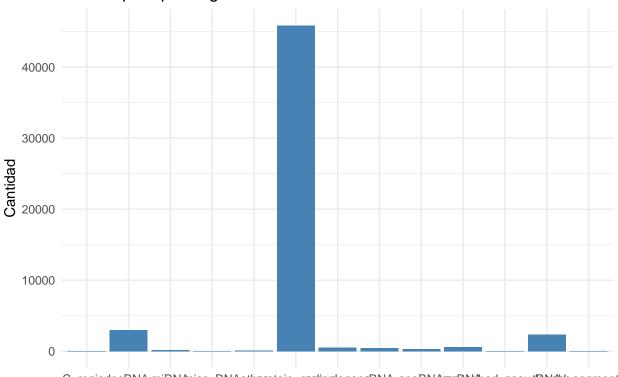
```
library(dplyr)
##
## Adjuntando el paquete: 'dplyr'
## The following objects are masked from 'package:stats':
##
##
       filter, lag
## The following objects are masked from 'package:base':
##
##
       intersect, setdiff, setequal, union
library(ggplot2)
## Warning: package 'ggplot2' was built under R version 4.4.3
library(stringr)
#Este es para leer el archivo
\# xenopus <- read.delim(file.choose("xenopus.txt"), header = TRUE, sep = "\t");
xenopus <- read.delim("C:/Users/Usuario/Documents/Alumnointerno/data/ncbi_dataset.tsv", header = TRUE,</pre>
#Este es para agruparlos en los tipos de genes
conteos <- xenopus %>%
group_by(Gene.Type)%>%
summarise(Conteo = n())
conteos
## # A tibble: 13 x 2
##
     Gene.Type
                             Conteo
##
      <chr>
                              <int>
## 1 C_region
                                  7
## 2 V_segment
                                 65
## 3 lncRNA
                               2966
## 4 miRNA
                                187
## 5 misc_RNA
                                 65
## 6 other
                                115
## 7 protein-coding
                              45893
## 8 pseudogene
                                550
## 9 rRNA
                                463
## 10 snRNA
                                614
## 11 snoRNA
                                342
                               2366
## 12 tRNA
## 13 transcribed_pseudogene
                                 21
```

```
# xenopus = xenopus %>% filter(Gene.Type == "protein-coding")
```

#En este caso el código de abajo es para realizar un histograma sobre los tipos de genes que hay

Conteo por tipo de gen



C_regiorIncRNA miRNAnisc_RNAothprotein-qpstenglogeneRNA snoRNAsmristNabed_pseudlagtAve_segment Tipo de gen

#Esto es para ver las proteínas que se encuentran en el archivo

```
filas_con_proteina <- xenopus %>%
  filter(if_any(everything(), ~ str_detect(., regex("protein", ignore_case = TRUE))))
```

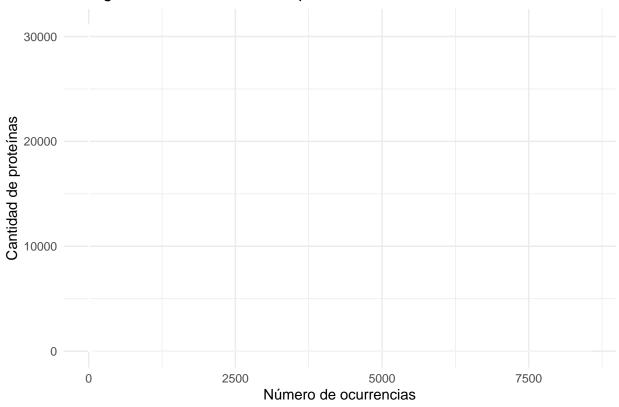
#Esto coge las filas con esas proteínas y las organiza

```
filas_con_proteina %>%
count(Gene.Type, sort = TRUE)
```

```
## Gene.Type n
## 1 protein-coding 45893
## 2 misc_RNA 12
```

```
## 3 transcribed_pseudogene
## 4
                     lncRNA
                                7
## 5
                 pseudogene
#Esto es para que me diga las organizaciones que ha hecho
filas_con_proteina %>%
  summarise(across(everything(), ~ n_distinct(.)))
     Accession Begin End Chromosome Orientation Name Symbol Gene. ID Gene. Type
##
            61 21850 21848
                                                 2 18764 21850
## 1
                                    12
                                                                   21850
##
     Transcripts.accession Transcript.name Protein.accession Protein.name
## 1
                     45903
                                     42884
                                                        45094
                                                                      35655
##
    Protein.length Locus.tag
## 1
               3125
#Esto es para que agrupe según el nombre de la proteína
xenopus %>%
group_by(Protein.name)%>%
summarise(Conteosa = n())
## # A tibble: 35,655 x 2
##
      Protein.name
                                                                             Conteosa
##
      <chr>
                                                                                <int>
## 1 ""
                                                                                 8555
## 2 "(E2-independent) E3 ubiquitin-conjugating enzyme FATS"
                                                                                    1
## 3 "(E3-independent) E2 ubiquitin-conjugating enzyme isoform X1"
                                                                                    1
## 4 "(E3-independent) E2 ubiquitin-conjugating enzyme isoform X2"
                                                                                    1
## 5 "(E3-independent) E2 ubiquitin-conjugating enzyme isoform X3"
                                                                                    1
## 6 "1"
                                                                                    1
## 7 "1 isoform X1"
                                                                                    1
## 8 "1,2-dihydroxy-3-keto-5-methylthiopentene dioxygenase"
## 9 "1,25-dihydroxyvitamin D(3) 24-hydroxylase, mitochondrial"
                                                                                    1
## 10 "1,25-dihydroxyvitamin D(3) 24-hydroxylase, mitochondrial isoform X~
                                                                                    1
## # i 35,645 more rows
#Esto va a contabilizar los nombres de la proteína
frecuencias <- xenopus %>%
  group by(Protein.name) %>%
 summarise(Conteosa = n())
#Esto es para hacer el histograma
ggplot(frecuencias, aes(x = Conteosa)) +
 geom_histogram(binwidth = 1, fill = "steelblue", color = "white") +
 theme_minimal() +
 labs(title = "Histograma de frecuencias de proteínas",
      x = "Número de ocurrencias",
       y = "Cantidad de proteínas")
```

Histograma de frecuencias de proteínas



```
#top10 <- frecuencias %>%
# arrange(desc(Conteosa)) %>%
# slice_head(n = 10)

#ggplot(top10, aes(x = reorder(Protein.name, Conteosa), y = Conteosa)) +
# geom_col(fill = "darkorange") +
# coord_flip() +
# theme_minimal() +
# labs(title = "Top 10 proteinas más frecuentes",
# x = "Proteina",
# y = "Frecuencia")
```

Seleccionar las 10 proteínas más frecuentes

Protein.name

```
# top_10_proteinas <- head(Conteosa, 10)
# head(frecuencias)
top_10_proteinas <- frecuencias %>%
    slice_max(Conteosa, n=3)
top_10_proteinas
## # A tibble: 3 x 2
```

Conteosa

Crear el histograma

```
top10 = xenopus %>%
  filter(Protein.name %in% top_10_proteinas$Protein.name)
top10
```

##		Accession	Begin	End	Chromosome	Orientation
##	1	NC_006839.1	1	68	MT	plus
##	2	NC_006839.1	69	1011	MT	plus
##	3	NC_006839.1	1012	1081	MT	plus
##	4	NC_006839.1	1082	2716	MT	plus
##	5	NC_006839.1	2717	2791	MT	plus
##	6	NC_006839.1	3760	3830	MT	plus
##	7	NC_006839.1	3830	3900	MT	minus
##	8	NC_006839.1	3900	3968	MT	plus
##	9	NC_006839.1	5005	5073	MT	plus
##	10	NC_006839.1	5077	5145	MT	minus
##	11	NC_006839.1	5147	5219	MT	minus
##	12	NC_006839.1	5258	5323	MT	minus
##	13	NC_006839.1	5324	5393	MT	minus
##	14	NC_006839.1	6954	7024	MT	minus
##	15	NC_006839.1	7040	7108	MT	plus
##	16	NC_006839.1	7799	7872	MT	plus
##	17	NC_006839.1	9499	9568	MT	plus
##	18	NC_006839.1	9912	9980	MT	plus
##	19	NC_006839.1	11649	11717	MT	plus
##	20	NC_006839.1	11718	11785	MT	plus
##	21	NC_006839.1	11786	11858	MT	plus
##	22	NC_006839.1	14187	14255	MT	minus
##	23	NC_006839.1	15400	15470	MT	plus
##	24	NC_006839.1	15500	15566	MT	plus
##	25	NC_030677.2	100440	112187	1	plus
##	26	NC_030677.2	349923	350599	1	plus
##	27	NC_030677.2	407006	408553	1	plus
##	28	NC_030677.2	407006	408553	1	plus
##	29	NC_030677.2	414749	416335	1	plus
##	30	NC_030677.2	518671	538136	1	plus
##	31	NC_030677.2	731993	732127	1	plus
##	32	NC_030677.2	734281	734356	1	plus
##	33	NC_030677.2	734842	734912	1	plus
##	34	NC_030677.2	834571	879573	1	plus
##	35	NC_030677.2	966989	976633	1	minus
##	36	NC_030677.2	979210	979872	1	minus
##	37	NC_030677.2	1036271	1038472	1	minus
##	38	NC_030677.2	1227193	1227726	1	minus
##	39	NC_030677.2	1327277	1342202	1	minus

