10, 40410), (Start: 27 @40251 has 6 MA's), (32, 40224), (Start: 41 @40173 has 41 MA's), (83, 40029), (137, 40023), (151, 39990), (153, 39972), (159, 39939), (161, 39933), (173, 39843), (189, 39783), (213, 39714), (227, 39651), (237, 39579), (239, 39567), (243, 39549), (245, 39540), (254, 39507), (266, 39456), (272, 39426), (275, 39399), (276, 39396), (288, 39288), (293, 39246), (303, 39213), (308, 39168), (313, 39156), (320, 39123), (321, 39117), (327, 39090),

Gene: Cobra\_51 Start: 45246, Stop: 43843, Start Num: 76

Candidate Starts for Cobra\_51:

(35, 45411), (Start: 76 @45246 has 220 MA's), (Start: 78 @45243 has 65 MA's), (Start: 79 @45237 has 1 MA's), (87, 45195), (101, 45123), (109, 45102), (138, 45006), (153, 44955), (165, 44889), (166, 44886), (171, 44835), (186, 44769), (190, 44757), (200, 44721), (217, 44676), (223, 44646), (230, 44607), (235, 44568), (239, 44535), (240, 44532), (242, 44526), (245, 44508), (254, 44475), (257, 44454), (266, 44424), (282, 44310), (286, 44268), (288, 44247), (292, 44214), (310, 44142), (313, 44136), (323, 44088), (334, 44043), (341, 44019), (346, 44004), (351, 43980),

Gene: Coffee\_50 Start: 44969, Stop: 43602, Start Num: 78

Candidate Starts for Coffee\_50:

(Start: 78 @44969 has 65 MA's), (88, 44906), (91, 44891), (121, 44780), (137, 44729), (152, 44681), (160, 44633), (183, 44492), (186, 44483), (209, 44438), (211, 44432), (212, 44426), (217, 44414), (235, 44309), (239, 44276), (243, 44258), (245, 44249), (254, 44216), (259, 44189), (266, 44165), (271, 44138), (274, 44111), (283, 44036), (288, 43991), (292, 43958), (302, 43937), (308, 43931), (318, 43898), (319, 43889), (321, 43880), (364, 43718), (367, 43700), (375, 43643),

Gene: Colbert\_51 Start: 45310, Stop: 43910, Start Num: 78

Candidate Starts for Colbert\_51:

(11, 45691), (12, 45646), (17, 45604), (29, 45523), (35, 45478), (Start: 76 @45313 has 220 MA's), (Start: 78 @45310 has 65 MA's), (Start: 79 @45304 has 1 MA's), (87, 45262), (101, 45190), (109, 45169), (138, 45073), (153, 45022), (165, 44956), (166, 44953), (171, 44902), (186, 44836), (190, 44824), (200, 44788), (217, 44743), (223, 44713), (230, 44674), (235, 44635), (239, 44602), (240, 44599), (245, 44575), (254, 44542), (257, 44521), (266, 44491), (282, 44377), (286, 44335), (288, 44314), (292, 44281), (310, 44209), (313, 44203), (323, 44155), (334, 44110), (341, 44086), (346, 44071), (351, 44047),

Gene: Coldpizza\_46 Start: 41611, Stop: 40406, Start Num: 53

Candidate Starts for Coldpizza\_46:

(14, 41815), (43, 41656), (53, 41611), (Start: 136 @41527 has 2 MA's), (149, 41494), (153, 41470), (159, 41437), (161, 41431), (171, 41350), (188, 41284), (214, 41230), (239, 41083), (243, 41065), (254, 41023), (257, 41002), (259, 40996), (266, 40972), (271, 40945), (281, 40882), (288, 40804), (292, 40771), (313, 40732), (320, 40699), (321, 40693), (327, 40666), (336, 40630), (358, 40552), (364, 40528),

Gene: Coletti\_50 Start: 45289, Stop: 43886, Start Num: 74

Candidate Starts for Coletti\_50:

(35, 45451), (Start: 74 @45289 has 18 MA's), (Start: 78 @45286 has 65 MA's), (87, 45238), (101, 45166), (109, 45145), (138, 45049), (153, 44998), (165, 44932), (166, 44929), (169, 44905), (171, 44878), (186, 44812), (190, 44800), (200, 44764), (217, 44719), (223, 44689), (230, 44650), (235, 44611), (239, 44578), (240, 44575), (245, 44551), (254, 44518), (257, 44497), (266, 44467), (282, 44353), (286, 44311), (288, 44290), (292, 44257), (310, 44185), (313, 44179), (323, 44131), (334, 44086), (341, 44062), (346, 44047), (351, 44023),

Gene: Compostia\_50 Start: 45305, Stop: 43692, Start Num: 41

Candidate Starts for Compostia\_50:

(19, 45431), (21, 45425), (23, 45410), (Start: 39 @45314 has 12 MA's), (Start: 41 @45305 has 41 MA's), (65, 45209), (84, 45131), (103, 44996), (141, 44837), (144, 44822), (148, 44810), (153, 44780), (162, 44738), (171, 44660), (207, 44528), (214, 44495), (217, 44486), (234, 44393), (240, 44345), (243, 44330), (245, 44321), (254, 44288), (259, 44261), (266, 44237), (281, 44147), (292, 44036), (310, 44003), (311, 44000), (314, 43985), (320, 43964), (327, 43931),

Gene: Cooper\_47 Start: 44873, Stop: 43536, Start Num: 79

Candidate Starts for Cooper\_47:

(51, 44969), (Start: 73 @44885 has 9 MA's), (Start: 79 @44873 has 1 MA's), (132, 44672), (153, 44597), (187, 44408), (192, 44393), (195, 44378), (222, 44309), (224, 44285), (225, 44276), (231, 44252), (240, 44180), (243, 44165), (246, 44153), (254, 44123), (255, 44120), (257, 44102), (266, 44072), (271, 44045), (279, 43994), (281, 43982), (284, 43937), (285, 43931), (286, 43922), (292, 43868), (293, 43859), (313, 43829), (327, 43763), (328, 43760), (348, 43691), (351, 43673),

Gene: Cornobble\_50 Start: 44803, Stop: 43400, Start Num: 76

Candidate Starts for Cornobble\_50:

(35, 44968), (Start: 76 @44803 has 220 MA's), (Start: 78 @44800 has 65 MA's), (Start: 79 @44794 has 1 MA's), (87, 44752), (101, 44680), (109, 44659), (138, 44563), (153, 44512), (165, 44446), (166, 44443), (171, 44392), (186, 44326), (190, 44314), (200, 44278), (217, 44233), (223, 44203), (230, 44164), (235, 44125), (239, 44092), (240, 44089), (245, 44065), (254, 44032), (257, 44011), (266, 43981), (282, 43867), (286, 43825), (288, 43804), (292, 43771), (310, 43699), (313, 43693), (323, 43645), (334, 43600), (341, 43576), (346, 43561), (351, 43537),

Gene: Corofin\_49 Start: 44900, Stop: 43287, Start Num: 41

Candidate Starts for Corofin\_49:

(19, 45026), (21, 45020), (23, 45005), (Start: 39 @44909 has 12 MA's), (Start: 41 @44900 has 41 MA's), (65, 44804), (84, 44726), (103, 44591), (141, 44432), (144, 44417), (148, 44405), (153, 44375), (162, 44333), (171, 44255), (207, 44123), (214, 44090), (217, 44081), (234, 43988), (240, 43940), (243, 43925), (245, 43916), (254, 43883), (259, 43856), (266, 43832), (281, 43742), (292, 43631), (310, 43598), (311, 43595), (314, 43580), (320, 43559), (327, 43526),

Gene: Cosmolli16\_50 Start: 44953, Stop: 43550, Start Num: 74

Candidate Starts for Cosmolli16\_50:

(Start: 74 @44953 has 18 MA's), (Start: 78 @44950 has 65 MA's), (Start: 79 @44944 has 1 MA's), (87, 44902), (101, 44830), (109, 44809), (138, 44713), (153, 44662), (165, 44596), (166, 44593), (171, 44542), (186, 44476), (190, 44464), (200, 44428), (217, 44383), (223, 44353), (230, 44314), (235, 44275), (239, 44242), (240, 44239), (245, 44215), (254, 44182), (257, 44161), (266, 44131), (282, 44017), (286, 43975), (288, 43954), (292, 43921), (310, 43849), (313, 43843), (323, 43795), (334, 43750), (341, 43726), (346, 43711), (351, 43687),

Gene: Craff\_52 Start: 45381, Stop: 43978, Start Num: 76

Candidate Starts for Craff\_52:

(35, 45546), (Start: 76 @45381 has 220 MA's), (Start: 78 @45378 has 65 MA's), (Start: 79 @45372 has 1 MA's), (87, 45330), (101, 45258), (109, 45237), (138, 45141), (153, 45090), (165, 45024), (166, 45021), (169, 44997), (171, 44970), (186, 44904), (190, 44892), (200, 44856), (217, 44811), (223, 44781), (230, 44742), (235, 44703), (239, 44670), (240, 44667), (245, 44643), (254, 44610), (257, 44589), (266, 44559), (282, 44445), (286, 44403), (288, 44382), (292, 44349), (310, 44277), (313, 44271), (323, 44223), (334, 44178), (341, 44154), (346, 44139), (351, 44115),

Gene: Crownjwl\_51 Start: 45019, Stop: 43619, Start Num: 78

Candidate Starts for Crownjwl\_51:

(Start: 74 @45022 has 18 MA's), (Start: 78 @45019 has 65 MA's), (Start: 79 @45013 has 1 MA's), (87, 44971), (101, 44899), (109, 44878), (138, 44782), (153, 44731), (165, 44665), (166, 44662), (171, 44611), (186, 44545), (190, 44533), (200, 44497), (217, 44452), (223, 44422), (230, 44383), (235, 44344), (239, 44311), (240, 44308), (245, 44284), (254, 44251), (257, 44230), (266, 44200), (282, 44086), (286, 44044), (288, 44023), (292, 43990), (310, 43918), (313, 43912), (323, 43864), (334, 43819), (341, 43795), (346, 43780), (351, 43756),

Gene: DaddyDaniels\_51 Start: 44934, Stop: 43531, Start Num: 76

Candidate Starts for DaddyDaniels\_51:

(11, 45312), (12, 45267), (17, 45225), (29, 45144), (35, 45099), (Start: 76 @44934 has 220 MA's), (Start: 78 @44931 has 65 MA's), (Start: 79 @44925 has 1 MA's), (87, 44883), (101, 44811), (109, 44790), (138, 44694), (153, 44643), (165, 44577), (166, 44574), (171, 44523), (186, 44457), (190, 44445), (200, 44409), (217, 44364), (223, 44334), (230, 44295), (235, 44256), (239, 44223), (240, 44220), (245, 44196), (254, 44163), (257, 44142), (266, 44112), (282, 43998), (286, 43956), (288, 43935), (292, 43902), (310, 43830), (313, 43824), (323, 43776), (334, 43731), (341, 43707), (346, 43692), (351, 43668),

Gene: Daffy\_51 Start: 44956, Stop: 43556, Start Num: 78

Candidate Starts for Daffy\_51:

(11, 45337), (12, 45292), (17, 45250), (29, 45169), (35, 45124), (Start: 76 @44959 has 220 MA's), (Start: 78 @44956 has 65 MA's), (Start: 79 @44950 has 1 MA's), (87, 44908), (101, 44836), (109, 44815), (138, 44719), (153, 44668), (165, 44602), (166, 44599), (171, 44548), (186, 44482), (190, 44470), (200, 44434), (217, 44389), (223, 44359), (230, 44320), (235, 44281), (239, 44248), (240, 44245), (245, 44221), (254, 44188), (257, 44167), (266, 44137), (282, 44023), (286, 43981), (288, 43960), (292, 43927), (310, 43855), (313, 43849), (323, 43801), (334, 43756), (341, 43732), (346, 43717), (351, 43693),

Gene: Daisy\_49 Start: 44902, Stop: 43289, Start Num: 41

Candidate Starts for Daisy\_49:

(19, 45028), (21, 45022), (23, 45007), (Start: 39 @44911 has 12 MA's), (Start: 41 @44902 has 41 MA's), (65, 44806), (84, 44728), (103, 44593), (141, 44434), (144, 44419), (148, 44407), (153, 44377), (162, 44335), (171, 44257), (207, 44125), (214, 44092), (217, 44083), (234, 43990), (240, 43942), (243, 43927), (245, 43918), (259, 43858), (266, 43834), (281, 43744), (292, 43633), (310, 43600), (314, 43582), (320, 43561), (327, 43528),

Gene: Daka\_52 Start: 45238, Stop: 43835, Start Num: 76

Candidate Starts for Daka\_52:

(11, 45616), (12, 45571), (17, 45529), (29, 45448), (35, 45403), (Start: 76 @45238 has 220 MA's), (Start: 78 @45235 has 65 MA's), (Start: 79 @45229 has 1 MA's), (87, 45187), (101, 45115), (109, 45094), (138, 44998), (153, 44947), (165, 44881), (166, 44878), (171, 44827), (186, 44761), (190, 44749), (200, 44713), (217, 44668), (223, 44638), (230, 44599), (235, 44560), (239, 44527), (240, 44524), (245, 44500), (254, 44467), (257, 44446), (266, 44416), (282, 44302), (286, 44260), (288, 44239), (292, 44206), (310, 44134), (313, 44128), (323, 44080), (334, 44035), (341, 44011), (346,

43996), (351, 43972),

Gene: Dati\_51 Start: 44962, Stop: 43559, Start Num: 76

Candidate Starts for Dati\_51:

(35, 45127), (Start: 76 @44962 has 220 MA's), (Start: 78 @44959 has 65 MA's), (Start: 79 @44953 has 1 MA's), (87, 44911), (101, 44839), (109, 44818), (138, 44722), (153, 44671), (165, 44605), (166, 44602), (171, 44551), (186, 44485), (190, 44473), (200, 44437), (217, 44392), (223, 44362), (230, 44323), (235, 44284), (239, 44251), (240, 44248), (242, 44242), (245, 44224), (254, 44191), (257, 44170), (266, 44140), (282, 44026), (286, 43984), (288, 43963), (292, 43930), (310, 43858), (313, 43852), (323, 43804), (334, 43759), (341, 43735), (346, 43720), (351, 43696),

Gene: Deenasa\_49 Start: 45637, Stop: 44024, Start Num: 41

Candidate Starts for Deenasa\_49:

(19, 45763), (21, 45757), (23, 45742), (Start: 39 @45646 has 12 MA's), (Start: 41 @45637 has 41 MA's), (65, 45541), (84, 45463), (103, 45328), (141, 45169), (144, 45154), (148, 45142), (153, 45112), (162, 45070), (171, 44992), (185, 44926), (186, 44923), (207, 44860), (214, 44827), (217, 44818), (234, 44725), (240, 44677), (241, 44674), (243, 44662), (245, 44653), (259, 44593), (266, 44569), (281, 44479), (292, 44368), (310, 44335), (311, 44332), (314, 44317), (320, 44296), (327, 44263),

Gene: DelRivs\_50 Start: 44963, Stop: 43563, Start Num: 78

Candidate Starts for DelRivs\_50:

(11, 45344), (12, 45299), (17, 45257), (29, 45176), (35, 45131), (Start: 76 @44966 has 220 MA's), (Start: 78 @44963 has 65 MA's), (Start: 79 @44957 has 1 MA's), (87, 44915), (101, 44843), (109, 44822), (138, 44726), (153, 44675), (165, 44609), (166, 44606), (171, 44555), (186, 44489), (190, 44477), (200, 44441), (217, 44396), (223, 44366), (230, 44327), (235, 44288), (239, 44255), (240, 44252), (245, 44228), (254, 44195), (257, 44174), (266, 44144), (282, 44030), (286, 43988), (288, 43967), (292, 43934), (310, 43862), (313, 43856), (323, 43808), (334, 43763), (341, 43739), (346, 43724), (351, 43700),

Gene: Derpp\_50 Start: 44804, Stop: 43401, Start Num: 76

Candidate Starts for Derpp\_50:

(11, 45182), (12, 45137), (17, 45095), (29, 45014), (35, 44969), (Start: 76 @44804 has 220 MA's), (Start: 78 @44801 has 65 MA's), (Start: 79 @44795 has 1 MA's), (87, 44753), (101, 44681), (109, 44660), (138, 44564), (153, 44513), (165, 44447), (166, 44444), (171, 44393), (186, 44327), (190, 44315), (200, 44279), (217, 44234), (223, 44204), (230, 44165), (235, 44126), (239, 44093), (240, 44090), (242, 44084), (245, 44066), (254, 44033), (257, 44012), (266, 43982), (282, 43868), (286, 43826), (288, 43805), (292, 43772), (310, 43700), (313, 43694), (323, 43646), (334, 43601), (341, 43577), (346, 43562), (351, 43538),

Gene: Devonte\_49 Start: 44865, Stop: 43252, Start Num: 41

Candidate Starts for Devonte\_49:

(19, 44991), (21, 44985), (23, 44970), (Start: 39 @44874 has 12 MA's), (Start: 41 @44865 has 41 MA's), (65, 44769), (84, 44691), (103, 44556), (141, 44397), (144, 44382), (148, 44370), (153, 44340), (162, 44298), (171, 44220), (185, 44154), (186, 44151), (207, 44088), (214, 44055), (217, 44046), (234, 43953), (240, 43905), (241, 43902), (243, 43890), (245, 43881), (259, 43821), (266, 43797), (281, 43707), (292, 43596), (310, 43563), (311, 43560), (314, 43545), (320, 43524), (327, 43491),

Gene: Dice\_50 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for Dice\_50:

(11, 45308), (12, 45263), (17, 45221), (29, 45140), (35, 45095), (Start: 76 @44930 has 220 MA's), (Start: 78 @44927 has 65 MA's), (Start: 79 @44921 has 1 MA's), (87, 44879), (101, 44807), (109, 44786), (138, 44690), (153, 44639), (165, 44573), (166, 44570), (171, 44519), (186, 44453), (190, 44441), (200, 44405), (217, 44360), (223, 44330), (230, 44291), (235, 44252), (239, 44219), (240,



44216), (245, 44192), (254, 44159), (257, 44138), (266, 44108), (282, 43994), (286, 43952), (288, 43931), (292, 43898), (310, 43826), (313, 43820), (323, 43772), (334, 43727), (341, 43703), (346, 43688), (351, 43664),

Gene: DigitDog\_50 Start: 45861, Stop: 44476, Start Num: 76

Candidate Starts for DigitDog\_50:

(Start: 76 @45861 has 220 MA's), (Start: 82 @45843 has 2 MA's), (138, 45624), (149, 45594), (176, 45429), (186, 45387), (193, 45369), (198, 45354), (219, 45303), (227, 45252), (240, 45165), (243, 45150), (245, 45141), (259, 45081), (266, 45057), (267, 45054), (280, 44976), (284, 44922), (288, 44889), (292, 44856), (295, 44838), (310, 44784), (320, 44745), (321, 44739), (327, 44712), (348, 44631), (358, 44592), (367, 44550),

Gene: Dingo\_51 Start: 45229, Stop: 43826, Start Num: 76

Candidate Starts for Dingo\_51:

(11, 45607), (12, 45562), (17, 45520), (29, 45439), (35, 45394), (Start: 76 @45229 has 220 MA's), (Start: 78 @45226 has 65 MA's), (Start: 79 @45220 has 1 MA's), (87, 45178), (101, 45106), (109, 45085), (138, 44989), (153, 44938), (165, 44872), (166, 44869), (171, 44818), (186, 44752), (190, 44740), (200, 44704), (217, 44659), (223, 44629), (230, 44590), (235, 44551), (239, 44518), (240, 44515), (245, 44491), (254, 44458), (257, 44437), (266, 44407), (282, 44293), (286, 44251), (288, 44230), (292, 44197), (310, 44125), (313, 44119), (323, 44071), (334, 44026), (341, 44002), (346, 43987), (351, 43963),

Gene: Dione\_50 Start: 44938, Stop: 43535, Start Num: 76

Candidate Starts for Dione\_50:

(35, 45103), (Start: 76 @44938 has 220 MA's), (Start: 78 @44935 has 65 MA's), (Start: 79 @44929 has 1 MA's), (87, 44887), (101, 44815), (109, 44794), (138, 44698), (153, 44647), (165, 44581), (166, 44578), (171, 44527), (186, 44461), (190, 44449), (200, 44413), (217, 44368), (223, 44338), (230, 44299), (235, 44260), (239, 44227), (240, 44224), (245, 44200), (254, 44167), (257, 44146), (266, 44116), (282, 44002), (286, 43960), (288, 43939), (292, 43906), (310, 43834), (313, 43828), (323, 43780), (334, 43735), (341, 43711), (346, 43696), (351, 43672),

Gene: DirtJuice\_51 Start: 45228, Stop: 43825, Start Num: 76

Candidate Starts for DirtJuice\_51:

(11, 45606), (12, 45561), (17, 45519), (29, 45438), (35, 45393), (Start: 76 @45228 has 220 MA's), (Start: 78 @45225 has 65 MA's), (Start: 79 @45219 has 1 MA's), (87, 45177), (101, 45105), (109, 45084), (138, 44988), (153, 44937), (165, 44871), (166, 44868), (171, 44817), (186, 44751), (190, 44739), (200, 44703), (217, 44658), (223, 44628), (230, 44589), (235, 44550), (239, 44517), (240, 44514), (245, 44490), (254, 44457), (257, 44436), (266, 44406), (282, 44292), (286, 44250), (288, 44229), (292, 44196), (310, 44124), (313, 44118), (323, 44070), (334, 44025), (341, 44001), (346, 43986), (351, 43962),

Gene: Doddsville\_51 Start: 44955, Stop: 43555, Start Num: 78

Candidate Starts for Doddsville\_51:

(35, 45123), (Start: 76 @44958 has 220 MA's), (Start: 78 @44955 has 65 MA's), (Start: 79 @44949 has 1 MA's), (87, 44907), (101, 44835), (109, 44814), (138, 44718), (153, 44667), (165, 44601), (166, 44598), (169, 44574), (171, 44547), (186, 44481), (190, 44469), (200, 44433), (217, 44388), (223, 44358), (230, 44319), (235, 44280), (239, 44247), (240, 44244), (242, 44238), (245, 44220), (254, 44187), (257, 44166), (266, 44136), (282, 44022), (286, 43980), (288, 43959), (292, 43926), (310, 43854), (313, 43848), (323, 43800), (334, 43755), (341, 43731), (346, 43716), (351, 43692),

Gene: DoesntMatter\_50 Start: 45231, Stop: 43828, Start Num: 76

Candidate Starts for DoesntMatter\_50:

(35, 45396), (Start: 76 @45231 has 220 MA's), (Start: 78 @45228 has 65 MA's), (Start: 79 @45222 has 1 MA's), (87, 45180), (101, 45108), (109, 45087), (138, 44991), (153, 44940), (165, 44874), (166, 44871), (171, 44820), (186, 44754), (190, 44742), (200, 44706), (217, 44661), (223, 44631), (230, 44592), (235, 44553), (239, 44520), (240, 44517), (245, 44493), (254, 44460), (257, 44439), (266, 44409), (282, 44295), (286, 44253), (288, 44232), (292, 44199), (310, 44127), (313, 44121), (323, 44073), (334, 44028), (341, 44004), (346, 43989), (351, 43965),

Gene: DonSanchon\_50 Start: 44941, Stop: 43538, Start Num: 76

Candidate Starts for DonSanchon\_50:

(11, 45319), (12, 45274), (17, 45232), (29, 45151), (35, 45106), (Start: 76 @44941 has 220 MA's), (Start: 78 @44938 has 65 MA's), (Start: 79 @44932 has 1 MA's), (87, 44890), (101, 44818), (109, 44797), (138, 44701), (153, 44650), (165, 44584), (166, 44581), (169, 44557), (171, 44530), (186, 44464), (190, 44452), (200, 44416), (217, 44371), (223, 44341), (230, 44302), (235, 44263), (239, 44230), (240, 44227), (245, 44203), (254, 44170), (257, 44149), (266, 44119), (282, 44005), (286, 43963), (288, 43942), (292, 43909), (310, 43837), (313, 43831), (323, 43783), (334, 43738), (341, 43714), (346, 43699), (351, 43675),

Gene: Donny\_51 Start: 46147, Stop: 44765, Start Num: 76

Candidate Starts for Donny\_51:

(24, 46372), (Start: 76 @46147 has 220 MA's), (Start: 82 @46129 has 2 MA's), (138, 45913), (149, 45883), (176, 45718), (186, 45676), (193, 45658), (198, 45643), (219, 45592), (240, 45454), (243, 45439), (245, 45430), (256, 45379), (259, 45370), (266, 45346), (267, 45343), (284, 45211), (288, 45178), (292, 45145), (295, 45127), (310, 45073), (321, 45028), (327, 45001), (348, 44920), (351, 44902), (367, 44839),

Gene: DuchessDung\_50 Start: 44230, Stop: 42827, Start Num: 74

Candidate Starts for DuchessDung\_50:

(35, 44392), (Start: 74 @44230 has 18 MA's), (Start: 78 @44227 has 65 MA's), (87, 44179), (101, 44107), (109, 44086), (138, 43990), (153, 43939), (165, 43873), (166, 43870), (169, 43846), (171, 43819), (186, 43753), (190, 43741), (200, 43705), (217, 43660), (223, 43630), (230, 43591), (235, 43552), (239, 43519), (240, 43516), (245, 43492), (254, 43459), (257, 43438), (266, 43408), (286, 43252), (288, 43231), (292, 43198), (310, 43126), (313, 43120), (323, 43072), (334, 43027), (341, 43003), (346, 42988), (351, 42964),

Gene: Duggie\_50 Start: 44957, Stop: 43557, Start Num: 78

Candidate Starts for Duggie\_50:

(35, 45122), (Start: 74 @44960 has 18 MA's), (Start: 78 @44957 has 65 MA's), (87, 44909), (101, 44837), (109, 44816), (138, 44720), (153, 44669), (165, 44603), (166, 44600), (169, 44576), (171, 44549), (186, 44483), (190, 44471), (200, 44435), (217, 44390), (223, 44360), (230, 44321), (235, 44282), (239, 44249), (240, 44246), (242, 44240), (245, 44222), (254, 44189), (257, 44168), (266, 44138), (282, 44024), (286, 43982), (288, 43961), (292, 43928), (310, 43856), (313, 43850), (323, 43802), (334, 43757), (341, 43733), (346, 43718), (351, 43694),

Gene: Durga\_52 Start: 45396, Stop: 43993, Start Num: 76

Candidate Starts for Durga\_52:

(35, 45561), (Start: 76 @45396 has 220 MA's), (Start: 78 @45393 has 65 MA's), (Start: 79 @45387 has 1 MA's), (87, 45345), (101, 45273), (109, 45252), (138, 45156), (153, 45105), (165, 45039), (166, 45036), (171, 44985), (186, 44919), (190, 44907), (200, 44871), (217, 44826), (223, 44796), (230, 44757), (235, 44718), (239, 44685), (240, 44682), (242, 44676), (245, 44658), (254, 44625), (257, 44604), (266, 44574), (282, 44460), (286, 44418), (288, 44397), (292, 44364), (310, 44292), (313, 44286), (323, 44238), (334, 44193), (341, 44169), (346, 44154), (351, 44130),

Gene: Eaglehorse\_50 Start: 44895, Stop: 43528, Start Num: 78

Candidate Starts for Eaglehorse\_50:

(Start: 78 @44895 has 65 MA's), (88, 44832), (91, 44817), (121, 44706), (137, 44655), (152, 44607), (160, 44559), (183, 44418), (186, 44409), (209, 44364), (211, 44358), (212, 44352), (217, 44340), (235, 44235), (239, 44202), (245, 44175), (254, 44142), (259, 44115), (266, 44091), (271, 44064), (274, 44037), (283, 43962), (288, 43917), (292, 43884), (302, 43863), (308, 43857), (318, 43824), (319, 43815), (321, 43806), (364, 43644), (367, 43626), (375, 43569),

Gene: EastView9101\_49 Start: 45797, Stop: 44415, Start Num: 76

Candidate Starts for EastView9101\_49:

(24, 46022), (Start: 76 @45797 has 220 MA's), (Start: 82 @45779 has 2 MA's), (138, 45563), (149, 45533), (176, 45368), (186, 45326), (193, 45308), (198, 45293), (219, 45242), (240, 45104), (245, 45080), (256, 45029), (259, 45020), (266, 44996), (267, 44993), (284, 44861), (288, 44828), (292, 44795), (295, 44777), (310, 44723), (321, 44678), (327, 44651), (348, 44570), (351, 44552), (367, 44489),

Gene: EmiRose\_30 Start: 23905, Stop: 22832, Start Num: 136

Candidate Starts for EmiRose\_30:

(Start: 136 @23905 has 2 MA's), (137, 23899), (166, 23782), (181, 23677), (182, 23674), (237, 23506), (240, 23491), (243, 23476), (253, 23437), (264, 23395), (271, 23362), (272, 23359), (278, 23317), (284, 23257), (285, 23251), (292, 23191), (293, 23182), (320, 23119), (329, 23080),

Gene: Emiris\_52 Start: 45364, Stop: 43961, Start Num: 76

Candidate Starts for Emiris\_52:

(35, 45529), (Start: 76 @45364 has 220 MA's), (Start: 78 @45361 has 65 MA's), (Start: 79 @45355 has 1 MA's), (87, 45313), (101, 45241), (109, 45220), (138, 45124), (153, 45073), (165, 45007), (166, 45004), (171, 44953), (186, 44887), (190, 44875), (200, 44839), (217, 44794), (223, 44764), (230, 44725), (235, 44686), (239, 44653), (240, 44650), (242, 44644), (245, 44626), (254, 44593), (257, 44572), (266, 44542), (282, 44428), (286, 44386), (288, 44365), (292, 44332), (310, 44260), (313, 44254), (323, 44206), (334, 44161), (341, 44137), (346, 44122), (351, 44098),

Gene: EmpTee\_51 Start: 45244, Stop: 43841, Start Num: 76

Candidate Starts for EmpTee\_51:

(11, 45622), (12, 45577), (17, 45535), (29, 45454), (35, 45409), (Start: 76 @45244 has 220 MA's), (Start: 78 @45241 has 65 MA's), (Start: 79 @45235 has 1 MA's), (87, 45193), (101, 45121), (109, 45100), (138, 45004), (153, 44953), (165, 44887), (166, 44884), (171, 44833), (186, 44767), (190, 44755), (200, 44719), (217, 44674), (223, 44644), (230, 44605), (235, 44566), (239, 44533), (240, 44530), (245, 44506), (254, 44473), (257, 44452), (266, 44422), (282, 44308), (286, 44266), (288, 44245), (292, 44212), (310, 44140), (313, 44134), (323, 44086), (334, 44041), (341, 44017), (346, 44002), (351, 43978),

Gene: Epah\_45 Start: 44672, Stop: 43332, Start Num: 75

Candidate Starts for Epah\_45:

(Start: 73 @44675 has 9 MA's), (Start: 75 @44672 has 15 MA's), (Start: 79 @44663 has 1 MA's), (80, 44657), (89, 44606), (133, 44459), (153, 44393), (156, 44369), (186, 44207), (192, 44189), (195, 44174), (196, 44171), (208, 44144), (224, 44081), (225, 44072), (238, 43985), (243, 43961), (254, 43919), (255, 43916), (257, 43898), (266, 43868), (271, 43841), (276, 43808), (280, 43787), (281, 43778), (284, 43733), (285, 43727), (286, 43718), (288, 43697), (292, 43664), (313, 43625), (327, 43559), (328, 43556), (348, 43487), (351, 43469),

Gene: Eremos\_51 Start: 45237, Stop: 43834, Start Num: 76

Candidate Starts for Eremos\_51:

(35, 45402), (Start: 76 @45237 has 220 MA's), (Start: 78 @45234 has 65 MA's), (Start: 79 @45228 has 1 MA's), (87, 45186), (101, 45114), (109, 45093), (138, 44997), (153, 44946), (165, 44880), (166,

44877), (171, 44826), (186, 44760), (190, 44748), (200, 44712), (217, 44667), (223, 44637), (230, 44598), (235, 44559), (239, 44526), (240, 44523), (245, 44499), (254, 44466), (257, 44445), (266, 44415), (282, 44301), (286, 44259), (288, 44238), (292, 44205), (310, 44133), (313, 44127), (323, 44079), (334, 44034), (341, 44010), (346, 43995), (351, 43971),

Gene: Etaye\_51 Start: 45231, Stop: 43828, Start Num: 76

Candidate Starts for Etaye\_51:

(35, 45396), (Start: 76 @45231 has 220 MA's), (Start: 78 @45228 has 65 MA's), (Start: 79 @45222 has 1 MA's), (87, 45180), (101, 45108), (109, 45087), (138, 44991), (153, 44940), (165, 44874), (166, 44871), (171, 44820), (186, 44754), (190, 44742), (200, 44706), (217, 44661), (223, 44631), (230, 44592), (235, 44553), (239, 44520), (240, 44517), (242, 44511), (245, 44493), (254, 44460), (257, 44439), (266, 44409), (282, 44295), (286, 44253), (288, 44232), (292, 44199), (310, 44127), (313, 44121), (323, 44073), (334, 44028), (341, 44004), (346, 43989), (351, 43965),

Gene: Eugenia\_51 Start: 45241, Stop: 43838, Start Num: 76

Candidate Starts for Eugenia\_51:

(35, 45406), (Start: 76 @45241 has 220 MA's), (Start: 78 @45238 has 65 MA's), (Start: 79 @45232 has 1 MA's), (87, 45190), (101, 45118), (109, 45097), (138, 45001), (153, 44950), (165, 44884), (166, 44881), (169, 44857), (171, 44830), (186, 44764), (190, 44752), (200, 44716), (217, 44671), (223, 44641), (230, 44602), (235, 44563), (239, 44530), (240, 44527), (245, 44503), (254, 44470), (257, 44449), (266, 44419), (282, 44305), (286, 44263), (288, 44242), (292, 44209), (310, 44137), (313, 44131), (323, 44083), (334, 44038), (341, 44014), (346, 43999), (351, 43975),

Gene: Evaa\_44 Start: 38752, Stop: 37496, Start Num: 42

Candidate Starts for Evaa\_44:

(Start: 42 @38752 has 1 MA's), (53, 38713), (Start: 136 @38626 has 2 MA's), (137, 38620), (153, 38569), (159, 38536), (161, 38530), (188, 38383), (239, 38167), (250, 38122), (266, 38056), (271, 38029), (276, 37996), (288, 37888), (292, 37855), (313, 37816), (320, 37783), (321, 37777), (327, 37750), (336, 37714), (351, 37657), (364, 37612),

Gene: Fanaw\_45 Start: 45368, Stop: 44028, Start Num: 75

Candidate Starts for Fanaw\_45:

(Start: 73 @45371 has 9 MA's), (Start: 75 @45368 has 15 MA's), (Start: 79 @45359 has 1 MA's), (80, 45353), (89, 45302), (133, 45155), (149, 45110), (153, 45089), (175, 44948), (179, 44924), (186, 44903), (187, 44900), (192, 44885), (195, 44870), (222, 44801), (223, 44786), (225, 44768), (231, 44744), (240, 44672), (243, 44657), (245, 44648), (254, 44615), (255, 44612), (257, 44594), (266, 44564), (276, 44504), (279, 44486), (281, 44474), (284, 44429), (285, 44423), (286, 44414), (291, 44384), (292, 44360), (313, 44321), (322, 44276), (327, 44255), (328, 44252), (348, 44183), (351, 44165),

Gene: Fang\_52 Start: 45389, Stop: 43986, Start Num: 76

Candidate Starts for Fang\_52:

(11, 45767), (12, 45722), (17, 45680), (29, 45599), (35, 45554), (Start: 76 @45389 has 220 MA's), (Start: 78 @45386 has 65 MA's), (Start: 79 @45380 has 1 MA's), (87, 45338), (101, 45266), (109, 45245), (138, 45149), (153, 45098), (165, 45032), (166, 45029), (169, 45005), (171, 44978), (186, 44912), (190, 44900), (200, 44864), (217, 44819), (223, 44789), (230, 44750), (235, 44711), (239, 44678), (240, 44675), (245, 44651), (254, 44618), (257, 44597), (266, 44567), (282, 44453), (286, 44411), (288, 44390), (292, 44357), (310, 44285), (313, 44279), (323, 44231), (334, 44186), (341, 44162), (346, 44147), (351, 44123),

Gene: Faze9\_49 Start: 44989, Stop: 43622, Start Num: 78

Candidate Starts for Faze9\_49:

(Start: 78 @44989 has 65 MA's), (88, 44926), (91, 44911), (121, 44800), (137, 44749), (152, 44701), (160, 44653), (183, 44512), (186, 44503), (209, 44458), (211, 44452), (212, 44446), (217, 44434), (235, 44329), (239, 44296), (245, 44269), (254, 44236), (259, 44209), (266, 44185), (271, 44158), (274, 44131), (283, 44056), (288, 44011), (292, 43978), (302, 43957), (308, 43951), (318, 43918), (319, 43909), (321, 43900), (364, 43738), (367, 43720), (375, 43663),

Gene: FluffyNinja\_52 Start: 45403, Stop: 44000, Start Num: 76

Candidate Starts for FluffyNinja\_52:

(11, 45781), (12, 45736), (17, 45694), (29, 45613), (35, 45568), (Start: 76 @45403 has 220 MA's), (Start: 78 @45400 has 65 MA's), (Start: 79 @45394 has 1 MA's), (87, 45352), (101, 45280), (109, 45259), (138, 45163), (153, 45112), (165, 45046), (166, 45043), (171, 44992), (186, 44926), (190, 44914), (200, 44878), (217, 44833), (223, 44803), (230, 44764), (235, 44725), (239, 44692), (240, 44689), (245, 44665), (254, 44632), (257, 44611), (266, 44581), (282, 44467), (286, 44425), (288, 44404), (292, 44371), (310, 44299), (313, 44293), (323, 44245), (334, 44200), (341, 44176), (346, 44161), (351, 44137),

Gene: Fortunato\_47 Start: 45732, Stop: 44389, Start Num: 73

Candidate Starts for Fortunato\_47:

(Start: 73 @45732 has 9 MA's), (Start: 75 @45729 has 15 MA's), (Start: 79 @45720 has 1 MA's), (80, 45714), (89, 45663), (133, 45516), (149, 45471), (153, 45450), (175, 45309), (179, 45285), (186, 45264), (187, 45261), (192, 45246), (195, 45231), (222, 45162), (223, 45147), (231, 45105), (240, 45033), (243, 45018), (245, 45009), (254, 44976), (255, 44973), (257, 44955), (266, 44925), (276, 44865), (279, 44847), (281, 44835), (284, 44790), (285, 44784), (286, 44775), (291, 44745), (292, 44721), (313, 44682), (322, 44637), (327, 44616), (328, 44613), (348, 44544), (351, 44526),

Gene: Fozzie\_50 Start: 45266, Stop: 43863, Start Num: 76

Candidate Starts for Fozzie\_50:

(11, 45644), (12, 45599), (17, 45557), (29, 45476), (35, 45431), (Start: 76 @45266 has 220 MA's), (Start: 78 @45263 has 65 MA's), (Start: 79 @45257 has 1 MA's), (87, 45215), (101, 45143), (109, 45122), (138, 45026), (153, 44975), (165, 44909), (166, 44906), (171, 44855), (186, 44789), (190, 44777), (200, 44741), (217, 44696), (223, 44666), (230, 44627), (235, 44588), (239, 44555), (240, 44552), (245, 44528), (254, 44495), (257, 44474), (266, 44444), (282, 44330), (286, 44288), (288, 44267), (292, 44234), (310, 44162), (313, 44156), (323, 44108), (334, 44063), (341, 44039), (346, 44024), (351, 44000),