##	40	NC_030677.2	1450861	1451800	1	minus
##	41	NC_030677.2	1540753	1555096	1	minus
##	42	NC_030677.2	1560143	1576617	1	minus
	43	NC_030677.2	1636302	1661918	1	minus
	44	NC_030677.2	1662245	1684975	1	minus
##	45	NC_030677.2	1699112	1699645	1	minus
	46	NC_030677.2	1715648	1737756	1	minus
##	47	NC_030677.2	1790073	1796990	1	minus
##	48	NC_030677.2	1804385	1831984	1	minus
##	49	NC_030677.2	1851225	1852097	1	minus
##	50	NC_030677.2	1906883	1928191	1	minus
	51	NC_030677.2	1928337	1928876	1	minus
	52	NC_030677.2	1975908	1977888	1	plus
##	53	NC_030677.2	1983497	2006729	1	minus
	54	NC_030677.2	2053098	2064514	1	minus
##		NC_030677.2	2101897	2106315	1	minus
##	56	NC_030677.2	2330096	2337618	1	minus
	57	NC_030677.2	2353782	2354279	1	minus
	58	NC_030677.2	2377329	2386283	1	minus
	59	NC_030677.2	2431893	2432519	1	plus
##	60	NC_030677.2	2471867	2493700	1	plus
##	61	NC_030677.2	2568568	2581424	1	minus
##	62	NC_030677.2	2584832	2601591	1	minus
##	63	NC_030677.2	2603687	2616367	1	minus
##	64	NC_030677.2	2619303	2650924	1	minus
##	65	NC_030677.2	2742537	2754050	1	minus
##	66	NC_030677.2	2769131	2769670	1	plus
##	67	NC_030677.2	2975105	2989459	1	minus
##	68	NC_030677.2	2992227	3009469	1	minus
##	69	NC_030677.2	3116381	3116914	1	minus
##	70	NC_030677.2	3142186	3142725	1	minus
##	71 72	NC_030677.2 NC_030677.2	3303981	3320172	1 1	minus
##	73	NC_030677.2 NC_030677.2	3339155	3354798	1	minus
##	73 74	NC_030677.2 NC_030677.2	3389548	3406414	1	minus
##	7 4 75	NC_030677.2 NC_030677.2	3594713 3617312	3595345 3618154	1	minus plus
##	76	NC_030677.2	3706698	3707330	1	minus
	77	NC_030677.2	3760793	3761443	1	minus
	78	NC_030677.2	4127782	4133238	1	minus
	79	NC 030677.2	4127782	4133238	1	minus
	80	NC 030677.2	4127782	4133238	1	minus
##		NC 030677.2	4169427	4171211	1	plus
	82	NC 030677.2	4533105	4552243	1	minus
	83	NC_030677.2	4553772	4554909	1	plus
	84	NC_030677.2	4663156	4663860	1	minus
	85	NC_030677.2	4716467	4716979	1	plus
	86	NC_030677.2	4723606	4726891	1	minus
	87	NC_030677.2	4776201	4776698	1	plus
	88	NC_030677.2	4801874	4809245	1	plus
	89	NC_030677.2	4846994	4856996	1	plus
	90	NC_030677.2	4858490	4858656	1	plus
##		NC_030677.2	5071599	5072303	1	minus
	92	NC_030677.2	5190096	5198875	1	plus
##	93	NC_030677.2	5206806	5207510	1	minus

##	94	NC_030677.2	5311409	5311906	1	minus
##	95	NC_030677.2	5348756	5349268	1	minus
##	96	NC_030677.2	5396770	5397282	1	minus
##	97	NC_030677.2	5520159	5520284	1	minus
##	98	NC_030677.2	5523164	5523318	1	plus
##	99	NC_030677.2	5530587	5530712	1	minus
##	100	NC_030677.2	5537223	5537333	1	minus
##	101	NC_030677.2	5538562	5538716	1	plus
##	102	NC_030677.2	5542447	5542604	1	plus
##	103	NC_030677.2	5547794	5547951	1	plus
##	104	NC_030677.2	5555549	5555674	1	minus
##	105	NC_030677.2	5556183	5556308	1	minus
##	106	NC_030677.2	5566057	5585208	1	plus
##	107	NC_030677.2	5768675	5768771	1	minus
##	108	NC_030677.2	5803876	5839829	1	plus
##	109	NC_030677.2	5849792	5867492	1	plus
##	110	NC_030677.2	5875800	5890302	1	plus
##	111	NC_030677.2	5938775	5939272	1	plus
##	112	NC_030677.2	5980730	5993425	1	minus
##	113	NC_030677.2	6060146	6061051	1	plus
##	114	NC_030677.2	6083767	6089488	1	plus
##	115	NC_030677.2	6112031	6121230	1	plus
##	116	NC_030677.2	6141783	6142709	1	plus
##	117	NC_030677.2	6153300	6166509	1	plus
##	118	NC_030677.2	6190409	6191376	1	plus
##	119	NC_030677.2	6213982	6214898	1	minus
##	120	NC_030677.2	6235866	6236405	1	minus
##	121	NC_030677.2	6243162	6268831	1	plus
##	122	NC_030677.2	6317151	6318077	1	plus
##	123	NC_030677.2	6449647	6475785	1	plus
##	124	NC_030677.2	6570547	6601938	1	minus
##	125	NC_030677.2	6652547	6682196	1	plus
##	126	NC_030677.2	7046046	7049174 7085349	1 1	plus
##	127	NC_030677.2	7084499			minus
## ##	128 129	NC_030677.2 NC_030677.2	7190234 7196413	7191067 7224789	1 1	plus plus
##	130	NC_030677.2	7190413	7255640	1	plus
	131	NC_030677.2 NC_030677.2	7305790	7317053	1	plus
##	132	NC_030677.2 NC_030677.2	7303790	7354330	1	plus
##	133	NC_030677.2 NC_030677.2	7331925	7334330	1	plus
##	134	NC_030677.2	7427172	7431812	1	plus
##	135	NC_030677.2	7474150	7474686	1	plus
##	136	NC_030677.2	7588600	7589136	1	minus
##	137	NC_030677.2 NC_030677.2	7607167	7607703	1	minus
##	138	NC_030677.2	7627434	7642365	1	minus
##	139	NC_030677.2	7667699	7679036	1	minus
##	140	NC_030677.2	7979404	7979564	1	minus
##	141	NC_030677.2	9393847	9411170	1	plus
##	142	NC_030677.2	9468157	9468892	1	minus
##	143	NC_030677.2	9468157	9468892	1	minus
##	144	NC_030677.2	9484888	9485529	1	plus
##	145	NC_030677.2	9531691	9532272	1	minus
##	146	NC_030677.2	9531691	9532272	1	minus
##	147	NC_030677.2	9602355	9603199	1	minus
			0002000	5555100	-	

	148	NC_030677.2	9602355	9603199	1	minus
##	149	NC_030677.2	9622076	9622682	1	minus
##	150	NC_030677.2	9622076	9622682	1	minus
##	151	NC_030677.2	9624413	9625208	1	minus
##	152	NC_030677.2	9624413	9625208	1	minus
##	153	NC_030677.2	9633521	9634196	1	minus
##	154	NC_030677.2	9633521	9634196	1	minus
##	155	NC_030677.2	9646708	9647518	1	minus
##	156	NC_030677.2	9646708	9647518	1	minus
##	157	NC_030677.2	9664969	9665540	1	minus
##	158	NC_030677.2	9664969	9665540	1	minus
##	159	NC_030677.2	9704981	9718432	1	plus
##	160	NC_030677.2	9704981	9718432	1	plus
##	161	NC_030677.2	9754036	9754858	1	minus
##	162	NC_030677.2	9754036	9754858	1	minus
##	163	NC_030677.2	9758136	9758696	1	minus
##	164	NC_030677.2	9758136	9758696	1	minus
##	165	NC_030677.2	9761633	9762687	1	minus
##	166	NC_030677.2	9761633	9762687	1	minus
##	167	NC_030677.2	9767217	9767982	1	minus
##	168	NC_030677.2	9767217	9767982	1	minus
##	169	NC_030677.2	9890146	9927164	1	minus
##	170	NC_030677.2	10005342	10006427	1	minus
##	171	NC_030677.2	10978878	10983004	1	plus
##	172	NC_030677.2	10978878	10983004	1	plus
##	173	NC_030677.2	10978878	10983004	1	plus
##	174	NC_030677.2	10978878	10983004	1	plus
##	175	NC_030677.2	10978878	10983004	1	plus
##	176	NC_030677.2	10978878	10983004	1	plus
##	177	NC_030677.2	11695865	11696415	1	plus
##	178	NC_030677.2	11697262	11697708	1	plus
##	179	NC_030677.2	11698022	11698806	1	plus
##	180	NC_030677.2	11905863	11987482	1	plus
##	181	NC_030677.2	12251652	12258356	1 1	plus
## ##	182 183	NC_030677.2 NC_030677.2	12265444 12512417	12265526 12513480	1	minus
##	184	NC_030677.2	13365296	13369679	1	plus minus
	185	NC_030677.2	13955994	13962071	1	minus
##	186	NC_030677.2	14222816	14222915	1	plus
##	187	NC_030677.2	14309260	14346228	1	plus
##	188	NC_030677.2	14351328	14355641	1	minus
##	189	NC_030677.2	15919238	15919843	1	minus
##	190	NC_030677.2	16403066	16404882	1	minus
##	191	NC_030677.2	16405737	16406354	1	minus
##	192	NC_030677.2	16406826	16408971	1	minus
##	193	NC_030677.2	16409504	16410097	1	minus
##	194	NC_030677.2	16410604	16412634	1	minus
##	195	NC_030677.2	16425454	16429488	1	minus
##	196	NC_030677.2	16554764	16555962	1	minus
##	197	NC_030677.2	16587642	16588504	1	minus
##	198	NC_030677.2	16596143	16597391	1	plus
##	199	NC_030677.2	16611315	16612460	1	minus
	200	NC_030677.2	16611315	16612460	1	minus
	201	NC_030677.2	16614126	16618645	1	minus
					-	

## 20	_	16623990	16624394	1	minus
## 20	_	16646877	16648130	1	plus
## 20	_	16654421	16655619	1	minus
## 20	_	16666733	16667357	1	minus
## 20	_	16667885	16669709	1	minus
## 20	_	16670567	16671158	1	minus
## 20	_	16671566	16674389	1	minus
## 20	-	16675384	16677527	1	minus
## 21	_	16682629	16685401	1	minus
## 21	-	16717418	16719551	1	minus
## 21	-	16723693	16725863	1	minus
## 21	_	16727834	16729757	1	minus
## 21	-	16732062	16736532	1	minus
## 21	-	16735850	16736428	1	minus
## 21	-	17431047	17431682	1	plus
## 21	-	17460572	17479138	1	plus
## 21	-	17481077	17496809	1	plus
## 21	-	17516856	17525643	1	plus
## 22	-	17533347	17547205	1	plus
## 22	_	17569664	17574433	1	plus
## 22	_	17614993	17617339	1	plus
## 22	_	17631636	17642423	1	plus
## 22	-	17669123	17669785	1	plus
## 22	-	17801947	17802087	1	plus
## 22	-	17807282	17807421	1	plus
## 22	-	18049728	18066924	1	minus
## 22	-	18701430	18726249	1	plus
## 22	_	19043765	19046161	1	plus
## 23	_	20800393	20800583	1	minus
## 23	_	21038209	21093990	1	plus
## 23	_	21056611	21057409	1	minus
## 23	_	21470285	21481382	1	plus
## 23	_	22162967	22168140	1 1	minus
## 23	_	22485904	22491445		minus
## 23 ## 23	_	22491761 22839040	22494807 22853006	1 1	minus minus
## 23	_	23851226	24034037	1	plus
## 23	_	24054741	24057345	1	-
## 23	-	24054741	24037343	1	minus minus
## 24	_	25522203	25525194	1	minus
## 24	_	25667014	25718855	1	minus
## 24	_	26216173	26222533	1	plus
## 24	_	26464950	26469262	1	plus
## 24	_	26530356	26531364	1	minus
## 24	-	26566819	26568495	1	minus
## 24	-	26683939	26694419	1	plus
## 24	_	27969623	27996286	1	minus
## 24	_	27969623	27996286	1	minus
## 25	_	27987013	27996593	1	plus
## 25	_	28015313	28097380	1	minus
## 25	_	28015313	28097380	1	minus
## 25	_	28015313	28097380	1	minus
## 25	-	28015313	28097380	1	minus
## 25	-	28015313	28097380	1	minus
20				-	

##	256	NC_030677.2	28015313	28097380	1	minus
##	257	NC_030677.2	28015313	28097380	1	minus
##	258	NC_030677.2	28015313	28097380	1	minus
##	259	NC_030677.2	28015313	28097380	1	minus
##	260	NC_030677.2	28015313	28097380	1	minus
##	261	NC_030677.2	28015313	28097380	1	minus
##	262	NC_030677.2	28015313	28097380	1	minus
##	263	NC_030677.2	28953829	28955296	1	minus
##	264	NC_030677.2	29787498	29787606	1	plus
##	265	NC_030677.2	30426935	30427037	1	plus
##	266	NC_030677.2	31718392	31720511	1	minus
##	267	NC_030677.2	31796867	31800138	1	plus
##	268	NC_030677.2	31835152	31838338	1	minus
##	269	NC_030677.2	33259055	33277048	1	minus
##	270	NC_030677.2	33307397	33326055	1	plus
##	271	NC_030677.2	33435855	33436768	1	minus
##	272	NC_030677.2	34532973	34535124	1	minus
##	273	NC_030677.2	35560943	35606048	1	minus
##	274	NC_030677.2	35671073	35674522	1	minus
##	275	NC_030677.2	35724488	35725796	1	plus
##	276	NC_030677.2	35787114	35792576	1	plus
##	277	NC_030677.2	35891841	35899449	1	plus
##	278	NC_030677.2	35899710	35902521	1	minus
##	279	NC_030677.2	35929822	35931546	1	minus
##	280	NC_030677.2	35987406	35989568	1	minus
##	281	NC_030677.2	36078476	36080628	1 1	plus
##	282	NC_030677.2	36080765	36081127	1	plus
## ##	283	NC_030677.2	36084909	36085790	1	plus
##	284	NC_030677.2	36085972	36086911	1	plus
##	285 286	NC_030677.2 NC_030677.2	36087216 36107312	36088100 36108263	1	plus minus
##	287	NC_030677.2	36220237	36221869	1	
##	288	NC_030677.2	36318860	36325933	1	minus minus
##	289	NC_030677.2	37252305	37277465	1	plus
##	290	NC_030677.2	37449711	37450482	1	plus
##	291	NC_030677.2	39174432	39175905	1	minus
##	292	NC_030677.2	39336796	39339673	1	plus
	293	NC_030677.2	39337750	39337875	1	plus
	294	NC_030677.2	39338453	39338572	1	plus
	295	NC_030677.2	39385479	39386464	1	minus
	296	NC 030677.2	40137942	40144355	1	minus
##	297	NC 030677.2	40265956	40267952	1	minus
##	298	NC_030677.2	41561172	41561244	1	minus
##	299	NC_030677.2	42466021	42468772	1	minus
##	300	NC_030677.2	43536511	43541850	1	minus
##	301	NC_030677.2	43542467	43679744	1	plus
##	302	NC_030677.2	43975599	44013198	1	minus
##	303	NC_030677.2	44636604	44637518	1	minus
##	304	NC_030677.2	45572906	45586631	1	plus
##	305	NC_030677.2	46568870	46571921	1	plus
##	306	NC_030677.2	47337764	47338994	1	plus
##	307	NC_030677.2	47391409	47392637	1	plus
	308	NC_030677.2	48262232	48296054	1	plus
	309	NC_030677.2	48666931	48685103	1	plus
		_				-