Gene: Frankicide\_51 Start: 45268, Stop: 43865, Start Num: 76

Candidate Starts for Frankicide\_51:

(35, 45433), (Start: 76 @45268 has 220 MA's), (Start: 78 @45265 has 65 MA's), (Start: 79 @45259 has 1 MA's), (87, 45217), (101, 45145), (109, 45124), (138, 45028), (153, 44977), (165, 44911), (166, 44908), (169, 44884), (171, 44857), (186, 44791), (190, 44779), (200, 44743), (217, 44698), (223, 44668), (230, 44629), (235, 44590), (239, 44557), (240, 44554), (245, 44530), (254, 44497), (257, 44476), (266, 44446), (282, 44332), (286, 44290), (288, 44269), (292, 44236), (310, 44164), (313, 44158), (323, 44110), (334, 44065), (341, 44041), (346, 44026), (351, 44002),

Gene: Frederick\_47 Start: 45702, Stop: 44362, Start Num: 75

Candidate Starts for Frederick\_47:

(Start: 73 @45705 has 9 MA's), (Start: 75 @45702 has 15 MA's), (Start: 79 @45693 has 1 MA's), (80, 45687), (89, 45636), (133, 45489), (149, 45444), (153, 45423), (175, 45282), (179, 45258), (186, 45237), (187, 45234), (192, 45219), (195, 45204), (222, 45135), (231, 45078), (243, 44991), (245, 44982), (254, 44949), (255, 44946), (257, 44928), (266, 44898), (276, 44838), (279, 44820), (281, 44808), (284, 44763), (285, 44757), (286, 44748), (288, 44727), (291, 44718), (292, 44694), (313, 44655), (327, 44589), (328, 44586), (346, 44523), (348, 44517), (351, 44499),

Gene: FrenchFry\_50 Start: 44968, Stop: 43601, Start Num: 78

Candidate Starts for FrenchFry\_50:

(Start: 78 @44968 has 65 MA's), (88, 44905), (91, 44890), (121, 44779), (137, 44728), (152, 44680), (160, 44632), (183, 44491), (186, 44482), (209, 44437), (211, 44431), (212, 44425), (217, 44413), (235, 44308), (239, 44275), (243, 44257), (245, 44248), (254, 44215), (259, 44188), (266, 44164), (271, 44137), (274, 44110), (283, 44035), (288, 43990), (292, 43957), (302, 43936), (308, 43930), (318, 43897), (321, 43879), (364, 43717), (367, 43699), (375, 43642),

Gene: Fresco\_44 Start: 37982, Stop: 36669, Start Num: 39

Candidate Starts for Fresco\_44:

(Start: 38 @37985 has 1 MA's), (Start: 39 @37982 has 12 MA's), (Start: 136 @37823 has 2 MA's), (137, 37817), (153, 37766), (214, 37511), (221, 37490), (228, 37445), (231, 37433), (254, 37304), (259, 37277), (266, 37253), (272, 37223), (273, 37205), (276, 37193), (281, 37163), (283, 37130), (288, 37085), (292, 37052), (304, 37019), (308, 36992), (320, 36947), (321, 36941), (327, 36914), (328, 36911), (341, 36863), (375, 36701),

Gene: Freya\_50 Start: 44929, Stop: 43526, Start Num: 76

Candidate Starts for Freya\_50:

(35, 45094), (Start: 76 @44929 has 220 MA's), (Start: 78 @44926 has 65 MA's), (Start: 79 @44920 has 1 MA's), (87, 44878), (101, 44806), (109, 44785), (138, 44689), (153, 44638), (165, 44572), (166, 44569), (171, 44518), (186, 44452), (190, 44440), (200, 44404), (217, 44359), (223, 44329), (230, 44290), (235, 44251), (239, 44218), (240, 44215), (245, 44191), (254, 44158), (257, 44137), (266, 44107), (282, 43993), (286, 43951), (288, 43930), (292, 43897), (310, 43825), (313, 43819), (323, 43771), (334, 43726), (341, 43702), (346, 43687), (351, 43663),

Gene: FriarPreacher\_50 Start: 45280, Stop: 43877, Start Num: 76

Candidate Starts for FriarPreacher\_50:

(11, 45658), (12, 45613), (17, 45571), (29, 45490), (35, 45445), (Start: 76 @45280 has 220 MA's), (Start: 78 @45277 has 65 MA's), (Start: 79 @45271 has 1 MA's), (87, 45229), (101, 45157), (109, 45136), (138, 45040), (153, 44989), (165, 44923), (166, 44920), (171, 44869), (186, 44803), (190, 44791), (200, 44755), (217, 44710), (223, 44680), (230, 44641), (235, 44602), (239, 44569), (240, 44566), (245, 44542), (254, 44509), (257, 44488), (266, 44458), (282, 44344), (286, 44302), (288, 44281), (292, 44248), (310, 44176), (313, 44170), (323, 44122), (334, 44077), (341, 44053), (346, 44038), (351, 44014),

Gene: Fringe\_52 Start: 45365, Stop: 43962, Start Num: 76

Candidate Starts for Fringe\_52:

(11, 45743), (12, 45698), (17, 45656), (29, 45575), (35, 45530), (Start: 76 @45365 has 220 MA's), (Start: 78 @45362 has 65 MA's), (Start: 79 @45356 has 1 MA's), (87, 45314), (101, 45242), (109, 45221), (138, 45125), (153, 45074), (165, 45008), (166, 45005), (171, 44954), (186, 44888), (190, 44876), (200, 44840), (217, 44795), (223, 44765), (230, 44726), (235, 44687), (239, 44654), (240, 44651), (245, 44627), (254, 44594), (257, 44573), (266, 44543), (282, 44429), (286, 44387), (288, 44366), (292, 44333), (310, 44261), (313, 44255), (323, 44207), (334, 44162), (341, 44138), (346, 44123), (351, 44099),

Gene: FugateOSU\_50 Start: 44943, Stop: 43540, Start Num: 76

Candidate Starts for FugateOSU\_50:

(35, 45108), (Start: 76 @44943 has 220 MA's), (Start: 78 @44940 has 65 MA's), (Start: 79 @44934 has 1 MA's), (87, 44892), (101, 44820), (109, 44799), (138, 44703), (153, 44652), (165, 44586), (166, 44583), (169, 44559), (171, 44532), (186, 44466), (190, 44454), (200, 44418), (217, 44373), (223, 44343), (230, 44304), (235, 44265), (239, 44232), (240, 44229), (245, 44205), (254, 44172), (257, 44151), (266, 44121), (282, 44007), (286, 43965), (288, 43944), (292, 43911), (310, 43839), (313, 43833), (323, 43785), (334, 43740), (341, 43716), (346, 43701), (351, 43677),

Gene: Funsized\_54 Start: 48470, Stop: 47079, Start Num: 69

Candidate Starts for Funsized\_54:

(Start: 69 @48470 has 2 MA's), (Start: 79 @48449 has 1 MA's), (122, 48281), (123, 48278), (124, 48272), (138, 48197), (159, 48113), (162, 48104), (173, 48017), (186, 47960), (192, 47942), (202, 47915), (225, 47834), (227, 47825), (231, 47810), (238, 47747), (240, 47738), (242, 47732), (243, 47723), (246, 47711), (255, 47678), (264, 47642), (266, 47630), (270, 47600), (271, 47594), (273, 47573), (279, 47543), (281, 47531), (284, 47486), (288, 47450), (292, 47417), (310, 47384), (313, 47378), (327, 47312), (332, 47294), (341, 47261), (346, 47246), (370, 47138), (375, 47102),

Gene: Gadget\_50 Start: 44888, Stop: 43275, Start Num: 36

Candidate Starts for Gadget\_50:

(18, 44993), (Start: 36 @44888 has 1 MA's), (65, 44789), (81, 44732), (84, 44711), (99, 44588), (103, 44576), (111, 44552), (116, 44537), (141, 44420), (144, 44405), (148, 44393), (153, 44363), (162, 44321), (171, 44243), (185, 44177), (186, 44174), (207, 44111), (214, 44078), (217, 44069), (234, 43976), (240, 43928), (241, 43925), (243, 43913), (245, 43904), (259, 43844), (266, 43820), (281, 43730), (292, 43619), (310, 43586), (311, 43583), (314, 43568), (320, 43547), (327, 43514),

Gene: Gareth\_50 Start: 44937, Stop: 43534, Start Num: 76

Candidate Starts for Gareth\_50:

(11, 45315), (12, 45270), (17, 45228), (29, 45147), (35, 45102), (Start: 76 @44937 has 220 MA's), (Start: 78 @44934 has 65 MA's), (Start: 79 @44928 has 1 MA's), (87, 44886), (101, 44814), (109, 44793), (138, 44697), (153, 44646), (165, 44580), (166, 44577), (171, 44526), (186, 44460), (190, 44448), (200, 44412), (217, 44367), (223, 44337), (230, 44298), (235, 44259), (239, 44226), (240, 44223), (245, 44199), (254, 44166), (257, 44145), (266, 44115), (282, 44001), (286, 43959), (288, 43938), (292, 43905), (310, 43833), (313, 43827), (323, 43779), (334, 43734), (341, 43710), (346, 43695), (351, 43671),

Gene: GeneCoco\_51 Start: 45252, Stop: 43849, Start Num: 76

Candidate Starts for GeneCoco\_51:

(11, 45630), (12, 45585), (17, 45543), (29, 45462), (35, 45417), (Start: 76 @45252 has 220 MA's), (Start: 78 @45249 has 65 MA's), (Start: 79 @45243 has 1 MA's), (87, 45201), (101, 45129), (109, 45108), (138, 45012), (153, 44961), (165, 44895), (166, 44892), (171, 44841), (186, 44775), (190, 44763), (200, 44727), (217, 44682), (223, 44652), (230, 44613), (235, 44574), (239, 44541), (240, 44538), (242, 44532), (245, 44514), (254, 44481), (257, 44460), (266, 44430), (282, 44316), (286, 44274), (288, 44253), (292, 44220), (310, 44148), (313, 44142), (323, 44094), (334, 44049), (341, 44025), (346, 44010), (351, 43986),

Gene: Gervas\_49 Start: 44856, Stop: 43243, Start Num: 41

Candidate Starts for Gervas\_49:

(19, 44982), (21, 44976), (23, 44961), (Start: 39 @44865 has 12 MA's), (Start: 41 @44856 has 41 MA's), (65, 44760), (84, 44682), (103, 44547), (141, 44388), (144, 44373), (148, 44361), (153, 44331), (162, 44289), (171, 44211), (207, 44079), (214, 44046), (217, 44037), (234, 43944), (240, 43896), (243, 43881), (245, 43872), (254, 43839), (259, 43812), (266, 43788), (281, 43698), (292, 43587), (310, 43554), (314, 43536), (320, 43515), (327, 43482),

Gene: GinPorsche\_45 Start: 44672, Stop: 43332, Start Num: 75

Candidate Starts for GinPorsche\_45:

(Start: 73 @44675 has 9 MA's), (Start: 75 @44672 has 15 MA's), (Start: 79 @44663 has 1 MA's), (80, 44657), (89, 44606), (133, 44459), (153, 44393), (156, 44369), (186, 44207), (192, 44189), (195, 44174), (196, 44171), (208, 44144), (224, 44081), (225, 44072), (238, 43985), (243, 43961), (254, 43919), (255, 43916), (257, 43898), (266, 43868), (271, 43841), (276, 43808), (280, 43787), (281, 43778), (284, 43733), (285, 43727), (286, 43718), (288, 43697), (292, 43664), (313, 43625), (327,

43559), (328, 43556), (348, 43487), (351, 43469),

Gene: Giraffe\_51 Start: 44961, Stop: 43558, Start Num: 76

Candidate Starts for Giraffe\_51:

(35, 45126), (Start: 76 @44961 has 220 MA's), (Start: 78 @44958 has 65 MA's), (Start: 79 @44952 has 1 MA's), (87, 44910), (101, 44838), (109, 44817), (138, 44721), (153, 44670), (165, 44604), (166, 44601), (171, 44550), (186, 44484), (190, 44472), (200, 44436), (217, 44391), (223, 44361), (230, 44322), (235, 44283), (239, 44250), (240, 44247), (245, 44223), (254, 44190), (257, 44169), (266, 44139), (282, 44025), (286, 43983), (288, 43962), (292, 43929), (310, 43857), (313, 43851), (323, 43803), (334, 43758), (341, 43734), (346, 43719), (351, 43695),

Gene: Glass\_50 Start: 44973, Stop: 43606, Start Num: 78

Candidate Starts for Glass\_50:

(Start: 78 @44973 has 65 MA's), (88, 44910), (91, 44895), (121, 44784), (137, 44733), (152, 44685), (160, 44637), (183, 44496), (186, 44487), (209, 44442), (211, 44436), (212, 44430), (217, 44418), (235, 44313), (239, 44280), (243, 44262), (245, 44253), (254, 44220), (259, 44193), (266, 44169), (271, 44142), (274, 44115), (283, 44040), (288, 43995), (292, 43962), (302, 43941), (308, 43935), (318, 43902), (321, 43884), (364, 43722), (367, 43704), (375, 43647),

Gene: GlenHope\_50 Start: 44877, Stop: 43255, Start Num: 39

Candidate Starts for GlenHope\_50:

(19, 44994), (21, 44988), (23, 44973), (Start: 39 @44877 has 12 MA's), (Start: 41 @44868 has 41 MA's), (65, 44772), (84, 44694), (103, 44559), (141, 44400), (144, 44385), (148, 44373), (153, 44343), (162, 44301), (171, 44223), (207, 44091), (214, 44058), (217, 44049), (234, 43956), (240, 43908), (243, 43893), (245, 43884), (254, 43851), (259, 43824), (266, 43800), (281, 43710), (292, 43599), (310, 43566), (311, 43563), (314, 43548), (320, 43527), (327, 43494),

Gene: Godines\_50 Start: 44925, Stop: 43558, Start Num: 78

Candidate Starts for Godines\_50:

(Start: 78 @44925 has 65 MA's), (88, 44862), (91, 44847), (121, 44736), (137, 44685), (152, 44637), (160, 44589), (180, 44454), (183, 44448), (186, 44439), (209, 44394), (211, 44388), (212, 44382), (217, 44370), (235, 44265), (239, 44232), (243, 44214), (245, 44205), (254, 44172), (259, 44145), (266, 44121), (271, 44094), (274, 44067), (283, 43992), (288, 43947), (292, 43914), (302, 43893), (308, 43887), (318, 43854), (321, 43836), (364, 43674), (367, 43656), (375, 43599),

Gene: Gophee\_51 Start: 45235, Stop: 43832, Start Num: 76

Candidate Starts for Gophee\_51:

(35, 45400), (Start: 76 @45235 has 220 MA's), (Start: 78 @45232 has 65 MA's), (Start: 79 @45226 has 1 MA's), (87, 45184), (101, 45112), (109, 45091), (138, 44995), (153, 44944), (165, 44878), (166, 44875), (171, 44824), (186, 44758), (190, 44746), (200, 44710), (217, 44665), (223, 44635), (230, 44596), (235, 44557), (239, 44524), (240, 44521), (242, 44515), (245, 44497), (254, 44464), (257, 44443), (266, 44413), (282, 44299), (286, 44257), (288, 44236), (292, 44203), (310, 44131), (313, 44125), (323, 44077), (334, 44032), (341, 44008), (346, 43993), (351, 43969),

Gene: Grand2040\_50 Start: 44955, Stop: 43552, Start Num: 76

Candidate Starts for Grand2040\_50:

(11, 45333), (12, 45288), (17, 45246), (29, 45165), (35, 45120), (Start: 76 @44955 has 220 MA's), (Start: 78 @44952 has 65 MA's), (Start: 79 @44946 has 1 MA's), (87, 44904), (101, 44832), (109, 44811), (138, 44715), (153, 44664), (165, 44598), (166, 44595), (171, 44544), (186, 44478), (190, 44466), (200, 44430), (217, 44385), (223, 44355), (230, 44316), (235, 44277), (239, 44244), (240, 44241), (245, 44217), (254, 44184), (257, 44163), (266, 44133), (282, 44019), (286, 43977), (288, 43956), (292, 43923), (310, 43851), (313, 43845), (323, 43797), (334, 43752), (341, 43728), (346, 43713), (351, 43689),



Gene: Gustav\_32 Start: 25299, Stop: 24172, Start Num: 135

Candidate Starts for Gustav\_32:

(20, 25836), (22, 25827), (34, 25743), (60, 25629), (106, 25392), (Start: 135 @25299 has 4 MA's), (167, 25158), (179, 25065), (182, 25056), (237, 24885), (249, 24831), (251, 24825), (264, 24759), (272, 24723), (289, 24585), (292, 24555), (297, 24528), (308, 24480), (315, 24453), (317, 24447), (322, 24420), (331, 24387), (373, 24207),

Gene: Gwilliam\_52 Start: 45241, Stop: 43838, Start Num: 76

Candidate Starts for Gwilliam\_52:

(35, 45406), (Start: 76 @45241 has 220 MA's), (Start: 78 @45238 has 65 MA's), (Start: 79 @45232 has 1 MA's), (87, 45190), (101, 45118), (109, 45097), (138, 45001), (153, 44950), (165, 44884), (166, 44881), (169, 44857), (171, 44830), (186, 44764), (190, 44752), (200, 44716), (217, 44671), (223, 44641), (230, 44602), (235, 44563), (239, 44530), (240, 44527), (245, 44503), (254, 44470), (257, 44449), (266, 44419), (282, 44305), (286, 44263), (288, 44242), (292, 44209), (310, 44137), (313, 44131), (323, 44083), (334, 44038), (341, 44014), (346, 43999), (351, 43975),

Gene: Gyarad\_0051 Start: 45255, Stop: 43852, Start Num: 76

Candidate Starts for Gyarad\_0051:

(11, 45633), (12, 45588), (17, 45546), (29, 45465), (35, 45420), (Start: 76 @45255 has 220 MA's), (Start: 78 @45252 has 65 MA's), (Start: 79 @45246 has 1 MA's), (87, 45204), (101, 45132), (109, 45111), (138, 45015), (153, 44964), (165, 44898), (166, 44895), (169, 44871), (171, 44844), (186, 44778), (190, 44766), (200, 44730), (217, 44685), (223, 44655), (230, 44616), (235, 44577), (239, 44544), (240, 44541), (245, 44517), (254, 44484), (257, 44463), (266, 44433), (282, 44319), (286, 44277), (288, 44256), (292, 44223), (310, 44151), (313, 44145), (323, 44097), (334, 44052), (341, 44028), (346, 44013), (351, 43989),

Gene: HSavage\_51 Start: 45247, Stop: 43844, Start Num: 76

Candidate Starts for HSavage\_51:

(35, 45412), (Start: 76 @45247 has 220 MA's), (Start: 78 @45244 has 65 MA's), (Start: 79 @45238 has 1 MA's), (87, 45196), (101, 45124), (109, 45103), (138, 45007), (153, 44956), (165, 44890), (166, 44887), (171, 44836), (186, 44770), (190, 44758), (200, 44722), (217, 44677), (223, 44647), (230, 44608), (235, 44569), (239, 44536), (240, 44533), (245, 44509), (254, 44476), (257, 44455), (266, 44425), (282, 44311), (286, 44269), (288, 44248), (292, 44215), (310, 44143), (313, 44137), (323, 44089), (334, 44044), (341, 44020), (346, 44005), (351, 43981),

Gene: Haimas\_51 Start: 45241, Stop: 43838, Start Num: 76

Candidate Starts for Haimas\_51:

(35, 45406), (Start: 76 @45241 has 220 MA's), (Start: 78 @45238 has 65 MA's), (Start: 79 @45232 has 1 MA's), (87, 45190), (101, 45118), (109, 45097), (138, 45001), (153, 44950), (165, 44884), (166, 44881), (171, 44830), (186, 44764), (190, 44752), (200, 44716), (217, 44671), (223, 44641), (230, 44602), (235, 44563), (239, 44530), (240, 44527), (245, 44503), (254, 44470), (257, 44449), (266, 44419), (282, 44305), (286, 44263), (288, 44242), (292, 44209), (310, 44137), (313, 44131), (323, 44083), (334, 44038), (341, 44014), (346, 43999), (351, 43975),

Gene: Haleema\_50 Start: 44955, Stop: 43552, Start Num: 76

Candidate Starts for Haleema\_50:

(11, 45333), (12, 45288), (17, 45246), (29, 45165), (35, 45120), (Start: 76 @44955 has 220 MA's), (Start: 78 @44952 has 65 MA's), (Start: 79 @44946 has 1 MA's), (87, 44904), (101, 44832), (109, 44811), (138, 44715), (153, 44664), (165, 44598), (166, 44595), (171, 44544), (186, 44478), (190, 44466), (200, 44430), (217, 44385), (223, 44355), (230, 44316), (235, 44277), (239, 44244), (240, 44241), (245, 44217), (254, 44184), (257, 44163), (266, 44133), (282, 44019), (286, 43977), (288, 43956), (292, 43923), (310, 43851), (313, 43845), (323, 43797), (334, 43752), (341, 43728), (346,

43713), (351, 43689),

Gene: Halfpint\_48 Start: 44693, Stop: 43080, Start Num: 41

Candidate Starts for Halfpint\_48:

(19, 44819), (21, 44813), (23, 44798), (Start: 39 @44702 has 12 MA's), (Start: 41 @44693 has 41 MA's), (65, 44597), (84, 44519), (103, 44384), (141, 44225), (144, 44210), (148, 44198), (153, 44168), (162, 44126), (171, 44048), (207, 43916), (214, 43883), (217, 43874), (234, 43781), (240, 43733), (243, 43718), (245, 43709), (254, 43676), (259, 43649), (266, 43625), (281, 43535), (292, 43424), (310, 43391), (311, 43388), (314, 43373), (320, 43352), (327, 43319),

Gene: Hally898\_45 Start: 44684, Stop: 43344, Start Num: 75

Candidate Starts for Hally898\_45:

(Start: 73 @44687 has 9 MA's), (Start: 75 @44684 has 15 MA's), (Start: 79 @44675 has 1 MA's), (80, 44669), (89, 44618), (133, 44471), (153, 44405), (156, 44381), (186, 44219), (192, 44201), (195, 44186), (196, 44183), (208, 44156), (224, 44093), (225, 44084), (238, 43997), (243, 43973), (254, 43931), (255, 43928), (257, 43910), (266, 43880), (271, 43853), (276, 43820), (280, 43799), (281, 43790), (284, 43745), (285, 43739), (286, 43730), (288, 43709), (292, 43676), (313, 43637), (327, 43571), (328, 43568), (348, 43499), (351, 43481),

Gene: Hamish\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Hamish\_51:

(35, 45399), (Start: 76 @45234 has 220 MA's), (Start: 78 @45231 has 65 MA's), (Start: 79 @45225 has 1 MA's), (87, 45183), (101, 45111), (109, 45090), (138, 44994), (153, 44943), (165, 44877), (166, 44874), (171, 44823), (186, 44757), (190, 44745), (200, 44709), (217, 44664), (223, 44634), (230, 44595), (235, 44556), (239, 44523), (240, 44520), (245, 44496), (254, 44463), (257, 44442), (266, 44412), (282, 44298), (286, 44256), (288, 44235), (292, 44202), (310, 44130), (313, 44124), (323, 44076), (334, 44031), (341, 44007), (346, 43992), (351, 43968),

Gene: Hangman\_46 Start: 45811, Stop: 44468, Start Num: 73

Candidate Starts for Hangman\_46:

(Start: 73 @45811 has 9 MA's), (Start: 75 @45808 has 15 MA's), (Start: 79 @45799 has 1 MA's), (80, 45793), (89, 45742), (133, 45595), (149, 45550), (153, 45529), (175, 45388), (179, 45364), (186, 45343), (187, 45340), (192, 45325), (195, 45310), (222, 45241), (225, 45208), (231, 45184), (243, 45097), (245, 45088), (254, 45055), (255, 45052), (257, 45034), (266, 45004), (276, 44944), (279, 44926), (281, 44914), (284, 44869), (285, 44863), (286, 44854), (288, 44833), (291, 44824), (292, 44800), (313, 44761), (327, 44695), (328, 44692), (348, 44623), (351, 44605),

Gene: Hartsy\_51 Start: 45284, Stop: 43881, Start Num: 76

Candidate Starts for Hartsy\_51:

(35, 45449), (Start: 76 @45284 has 220 MA's), (Start: 78 @45281 has 65 MA's), (Start: 79 @45275 has 1 MA's), (87, 45233), (101, 45161), (109, 45140), (138, 45044), (153, 44993), (165, 44927), (166, 44924), (169, 44900), (171, 44873), (186, 44807), (190, 44795), (200, 44759), (217, 44714), (223, 44684), (230, 44645), (235, 44606), (239, 44573), (240, 44570), (245, 44546), (254, 44513), (257, 44492), (266, 44462), (282, 44348), (286, 44306), (288, 44285), (292, 44252), (310, 44180), (313, 44174), (323, 44126), (334, 44081), (341, 44057), (346, 44042), (351, 44018),

Gene: Harvey\_51 Start: 45271, Stop: 43868, Start Num: 76

Candidate Starts for Harvey\_51:

(35, 45436), (Start: 76 @45271 has 220 MA's), (Start: 78 @45268 has 65 MA's), (Start: 79 @45262 has 1 MA's), (87, 45220), (101, 45148), (109, 45127), (138, 45031), (153, 44980), (165, 44914), (166, 44911), (171, 44860), (186, 44794), (190, 44782), (200, 44746), (217, 44701), (223, 44671), (230, 44632), (235, 44593), (239, 44560), (240, 44557), (245, 44533), (254, 44500), (257, 44479), (266, 44449), (282, 44335), (286, 44293), (288, 44272), (292, 44239), (310, 44167), (313, 44161), (323,

44113), (334, 44068), (341, 44044), (346, 44029), (351, 44005),

Gene: HarveySr\_49 Start: 44861, Stop: 43248, Start Num: 41

Candidate Starts for HarveySr\_49:

(19, 44987), (21, 44981), (23, 44966), (Start: 39 @44870 has 12 MA's), (Start: 41 @44861 has 41 MA's), (65, 44765), (84, 44687), (103, 44552), (141, 44393), (144, 44378), (148, 44366), (153, 44336), (162, 44294), (171, 44216), (185, 44150), (186, 44147), (207, 44084), (214, 44051), (217, 44042), (234, 43949), (240, 43901), (241, 43898), (243, 43886), (245, 43877), (259, 43817), (266, 43793), (281, 43703), (292, 43592), (310, 43559), (311, 43556), (314, 43541), (320, 43520), (327, 43487),

Gene: Hashim76\_54 Start: 45064, Stop: 43547, Start Num: 47

Candidate Starts for Hashim76\_54:

(Start: 47 @45064 has 1 MA's), (72, 44938), (92, 44836), (98, 44812), (139, 44674), (153, 44626), (171, 44506), (173, 44497), (186, 44440), (202, 44386), (204, 44383), (230, 44278), (231, 44275), (240, 44203), (243, 44188), (245, 44179), (258, 44122), (276, 44029), (288, 43912), (292, 43879), (293, 43870), (308, 43852), (313, 43840), (331, 43762), (341, 43723), (377, 43555),

Gene: Heath\_45 Start: 45316, Stop: 43976, Start Num: 75

Candidate Starts for Heath\_45:

(Start: 73 @45319 has 9 MA's), (Start: 75 @45316 has 15 MA's), (Start: 79 @45307 has 1 MA's), (80, 45301), (89, 45250), (133, 45103), (149, 45058), (153, 45037), (175, 44896), (179, 44872), (186, 44851), (187, 44848), (192, 44833), (195, 44818), (222, 44749), (225, 44716), (231, 44692), (240, 44620), (243, 44605), (245, 44596), (254, 44563), (255, 44560), (257, 44542), (266, 44512), (276, 44452), (279, 44434), (281, 44422), (283, 44389), (284, 44377), (285, 44371), (286, 44362), (288, 44341), (291, 44332), (292, 44308), (313, 44269), (322, 44224), (327, 44203), (328, 44200), (348, 44131), (351, 44113),

Gene: Heathcliff\_49 Start: 44839, Stop: 43226, Start Num: 41

Candidate Starts for Heathcliff\_49:

(19, 44965), (21, 44959), (23, 44944), (Start: 39 @44848 has 12 MA's), (Start: 41 @44839 has 41 MA's), (65, 44743), (84, 44665), (103, 44530), (141, 44371), (144, 44356), (148, 44344), (153, 44314), (162, 44272), (171, 44194), (185, 44128), (186, 44125), (207, 44062), (214, 44029), (217, 44020), (234, 43927), (240, 43879), (241, 43876), (243, 43864), (245, 43855), (259, 43795), (266, 43771), (281, 43681), (292, 43570), (310, 43537), (311, 43534), (314, 43519), (320, 43498), (327, 43465),

Gene: Hedgerow\_50 Start: 44982, Stop: 43615, Start Num: 78

Candidate Starts for Hedgerow\_50:

(Start: 78 @44982 has 65 MA's), (88, 44919), (91, 44904), (121, 44793), (137, 44742), (152, 44694), (160, 44646), (183, 44505), (186, 44496), (209, 44451), (211, 44445), (212, 44439), (217, 44427), (235, 44322), (239, 44289), (243, 44271), (245, 44262), (254, 44229), (259, 44202), (266, 44178), (271, 44151), (274, 44124), (283, 44049), (288, 44004), (292, 43971), (302, 43950), (308, 43944), (318, 43911), (319, 43902), (321, 43893), (364, 43731), (367, 43713), (375, 43656),

Gene: Held\_51 Start: 44960, Stop: 43557, Start Num: 76

Candidate Starts for Held\_51:

(11, 45338), (12, 45293), (17, 45251), (29, 45170), (35, 45125), (Start: 76 @44960 has 220 MA's), (Start: 78 @44957 has 65 MA's), (Start: 79 @44951 has 1 MA's), (87, 44909), (101, 44837), (109, 44816), (138, 44720), (153, 44669), (165, 44603), (166, 44600), (171, 44549), (186, 44483), (190, 44471), (200, 44435), (217, 44390), (223, 44360), (230, 44321), (235, 44282), (239, 44249), (240, 44246), (245, 44222), (254, 44189), (257, 44168), (266, 44138), (282, 44024), (286, 43982), (288, 43961), (292, 43928), (310, 43856), (313, 43850), (323, 43802), (334, 43757), (341, 43733), (346, 43718), (351, 43694),

Gene: HenryJackson\_50 Start: 44952, Stop: 43552, Start Num: 78

Candidate Starts for HenryJackson\_50:

(35, 45120), (Start: 76 @44955 has 220 MA's), (Start: 78 @44952 has 65 MA's), (Start: 79 @44946 has 1 MA's), (87, 44904), (101, 44832), (109, 44811), (138, 44715), (153, 44664), (165, 44598), (166, 44595), (169, 44571), (171, 44544), (186, 44478), (190, 44466), (200, 44430), (217, 44385), (223, 44355), (230, 44316), (235, 44277), (239, 44244), (240, 44241), (245, 44217), (254, 44184), (257, 44163), (266, 44133), (282, 44019), (286, 43977), (288, 43956), (292, 43923), (310, 43851), (313, 43845), (323, 43797), (334, 43752), (341, 43728), (346, 43713), (351, 43689),

Gene: Hertubise\_51 Start: 45255, Stop: 43852, Start Num: 76

Candidate Starts for Hertubise\_51:

(35, 45420), (Start: 76 @45255 has 220 MA's), (Start: 78 @45252 has 65 MA's), (Start: 79 @45246 has 1 MA's), (87, 45204), (101, 45132), (109, 45111), (138, 45015), (153, 44964), (165, 44898), (166, 44895), (171, 44844), (186, 44778), (190, 44766), (200, 44730), (217, 44685), (223, 44655), (230, 44616), (235, 44577), (239, 44544), (240, 44541), (245, 44517), (254, 44484), (257, 44463), (266, 44433), (282, 44319), (286, 44277), (288, 44256), (292, 44223), (310, 44151), (313, 44145), (323, 44097), (334, 44052), (341, 44028), (346, 44013), (351, 43989),

Gene: Hetaeria\_51 Start: 45272, Stop: 43869, Start Num: 76

Candidate Starts for Hetaeria\_51:

(11, 45650), (12, 45605), (17, 45563), (29, 45482), (35, 45437), (Start: 76 @45272 has 220 MA's), (Start: 78 @45269 has 65 MA's), (Start: 79 @45263 has 1 MA's), (87, 45221), (101, 45149), (109, 45128), (138, 45032), (153, 44981), (165, 44915), (166, 44912), (169, 44888), (171, 44861), (186, 44795), (190, 44783), (200, 44747), (217, 44702), (223, 44672), (230, 44633), (235, 44594), (239, 44561), (240, 44558), (245, 44534), (254, 44501), (257, 44480), (266, 44450), (282, 44336), (286, 44294), (288, 44273), (292, 44240), (310, 44168), (313, 44162), (323, 44114), (334, 44069), (341, 44045), (346, 44030), (351, 44006),

Gene: HighStump\_51 Start: 45082, Stop: 43679, Start Num: 76

Candidate Starts for HighStump\_51:

(35, 45247), (Start: 76 @45082 has 220 MA's), (Start: 78 @45079 has 65 MA's), (Start: 79 @45073 has 1 MA's), (87, 45031), (101, 44959), (109, 44938), (138, 44842), (153, 44791), (165, 44725), (166, 44722), (169, 44698), (171, 44671), (186, 44605), (190, 44593), (200, 44557), (217, 44512), (223, 44482), (230, 44443), (235, 44404), (239, 44371), (240, 44368), (245, 44344), (254, 44311), (257, 44290), (266, 44260), (282, 44146), (286, 44104), (288, 44083), (292, 44050), (310, 43978), (313, 43972), (323, 43924), (334, 43879), (341, 43855), (346, 43840), (351, 43816),

Gene: Hocus\_50 Start: 44944, Stop: 43541, Start Num: 74

Candidate Starts for Hocus\_50:

(35, 45106), (Start: 74 @44944 has 18 MA's), (Start: 78 @44941 has 65 MA's), (87, 44893), (101, 44821), (109, 44800), (138, 44704), (153, 44653), (165, 44587), (166, 44584), (169, 44560), (171, 44533), (186, 44467), (190, 44455), (200, 44419), (217, 44374), (223, 44344), (230, 44305), (235, 44266), (239, 44233), (240, 44230), (242, 44224), (245, 44206), (254, 44173), (257, 44152), (266, 44122), (282, 44008), (286, 43966), (288, 43945), (292, 43912), (310, 43840), (313, 43834), (323, 43786), (334, 43741), (341, 43717), (346, 43702), (351, 43678),

Gene: Holeinone\_50 Start: 44833, Stop: 43466, Start Num: 78

Candidate Starts for Holeinone\_50:

(Start: 78 @44833 has 65 MA's), (88, 44770), (91, 44755), (121, 44644), (137, 44593), (152, 44545), (160, 44497), (171, 44413), (180, 44362), (183, 44356), (186, 44347), (209, 44302), (211, 44296), (212, 44290), (217, 44278), (235, 44173), (239, 44140), (243, 44122), (245, 44113), (254, 44080), (259, 44053), (266, 44029), (271, 44002), (274, 43975), (283, 43900), (288, 43855), (292, 43822), (302, 43801), (308, 43795), (318, 43762), (321, 43744), (364, 43582), (367, 43564), (375, 43507),

Gene: Horchata\_51 Start: 45247, Stop: 43844, Start Num: 76

Candidate Starts for Horchata\_51:

(11, 45625), (12, 45580), (17, 45538), (29, 45457), (35, 45412), (Start: 76 @45247 has 220 MA's), (Start: 78 @45244 has 65 MA's), (Start: 79 @45238 has 1 MA's), (87, 45196), (101, 45124), (109, 45103), (138, 45007), (153, 44956), (165, 44890), (166, 44887), (171, 44836), (186, 44770), (190, 44758), (200, 44722), (217, 44677), (223, 44647), (230, 44608), (235, 44569), (239, 44536), (240, 44533), (245, 44509), (254, 44476), (257, 44455), (266, 44425), (282, 44311), (286, 44269), (288, 44248), (292, 44215), (310, 44143), (313, 44137), (323, 44089), (334, 44044), (341, 44020), (346, 44005), (351, 43981),

Gene: Hosp\_042 Start: 41753, Stop: 40323, Start Num: 71

Candidate Starts for Hosp\_042:

(52, 41819), (Start: 71 @41753 has 2 MA's), (Start: 79 @41735 has 1 MA's), (120, 41531), (125, 41513), (133, 41459), (142, 41432), (152, 41396), (153, 41384), (184, 41204), (186, 41198), (192, 41180), (195, 41165), (222, 41099), (227, 41057), (230, 41045), (231, 41042), (240, 40970), (242, 40964), (245, 40946), (258, 40889), (271, 40835), (275, 40805), (279, 40784), (286, 40712), (288, 40691), (292, 40658), (313, 40619), (322, 40574), (326, 40556), (328, 40550), (339, 40505), (341, 40502), (370, 40379),

Gene: Hydro\_46 Start: 45744, Stop: 44404, Start Num: 75

Candidate Starts for Hydro\_46:

(Start: 73 @45747 has 9 MA's), (Start: 75 @45744 has 15 MA's), (Start: 79 @45735 has 1 MA's), (80, 45729), (89, 45678), (133, 45531), (149, 45486), (153, 45465), (175, 45324), (179, 45300), (186, 45279), (187, 45276), (192, 45261), (195, 45246), (222, 45177), (223, 45162), (225, 45144), (231, 45120), (240, 45048), (243, 45033), (245, 45024), (254, 44991), (255, 44988), (257, 44970), (266, 44940), (276, 44880), (279, 44862), (281, 44850), (284, 44805), (285, 44799), (286, 44790), (291, 44760), (292, 44736), (313, 44697), (327, 44631), (328, 44628), (348, 44559), (351, 44541),

Gene: ImtiyazSitla\_51 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for ImtiyazSitla\_51:

(35, 45095), (Start: 76 @44930 has 220 MA's), (Start: 78 @44927 has 65 MA's), (Start: 79 @44921 has 1 MA's), (87, 44879), (101, 44807), (109, 44786), (138, 44690), (153, 44639), (165, 44573), (166, 44570), (171, 44519), (186, 44453), (190, 44441), (200, 44405), (217, 44360), (223, 44330), (230, 44291), (235, 44252), (239, 44219), (240, 44216), (242, 44210), (245, 44192), (254, 44159), (257, 44138), (266, 44108), (282, 43994), (286, 43952), (288, 43931), (292, 43898), (310, 43826), (313, 43820), (323, 43772), (334, 43727), (341, 43703), (346, 43688), (351, 43664),

Gene: Imvubu\_43 Start: 42496, Stop: 41111, Start Num: 77

Candidate Starts for Imvubu\_43:

(58, 42553), (Start: 77 @42496 has 2 MA's), (87, 42448), (88, 42433), (123, 42310), (124, 42304), (138, 42229), (146, 42211), (162, 42139), (187, 41992), (223, 41887), (224, 41878), (227, 41860), (230, 41848), (231, 41845), (238, 41782), (240, 41773), (243, 41758), (246, 41746), (264, 41677), (266, 41665), (273, 41605), (279, 41575), (281, 41563), (283, 41530), (285, 41512), (288, 41482), (292, 41449), (328, 41341), (341, 41293), (348, 41272),

Gene: Inchworm\_52 Start: 45368, Stop: 43965, Start Num: 76

Candidate Starts for Inchworm\_52:

(35, 45533), (Start: 76 @45368 has 220 MA's), (Start: 78 @45365 has 65 MA's), (Start: 79 @45359 has 1 MA's), (87, 45317), (101, 45245), (109, 45224), (138, 45128), (153, 45077), (165, 45011), (166, 45008), (171, 44957), (186, 44891), (190, 44879), (200, 44843), (217, 44798), (223, 44768), (230, 44729), (235, 44690), (239, 44657), (240, 44654), (242, 44648), (245, 44630), (254, 44597), (257, 44576), (266, 44546), (282, 44432), (286, 44390), (288, 44369), (292, 44336), (310, 44264), (313,

44258), (323, 44210), (334, 44165), (341, 44141), (346, 44126), (351, 44102),

Gene: Indlovu\_48 Start: 44932, Stop: 43562, Start Num: 76

Candidate Starts for Indlovu\_48:

(Start: 76 @44932 has 220 MA's), (105, 44788), (130, 44707), (138, 44677), (153, 44620), (160, 44584), (184, 44440), (192, 44416), (195, 44401), (218, 44344), (222, 44335), (223, 44320), (225, 44302), (231, 44278), (237, 44221), (243, 44191), (246, 44179), (247, 44176), (254, 44149), (258, 44125), (259, 44122), (266, 44098), (271, 44071), (279, 44020), (282, 43990), (284, 43963), (292, 43894), (308, 43867), (327, 43789), (341, 43738), (348, 43717), (367, 43636), (370, 43615), (377, 43570),

Gene: Inverness\_51 Start: 45256, Stop: 43853, Start Num: 76

Candidate Starts for Inverness\_51:

(11, 45634), (12, 45589), (17, 45547), (29, 45466), (35, 45421), (Start: 76 @45256 has 220 MA's), (Start: 78 @45253 has 65 MA's), (Start: 79 @45247 has 1 MA's), (87, 45205), (101, 45133), (109, 45112), (138, 45016), (153, 44965), (165, 44899), (166, 44896), (169, 44872), (171, 44845), (186, 44779), (190, 44767), (200, 44731), (217, 44686), (223, 44656), (230, 44617), (235, 44578), (239, 44545), (240, 44542), (245, 44518), (254, 44485), (257, 44464), (266, 44434), (286, 44278), (288, 44257), (292, 44224), (310, 44152), (313, 44146), (323, 44098), (334, 44053), (341, 44029), (346, 44014), (351, 43990),

Gene: Iridoclysis\_51 Start: 45227, Stop: 43824, Start Num: 76

Candidate Starts for Iridoclysis\_51:

(35, 45392), (Start: 76 @45227 has 220 MA's), (Start: 78 @45224 has 65 MA's), (Start: 79 @45218 has 1 MA's), (87, 45176), (101, 45104), (109, 45083), (138, 44987), (153, 44936), (165, 44870), (166, 44867), (171, 44816), (186, 44750), (190, 44738), (200, 44702), (217, 44657), (223, 44627), (230, 44588), (235, 44549), (239, 44516), (240, 44513), (245, 44489), (254, 44456), (257, 44435), (266, 44405), (282, 44291), (286, 44249), (288, 44228), (292, 44195), (310, 44123), (313, 44117), (323, 44069), (334, 44024), (341, 44000), (346, 43985), (351, 43961),

Gene: IsaacEli\_52 Start: 45386, Stop: 43983, Start Num: 76

Candidate Starts for IsaacEli\_52:

(11, 45764), (12, 45719), (17, 45677), (29, 45596), (35, 45551), (Start: 76 @45386 has 220 MA's), (Start: 78 @45383 has 65 MA's), (Start: 79 @45377 has 1 MA's), (87, 45335), (101, 45263), (109, 45242), (138, 45146), (153, 45095), (165, 45029), (166, 45026), (171, 44975), (186, 44909), (190, 44897), (200, 44861), (217, 44816), (223, 44786), (230, 44747), (235, 44708), (239, 44675), (240, 44672), (245, 44648), (254, 44615), (257, 44594), (266, 44564), (282, 44450), (286, 44408), (288, 44387), (292, 44354), (310, 44282), (313, 44276), (323, 44228), (334, 44183), (341, 44159), (346, 44144), (351, 44120),

Gene: ItsyBitsy1\_50 Start: 44850, Stop: 43483, Start Num: 78

Candidate Starts for ItsyBitsy1\_50:

(Start: 78 @44850 has 65 MA's), (88, 44787), (91, 44772), (121, 44661), (137, 44610), (152, 44562), (160, 44514), (180, 44379), (183, 44373), (186, 44364), (209, 44319), (211, 44313), (212, 44307), (217, 44295), (235, 44190), (239, 44157), (245, 44130), (254, 44097), (259, 44070), (266, 44046), (271, 44019), (274, 43992), (283, 43917), (288, 43872), (292, 43839), (302, 43818), (308, 43812), (318, 43779), (319, 43770), (321, 43761), (364, 43599), (367, 43581), (375, 43524),

Gene: JAMaL\_46 Start: 45881, Stop: 44538, Start Num: 73

Candidate Starts for JAMaL\_46:

(Start: 73 @45881 has 9 MA's), (Start: 75 @45878 has 15 MA's), (Start: 79 @45869 has 1 MA's), (80, 45863), (89, 45812), (133, 45665), (149, 45620), (153, 45599), (155, 45587), (175, 45458), (179, 45434), (186, 45413), (187, 45410), (192, 45395), (195, 45380), (222, 45311), (223, 45296), (225,

45278), (231, 45254), (243, 45167), (245, 45158), (254, 45125), (255, 45122), (257, 45104), (266, 45074), (276, 45014), (279, 44996), (281, 44984), (284, 44939), (285, 44933), (286, 44924), (288, 44903), (291, 44894), (292, 44870), (313, 44831), (327, 44765), (328, 44762), (348, 44693), (351, 44675),

Gene: JDog\_50 Start: 44964, Stop: 43561, Start Num: 74

Candidate Starts for JDog\_50:

(35, 45126), (Start: 74 @44964 has 18 MA's), (Start: 78 @44961 has 65 MA's), (87, 44913), (101, 44841), (109, 44820), (138, 44724), (153, 44673), (165, 44607), (166, 44604), (169, 44580), (171, 44553), (186, 44487), (190, 44475), (200, 44439), (217, 44394), (223, 44364), (230, 44325), (235, 44286), (239, 44253), (240, 44250), (242, 44244), (245, 44226), (254, 44193), (257, 44172), (266, 44142), (282, 44028), (286, 43986), (288, 43965), (292, 43932), (310, 43860), (313, 43854), (323, 43806), (334, 43761), (341, 43737), (346, 43722), (351, 43698),

Gene: JacAttac\_52 Start: 45368, Stop: 43965, Start Num: 76

Candidate Starts for JacAttac\_52:

(11, 45746), (12, 45701), (17, 45659), (29, 45578), (35, 45533), (Start: 76 @45368 has 220 MA's), (Start: 78 @45365 has 65 MA's), (Start: 79 @45359 has 1 MA's), (87, 45317), (101, 45245), (109, 45224), (138, 45128), (153, 45077), (165, 45011), (166, 45008), (171, 44957), (186, 44891), (190, 44879), (200, 44843), (217, 44798), (223, 44768), (230, 44729), (235, 44690), (239, 44657), (240, 44654), (245, 44630), (254, 44597), (257, 44576), (266, 44546), (282, 44432), (286, 44390), (288, 44369), (292, 44336), (310, 44264), (313, 44258), (323, 44210), (334, 44165), (341, 44141), (346, 44126), (351, 44102),

Gene: Jackstina\_46 Start: 44798, Stop: 43185, Start Num: 41

Candidate Starts for Jackstina\_46:

(19, 44924), (21, 44918), (23, 44903), (Start: 39 @44807 has 12 MA's), (Start: 41 @44798 has 41 MA's), (65, 44702), (84, 44624), (103, 44489), (141, 44330), (144, 44315), (148, 44303), (153, 44273), (162, 44231), (171, 44153), (207, 44021), (214, 43988), (217, 43979), (234, 43886), (240, 43838), (243, 43823), (245, 43814), (254, 43781), (259, 43754), (266, 43730), (281, 43640), (292, 43529), (310, 43496), (311, 43493), (314, 43478), (320, 43457), (327, 43424),

Gene: JaguarMi\_46 Start: 45187, Stop: 43847, Start Num: 75

Candidate Starts for JaguarMi\_46:

(Start: 75 @45187 has 15 MA's), (Start: 79 @45178 has 1 MA's), (80, 45172), (133, 44974), (149, 44929), (153, 44908), (175, 44767), (179, 44743), (186, 44722), (187, 44719), (192, 44704), (195, 44689), (222, 44620), (225, 44587), (231, 44563), (240, 44491), (243, 44476), (245, 44467), (249, 44452), (254, 44434), (255, 44431), (257, 44413), (266, 44383), (276, 44323), (279, 44305), (281, 44293), (284, 44248), (285, 44242), (286, 44233), (288, 44212), (291, 44203), (292, 44179), (313, 44140), (327, 44074), (328, 44071), (348, 44002), (351, 43984),

Gene: JakeO\_50 Start: 44963, Stop: 43560, Start Num: 74

Candidate Starts for JakeO\_50:

(35, 45125), (Start: 74 @44963 has 18 MA's), (Start: 78 @44960 has 65 MA's), (87, 44912), (101, 44840), (109, 44819), (138, 44723), (153, 44672), (165, 44606), (166, 44603), (169, 44579), (171, 44552), (186, 44486), (190, 44474), (200, 44438), (217, 44393), (223, 44363), (230, 44324), (235, 44285), (239, 44252), (240, 44249), (242, 44243), (245, 44225), (254, 44192), (257, 44171), (266, 44141), (282, 44027), (286, 43985), (288, 43964), (292, 43931), (310, 43859), (313, 43853), (323, 43805), (334, 43760), (341, 43736), (346, 43721), (351, 43697),

Gene: JangoPhett\_51 Start: 45238, Stop: 43835, Start Num: 76

Candidate Starts for JangoPhett\_51:

(11, 45616), (12, 45571), (17, 45529), (29, 45448), (35, 45403), (Start: 76 @45238 has 220 MA's), (Start: 78 @45235 has 65 MA's), (Start: 79 @45229 has 1 MA's), (87, 45187), (101, 45115), (109, 45094), (138, 44998), (153, 44947), (165, 44881), (166, 44878), (171, 44827), (186, 44761), (190, 44749), (200, 44713), (217, 44668), (223, 44638), (230, 44599), (235, 44560), (239, 44527), (240, 44524), (245, 44500), (254, 44467), (257, 44446), (266, 44416), (282, 44302), (286, 44260), (288, 44239), (292, 44206), (310, 44134), (313, 44128), (323, 44080), (334, 44035), (341, 44011), (346, 43996), (351, 43972),

Gene: Jillium\_50 Start: 44957, Stop: 43554, Start Num: 76

Candidate Starts for Jillium\_50:

(11, 45335), (12, 45290), (17, 45248), (29, 45167), (35, 45122), (Start: 76 @44957 has 220 MA's), (Start: 78 @44954 has 65 MA's), (Start: 79 @44948 has 1 MA's), (87, 44906), (101, 44834), (109, 44813), (138, 44717), (153, 44666), (165, 44600), (166, 44597), (171, 44546), (186, 44480), (190, 44468), (200, 44432), (217, 44387), (223, 44357), (230, 44318), (235, 44279), (239, 44246), (240, 44243), (245, 44219), (254, 44186), (257, 44165), (266, 44135), (282, 44021), (286, 43979), (288, 43958), (292, 43925), (310, 43853), (313, 43847), (323, 43799), (334, 43754), (341, 43730), (346, 43715), (351, 43691),

Gene: Jiminy\_50 Start: 44798, Stop: 43395, Start Num: 74

Candidate Starts for Jiminy\_50:

(35, 44960), (Start: 74 @44798 has 18 MA's), (Start: 78 @44795 has 65 MA's), (87, 44747), (101, 44675), (109, 44654), (138, 44558), (153, 44507), (165, 44441), (166, 44438), (169, 44414), (171, 44387), (186, 44321), (190, 44309), (200, 44273), (217, 44228), (223, 44198), (230, 44159), (235, 44120), (239, 44087), (240, 44084), (242, 44078), (245, 44060), (254, 44027), (257, 44006), (266, 43976), (282, 43862), (286, 43820), (288, 43799), (292, 43766), (310, 43694), (313, 43688), (323, 43640), (334, 43595), (341, 43571), (346, 43556), (351, 43532),

Gene: Jiraiya\_53 Start: 44951, Stop: 43548, Start Num: 74

Candidate Starts for Jiraiya\_53:

(35, 45113), (Start: 74 @44951 has 18 MA's), (Start: 78 @44948 has 65 MA's), (87, 44900), (101, 44828), (109, 44807), (138, 44711), (153, 44660), (165, 44594), (166, 44591), (169, 44567), (171, 44540), (186, 44474), (190, 44462), (200, 44426), (217, 44381), (223, 44351), (230, 44312), (235, 44273), (239, 44240), (240, 44237), (245, 44213), (254, 44180), (257, 44159), (266, 44129), (282, 44015), (286, 43973), (288, 43952), (292, 43919), (310, 43847), (313, 43841), (323, 43793), (334, 43748), (341, 43724), (346, 43709), (351, 43685),

Gene: Jolie1\_044 Start: 43527, Stop: 42097, Start Num: 71

Candidate Starts for Jolie1\_044:

(48, 43617), (52, 43593), (61, 43557), (Start: 71 @43527 has 2 MA's), (Start: 79 @43509 has 1 MA's), (120, 43305), (125, 43287), (133, 43233), (142, 43206), (152, 43170), (153, 43158), (184, 42978), (186, 42972), (192, 42954), (195, 42939), (222, 42873), (225, 42840), (227, 42831), (230, 42819), (231, 42816), (240, 42744), (242, 42738), (243, 42729), (245, 42720), (246, 42717), (258, 42663), (264, 42648), (271, 42609), (275, 42579), (286, 42486), (288, 42465), (292, 42432), (313, 42393), (322, 42348), (326, 42330), (328, 42324), (339, 42279),

Gene: KLucky39\_51 Start: 45251, Stop: 43851, Start Num: 78

Candidate Starts for KLucky39\_51:

(11, 45632), (12, 45587), (17, 45545), (29, 45464), (35, 45419), (Start: 76 @45254 has 220 MA's), (Start: 78 @45251 has 65 MA's), (Start: 79 @45245 has 1 MA's), (87, 45203), (101, 45131), (109, 45110), (138, 45014), (153, 44963), (165, 44897), (166, 44894), (169, 44870), (171, 44843), (186, 44777), (190, 44765), (200, 44729), (217, 44684), (223, 44654), (230, 44615), (235, 44576), (239, 44543), (240, 44540), (245, 44516), (254, 44483), (257, 44462), (266, 44432), (282, 44318), (286, 44276), (288, 44255), (292, 44222), (310, 44150), (313, 44144), (323, 44096), (334, 44051), (341,



44027), (346, 44012), (351, 43988),

Gene: Kahve\_50 Start: 44952, Stop: 43549, Start Num: 76

Candidate Starts for Kahve\_50:

(35, 45117), (Start: 76 @44952 has 220 MA's), (Start: 78 @44949 has 65 MA's), (Start: 79 @44943 has 1 MA's), (87, 44901), (101, 44829), (109, 44808), (138, 44712), (153, 44661), (165, 44595), (166, 44592), (169, 44568), (171, 44541), (186, 44475), (190, 44463), (200, 44427), (217, 44382), (223, 44352), (230, 44313), (235, 44274), (239, 44241), (240, 44238), (245, 44214), (254, 44181), (257, 44160), (266, 44130), (282, 44016), (286, 43974), (288, 43953), (292, 43920), (310, 43848), (313, 43842), (323, 43794), (334, 43749), (341, 43725), (346, 43710), (351, 43686),

Gene: Kailash\_51 Start: 45314, Stop: 43911, Start Num: 76

Candidate Starts for Kailash\_51:

(35, 45479), (Start: 76 @45314 has 220 MA's), (Start: 78 @45311 has 65 MA's), (Start: 79 @45305 has 1 MA's), (87, 45263), (101, 45191), (109, 45170), (138, 45074), (153, 45023), (165, 44957), (166, 44954), (171, 44903), (186, 44837), (190, 44825), (200, 44789), (217, 44744), (223, 44714), (230, 44675), (235, 44636), (239, 44603), (240, 44600), (242, 44594), (245, 44576), (254, 44543), (257, 44522), (266, 44492), (282, 44378), (286, 44336), (288, 44315), (292, 44282), (310, 44210), (313, 44204), (323, 44156), (334, 44111), (341, 44087), (346, 44072), (351, 44048),

Gene: Kaleb\_50 Start: 44997, Stop: 43630, Start Num: 78

Candidate Starts for Kaleb\_50:

(Start: 78 @44997 has 65 MA's), (88, 44934), (91, 44919), (121, 44808), (137, 44757), (152, 44709), (160, 44661), (183, 44520), (186, 44511), (209, 44466), (211, 44460), (212, 44454), (217, 44442), (235, 44337), (239, 44304), (243, 44286), (245, 44277), (254, 44244), (259, 44217), (266, 44193), (271, 44166), (274, 44139), (283, 44064), (288, 44019), (292, 43986), (302, 43965), (308, 43959), (318, 43926), (319, 43917), (321, 43908), (364, 43746), (367, 43728), (375, 43671),

Gene: Kamiyu\_49 Start: 44846, Stop: 43233, Start Num: 41

Candidate Starts for Kamiyu\_49:

(19, 44972), (21, 44966), (23, 44951), (Start: 39 @44855 has 12 MA's), (Start: 41 @44846 has 41 MA's), (65, 44750), (84, 44672), (103, 44537), (141, 44378), (144, 44363), (148, 44351), (153, 44321), (162, 44279), (171, 44201), (207, 44069), (214, 44036), (217, 44027), (234, 43934), (240, 43886), (243, 43871), (245, 43862), (254, 43829), (259, 43802), (266, 43778), (281, 43688), (292, 43577), (310, 43544), (311, 43541), (314, 43526), (320, 43505), (327, 43472),

Gene: KarasumaRum\_51 Start: 46290, Stop: 44905, Start Num: 76

Candidate Starts for KarasumaRum\_51:

(35, 46440), (Start: 76 @46290 has 220 MA's), (Start: 82 @46272 has 2 MA's), (117, 46116), (138, 46053), (149, 46023), (176, 45858), (186, 45816), (193, 45798), (198, 45783), (219, 45732), (227, 45681), (240, 45594), (243, 45579), (245, 45570), (259, 45510), (266, 45486), (267, 45483), (284, 45351), (288, 45318), (292, 45285), (295, 45267), (310, 45213), (321, 45168), (327, 45141), (348, 45060), (358, 45021), (367, 44979),

Gene: Katniss\_52 Start: 45395, Stop: 43992, Start Num: 76

Candidate Starts for Katniss\_52:

(11, 45773), (12, 45728), (17, 45686), (29, 45605), (35, 45560), (Start: 76 @45395 has 220 MA's), (Start: 78 @45392 has 65 MA's), (Start: 79 @45386 has 1 MA's), (87, 45344), (101, 45272), (109, 45251), (138, 45155), (153, 45104), (165, 45038), (166, 45035), (171, 44984), (186, 44918), (190, 44906), (200, 44870), (217, 44825), (223, 44795), (230, 44756), (235, 44717), (239, 44684), (240, 44681), (245, 44657), (254, 44624), (257, 44603), (266, 44573), (282, 44459), (286, 44417), (288, 44396), (292, 44363), (310, 44291), (313, 44285), (323, 44237), (334, 44192), (341, 44168), (346, 44153), (351, 44129),

Gene: KayaCho\_44 Start: 43553, Stop: 42126, Start Num: 71

Candidate Starts for KayaCho\_44:

(67, 43562), (Start: 71 @43553 has 2 MA's), (Start: 79 @43535 has 1 MA's), (120, 43331), (125, 43313), (133, 43259), (152, 43196), (153, 43184), (184, 43004), (186, 42998), (192, 42980), (195, 42965), (222, 42899), (227, 42857), (230, 42845), (231, 42842), (240, 42770), (242, 42764), (245, 42746), (258, 42689), (271, 42635), (275, 42605), (279, 42584), (286, 42512), (288, 42491), (292, 42458), (322, 42374), (326, 42356), (328, 42350), (339, 42305), (341, 42302),

Gene: Keitherie\_51 Start: 45298, Stop: 43895, Start Num: 74

Candidate Starts for Keitherie\_51:

(35, 45460), (Start: 74 @45298 has 18 MA's), (Start: 78 @45295 has 65 MA's), (87, 45247), (101, 45175), (109, 45154), (138, 45058), (153, 45007), (165, 44941), (166, 44938), (169, 44914), (171, 44887), (186, 44821), (190, 44809), (200, 44773), (217, 44728), (223, 44698), (230, 44659), (235, 44620), (239, 44587), (240, 44584), (245, 44560), (254, 44527), (257, 44506), (266, 44476), (282, 44362), (286, 44320), (288, 44299), (292, 44266), (310, 44194), (313, 44188), (323, 44140), (334, 44095), (341, 44071), (346, 44056), (351, 44032),

Gene: Kheth\_50 Start: 44886, Stop: 43519, Start Num: 78

Candidate Starts for Kheth\_50:

(Start: 78 @44886 has 65 MA's), (88, 44823), (91, 44808), (121, 44697), (137, 44646), (152, 44598), (160, 44550), (183, 44409), (186, 44400), (209, 44355), (211, 44349), (212, 44343), (217, 44331), (235, 44226), (239, 44193), (245, 44166), (254, 44133), (259, 44106), (266, 44082), (271, 44055), (274, 44028), (283, 43953), (288, 43908), (292, 43875), (302, 43854), (308, 43848), (318, 43815), (321, 43797), (364, 43635), (367, 43617), (375, 43560),

Gene: Kikipoo\_52 Start: 45386, Stop: 43983, Start Num: 76

Candidate Starts for Kikipoo\_52:

(11, 45764), (12, 45719), (17, 45677), (29, 45596), (35, 45551), (Start: 76 @45386 has 220 MA's), (Start: 78 @45383 has 65 MA's), (Start: 79 @45377 has 1 MA's), (87, 45335), (101, 45263), (109, 45242), (138, 45146), (153, 45095), (165, 45029), (166, 45026), (171, 44975), (186, 44909), (190, 44897), (200, 44861), (217, 44816), (223, 44786), (230, 44747), (235, 44708), (239, 44675), (240, 44672), (245, 44648), (254, 44615), (257, 44594), (266, 44564), (282, 44450), (286, 44408), (288, 44387), (292, 44354), (310, 44282), (313, 44276), (323, 44228), (334, 44183), (341, 44159), (346, 44144), (351, 44120),

Gene: Kimbrough\_51 Start: 44959, Stop: 43556, Start Num: 76

Candidate Starts for Kimbrough\_51:

(35, 45124), (Start: 76 @44959 has 220 MA's), (Start: 78 @44956 has 65 MA's), (Start: 79 @44950 has 1 MA's), (87, 44908), (101, 44836), (109, 44815), (138, 44719), (153, 44668), (165, 44602), (166, 44599), (169, 44575), (171, 44548), (186, 44482), (190, 44470), (200, 44434), (217, 44389), (223, 44359), (230, 44320), (235, 44281), (239, 44248), (240, 44245), (245, 44221), (254, 44188), (257, 44167), (266, 44137), (282, 44023), (286, 43981), (288, 43960), (292, 43927), (310, 43855), (313, 43849), (323, 43801), (334, 43756), (341, 43732), (346, 43717), (351, 43693),

Gene: KingTut\_42 Start: 40622, Stop: 39219, Start Num: 76

Candidate Starts for KingTut\_42:

(35, 40787), (Start: 76 @40622 has 220 MA's), (Start: 78 @40619 has 65 MA's), (Start: 79 @40613 has 1 MA's), (87, 40571), (101, 40499), (109, 40478), (138, 40382), (153, 40331), (165, 40265), (166, 40262), (171, 40211), (186, 40145), (190, 40133), (200, 40097), (217, 40052), (223, 40022), (230, 39983), (235, 39944), (239, 39911), (240, 39908), (242, 39902), (245, 39884), (254, 39851), (257, 39830), (266, 39800), (282, 39686), (286, 39644), (288, 39623), (292, 39590), (310, 39518), (313, 39512), (323, 39464), (334, 39419), (341, 39395), (346, 39380), (351, 39356),

Gene: KingVeVeVe\_51 Start: 45227, Stop: 43827, Start Num: 78

Candidate Starts for KingVeVeVe\_51:

(11, 45608), (12, 45563), (17, 45521), (29, 45440), (35, 45395), (Start: 76 @45230 has 220 MA's), (Start: 78 @45227 has 65 MA's), (Start: 79 @45221 has 1 MA's), (87, 45179), (101, 45107), (109, 45086), (138, 44990), (153, 44939), (165, 44873), (166, 44870), (171, 44819), (186, 44753), (190, 44741), (200, 44705), (217, 44660), (223, 44630), (230, 44591), (235, 44552), (239, 44519), (240, 44516), (245, 44492), (254, 44459), (257, 44438), (266, 44408), (282, 44294), (286, 44252), (288, 44231), (292, 44198), (310, 44126), (313, 44120), (323, 44072), (334, 44027), (341, 44003), (346, 43988), (351, 43964),

Gene: KlimbOn\_51 Start: 45248, Stop: 43845, Start Num: 76

Candidate Starts for KlimbOn\_51:

(11, 45626), (12, 45581), (17, 45539), (29, 45458), (35, 45413), (Start: 76 @45248 has 220 MA's), (Start: 78 @45245 has 65 MA's), (Start: 79 @45239 has 1 MA's), (87, 45197), (101, 45125), (109, 45104), (138, 45008), (153, 44957), (165, 44891), (166, 44888), (169, 44864), (171, 44837), (186, 44771), (190, 44759), (200, 44723), (217, 44678), (223, 44648), (230, 44609), (235, 44570), (239, 44537), (240, 44534), (245, 44510), (254, 44477), (257, 44456), (266, 44426), (286, 44270), (288, 44249), (292, 44216), (310, 44144), (313, 44138), (323, 44090), (334, 44045), (341, 44021), (346, 44006), (351, 43982),

Gene: Kloppinator\_52 Start: 45661, Stop: 44258, Start Num: 76

Candidate Starts for Kloppinator\_52:

(11, 46039), (12, 45994), (17, 45952), (29, 45871), (35, 45826), (Start: 76 @45661 has 220 MA's), (Start: 78 @45658 has 65 MA's), (Start: 79 @45652 has 1 MA's), (87, 45610), (101, 45538), (109, 45517), (138, 45421), (153, 45370), (165, 45304), (166, 45301), (171, 45250), (186, 45184), (190, 45172), (200, 45136), (217, 45091), (223, 45061), (230, 45022), (235, 44983), (239, 44950), (240, 44947), (245, 44923), (254, 44890), (257, 44869), (266, 44839), (282, 44725), (286, 44683), (288, 44662), (292, 44629), (310, 44557), (313, 44551), (323, 44503), (334, 44458), (341, 44434), (346, 44419), (351, 44395),

Gene: Knocker\_52 Start: 47486, Stop: 46047, Start Num: 77

Candidate Starts for Knocker\_52:

(25, 47720), (26, 47714), (40, 47633), (Start: 77 @47486 has 2 MA's), (Start: 79 @47480 has 1 MA's), (87, 47438), (122, 47279), (123, 47276), (124, 47270), (138, 47195), (155, 47132), (171, 47024), (191, 46943), (192, 46940), (214, 46886), (222, 46865), (225, 46832), (227, 46823), (234, 46784), (238, 46745), (240, 46736), (243, 46721), (246, 46709), (249, 46697), (255, 46676), (257, 46658), (259, 46652), (264, 46640), (268, 46607), (271, 46562), (276, 46529), (278, 46514), (281, 46499), (282, 46481), (283, 46466), (284, 46454), (288, 46418), (292, 46385), (306, 46364), (310, 46352), (313, 46346), (333, 46256), (338, 46235), (341, 46229), (348, 46208), (361, 46163), (370, 46106), (375, 46070),

Gene: Kronus\_48 Start: 45468, Stop: 43846, Start Num: 39

Candidate Starts for Kronus\_48:

(19, 45585), (21, 45579), (23, 45564), (Start: 39 @45468 has 12 MA's), (Start: 41 @45459 has 41 MA's), (65, 45363), (84, 45285), (103, 45150), (141, 44991), (144, 44976), (148, 44964), (153, 44934), (162, 44892), (171, 44814), (207, 44682), (214, 44649), (217, 44640), (234, 44547), (240, 44499), (243, 44484), (245, 44475), (259, 44415), (266, 44391), (281, 44301), (292, 44190), (310, 44157), (311, 44154), (314, 44139), (320, 44118), (327, 44085),

Gene: Kwadwo\_50 Start: 44934, Stop: 43531, Start Num: 76

Candidate Starts for Kwadwo\_50:

(11, 45312), (12, 45267), (17, 45225), (29, 45144), (35, 45099), (Start: 76 @44934 has 220 MA's), (Start: 78 @44931 has 65 MA's), (Start: 79 @44925 has 1 MA's), (87, 44883), (101, 44811), (109, 44790), (138, 44694), (153, 44643), (165, 44577), (166, 44574), (171, 44523), (186, 44457), (190, 44445), (200, 44409), (217, 44364), (223, 44334), (230, 44295), (235, 44256), (239, 44223), (240, 44220), (245, 44196), (254, 44163), (257, 44142), (266, 44112), (282, 43998), (286, 43956), (288, 43935), (292, 43902), (310, 43830), (313, 43824), (323, 43776), (334, 43731), (341, 43707), (346, 43692), (351, 43668),

Gene: Kwksand96\_50 Start: 44809, Stop: 43406, Start Num: 76

Candidate Starts for Kwksand96\_50:

(35, 44974), (Start: 76 @44809 has 220 MA's), (Start: 78 @44806 has 65 MA's), (Start: 79 @44800 has 1 MA's), (87, 44758), (101, 44686), (109, 44665), (138, 44569), (153, 44518), (165, 44452), (166, 44449), (171, 44398), (186, 44332), (190, 44320), (200, 44284), (217, 44239), (223, 44209), (230, 44170), (235, 44131), (239, 44098), (240, 44095), (242, 44089), (245, 44071), (254, 44038), (257, 44017), (266, 43987), (282, 43873), (286, 43831), (288, 43810), (292, 43777), (310, 43705), (313, 43699), (323, 43651), (334, 43606), (341, 43582), (346, 43567), (351, 43543),

Gene: Labeouficaum\_50 Start: 44804, Stop: 43401, Start Num: 76

Candidate Starts for Labeouficaum\_50:

(11, 45182), (12, 45137), (17, 45095), (29, 45014), (35, 44969), (Start: 76 @44804 has 220 MA's), (Start: 78 @44801 has 65 MA's), (Start: 79 @44795 has 1 MA's), (87, 44753), (101, 44681), (109, 44660), (138, 44564), (153, 44513), (165, 44447), (166, 44444), (171, 44393), (186, 44327), (190, 44315), (200, 44279), (217, 44234), (223, 44204), (230, 44165), (235, 44126), (239, 44093), (240, 44090), (242, 44084), (245, 44066), (254, 44033), (257, 44012), (266, 43982), (282, 43868), (286, 43826), (288, 43805), (292, 43772), (310, 43700), (313, 43694), (323, 43646), (334, 43601), (341, 43577), (346, 43562), (351, 43538),

Gene: Lambano\_45 Start: 44684, Stop: 43344, Start Num: 75

Candidate Starts for Lambano\_45:

(Start: 73 @44687 has 9 MA's), (Start: 75 @44684 has 15 MA's), (Start: 79 @44675 has 1 MA's), (80, 44669), (89, 44618), (133, 44471), (153, 44405), (156, 44381), (186, 44219), (192, 44201), (195, 44186), (196, 44183), (208, 44156), (224, 44093), (225, 44084), (238, 43997), (243, 43973), (254, 43931), (255, 43928), (257, 43910), (266, 43880), (271, 43853), (276, 43820), (280, 43799), (281, 43790), (284, 43745), (285, 43739), (286, 43730), (288, 43709), (292, 43676), (313, 43637), (327, 43571), (328, 43568), (348, 43499), (351, 43481),

Gene: Lars\_50 Start: 44957, Stop: 43590, Start Num: 78

Candidate Starts for Lars\_50:

(Start: 78 @44957 has 65 MA's), (88, 44894), (91, 44879), (121, 44768), (137, 44717), (152, 44669), (160, 44621), (183, 44480), (186, 44471), (209, 44426), (211, 44420), (212, 44414), (217, 44402), (235, 44297), (239, 44264), (243, 44246), (245, 44237), (254, 44204), (259, 44177), (266, 44153), (271, 44126), (274, 44099), (283, 44024), (288, 43979), (292, 43946), (302, 43925), (308, 43919), (318, 43886), (321, 43868), (364, 43706), (367, 43688), (375, 43631),

Gene: LasagnaCat\_52 Start: 45380, Stop: 43977, Start Num: 76

Candidate Starts for LasagnaCat\_52:

(35, 45545), (Start: 76 @45380 has 220 MA's), (Start: 78 @45377 has 65 MA's), (Start: 79 @45371 has 1 MA's), (87, 45329), (101, 45257), (109, 45236), (138, 45140), (153, 45089), (165, 45023), (166, 45020), (171, 44969), (186, 44903), (190, 44891), (200, 44855), (217, 44810), (223, 44780), (230, 44741), (235, 44702), (239, 44669), (240, 44666), (245, 44642), (254, 44609), (257, 44588), (266, 44558), (282, 44444), (286, 44402), (288, 44381), (292, 44348), (310, 44276), (313, 44270), (323, 44222), (334, 44177), (341, 44153), (346, 44138), (351, 44114),

Gene: Lasso\_51 Start: 45209, Stop: 43806, Start Num: 76

Candidate Starts for Lasso\_51:

(11, 45587), (12, 45542), (17, 45500), (29, 45419), (35, 45374), (Start: 76 @45209 has 220 MA's), (Start: 78 @45206 has 65 MA's), (Start: 79 @45200 has 1 MA's), (87, 45158), (101, 45086), (109, 45065), (138, 44969), (153, 44918), (165, 44852), (166, 44849), (171, 44798), (186, 44732), (190, 44720), (200, 44684), (217, 44639), (223, 44609), (230, 44570), (235, 44531), (239, 44498), (240, 44495), (245, 44471), (254, 44438), (257, 44417), (266, 44387), (282, 44273), (286, 44231), (288, 44210), (292, 44177), (310, 44105), (313, 44099), (323, 44051), (334, 44006), (341, 43982), (346, 43967), (351, 43943),

Gene: Laurie\_49 Start: 44345, Stop: 42978, Start Num: 78

Candidate Starts for Laurie\_49:

(Start: 78 @44345 has 65 MA's), (88, 44282), (91, 44267), (121, 44156), (137, 44105), (152, 44057), (160, 44009), (180, 43874), (183, 43868), (186, 43859), (209, 43814), (211, 43808), (212, 43802), (217, 43790), (235, 43685), (239, 43652), (241, 43646), (245, 43625), (254, 43592), (259, 43565), (266, 43541), (271, 43514), (274, 43487), (283, 43412), (288, 43367), (292, 43334), (302, 43313), (308, 43307), (318, 43274), (321, 43256), (348, 43157), (364, 43094), (367, 43076), (375, 43019),

Gene: LeeLot\_51 Start: 45258, Stop: 43858, Start Num: 78

Candidate Starts for LeeLot\_51:

(35, 45426), (Start: 76 @45261 has 220 MA's), (Start: 78 @45258 has 65 MA's), (Start: 79 @45252 has 1 MA's), (87, 45210), (101, 45138), (109, 45117), (138, 45021), (153, 44970), (165, 44904), (166, 44901), (169, 44877), (171, 44850), (186, 44784), (190, 44772), (200, 44736), (217, 44691), (223, 44661), (230, 44622), (235, 44583), (239, 44550), (240, 44547), (245, 44523), (254, 44490), (257, 44469), (266, 44439), (282, 44325), (286, 44283), (288, 44262), (292, 44229), (310, 44157), (313, 44151), (323, 44103), (334, 44058), (341, 44034), (346, 44019), (351, 43995),

Gene: Lego3393\_50 Start: 45389, Stop: 43986, Start Num: 76

Candidate Starts for Lego3393\_50:

(11, 45767), (12, 45722), (17, 45680), (29, 45599), (35, 45554), (Start: 76 @45389 has 220 MA's), (Start: 78 @45386 has 65 MA's), (Start: 79 @45380 has 1 MA's), (87, 45338), (101, 45266), (109, 45245), (138, 45149), (153, 45098), (165, 45032), (166, 45029), (171, 44978), (186, 44912), (190, 44900), (200, 44864), (217, 44819), (223, 44789), (230, 44750), (235, 44711), (239, 44678), (240, 44675), (245, 44651), (254, 44618), (257, 44597), (266, 44567), (282, 44453), (286, 44411), (288, 44390), (292, 44357), (310, 44285), (313, 44279), (323, 44231), (334, 44186), (341, 44162), (346, 44147), (351, 44123),

Gene: Legolas\_51 Start: 44976, Stop: 43576, Start Num: 78

Candidate Starts for Legolas\_51:

(11, 45357), (12, 45312), (17, 45270), (29, 45189), (35, 45144), (Start: 76 @44979 has 220 MA's), (Start: 78 @44976 has 65 MA's), (Start: 79 @44970 has 1 MA's), (87, 44928), (101, 44856), (109, 44835), (138, 44739), (153, 44688), (165, 44622), (166, 44619), (171, 44568), (186, 44502), (190, 44490), (200, 44454), (217, 44409), (223, 44379), (230, 44340), (235, 44301), (239, 44268), (240, 44265), (245, 44241), (254, 44208), (257, 44187), (266, 44157), (282, 44043), (286, 44001), (288, 43980), (292, 43947), (310, 43875), (313, 43869), (323, 43821), (334, 43776), (341, 43752), (346, 43737), (351, 43713),

Gene: LeiMonet\_52 Start: 44941, Stop: 43538, Start Num: 76

Candidate Starts for LeiMonet\_52:

(11, 45319), (12, 45274), (17, 45232), (29, 45151), (35, 45106), (Start: 76 @44941 has 220 MA's), (Start: 78 @44938 has 65 MA's), (Start: 79 @44932 has 1 MA's), (87, 44890), (101, 44818), (109, 44797), (138, 44701), (153, 44650), (165, 44584), (166, 44581), (171, 44530), (186, 44464), (190, 44452), (200, 44416), (217, 44371), (223, 44341), (230, 44302), (235, 44263), (239, 44230), (240,

44227), (245, 44203), (254, 44170), (257, 44149), (266, 44119), (282, 44005), (286, 43963), (288, 43942), (292, 43909), (310, 43837), (313, 43831), (323, 43783), (334, 43738), (341, 43714), (346, 43699), (351, 43675),