	310	NC_030677.2	48793313	48796031	1	minus
##	311	NC_030677.2	48793313	48796031	1	minus
##	312	NC_030677.2	48793313	48796031	1	minus
##	313	NC_030677.2	49224487	49249493	1	plus
##	314	NC_030677.2	49224487	49249493	1	plus
##	315	NC_030677.2	49321001	49331147	1	plus
##	316	NC_030677.2	49847054	49859288	1	minus
##	317	NC_030677.2	49943995	49950892	1	minus
##	318	NC_030677.2	50366965	50383348	1	plus
##	319	NC_030677.2	50366965	50383348	1	plus
##	320	NC_030677.2	51385619	51410294	1	plus
##	321	NC_030677.2	51474323	51491094	1	minus
##	322	NC_030677.2	52567558	52575187	1	plus
##	323	NC_030677.2	53321631	53400970	1	minus
##	324	NC_030677.2	53455695	53522002	1	minus
##	325	NC_030677.2	54375499	54376323	1	plus
##	326	NC_030677.2	54489338	54490207	1	minus
##	327	NC_030677.2	55025456	55087948	1	minus
##	328	NC_030677.2	55179394	55225894	1	plus
##	329	NC_030677.2	55973620	55974708	1	minus
##	330	NC_030677.2	56210489	56212253	1	plus
##	331	NC_030677.2	56217051	56219719	1	plus
##	332	NC_030677.2	56234836	56243204	1	plus
##	333	NC_030677.2	56234836	56243204	1	plus
##	334	NC_030677.2	56234836	56243204	1	plus
##	335	NC_030677.2	56234836	56243204	1	plus
##	336	NC_030677.2	56234836	56243204	1	plus
##	337	NC_030677.2	56234836	56243204	1	plus
##	338	NC_030677.2	56263288	56264734	1	plus
##	339	NC_030677.2	56269109	56274488	1	minus
##	340	NC_030677.2	56300619	56303023	1	plus
##	341	NC_030677.2	56399143	56407509	1	plus
##	342	NC_030677.2	56399143	56407509	1	plus
##	343 344	NC_030677.2 NC_030677.2	56399143 56399143	56407509	1 1	plus
##	345	NC_030677.2 NC_030677.2	56399143	56407509 56407509	1	plus
##	346	NC_030677.2	56429287	56430181	1	plus
	347	NC_030677.2	56469669	56552484	1	plus plus
	348	NC_030677.2	56469669	56552484	1	plus
	349	NC_030677.2	56469669	56552484	1	plus
	350	NC_030677.2	56469669	56552484	1	plus
	351	NC_030677.2	56469669	56552484	1	plus
	352	NC_030677.2	56557566	56557635	1	minus
##	353	NC_030677.2	56558838	56558909	1	minus
##	354	NC_030677.2	56561697	56561766	1	minus
##	355	NC_030677.2	56732186	56733754	1	minus
##	356	NC_030677.2	56733820	56734757	1	minus
##	357	NC_030677.2	56938232	56990659	1	minus
##	358	NC_030677.2	57077849	57081456	1	minus
##	359	NC_030677.2	57424094	57424487	1	minus
##	360	NC_030677.2	59023822	59026430	1	minus
	361	NC_030677.2	60388639	60391332	1	plus
	362	NC_030677.2	61209627	61249800	1	minus
	363	NC_030677.2	61778422	61872134	1	plus
					=	r

	364	NC_030677.2	63040303	63100965	1	minus
	365	NC_030677.2	63857531	63861543	1	minus
##	366	NC_030677.2	65045888	65047013	1	plus
##	367	NC_030677.2	65298081	65304875	1	minus
##	368	NC_030677.2	66033058	66042679	1	minus
##	369	NC_030677.2	66258036	66312048	1	plus
##	370	NC_030677.2	66351763	66398746	1	minus
##	371	NC_030677.2	66368577	66372710	1	minus
##	372	NC_030677.2	66413977	66435982	1	minus
##	373	NC_030677.2	66413977	66435982	1	minus
##	374	NC_030677.2	66413977	66435982	1	minus
##	375	NC_030677.2	66442591	66492574	1	plus
##	376	NC_030677.2	66442591	66492574	1	plus
##	377	NC_030677.2	66461880	66471029	1	minus
##	378	NC_030677.2	66904635	66921280	1	minus
##	379	NC_030677.2	67121536	67127999	1	minus
##	380	NC_030677.2	67199315	67200770	1	minus
##	381	NC_030677.2	67218161	67220276	1	minus
##	382	NC_030677.2	67657543	67657700	1	plus
##	383	NC_030677.2	67790214	67790286	1	minus
##	384	NC_030677.2	67803585	67803657	1	plus
##	385	NC_030677.2	67806218	67806290	1	plus
##	386	NC_030677.2	67807724	67807796	1	plus
##	387	NC_030677.2	67961918	67983928	1	minus
##	388	NC_030677.2	68336416	68339349	1	plus
##	389	NC_030677.2	68984460	68988823	1	minus
##	390	NC_030677.2	68985925	68985987	1	minus
##	391	NC_030677.2	68986224	68986292	1	minus
##	392	NC_030677.2	69143695	69147023	1	minus
##	393	NC_030677.2	70401692	70405654	1	plus
##	394	NC_030677.2	70402638	70402711	1	plus
##	395	NC_030677.2	70404768	70404890	1	plus
##	396	NC_030677.2	70843579	70845857	1	minus
##	397	NC_030677.2	70845737	70854516	1	plus
##	398	NC_030677.2	71605229	71625852	1	minus
##	399	NC_030677.2	72441390	72495921	1	minus
##	400	NC_030677.2	73034472	73035202	1	plus
	401	NC_030677.2	74850820	74855242	1	plus
	402	NC_030677.2	74906373	74906503	1	plus
	403	NC_030677.2	78366629	78390418	1	plus
	404	NC_030677.2	78366629	78390418	1	plus
	405	NC_030677.2	78903455	78908852	1	plus
	406	NC_030677.2	78991919	79047637	1	minus
	407	NC_030677.2	79166538	79205491	1	minus
	408	NC_030677.2	81245866	81257998	1	plus
	409	NC_030677.2	81245866	81257998	1	plus
	410	NC_030677.2	81543644	81544970	1	plus
	411	NC_030677.2	81564317	81566534	1	minus
	412	NC_030677.2	81785385	81787172	1	minus
	413	NC_030677.2	81785385	81787172	1	minus
	414	NC_030677.2	81823673	81825507	1	minus
	415	NC_030677.2	81823673	81825507	1	minus
	416	NC_030677.2	82304775	82319093	1	minus
##	417	NC_030677.2	82304775	82319093	1	minus