Gene: LemonSlice\_51 Start: 44946, Stop: 43543, Start Num: 76

Candidate Starts for LemonSlice\_51:

(11, 45324), (12, 45279), (17, 45237), (29, 45156), (35, 45111), (Start: 76 @44946 has 220 MA's), (Start: 78 @44943 has 65 MA's), (Start: 79 @44937 has 1 MA's), (87, 44895), (101, 44823), (109, 44802), (138, 44706), (153, 44655), (165, 44589), (166, 44586), (171, 44535), (186, 44469), (190, 44457), (200, 44421), (217, 44376), (223, 44346), (230, 44307), (235, 44268), (239, 44235), (240, 44232), (245, 44208), (254, 44175), (257, 44154), (266, 44124), (282, 44010), (286, 43968), (288, 43947), (292, 43914), (310, 43842), (313, 43836), (323, 43788), (334, 43743), (341, 43719), (346, 43704), (351, 43680),

Gene: Lephleur\_50 Start: 44863, Stop: 43496, Start Num: 78

Candidate Starts for Lephleur\_50:

(Start: 78 @44863 has 65 MA's), (88, 44800), (91, 44785), (121, 44674), (137, 44623), (152, 44575), (160, 44527), (183, 44386), (186, 44377), (209, 44332), (211, 44326), (212, 44320), (217, 44308), (235, 44203), (239, 44170), (245, 44143), (254, 44110), (259, 44083), (266, 44059), (271, 44032), (274, 44005), (283, 43930), (288, 43885), (292, 43852), (302, 43831), (308, 43825), (318, 43792), (321, 43774), (364, 43612), (367, 43594), (375, 43537),

Gene: LestyG\_49 Start: 44887, Stop: 43265, Start Num: 39

Candidate Starts for LestyG\_49:

(19, 45004), (21, 44998), (23, 44983), (Start: 39 @44887 has 12 MA's), (Start: 41 @44878 has 41 MA's), (65, 44782), (84, 44704), (103, 44569), (141, 44410), (144, 44395), (148, 44383), (153, 44353), (162, 44311), (171, 44233), (207, 44101), (214, 44068), (217, 44059), (234, 43966), (240, 43918), (243, 43903), (245, 43894), (259, 43834), (266, 43810), (281, 43720), (292, 43609), (310, 43576), (311, 43573), (314, 43558), (320, 43537), (327, 43504),

Gene: Ligma\_44 Start: 37982, Stop: 36669, Start Num: 39

Candidate Starts for Ligma\_44:

(Start: 38 @37985 has 1 MA's), (Start: 39 @37982 has 12 MA's), (Start: 136 @37823 has 2 MA's), (137, 37817), (153, 37766), (214, 37511), (221, 37490), (228, 37445), (231, 37433), (254, 37304), (259, 37277), (266, 37253), (272, 37223), (273, 37205), (276, 37193), (281, 37163), (283, 37130), (288, 37085), (292, 37052), (304, 37019), (308, 36992), (320, 36947), (321, 36941), (327, 36914), (328, 36911), (341, 36863), (375, 36701),

Gene: LilMcDreamy\_48 Start: 45351, Stop: 43921, Start Num: 66

Candidate Starts for LilMcDreamy\_48:

(Start: 66 @45351 has 1 MA's), (138, 45084), (171, 44913), (190, 44835), (193, 44829), (214, 44775), (231, 44697), (234, 44673), (235, 44661), (245, 44601), (259, 44541), (266, 44517), (267, 44514), (273, 44469), (284, 44382), (292, 44316), (295, 44298), (308, 44235), (310, 44229), (320, 44190), (321, 44184), (327, 44157), (342, 44100), (361, 44031),

Gene: LittleMunchkin\_46 Start: 41233, Stop: 39968, Start Num: 41

Candidate Starts for LittleMunchkin\_46:

(Start: 41 @41233 has 41 MA's), (53, 41194), (Start: 136 @41107 has 2 MA's), (137, 41101), (147, 41080), (153, 41050), (201, 40819), (221, 40774), (231, 40717), (235, 40681), (239, 40648), (240, 40645), (243, 40630), (245, 40621), (249, 40606), (250, 40603), (254, 40588), (259, 40561), (266, 40537), (284, 40402), (288, 40369), (292, 40336), (293, 40327), (304, 40303), (305, 40291), (308, 40276), (321, 40225), (327, 40198), (362, 40075), (367, 40042),

Gene: LizLemon\_50 Start: 44979, Stop: 43612, Start Num: 78

Candidate Starts for LizLemon\_50:

(Start: 78 @44979 has 65 MA's), (88, 44916), (91, 44901), (121, 44790), (137, 44739), (152, 44691), (160, 44643), (183, 44502), (186, 44493), (209, 44448), (211, 44442), (212, 44436), (217, 44424), (235, 44319), (239, 44286), (243, 44268), (245, 44259), (254, 44226), (259, 44199), (266, 44175), (271, 44148), (274, 44121), (283, 44046), (288, 44001), (292, 43968), (302, 43947), (308, 43941), (318, 43908), (321, 43890), (364, 43728), (367, 43710), (375, 43653),

Gene: Lolalove\_47 Start: 45711, Stop: 44371, Start Num: 75

Candidate Starts for Lolalove\_47:

(Start: 73 @45714 has 9 MA's), (Start: 75 @45711 has 15 MA's), (Start: 79 @45702 has 1 MA's), (80, 45696), (89, 45645), (133, 45498), (149, 45453), (153, 45432), (175, 45291), (179, 45267), (186, 45246), (187, 45243), (192, 45228), (195, 45213), (222, 45144), (223, 45129), (225, 45111), (231, 45087), (240, 45015), (245, 44991), (254, 44958), (255, 44955), (257, 44937), (266, 44907), (276, 44847), (279, 44829), (281, 44817), (284, 44772), (285, 44766), (286, 44757), (291, 44727), (292, 44703), (313, 44664), (322, 44619), (327, 44598), (328, 44595), (348, 44526), (351, 44508),

Gene: Longacauda\_50 Start: 44942, Stop: 43539, Start Num: 76

Candidate Starts for Longacauda\_50:

(11, 45320), (12, 45275), (17, 45233), (29, 45152), (35, 45107), (Start: 76 @44942 has 220 MA's), (Start: 78 @44939 has 65 MA's), (Start: 79 @44933 has 1 MA's), (87, 44891), (101, 44819), (109, 44798), (138, 44702), (153, 44651), (165, 44585), (166, 44582), (171, 44531), (186, 44465), (190, 44453), (200, 44417), (217, 44372), (223, 44342), (230, 44303), (235, 44264), (239, 44231), (240, 44228), (245, 44204), (254, 44171), (257, 44150), (266, 44120), (282, 44006), (286, 43964), (288, 43943), (292, 43910), (310, 43838), (313, 43832), (323, 43784), (334, 43739), (341, 43715), (346, 43700), (351, 43676),

Gene: Lopsy\_50 Start: 44807, Stop: 43404, Start Num: 76

Candidate Starts for Lopsy\_50:

(11, 45185), (12, 45140), (17, 45098), (29, 45017), (35, 44972), (Start: 76 @44807 has 220 MA's), (Start: 78 @44804 has 65 MA's), (Start: 79 @44798 has 1 MA's), (87, 44756), (101, 44684), (109, 44663), (138, 44567), (153, 44516), (165, 44450), (166, 44447), (171, 44396), (186, 44330), (190, 44318), (200, 44282), (217, 44237), (223, 44207), (230, 44168), (235, 44129), (239, 44096), (240, 44093), (245, 44069), (254, 44036), (257, 44015), (266, 43985), (282, 43871), (286, 43829), (288, 43808), (292, 43775), (310, 43703), (313, 43697), (334, 43604), (341, 43580), (346, 43565), (351, 43541),

Gene: LostAndPhound\_50 Start: 44961, Stop: 43558, Start Num: 76

Candidate Starts for LostAndPhound\_50:

(11, 45339), (12, 45294), (17, 45252), (29, 45171), (35, 45126), (Start: 76 @44961 has 220 MA's), (Start: 78 @44958 has 65 MA's), (Start: 79 @44952 has 1 MA's), (87, 44910), (101, 44838), (109, 44817), (138, 44721), (153, 44670), (165, 44604), (166, 44601), (171, 44550), (186, 44484), (190, 44472), (200, 44436), (217, 44391), (223, 44361), (230, 44322), (235, 44283), (239, 44250), (240, 44247), (245, 44223), (254, 44190), (257, 44169), (266, 44139), (282, 44025), (286, 43983), (288, 43962), (292, 43929), (310, 43857), (313, 43851), (323, 43803), (334, 43758), (341, 43734), (346, 43719), (351, 43695),

Gene: LuckyMarjie\_50 Start: 44949, Stop: 43546, Start Num: 76

Candidate Starts for LuckyMarjie\_50:

(35, 45114), (Start: 76 @44949 has 220 MA's), (Start: 78 @44946 has 65 MA's), (Start: 79 @44940 has 1 MA's), (87, 44898), (101, 44826), (109, 44805), (138, 44709), (153, 44658), (165, 44592), (166, 44589), (171, 44538), (186, 44472), (190, 44460), (200, 44424), (217, 44379), (223, 44349), (230, 44310), (235, 44271), (239, 44238), (240, 44235), (245, 44211), (254, 44178), (257, 44157), (266,

44127), (282, 44013), (286, 43971), (288, 43950), (292, 43917), (310, 43845), (313, 43839), (323, 43791), (334, 43746), (341, 43722), (346, 43707), (351, 43683),

Gene: Lulumae\_50 Start: 44931, Stop: 43531, Start Num: 78

Candidate Starts for Lulumae\_50:

(35, 45099), (Start: 76 @44934 has 220 MA's), (Start: 78 @44931 has 65 MA's), (Start: 79 @44925 has 1 MA's), (87, 44883), (101, 44811), (109, 44790), (138, 44694), (153, 44643), (165, 44577), (166, 44574), (171, 44523), (186, 44457), (190, 44445), (200, 44409), (217, 44364), (223, 44334), (230, 44295), (235, 44256), (239, 44223), (240, 44220), (245, 44196), (254, 44163), (257, 44142), (266, 44112), (282, 43998), (286, 43956), (288, 43935), (292, 43902), (310, 43830), (313, 43824), (323, 43776), (334, 43731), (341, 43707), (346, 43692), (351, 43668),

Gene: Lulwa\_51 Start: 45227, Stop: 43824, Start Num: 76

Candidate Starts for Lulwa\_51:

(35, 45392), (Start: 76 @45227 has 220 MA's), (Start: 78 @45224 has 65 MA's), (Start: 79 @45218 has 1 MA's), (87, 45176), (101, 45104), (109, 45083), (138, 44987), (153, 44936), (165, 44870), (166, 44867), (171, 44816), (186, 44750), (190, 44738), (200, 44702), (217, 44657), (223, 44627), (230, 44588), (235, 44549), (239, 44516), (240, 44513), (245, 44489), (254, 44456), (257, 44435), (266, 44405), (282, 44291), (286, 44249), (288, 44228), (292, 44195), (310, 44123), (313, 44117), (323, 44069), (334, 44024), (341, 44000), (346, 43985), (351, 43961),

Gene: Lumine\_50 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for Lumine\_50:

(35, 45095), (Start: 76 @44930 has 220 MA's), (Start: 78 @44927 has 65 MA's), (Start: 79 @44921 has 1 MA's), (87, 44879), (101, 44807), (109, 44786), (138, 44690), (153, 44639), (165, 44573), (166, 44570), (171, 44519), (186, 44453), (190, 44441), (200, 44405), (217, 44360), (223, 44330), (230, 44291), (235, 44252), (239, 44219), (240, 44216), (242, 44210), (245, 44192), (254, 44159), (257, 44138), (266, 44108), (282, 43994), (286, 43952), (288, 43931), (292, 43898), (310, 43826), (313, 43820), (323, 43772), (334, 43727), (341, 43703), (346, 43688), (351, 43664),

Gene: MRabcd\_50 Start: 44940, Stop: 43537, Start Num: 76

Candidate Starts for MRabcd\_50:

(11, 45318), (12, 45273), (17, 45231), (29, 45150), (35, 45105), (Start: 76 @44940 has 220 MA's), (Start: 78 @44937 has 65 MA's), (Start: 79 @44931 has 1 MA's), (87, 44889), (101, 44817), (109, 44796), (138, 44700), (153, 44649), (165, 44583), (166, 44580), (171, 44529), (186, 44463), (190, 44451), (200, 44415), (217, 44370), (223, 44340), (230, 44301), (235, 44262), (239, 44229), (240, 44226), (245, 44202), (254, 44169), (257, 44148), (266, 44118), (282, 44004), (286, 43962), (288, 43941), (292, 43908), (310, 43836), (313, 43830), (323, 43782), (334, 43737), (341, 43713), (346, 43698), (351, 43674),

Gene: Mag7\_50 Start: 44864, Stop: 43461, Start Num: 76

Candidate Starts for Mag7\_50:

(35, 45029), (Start: 76 @44864 has 220 MA's), (Start: 78 @44861 has 65 MA's), (Start: 79 @44855 has 1 MA's), (87, 44813), (101, 44741), (109, 44720), (138, 44624), (153, 44573), (165, 44507), (166, 44504), (171, 44453), (186, 44387), (190, 44375), (200, 44339), (217, 44294), (223, 44264), (230, 44225), (235, 44186), (239, 44153), (240, 44150), (242, 44144), (245, 44126), (254, 44093), (257, 44072), (266, 44042), (282, 43928), (286, 43886), (288, 43865), (292, 43832), (310, 43760), (313, 43754), (323, 43706), (334, 43661), (341, 43637), (346, 43622), (351, 43598),

Gene: Magic8\_51 Start: 45299, Stop: 43896, Start Num: 76

Candidate Starts for Magic8\_51:

(35, 45464), (Start: 76 @45299 has 220 MA's), (Start: 78 @45296 has 65 MA's), (Start: 79 @45290 has 1 MA's), (87, 45248), (101, 45176), (109, 45155), (138, 45059), (153, 45008), (165, 44942), (166,



44939), (171, 44888), (186, 44822), (190, 44810), (200, 44774), (217, 44729), (223, 44699), (230, 44660), (235, 44621), (239, 44588), (240, 44585), (242, 44579), (245, 44561), (254, 44528), (257, 44507), (266, 44477), (282, 44363), (286, 44321), (288, 44300), (292, 44267), (310, 44195), (313, 44189), (323, 44141), (334, 44096), (341, 44072), (346, 44057), (351, 44033),

Gene: Magpie\_45 Start: 45553, Stop: 44210, Start Num: 73

Candidate Starts for Magpie\_45:

(Start: 73 @45553 has 9 MA's), (Start: 75 @45550 has 15 MA's), (Start: 79 @45541 has 1 MA's), (80, 45535), (89, 45484), (133, 45337), (149, 45292), (153, 45271), (175, 45130), (179, 45106), (186, 45085), (187, 45082), (192, 45067), (195, 45052), (222, 44983), (223, 44968), (231, 44926), (240, 44854), (243, 44839), (245, 44830), (254, 44797), (255, 44794), (257, 44776), (266, 44746), (276, 44686), (279, 44668), (281, 44656), (284, 44611), (285, 44605), (286, 44596), (291, 44566), (292, 44542), (313, 44503), (322, 44458), (327, 44437), (328, 44434), (348, 44365), (351, 44347),

Gene: Mahdia\_31 Start: 24495, Stop: 23398, Start Num: 135

Candidate Starts for Mahdia\_31:

(22, 25017), (45, 24885), (60, 24807), (Start: 135 @24495 has 4 MA's), (167, 24360), (179, 24273), (182, 24264), (237, 24093), (249, 24039), (264, 23967), (272, 23931), (278, 23889), (289, 23793), (292, 23763), (297, 23736), (308, 23688), (315, 23661), (322, 23628), (331, 23595), (345, 23568), (350, 23547), (355, 23532),

Gene: Maih\_43 Start: 36174, Stop: 34984, Start Num: 104

Candidate Starts for Maih\_43:

(59, 36393), (70, 36342), (85, 36285), (Start: 104 @36174 has 5 MA's), (Start: 114 @36150 has 5 MA's), (131, 36111), (145, 36072), (154, 36027), (157, 36006), (172, 35901), (173, 35895), (182, 35850), (186, 35838), (220, 35781), (222, 35775), (230, 35730), (233, 35712), (243, 35640), (251, 35610), (258, 35574), (259, 35571), (262, 35562), (308, 35286), (312, 35277), (321, 35232), (326, 35208), (329, 35199), (337, 35166), (354, 35109), (360, 35091), (374, 34998), (375, 34995),

Gene: MakoManhole\_47 Start: 40329, Stop: 38938, Start Num: 27

Candidate Starts for MakoManhole\_47:

(3, 40668), (4, 40644), (7, 40533), (10, 40488), (Start: 27 @40329 has 6 MA's), (32, 40302), (Start: 41 @40251 has 41 MA's), (83, 40107), (137, 40101), (151, 40068), (153, 40050), (159, 40017), (161, 40011), (173, 39921), (189, 39861), (213, 39792), (227, 39729), (237, 39657), (239, 39645), (243, 39627), (245, 39618), (254, 39585), (266, 39534), (272, 39504), (275, 39477), (276, 39474), (288, 39366), (293, 39324), (303, 39291), (308, 39246), (313, 39234), (320, 39201), (321, 39195), (327, 39168),

Gene: Mana\_50 Start: 44949, Stop: 43546, Start Num: 76

Candidate Starts for Mana\_50:

(11, 45327), (12, 45282), (17, 45240), (29, 45159), (35, 45114), (Start: 76 @44949 has 220 MA's), (Start: 78 @44946 has 65 MA's), (Start: 79 @44940 has 1 MA's), (87, 44898), (101, 44826), (109, 44805), (138, 44709), (153, 44658), (165, 44592), (166, 44589), (171, 44538), (186, 44472), (190, 44460), (200, 44424), (217, 44379), (223, 44349), (230, 44310), (235, 44271), (239, 44238), (240, 44235), (245, 44211), (254, 44178), (257, 44157), (266, 44127), (282, 44013), (286, 43971), (288, 43950), (292, 43917), (310, 43845), (313, 43839), (323, 43791), (334, 43746), (341, 43722), (346, 43707), (351, 43683),

Gene: Manad\_51 Start: 45209, Stop: 43806, Start Num: 76

Candidate Starts for Manad\_51:

(11, 45587), (12, 45542), (17, 45500), (29, 45419), (35, 45374), (Start: 76 @45209 has 220 MA's), (Start: 78 @45206 has 65 MA's), (Start: 79 @45200 has 1 MA's), (87, 45158), (101, 45086), (109, 45065), (138, 44969), (153, 44918), (165, 44852), (166, 44849), (171, 44798), (186, 44732), (190,

44720), (200, 44684), (217, 44639), (223, 44609), (230, 44570), (235, 44531), (239, 44498), (240, 44495), (245, 44471), (254, 44438), (257, 44417), (266, 44387), (282, 44273), (286, 44231), (288, 44210), (292, 44177), (310, 44105), (313, 44099), (334, 44006), (341, 43982), (346, 43967), (351, 43943),

Gene: Mariokart\_44 Start: 37741, Stop: 36515, Start Num: 63

Candidate Starts for Mariokart\_44:

(Start: 63 @37741 has 1 MA's), (Start: 136 @37669 has 2 MA's), (147, 37642), (153, 37612), (205, 37375), (214, 37357), (227, 37294), (228, 37291), (231, 37279), (254, 37150), (259, 37123), (266, 37099), (273, 37051), (276, 37039), (281, 37009), (283, 36976), (288, 36931), (292, 36898), (304, 36865), (308, 36838), (320, 36793), (321, 36787), (327, 36760), (328, 36757), (341, 36709), (375, 36547),

Gene: Marley1013\_49 Start: 45665, Stop: 44043, Start Num: 39

Candidate Starts for Marley1013\_49:

(19, 45782), (21, 45776), (23, 45761), (Start: 39 @45665 has 12 MA's), (Start: 41 @45656 has 41 MA's), (65, 45560), (84, 45482), (103, 45347), (141, 45188), (144, 45173), (148, 45161), (153, 45131), (162, 45089), (171, 45011), (207, 44879), (214, 44846), (217, 44837), (234, 44744), (240, 44696), (243, 44681), (245, 44672), (254, 44639), (259, 44612), (266, 44588), (281, 44498), (292, 44387), (310, 44354), (311, 44351), (314, 44336), (320, 44315), (327, 44282),

Gene: Maru\_50 Start: 44889, Stop: 43489, Start Num: 78

Candidate Starts for Maru\_50:

(11, 45270), (12, 45225), (17, 45183), (29, 45102), (35, 45057), (Start: 76 @44892 has 220 MA's), (Start: 78 @44889 has 65 MA's), (Start: 79 @44883 has 1 MA's), (87, 44841), (101, 44769), (109, 44748), (138, 44652), (153, 44601), (165, 44535), (166, 44532), (171, 44481), (186, 44415), (190, 44403), (200, 44367), (217, 44322), (223, 44292), (230, 44253), (235, 44214), (239, 44181), (240, 44178), (245, 44154), (254, 44121), (257, 44100), (266, 44070), (282, 43956), (286, 43914), (288, 43893), (292, 43860), (310, 43788), (313, 43782), (323, 43734), (334, 43689), (341, 43665), (346, 43650), (351, 43626),

Gene: Maskar\_51 Start: 44930, Stop: 43527, Start Num: 76

Candidate Starts for Maskar\_51:

(35, 45095), (Start: 76 @44930 has 220 MA's), (Start: 78 @44927 has 65 MA's), (Start: 79 @44921 has 1 MA's), (87, 44879), (101, 44807), (109, 44786), (138, 44690), (153, 44639), (165, 44573), (166, 44570), (171, 44519), (186, 44453), (190, 44441), (200, 44405), (217, 44360), (223, 44330), (230, 44291), (235, 44252), (239, 44219), (240, 44216), (242, 44210), (245, 44192), (254, 44159), (257, 44138), (266, 44108), (282, 43994), (286, 43952), (288, 43931), (292, 43898), (310, 43826), (313, 43820), (323, 43772), (334, 43727), (341, 43703), (346, 43688), (351, 43664),

Gene: MasterPo\_50 Start: 44872, Stop: 43505, Start Num: 78

Candidate Starts for MasterPo\_50:

(Start: 78 @44872 has 65 MA's), (88, 44809), (91, 44794), (121, 44683), (137, 44632), (152, 44584), (160, 44536), (183, 44395), (186, 44386), (209, 44341), (211, 44335), (212, 44329), (217, 44317), (235, 44212), (239, 44179), (245, 44152), (254, 44119), (259, 44092), (266, 44068), (271, 44041), (274, 44014), (283, 43939), (288, 43894), (292, 43861), (302, 43840), (308, 43834), (318, 43801), (319, 43792), (321, 43783), (364, 43621), (367, 43603), (375, 43546),

Gene: Matalotodo\_51 Start: 45244, Stop: 43841, Start Num: 76

Candidate Starts for Matalotodo\_51:

(35, 45409), (Start: 76 @45244 has 220 MA's), (Start: 78 @45241 has 65 MA's), (Start: 79 @45235 has 1 MA's), (87, 45193), (101, 45121), (109, 45100), (138, 45004), (153, 44953), (165, 44887), (166, 44884), (169, 44860), (171, 44833), (186, 44767), (190, 44755), (200, 44719), (217, 44674), (223,

44644), (230, 44605), (235, 44566), (239, 44533), (240, 44530), (245, 44506), (254, 44473), (257, 44452), (266, 44422), (282, 44308), (286, 44266), (288, 44245), (292, 44212), (310, 44140), (313, 44134), (323, 44086), (334, 44041), (341, 44017), (346, 44002), (351, 43978),

Gene: Mcshane\_50 Start: 44941, Stop: 43538, Start Num: 76

Candidate Starts for Mcshane\_50:

(11, 45319), (12, 45274), (17, 45232), (29, 45151), (35, 45106), (Start: 76 @44941 has 220 MA's), (Start: 78 @44938 has 65 MA's), (Start: 79 @44932 has 1 MA's), (87, 44890), (101, 44818), (109, 44797), (138, 44701), (153, 44650), (165, 44584), (166, 44581), (171, 44530), (186, 44464), (190, 44452), (200, 44416), (217, 44371), (223, 44341), (230, 44302), (235, 44263), (239, 44230), (240, 44227), (245, 44203), (254, 44170), (257, 44149), (266, 44119), (282, 44005), (286, 43963), (288, 43942), (292, 43909), (310, 43837), (313, 43831), (323, 43783), (334, 43738), (341, 43714), (346, 43699), (351, 43675),

Gene: Mecca\_50 Start: 44947, Stop: 43544, Start Num: 76

Candidate Starts for Mecca\_50:

(35, 45112), (Start: 76 @44947 has 220 MA's), (Start: 78 @44944 has 65 MA's), (Start: 79 @44938 has 1 MA's), (87, 44896), (101, 44824), (109, 44803), (138, 44707), (153, 44656), (165, 44590), (166, 44587), (169, 44563), (171, 44536), (186, 44470), (190, 44458), (200, 44422), (217, 44377), (223, 44347), (230, 44308), (235, 44269), (239, 44236), (240, 44233), (245, 44209), (254, 44176), (257, 44155), (266, 44125), (282, 44011), (286, 43969), (288, 43948), (292, 43915), (310, 43843), (313, 43837), (323, 43789), (334, 43744), (341, 43720), (346, 43705), (351, 43681),

Gene: Megamind20\_51 Start: 44966, Stop: 43566, Start Num: 78

Candidate Starts for Megamind20\_51:

(11, 45347), (12, 45302), (17, 45260), (29, 45179), (35, 45134), (Start: 76 @44969 has 220 MA's), (Start: 78 @44966 has 65 MA's), (Start: 79 @44960 has 1 MA's), (87, 44918), (101, 44846), (109, 44825), (138, 44729), (153, 44678), (165, 44612), (166, 44609), (171, 44558), (186, 44492), (190, 44480), (200, 44444), (217, 44399), (223, 44369), (230, 44330), (235, 44291), (239, 44258), (240, 44255), (245, 44231), (254, 44198), (257, 44177), (266, 44147), (282, 44033), (286, 43991), (288, 43970), (292, 43937), (310, 43865), (313, 43859), (323, 43811), (334, 43766), (341, 43742), (346, 43727), (351, 43703),

Gene: Megatron\_52 Start: 45377, Stop: 43974, Start Num: 76

Candidate Starts for Megatron\_52:

(11, 45755), (12, 45710), (17, 45668), (29, 45587), (35, 45542), (Start: 76 @45377 has 220 MA's), (Start: 78 @45374 has 65 MA's), (Start: 79 @45368 has 1 MA's), (87, 45326), (101, 45254), (109, 45233), (138, 45137), (153, 45086), (165, 45020), (166, 45017), (171, 44966), (186, 44900), (190, 44888), (200, 44852), (217, 44807), (223, 44777), (230, 44738), (235, 44699), (239, 44666), (240, 44663), (245, 44639), (254, 44606), (257, 44585), (266, 44555), (282, 44441), (286, 44399), (288, 44378), (292, 44345), (310, 44273), (313, 44267), (323, 44219), (334, 44174), (341, 44150), (346, 44135), (351, 44111),

Gene: Melc17\_51 Start: 45239, Stop: 43836, Start Num: 76

Candidate Starts for Melc17\_51:

(35, 45404), (Start: 76 @45239 has 220 MA's), (Start: 78 @45236 has 65 MA's), (Start: 79 @45230 has 1 MA's), (87, 45188), (101, 45116), (109, 45095), (138, 44999), (153, 44948), (165, 44882), (166, 44879), (171, 44828), (186, 44762), (190, 44750), (200, 44714), (217, 44669), (223, 44639), (230, 44600), (235, 44561), (239, 44528), (240, 44525), (242, 44519), (245, 44501), (254, 44468), (257, 44447), (266, 44417), (282, 44303), (286, 44261), (288, 44240), (292, 44207), (310, 44135), (313, 44129), (323, 44081), (334, 44036), (341, 44012), (346, 43997), (351, 43973),

Gene: MelsMeow\_51 Start: 44983, Stop: 43580, Start Num: 76

Candidate Starts for MelsMeow\_51:

(35, 45148), (Start: 76 @44983 has 220 MA's), (Start: 78 @44980 has 65 MA's), (Start: 79 @44974 has 1 MA's), (87, 44932), (101, 44860), (109, 44839), (138, 44743), (153, 44692), (165, 44626), (166, 44623), (171, 44572), (186, 44506), (190, 44494), (200, 44458), (217, 44413), (223, 44383), (230, 44344), (235, 44305), (239, 44272), (240, 44269), (242, 44263), (245, 44245), (254, 44212), (257, 44191), (266, 44161), (282, 44047), (286, 44005), (288, 43984), (292, 43951), (310, 43879), (313, 43873), (323, 43825), (334, 43780), (341, 43756), (346, 43741), (351, 43717),

Gene: Mesh1\_51 Start: 45257, Stop: 43854, Start Num: 74

Candidate Starts for Mesh1\_51:

(Start: 74 @45257 has 18 MA's), (Start: 78 @45254 has 65 MA's), (Start: 79 @45248 has 1 MA's), (87, 45206), (101, 45134), (109, 45113), (138, 45017), (153, 44966), (165, 44900), (166, 44897), (171, 44846), (186, 44780), (190, 44768), (200, 44732), (217, 44687), (223, 44657), (230, 44618), (235, 44579), (239, 44546), (240, 44543), (245, 44519), (254, 44486), (257, 44465), (266, 44435), (282, 44321), (286, 44279), (288, 44258), (292, 44225), (310, 44153), (313, 44147), (323, 44099), (334, 44054), (341, 44030), (346, 44015), (351, 43991),

Gene: MichaelPhcott\_50 Start: 44861, Stop: 43458, Start Num: 76

Candidate Starts for MichaelPhcott\_50:

(35, 45026), (Start: 76 @44861 has 220 MA's), (Start: 78 @44858 has 65 MA's), (Start: 79 @44852 has 1 MA's), (87, 44810), (101, 44738), (109, 44717), (138, 44621), (153, 44570), (165, 44504), (166, 44501), (171, 44450), (186, 44384), (190, 44372), (200, 44336), (217, 44291), (223, 44261), (230, 44222), (235, 44183), (239, 44150), (240, 44147), (242, 44141), (245, 44123), (254, 44090), (257, 44069), (266, 44039), (282, 43925), (286, 43883), (288, 43862), (292, 43829), (310, 43757), (313, 43751), (323, 43703), (334, 43658), (341, 43634), (346, 43619), (351, 43595),

Gene: Mikota\_51 Start: 45227, Stop: 43824, Start Num: 76

Candidate Starts for Mikota\_51:

(11, 45605), (12, 45560), (17, 45518), (29, 45437), (35, 45392), (Start: 76 @45227 has 220 MA's), (Start: 78 @45224 has 65 MA's), (Start: 79 @45218 has 1 MA's), (87, 45176), (101, 45104), (109, 45083), (138, 44987), (153, 44936), (165, 44870), (166, 44867), (171, 44816), (186, 44750), (190, 44738), (200, 44702), (217, 44657), (223, 44627), (230, 44588), (235, 44549), (239, 44516), (240, 44513), (245, 44489), (254, 44456), (257, 44435), (266, 44405), (282, 44291), (286, 44249), (288, 44228), (292, 44195), (310, 44123), (313, 44117), (323, 44069), (334, 44024), (341, 44000), (346, 43985), (351, 43961),

Gene: MiniBoss\_51 Start: 45230, Stop: 43830, Start Num: 78

Candidate Starts for MiniBoss\_51:

(11, 45611), (12, 45566), (17, 45524), (29, 45443), (35, 45398), (Start: 76 @45233 has 220 MA's), (Start: 78 @45230 has 65 MA's), (Start: 79 @45224 has 1 MA's), (87, 45182), (101, 45110), (109, 45089), (138, 44993), (153, 44942), (165, 44876), (166, 44873), (171, 44822), (186, 44756), (190, 44744), (200, 44708), (217, 44663), (223, 44633), (230, 44594), (235, 44555), (239, 44522), (240, 44519), (245, 44495), (254, 44462), (257, 44441), (266, 44411), (282, 44297), (286, 44255), (288, 44234), (292, 44201), (310, 44129), (313, 44123), (323, 44075), (334, 44030), (341, 44006), (346, 43991), (351, 43967),

Gene: Mischief19\_53 Start: 46548, Stop: 45343, Start Num: 114

Candidate Starts for Mischief19\_53:

(90, 46626), (95, 46605), (103, 46581), (Start: 114 @46548 has 5 MA's), (131, 46509), (164, 46380), (194, 46215), (249, 46017), (259, 45972), (262, 45963), (287, 45795), (290, 45780), (293, 45744), (301, 45720), (309, 45684), (321, 45633), (335, 45567), (343, 45540), (359, 45477), (360, 45474), (368, 45426), (377, 45369), (379, 45354),

Gene: MitKao\_51 Start: 44959, Stop: 43556, Start Num: 76

Candidate Starts for MitKao\_51:

(11, 45337), (12, 45292), (17, 45250), (29, 45169), (35, 45124), (Start: 76 @44959 has 220 MA's), (Start: 78 @44956 has 65 MA's), (Start: 79 @44950 has 1 MA's), (87, 44908), (101, 44836), (109, 44815), (138, 44719), (153, 44668), (165, 44602), (166, 44599), (171, 44548), (186, 44482), (190, 44470), (200, 44434), (217, 44389), (223, 44359), (230, 44320), (235, 44281), (239, 44248), (240, 44245), (242, 44239), (245, 44221), (254, 44188), (257, 44167), (266, 44137), (282, 44023), (286, 43981), (288, 43960), (292, 43927), (310, 43855), (313, 43849), (323, 43801), (334, 43756), (341, 43732), (346, 43717), (351, 43693),

Gene: Mithril\_46 Start: 45718, Stop: 44378, Start Num: 75

Candidate Starts for Mithril\_46:

(Start: 73 @45721 has 9 MA's), (Start: 75 @45718 has 15 MA's), (Start: 79 @45709 has 1 MA's), (80, 45703), (89, 45652), (133, 45505), (153, 45439), (175, 45298), (179, 45274), (186, 45253), (187, 45250), (192, 45235), (195, 45220), (222, 45151), (225, 45118), (231, 45094), (240, 45022), (243, 45007), (245, 44998), (254, 44965), (255, 44962), (257, 44944), (266, 44914), (276, 44854), (279, 44836), (281, 44824), (283, 44791), (284, 44779), (285, 44773), (286, 44764), (288, 44743), (291, 44734), (292, 44710), (313, 44671), (327, 44605), (328, 44602), (346, 44539), (348, 44533), (351, 44515),

Gene: MmasiCarm\_49 Start: 44861, Stop: 43248, Start Num: 41

Candidate Starts for MmasiCarm\_49:

(19, 44987), (21, 44981), (23, 44966), (Start: 39 @44870 has 12 MA's), (Start: 41 @44861 has 41 MA's), (65, 44765), (84, 44687), (103, 44552), (141, 44393), (144, 44378), (148, 44366), (153, 44336), (162, 44294), (171, 44216), (207, 44084), (214, 44051), (217, 44042), (234, 43949), (240, 43901), (243, 43886), (245, 43877), (254, 43844), (259, 43817), (266, 43793), (281, 43703), (292, 43592), (310, 43559), (314, 43541), (320, 43520), (327, 43487),

Gene: Morgushi\_51 Start: 44948, Stop: 43545, Start Num: 76

Candidate Starts for Morgushi\_51:

(11, 45326), (12, 45281), (17, 45239), (29, 45158), (35, 45113), (Start: 76 @44948 has 220 MA's), (Start: 78 @44945 has 65 MA's), (Start: 79 @44939 has 1 MA's), (87, 44897), (101, 44825), (109, 44804), (138, 44708), (153, 44657), (165, 44591), (166, 44588), (171, 44537), (186, 44471), (190, 44459), (200, 44423), (217, 44378), (223, 44348), (230, 44309), (235, 44270), (239, 44237), (240, 44234), (245, 44210), (254, 44177), (257, 44156), (266, 44126), (282, 44012), (286, 43970), (288, 43949), (292, 43916), (310, 43844), (313, 43838), (323, 43790), (334, 43745), (341, 43721), (346, 43706), (351, 43682),

Gene: Morrissey\_33 Start: 26237, Stop: 25131, Start Num: 134

Candidate Starts for Morrissey\_33:

(Start: 134 @26237 has 1 MA's), (167, 26090), (183, 25988), (237, 25820), (243, 25790), (251, 25760), (264, 25694), (275, 25631), (279, 25613), (289, 25520), (291, 25514), (292, 25490), (296, 25469), (297, 25463), (308, 25415), (319, 25370), (322, 25355), (324, 25346), (327, 25334), (350, 25280), (355, 25265),

Gene: Mortcellus\_48 Start: 45513, Stop: 43900, Start Num: 41

Candidate Starts for Mortcellus\_48:

(19, 45639), (21, 45633), (23, 45618), (Start: 39 @45522 has 12 MA's), (Start: 41 @45513 has 41 MA's), (65, 45417), (84, 45339), (103, 45204), (141, 45045), (144, 45030), (148, 45018), (153, 44988), (162, 44946), (171, 44868), (207, 44736), (214, 44703), (217, 44694), (234, 44601), (240, 44553), (243, 44538), (245, 44529), (254, 44496), (259, 44469), (266, 44445), (281, 44355), (292, 44244), (310, 44211), (314, 44193), (320, 44172), (327, 44139),

Gene: Morty\_52 Start: 45386, Stop: 43983, Start Num: 76

Candidate Starts for Morty\_52:

(11, 45764), (12, 45719), (17, 45677), (29, 45596), (35, 45551), (Start: 76 @45386 has 220 MA's), (Start: 78 @45383 has 65 MA's), (Start: 79 @45377 has 1 MA's), (87, 45335), (101, 45263), (109, 45242), (138, 45146), (153, 45095), (165, 45029), (166, 45026), (171, 44975), (186, 44909), (190, 44897), (200, 44861), (217, 44816), (223, 44786), (230, 44747), (235, 44708), (239, 44675), (240, 44672), (245, 44648), (254, 44615), (257, 44594), (266, 44564), (282, 44450), (286, 44408), (288, 44387), (292, 44354), (310, 44282), (313, 44276), (323, 44228), (334, 44183), (341, 44159), (346, 44144), (351, 44120),

Gene: Morty007\_49 Start: 45656, Stop: 44043, Start Num: 41

Candidate Starts for Morty007\_49:

(19, 45782), (21, 45776), (23, 45761), (Start: 39 @45665 has 12 MA's), (Start: 41 @45656 has 41 MA's), (65, 45560), (84, 45482), (103, 45347), (141, 45188), (144, 45173), (148, 45161), (153, 45131), (162, 45089), (171, 45011), (207, 44879), (214, 44846), (217, 44837), (234, 44744), (240, 44696), (243, 44681), (245, 44672), (254, 44639), (259, 44612), (266, 44588), (281, 44498), (292, 44387), (310, 44354), (311, 44351), (314, 44336), (320, 44315), (327, 44282),

Gene: Mosaic\_50 Start: 44953, Stop: 43550, Start Num: 76

Candidate Starts for Mosaic\_50:

(11, 45331), (12, 45286), (17, 45244), (29, 45163), (35, 45118), (Start: 76 @44953 has 220 MA's), (Start: 78 @44950 has 65 MA's), (Start: 79 @44944 has 1 MA's), (87, 44902), (101, 44830), (109, 44809), (138, 44713), (153, 44662), (165, 44596), (166, 44593), (171, 44542), (186, 44476), (190, 44464), (200, 44428), (217, 44383), (223, 44353), (230, 44314), (235, 44275), (239, 44242), (240, 44239), (245, 44215), (254, 44182), (257, 44161), (266, 44131), (282, 44017), (286, 43975), (288, 43954), (292, 43921), (310, 43849), (313, 43843), (323, 43795), (334, 43750), (341, 43726), (346, 43711), (351, 43687),

Gene: MossRose\_47 Start: 40308, Stop: 38917, Start Num: 27

Candidate Starts for MossRose\_47:

(Start: 27 @40308 has 6 MA's), (32, 40281), (Start: 41 @40230 has 41 MA's), (83, 40086), (137, 40080), (151, 40047), (153, 40029), (159, 39996), (161, 39990), (173, 39900), (189, 39840), (213, 39771), (221, 39750), (227, 39708), (237, 39636), (239, 39624), (243, 39606), (245, 39597), (254, 39564), (266, 39513), (272, 39483), (276, 39453), (288, 39345), (293, 39303), (303, 39270), (308, 39225), (313, 39213), (320, 39180), (321, 39174), (327, 39147),

Gene: MrPhizzler\_50 Start: 44950, Stop: 43547, Start Num: 76

Candidate Starts for MrPhizzler\_50:

(11, 45328), (12, 45283), (17, 45241), (29, 45160), (35, 45115), (Start: 76 @44950 has 220 MA's), (Start: 78 @44947 has 65 MA's), (Start: 79 @44941 has 1 MA's), (87, 44899), (101, 44827), (109, 44806), (138, 44710), (153, 44659), (165, 44593), (166, 44590), (171, 44539), (186, 44473), (190, 44461), (200, 44425), (217, 44380), (223, 44350), (230, 44311), (235, 44272), (239, 44239), (240, 44236), (245, 44212), (254, 44179), (257, 44158), (266, 44128), (282, 44014), (286, 43972), (288, 43951), (292, 43918), (310, 43846), (313, 43840), (323, 43792), (334, 43747), (341, 43723), (346, 43708), (351, 43684),

Gene: Mudslide\_46 Start: 45977, Stop: 44637, Start Num: 75

Candidate Starts for Mudslide\_46:

(Start: 73 @45980 has 9 MA's), (Start: 75 @45977 has 15 MA's), (Start: 79 @45968 has 1 MA's), (80, 45962), (89, 45911), (133, 45764), (149, 45719), (153, 45698), (175, 45557), (179, 45533), (186, 45512), (187, 45509), (192, 45494), (195, 45479), (222, 45410), (223, 45395), (225, 45377), (231, 45353), (240, 45281), (245, 45257), (254, 45224), (255, 45221), (257, 45203), (266, 45173), (276, 45113), (279, 45095), (281, 45083), (284, 45038), (285, 45032), (286, 45023), (291, 44993), (292,

44969), (313, 44930), (322, 44885), (327, 44864), (328, 44861), (348, 44792), (351, 44774),

Gene: Mulan\_51 Start: 45100, Stop: 43700, Start Num: 78

Candidate Starts for Mulan\_51:

(35, 45268), (Start: 76 @45103 has 220 MA's), (Start: 78 @45100 has 65 MA's), (Start: 79 @45094 has 1 MA's), (87, 45052), (101, 44980), (109, 44959), (138, 44863), (153, 44812), (165, 44746), (166, 44743), (169, 44719), (171, 44692), (186, 44626), (190, 44614), (200, 44578), (217, 44533), (223, 44503), (230, 44464), (235, 44425), (239, 44392), (240, 44389), (245, 44365), (254, 44332), (257, 44311), (266, 44281), (282, 44167), (286, 44125), (288, 44104), (292, 44071), (310, 43999), (313, 43993), (323, 43945), (334, 43900), (341, 43876), (346, 43861), (351, 43837),

Gene: Murdoc\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Murdoc\_51:

(35, 45399), (Start: 76 @45234 has 220 MA's), (Start: 78 @45231 has 65 MA's), (Start: 79 @45225 has 1 MA's), (87, 45183), (101, 45111), (109, 45090), (138, 44994), (153, 44943), (165, 44877), (166, 44874), (169, 44850), (171, 44823), (186, 44757), (190, 44745), (200, 44709), (217, 44664), (223, 44634), (230, 44595), (235, 44556), (239, 44523), (240, 44520), (245, 44496), (254, 44463), (257, 44442), (266, 44412), (282, 44298), (286, 44256), (288, 44235), (292, 44202), (310, 44130), (313, 44124), (323, 44076), (334, 44031), (341, 44007), (346, 43992), (351, 43968),

Gene: Mutante\_50 Start: 44953, Stop: 43550, Start Num: 76

Candidate Starts for Mutante\_50:

(35, 45118), (Start: 76 @44953 has 220 MA's), (Start: 78 @44950 has 65 MA's), (Start: 79 @44944 has 1 MA's), (87, 44902), (101, 44830), (109, 44809), (138, 44713), (153, 44662), (165, 44596), (166, 44593), (169, 44569), (171, 44542), (186, 44476), (190, 44464), (200, 44428), (217, 44383), (223, 44353), (230, 44314), (235, 44275), (239, 44242), (240, 44239), (245, 44215), (254, 44182), (257, 44161), (266, 44131), (282, 44017), (286, 43975), (288, 43954), (292, 43921), (310, 43849), (313, 43843), (323, 43795), (334, 43750), (341, 43726), (346, 43711), (351, 43687),

Gene: Mysterious\_51 Start: 46273, Stop: 44888, Start Num: 76

Candidate Starts for Mysterious\_51:

(35, 46426), (Start: 76 @46273 has 220 MA's), (Start: 82 @46255 has 2 MA's), (138, 46036), (148, 46009), (149, 46006), (186, 45799), (193, 45781), (227, 45664), (236, 45601), (240, 45577), (243, 45562), (259, 45493), (266, 45469), (267, 45466), (284, 45334), (286, 45322), (288, 45301), (292, 45268), (295, 45250), (310, 45196), (321, 45151), (327, 45124), (348, 45043), (358, 45004), (361, 44998), (367, 44962),

Gene: NHagos\_45 Start: 38885, Stop: 37521, Start Num: 27

Candidate Starts for NHagos\_45:

(Start: 27 @38885 has 6 MA's), (32, 38858), (Start: 41 @38807 has 41 MA's), (Start: 136 @38663 has 2 MA's), (153, 38606), (191, 38411), (201, 38372), (231, 38270), (239, 38201), (257, 38120), (266, 38090), (267, 38087), (273, 38042), (276, 38030), (284, 37955), (288, 37922), (292, 37889), (304, 37856), (305, 37844), (308, 37829), (313, 37817), (321, 37778), (327, 37751), (367, 37595),

Gene: Nacho\_0052 Start: 45380, Stop: 43977, Start Num: 76

Candidate Starts for Nacho\_0052:

(35, 45545), (Start: 76 @45380 has 220 MA's), (Start: 78 @45377 has 65 MA's), (Start: 79 @45371 has 1 MA's), (87, 45329), (101, 45257), (109, 45236), (138, 45140), (153, 45089), (165, 45023), (166, 45020), (169, 44996), (171, 44969), (186, 44903), (190, 44891), (200, 44855), (217, 44810), (223, 44780), (230, 44741), (235, 44702), (239, 44669), (240, 44666), (245, 44642), (254, 44609), (257, 44588), (266, 44558), (282, 44444), (286, 44402), (288, 44381), (292, 44348), (310, 44276), (313, 44270), (323, 44222), (334, 44177), (341, 44153), (346, 44138), (351, 44114),

Gene: Nanao\_45 Start: 44677, Stop: 43337, Start Num: 75

Candidate Starts for Nanao\_45:

(Start: 73 @44680 has 9 MA's), (Start: 75 @44677 has 15 MA's), (Start: 79 @44668 has 1 MA's), (80, 44662), (89, 44611), (133, 44464), (153, 44398), (156, 44374), (186, 44212), (192, 44194), (195, 44179), (196, 44176), (208, 44149), (224, 44086), (225, 44077), (238, 43990), (243, 43966), (254, 43924), (255, 43921), (257, 43903), (266, 43873), (271, 43846), (276, 43813), (280, 43792), (281, 43783), (284, 43738), (285, 43732), (286, 43723), (288, 43702), (292, 43669), (313, 43630), (327, 43564), (328, 43561), (348, 43492), (351, 43474),

Gene: Nangang\_50 Start: 46226, Stop: 44841, Start Num: 76

Candidate Starts for Nangang\_50:

(Start: 76 @46226 has 220 MA's), (Start: 82 @46208 has 2 MA's), (138, 45989), (149, 45959), (176, 45794), (186, 45752), (193, 45734), (198, 45719), (219, 45668), (227, 45617), (240, 45530), (243, 45515), (245, 45506), (259, 45446), (266, 45422), (267, 45419), (280, 45341), (284, 45287), (292, 45221), (295, 45203), (310, 45149), (320, 45110), (321, 45104), (327, 45077), (348, 44996), (358, 44957), (367, 44915),

Gene: Nehemiah\_50 Start: 46273, Stop: 44888, Start Num: 76

Candidate Starts for Nehemiah\_50:

(35, 46426), (Start: 76 @46273 has 220 MA's), (Start: 82 @46255 has 2 MA's), (86, 46225), (138, 46036), (148, 46009), (186, 45799), (193, 45781), (227, 45664), (236, 45601), (240, 45577), (243, 45562), (259, 45493), (266, 45469), (267, 45466), (284, 45334), (286, 45322), (288, 45301), (292, 45268), (295, 45250), (310, 45196), (321, 45151), (327, 45124), (348, 45043), (358, 45004), (361, 44998), (367, 44962),

Gene: Neos5\_49 Start: 45672, Stop: 44059, Start Num: 41

Candidate Starts for Neos5\_49:

(19, 45798), (21, 45792), (23, 45777), (Start: 39 @45681 has 12 MA's), (Start: 41 @45672 has 41 MA's), (65, 45576), (84, 45498), (103, 45363), (141, 45204), (144, 45189), (148, 45177), (153, 45147), (162, 45105), (171, 45027), (207, 44895), (214, 44862), (217, 44853), (234, 44760), (240, 44712), (243, 44697), (245, 44688), (259, 44628), (266, 44604), (281, 44514), (292, 44403), (310, 44370), (314, 44352), (320, 44331), (327, 44298),

Gene: Newman\_51 Start: 45251, Stop: 43848, Start Num: 76

Candidate Starts for Newman\_51:

(11, 45629), (12, 45584), (17, 45542), (29, 45461), (35, 45416), (Start: 76 @45251 has 220 MA's), (Start: 78 @45248 has 65 MA's), (Start: 79 @45242 has 1 MA's), (87, 45200), (101, 45128), (109, 45107), (138, 45011), (153, 44960), (165, 44894), (166, 44891), (169, 44867), (171, 44840), (186, 44774), (190, 44762), (200, 44726), (217, 44681), (223, 44651), (230, 44612), (235, 44573), (239, 44540), (240, 44537), (245, 44513), (254, 44480), (257, 44459), (266, 44429), (286, 44273), (288, 44252), (292, 44219), (310, 44147), (313, 44141), (323, 44093), (334, 44048), (341, 44024), (346, 44009), (351, 43985),

Gene: Nicole21\_51 Start: 45255, Stop: 43852, Start Num: 76

Candidate Starts for Nicole21\_51:

(35, 45420), (Start: 76 @45255 has 220 MA's), (Start: 78 @45252 has 65 MA's), (Start: 79 @45246 has 1 MA's), (87, 45204), (101, 45132), (109, 45111), (138, 45015), (153, 44964), (165, 44898), (166, 44895), (171, 44844), (186, 44778), (190, 44766), (200, 44730), (217, 44685), (223, 44655), (230, 44616), (235, 44577), (239, 44544), (240, 44541), (245, 44517), (254, 44484), (257, 44463), (266, 44433), (282, 44319), (286, 44277), (288, 44256), (292, 44223), (310, 44151), (313, 44145), (323, 44097), (334, 44052), (341, 44028), (346, 44013), (351, 43989),

Gene: Nigel\_45 Start: 44555, Stop: 43215, Start Num: 75



Candidate Starts for Nigel\_45:

(Start: 75 @44555 has 15 MA's), (Start: 79 @44546 has 1 MA's), (80, 44540), (133, 44342), (153, 44276), (156, 44252), (182, 44102), (186, 44090), (192, 44072), (223, 43973), (225, 43955), (231, 43931), (235, 43895), (240, 43859), (243, 43844), (245, 43835), (246, 43832), (249, 43820), (254, 43802), (255, 43799), (257, 43781), (264, 43763), (266, 43751), (271, 43724), (276, 43691), (280, 43670), (281, 43661), (284, 43616), (285, 43610), (286, 43601), (288, 43580), (292, 43547), (313, 43508), (327, 43442), (328, 43439), (348, 43370), (351, 43352), (370, 43268),

Gene: Nozo\_49 Start: 45636, Stop: 44023, Start Num: 41

Candidate Starts for Nozo\_49:

(19, 45762), (21, 45756), (23, 45741), (Start: 39 @45645 has 12 MA's), (Start: 41 @45636 has 41 MA's), (65, 45540), (84, 45462), (103, 45327), (141, 45168), (144, 45153), (148, 45141), (153, 45111), (162, 45069), (171, 44991), (207, 44859), (214, 44826), (217, 44817), (234, 44724), (240, 44676), (243, 44661), (245, 44652), (254, 44619), (259, 44592), (266, 44568), (281, 44478), (292, 44367), (310, 44334), (311, 44331), (314, 44316), (320, 44295), (327, 44262),

Gene: Numberten\_51 Start: 45246, Stop: 43843, Start Num: 76

Candidate Starts for Numberten\_51:

(35, 45411), (Start: 76 @45246 has 220 MA's), (Start: 78 @45243 has 65 MA's), (Start: 79 @45237 has 1 MA's), (87, 45195), (101, 45123), (109, 45102), (138, 45006), (153, 44955), (165, 44889), (166, 44886), (171, 44835), (186, 44769), (190, 44757), (200, 44721), (217, 44676), (223, 44646), (230, 44607), (235, 44568), (239, 44535), (240, 44532), (245, 44508), (254, 44475), (257, 44454), (266, 44424), (282, 44310), (286, 44268), (288, 44247), (292, 44214), (310, 44142), (313, 44136), (323, 44088), (334, 44043), (341, 44019), (346, 44004), (351, 43980),

Gene: Nyala\_50 Start: 44945, Stop: 43542, Start Num: 76

Candidate Starts for Nyala\_50:

(11, 45323), (12, 45278), (17, 45236), (29, 45155), (35, 45110), (Start: 76 @44945 has 220 MA's), (Start: 78 @44942 has 65 MA's), (Start: 79 @44936 has 1 MA's), (87, 44894), (101, 44822), (109, 44801), (138, 44705), (153, 44654), (165, 44588), (166, 44585), (171, 44534), (186, 44468), (190, 44456), (200, 44420), (217, 44375), (223, 44345), (230, 44306), (235, 44267), (239, 44234), (240, 44231), (245, 44207), (254, 44174), (257, 44153), (266, 44123), (282, 44009), (286, 43967), (288, 43946), (292, 43913), (310, 43841), (313, 43835), (323, 43787), (334, 43742), (341, 43718), (346, 43703), (351, 43679),

Gene: OSmaximus\_52 Start: 45419, Stop: 44016, Start Num: 76

Candidate Starts for OSmaximus\_52:

(35, 45584), (Start: 76 @45419 has 220 MA's), (Start: 78 @45416 has 65 MA's), (Start: 79 @45410 has 1 MA's), (87, 45368), (101, 45296), (109, 45275), (138, 45179), (153, 45128), (165, 45062), (166, 45059), (171, 45008), (186, 44942), (190, 44930), (200, 44894), (217, 44849), (223, 44819), (230, 44780), (235, 44741), (239, 44708), (240, 44705), (245, 44681), (254, 44648), (257, 44627), (266, 44597), (282, 44483), (286, 44441), (288, 44420), (292, 44387), (310, 44315), (313, 44309), (323, 44261), (334, 44216), (341, 44192), (346, 44177), (351, 44153),

Gene: Obutu\_49 Start: 44861, Stop: 43248, Start Num: 41

Candidate Starts for Obutu\_49:

(19, 44987), (21, 44981), (23, 44966), (Start: 39 @44870 has 12 MA's), (Start: 41 @44861 has 41 MA's), (65, 44765), (84, 44687), (103, 44552), (141, 44393), (144, 44378), (148, 44366), (153, 44336), (162, 44294), (171, 44216), (207, 44084), (214, 44051), (217, 44042), (234, 43949), (240, 43901), (243, 43886), (245, 43877), (254, 43844), (259, 43817), (266, 43793), (281, 43703), (292, 43592), (310, 43559), (314, 43541), (320, 43520), (327, 43487),

Gene: Olak\_50 Start: 44948, Stop: 43545, Start Num: 76

Candidate Starts for Olak\_50:

(11, 45326), (12, 45281), (17, 45239), (29, 45158), (35, 45113), (Start: 76 @44948 has 220 MA's), (Start: 78 @44945 has 65 MA's), (Start: 79 @44939 has 1 MA's), (87, 44897), (101, 44825), (109, 44804), (138, 44708), (153, 44657), (165, 44591), (166, 44588), (171, 44537), (186, 44471), (190, 44459), (200, 44423), (217, 44378), (223, 44348), (230, 44309), (235, 44270), (239, 44237), (240, 44234), (245, 44210), (254, 44177), (257, 44156), (266, 44126), (282, 44012), (286, 43970), (288, 43949), (292, 43916), (310, 43844), (313, 43838), (323, 43790), (334, 43745), (341, 43721), (346, 43706), (351, 43682),

Gene: Oline\_50 Start: 44808, Stop: 43405, Start Num: 76

Candidate Starts for Oline\_50:

(35, 44973), (Start: 76 @44808 has 220 MA's), (Start: 78 @44805 has 65 MA's), (Start: 79 @44799 has 1 MA's), (87, 44757), (101, 44685), (109, 44664), (138, 44568), (153, 44517), (165, 44451), (166, 44448), (171, 44397), (186, 44331), (190, 44319), (200, 44283), (217, 44238), (223, 44208), (230, 44169), (235, 44130), (239, 44097), (240, 44094), (242, 44088), (245, 44070), (254, 44037), (257, 44016), (266, 43986), (282, 43872), (286, 43830), (288, 43809), (292, 43776), (310, 43704), (313, 43698), (323, 43650), (334, 43605), (341, 43581), (346, 43566), (351, 43542),

Gene: Olive\_51 Start: 45235, Stop: 43832, Start Num: 76

Candidate Starts for Olive\_51:

(11, 45613), (12, 45568), (17, 45526), (29, 45445), (35, 45400), (Start: 76 @45235 has 220 MA's), (Start: 78 @45232 has 65 MA's), (Start: 79 @45226 has 1 MA's), (87, 45184), (101, 45112), (109, 45091), (138, 44995), (153, 44944), (165, 44878), (166, 44875), (171, 44824), (186, 44758), (190, 44746), (200, 44710), (217, 44665), (223, 44635), (230, 44596), (235, 44557), (239, 44524), (240, 44521), (245, 44497), (254, 44464), (257, 44443), (266, 44413), (282, 44299), (286, 44257), (288, 44236), (292, 44203), (310, 44131), (313, 44125), (323, 44077), (334, 44032), (341, 44008), (346, 43993), (351, 43969),

Gene: OliverWalter\_51 Start: 45257, Stop: 43854, Start Num: 76

Candidate Starts for OliverWalter\_51:

(35, 45422), (Start: 76 @45257 has 220 MA's), (Start: 78 @45254 has 65 MA's), (Start: 79 @45248 has 1 MA's), (87, 45206), (101, 45134), (109, 45113), (138, 45017), (153, 44966), (165, 44900), (166, 44897), (169, 44873), (171, 44846), (186, 44780), (190, 44768), (200, 44732), (217, 44687), (223, 44657), (230, 44618), (235, 44579), (239, 44546), (240, 44543), (245, 44519), (254, 44486), (257, 44465), (266, 44435), (282, 44321), (286, 44279), (288, 44258), (292, 44225), (310, 44153), (313, 44147), (323, 44099), (334, 44054), (341, 44030), (346, 44015), (351, 43991),

Gene: Omniscient\_51 Start: 45254, Stop: 43851, Start Num: 76

Candidate Starts for Omniscient\_51:

(35, 45419), (Start: 76 @45254 has 220 MA's), (Start: 78 @45251 has 65 MA's), (Start: 79 @45245 has 1 MA's), (87, 45203), (101, 45131), (109, 45110), (138, 45014), (153, 44963), (165, 44897), (166, 44894), (169, 44870), (171, 44843), (186, 44777), (190, 44765), (200, 44729), (217, 44684), (223, 44654), (230, 44615), (235, 44576), (239, 44543), (240, 44540), (245, 44516), (254, 44483), (257, 44462), (266, 44432), (282, 44318), (286, 44276), (288, 44255), (292, 44222), (310, 44150), (313, 44144), (323, 44096), (334, 44051), (341, 44027), (346, 44012), (351, 43988),

Gene: Oosterbaan\_51 Start: 45239, Stop: 43839, Start Num: 78

Candidate Starts for Oosterbaan\_51:

(35, 45407), (Start: 76 @45242 has 220 MA's), (Start: 78 @45239 has 65 MA's), (Start: 79 @45233 has 1 MA's), (87, 45191), (101, 45119), (109, 45098), (138, 45002), (153, 44951), (165, 44885), (166, 44882), (171, 44831), (186, 44765), (190, 44753), (200, 44717), (217, 44672), (223, 44642), (230, 44603), (235, 44564), (239, 44531), (240, 44528), (245, 44504), (254, 44471), (257, 44450), (266, 44420), (282, 44306), (286, 44264), (288, 44243), (292, 44210), (310, 44138), (313, 44132), (323,

44084), (334, 44039), (341, 44015), (346, 44000), (351, 43976),

Gene: Opia\_50 Start: 44866, Stop: 43499, Start Num: 78

Candidate Starts for Opia\_50:

(Start: 78 @44866 has 65 MA's), (88, 44803), (91, 44788), (121, 44677), (137, 44626), (152, 44578), (160, 44530), (183, 44389), (186, 44380), (209, 44335), (211, 44329), (212, 44323), (217, 44311), (235, 44206), (239, 44173), (243, 44155), (245, 44146), (254, 44113), (259, 44086), (266, 44062), (271, 44035), (274, 44008), (283, 43933), (288, 43888), (292, 43855), (302, 43834), (308, 43828), (318, 43795), (319, 43786), (321, 43777), (364, 43615), (367, 43597), (375, 43540),

Gene: OrangeOswald\_49 Start: 44877, Stop: 43264, Start Num: 41

Candidate Starts for OrangeOswald\_49:

(19, 45003), (21, 44997), (23, 44982), (Start: 39 @44886 has 12 MA's), (Start: 41 @44877 has 41 MA's), (65, 44781), (84, 44703), (103, 44568), (141, 44409), (144, 44394), (148, 44382), (153, 44352), (162, 44310), (171, 44232), (207, 44100), (214, 44067), (217, 44058), (234, 43965), (240, 43917), (243, 43902), (245, 43893), (254, 43860), (259, 43833), (266, 43809), (281, 43719), (292, 43608), (310, 43575), (311, 43572), (314, 43557), (320, 43536), (327, 43503),

Gene: Orfeu\_50 Start: 44938, Stop: 43538, Start Num: 78

Candidate Starts for Orfeu\_50:

(11, 45319), (12, 45274), (17, 45232), (29, 45151), (35, 45106), (Start: 76 @44941 has 220 MA's), (Start: 78 @44938 has 65 MA's), (Start: 79 @44932 has 1 MA's), (87, 44890), (101, 44818), (109, 44797), (138, 44701), (153, 44650), (165, 44584), (166, 44581), (171, 44530), (186, 44464), (190, 44452), (200, 44416), (217, 44371), (223, 44341), (230, 44302), (235, 44263), (239, 44230), (240, 44227), (245, 44203), (254, 44170), (257, 44149), (266, 44119), (282, 44005), (286, 43963), (288, 43942), (292, 43909), (310, 43837), (313, 43831), (323, 43783), (334, 43738), (341, 43714), (346, 43699), (351, 43675),

Gene: Orion\_52 Start: 45372, Stop: 43972, Start Num: 78

Candidate Starts for Orion\_52:

(11, 45753), (12, 45708), (17, 45666), (29, 45585), (35, 45540), (Start: 76 @45375 has 220 MA's), (Start: 78 @45372 has 65 MA's), (Start: 79 @45366 has 1 MA's), (87, 45324), (101, 45252), (109, 45231), (138, 45135), (153, 45084), (165, 45018), (166, 45015), (171, 44964), (186, 44898), (190, 44886), (200, 44850), (217, 44805), (223, 44775), (230, 44736), (235, 44697), (239, 44664), (240, 44661), (245, 44637), (254, 44604), (257, 44583), (266, 44553), (282, 44439), (286, 44397), (288, 44376), (292, 44343), (310, 44271), (313, 44265), (323, 44217), (334, 44172), (341, 44148), (346, 44133), (351, 44109),

Gene: Orwigg\_52 Start: 44941, Stop: 43538, Start Num: 76

Candidate Starts for Orwigg\_52:

(35, 45106), (Start: 76 @44941 has 220 MA's), (Start: 78 @44938 has 65 MA's), (Start: 79 @44932 has 1 MA's), (87, 44890), (101, 44818), (109, 44797), (138, 44701), (153, 44650), (165, 44584), (166, 44581), (171, 44530), (186, 44464), (190, 44452), (200, 44416), (217, 44371), (223, 44341), (230, 44302), (235, 44263), (239, 44230), (240, 44227), (245, 44203), (254, 44170), (257, 44149), (266, 44119), (282, 44005), (286, 43963), (288, 43942), (292, 43909), (310, 43837), (313, 43831), (323, 43783), (334, 43738), (341, 43714), (346, 43699), (351, 43675),

Gene: PG1\_52 Start: 45388, Stop: 43985, Start Num: 76

Candidate Starts for PG1\_52:

(35, 45553), (Start: 76 @45388 has 220 MA's), (Start: 78 @45385 has 65 MA's), (Start: 79 @45379 has 1 MA's), (87, 45337), (101, 45265), (109, 45244), (138, 45148), (153, 45097), (165, 45031), (166, 45028), (169, 45004), (171, 44977), (186, 44911), (190, 44899), (200, 44863), (217, 44818), (223, 44788), (230, 44749), (235, 44710), (239, 44677), (240, 44674), (245, 44650), (254, 44617), (257,

44596), (266, 44566), (282, 44452), (286, 44410), (288, 44389), (292, 44356), (310, 44284), (313, 44278), (323, 44230), (334, 44185), (341, 44161), (346, 44146), (351, 44122),

Gene: Pacifista\_50 Start: 44944, Stop: 43541, Start Num: 76

Candidate Starts for Pacifista\_50:

(11, 45322), (12, 45277), (17, 45235), (29, 45154), (35, 45109), (Start: 76 @44944 has 220 MA's), (Start: 78 @44941 has 65 MA's), (Start: 79 @44935 has 1 MA's), (87, 44893), (101, 44821), (109, 44800), (138, 44704), (153, 44653), (165, 44587), (166, 44584), (171, 44533), (186, 44467), (190, 44455), (200, 44419), (217, 44374), (223, 44344), (230, 44305), (235, 44266), (239, 44233), (240, 44230), (245, 44206), (254, 44173), (257, 44152), (266, 44122), (282, 44008), (286, 43966), (288, 43945), (292, 43912), (310, 43840), (313, 43834), (323, 43786), (334, 43741), (341, 43717), (346, 43702), (351, 43678),

Gene: PenguinLover67\_52 Start: 47634, Stop: 46015, Start Num: 16

Candidate Starts for PenguinLover67\_52:

(Start: 16 @47634 has 1 MA's), (30, 47547), (33, 47535), (55, 47424), (57, 47418), (Start: 76 @47352 has 220 MA's), (138, 47124), (142, 47115), (168, 46983), (195, 46854), (227, 46752), (238, 46674), (240, 46665), (243, 46650), (246, 46638), (266, 46557), (271, 46530), (279, 46479), (281, 46467), (282, 46449), (310, 46320), (323, 46266), (327, 46248), (341, 46197), (375, 46038),

Gene: Phaedrus\_47 Start: 44797, Stop: 43184, Start Num: 41

Candidate Starts for Phaedrus\_47:

(19, 44926), (21, 44920), (23, 44905), (Start: 39 @44806 has 12 MA's), (Start: 41 @44797 has 41 MA's), (65, 44701), (84, 44623), (103, 44488), (141, 44329), (144, 44314), (148, 44302), (153, 44272), (162, 44230), (171, 44152), (207, 44020), (214, 43987), (217, 43978), (234, 43885), (240, 43837), (243, 43822), (245, 43813), (259, 43753), (266, 43729), (281, 43639), (292, 43528), (310, 43495), (311, 43492), (314, 43477), (320, 43456), (327, 43423),

Gene: Phamished\_52 Start: 45395, Stop: 43992, Start Num: 76

Candidate Starts for Phamished\_52:

(11, 45773), (12, 45728), (17, 45686), (29, 45605), (35, 45560), (Start: 76 @45395 has 220 MA's), (Start: 78 @45392 has 65 MA's), (Start: 79 @45386 has 1 MA's), (87, 45344), (101, 45272), (109, 45251), (138, 45155), (153, 45104), (165, 45038), (166, 45035), (171, 44984), (186, 44918), (190, 44906), (200, 44870), (217, 44825), (223, 44795), (230, 44756), (235, 44717), (239, 44684), (240, 44681), (245, 44657), (254, 44624), (257, 44603), (266, 44573), (282, 44459), (286, 44417), (288, 44396), (292, 44363), (310, 44291), (313, 44285), (323, 44237), (334, 44192), (341, 44168), (346, 44153), (351, 44129),

Gene: Phantasmagoria\_50 Start: 44864, Stop: 43497, Start Num: 78

Candidate Starts for Phantasmagoria\_50:

(Start: 78 @44864 has 65 MA's), (88, 44801), (91, 44786), (121, 44675), (137, 44624), (152, 44576), (160, 44528), (183, 44387), (186, 44378), (209, 44333), (211, 44327), (212, 44321), (217, 44309), (235, 44204), (239, 44171), (245, 44144), (254, 44111), (259, 44084), (266, 44060), (271, 44033), (274, 44006), (283, 43931), (288, 43886), (292, 43853), (302, 43832), (308, 43826), (318, 43793), (319, 43784), (321, 43775), (364, 43613), (367, 43595), (375, 43538),

Gene: Phareon\_51 Start: 44943, Stop: 43540, Start Num: 76

Candidate Starts for Phareon\_51:

(35, 45108), (Start: 76 @44943 has 220 MA's), (Start: 78 @44940 has 65 MA's), (Start: 79 @44934 has 1 MA's), (87, 44892), (101, 44820), (109, 44799), (138, 44703), (153, 44652), (165, 44586), (166, 44583), (171, 44532), (186, 44466), (190, 44454), (200, 44418), (217, 44373), (223, 44343), (230, 44304), (235, 44265), (239, 44232), (240, 44229), (245, 44205), (254, 44172), (257, 44151), (266, 44121), (282, 44007), (286, 43965), (288, 43944), (292, 43911), (310, 43839), (313, 43833), (323,

43785), (334, 43740), (341, 43716), (346, 43701), (351, 43677),

Gene: PhatCats2014\_52 Start: 45389, Stop: 43989, Start Num: 78

Candidate Starts for PhatCats2014\_52:

(11, 45770), (12, 45725), (17, 45683), (29, 45602), (35, 45557), (Start: 76 @45392 has 220 MA's), (Start: 78 @45389 has 65 MA's), (Start: 79 @45383 has 1 MA's), (87, 45341), (101, 45269), (109, 45248), (138, 45152), (153, 45101), (165, 45035), (166, 45032), (171, 44981), (186, 44915), (190, 44903), (200, 44867), (217, 44822), (223, 44792), (230, 44753), (235, 44714), (239, 44681), (240, 44678), (245, 44654), (254, 44621), (257, 44600), (266, 44570), (282, 44456), (286, 44414), (288, 44393), (292, 44360), (310, 44288), (313, 44282), (323, 44234), (334, 44189), (341, 44165), (346, 44150), (351, 44126),

Gene: PhatLouie\_51 Start: 45243, Stop: 43843, Start Num: 78

Candidate Starts for PhatLouie\_51:

(35, 45411), (Start: 76 @45246 has 220 MA's), (Start: 78 @45243 has 65 MA's), (Start: 79 @45237 has 1 MA's), (87, 45195), (101, 45123), (109, 45102), (138, 45006), (153, 44955), (165, 44889), (166, 44886), (169, 44862), (171, 44835), (186, 44769), (190, 44757), (200, 44721), (217, 44676), (223, 44646), (230, 44607), (235, 44568), (239, 44535), (240, 44532), (245, 44508), (254, 44475), (257, 44454), (266, 44424), (282, 44310), (286, 44268), (288, 44247), (292, 44214), (310, 44142), (313, 44136), (323, 44088), (334, 44043), (341, 44019), (346, 44004), (351, 43980),

Gene: Phayeta\_50 Start: 44752, Stop: 43130, Start Num: 39

Candidate Starts for Phayeta\_50:

(19, 44869), (21, 44863), (23, 44848), (Start: 39 @44752 has 12 MA's), (Start: 41 @44743 has 41 MA's), (65, 44647), (84, 44569), (103, 44434), (141, 44275), (144, 44260), (148, 44248), (153, 44218), (162, 44176), (171, 44098), (207, 43966), (214, 43933), (217, 43924), (234, 43831), (240, 43783), (243, 43768), (245, 43759), (254, 43726), (259, 43699), (266, 43675), (281, 43585), (292, 43474), (310, 43441), (314, 43423), (320, 43402), (327, 43369),

Gene: Phelemich\_49 Start: 46254, Stop: 44887, Start Num: 82

Candidate Starts for Phelemich\_49:

(35, 46425), (Start: 76 @46272 has 220 MA's), (Start: 82 @46254 has 2 MA's), (86, 46224), (138, 46035), (148, 46008), (149, 46005), (186, 45798), (193, 45780), (227, 45663), (236, 45600), (240, 45576), (243, 45561), (259, 45492), (266, 45468), (267, 45465), (284, 45333), (286, 45321), (288, 45300), (292, 45267), (295, 45249), (310, 45195), (321, 45150), (327, 45123), (348, 45042), (358, 45003), (361, 44997), (367, 44961),

Gene: PhenghisKhan\_50 Start: 44867, Stop: 43464, Start Num: 76

Candidate Starts for PhenghisKhan\_50:

(35, 45032), (Start: 76 @44867 has 220 MA's), (Start: 78 @44864 has 65 MA's), (Start: 79 @44858 has 1 MA's), (87, 44816), (101, 44744), (109, 44723), (138, 44627), (153, 44576), (165, 44510), (166, 44507), (171, 44456), (186, 44390), (190, 44378), (200, 44342), (217, 44297), (223, 44267), (230, 44228), (235, 44189), (239, 44156), (240, 44153), (242, 44147), (245, 44129), (254, 44096), (257, 44075), (266, 44045), (282, 43931), (286, 43889), (288, 43868), (292, 43835), (310, 43763), (313, 43757), (323, 43709), (334, 43664), (341, 43640), (346, 43625), (351, 43601),

Gene: Pherdinand\_52 Start: 45404, Stop: 44001, Start Num: 76

Candidate Starts for Pherdinand\_52:

(Start: 76 @45404 has 220 MA's), (Start: 78 @45401 has 65 MA's), (Start: 79 @45395 has 1 MA's), (87, 45353), (101, 45281), (109, 45260), (138, 45164), (153, 45113), (165, 45047), (166, 45044), (171, 44993), (186, 44927), (190, 44915), (200, 44879), (217, 44834), (223, 44804), (230, 44765), (235, 44726), (239, 44693), (240, 44690), (245, 44666), (254, 44633), (257, 44612), (266, 44582), (282, 44468), (286, 44426), (288, 44405), (292, 44372), (310, 44300), (313, 44294), (323, 44246), (334,

44201), (341, 44177), (346, 44162), (351, 44138),

Gene: Phergie\_51 Start: 44859, Stop: 43456, Start Num: 76

Candidate Starts for Phergie\_51:

(35, 45024), (Start: 76 @44859 has 220 MA's), (Start: 78 @44856 has 65 MA's), (Start: 79 @44850 has 1 MA's), (87, 44808), (101, 44736), (109, 44715), (138, 44619), (153, 44568), (165, 44502), (166, 44499), (171, 44448), (186, 44382), (190, 44370), (200, 44334), (217, 44289), (223, 44259), (230, 44220), (235, 44181), (239, 44148), (240, 44145), (242, 44139), (245, 44121), (254, 44088), (257, 44067), (266, 44037), (282, 43923), (286, 43881), (288, 43860), (292, 43827), (310, 43755), (313, 43749), (323, 43701), (334, 43656), (341, 43632), (346, 43617), (351, 43593),

Gene: Philly\_48 Start: 44728, Stop: 43115, Start Num: 41

Candidate Starts for Philly\_48:

(19, 44854), (21, 44848), (23, 44833), (Start: 39 @44737 has 12 MA's), (Start: 41 @44728 has 41 MA's), (65, 44632), (84, 44554), (103, 44419), (141, 44260), (144, 44245), (148, 44233), (153, 44203), (162, 44161), (171, 44083), (207, 43951), (214, 43918), (217, 43909), (234, 43816), (240, 43768), (243, 43753), (245, 43744), (254, 43711), (259, 43684), (266, 43660), (281, 43570), (292, 43459), (310, 43426), (311, 43423), (314, 43408), (320, 43387), (327, 43354),

Gene: Phipps\_51 Start: 45223, Stop: 43820, Start Num: 76

Candidate Starts for Phipps\_51:

(11, 45601), (12, 45556), (17, 45514), (29, 45433), (35, 45388), (Start: 76 @45223 has 220 MA's), (Start: 78 @45220 has 65 MA's), (Start: 79 @45214 has 1 MA's), (87, 45172), (101, 45100), (109, 45079), (138, 44983), (153, 44932), (165, 44866), (166, 44863), (171, 44812), (186, 44746), (190, 44734), (200, 44698), (217, 44653), (223, 44623), (230, 44584), (235, 44545), (239, 44512), (240, 44509), (245, 44485), (254, 44452), (257, 44431), (266, 44401), (282, 44287), (286, 44245), (288, 44224), (292, 44191), (310, 44119), (313, 44113), (323, 44065), (334, 44020), (341, 43996), (346, 43981), (351, 43957),

Gene: Phleuron\_50 Start: 44864, Stop: 43461, Start Num: 76

Candidate Starts for Phleuron\_50:

(35, 45029), (Start: 76 @44864 has 220 MA's), (Start: 78 @44861 has 65 MA's), (Start: 79 @44855 has 1 MA's), (87, 44813), (101, 44741), (109, 44720), (138, 44624), (153, 44573), (165, 44507), (166, 44504), (171, 44453), (186, 44387), (190, 44375), (200, 44339), (217, 44294), (223, 44264), (230, 44225), (235, 44186), (239, 44153), (240, 44150), (242, 44144), (245, 44126), (254, 44093), (257, 44072), (266, 44042), (282, 43928), (286, 43886), (288, 43865), (292, 43832), (310, 43760), (313, 43754), (323, 43706), (334, 43661), (341, 43637), (346, 43622), (351, 43598),

Gene: Phlyer\_49 Start: 45617, Stop: 44004, Start Num: 41

Candidate Starts for Phlyer\_49:

(19, 45743), (21, 45737), (23, 45722), (Start: 39 @45626 has 12 MA's), (Start: 41 @45617 has 41 MA's), (65, 45521), (84, 45443), (103, 45308), (141, 45149), (144, 45134), (148, 45122), (153, 45092), (162, 45050), (171, 44972), (207, 44840), (214, 44807), (217, 44798), (234, 44705), (240, 44657), (243, 44642), (245, 44633), (259, 44573), (266, 44549), (281, 44459), (292, 44348), (310, 44315), (311, 44312), (314, 44297), (320, 44276), (327, 44243),

Gene: PhrankReynolds\_49 Start: 44864, Stop: 43461, Start Num: 76

Candidate Starts for PhrankReynolds\_49:

(35, 45029), (Start: 76 @44864 has 220 MA's), (Start: 78 @44861 has 65 MA's), (Start: 79 @44855 has 1 MA's), (87, 44813), (101, 44741), (109, 44720), (138, 44624), (153, 44573), (165, 44507), (166, 44504), (171, 44453), (186, 44387), (190, 44375), (200, 44339), (217, 44294), (223, 44264), (230, 44225), (235, 44186), (239, 44153), (240, 44150), (242, 44144), (245, 44126), (254, 44093), (257, 44072), (266, 44042), (282, 43928), (286, 43886), (288, 43865), (292, 43832), (310, 43760), (313,

43754), (323, 43706), (334, 43661), (341, 43637), (346, 43622), (351, 43598),

Gene: PhrodoBaggins\_51 Start: 45371, Stop: 43968, Start Num: 76

Candidate Starts for PhrodoBaggins\_51:

(35, 45536), (Start: 76 @45371 has 220 MA's), (Start: 78 @45368 has 65 MA's), (Start: 79 @45362 has 1 MA's), (87, 45320), (101, 45248), (109, 45227), (138, 45131), (153, 45080), (165, 45014), (166, 45011), (171, 44960), (186, 44894), (190, 44882), (200, 44846), (217, 44801), (223, 44771), (230, 44732), (235, 44693), (239, 44660), (240, 44657), (245, 44633), (254, 44600), (257, 44579), (266, 44549), (282, 44435), (286, 44393), (288, 44372), (292, 44339), (310, 44267), (313, 44261), (323, 44213), (334, 44168), (341, 44144), (346, 44129), (351, 44105),

Gene: Phunky\_51 Start: 45240, Stop: 43837, Start Num: 76

Candidate Starts for Phunky\_51:

(35, 45405), (Start: 76 @45240 has 220 MA's), (Start: 78 @45237 has 65 MA's), (Start: 79 @45231 has 1 MA's), (87, 45189), (101, 45117), (109, 45096), (138, 45000), (153, 44949), (165, 44883), (166, 44880), (171, 44829), (186, 44763), (190, 44751), (200, 44715), (217, 44670), (223, 44640), (230, 44601), (235, 44562), (239, 44529), (240, 44526), (245, 44502), (254, 44469), (257, 44448), (266, 44418), (282, 44304), (286, 44262), (288, 44241), (292, 44208), (310, 44136), (313, 44130), (323, 44082), (334, 44037), (341, 44013), (346, 43998), (351, 43974),

Gene: Piglet\_0051 Start: 45365, Stop: 43962, Start Num: 76

Candidate Starts for Piglet\_0051:

(35, 45530), (Start: 76 @45365 has 220 MA's), (Start: 78 @45362 has 65 MA's), (Start: 79 @45356 has 1 MA's), (87, 45314), (101, 45242), (109, 45221), (138, 45125), (153, 45074), (165, 45008), (166, 45005), (169, 44981), (171, 44954), (186, 44888), (190, 44876), (200, 44840), (217, 44795), (223, 44765), (230, 44726), (235, 44687), (239, 44654), (240, 44651), (245, 44627), (254, 44594), (257, 44573), (266, 44543), (282, 44429), (286, 44387), (288, 44366), (292, 44333), (310, 44261), (313, 44255), (323, 44207), (334, 44162), (341, 44138), (346, 44123), (351, 44099),

Gene: Pine5\_42 Start: 35716, Stop: 34616, Start Num: 134

Candidate Starts for Pine5\_42:

(Start: 134 @35716 has 1 MA's), (171, 35521), (196, 35425), (226, 35359), (229, 35350), (232, 35326), (249, 35227), (255, 35206), (259, 35182), (275, 35107), (281, 35077), (284, 35032), (288, 34999), (292, 34966), (325, 34822), (328, 34810), (331, 34801), (349, 34768), (353, 34750), (367, 34693), (371, 34663), (378, 34627),

Gene: PinheadLarry\_51 Start: 44953, Stop: 43550, Start Num: 74

Candidate Starts for PinheadLarry\_51:

(35, 45115), (Start: 74 @44953 has 18 MA's), (Start: 78 @44950 has 65 MA's), (87, 44902), (101, 44830), (109, 44809), (138, 44713), (153, 44662), (165, 44596), (166, 44593), (169, 44569), (171, 44542), (186, 44476), (190, 44464), (200, 44428), (217, 44383), (223, 44353), (230, 44314), (235, 44275), (239, 44242), (240, 44239), (245, 44215), (254, 44182), (257, 44161), (266, 44131), (282, 44017), (286, 43975), (288, 43954), (292, 43921), (310, 43849), (313, 43843), (323, 43795), (334, 43750), (341, 43726), (346, 43711), (351, 43687),

Gene: Pinkman\_50 Start: 44802, Stop: 43399, Start Num: 76

Candidate Starts for Pinkman\_50:

(11, 45180), (12, 45135), (17, 45093), (29, 45012), (35, 44967), (Start: 76 @44802 has 220 MA's), (Start: 78 @44799 has 65 MA's), (Start: 79 @44793 has 1 MA's), (87, 44751), (101, 44679), (109, 44658), (138, 44562), (153, 44511), (165, 44445), (166, 44442), (171, 44391), (186, 44325), (190, 44313), (200, 44277), (217, 44232), (223, 44202), (230, 44163), (235, 44124), (239, 44091), (240, 44088), (242, 44082), (245, 44064), (254, 44031), (257, 44010), (266, 43980), (282, 43866), (286, 43824), (288, 43803), (292, 43770), (310, 43698), (313, 43692), (323, 43644), (334, 43599), (341,

43575), (346, 43560), (351, 43536),

Gene: Pipefish\_51 Start: 46266, Stop: 44656, Start Num: 41

Candidate Starts for Pipefish\_51:

(19, 46392), (21, 46386), (23, 46371), (Start: 39 @46275 has 12 MA's), (Start: 41 @46266 has 41 MA's), (65, 46170), (84, 46092), (99, 45969), (103, 45957), (111, 45933), (116, 45918), (141, 45801), (144, 45786), (148, 45774), (153, 45744), (162, 45702), (171, 45624), (207, 45492), (214, 45459), (217, 45450), (234, 45357), (240, 45309), (243, 45294), (245, 45285), (254, 45252), (259, 45225), (266, 45201), (281, 45111), (292, 45000), (310, 44967), (311, 44964), (314, 44949), (320, 44928), (327, 44895),

Gene: Pipsqueak\_51 Start: 45247, Stop: 43844, Start Num: 76

Candidate Starts for Pipsqueak\_51:

(11, 45625), (12, 45580), (17, 45538), (29, 45457), (35, 45412), (Start: 76 @45247 has 220 MA's), (Start: 78 @45244 has 65 MA's), (Start: 79 @45238 has 1 MA's), (87, 45196), (101, 45124), (109, 45103), (138, 45007), (153, 44956), (165, 44890), (166, 44887), (171, 44836), (186, 44770), (190, 44758), (200, 44722), (217, 44677), (223, 44647), (230, 44608), (235, 44569), (239, 44536), (240, 44533), (245, 44509), (254, 44476), (257, 44455), (266, 44425), (282, 44311), (286, 44269), (288, 44248), (292, 44215), (310, 44143), (313, 44137), (323, 44089), (334, 44044), (341, 44020), (346, 44005), (351, 43981),

Gene: Placalicious\_50 Start: 44940, Stop: 43537, Start Num: 76

Candidate Starts for Placalicious\_50:

(35, 45105), (Start: 76 @44940 has 220 MA's), (Start: 78 @44937 has 65 MA's), (Start: 79 @44931 has 1 MA's), (87, 44889), (101, 44817), (109, 44796), (138, 44700), (153, 44649), (165, 44583), (166, 44580), (169, 44556), (171, 44529), (186, 44463), (190, 44451), (200, 44415), (217, 44370), (223, 44340), (230, 44301), (235, 44262), (239, 44229), (240, 44226), (245, 44202), (254, 44169), (257, 44148), (266, 44118), (282, 44004), (286, 43962), (288, 43941), (292, 43908), (310, 43836), (313, 43830), (323, 43782), (334, 43737), (341, 43713), (346, 43698), (351, 43674),

Gene: Plmatters\_51 Start: 45243, Stop: 43840, Start Num: 76

Candidate Starts for Plmatters\_51:

(35, 45408), (Start: 76 @45243 has 220 MA's), (Start: 78 @45240 has 65 MA's), (Start: 79 @45234 has 1 MA's), (87, 45192), (101, 45120), (109, 45099), (138, 45003), (153, 44952), (165, 44886), (166, 44883), (171, 44832), (186, 44766), (190, 44754), (200, 44718), (217, 44673), (223, 44643), (230, 44604), (235, 44565), (239, 44532), (240, 44529), (245, 44505), (254, 44472), (257, 44451), (266, 44421), (282, 44307), (286, 44265), (288, 44244), (292, 44211), (310, 44139), (313, 44133), (323, 44085), (334, 44040), (341, 44016), (346, 44001), (351, 43977),

Gene: Podrick\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Podrick\_51:

(11, 45612), (12, 45567), (17, 45525), (29, 45444), (35, 45399), (Start: 76 @45234 has 220 MA's), (Start: 78 @45231 has 65 MA's), (Start: 79 @45225 has 1 MA's), (87, 45183), (101, 45111), (109, 45090), (138, 44994), (153, 44943), (165, 44877), (166, 44874), (171, 44823), (186, 44757), (190, 44745), (200, 44709), (217, 44664), (223, 44634), (230, 44595), (235, 44556), (239, 44523), (240, 44520), (245, 44496), (254, 44463), (257, 44442), (266, 44412), (282, 44298), (286, 44256), (288, 44235), (292, 44202), (310, 44130), (313, 44124), (323, 44076), (334, 44031), (341, 44007), (346, 43992), (351, 43968),

Gene: Pops\_51 Start: 45258, Stop: 43855, Start Num: 76

Candidate Starts for Pops\_51:

(11, 45636), (12, 45591), (17, 45549), (29, 45468), (35, 45423), (Start: 76 @45258 has 220 MA's), (Start: 78 @45255 has 65 MA's), (Start: 79 @45249 has 1 MA's), (87, 45207), (101, 45135), (109,



45114), (138, 45018), (153, 44967), (165, 44901), (166, 44898), (169, 44874), (171, 44847), (186, 44781), (190, 44769), (200, 44733), (217, 44688), (223, 44658), (230, 44619), (235, 44580), (239, 44547), (240, 44544), (245, 44520), (254, 44487), (257, 44466), (266, 44436), (282, 44322), (286, 44280), (288, 44259), (292, 44226), (310, 44154), (313, 44148), (323, 44100), (334, 44055), (341, 44031), (346, 44016), (351, 43992),

Gene: Poster\_45 Start: 44678, Stop: 43338, Start Num: 75

Candidate Starts for Poster\_45:

(Start: 73 @44681 has 9 MA's), (Start: 75 @44678 has 15 MA's), (Start: 79 @44669 has 1 MA's), (80, 44663), (89, 44612), (133, 44465), (153, 44399), (156, 44375), (186, 44213), (192, 44195), (195, 44180), (196, 44177), (208, 44150), (224, 44087), (225, 44078), (238, 43991), (243, 43967), (254, 43925), (255, 43922), (257, 43904), (266, 43874), (271, 43847), (276, 43814), (280, 43793), (281, 43784), (284, 43739), (285, 43733), (286, 43724), (288, 43703), (292, 43670), (313, 43631), (327, 43565), (328, 43562), (348, 43493), (351, 43475),

Gene: Potter\_50 Start: 44970, Stop: 43567, Start Num: 76

Candidate Starts for Potter\_50:

(11, 45348), (12, 45303), (17, 45261), (29, 45180), (35, 45135), (Start: 76 @44970 has 220 MA's), (Start: 78 @44967 has 65 MA's), (Start: 79 @44961 has 1 MA's), (87, 44919), (101, 44847), (109, 44826), (138, 44730), (153, 44679), (165, 44613), (166, 44610), (171, 44559), (186, 44493), (190, 44481), (200, 44445), (217, 44400), (223, 44370), (230, 44331), (235, 44292), (239, 44259), (240, 44256), (242, 44250), (245, 44232), (254, 44199), (257, 44178), (266, 44148), (282, 44034), (286, 43992), (288, 43971), (292, 43938), (310, 43866), (313, 43860), (323, 43812), (334, 43767), (341, 43743), (346, 43728), (351, 43704),

Gene: Prickles\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Prickles\_51:

(11, 45612), (12, 45567), (17, 45525), (29, 45444), (35, 45399), (Start: 76 @45234 has 220 MA's), (Start: 78 @45231 has 65 MA's), (Start: 79 @45225 has 1 MA's), (87, 45183), (101, 45111), (109, 45090), (138, 44994), (153, 44943), (165, 44877), (166, 44874), (171, 44823), (186, 44757), (190, 44745), (200, 44709), (217, 44664), (223, 44634), (230, 44595), (235, 44556), (239, 44523), (240, 44520), (245, 44496), (254, 44463), (257, 44442), (266, 44412), (282, 44298), (286, 44256), (288, 44235), (292, 44202), (310, 44130), (313, 44124), (323, 44076), (334, 44031), (341, 44007), (346, 43992), (351, 43968),

Gene: Prince\_46 Start: 45887, Stop: 44547, Start Num: 75

Candidate Starts for Prince\_46:

(Start: 73 @45890 has 9 MA's), (Start: 75 @45887 has 15 MA's), (Start: 79 @45878 has 1 MA's), (80, 45872), (89, 45821), (133, 45674), (149, 45629), (153, 45608), (175, 45467), (179, 45443), (186, 45422), (187, 45419), (192, 45404), (195, 45389), (222, 45320), (223, 45305), (225, 45287), (231, 45263), (240, 45191), (245, 45167), (254, 45134), (255, 45131), (257, 45113), (266, 45083), (276, 45023), (279, 45005), (281, 44993), (284, 44948), (285, 44942), (286, 44933), (291, 44903), (292, 44879), (313, 44840), (322, 44795), (327, 44774), (328, 44771), (348, 44702), (351, 44684),

Gene: ProfessorX\_51 Start: 45235, Stop: 43832, Start Num: 76

Candidate Starts for ProfessorX\_51:

(11, 45613), (12, 45568), (17, 45526), (29, 45445), (35, 45400), (Start: 76 @45235 has 220 MA's), (Start: 78 @45232 has 65 MA's), (Start: 79 @45226 has 1 MA's), (87, 45184), (101, 45112), (109, 45091), (138, 44995), (153, 44944), (165, 44878), (166, 44875), (169, 44851), (171, 44824), (186, 44758), (190, 44746), (200, 44710), (217, 44665), (223, 44635), (230, 44596), (235, 44557), (239, 44524), (240, 44521), (245, 44497), (254, 44464), (257, 44443), (266, 44413), (282, 44299), (286, 44257), (288, 44236), (292, 44203), (310, 44131), (313, 44125), (323, 44077), (334, 44032), (341, 44008), (346, 43993), (351, 43969),

Gene: Puhltonio\_51 Start: 45244, Stop: 43841, Start Num: 76

Candidate Starts for Puhltonio\_51:

(11, 45622), (12, 45577), (17, 45535), (29, 45454), (35, 45409), (Start: 76 @45244 has 220 MA's), (Start: 78 @45241 has 65 MA's), (Start: 79 @45235 has 1 MA's), (87, 45193), (101, 45121), (109, 45100), (138, 45004), (153, 44953), (165, 44887), (166, 44884), (171, 44833), (186, 44767), (190, 44755), (200, 44719), (217, 44674), (223, 44644), (230, 44605), (235, 44566), (239, 44533), (240, 44530), (245, 44506), (254, 44473), (257, 44452), (266, 44422), (282, 44308), (286, 44266), (288, 44245), (292, 44212), (310, 44140), (313, 44134), (323, 44086), (334, 44041), (341, 44017), (346, 44002), (351, 43978),

Gene: Puppies\_31 Start: 24982, Stop: 23882, Start Num: 135

Candidate Starts for Puppies\_31:

(Start: 135 @24982 has 4 MA's), (140, 24967), (152, 24934), (170, 24805), (177, 24766), (182, 24742), (220, 24670), (241, 24550), (243, 24538), (264, 24442), (281, 24349), (283, 24316), (288, 24271), (289, 24268), (292, 24238), (296, 24217), (297, 24211), (298, 24208), (307, 24166), (322, 24103), (357, 24007), (363, 23992), (366, 23971),

Gene: QueenBeane\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for QueenBeane\_51:

(11, 45612), (12, 45567), (17, 45525), (29, 45444), (35, 45399), (Start: 76 @45234 has 220 MA's), (Start: 78 @45231 has 65 MA's), (Start: 79 @45225 has 1 MA's), (87, 45183), (101, 45111), (109, 45090), (138, 44994), (153, 44943), (165, 44877), (166, 44874), (171, 44823), (186, 44757), (190, 44745), (200, 44709), (217, 44664), (223, 44634), (230, 44595), (235, 44556), (239, 44523), (240, 44520), (245, 44496), (254, 44463), (257, 44442), (266, 44412), (282, 44298), (286, 44256), (288, 44235), (292, 44202), (310, 44130), (313, 44124), (323, 44076), (334, 44031), (341, 44007), (346, 43992), (351, 43968),

Gene: QueenPie\_45 Start: 45796, Stop: 44456, Start Num: 75

Candidate Starts for QueenPie\_45:

(Start: 73 @45799 has 9 MA's), (Start: 75 @45796 has 15 MA's), (Start: 79 @45787 has 1 MA's), (80, 45781), (133, 45583), (153, 45517), (156, 45493), (171, 45397), (186, 45331), (192, 45313), (195, 45298), (196, 45295), (208, 45268), (224, 45205), (225, 45196), (238, 45109), (240, 45100), (243, 45085), (254, 45043), (255, 45040), (257, 45022), (264, 45004), (266, 44992), (271, 44965), (276, 44932), (280, 44911), (281, 44902), (284, 44857), (285, 44851), (286, 44842), (288, 44821), (292, 44788), (313, 44749), (327, 44683), (328, 44680), (348, 44611), (351, 44593),

Gene: Quesadilla\_52 Start: 47383, Stop: 46022, Start Num: 68

Candidate Starts for Quesadilla\_52:

(50, 47464), (62, 47407), (Start: 68 @47383 has 1 MA's), (Start: 71 @47380 has 2 MA's), (Start: 79 @47362 has 1 MA's), (Start: 82 @47353 has 2 MA's), (138, 47131), (168, 46990), (186, 46894), (195, 46861), (214, 46822), (227, 46759), (231, 46744), (240, 46672), (243, 46657), (252, 46621), (254, 46615), (257, 46594), (258, 46591), (271, 46537), (273, 46516), (279, 46486), (285, 46423), (288, 46393), (308, 46333), (327, 46255), (328, 46252), (341, 46204), (348, 46183), (367, 46102), (375, 46045),

Gene: Quisquilliae\_51 Start: 45271, Stop: 43868, Start Num: 76

Candidate Starts for Quisquilliae\_51:

(11, 45649), (12, 45604), (17, 45562), (29, 45481), (35, 45436), (Start: 76 @45271 has 220 MA's), (Start: 78 @45268 has 65 MA's), (Start: 79 @45262 has 1 MA's), (87, 45220), (101, 45148), (109, 45127), (138, 45031), (153, 44980), (165, 44914), (166, 44911), (171, 44860), (186, 44794), (190, 44782), (200, 44746), (217, 44701), (223, 44671), (230, 44632), (235, 44593), (239, 44560), (240, 44557), (245, 44533), (254, 44500), (257, 44479), (266, 44449), (282, 44335), (286, 44293), (288,

44272), (292, 44239), (310, 44167), (313, 44161), (323, 44113), (334, 44068), (341, 44044), (346, 44029), (351, 44005),

Gene: Qyrzula\_47 Start: 44983, Stop: 43616, Start Num: 78

Candidate Starts for Qyrzula\_47:

(Start: 78 @44983 has 65 MA's), (88, 44920), (91, 44905), (121, 44794), (137, 44743), (152, 44695), (160, 44647), (180, 44512), (183, 44506), (186, 44497), (209, 44452), (211, 44446), (212, 44440), (217, 44428), (235, 44323), (239, 44290), (245, 44263), (254, 44230), (259, 44203), (266, 44179), (271, 44152), (274, 44125), (283, 44050), (288, 44005), (292, 43972), (302, 43951), (308, 43945), (318, 43912), (319, 43903), (321, 43894), (348, 43795), (364, 43732), (367, 43714), (375, 43657),

Gene: RagingRooster\_49 Start: 44878, Stop: 43265, Start Num: 41

Candidate Starts for RagingRooster\_49:

(19, 45004), (21, 44998), (23, 44983), (Start: 39 @44887 has 12 MA's), (Start: 41 @44878 has 41 MA's), (65, 44782), (84, 44704), (103, 44569), (141, 44410), (144, 44395), (148, 44383), (153, 44353), (162, 44311), (171, 44233), (185, 44167), (186, 44164), (207, 44101), (214, 44068), (217, 44059), (234, 43966), (240, 43918), (241, 43915), (243, 43903), (245, 43894), (259, 43834), (266, 43810), (281, 43720), (292, 43609), (310, 43576), (311, 43573), (314, 43558), (320, 43537), (327, 43504),

Gene: RainyPolka\_45 Start: 36140, Stop: 34974, Start Num: 114

Candidate Starts for RainyPolka\_45:

(Start: 114 @36140 has 5 MA's), (118, 36131), (131, 36101), (145, 36062), (157, 35996), (158, 35987), (172, 35891), (173, 35885), (182, 35840), (230, 35720), (233, 35702), (243, 35630), (251, 35600), (258, 35564), (259, 35561), (262, 35552), (306, 35282), (308, 35276), (312, 35267), (321, 35222), (326, 35198), (329, 35189), (340, 35141), (347, 35126), (354, 35099), (360, 35081), (375, 34985),

Gene: RawrgerThat\_47 Start: 45738, Stop: 44398, Start Num: 75

Candidate Starts for RawrgerThat\_47:

(Start: 73 @45741 has 9 MA's), (Start: 75 @45738 has 15 MA's), (Start: 79 @45729 has 1 MA's), (80, 45723), (89, 45672), (133, 45525), (149, 45480), (153, 45459), (175, 45318), (179, 45294), (186, 45273), (187, 45270), (192, 45255), (195, 45240), (222, 45171), (223, 45156), (231, 45114), (240, 45042), (243, 45027), (245, 45018), (254, 44985), (255, 44982), (257, 44964), (266, 44934), (276, 44874), (279, 44856), (281, 44844), (284, 44799), (285, 44793), (286, 44784), (291, 44754), (292, 44730), (313, 44691), (322, 44646), (327, 44625), (328, 44622), (348, 44553), (351, 44535),

Gene: RedMaple\_51 Start: 45385, Stop: 43982, Start Num: 76

Candidate Starts for RedMaple\_51:

(35, 45550), (Start: 76 @45385 has 220 MA's), (Start: 78 @45382 has 65 MA's), (Start: 79 @45376 has 1 MA's), (87, 45334), (101, 45262), (109, 45241), (138, 45145), (153, 45094), (165, 45028), (166, 45025), (171, 44974), (186, 44908), (190, 44896), (200, 44860), (217, 44815), (223, 44785), (230, 44746), (235, 44707), (239, 44674), (240, 44671), (245, 44647), (254, 44614), (257, 44593), (266, 44563), (282, 44449), (286, 44407), (288, 44386), (292, 44353), (310, 44281), (313, 44275), (323, 44227), (334, 44182), (341, 44158), (346, 44143), (351, 44119),

Gene: Reprobate\_50 Start: 46277, Stop: 44892, Start Num: 76

Candidate Starts for Reprobate\_50:

(35, 46430), (Start: 76 @46277 has 220 MA's), (Start: 82 @46259 has 2 MA's), (86, 46229), (138, 46040), (148, 46013), (149, 46010), (186, 45803), (193, 45785), (227, 45668), (236, 45605), (240, 45581), (243, 45566), (259, 45497), (266, 45473), (267, 45470), (284, 45338), (286, 45326), (288, 45305), (292, 45272), (295, 45254), (310, 45200), (321, 45155), (327, 45128), (348, 45047), (358, 45008), (361, 45002), (367, 44966),

Gene: Rhinoforte\_50 Start: 44985, Stop: 43618, Start Num: 78

Candidate Starts for Rhinoforte\_50:

(Start: 78 @44985 has 65 MA's), (88, 44922), (91, 44907), (121, 44796), (137, 44745), (152, 44697), (160, 44649), (183, 44508), (186, 44499), (209, 44454), (211, 44448), (212, 44442), (217, 44430), (235, 44325), (239, 44292), (245, 44265), (254, 44232), (259, 44205), (266, 44181), (271, 44154), (274, 44127), (283, 44052), (288, 44007), (292, 43974), (302, 43953), (308, 43947), (318, 43914), (321, 43896), (364, 43734), (367, 43716), (375, 43659),

Gene: Rich\_49 Start: 46053, Stop: 44674, Start Num: 76

Candidate Starts for Rich\_49:

(28, 46257), (31, 46248), (51, 46143), (Start: 76 @46053 has 220 MA's), (Start: 82 @46035 has 2 MA's), (138, 45822), (149, 45792), (176, 45627), (186, 45585), (193, 45567), (198, 45552), (199, 45549), (219, 45501), (227, 45450), (240, 45363), (243, 45348), (245, 45339), (256, 45288), (259, 45279), (266, 45255), (267, 45252), (280, 45174), (281, 45165), (284, 45120), (292, 45054), (295, 45036), (310, 44982), (321, 44937), (327, 44910), (348, 44829), (367, 44748),

Gene: Ricotta\_50 Start: 44954, Stop: 43554, Start Num: 78

Candidate Starts for Ricotta\_50:

(11, 45335), (12, 45290), (17, 45248), (29, 45167), (35, 45122), (Start: 76 @44957 has 220 MA's), (Start: 78 @44954 has 65 MA's), (Start: 79 @44948 has 1 MA's), (87, 44906), (101, 44834), (109, 44813), (138, 44717), (153, 44666), (165, 44600), (166, 44597), (171, 44546), (186, 44480), (190, 44468), (200, 44432), (217, 44387), (223, 44357), (230, 44318), (235, 44279), (239, 44246), (240, 44243), (245, 44219), (254, 44186), (257, 44165), (266, 44135), (282, 44021), (286, 43979), (288, 43958), (292, 43925), (310, 43853), (313, 43847), (323, 43799), (334, 43754), (341, 43730), (346, 43715), (351, 43691),

Gene: Riggan\_51 Start: 45230, Stop: 43827, Start Num: 76

Candidate Starts for Riggan\_51:

(11, 45608), (12, 45563), (17, 45521), (29, 45440), (35, 45395), (Start: 76 @45230 has 220 MA's), (Start: 78 @45227 has 65 MA's), (Start: 79 @45221 has 1 MA's), (87, 45179), (101, 45107), (109, 45086), (138, 44990), (153, 44939), (165, 44873), (166, 44870), (171, 44819), (186, 44753), (190, 44741), (200, 44705), (217, 44660), (223, 44630), (230, 44591), (235, 44552), (239, 44519), (240, 44516), (245, 44492), (254, 44459), (257, 44438), (266, 44408), (282, 44294), (286, 44252), (288, 44231), (292, 44198), (310, 44126), (313, 44120), (323, 44072), (334, 44027), (341, 44003), (346, 43988), (351, 43964),

Gene: Rimu\_53 Start: 44970, Stop: 43567, Start Num: 76

Candidate Starts for Rimu\_53:

(11, 45348), (12, 45303), (17, 45261), (29, 45180), (35, 45135), (Start: 76 @44970 has 220 MA's), (Start: 78 @44967 has 65 MA's), (Start: 79 @44961 has 1 MA's), (87, 44919), (101, 44847), (109, 44826), (138, 44730), (153, 44679), (165, 44613), (166, 44610), (171, 44559), (186, 44493), (190, 44481), (200, 44445), (217, 44400), (223, 44370), (230, 44331), (235, 44292), (239, 44259), (240, 44256), (245, 44232), (254, 44199), (257, 44178), (266, 44148), (282, 44034), (286, 43992), (288, 43971), (292, 43938), (310, 43866), (313, 43860), (323, 43812), (334, 43767), (341, 43743), (346, 43728), (351, 43704),

Gene: Rinke\_51 Start: 46908, Stop: 45520, Start Num: 69

Candidate Starts for Rinke\_51:

(61, 46938), (Start: 69 @46908 has 2 MA's), (Start: 79 @46890 has 1 MA's), (80, 46884), (123, 46719), (124, 46713), (138, 46638), (162, 46545), (184, 46407), (214, 46329), (225, 46278), (227, 46269), (230, 46257), (231, 46254), (238, 46191), (240, 46182), (243, 46167), (254, 46125), (255, 46122), (257, 46104), (259, 46098), (264, 46086), (266, 46074), (271, 46035), (273, 46014), (281, 45972), (284, 45927), (288, 45891), (292, 45858), (310, 45825), (313, 45819), (326, 45756), (327,

45753), (328, 45750), (348, 45681), (361, 45636), (370, 45579), (375, 45543),

Gene: Rita1961\_49 Start: 44862, Stop: 43249, Start Num: 41

Candidate Starts for Rita1961\_49:

(19, 44988), (21, 44982), (23, 44967), (Start: 39 @44871 has 12 MA's), (Start: 41 @44862 has 41 MA's), (65, 44766), (84, 44688), (103, 44553), (141, 44394), (144, 44379), (148, 44367), (153, 44337), (162, 44295), (171, 44217), (207, 44085), (214, 44052), (217, 44043), (234, 43950), (240, 43902), (243, 43887), (245, 43878), (254, 43845), (259, 43818), (266, 43794), (281, 43704), (292, 43593), (310, 43560), (314, 43542), (320, 43521), (327, 43488),

Gene: Robyn\_50 Start: 44826, Stop: 43423, Start Num: 76

Candidate Starts for Robyn\_50:

(11, 45204), (12, 45159), (17, 45117), (29, 45036), (35, 44991), (Start: 76 @44826 has 220 MA's), (Start: 78 @44823 has 65 MA's), (Start: 79 @44817 has 1 MA's), (87, 44775), (101, 44703), (109, 44682), (138, 44586), (153, 44535), (165, 44469), (166, 44466), (171, 44415), (186, 44349), (190, 44337), (200, 44301), (217, 44256), (223, 44226), (230, 44187), (235, 44148), (239, 44115), (240, 44112), (245, 44088), (254, 44055), (257, 44034), (266, 44004), (282, 43890), (286, 43848), (288, 43827), (292, 43794), (310, 43722), (313, 43716), (323, 43668), (334, 43623), (341, 43599), (346, 43584), (351, 43560),

Gene: Roliet\_51 Start: 45243, Stop: 43840, Start Num: 76

Candidate Starts for Roliet\_51:

(11, 45621), (12, 45576), (17, 45534), (29, 45453), (35, 45408), (Start: 76 @45243 has 220 MA's), (Start: 78 @45240 has 65 MA's), (Start: 79 @45234 has 1 MA's), (87, 45192), (101, 45120), (109, 45099), (138, 45003), (153, 44952), (165, 44886), (166, 44883), (171, 44832), (186, 44766), (190, 44754), (200, 44718), (217, 44673), (223, 44643), (230, 44604), (235, 44565), (239, 44532), (240, 44529), (245, 44505), (254, 44472), (257, 44451), (266, 44421), (282, 44307), (286, 44265), (288, 44244), (292, 44211), (310, 44139), (313, 44133), (323, 44085), (334, 44040), (341, 44016), (346, 44001), (351, 43977),

Gene: RomaT\_49 Start: 45660, Stop: 44038, Start Num: 39

Candidate Starts for RomaT\_49:

(19, 45777), (21, 45771), (23, 45756), (Start: 39 @45660 has 12 MA's), (Start: 41 @45651 has 41 MA's), (65, 45555), (84, 45477), (103, 45342), (141, 45183), (144, 45168), (148, 45156), (153, 45126), (162, 45084), (171, 45006), (207, 44874), (214, 44841), (217, 44832), (234, 44739), (240, 44691), (243, 44676), (245, 44667), (259, 44607), (266, 44583), (281, 44493), (292, 44382), (310, 44349), (311, 44346), (314, 44331), (320, 44310), (327, 44277),

Gene: Roscoe\_52 Start: 45480, Stop: 44077, Start Num: 76

Candidate Starts for Roscoe\_52:

(11, 45858), (12, 45813), (17, 45771), (29, 45690), (35, 45645), (Start: 76 @45480 has 220 MA's), (Start: 78 @45477 has 65 MA's), (Start: 79 @45471 has 1 MA's), (87, 45429), (101, 45357), (109, 45336), (138, 45240), (153, 45189), (165, 45123), (166, 45120), (171, 45069), (186, 45003), (190, 44991), (200, 44955), (217, 44910), (223, 44880), (230, 44841), (235, 44802), (239, 44769), (240, 44766), (245, 44742), (254, 44709), (257, 44688), (266, 44658), (282, 44544), (286, 44502), (288, 44481), (292, 44448), (310, 44376), (313, 44370), (323, 44322), (334, 44277), (341, 44253), (346, 44238), (351, 44214),

Gene: Rosebush\_49 Start: 44997, Stop: 43630, Start Num: 78

Candidate Starts for Rosebush\_49:

(Start: 78 @44997 has 65 MA's), (88, 44934), (91, 44919), (121, 44808), (137, 44757), (152, 44709), (160, 44661), (183, 44520), (186, 44511), (209, 44466), (211, 44460), (212, 44454), (217, 44442), (235, 44337), (239, 44304), (243, 44286), (245, 44277), (254, 44244), (259, 44217), (266, 44193),

(271, 44166), (274, 44139), (283, 44064), (288, 44019), (292, 43986), (302, 43965), (308, 43959), (318, 43926), (319, 43917), (321, 43908), (364, 43746), (367, 43728), (375, 43671),

Gene: Roy17\_51 Start: 44934, Stop: 43531, Start Num: 76

Candidate Starts for Roy17\_51:

(35, 45099), (Start: 76 @44934 has 220 MA's), (Start: 78 @44931 has 65 MA's), (Start: 79 @44925 has 1 MA's), (87, 44883), (101, 44811), (109, 44790), (138, 44694), (153, 44643), (165, 44577), (166, 44574), (171, 44523), (186, 44457), (190, 44445), (200, 44409), (217, 44364), (223, 44334), (230, 44295), (235, 44256), (239, 44223), (240, 44220), (245, 44196), (254, 44163), (257, 44142), (266, 44112), (282, 43998), (286, 43956), (288, 43935), (292, 43902), (310, 43830), (313, 43824), (323, 43776), (334, 43731), (341, 43707), (346, 43692), (351, 43668),

Gene: SDcharge11\_51 Start: 45053, Stop: 43818, Start Num: 115

Candidate Starts for SDcharge11\_51:

(Start: 115 @45053 has 1 MA's), (138, 44981), (153, 44930), (165, 44864), (166, 44861), (171, 44810), (186, 44744), (190, 44732), (200, 44696), (217, 44651), (223, 44621), (230, 44582), (235, 44543), (239, 44510), (240, 44507), (245, 44483), (254, 44450), (257, 44429), (266, 44399), (282, 44285), (286, 44243), (288, 44222), (292, 44189), (310, 44117), (313, 44111), (323, 44063), (334, 44018), (341, 43994), (346, 43979), (351, 43955),

Gene: Sabella\_49 Start: 44851, Stop: 43490, Start Num: 78

Candidate Starts for Sabella\_49:

(Start: 78 @44851 has 65 MA's), (88, 44788), (91, 44773), (121, 44662), (137, 44617), (152, 44569), (160, 44521), (183, 44380), (186, 44371), (209, 44326), (211, 44320), (212, 44314), (217, 44302), (235, 44197), (239, 44164), (243, 44146), (245, 44137), (254, 44104), (259, 44077), (266, 44053), (274, 43999), (283, 43924), (288, 43879), (292, 43846), (302, 43825), (308, 43819), (318, 43786), (319, 43777), (321, 43768), (364, 43606), (367, 43588), (375, 43531),

Gene: Saguaro\_53 Start: 47395, Stop: 46115, Start Num: 93

Candidate Starts for Saguaro\_53:

(54, 47587), (Start: 93 @47395 has 1 MA's), (107, 47344), (140, 47212), (142, 47206), (153, 47164), (161, 47125), (166, 47095), (174, 47032), (186, 46978), (195, 46945), (225, 46858), (231, 46834), (238, 46771), (240, 46762), (243, 46747), (246, 46735), (257, 46684), (265, 46657), (266, 46654), (271, 46627), (276, 46594), (279, 46576), (281, 46564), (288, 46483), (292, 46450), (327, 46345), (328, 46342), (338, 46300),

Gene: Salete\_44 Start: 36172, Stop: 34982, Start Num: 104

Candidate Starts for Salete\_44:

(59, 36391), (70, 36340), (85, 36283), (Start: 104 @36172 has 5 MA's), (Start: 114 @36148 has 5 MA's), (131, 36109), (145, 36070), (154, 36025), (157, 36004), (172, 35899), (173, 35893), (182, 35848), (186, 35836), (220, 35779), (222, 35773), (230, 35728), (233, 35710), (243, 35638), (251, 35608), (258, 35572), (259, 35569), (262, 35560), (308, 35284), (312, 35275), (321, 35230), (326, 35206), (329, 35197), (337, 35164), (354, 35107), (360, 35089), (374, 34996), (375, 34993),

Gene: Samaymay\_51 Start: 45234, Stop: 43831, Start Num: 76

Candidate Starts for Samaymay\_51:

(11, 45612), (12, 45567), (17, 45525), (29, 45444), (35, 45399), (Start: 76 @45234 has 220 MA's), (Start: 78 @45231 has 65 MA's), (Start: 79 @45225 has 1 MA's), (87, 45183), (101, 45111), (109, 45090), (138, 44994), (153, 44943), (165, 44877), (166, 44874), (171, 44823), (186, 44757), (190, 44745), (200, 44709), (217, 44664), (223, 44634), (230, 44595), (235, 44556), (239, 44523), (240, 44520), (245, 44496), (254, 44463), (257, 44442), (266, 44412), (282, 44298), (286, 44256), (288, 44235), (292, 44202), (310, 44130), (313, 44124), (323, 44076), (334, 44031), (341, 44007), (346, 43992), (351, 43968),

Gene: SassyCat97\_50 Start: 44961, Stop: 43558, Start Num: 76

Candidate Starts for SassyCat97\_50:

(11, 45339), (12, 45294), (17, 45252), (29, 45171), (35, 45126), (Start: 76 @44961 has 220 MA's), (Start: 78 @44958 has 65 MA's), (Start: 79 @44952 has 1 MA's), (87, 44910), (101, 44838), (109, 44817), (138, 44721), (153, 44670), (165, 44604), (166, 44601), (171, 44550), (186, 44484), (190, 44472), (200, 44436), (217, 44391), (223, 44361), (230, 44322), (235, 44283), (239, 44250), (240, 44247), (242, 44241), (245, 44223), (254, 44190), (257, 44169), (266, 44139), (282, 44025), (286, 43983), (288, 43962), (292, 43929), (310, 43857), (313, 43851), (323, 43803), (334, 43758), (341, 43734), (346, 43719), (351, 43695),

Gene: Schadenfreude\_50 Start: 44797, Stop: 43397, Start Num: 78

Candidate Starts for Schadenfreude\_50:

(Start: 74 @44800 has 18 MA's), (Start: 78 @44797 has 65 MA's), (Start: 79 @44791 has 1 MA's), (87, 44749), (101, 44677), (109, 44656), (138, 44560), (153, 44509), (165, 44443), (166, 44440), (171, 44389), (186, 44323), (190, 44311), (200, 44275), (217, 44230), (223, 44200), (230, 44161), (235, 44122), (239, 44089), (240, 44086), (242, 44080), (245, 44062), (254, 44029), (257, 44008), (266, 43978), (286, 43822), (288, 43801), (292, 43768), (310, 43696), (313, 43690), (323, 43642), (334, 43597), (341, 43573), (346, 43558), (351, 43534),

Gene: Schueller\_51 Start: 44959, Stop: 43556, Start Num: 74

Candidate Starts for Schueller\_51:

(35, 45121), (Start: 74 @44959 has 18 MA's), (Start: 78 @44956 has 65 MA's), (87, 44908), (101, 44836), (109, 44815), (138, 44719), (153, 44668), (165, 44602), (166, 44599), (171, 44548), (186, 44482), (190, 44470), (200, 44434), (217, 44389), (223, 44359), (230, 44320), (235, 44281), (239, 44248), (240, 44245), (242, 44239), (245, 44221), (254, 44188), (257, 44167), (266, 44137), (282, 44023), (286, 43981), (288, 43960), (292, 43927), (310, 43855), (313, 43849), (323, 43801), (334, 43756), (341, 43732), (346, 43717), (351, 43693),

Gene: Scoot17C\_52 Start: 45377, Stop: 43974, Start Num: 76

Candidate Starts for Scoot17C\_52:

(11, 45755), (12, 45710), (17, 45668), (29, 45587), (35, 45542), (Start: 76 @45377 has 220 MA's), (Start: 78 @45374 has 65 MA's), (Start: 79 @45368 has 1 MA's), (87, 45326), (101, 45254), (109, 45233), (138, 45137), (153, 45086), (165, 45020), (166, 45017), (171, 44966), (186, 44900), (190, 44888), (200, 44852), (217, 44807), (223, 44777), (230, 44738), (235, 44699), (239, 44666), (240, 44663), (245, 44639), (254, 44606), (257, 44585), (266, 44555), (282, 44441), (286, 44399), (288, 44378), (292, 44345), (310, 44273), (313, 44267), (323, 44219), (334, 44174), (341, 44150), (346, 44135), (351, 44111),

Gene: Scrick\_51 Start: 44970, Stop: 43567, Start Num: 76

Candidate Starts for Scrick\_51:

(11, 45348), (12, 45303), (17, 45261), (29, 45180), (35, 45135), (Start: 76 @44970 has 220 MA's), (Start: 78 @44967 has 65 MA's), (Start: 79 @44961 has 1 MA's), (87, 44919), (101, 44847), (109, 44826), (138, 44730), (153, 44679), (165, 44613), (166, 44610), (171, 44559), (186, 44493), (190, 44481), (200, 44445), (217, 44400), (223, 44370), (230, 44331), (235, 44292), (239, 44259), (240, 44256), (245, 44232), (254, 44199), (257, 44178), (266, 44148), (282, 44034), (286, 43992), (288, 43971), (292, 43938), (310, 43866), (313, 43860), (323, 43812), (334, 43767), (341, 43743), (346, 43728), (351, 43704),

Gene: Selr12\_51 Start: 44970, Stop: 43570, Start Num: 78

Candidate Starts for Selr12\_51:

(11, 45351), (12, 45306), (17, 45264), (29, 45183), (35, 45138), (Start: 76 @44973 has 220 MA's), (Start: 78 @44970 has 65 MA's), (Start: 79 @44964 has 1 MA's), (87, 44922), (101, 44850), (109,

44829), (138, 44733), (153, 44682), (165, 44616), (166, 44613), (171, 44562), (186, 44496), (190, 44484), (200, 44448), (217, 44403), (223, 44373), (230, 44334), (235, 44295), (239, 44262), (240, 44259), (245, 44235), (254, 44202), (257, 44181), (266, 44151), (282, 44037), (286, 43995), (288, 43974), (292, 43941), (310, 43869), (313, 43863), (323, 43815), (334, 43770), (341, 43746), (346, 43731), (351, 43707),

Gene: Serendipitous\_50 Start: 45974, Stop: 44589, Start Num: 76

Candidate Starts for Serendipitous\_50:

(Start: 76 @45974 has 220 MA's), (Start: 82 @45956 has 2 MA's), (138, 45737), (149, 45707), (176, 45542), (186, 45500), (193, 45482), (198, 45467), (219, 45416), (227, 45365), (240, 45278), (243, 45263), (245, 45254), (259, 45194), (266, 45170), (267, 45167), (284, 45035), (288, 45002), (292, 44969), (295, 44951), (310, 44897), (321, 44852), (327, 44825), (348, 44744), (367, 44663),

Gene: Serendipity\_51 Start: 45258, Stop: 43855, Start Num: 76

Candidate Starts for Serendipity\_51:

(11, 45636), (12, 45591), (17, 45549), (29, 45468), (35, 45423), (Start: 76 @45258 has 220 MA's), (Start: 78 @45255 has 65 MA's), (Start: 79 @45249 has 1 MA's), (87, 45207), (101, 45135), (109, 45114), (138, 45018), (153, 44967), (165, 44901), (166, 44898), (171, 44847), (186, 44781), (190, 44769), (200, 44733), (217, 44688), (223, 44658), (230, 44619), (235, 44580), (239, 44547), (240, 44544), (245, 44520), (254, 44487), (257, 44466), (266, 44436), (282, 44322), (286, 44280), (288, 44259), (292, 44226), (310, 44154), (313, 44148), (323, 44100), (334, 44055), (341, 44031), (346, 44016), (351, 43992),

Gene: Serpentine\_0051 Start: 45257, Stop: 43854, Start Num: 76

Candidate Starts for Serpentine\_0051:

(35, 45422), (Start: 76 @45257 has 220 MA's), (Start: 78 @45254 has 65 MA's), (Start: 79 @45248 has 1 MA's), (87, 45206), (101, 45134), (109, 45113), (138, 45017), (153, 44966), (165, 44900), (166, 44897), (169, 44873), (171, 44846), (186, 44780), (190, 44768), (200, 44732), (217, 44687), (223, 44657), (230, 44618), (235, 44579), (239, 44546), (240, 44543), (245, 44519), (254, 44486), (257, 44465), (266, 44435), (282, 44321), (286, 44279), (288, 44258), (292, 44225), (310, 44153), (313, 44147), (323, 44099), (334, 44054), (341, 44030), (346, 44015), (351, 43991),

Gene: Shatter\_44 Start: 37982, Stop: 36669, Start Num: 39

Candidate Starts for Shatter\_44:

(Start: 38 @37985 has 1 MA's), (Start: 39 @37982 has 12 MA's), (Start: 136 @37823 has 2 MA's), (137, 37817), (153, 37766), (214, 37511), (221, 37490), (228, 37445), (231, 37433), (254, 37304), (259, 37277), (266, 37253), (272, 37223), (273, 37205), (276, 37193), (281, 37163), (283, 37130), (288, 37085), (292, 37052), (304, 37019), (308, 36992), (320, 36947), (321, 36941), (327, 36914), (328, 36911), (341, 36863), (375, 36701),

Gene: Sheila\_51 Start: 45283, Stop: 43880, Start Num: 76

Candidate Starts for Sheila\_51:

(11, 45661), (12, 45616), (17, 45574), (29, 45493), (35, 45448), (Start: 76 @45283 has 220 MA's), (Start: 78 @45280 has 65 MA's), (Start: 79 @45274 has 1 MA's), (87, 45232), (101, 45160), (109, 45139), (138, 45043), (153, 44992), (165, 44926), (166, 44923), (171, 44872), (186, 44806), (190, 44794), (200, 44758), (217, 44713), (223, 44683), (230, 44644), (235, 44605), (239, 44572), (240, 44569), (245, 44545), (254, 44512), (257, 44491), (266, 44461), (282, 44347), (286, 44305), (288, 44284), (292, 44251), (310, 44179), (313, 44173), (323, 44125), (334, 44080), (341, 44056), (346, 44041), (351, 44017),

Gene: Shenyu\_50 Start: 46226, Stop: 44841, Start Num: 76

Candidate Starts for Shenyu\_50:



(Start: 76 @46226 has 220 MA's), (Start: 82 @46208 has 2 MA's), (138, 45989), (149, 45959), (176, 45794), (186, 45752), (193, 45734), (198, 45719), (219, 45668), (227, 45617), (240, 45530), (243, 45515), (245, 45506), (259, 45446), (266, 45422), (267, 45419), (280, 45341), (284, 45287), (288, 45254), (292, 45221), (295, 45203), (310, 45149), (320, 45110), (321, 45104), (327, 45077), (348, 44996), (358, 44957), (367, 44915),

Gene: ShiVal\_51 Start: 45241, Stop: 43838, Start Num: 76

Candidate Starts for ShiVal\_51:

(11, 45619), (12, 45574), (17, 45532), (29, 45451), (35, 45406), (Start: 76 @45241 has 220 MA's), (Start: 78 @45238 has 65 MA's), (Start: 79 @45232 has 1 MA's), (87, 45190), (101, 45118), (109, 45097), (138, 45001), (153, 44950), (165, 44884), (166, 44881), (171, 44830), (186, 44764), (190, 44752), (200, 44716), (217, 44671), (223, 44641), (230, 44602), (235, 44563), (239, 44530), (240, 44527), (245, 44503), (254, 44470), (257, 44449), (266, 44419), (282, 44305), (286, 44263), (288, 44242), (292, 44209), (310, 44137), (313, 44131), (323, 44083), (334, 44038), (341, 44014), (346, 43999), (351, 43975),

Gene: Sigman\_52 Start: 45368, Stop: 43965, Start Num: 76

Candidate Starts for Sigman\_52:

(11, 45746), (12, 45701), (17, 45659), (29, 45578), (35, 45533), (Start: 76 @45368 has 220 MA's), (Start: 78 @45365 has 65 MA's), (Start: 79 @45359 has 1 MA's), (87, 45317), (101, 45245), (109, 45224), (138, 45128), (153, 45077), (165, 45011), (166, 45008), (171, 44957), (186, 44891), (190, 44879), (200, 44843), (217, 44798), (223, 44768), (230, 44729), (235, 44690), (239, 44657), (240, 44654), (245, 44630), (254, 44597), (257, 44576), (266, 44546), (282, 44432), (286, 44390), (288, 44369), (292, 44336), (310, 44264), (313, 44258), (323, 44210), (334, 44165), (341, 44141), (346, 44126), (351, 44102),

Gene: SilverBell\_51 Start: 45261, Stop: 43861, Start Num: 78

Candidate Starts for SilverBell\_51:

(11, 45642), (12, 45597), (17, 45555), (29, 45474), (35, 45429), (Start: 76 @45264 has 220 MA's), (Start: 78 @45261 has 65 MA's), (Start: 79 @45255 has 1 MA's), (87, 45213), (101, 45141), (109, 45120), (138, 45024), (153, 44973), (165, 44907), (166, 44904), (171, 44853), (186, 44787), (190, 44775), (200, 44739), (217, 44694), (223, 44664), (230, 44625), (235, 44586), (239, 44553), (240, 44550), (245, 44526), (254, 44493), (257, 44472), (266, 44442), (282, 44328), (286, 44286), (288, 44265), (292, 44232), (310, 44160), (313, 44154), (323, 44106), (334, 44061), (341, 44037), (346, 44022), (351, 43998),

Gene: Simielle\_50 Start: 44927, Stop: 43524, Start Num: 76

Candidate Starts for Simielle\_50:

(11, 45305), (12, 45260), (17, 45218), (29, 45137), (35, 45092), (Start: 76 @44927 has 220 MA's), (Start: 78 @44924 has 65 MA's), (Start: 79 @44918 has 1 MA's), (87, 44876), (101, 44804), (109, 44783), (138, 44687), (153, 44636), (165, 44570), (166, 44567), (171, 44516), (186, 44450), (190, 44438), (200, 44402), (217, 44357), (223, 44327), (230, 44288), (235, 44249), (239, 44216), (240, 44213), (245, 44189), (254, 44156), (257, 44135), (266, 44105), (282, 43991), (286, 43949), (288, 43928), (292, 43895), (310, 43823), (313, 43817), (323, 43769), (334, 43724), (341, 43700), (346, 43685), (351, 43661),

Gene: SirJeffery\_50 Start: 46127, Stop: 44763, Start Num: 82

Candidate Starts for SirJeffery\_50:

(35, 46295), (Start: 76 @46145 has 220 MA's), (Start: 82 @46127 has 2 MA's), (109, 45998), (138, 45911), (149, 45881), (176, 45716), (186, 45674), (193, 45656), (198, 45641), (219, 45590), (227, 45539), (240, 45452), (243, 45437), (245, 45428), (256, 45377), (259, 45368), (266, 45344), (267, 45341), (284, 45209), (288, 45176), (292, 45143), (295, 45125), (310, 45071), (321, 45026), (327, 44999), (348, 44918), (351, 44900), (367, 44837),

Gene: Sisko\_44 Start: 38755, Stop: 37490, Start Num: 41

Candidate Starts for Sisko\_44:

(Start: 41 @38755 has 41 MA's), (49, 38737), (53, 38716), (Start: 136 @38629 has 2 MA's), (137, 38623), (147, 38602), (153, 38572), (215, 38314), (221, 38296), (231, 38239), (240, 38167), (243, 38152), (245, 38143), (250, 38125), (254, 38110), (259, 38083), (266, 38059), (276, 37999), (284, 37924), (288, 37891), (292, 37858), (293, 37849), (304, 37825), (305, 37813), (321, 37747), (327, 37720), (331, 37708), (361, 37600), (362, 37597), (367, 37564),

Gene: Skippy\_51 Start: 45228, Stop: 43825, Start Num: 76

Candidate Starts for Skippy\_51:

(35, 45393), (Start: 76 @45228 has 220 MA's), (Start: 78 @45225 has 65 MA's), (Start: 79 @45219 has 1 MA's), (87, 45177), (101, 45105), (109, 45084), (138, 44988), (153, 44937), (165, 44871), (166, 44868), (171, 44817), (186, 44751), (190, 44739), (200, 44703), (217, 44658), (223, 44628), (230, 44589), (235, 44550), (239, 44517), (240, 44514), (245, 44490), (254, 44457), (257, 44436), (266, 44406), (282, 44292), (286, 44250), (288, 44229), (292, 44196), (310, 44124), (313, 44118), (323, 44070), (334, 44025), (341, 44001), (346, 43986), (351, 43962),

Gene: Slatt\_51 Start: 45254, Stop: 43851, Start Num: 76

Candidate Starts for Slatt\_51:

(11, 45632), (12, 45587), (17, 45545), (29, 45464), (35, 45419), (Start: 76 @45254 has 220 MA's), (Start: 78 @45251 has 65 MA's), (Start: 79 @45245 has 1 MA's), (87, 45203), (101, 45131), (109, 45110), (138, 45014), (153, 44963), (165, 44897), (166, 44894), (171, 44843), (186, 44777), (190, 44765), (200, 44729), (217, 44684), (223, 44654), (230, 44615), (235, 44576), (239, 44543), (240, 44540), (245, 44516), (254, 44483), (257, 44462), (266, 44432), (282, 44318), (286, 44276), (288, 44255), (292, 44222), (310, 44150), (313, 44144), (323, 44096), (334, 44051), (341, 44027), (346, 44012), (351, 43988),

Gene: SlippinJimmy\_49 Start: 45653, Stop: 44031, Start Num: 39

Candidate Starts for SlippinJimmy\_49:

(19, 45770), (21, 45764), (23, 45749), (Start: 39 @45653 has 12 MA's), (Start: 41 @45644 has 41 MA's), (65, 45548), (84, 45470), (103, 45335), (141, 45176), (144, 45161), (148, 45149), (153, 45119), (162, 45077), (171, 44999), (207, 44867), (214, 44834), (217, 44825), (234, 44732), (240, 44684), (243, 44669), (245, 44660), (254, 44627), (259, 44600), (266, 44576), (281, 44486), (292, 44375), (310, 44342), (314, 44324), (320, 44303), (327, 44270),

Gene: Soile\_51 Start: 44957, Stop: 43554, Start Num: 76

Candidate Starts for Soile\_51:

(35, 45122), (Start: 76 @44957 has 220 MA's), (Start: 78 @44954 has 65 MA's), (Start: 79 @44948 has 1 MA's), (87, 44906), (101, 44834), (109, 44813), (138, 44717), (153, 44666), (165, 44600), (166, 44597), (169, 44573), (171, 44546), (186, 44480), (190, 44468), (200, 44432), (217, 44387), (223, 44357), (230, 44318), (235, 44279), (239, 44246), (240, 44243), (245, 44219), (254, 44186), (257, 44165), (266, 44135), (282, 44021), (286, 43979), (288, 43958), (292, 43925), (310, 43853), (313, 43847), (323, 43799), (334, 43754), (341, 43730), (346, 43715), (351, 43691),

Gene: Solosis\_50 Start: 44955, Stop: 43552, Start Num: 76

Candidate Starts for Solosis\_50:

(11, 45333), (12, 45288), (17, 45246), (29, 45165), (35, 45120), (Start: 76 @44955 has 220 MA's), (Start: 78 @44952 has 65 MA's), (Start: 79 @44946 has 1 MA's), (87, 44904), (101, 44832), (109, 44811), (138, 44715), (153, 44664), (165, 44598), (166, 44595), (171, 44544), (186, 44478), (190, 44466), (200, 44430), (217, 44385), (223, 44355), (230, 44316), (235, 44277), (239, 44244), (240, 44241), (245, 44217), (254, 44184), (257, 44163), (266, 44133), (282, 44019), (286, 43977), (288, 43956), (292, 43923), (310, 43851), (313, 43845), (323, 43797), (334, 43752), (341, 43728), (346,

43713), (351, 43689),

Gene: Sophia\_50 Start: 44949, Stop: 43546, Start Num: 76

Candidate Starts for Sophia\_50:

(11, 45327), (12, 45282), (17, 45240), (29, 45159), (35, 45114), (Start: 76 @44949 has 220 MA's), (Start: 78 @44946 has 65 MA's), (Start: 79 @44940 has 1 MA's), (87, 44898), (101, 44826), (109, 44805), (138, 44709), (153, 44658), (165, 44592), (166, 44589), (169, 44565), (171, 44538), (186, 44472), (190, 44460), (200, 44424), (217, 44379), (223, 44349), (230, 44310), (235, 44271), (239, 44238), (240, 44235), (245, 44211), (254, 44178), (257, 44157), (266, 44127), (282, 44013), (286, 43971), (288, 43950), (292, 43917), (310, 43845), (313, 43839), (323, 43791), (334, 43746), (341, 43722), (346, 43707), (351, 43683),

Gene: Soto\_51 Start: 45255, Stop: 43852, Start Num: 76

Candidate Starts for Soto\_51:

(12, 45588), (17, 45546), (29, 45465), (35, 45420), (Start: 76 @45255 has 220 MA's), (Start: 78 @45252 has 65 MA's), (Start: 79 @45246 has 1 MA's), (87, 45204), (101, 45132), (109, 45111), (138, 45015), (153, 44964), (165, 44898), (166, 44895), (171, 44844), (186, 44778), (190, 44766), (200, 44730), (217, 44685), (223, 44655), (230, 44616), (235, 44577), (239, 44544), (240, 44541), (245, 44517), (254, 44484), (257, 44463), (266, 44433), (282, 44319), (286, 44277), (288, 44256), (292, 44223), (310, 44151), (313, 44145), (323, 44097), (334, 44052), (341, 44028), (346, 44013), (351, 43989),

Gene: Sour\_49 Start: 42596, Stop: 41325, Start Num: 41

Candidate Starts for Sour\_49:

(Start: 41 @42596 has 41 MA's), (53, 42554), (Start: 136 @42464 has 2 MA's), (137, 42458), (147, 42437), (150, 42428), (153, 42407), (192, 42209), (196, 42194), (214, 42152), (215, 42149), (221, 42131), (231, 42074), (243, 41987), (247, 41972), (249, 41963), (254, 41945), (259, 41918), (266, 41894), (272, 41864), (281, 41804), (283, 41771), (288, 41726), (292, 41693), (293, 41684), (304, 41660), (308, 41633), (320, 41588), (321, 41582), (327, 41555), (328, 41552), (341, 41504), (373, 41354),

Gene: Spartan300\_51 Start: 45240, Stop: 43837, Start Num: 76

Candidate Starts for Spartan300\_51:

(11, 45618), (12, 45573), (17, 45531), (29, 45450), (35, 45405), (Start: 76 @45240 has 220 MA's), (Start: 78 @45237 has 65 MA's), (Start: 79 @45231 has 1 MA's), (87, 45189), (101, 45117), (109, 45096), (138, 45000), (153, 44949), (165, 44883), (166, 44880), (171, 44829), (186, 44763), (190, 44751), (200, 44715), (217, 44670), (223, 44640), (230, 44601), (235, 44562), (239, 44529), (240, 44526), (245, 44502), (254, 44469), (257, 44448), (266, 44418), (282, 44304), (286, 44262), (288, 44241), (292, 44208), (310, 44136), (313, 44130), (323, 44082), (334, 44037), (341, 44013), (346, 43998), (351, 43974),

Gene: Squid\_51 Start: 44961, Stop: 43558, Start Num: 76

Candidate Starts for Squid\_51:

(11, 45339), (12, 45294), (17, 45252), (29, 45171), (35, 45126), (Start: 76 @44961 has 220 MA's), (Start: 78 @44958 has 65 MA's), (Start: 79 @44952 has 1 MA's), (87, 44910), (101, 44838), (109, 44817), (138, 44721), (153, 44670), (165, 44604), (166, 44601), (171, 44550), (186, 44484), (190, 44472), (200, 44436), (217, 44391), (223, 44361), (230, 44322), (235, 44283), (239, 44250), (240, 44247), (242, 44241), (245, 44223), (254, 44190), (257, 44169), (266, 44139), (282, 44025), (286, 43983), (288, 43962), (292, 43929), (310, 43857), (313, 43851), (323, 43803), (334, 43758), (341, 43734), (346, 43719), (351, 43695),

Gene: Squiggle\_51 Start: 44964, Stop: 43561, Start Num: 76

Candidate Starts for Squiggle\_51:

(35, 45129), (Start: 76 @44964 has 220 MA's), (Start: 78 @44961 has 65 MA's), (Start: 79 @44955 has 1 MA's), (87, 44913), (101, 44841), (109, 44820), (138, 44724), (153, 44673), (165, 44607), (166, 44604), (169, 44580), (171, 44553), (186, 44487), (190, 44475), (200, 44439), (217, 44394), (223, 44364), (230, 44325), (235, 44286), (239, 44253), (240, 44250), (245, 44226), (254, 44193), (257, 44172), (266, 44142), (282, 44028), (286, 43986), (288, 43965), (292, 43932), (310, 43860), (313, 43854), (323, 43806), (334, 43761), (341, 43737), (346, 43722), (351, 43698),

Gene: StAugustine\_68 Start: 53628, Stop: 52423, Start Num: 138

Candidate Starts for StAugustine\_68:

(138, 53628), (143, 53619), (178, 53418), (183, 53397), (197, 53364), (216, 53307), (227, 53250), (228, 53247), (240, 53163), (251, 53118), (260, 53079), (279, 52905), (281, 52893), (288, 52809), (292, 52776), (310, 52743), (330, 52665), (331, 52659), (348, 52599), (352, 52578),

Gene: Stinger\_45 Start: 44262, Stop: 42913, Start Num: 73

Candidate Starts for Stinger\_45:

(Start: 73 @44262 has 9 MA's), (Start: 75 @44259 has 15 MA's), (Start: 79 @44250 has 1 MA's), (80, 44244), (133, 44046), (148, 44004), (150, 43998), (152, 43986), (153, 43974), (187, 43785), (192, 43770), (195, 43755), (196, 43752), (222, 43686), (224, 43662), (225, 43653), (231, 43629), (240, 43557), (243, 43542), (245, 43533), (249, 43518), (254, 43500), (255, 43497), (257, 43479), (266, 43449), (271, 43422), (279, 43371), (281, 43359), (284, 43314), (285, 43308), (286, 43299), (292, 43245), (313, 43206), (327, 43140), (328, 43137), (348, 43068), (351, 43050),

Gene: StinkyVeggy\_51 Start: 46290, Stop: 44905, Start Num: 76

Candidate Starts for StinkyVeggy\_51:

(35, 46440), (Start: 76 @46290 has 220 MA's), (Start: 82 @46272 has 2 MA's), (117, 46116), (138, 46053), (149, 46023), (176, 45858), (186, 45816), (193, 45798), (198, 45783), (219, 45732), (227, 45681), (240, 45594), (243, 45579), (245, 45570), (259, 45510), (266, 45486), (267, 45483), (284, 45351), (288, 45318), (292, 45285), (295, 45267), (310, 45213), (321, 45168), (327, 45141), (348, 45060), (358, 45021), (367, 44979),

Gene: Struggle\_50 Start: 44796, Stop: 43393, Start Num: 74

Candidate Starts for Struggle\_50:

(35, 44958), (Start: 74 @44796 has 18 MA's), (Start: 78 @44793 has 65 MA's), (87, 44745), (101, 44673), (109, 44652), (138, 44556), (153, 44505), (165, 44439), (166, 44436), (169, 44412), (171, 44385), (186, 44319), (190, 44307), (200, 44271), (217, 44226), (223, 44196), (230, 44157), (235, 44118), (239, 44085), (240, 44082), (242, 44076), (245, 44058), (254, 44025), (257, 44004), (266, 43974), (282, 43860), (286, 43818), (288, 43797), (292, 43764), (310, 43692), (313, 43686), (323, 43638), (334, 43593), (341, 43569), (346, 43554), (351, 43530),

Gene: Suffolk\_51 Start: 45242, Stop: 43842, Start Num: 78

Candidate Starts for Suffolk\_51:

(35, 45410), (Start: 76 @45245 has 220 MA's), (Start: 78 @45242 has 65 MA's), (Start: 79 @45236 has 1 MA's), (87, 45194), (101, 45122), (109, 45101), (138, 45005), (153, 44954), (165, 44888), (166, 44885), (171, 44834), (186, 44768), (190, 44756), (200, 44720), (217, 44675), (223, 44645), (230, 44606), (235, 44567), (239, 44534), (240, 44531), (245, 44507), (254, 44474), (257, 44453), (266, 44423), (282, 44309), (286, 44267), (288, 44246), (292, 44213), (310, 44141), (313, 44135), (323, 44087), (334, 44042), (341, 44018), (346, 44003), (351, 43979),

Gene: Suigeneris\_51 Start: 46147, Stop: 44765, Start Num: 76

Candidate Starts for Suigeneris\_51:

(24, 46372), (Start: 76 @46147 has 220 MA's), (Start: 82 @46129 has 2 MA's), (138, 45913), (149, 45883), (176, 45718), (186, 45676), (193, 45658), (198, 45643), (219, 45592), (240, 45454), (243, 45439), (245, 45430), (256, 45379), (259, 45370), (266, 45346), (267, 45343), (284, 45211), (288,

45178), (292, 45145), (295, 45127), (310, 45073), (321, 45028), (327, 45001), (348, 44920), (351, 44902), (367, 44839),

Gene: Surely\_51 Start: 45251, Stop: 43848, Start Num: 76

Candidate Starts for Surely\_51:

(35, 45416), (Start: 76 @45251 has 220 MA's), (Start: 78 @45248 has 65 MA's), (Start: 79 @45242 has 1 MA's), (87, 45200), (101, 45128), (109, 45107), (138, 45011), (153, 44960), (165, 44894), (166, 44891), (169, 44867), (171, 44840), (186, 44774), (190, 44762), (200, 44726), (217, 44681), (223, 44651), (230, 44612), (235, 44573), (239, 44540), (240, 44537), (245, 44513), (254, 44480), (257, 44459), (266, 44429), (282, 44315), (286, 44273), (288, 44252), (292, 44219), (310, 44147), (313, 44141), (323, 44093), (334, 44048), (341, 44024), (346, 44009), (351, 43985),

Gene: Swiphy\_53 Start: 45243, Stop: 43843, Start Num: 78

Candidate Starts for Swiphy\_53:

(35, 45411), (Start: 76 @45246 has 220 MA's), (Start: 78 @45243 has 65 MA's), (Start: 79 @45237 has 1 MA's), (87, 45195), (101, 45123), (109, 45102), (138, 45006), (153, 44955), (165, 44889), (166, 44886), (169, 44862), (171, 44835), (186, 44769), (190, 44757), (200, 44721), (217, 44676), (223, 44646), (230, 44607), (235, 44568), (239, 44535), (240, 44532), (245, 44508), (254, 44475), (257, 44454), (266, 44424), (282, 44310), (286, 44268), (288, 44247), (292, 44214), (310, 44142), (313, 44136), (323, 44088), (334, 44043), (341, 44019), (346, 44004), (351, 43980),

Gene: Swish\_52 Start: 45390, Stop: 43987, Start Num: 76

Candidate Starts for Swish\_52:

(11, 45768), (12, 45723), (17, 45681), (29, 45600), (35, 45555), (Start: 76 @45390 has 220 MA's), (Start: 78 @45387 has 65 MA's), (Start: 79 @45381 has 1 MA's), (87, 45339), (101, 45267), (109, 45246), (138, 45150), (153, 45099), (165, 45033), (166, 45030), (171, 44979), (186, 44913), (190, 44901), (200, 44865), (217, 44820), (223, 44790), (230, 44751), (235, 44712), (239, 44679), (240, 44676), (245, 44652), (254, 44619), (257, 44598), (266, 44568), (282, 44454), (286, 44412), (288, 44391), (292, 44358), (310, 44286), (313, 44280), (323, 44232), (334, 44187), (341, 44163), (346, 44148), (351, 44124),

Gene: SynergyX\_49 Start: 44878, Stop: 43265, Start Num: 41

Candidate Starts for SynergyX\_49:

(19, 45004), (21, 44998), (23, 44983), (Start: 39 @44887 has 12 MA's), (Start: 41 @44878 has 41 MA's), (65, 44782), (84, 44704), (103, 44569), (141, 44410), (144, 44395), (148, 44383), (153, 44353), (162, 44311), (171, 44233), (207, 44101), (214, 44068), (217, 44059), (234, 43966), (240, 43918), (243, 43903), (245, 43894), (254, 43861), (259, 43834), (266, 43810), (281, 43720), (292, 43609), (310, 43576), (311, 43573), (314, 43558), (320, 43537), (327, 43504),

Gene: TA17A\_50 Start: 44847, Stop: 43480, Start Num: 78

Candidate Starts for TA17A\_50:

(Start: 78 @44847 has 65 MA's), (88, 44784), (91, 44769), (121, 44658), (137, 44607), (152, 44559), (160, 44511), (183, 44370), (186, 44361), (209, 44316), (211, 44310), (212, 44304), (217, 44292), (235, 44187), (239, 44154), (243, 44136), (245, 44127), (254, 44094), (259, 44067), (266, 44043), (274, 43989), (283, 43914), (288, 43869), (292, 43836), (302, 43815), (308, 43809), (318, 43776), (319, 43767), (321, 43758), (364, 43596), (367, 43578), (375, 43521),

Gene: TP1604\_44 Start: 36178, Stop: 34988, Start Num: 104

Candidate Starts for TP1604\_44:

(59, 36397), (70, 36346), (85, 36289), (Start: 104 @36178 has 5 MA's), (Start: 114 @36154 has 5 MA's), (131, 36115), (145, 36076), (154, 36031), (157, 36010), (172, 35905), (173, 35899), (182, 35854), (186, 35842), (220, 35785), (222, 35779), (230, 35734), (233, 35716), (243, 35644), (251, 35614), (258, 35578), (259, 35575), (262, 35566), (308, 35290), (312, 35281), (321, 35236), (326,

35212), (329, 35203), (337, 35170), (354, 35113), (360, 35095), (374, 35002), (375, 34999),

Gene: TPA2\_57 Start: 44817, Stop: 43513, Start Num: 102

Candidate Starts for TPA2\_57:

(1, 46389), (2, 45999), (5, 45516), (102, 44817), (111, 44790), (126, 44730), (143, 44652), (161, 44565), (163, 44556), (170, 44496), (173, 44478), (188, 44421), (192, 44409), (206, 44367), (210, 44355), (216, 44337), (239, 44199), (243, 44181), (249, 44157), (266, 44088), (269, 44034), (273, 44010), (280, 43977), (284, 43917), (285, 43911), (292, 43851), (294, 43839), (315, 43797), (322, 43767), (330, 43740), (344, 43686), (370, 43569), (376, 43533), (378, 43521),

Gene: TallGrassMM\_51 Start: 44861, Stop: 43461, Start Num: 78

Candidate Starts for TallGrassMM\_51:

(11, 45242), (12, 45197), (17, 45155), (29, 45074), (35, 45029), (Start: 76 @44864 has 220 MA's), (Start: 78 @44861 has 65 MA's), (Start: 79 @44855 has 1 MA's), (87, 44813), (101, 44741), (109, 44720), (138, 44624), (153, 44573), (165, 44507), (166, 44504), (171, 44453), (186, 44387), (190, 44375), (200, 44339), (217, 44294), (223, 44264), (230, 44225), (235, 44186), (239, 44153), (240, 44150), (245, 44126), (254, 44093), (257, 44072), (266, 44042), (282, 43928), (286, 43886), (288, 43865), (292, 43832), (310, 43760), (313, 43754), (323, 43706), (334, 43661), (341, 43637), (346, 43622), (351, 43598),

Gene: Telesworld\_50 Start: 44943, Stop: 43540, Start Num: 76

Candidate Starts for Telesworld\_50:

(35, 45108), (Start: 76 @44943 has 220 MA's), (Start: 78 @44940 has 65 MA's), (Start: 79 @44934 has 1 MA's), (87, 44892), (101, 44820), (109, 44799), (138, 44703), (153, 44652), (165, 44586), (166, 44583), (171, 44532), (186, 44466), (190, 44454), (200, 44418), (217, 44373), (223, 44343), (230, 44304), (235, 44265), (239, 44232), (240, 44229), (245, 44205), (254, 44172), (257, 44151), (266, 44121), (282, 44007), (286, 43965), (288, 43944), (292, 43911), (310, 43839), (313, 43833), (323, 43785), (334, 43740), (341, 43716), (346, 43701), (351, 43677),

Gene: Thonko\_49 Start: 43281, Stop: 41938, Start Num: 75

Candidate Starts for Thonko\_49:

(25, 43518), (Start: 75 @43281 has 15 MA's), (112, 43110), (113, 43104), (138, 43020), (180, 42804), (186, 42789), (223, 42696), (231, 42654), (241, 42579), (243, 42567), (246, 42555), (255, 42522), (259, 42498), (266, 42474), (276, 42414), (279, 42396), (281, 42384), (284, 42339), (288, 42303), (292, 42270), (310, 42237), (326, 42168),

Gene: Thora\_51 Start: 45250, Stop: 43847, Start Num: 76

Candidate Starts for Thora\_51:

(35, 45415), (Start: 76 @45250 has 220 MA's), (Start: 78 @45247 has 65 MA's), (Start: 79 @45241 has 1 MA's), (87, 45199), (101, 45127), (109, 45106), (138, 45010), (153, 44959), (165, 44893), (166, 44890), (171, 44839), (186, 44773), (190, 44761), (200, 44725), (217, 44680), (223, 44650), (230, 44611), (235, 44572), (239, 44539), (240, 44536), (245, 44512), (254, 44479), (257, 44458), (266, 44428), (282, 44314), (286, 44272), (288, 44251), (292, 44218), (310, 44146), (313, 44140), (323, 44092), (334, 44047), (341, 44023), (346, 44008), (351, 43984),

Gene: ThreeOh3D2\_52 Start: 45383, Stop: 43980, Start Num: 76

Candidate Starts for ThreeOh3D2\_52:

(11, 45761), (12, 45716), (17, 45674), (29, 45593), (35, 45548), (Start: 76 @45383 has 220 MA's), (Start: 78 @45380 has 65 MA's), (Start: 79 @45374 has 1 MA's), (87, 45332), (101, 45260), (109, 45239), (138, 45143), (153, 45092), (165, 45026), (166, 45023), (171, 44972), (186, 44906), (190, 44894), (200, 44858), (217, 44813), (223, 44783), (230, 44744), (235, 44705), (239, 44672), (240, 44669), (245, 44645), (254, 44612), (257, 44591), (266, 44561), (282, 44447), (286, 44405), (288, 44384), (292, 44351), (310, 44279), (313, 44273), (323, 44225), (334, 44180), (341, 44156), (346,

44141), (351, 44117),

Gene: Thunderbird\_50 Start: 44951, Stop: 43548, Start Num: 74

Candidate Starts for Thunderbird\_50:

(35, 45113), (Start: 74 @44951 has 18 MA's), (Start: 78 @44948 has 65 MA's), (87, 44900), (101, 44828), (109, 44807), (138, 44711), (153, 44660), (165, 44594), (166, 44591), (169, 44567), (171, 44540), (186, 44474), (190, 44462), (200, 44426), (217, 44381), (223, 44351), (230, 44312), (235, 44273), (239, 44240), (240, 44237), (245, 44213), (254, 44180), (257, 44159), (266, 44129), (282, 44015), (286, 43973), (288, 43952), (292, 43919), (310, 43847), (313, 43841), (323, 43793), (334, 43748), (341, 43724), (346, 43709), (351, 43685),

Gene: Timmi\_50 Start: 44950, Stop: 43547, Start Num: 76

Candidate Starts for Timmi\_50:

(11, 45328), (12, 45283), (17, 45241), (29, 45160), (35, 45115), (Start: 76 @44950 has 220 MA's), (Start: 78 @44947 has 65 MA's), (Start: 79 @44941 has 1 MA's), (87, 44899), (101, 44827), (109, 44806), (138, 44710), (153, 44659), (165, 44593), (166, 44590), (171, 44539), (186, 44473), (190, 44461), (200, 44425), (217, 44380), (223, 44350), (230, 44311), (235, 44272), (239, 44239), (240, 44236), (245, 44212), (254, 44179), (257, 44158), (266, 44128), (282, 44014), (286, 43972), (288, 43951), (292, 43918), (310, 43846), (313, 43840), (323, 43792), (334, 43747), (341, 43723), (346, 43708), (351, 43684),