	418	NC_030677.2	82325484	82329876	1	minus
	419	NC_030677.2	83828479	83964278	1	minus
	420	NC_030677.2	84603849	84861526	1	minus
	421	NC_030677.2	84603849	84861526	1	minus
	422	NC_030677.2	85163497	85167206	1	plus
	423	NC_030677.2	85336529	85339626	1	minus
	424	NC_030677.2	85336529	85339626	1	minus
	425	NC_030677.2	85497554	85508931	1	plus
	426	NC_030677.2	85497554	85508931	1	plus
	427	NC_030677.2	87329682	87332603	1	minus
	428	NC_030677.2	87683350	87684789	1	minus
	429	NC_030677.2	87753952	87769870	1	plus
	430	NC_030677.2	87809117	87838594	1	minus
	431	NC_030677.2	87809117	87838594	1	minus
	432	NC_030677.2	87814318	87816345	1	plus
	433	NC_030677.2	88220412	88223727	1	plus
	434	NC_030677.2	88798554	88801757	1	minus
	435	NC_030677.2	89683118	89683936	1	minus
	436	NC_030677.2	89912750	89912897	1	minus
	437	NC_030677.2	91027843	91339710	1	plus
	438	NC_030677.2	91267484	91270765	1	plus
	439	NC_030677.2	91703202	91711309	1	plus
	440	NC_030677.2	91718488	91719940	1	plus
	441	NC_030677.2	93801634	93808635	1	plus
	442	NC_030677.2	94098195	94121340	1	minus
	443	NC_030677.2	94098195	94121340	1	minus
	444	NC_030677.2	94098195	94121340	1	minus
	445	NC_030677.2	94098195	94121340	1	minus
	446	NC_030677.2	94098195	94121340	1	minus
	447	NC_030677.2	94128752	94135369	1	minus
	448	NC_030677.2	94139718	94149618	1	minus
	449	NC_030677.2	94139718	94149618	1	minus
##	450	NC_030677.2	94139718	94149618 94149618	1	minus
##	451 452	NC_030677.2	94139718 94139718	94149618	1 1	minus minus
## ##	452	NC_030677.2 NC_030677.2	94139718	94149618	1	minus
	454	NC_030677.2	94139718	94149618	1	minus
	455	NC_030677.2	94139718	94149618	1	minus
	456	NC_030677.2	94139718		1	minus
	457	NC 030677.2			1	minus
	458	NC 030677.2			1	minus
	459	NC_030677.2			1	minus
	460	NC_030677.2			1	plus
	461	NC_030677.2		95480496	1	minus
	462	NC_030677.2		95480496	1	minus
	463	NC_030677.2		97562965	1	plus
	464	NC_030677.2		98160607	1	minus
	465	NC_030677.2		98345896	1	plus
	466	NC_030677.2			1	plus
	467	NC_030677.2		99143404	1	minus
	468	NC_030677.2			1	plus
	469	NC_030677.2			1	plus
##	470	NC_030677.2			1	minus
##	471	NC_030677.2			1	plus
						-

```
NC 030677.2 101069621 101070171
                                                   1
                                                            plus
  473
        NC_030677.2 101077946 101078178
                                                            plus
        NC 030677.2 101079952 101080184
                                                            plus
        NC_030677.2 101090819 101091518
##
  475
                                                   1
                                                            plus
## 476
        NC_030677.2 101090819 101091518
                                                   1
                                                            plus
        NC 030677.2 101103256 101104003
## 477
                                                   1
                                                            plus
        NC 030677.2 101103256 101104003
## 478
                                                   1
                                                            plus
## 479
        NC_030677.2 101112198 101112875
                                                   1
                                                            plus
## 480
        NC 030677.2 101112198 101112875
                                                   1
                                                            plus
##
  481
        NC_030677.2 101264864 101267079
                                                   1
                                                           minus
  482
        NC_030677.2 101278756 101280698
                                                   1
                                                           minus
  483
        NC_030677.2 101301268 101301352
                                                            plus
##
                                                   1
##
  484
        NC_030677.2 101413979 101441696
                                                   1
                                                           minus
        NC_030677.2 101413979 101441696
   485
                                                           minus
        NC_030677.2 101413979 101441696
##
  486
                                                   1
                                                           minus
  487
        NC_030677.2 101413979 101441696
##
                                                   1
                                                           minus
        NC_030677.2 101713984 101721716
##
  488
                                                   1
                                                            plus
   489
        NC 030677.2 102968333 102982861
                                                   1
                                                            plus
        NC_030677.2 104454705 104460006
  490
##
                                                   1
                                                           minus
## 491
        NC_030677.2 104485233 104497020
                                                   1
                                                           minus
##
  492
        NC_030677.2 104559861 104579357
                                                   1
                                                            plus
  493
        NC_030677.2 104559861 104579357
                                                   1
                                                            plus
        NC_030677.2 105231479 105233906
## 494
                                                   1
                                                           minus
        NC 030677.2 105385577 105385648
## 495
                                                   1
                                                            plus
## 496
        NC 030677.2 105385933 105386004
                                                   1
                                                           minus
  497
        NC_030677.2 105695520 105705327
                                                   1
                                                           minus
  498
        NC_030677.2 107851563 107853260
##
                                                   1
                                                            plus
##
  499
        NC_030677.2 108553867 108724527
                                                   1
                                                           minus
   500
        NC_030677.2 108570456 108722276
##
                                                   1
                                                            plus
   501
        NC_030677.2 109639052 109643825
                                                   1
                                                            plus
## 502
        NC_030677.2 109677530 109690938
                                                            plus
## 503
        NC_030677.2 109677530 109690938
                                                   1
                                                            plus
   504
        NC_030677.2 112419034 112421823
                                                            plus
        NC_030677.2 112771881 112793514
  505
##
                                                   1
                                                            plus
  506
        NC 030677.2 112960993 112968125
                                                   1
                                                           minus
        NC_030677.2 112960993 112968125
##
  507
                                                   1
                                                           minus
        NC 030677.2 112997457 113003505
                                                   1
                                                            plus
## 509
        NC_030677.2 113074779 113126994
                                                   1
                                                            plus
## 510
        NC_030677.2 113179866 113182836
                                                   1
                                                            plus
        NC_030677.2 114192439 114255380
## 511
                                                   1
                                                            plus
        NC 030677.2 114192439 114255380
  512
                                                   1
                                                            plus
        NC_030677.2 114192439 114255380
## 513
                                                   1
                                                            plus
## 514
        NC 030677.2 114217286 114217359
                                                   1
                                                            plus
  515
        NC_030677.2 114351861 114418104
                                                   1
                                                           minus
## 516
        NC_030677.2 114351861 114418104
                                                   1
                                                           minus
## 517
        NC_030677.2 114719661 114841594
                                                   1
                                                           minus
## 518
        NC_030677.2 114844796 114849495
                                                   1
                                                           minus
        NC_030677.2 118030988 118031725
## 519
                                                   1
                                                           minus
  520
        NC_030677.2 119006750 119007980
                                                   1
                                                           minus
  521
        NC_030677.2 119906570 119970330
                                                   1
                                                            plus
## 522
        NC_030677.2 119997826 120013585
                                                   1
                                                            plus
## 523
        NC_030677.2 120351506 120354981
                                                            plus
## 524
        NC_030677.2 121144826 121144913
                                                   1
                                                           minus
                                                            plus
        NC_030677.2 122591182 122592477
```

```
## 526
        NC 030677.2 123332428 123560740
                                                    1
                                                            minus
        {\tt NC\_030677.2\ 124117685\ 124192517}
  527
                                                             plus
   528
        NC 030677.2 124211157 124230751
                                                             plus
  529
##
        NC_030677.2 124316104 124316175
                                                    1
                                                            minus
##
   530
        NC 030677.2 124369726 124373101
                                                    1
                                                            minus
##
   531
        NC 030677.2 127269360 127269450
                                                    1
                                                            minus
   532
        NC 030677.2 127727817 127890424
                                                    1
                                                             plus
## 533
        NC 030677.2 127932447 127935153
                                                    1
                                                            minus
##
   534
        NC 030677.2 128114979 128118994
                                                    1
                                                             plus
   535
##
        NC_030677.2 128126431 128126537
                                                    1
                                                            minus
   536
        NC_030677.2 128126526 128126641
                                                    1
                                                             plus
   537
        NC_030677.2 128748948 128753083
##
                                                    1
                                                             plus
##
   538
        NC_030677.2 128755580 128755669
                                                    1
                                                             plus
        NC_030677.2 129406089 129411417
##
   539
                                                    1
                                                            minus
        NC_030677.2 129711749 129772757
##
  540
                                                    1
                                                             plus
## 541
        NC_030677.2 130015130 130015217
                                                            minus
        NC_030677.2 132538344 132543666
##
  542
                                                    1
                                                             plus
  543
        NC 030677.2 133012625 133017343
                                                    1
                                                            minus
        NC_030677.2 134076492 134078676
##
  544
                                                    1
                                                            minus
##
  545
        NC 030677.2 134239482 134239589
                                                    1
                                                            minus
##
  546
        NC_030677.2 134362516 134370001
                                                    1
                                                             plus
  547
        NC 030677.2 135663440 135663527
                                                    1
                                                             plus
## 548
        NC_030677.2 135663664 135663759
                                                    1
                                                             plus
        NC 030677.2 135664277 135664343
##
  549
                                                    1
                                                             plus
## 550
        NC 030677.2 135813286 135893523
                                                    1
                                                            minus
   551
        NC 030677.2 136462878 136475991
                                                    1
                                                            minus
   552
        NC_030677.2 136999718 137017863
##
                                                    1
                                                            minus
##
   553
        NC_030677.2 137087775 137089960
                                                    1
                                                             plus
   554
        NC_030677.2 138597809 138601982
##
                                                    1
                                                             plus
##
   555
        NC_030677.2 138597809 138601982
                                                    1
                                                             plus
##
  556
        NC_030677.2 139256992 139261945
                                                    1
                                                            minus
##
   557
        NC_030677.2 139777334 139777414
                                                    1
                                                            minus
   558
        NC_030677.2 140175925 140175997
                                                             plus
   559
        NC_030677.2 140305883 140330086
##
                                                    1
                                                             plus
   560
        NC 030677.2 140305883 140330086
                                                    1
                                                             plus
##
   561
        NC_030677.2 140305883 140330086
                                                    1
                                                             plus
   562
        NC 030677.2 140305883 140330086
                                                             plus
  563
        NC_030677.2 140305883 140330086
##
                                                    1
                                                             plus
  564
        NC 030677.2 140305883 140330086
##
                                                    1
                                                             plus
##
  565
        NC_030677.2 140521501 140529183
                                                    1
                                                            minus
   566
        NC 030677.2 140521501 140529183
                                                    1
                                                            minus
   567
        NC 030677.2 140547037 140548086
##
                                                    1
                                                            minus
##
   568
        NC 030677.2 140553901 140563446
                                                    1
                                                            minus
   569
        NC_030677.2 140553901 140563446
                                                    1
##
                                                            minus
   570
        NC_030677.2 140605500 140606447
                                                    1
                                                            minus
## 571
        NC_030677.2 140679323 140680510
                                                    1
                                                            minus
##
  572
        NC 030677.2 140710350 140710989
                                                    1
                                                            minus
                                                    1
  573
        NC_030677.2 140710350 140710989
                                                            minus
  574
        NC_030677.2 140715179 140715671
                                                    1
                                                            minus
   575
        NC_030677.2 140715179 140715671
                                                    1
##
                                                            minus
##
  576
        NC_030677.2 140724316 140735303
                                                    1
                                                            minus
   577
        NC_030677.2 140724316 140735303
                                                    1
                                                            minus
        NC 030677.2 140742563 140743050
##
  578
                                                    1
                                                            minus
        NC 030677.2 140742563 140743050
                                                            minus
```

```
## 580
        NC 030677.2 140755539 140756020
                                                    1
                                                             minus
##
   581
        NC_030677.2 140755539 140756020
                                                    1
                                                             minus
   582
        NC 030677.2 140812045 140812564
                                                    1
                                                             minus
   583
        NC_030677.2 140812045 140812564
##
                                                    1
                                                             minus
##
   584
        NC 030677.2 140817042 140817527
                                                    1
                                                             minus
   585
##
        NC 030677.2 140817042 140817527
                                                             minus
                                                    1
##
   586
        NC 030677.2 140821773 140822234
                                                    1
                                                             minus
##
   587
        NC 030677.2 140821773 140822234
                                                    1
                                                             minus
##
   588
        NC 030677.2 140917115 140917652
                                                    1
                                                             minus
##
   589
        NC_030677.2 140917115 140917652
                                                    1
                                                             minus
   590
        NC_030677.2 140919836 140920336
                                                    1
                                                             minus
   591
##
        NC_030677.2 140919836 140920336
                                                    1
                                                             minus
##
   592
        NC_030677.2 140950165 140955507
                                                    1
                                                             minus
##
   593
        NC_030677.2 140950165 140955507
                                                    1
                                                             minus
   594
##
        NC_030677.2 140961702 140962227
                                                    1
                                                             minus
##
   595
        NC_030677.2 140961702 140962227
                                                    1
                                                             minus
##
   596
        NC_030677.2 140970253 140975918
                                                    1
                                                             minus
##
   597
        NC 030677.2 140970253 140975918
                                                    1
                                                             minus
##
   598
        NC_030677.2 140983735 140984307
                                                    1
                                                             minus
##
   599
        NC 030677.2 140983735 140984307
                                                    1
                                                             minus