Gene: Tinciduntolum\_51 Start: 45009, Stop: 43642, Start Num: 78

Candidate Starts for Tinciduntolum\_51:

(Start: 78 @45009 has 65 MA's), (88, 44946), (91, 44931), (121, 44820), (137, 44769), (152, 44721), (160, 44673), (183, 44532), (186, 44523), (209, 44478), (211, 44472), (212, 44466), (217, 44454), (235, 44349), (239, 44316), (243, 44298), (245, 44289), (254, 44256), (259, 44229), (266, 44205), (271, 44178), (274, 44151), (283, 44076), (288, 44031), (292, 43998), (302, 43977), (308, 43971), (318, 43938), (319, 43929), (321, 43920), (364, 43758), (367, 43740), (375, 43683),

Gene: TomBombadil\_51 Start: 45235, Stop: 43832, Start Num: 76

Candidate Starts for TomBombadil\_51:

(11, 45613), (12, 45568), (17, 45526), (29, 45445), (35, 45400), (Start: 76 @45235 has 220 MA's), (Start: 78 @45232 has 65 MA's), (Start: 79 @45226 has 1 MA's), (87, 45184), (101, 45112), (109, 45091), (138, 44995), (153, 44944), (165, 44878), (166, 44875), (171, 44824), (186, 44758), (190, 44746), (200, 44710), (217, 44665), (223, 44635), (230, 44596), (235, 44557), (239, 44524), (240, 44521), (242, 44515), (245, 44497), (254, 44464), (257, 44443), (266, 44413), (282, 44299), (286, 44257), (288, 44236), (292, 44203), (310, 44131), (313, 44125), (323, 44077), (334, 44032), (341, 44008), (346, 43993), (351, 43969),

Gene: Tomlarah\_51 Start: 45238, Stop: 43835, Start Num: 76

Candidate Starts for Tomlarah\_51:

(11, 45616), (12, 45571), (17, 45529), (29, 45448), (35, 45403), (Start: 76 @45238 has 220 MA's), (Start: 78 @45235 has 65 MA's), (Start: 79 @45229 has 1 MA's), (87, 45187), (101, 45115), (109, 45094), (138, 44998), (153, 44947), (165, 44881), (166, 44878), (171, 44827), (186, 44761), (190, 44749), (200, 44713), (217, 44668), (223, 44638), (230, 44599), (235, 44560), (239, 44527), (240, 44524), (245, 44500), (254, 44467), (257, 44446), (266, 44416), (282, 44302), (286, 44260), (288, 44239), (292, 44206), (310, 44134), (313, 44128), (323, 44080), (334, 44035), (341, 44011), (346, 43996), (351, 43972),

Gene: Toni\_50 Start: 44942, Stop: 43539, Start Num: 76

Candidate Starts for Toni\_50:

(11, 45320), (12, 45275), (17, 45233), (29, 45152), (35, 45107), (Start: 76 @44942 has 220 MA's), (Start: 78 @44939 has 65 MA's), (Start: 79 @44933 has 1 MA's), (87, 44891), (101, 44819), (109,

44798), (138, 44702), (153, 44651), (165, 44585), (166, 44582), (171, 44531), (186, 44465), (190, 44453), (200, 44417), (217, 44372), (223, 44342), (230, 44303), (235, 44264), (239, 44231), (240, 44228), (245, 44204), (254, 44171), (257, 44150), (266, 44120), (282, 44006), (286, 43964), (288, 43943), (292, 43910), (310, 43838), (313, 43832), (323, 43784), (334, 43739), (341, 43715), (346, 43700), (351, 43676),

Gene: Tooj\_51 Start: 45317, Stop: 43914, Start Num: 76

Candidate Starts for Tooj\_51:

(11, 45695), (12, 45650), (17, 45608), (29, 45527), (35, 45482), (Start: 76 @45317 has 220 MA's), (Start: 78 @45314 has 65 MA's), (Start: 79 @45308 has 1 MA's), (87, 45266), (101, 45194), (109, 45173), (138, 45077), (153, 45026), (165, 44960), (166, 44957), (171, 44906), (186, 44840), (190, 44828), (200, 44792), (217, 44747), (223, 44717), (230, 44678), (235, 44639), (239, 44606), (240, 44603), (245, 44579), (254, 44546), (257, 44525), (266, 44495), (282, 44381), (286, 44339), (288, 44318), (292, 44285), (310, 44213), (313, 44207), (323, 44159), (334, 44114), (341, 44090), (346, 44075), (351, 44051),

Gene: Tres\_50 Start: 44860, Stop: 43493, Start Num: 78

Candidate Starts for Tres\_50:

(Start: 78 @44860 has 65 MA's), (88, 44797), (91, 44782), (121, 44671), (137, 44620), (152, 44572), (160, 44524), (183, 44383), (186, 44374), (209, 44329), (211, 44323), (212, 44317), (217, 44305), (235, 44200), (239, 44167), (243, 44149), (245, 44140), (254, 44107), (259, 44080), (266, 44056), (271, 44029), (274, 44002), (283, 43927), (288, 43882), (292, 43849), (302, 43828), (308, 43822), (318, 43789), (319, 43780), (321, 43771), (364, 43609), (367, 43591), (375, 43534),

Gene: Trine\_30 Start: 24580, Stop: 23426, Start Num: 128

Candidate Starts for Trine\_30:

(Start: 128 @24580 has 1 MA's), (Start: 129 @24574 has 1 MA's), (170, 24382), (225, 24229), (237, 24148), (240, 24133), (255, 24073), (261, 24046), (264, 24022), (272, 23986), (275, 23959), (292, 23818), (297, 23791), (298, 23788), (307, 23746), (322, 23683), (331, 23650), (366, 23521),

Gene: True\_50 Start: 44948, Stop: 43545, Start Num: 76

Candidate Starts for True\_50:

(11, 45326), (12, 45281), (17, 45239), (29, 45158), (35, 45113), (Start: 76 @44948 has 220 MA's), (Start: 78 @44945 has 65 MA's), (Start: 79 @44939 has 1 MA's), (87, 44897), (101, 44825), (109, 44804), (138, 44708), (153, 44657), (165, 44591), (166, 44588), (171, 44537), (186, 44471), (190, 44459), (200, 44423), (217, 44378), (223, 44348), (230, 44309), (235, 44270), (239, 44237), (240, 44234), (245, 44210), (254, 44177), (257, 44156), (266, 44126), (282, 44012), (286, 43970), (288, 43949), (292, 43916), (310, 43844), (313, 43838), (323, 43790), (334, 43745), (341, 43721), (346, 43706), (351, 43682),

Gene: Trypo\_52 Start: 45379, Stop: 43976, Start Num: 76

Candidate Starts for Trypo\_52:

(35, 45544), (Start: 76 @45379 has 220 MA's), (Start: 78 @45376 has 65 MA's), (Start: 79 @45370 has 1 MA's), (87, 45328), (101, 45256), (109, 45235), (138, 45139), (153, 45088), (165, 45022), (166, 45019), (171, 44968), (186, 44902), (190, 44890), (200, 44854), (217, 44809), (223, 44779), (230, 44740), (235, 44701), (239, 44668), (240, 44665), (242, 44659), (245, 44641), (254, 44608), (257, 44587), (266, 44557), (282, 44443), (286, 44401), (288, 44380), (292, 44347), (310, 44275), (313, 44269), (323, 44221), (334, 44176), (341, 44152), (346, 44137), (351, 44113),

Gene: Tydolla\_49 Start: 45612, Stop: 43999, Start Num: 41

Candidate Starts for Tydolla\_49:

(19, 45738), (21, 45732), (23, 45717), (Start: 39 @45621 has 12 MA's), (Start: 41 @45612 has 41 MA's), (65, 45516), (84, 45438), (103, 45303), (141, 45144), (144, 45129), (148, 45117), (153, 45087),



(162, 45045), (171, 44967), (207, 44835), (214, 44802), (217, 44793), (234, 44700), (240, 44652), (243, 44637), (245, 44628), (254, 44595), (259, 44568), (266, 44544), (281, 44454), (292, 44343), (310, 44310), (311, 44307), (314, 44292), (320, 44271), (327, 44238),

Gene: TyrionL\_50 Start: 44804, Stop: 43401, Start Num: 76

Candidate Starts for TyrionL\_50:

(11, 45182), (12, 45137), (17, 45095), (29, 45014), (35, 44969), (Start: 76 @44804 has 220 MA's), (Start: 78 @44801 has 65 MA's), (Start: 79 @44795 has 1 MA's), (87, 44753), (101, 44681), (109, 44660), (138, 44564), (153, 44513), (165, 44447), (166, 44444), (171, 44393), (186, 44327), (190, 44315), (200, 44279), (217, 44234), (223, 44204), (230, 44165), (235, 44126), (239, 44093), (240, 44090), (242, 44084), (245, 44066), (254, 44033), (257, 44012), (266, 43982), (282, 43868), (286, 43826), (288, 43805), (292, 43772), (310, 43700), (313, 43694), (323, 43646), (334, 43601), (341, 43577), (346, 43562), (351, 43538),

Gene: UAch1\_51 Start: 45272, Stop: 43869, Start Num: 76

Candidate Starts for UAch1\_51:

(11, 45650), (12, 45605), (17, 45563), (29, 45482), (35, 45437), (Start: 76 @45272 has 220 MA's), (Start: 78 @45269 has 65 MA's), (Start: 79 @45263 has 1 MA's), (87, 45221), (101, 45149), (109, 45128), (138, 45032), (153, 44981), (165, 44915), (166, 44912), (169, 44888), (171, 44861), (186, 44795), (190, 44783), (200, 44747), (217, 44702), (223, 44672), (230, 44633), (235, 44594), (239, 44561), (240, 44558), (245, 44534), (254, 44501), (257, 44480), (266, 44450), (282, 44336), (286, 44294), (288, 44273), (292, 44240), (310, 44168), (313, 44162), (323, 44114), (334, 44069), (341, 44045), (346, 44030), (351, 44006),

Gene: UncleHowie\_51 Start: 44947, Stop: 43544, Start Num: 76

Candidate Starts for UncleHowie\_51:

(35, 45112), (Start: 76 @44947 has 220 MA's), (Start: 78 @44944 has 65 MA's), (Start: 79 @44938 has 1 MA's), (87, 44896), (101, 44824), (109, 44803), (138, 44707), (153, 44656), (165, 44590), (166, 44587), (169, 44563), (171, 44536), (186, 44470), (190, 44458), (200, 44422), (217, 44377), (223, 44347), (230, 44308), (235, 44269), (239, 44236), (240, 44233), (245, 44209), (254, 44176), (257, 44155), (266, 44125), (282, 44011), (286, 43969), (288, 43948), (292, 43915), (310, 43843), (313, 43837), (323, 43789), (334, 43744), (341, 43720), (346, 43705), (351, 43681),

Gene: Upyo\_30 Start: 25191, Stop: 24034, Start Num: 129

Candidate Starts for Upyo\_30:

(60, 25530), (64, 25512), (108, 25284), (Start: 129 @25191 has 1 MA's), (Start: 135 @25155 has 4 MA's), (152, 25110), (182, 24924), (225, 24834), (237, 24753), (240, 24738), (249, 24699), (255, 24678), (264, 24627), (272, 24591), (292, 24423), (297, 24396), (298, 24393), (301, 24384), (307, 24351), (322, 24288), (327, 24267), (366, 24123), (367, 24114), (370, 24093), (372, 24078),

Gene: Usavi\_51 Start: 45246, Stop: 43843, Start Num: 76

Candidate Starts for Usavi\_51:

(35, 45411), (Start: 76 @45246 has 220 MA's), (Start: 78 @45243 has 65 MA's), (Start: 79 @45237 has 1 MA's), (87, 45195), (101, 45123), (109, 45102), (138, 45006), (153, 44955), (165, 44889), (166, 44886), (169, 44862), (171, 44835), (186, 44769), (190, 44757), (200, 44721), (217, 44676), (223, 44646), (230, 44607), (235, 44568), (239, 44535), (240, 44532), (245, 44508), (254, 44475), (257, 44454), (266, 44424), (282, 44310), (286, 44268), (288, 44247), (292, 44214), (310, 44142), (313, 44136), (323, 44088), (334, 44043), (341, 44019), (346, 44004), (351, 43980),

Gene: Vaishali24\_50 Start: 44918, Stop: 43515, Start Num: 76

Candidate Starts for Vaishali24\_50:

(11, 45296), (12, 45251), (17, 45209), (29, 45128), (35, 45083), (Start: 76 @44918 has 220 MA's), (Start: 78 @44915 has 65 MA's), (Start: 79 @44909 has 1 MA's), (87, 44867), (101, 44795), (109,

44774), (138, 44678), (153, 44627), (165, 44561), (166, 44558), (171, 44507), (186, 44441), (190, 44429), (200, 44393), (217, 44348), (223, 44318), (230, 44279), (235, 44240), (239, 44207), (240, 44204), (245, 44180), (254, 44147), (257, 44126), (266, 44096), (282, 43982), (286, 43940), (288, 43919), (292, 43886), (310, 43814), (313, 43808), (323, 43760), (334, 43715), (341, 43691), (346, 43676), (351, 43652),

Gene: Valjean\_51 Start: 45240, Stop: 43840, Start Num: 78

Candidate Starts for Valjean\_51:

(35, 45408), (Start: 76 @45243 has 220 MA's), (Start: 78 @45240 has 65 MA's), (Start: 79 @45234 has 1 MA's), (87, 45192), (101, 45120), (109, 45099), (138, 45003), (153, 44952), (165, 44886), (166, 44883), (169, 44859), (171, 44832), (186, 44766), (190, 44754), (200, 44718), (217, 44673), (223, 44643), (230, 44604), (235, 44565), (239, 44532), (240, 44529), (245, 44505), (254, 44472), (257, 44451), (266, 44421), (282, 44307), (286, 44265), (288, 44244), (292, 44211), (310, 44139), (313, 44133), (323, 44085), (334, 44040), (341, 44016), (346, 44001), (351, 43977),

Gene: Vaticameos\_47 Start: 42929, Stop: 41526, Start Num: 76

Candidate Starts for Vaticameos\_47:

(11, 43307), (12, 43262), (17, 43220), (29, 43139), (35, 43094), (Start: 76 @42929 has 220 MA's), (Start: 78 @42926 has 65 MA's), (Start: 79 @42920 has 1 MA's), (87, 42878), (101, 42806), (109, 42785), (138, 42689), (153, 42638), (165, 42572), (166, 42569), (171, 42518), (186, 42452), (190, 42440), (200, 42404), (217, 42359), (223, 42329), (230, 42290), (235, 42251), (239, 42218), (240, 42215), (245, 42191), (254, 42158), (257, 42137), (266, 42107), (282, 41993), (286, 41951), (288, 41930), (292, 41897), (310, 41825), (313, 41819), (323, 41771), (334, 41726), (341, 41702), (346, 41687), (351, 41663),

Gene: Veritas\_50 Start: 44825, Stop: 43422, Start Num: 74

Candidate Starts for Veritas\_50:

(35, 44987), (Start: 74 @44825 has 18 MA's), (Start: 78 @44822 has 65 MA's), (87, 44774), (101, 44702), (109, 44681), (138, 44585), (153, 44534), (165, 44468), (166, 44465), (171, 44414), (186, 44348), (190, 44336), (200, 44300), (217, 44255), (223, 44225), (230, 44186), (235, 44147), (239, 44114), (240, 44111), (242, 44105), (245, 44087), (254, 44054), (257, 44033), (266, 44003), (282, 43889), (286, 43847), (288, 43826), (292, 43793), (310, 43721), (313, 43715), (323, 43667), (334, 43622), (341, 43598), (346, 43583), (351, 43559),

Gene: Vic9\_50 Start: 45381, Stop: 44014, Start Num: 78

Candidate Starts for Vic9\_50:

(Start: 78 @45381 has 65 MA's), (88, 45318), (91, 45303), (121, 45192), (137, 45141), (152, 45093), (160, 45045), (183, 44904), (186, 44895), (209, 44850), (211, 44844), (212, 44838), (217, 44826), (235, 44721), (239, 44688), (241, 44682), (243, 44670), (245, 44661), (254, 44628), (259, 44601), (266, 44577), (271, 44550), (274, 44523), (283, 44448), (288, 44403), (292, 44370), (302, 44349), (308, 44343), (318, 44310), (321, 44292), (364, 44130), (367, 44112), (375, 44055),

Gene: Vincenzo\_47 Start: 46277, Stop: 44940, Start Num: 75

Candidate Starts for Vincenzo\_47:

(Start: 75 @46277 has 15 MA's), (Start: 82 @46262 has 2 MA's), (133, 46067), (149, 46022), (153, 46001), (179, 45836), (186, 45815), (187, 45812), (192, 45797), (223, 45698), (225, 45680), (231, 45656), (240, 45584), (243, 45569), (249, 45545), (255, 45524), (257, 45506), (266, 45476), (271, 45449), (276, 45416), (279, 45398), (284, 45341), (288, 45305), (292, 45272), (313, 45233), (327, 45167), (328, 45164), (346, 45101), (348, 45095), (351, 45077),

Gene: VioletZ\_48 Start: 45803, Stop: 44463, Start Num: 75

Candidate Starts for VioletZ\_48:

(Start: 73 @45806 has 9 MA's), (Start: 75 @45803 has 15 MA's), (Start: 79 @45794 has 1 MA's), (80, 45788), (89, 45737), (133, 45590), (149, 45545), (153, 45524), (175, 45383), (179, 45359), (186, 45338), (187, 45335), (192, 45320), (195, 45305), (222, 45236), (223, 45221), (225, 45203), (231, 45179), (240, 45107), (245, 45083), (254, 45050), (255, 45047), (257, 45029), (266, 44999), (276, 44939), (279, 44921), (281, 44909), (284, 44864), (285, 44858), (286, 44849), (291, 44819), (292, 44795), (313, 44756), (322, 44711), (327, 44690), (328, 44687), (348, 44618), (351, 44600),

Gene: Virapocalypse\_51 Start: 45238, Stop: 43835, Start Num: 76

Candidate Starts for Virapocalypse\_51:

(11, 45616), (12, 45571), (17, 45529), (29, 45448), (35, 45403), (Start: 76 @45238 has 220 MA's), (Start: 78 @45235 has 65 MA's), (Start: 79 @45229 has 1 MA's), (87, 45187), (101, 45115), (109, 45094), (138, 44998), (153, 44947), (165, 44881), (166, 44878), (171, 44827), (186, 44761), (190, 44749), (200, 44713), (217, 44668), (223, 44638), (230, 44599), (235, 44560), (239, 44527), (240, 44524), (245, 44500), (254, 44467), (257, 44446), (266, 44416), (282, 44302), (286, 44260), (288, 44239), (292, 44206), (310, 44134), (313, 44128), (323, 44080), (334, 44035), (341, 44011), (346, 43996), (351, 43972),

Gene: Virgeve\_50 Start: 45015, Stop: 43612, Start Num: 74

Candidate Starts for Virgeve\_50:

(35, 45177), (Start: 74 @45015 has 18 MA's), (Start: 78 @45012 has 65 MA's), (87, 44964), (101, 44892), (109, 44871), (138, 44775), (153, 44724), (165, 44658), (166, 44655), (171, 44604), (186, 44538), (190, 44526), (200, 44490), (217, 44445), (223, 44415), (230, 44376), (235, 44337), (239, 44304), (240, 44301), (242, 44295), (245, 44277), (254, 44244), (257, 44223), (266, 44193), (282, 44079), (286, 44037), (288, 44016), (292, 43983), (310, 43911), (313, 43905), (323, 43857), (334, 43812), (341, 43788), (346, 43773), (351, 43749),

Gene: Vista\_51 Start: 45248, Stop: 43845, Start Num: 76

Candidate Starts for Vista\_51:

(35, 45413), (Start: 76 @45248 has 220 MA's), (Start: 78 @45245 has 65 MA's), (Start: 79 @45239 has 1 MA's), (87, 45197), (101, 45125), (109, 45104), (138, 45008), (153, 44957), (165, 44891), (166, 44888), (169, 44864), (171, 44837), (186, 44771), (190, 44759), (200, 44723), (217, 44678), (223, 44648), (230, 44609), (235, 44570), (239, 44537), (240, 44534), (245, 44510), (254, 44477), (257, 44456), (266, 44426), (282, 44312), (286, 44270), (288, 44249), (292, 44216), (310, 44144), (313, 44138), (323, 44090), (334, 44045), (341, 44021), (346, 44006), (351, 43982),

Gene: Vivaldi\_52 Start: 45680, Stop: 44280, Start Num: 78

Candidate Starts for Vivaldi\_52:

(Start: 74 @45683 has 18 MA's), (Start: 78 @45680 has 65 MA's), (Start: 79 @45674 has 1 MA's), (87, 45632), (101, 45560), (109, 45539), (138, 45443), (153, 45392), (165, 45326), (166, 45323), (171, 45272), (186, 45206), (190, 45194), (200, 45158), (217, 45113), (223, 45083), (230, 45044), (235, 45005), (239, 44972), (240, 44969), (245, 44945), (254, 44912), (257, 44891), (266, 44861), (282, 44747), (286, 44705), (288, 44684), (292, 44651), (310, 44579), (313, 44573), (334, 44480), (341, 44456), (346, 44441), (351, 44417),

Gene: Vortex\_51 Start: 44945, Stop: 43542, Start Num: 76

Candidate Starts for Vortex\_51:

(11, 45323), (12, 45278), (17, 45236), (29, 45155), (35, 45110), (Start: 76 @44945 has 220 MA's), (Start: 78 @44942 has 65 MA's), (Start: 79 @44936 has 1 MA's), (87, 44894), (101, 44822), (109, 44801), (138, 44705), (153, 44654), (165, 44588), (166, 44585), (171, 44534), (186, 44468), (190, 44456), (200, 44420), (217, 44375), (223, 44345), (230, 44306), (235, 44267), (239, 44234), (240, 44231), (245, 44207), (254, 44174), (257, 44153), (266, 44123), (282, 44009), (286, 43967), (288, 43946), (292, 43913), (310, 43841), (313, 43835), (323, 43787), (334, 43742), (341, 43718), (346, 43703), (351, 43679),

Gene: Waleliano\_46 Start: 45719, Stop: 44379, Start Num: 75

Candidate Starts for Waleliano\_46:

(Start: 73 @45722 has 9 MA's), (Start: 75 @45719 has 15 MA's), (Start: 79 @45710 has 1 MA's), (80, 45704), (89, 45653), (133, 45506), (153, 45440), (175, 45299), (179, 45275), (186, 45254), (187, 45251), (192, 45236), (195, 45221), (222, 45152), (225, 45119), (231, 45095), (240, 45023), (243, 45008), (245, 44999), (254, 44966), (255, 44963), (257, 44945), (266, 44915), (276, 44855), (279, 44837), (281, 44825), (283, 44792), (284, 44780), (285, 44774), (286, 44765), (288, 44744), (291, 44735), (292, 44711), (313, 44672), (327, 44606), (328, 44603), (346, 44540), (348, 44534), (351, 44516),

Gene: Wallhey\_50 Start: 44808, Stop: 43405, Start Num: 76

Candidate Starts for Wallhey\_50:

(11, 45186), (12, 45141), (17, 45099), (29, 45018), (35, 44973), (Start: 76 @44808 has 220 MA's), (Start: 78 @44805 has 65 MA's), (Start: 79 @44799 has 1 MA's), (87, 44757), (101, 44685), (109, 44664), (138, 44568), (153, 44517), (165, 44451), (166, 44448), (171, 44397), (186, 44331), (190, 44319), (200, 44283), (217, 44238), (223, 44208), (230, 44169), (235, 44130), (239, 44097), (240, 44094), (242, 44088), (245, 44070), (254, 44037), (257, 44016), (266, 43986), (282, 43872), (286, 43830), (288, 43809), (292, 43776), (310, 43704), (313, 43698), (323, 43650), (334, 43605), (341, 43581), (346, 43566), (351, 43542),

Gene: Waterdiva\_51 Start: 45240, Stop: 43837, Start Num: 76

Candidate Starts for Waterdiva\_51:

(35, 45405), (Start: 76 @45240 has 220 MA's), (Start: 78 @45237 has 65 MA's), (Start: 79 @45231 has 1 MA's), (87, 45189), (101, 45117), (109, 45096), (138, 45000), (153, 44949), (165, 44883), (166, 44880), (169, 44856), (171, 44829), (186, 44763), (190, 44751), (200, 44715), (217, 44670), (223, 44640), (230, 44601), (235, 44562), (239, 44529), (240, 44526), (245, 44502), (254, 44469), (257, 44448), (266, 44418), (282, 44304), (286, 44262), (288, 44241), (292, 44208), (310, 44136), (313, 44130), (323, 44082), (334, 44037), (341, 44013), (346, 43998), (351, 43974),

Gene: Weher20\_51 Start: 45239, Stop: 43836, Start Num: 76

Candidate Starts for Weher20\_51:

(35, 45404), (Start: 76 @45239 has 220 MA's), (Start: 78 @45236 has 65 MA's), (Start: 79 @45230 has 1 MA's), (87, 45188), (101, 45116), (109, 45095), (138, 44999), (153, 44948), (165, 44882), (166, 44879), (171, 44828), (186, 44762), (190, 44750), (200, 44714), (217, 44669), (223, 44639), (230, 44600), (235, 44561), (239, 44528), (240, 44525), (242, 44519), (245, 44501), (254, 44468), (257, 44447), (266, 44417), (282, 44303), (286, 44261), (288, 44240), (292, 44207), (310, 44135), (313, 44129), (323, 44081), (334, 44036), (341, 44012), (346, 43997), (351, 43973),

Gene: West99\_50 Start: 44995, Stop: 43628, Start Num: 78

Candidate Starts for West99\_50:

(Start: 78 @44995 has 65 MA's), (88, 44932), (91, 44917), (121, 44806), (137, 44755), (152, 44707), (160, 44659), (183, 44518), (186, 44509), (209, 44464), (211, 44458), (212, 44452), (217, 44440), (235, 44335), (239, 44302), (243, 44284), (245, 44275), (254, 44242), (259, 44215), (266, 44191), (271, 44164), (274, 44137), (283, 44062), (288, 44017), (292, 43984), (302, 43963), (308, 43957), (318, 43924), (319, 43915), (321, 43906), (364, 43744), (367, 43726), (375, 43669),

Gene: Widow\_31 Start: 24786, Stop: 23686, Start Num: 135

Candidate Starts for Widow\_31:

(Start: 135 @24786 has 4 MA's), (140, 24771), (152, 24738), (177, 24570), (182, 24546), (220, 24474), (241, 24354), (243, 24342), (264, 24246), (281, 24153), (283, 24120), (288, 24075), (289, 24072), (292, 24042), (296, 24021), (297, 24015), (298, 24012), (307, 23970), (322, 23907), (357, 23811), (363, 23796), (366, 23775),

Gene: Windsor\_50 Start: 44944, Stop: 43541, Start Num: 76

Candidate Starts for Windsor\_50:

(11, 45322), (12, 45277), (17, 45235), (29, 45154), (35, 45109), (Start: 76 @44944 has 220 MA's), (Start: 78 @44941 has 65 MA's), (Start: 79 @44935 has 1 MA's), (87, 44893), (101, 44821), (109, 44800), (138, 44704), (153, 44653), (165, 44587), (166, 44584), (171, 44533), (186, 44467), (190, 44455), (200, 44419), (217, 44374), (223, 44344), (230, 44305), (235, 44266), (239, 44233), (240, 44230), (245, 44206), (254, 44173), (257, 44152), (266, 44122), (282, 44008), (286, 43966), (288, 43945), (292, 43912), (310, 43840), (313, 43834), (323, 43786), (334, 43741), (341, 43717), (346, 43702), (351, 43678),

Gene: Wooper\_47 Start: 40124, Stop: 38955, Start Num: 136

Candidate Starts for Wooper\_47:

(4, 40952), (7, 40841), (10, 40796), (Start: 27 @40637 has 6 MA's), (Start: 41 @40559 has 41 MA's), (94, 40304), (100, 40277), (Start: 136 @40124 has 2 MA's), (137, 40118), (148, 40094), (151, 40085), (153, 40067), (159, 40034), (161, 40028), (173, 39938), (189, 39878), (213, 39809), (227, 39746), (237, 39674), (239, 39662), (243, 39644), (245, 39635), (254, 39602), (266, 39551), (272, 39521), (275, 39494), (276, 39491), (288, 39383), (293, 39341), (303, 39308), (308, 39263), (313, 39251), (320, 39218), (321, 39212), (327, 39185),

Gene: Xavier\_50 Start: 44952, Stop: 43549, Start Num: 76

Candidate Starts for Xavier\_50:

(11, 45330), (12, 45285), (17, 45243), (29, 45162), (35, 45117), (Start: 76 @44952 has 220 MA's), (Start: 78 @44949 has 65 MA's), (Start: 79 @44943 has 1 MA's), (87, 44901), (101, 44829), (109, 44808), (138, 44712), (153, 44661), (165, 44595), (166, 44592), (171, 44541), (186, 44475), (190, 44463), (200, 44427), (217, 44382), (223, 44352), (230, 44313), (235, 44274), (239, 44241), (240, 44238), (242, 44232), (245, 44214), (254, 44181), (257, 44160), (266, 44130), (282, 44016), (286, 43974), (288, 43953), (292, 43920), (310, 43848), (313, 43842), (323, 43794), (334, 43749), (341, 43725), (346, 43710), (351, 43686),

Gene: Xincheng\_45 Start: 45163, Stop: 43823, Start Num: 75

Candidate Starts for Xincheng\_45:

(Start: 75 @45163 has 15 MA's), (Start: 79 @45154 has 1 MA's), (80, 45148), (133, 44950), (149, 44905), (153, 44884), (175, 44743), (179, 44719), (186, 44698), (187, 44695), (192, 44680), (195, 44665), (222, 44596), (225, 44563), (231, 44539), (240, 44467), (243, 44452), (245, 44443), (249, 44428), (254, 44410), (255, 44407), (257, 44389), (266, 44359), (276, 44299), (279, 44281), (281, 44269), (284, 44224), (285, 44218), (286, 44209), (288, 44188), (291, 44179), (292, 44155), (313, 44116), (327, 44050), (328, 44047), (348, 43978), (351, 43960),

Gene: Xkcd426\_48 Start: 42277, Stop: 41054, Start Num: 114

Candidate Starts for Xkcd426\_48:

(96, 42331), (Start: 104 @42301 has 5 MA's), (Start: 114 @42277 has 5 MA's), (118, 42268), (119, 42259), (157, 42076), (170, 41983), (173, 41965), (182, 41920), (186, 41908), (220, 41851), (230, 41800), (233, 41782), (244, 41704), (251, 41680), (259, 41641), (262, 41632), (299, 41395), (308, 41356), (316, 41326), (321, 41302), (326, 41278), (329, 41269), (356, 41170), (360, 41161), (370, 41101), (375, 41065),

Gene: YDN12\_46 Start: 35847, Stop: 34681, Start Num: 114

Candidate Starts for YDN12\_46:

(Start: 114 @35847 has 5 MA's), (118, 35838), (131, 35808), (145, 35769), (157, 35703), (172, 35598), (173, 35592), (182, 35547), (220, 35478), (222, 35472), (230, 35427), (233, 35409), (243, 35337), (251, 35307), (258, 35271), (259, 35268), (262, 35259), (300, 35019), (308, 34983), (312, 34974), (321, 34929), (326, 34905), (329, 34896), (337, 34863), (354, 34806), (360, 34788), (370,

34728), (374, 34695), (375, 34692),

Gene: Yago84\_44 Start: 38830, Stop: 37565, Start Num: 41

Candidate Starts for Yago84\_44:

(Start: 41 @38830 has 41 MA's), (49, 38812), (53, 38791), (Start: 136 @38704 has 2 MA's), (137, 38698), (147, 38677), (153, 38647), (215, 38389), (221, 38371), (231, 38314), (240, 38242), (243, 38227), (245, 38218), (250, 38200), (254, 38185), (259, 38158), (266, 38134), (276, 38074), (284, 37999), (288, 37966), (292, 37933), (293, 37924), (304, 37900), (305, 37888), (321, 37822), (327, 37795), (331, 37783), (361, 37675), (362, 37672), (367, 37639),

Gene: Yahalom\_49 Start: 44898, Stop: 43276, Start Num: 39

Candidate Starts for Yahalom\_49:

(19, 45015), (21, 45009), (23, 44994), (Start: 39 @44898 has 12 MA's), (Start: 41 @44889 has 41 MA's), (65, 44793), (84, 44715), (103, 44580), (141, 44421), (144, 44406), (148, 44394), (153, 44364), (162, 44322), (171, 44244), (207, 44112), (214, 44079), (217, 44070), (234, 43977), (240, 43929), (243, 43914), (245, 43905), (259, 43845), (266, 43821), (281, 43731), (292, 43620), (310, 43587), (311, 43584), (314, 43569), (320, 43548), (327, 43515),

Gene: Yinz\_49 Start: 44914, Stop: 43301, Start Num: 41

Candidate Starts for Yinz\_49:

(19, 45040), (21, 45034), (23, 45019), (Start: 39 @44923 has 12 MA's), (Start: 41 @44914 has 41 MA's), (65, 44818), (84, 44740), (103, 44605), (141, 44446), (144, 44431), (148, 44419), (153, 44389), (162, 44347), (171, 44269), (185, 44203), (186, 44200), (207, 44137), (214, 44104), (217, 44095), (234, 44002), (240, 43954), (243, 43939), (245, 43930), (259, 43870), (266, 43846), (281, 43756), (292, 43645), (310, 43612), (311, 43609), (314, 43594), (320, 43573), (327, 43540),

Gene: Yoshand\_52 Start: 45400, Stop: 44000, Start Num: 78

Candidate Starts for Yoshand\_52:

(11, 45781), (12, 45736), (17, 45694), (29, 45613), (35, 45568), (Start: 76 @45403 has 220 MA's), (Start: 78 @45400 has 65 MA's), (Start: 79 @45394 has 1 MA's), (87, 45352), (101, 45280), (109, 45259), (138, 45163), (153, 45112), (165, 45046), (166, 45043), (171, 44992), (186, 44926), (190, 44914), (200, 44878), (217, 44833), (223, 44803), (230, 44764), (235, 44725), (239, 44692), (240, 44689), (245, 44665), (254, 44632), (257, 44611), (266, 44581), (282, 44467), (286, 44425), (288, 44404), (292, 44371), (310, 44299), (313, 44293), (323, 44245), (334, 44200), (341, 44176), (346, 44161), (351, 44137),

Gene: YouGoGlencoco\_51 Start: 45242, Stop: 43839, Start Num: 76

Candidate Starts for YouGoGlencoco\_51:

(11, 45620), (12, 45575), (17, 45533), (29, 45452), (35, 45407), (Start: 76 @45242 has 220 MA's), (Start: 78 @45239 has 65 MA's), (Start: 79 @45233 has 1 MA's), (87, 45191), (101, 45119), (109, 45098), (138, 45002), (153, 44951), (165, 44885), (166, 44882), (171, 44831), (186, 44765), (190, 44753), (200, 44717), (217, 44672), (223, 44642), (230, 44603), (235, 44564), (239, 44531), (240, 44528), (245, 44504), (254, 44471), (257, 44450), (266, 44420), (282, 44306), (286, 44264), (288, 44243), (292, 44210), (310, 44138), (313, 44132), (323, 44084), (334, 44039), (341, 44015), (346, 44000), (351, 43976),

Gene: Zaider\_52 Start: 45472, Stop: 44069, Start Num: 76

Candidate Starts for Zaider\_52:

(35, 45637), (Start: 76 @45472 has 220 MA's), (Start: 78 @45469 has 65 MA's), (Start: 79 @45463 has 1 MA's), (87, 45421), (101, 45349), (109, 45328), (138, 45232), (153, 45181), (165, 45115), (166, 45112), (169, 45088), (171, 45061), (186, 44995), (190, 44983), (200, 44947), (217, 44902), (223, 44872), (230, 44833), (235, 44794), (239, 44761), (240, 44758), (245, 44734), (254, 44701), (257, 44680), (266, 44650), (282, 44536), (286, 44494), (288, 44473), (292, 44440), (310, 44368), (313,

44362), (323, 44314), (334, 44269), (341, 44245), (346, 44230), (351, 44206),

Gene: Zelda\_51 Start: 45289, Stop: 43886, Start Num: 76

Candidate Starts for Zelda\_51:

(35, 45454), (Start: 76 @45289 has 220 MA's), (Start: 78 @45286 has 65 MA's), (Start: 79 @45280 has 1 MA's), (87, 45238), (101, 45166), (109, 45145), (138, 45049), (153, 44998), (165, 44932), (166, 44929), (169, 44905), (171, 44878), (186, 44812), (190, 44800), (200, 44764), (217, 44719), (223, 44689), (230, 44650), (235, 44611), (239, 44578), (240, 44575), (245, 44551), (254, 44518), (257, 44497), (266, 44467), (282, 44353), (286, 44311), (288, 44290), (292, 44257), (310, 44185), (313, 44179), (323, 44131), (334, 44086), (341, 44062), (346, 44047), (351, 44023),

Gene: Zemanar\_47 Start: 45703, Stop: 44360, Start Num: 73

Candidate Starts for Zemanar\_47:

(Start: 73 @45703 has 9 MA's), (Start: 75 @45700 has 15 MA's), (Start: 79 @45691 has 1 MA's), (80, 45685), (89, 45634), (133, 45487), (149, 45442), (153, 45421), (175, 45280), (179, 45256), (186, 45235), (187, 45232), (192, 45217), (195, 45202), (222, 45133), (225, 45100), (231, 45076), (243, 44989), (245, 44980), (254, 44947), (255, 44944), (257, 44926), (266, 44896), (276, 44836), (279, 44818), (281, 44806), (284, 44761), (285, 44755), (286, 44746), (288, 44725), (291, 44716), (292, 44692), (313, 44653), (327, 44587), (328, 44584), (348, 44515), (351, 44497),

Gene: Zenteno07\_55 Start: 45181, Stop: 43661, Start Num: 46

Candidate Starts for Zenteno07\_55:

(Start: 46 @45181 has 1 MA's), (56, 45130), (72, 45052), (92, 44950), (139, 44788), (153, 44740), (171, 44620), (173, 44611), (186, 44554), (202, 44500), (204, 44497), (230, 44392), (231, 44389), (240, 44317), (245, 44293), (258, 44236), (276, 44143), (288, 44026), (292, 43993), (293, 43984), (308, 43966), (313, 43954), (331, 43876), (341, 43837), (377, 43669),

Gene: Zonia\_51 Start: 45259, Stop: 43856, Start Num: 76

Candidate Starts for Zonia\_51:

(11, 45637), (12, 45592), (17, 45550), (29, 45469), (35, 45424), (Start: 76 @45259 has 220 MA's), (Start: 78 @45256 has 65 MA's), (Start: 79 @45250 has 1 MA's), (87, 45208), (101, 45136), (109, 45115), (138, 45019), (153, 44968), (165, 44902), (166, 44899), (171, 44848), (186, 44782), (190, 44770), (200, 44734), (217, 44689), (223, 44659), (230, 44620), (235, 44581), (239, 44548), (240, 44545), (242, 44539), (245, 44521), (254, 44488), (257, 44467), (266, 44437), (282, 44323), (286, 44281), (288, 44260), (292, 44227), (310, 44155), (313, 44149), (323, 44101), (334, 44056), (341, 44032), (346, 44017), (351, 43993),