##
   600
        NC_030677.2 141007992 141013572
                                                    1
                                                             minus
##
   601
        NC 030677.2 141007992 141013572
                                                    1
                                                             minus
##
   602
        NC_030677.2 141083445 141084621
                                                    1
                                                             minus
##
   603
        NC 030677.2 141083445 141084621
                                                    1
                                                             minus
##
   604
        NC 030677.2 141160594 141162106
                                                    1
                                                             minus
   605
        NC 030677.2 141160594 141162106
                                                    1
                                                             minus
   606
        NC_030677.2 141165189 141167206
##
                                                    1
                                                             minus
##
   607
        NC_030677.2 141165189 141167206
                                                    1
                                                             minus
   608
##
        NC_030677.2 141176323 141178012
                                                    1
                                                             minus
##
   609
        NC_030677.2 141176323 141178012
                                                    1
                                                             minus
##
   610
        NC_030677.2 141180967 141181446
                                                    1
                                                             minus
##
   611
        NC_030677.2 141180967 141181446
                                                    1
                                                             minus
   612
        NC_030677.2 141212000 141212431
                                                    1
                                                             minus
##
   613
        NC_030677.2 141212000 141212431
                                                    1
                                                             minus
   614
        NC 030677.2 141214734 141215177
##
                                                    1
                                                             minus
##
   615
        NC_030677.2 141214734 141215177
                                                    1
                                                             minus
   616
        NC 030677.2 141217894 141218342
                                                    1
                                                             minus
  617
        NC_030677.2 141217894 141218342
##
                                                    1
                                                             minus
   618
        NC 030677.2 141608962 141610014
##
                                                    1
                                                             minus
##
   619
        NC_030677.2 141608962 141610014
                                                    1
                                                             minus
   620
        NC 030677.2 141645770 141646524
                                                    1
                                                             minus
##
   621
        NC 030677.2 141645770 141646524
                                                    1
                                                             minus
##
   622
        NC 030677.2 141732256 141733673
                                                    1
                                                             minus
##
   623
        NC_030677.2 141762943 141763738
                                                    1
                                                             minus
##
   624
        NC_030677.2 141762943 141763738
                                                    1
                                                             minus
  625
##
        NC_030677.2 141766935 141768951
                                                    1
                                                             minus
##
   626
        NC 030677.2 141766935 141768951
                                                    1
                                                             minus
   627
##
        NC_030677.2 141830388 141830876
                                                    1
                                                              plus
##
   628
        NC_030677.2 141830388 141830876
                                                    1
                                                              plus
##
   629
        NC_030677.2 141834504 141834983
                                                    1
                                                              plus
   630
##
        NC_030677.2 141834504 141834983
                                                    1
                                                              plus
##
   631
        NC_030677.2 142773280 142773352
                                                    1
                                                              plus
##
  632
        NC 030677.2 142825772 142825843
                                                    1
                                                              plus
## 633
        NC 030677.2 142825971 142826042
                                                    1
                                                             minus
```

```
## 634
        NC 030677.2 142826419 142826490
                                                   1
                                                            plus
   635
        NC_030677.2 142852126 142855715
                                                            plus
   636
        NC 030677.2 142852126 142855715
                                                            plus
  637
        NC_030677.2 142852126 142855715
##
                                                   1
                                                            plus
##
  638
        NC_030677.2 142852126 142855715
                                                   1
                                                            plus
  639
        NC 030677.2 142854621 142854764
##
                                                   1
                                                            plus
        NC 030677.2 142995002 142996629
## 640
                                                   1
                                                           minus
## 641
        NC 030677.2 143329549 143330950
                                                   1
                                                           minus
## 642
        NC 030677.2 143632907 143649266
                                                   1
                                                            plus
## 643
        NC_030677.2 143866043 143918837
                                                   1
                                                           minus
## 644
        NC_030677.2 143866043 143918837
                                                   1
                                                           minus
        NC_030677.2 145684357 145757839
## 645
                                                   1
                                                           minus
##
   646
        NC_030677.2 145889600 145890799
                                                   1
                                                            plus
   647
        NC_030677.2 145965148 146013480
                                                           minus
        NC_030677.2 145965148 146013480
## 648
                                                   1
                                                           minus
## 649
        NC_030677.2 146063760 146079675
                                                   1
                                                            plus
        NC_030677.2 146604756 146611157
## 650
                                                   1
                                                           minus
   651
        NC 030677.2 146604756 146611157
                                                   1
                                                           minus
        NC_030677.2 147029380 147029575
  652
##
                                                   1
                                                           minus
##
   653
        NC_030677.2 147440038 147442624
                                                   1
                                                           minus
##
  654
        NC_030677.2 147516377 147618055
                                                   1
                                                            plus
        NC_030677.2 147688454 147690243
  655
                                                   1
                                                            plus
        NC_030677.2 147873851 147876071
## 656
                                                   1
                                                           minus
        NC 030677.2 148613342 148620478
## 657
                                                   1
                                                           minus
## 658
        NC 030677.2 148984921 149005570
                                                   1
                                                            plus
  659
        NC_030677.2 148984921 149005570
                                                   1
                                                            plus
   660
        NC_030677.2 149125518 149130391
##
                                                   1
                                                            plus
##
   661
        NC_030677.2 150101079 150403852
                                                   1
                                                           minus
   662
        NC_030677.2 150261101 150261208
##
                                                   1
                                                           minus
  663
        NC_030677.2 151016683 151017358
                                                   1
                                                            plus
## 664
        NC_030677.2 151457769 151501157
                                                            plus
##
  665
        NC_030677.2 151629508 151629611
                                                   1
                                                            plus
   666
        NC_030677.2 151632356 151632496
                                                           minus
        NC_030677.2 151638162 151638302
  667
##
                                                   1
                                                           minus
   668
        NC 030677.2 152195780 152234059
                                                            plus
##
                                                   1
##
  669
        NC_030677.2 152985121 152991675
                                                   1
                                                           minus
  670
        NC 030677.2 153221517 153222284
                                                   1
                                                            plus
## 671
        NC_030677.2 153221517 153222284
                                                   1
                                                            plus
## 672
        NC_030677.2 153225019 153226004
                                                   1
                                                            plus
        NC_030677.2 153225019 153226004
## 673
                                                   1
                                                            plus
        NC 030677.2 153232148 153232678
## 674
                                                   1
                                                            plus
## 675
        NC 030677.2 153232148 153232678
                                                   1
                                                            plus
##
  676
        NC 030677.2 153237899 153238410
                                                   1
                                                            plus
   677
        NC_030677.2 153237899 153238410
##
                                                   1
                                                            plus
## 678
        NC_030677.2 153242581 153243212
                                                   1
                                                            plus
## 679
        NC_030677.2 153242581 153243212
                                                   1
                                                            plus
## 680
        NC_030677.2 153244682 153245157
                                                   1
                                                            plus
  681
        NC_030677.2 153244682 153245157
##
                                                            plus
  682
        NC_030677.2 153253105 153253909
                                                   1
                                                            plus
   683
        NC_030677.2 153253105 153253909
                                                   1
                                                            plus
##
   684
        NC_030677.2 153258953 153259583
                                                   1
                                                            plus
   685
        NC_030677.2 153258953 153259583
                                                            plus
   686
        NC_030677.2 153272964 153273441
##
                                                   1
                                                            plus
        NC 030677.2 153284841 153285332
                                                            plus
```

```
## 688
        NC 030677.2 153284841 153285332
                                                   1
                                                             plus
  689
        NC_030677.2 153296043 153296609
##
                                                   1
                                                             plus
        NC 030677.2 153296043 153296609
   690
                                                   1
                                                             plus
        NC_030677.2 153299665 153300333
##
  691
                                                   1
                                                             plus
##
  692
        NC_030677.2 153299665 153300333
                                                   1
                                                             plus
   693
        NC 030677.2 153309339 153310193
##
                                                   1
                                                             plus
   694
        NC 030677.2 153309339 153310193
                                                   1
                                                             plus
## 695
        NC 030677.2 153316975 153317577
                                                   1
                                                             plus
##
  696
        NC 030677.2 153316975 153317577
                                                   1
                                                             plus
##
   697
        NC_030677.2 153339660 153342064
                                                   1
                                                             plus
   698
        NC_030677.2 153346813 153347415
                                                   1
                                                             plus
        NC_030677.2 153346813 153347415
##
   699
                                                   1
                                                             plus
##
   700
        NC_030677.2 153351539 153352224
                                                   1
                                                             plus
##
   701
        NC_030677.2 153351539 153352224
                                                             plus
  702
        NC_030677.2 153865912 153865987
##
                                                   1
                                                            minus
  703
        NC_030677.2 153868044 153868146
##
                                                   1
                                                            minus
##
  704
        NC_030677.2 153873917 153873989
                                                   1
                                                            minus
   705
        NC 030677.2 153874762 153874832
                                                   1
                                                            minus
##
  706
        NC_030677.2 153917067 153943960
                                                   1
                                                            minus
##
  707
        NC 030677.2 153917067 153943960
                                                   1
                                                            minus
##
  708
        NC_030677.2 153917067 153943960
                                                   1
                                                            minus
        NC_030677.2 153917067 153943960
  709
                                                   1
                                                            minus
## 710
        NC_030677.2 154459419 154463672
                                                   1
                                                            minus
        NC 030677.2 154459419 154463672
##
  711
                                                   1
                                                            minus
## 712
        NC 030677.2 154626744 154636280
                                                   1
                                                            minus
  713
        NC_030677.2 155381508 155381639
                                                   1
                                                             plus
  714
        NC_030677.2 155532814 155533694
##
                                                   1
                                                            minus
##
   715
        NC_030677.2 156565403 156565530
                                                   1
                                                            minus
  716
        NC_030677.2 156567452 156567579
##
                                                   1
                                                            minus
  717
        NC_030677.2 157581333 157588184
                                                   1
                                                             plus
## 718
        NC_030677.2 157769667 157778366
                                                   1
                                                            minus
##
  719
        NC_030677.2 158830974 158911684
                                                   1
                                                            minus
  720
        NC_030677.2 160115740 160115811
                                                            minus
  721
        NC_030677.2 160116657 160116728
##
                                                   1
                                                             plus
  722
        NC 030677.2 160118097 160119907
                                                   1
                                                            minus
##
  723
        NC_030677.2 160124203 160124275
                                                   1
                                                             plus
  724
        NC 030677.2 160124671 160124742
                                                   1
                                                             plus
## 725
        NC_030677.2 160470158 160470251
                                                   1
                                                             plus
  726
        NC 030677.2 161082437 161083021
##
                                                   1
                                                            minus
        NC_030677.2 161880192 161882966
## 727
                                                   1
                                                             plus
        NC 030677.2 162070659 162076103
  728
                                                   1
                                                             plus
  729
        NC 030677.2 162160072 162175405
##
                                                   1
                                                             plus
##
  730
        NC 030677.2 162160072 162175405
                                                   1
                                                             plus
  731
        NC_030677.2 162160072 162175405
##
                                                   1
                                                             plus
##
  732
        NC_030677.2 162160072 162175405
                                                   1
                                                             plus
## 733
        NC_030677.2 162160072 162175405
                                                   1
                                                             plus
##
  734
        NC_030677.2 162212827 162214246
                                                   1
                                                            minus
  735
        NC_030677.2 162491638 162558664
##
                                                   1
                                                             plus
   736
        NC_030677.2 162691024 162721802
                                                   1
                                                             plus
   737
        NC_030677.2 162691024 162721802
                                                   1
##
                                                             plus
##
  738
        NC_030677.2 163671272 163690373
                                                   1
                                                             plus
  739
        NC_030677.2 165292420 165294783
                                                   1
                                                            minus
  740
        NC_030677.2 165592731 165595160
##
                                                   1
                                                            minus
                                                             plus
        NC 030677.2 167458841 167461916
## 741
```

```
## 742
        NC 030677.2 167458841 167461916
                                                            plus
                                                   1
  743
        NC_030677.2 167460879 167460953
                                                   1
                                                            plus
        NC 030677.2 168182448 168185691
  744
                                                   1
                                                           minus
  745
        NC_030677.2 169074880 169077299
##
                                                   1
                                                            plus
##
  746
        NC_030677.2 169308581 169388647
                                                   1
                                                           minus
  747
        NC 030677.2 169611648 169613069
##
                                                   1
                                                           minus
        NC 030677.2 169988370 169989836
##
  748
                                                   1
                                                           minus
## 749
        NC_030677.2 169993504 170315147
                                                   1
                                                            plus
##
  750
        NC 030677.2 169993504 170315147
                                                   1
                                                            plus
##
  751
        NC_030677.2 169993504 170315147
                                                   1
                                                            plus
  752
        NC_030677.2 170432013 170435091
                                                   1
                                                            plus
  753
        NC_030677.2 170974695 170977120
##
                                                   1
                                                             plus
##
   754
        NC_030677.2 172719059 172883227
                                                   1
                                                             plus
        NC_030677.2 173259811 173273932
##
  755
                                                            plus
  756
        NC_030677.2 173259811 173273932
##
                                                   1
                                                            plus
##
  757
        NC_030677.2 173259811 173273932
                                                            plus
  758
        NC_030677.2 176358565 176365066
##
                                                   1
                                                            plus
   759
        NC 030677.2 176812034 176813115
                                                            plus
  760
        NC_030677.2 176812034 176813115
##
                                                   1
                                                            plus
##
  761
        NC_030677.2 176822879 176823768
                                                   1
                                                           minus
##
  762
        NC_030677.2 178178856 178205294
                                                   1
                                                             plus
        NC_030677.2 178178856 178205294
##
  763
                                                   1
                                                            plus
## 764
        NC 030677.2 178178856 178205294
                                                   1
                                                            plus
        NC 030677.2 178178856 178205294
##
  765
                                                   1
                                                            plus
## 766
        NC 030677.2 178701154 178704217
                                                   1
                                                            plus
  767
        NC 030677.2 179218878 179222914
                                                   1
                                                            plus
  768
        NC_030677.2 179394622 179429721
##
                                                   1
                                                           minus
##
   769
        NC_030677.2 179519852 179524712
                                                   1
                                                           minus
  770
        NC_030677.2 179534573 179534657
##
                                                   1
                                                            plus
  771
        NC_030677.2 179603160 179607961
                                                   1
                                                            plus
## 772
        NC_030677.2 179691672 179719671
                                                   1
                                                           minus
##
  773
        NC_030677.2 180067391 180067452
                                                   1
                                                           minus
  774
        NC_030677.2 180069307 180069379
                                                           minus
        NC_030677.2 180824876 180842323
  775
##
                                                   1
                                                           minus
   776
        NC 030677.2 181028790 181033997
##
                                                   1
                                                             plus
##
  777
        NC_030677.2 181731482 181732919
                                                   1
                                                            plus
  778
        NC 030677.2 182042667 182049826
                                                   1
                                                            plus
  779
        NC_030677.2 182386085 182388166
##
                                                   1
                                                            plus
  780
        NC_030677.2 182585339 182590861
##
                                                   1
                                                           minus
## 781
        NC_030677.2 182607728 182608606
                                                   1
                                                           minus
        NC 030677.2 183995148 184020611
   782
                                                   1
                                                            plus
  783
        NC_030677.2 184187706 184195331
##
                                                   1
                                                           minus
##
   784
        NC 030677.2 184252659 184254078
                                                   1
                                                             plus
   785
        NC_030677.2 184639735 184639837
##
                                                   1
                                                            plus
##
  786
        NC_030677.2 184992970 184993117
                                                   1
                                                            plus
  787
        NC_030677.2 185365369 185367499
##
                                                   1
                                                           minus
##
  788
        NC_030677.2 185619903 185620854
                                                   1
                                                             plus
  789
        NC_030677.2 186212658 186214512
##
                                                            plus
   790
        NC_030677.2 186212658 186214512
                                                   1
                                                            plus
   791
        NC_030677.2 186214788 186215071
                                                   1
##
                                                            plus
##
  792
        NC_030677.2 186246793 186254659
                                                   1
                                                            plus
   793
        NC_030677.2 186252622 186278091
                                                   1
                                                           minus
  794
        NC_030677.2 186252622 186278091
##
                                                   1
                                                           minus
## 795
        NC 030677.2 186286134 186287530
                                                            plus
```

```
## 796
        NC 030677.2 186292733 186296751
                                                            plus
                                                   1
  797
        NC_030677.2 186335595 186336264
                                                           minus
   798
        NC 030677.2 186341954 186342214
                                                   1
                                                           minus
  799
        NC_030677.2 186363114 186366736
##
                                                   1
                                                           minus
##
  800
        NC_030677.2 186370285 186378085
                                                   1
                                                            plus
  801
        NC 030677.2 186995118 186996935
##
                                                   1
                                                            plus
        NC 030677.2 188660948 188662341
  802
                                                   1
                                                           minus
## 803
        NC_030677.2 189472411 189474646
                                                   1
                                                            plus
##
  804
        NC 030677.2 189472411 189474646
                                                   1
                                                            plus
##
  805
        NC_030677.2 189613793 189678371
                                                   1
                                                            plus
  806
        NC_030677.2 190364762 190369534
                                                   1
                                                           minus
  807
        NC_030677.2 190628961 190639059
##
                                                   1
                                                           minus
##
   808
        NC_030677.2 190708701 190711512
                                                   1
                                                           minus
   809
        NC_030677.2 190713648 190716514
                                                            plus
        NC_030677.2 190776610 190784506
## 810
                                                   1
                                                            plus
## 811
        NC_030677.2 190776610 190784506
                                                   1
                                                            plus
        NC_030677.2 190776610 190784506
## 812
                                                   1
                                                            plus
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                                                            plus
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## 815
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## 816
        NC_030677.2 190776610 190784506
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## 817
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        NC_030677.2 191391324 191395346
## 818
                                                   1
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## 819
                                                   1
                                                            plus
## 820
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  821
        NC_030677.2 191412691 191412854
                                                   1
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## 822
        NC_030677.2 191413672 191413835
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##
  823
        NC_030677.2 191414232 191414395
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## 824
        NC_030677.2 191415213 191415376
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## 826
        NC_030677.2 191416332 191416495
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## 827
        NC_030677.2 191417313 191417476
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        NC_030677.2 191417873 191418036
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        NC_030677.2 191418854 191419017
##
  829
                                                   1
                                                            plus
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        NC_030677.2 191420395 191420558
##
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                                                            plus
        NC 030677.2 191420955 191421118
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## 833
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## 834
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                                                            plus
## 842
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##
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                                                           minus
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##
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                                                            plus
        NC_030677.2 195005606 195019703
##
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                                                   1
                                                            plus
   847
        NC 030677.2 195886631 195895779
                                                            plus
## 848
        NC_030677.2 195891679 195891756
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                                                            plus
        NC 030677.2 195895528 195895605
                                                            plus
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                                                             plus
        NC_030677.2 196812486 196820908
##
   851
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        NC 030677.2 196832848 196834198
                                                   1
                                                           minus
        NC_030677.2 196835380 196836739
##
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                                                   1
                                                           minus
##
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        NC_030677.2 196878197 196885458
                                                   1
                                                           minus
##
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        NC 030677.2 197792968 197851884
                                                   1
                                                            plus
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        NC 030677.2 197792968 197851884
                                                   1
                                                            plus
## 857
        NC 030677.2 197792968 197851884
                                                   1
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##
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        NC 030677.2 197792968 197851884
                                                   1
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                                                           minus
        NC_030677.2 200253130 200253264
##
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                                                   1
                                                           minus
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        NC_030677.2 200262101 200262233
##
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                                                           minus
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        NC 030677.2 200692664 200696543
                                                            plus
        NC_030677.2 200959934 200960526
  868
##
                                                   1
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   869
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                                                           minus
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                                                           minus
        NC_030677.2 201700027 201700095
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                                                           minus
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## 872
                                                   1
                                                            plus
        NC 030677.2 203062158 203069233
## 873
                                                   1
                                                           minus
## 874
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                                                            plus
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                                                   1
                                                            plus
        NC_030677.2 205236398 205237289
##
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                                                   1
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##
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        NC_030677.2 205947007 205947073
                                                   1
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  879
        NC_030677.2 205947740 205947806
                                                   1
                                                           minus
## 880
        NC_030677.2 205949033 205949100
                                                   1
                                                           minus
##
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        NC_030677.2 205950207 205950278
                                                   1
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        NC_030677.2 205950608 205950678
                                                           minus
        NC_030677.2 205976373 205978768
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##
                                                   1
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##
                                                   1
                                                           minus
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##
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                                                   1
                                                           minus
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        NC 030677.2 207504623 207641489
                                                   1
                                                           minus
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##
                                                   1
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##
                                                   1
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                                                           minus
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   890
                                                   1
                                                            plus
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##
                                                   1
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##
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                                                   1
                                                            plus
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        NC_030677.2 211238183 211240872
##
                                                   1
                                                           minus
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        NC_030677.2 211353901 211356031
                                                   1
                                                             plus
## 895
        NC_030677.2 211353901 211356031
                                                   1
                                                            plus
##
  896
        NC_030677.2 211353901 211356031
                                                   1
                                                            plus
        NC_030677.2 211877632 211889694
##
   897
                                                   1
                                                           minus
   898
        NC_030677.2 211877632 211889694
                                                   1
                                                           minus
   899
        NC_030677.2 212040374 212077383
                                                   1
                                                             plus
##
   900
        NC_030677.2 212717544 212750758
                                                   1
                                                            plus
        NC_030677.2 212717544 212750758
                                                   1
                                                            plus
        NC_030677.2 212717544 212750758
  902
                                                   1
                                                            plus
        NC 030677.2 212855723 212862587
                                                           minus
```

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	904	NC_030677.2			1	minus
	905	NC_030677.2			1	minus
	906	NC_030677.2			1	minus
##	907	NC_030677.2			1	minus
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##	916	NC_030677.2	215523539	215535885	1	plus
##	917	NC_030677.2			1	plus
##	918	NC_030677.2			1	plus
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	921	NC_030677.2			1	plus
	922	NC_030677.2			1	plus
	923	NC_030677.2			1	plus
	924	NC_030677.2			1	plus
	925	NC_030677.2			1	plus
	926	NC_030677.2			1	plus
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		NC_030678.2 NC_030678.2	681069	686180	2	plus
	930	_	681069			plus
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	932	NC_030678.2	704228	704344	2	plus
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	935	NC_030678.2	716359	716477	2	minus
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		_				

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##	964	NC_030678.2	1067504	1073439	2	minus
##	965	NC_030678.2	1165193	1245273	2	minus
##	966	NC 030678.2	1267026	1243273	2	plus
##	967	NC_030678.2	1267306	1267424	2	plus
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##	971	NC_030678.2	1569424	1570484	2	plus
##	972	NC_030678.2	1569424	1570484	2	_
##	973	NC_030678.2	1569424	1570484	2	plus
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##		NC_030678.2	28921262	28925884	2	minus
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##		NC_030678.2	29893434	29935674	2	minus
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##		NC_030678.2	29893434	29935674	2	minus
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##		NC_030678.2	31593153	31599702	2	plus
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##		NC_030678.2	33590102	33598047	2	minus
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##		NC_030678.2	34016188	34022804	2	minus
##		NC_030678.2	34029841	34060842	2	plus
##		NC_030678.2	34029841	34060842	2	plus
##		NC_030678.2	34087197	34089199	2	plus
##		NC_030678.2	34088294	34088355	2	plus
##		NC_030678.2	34089002	34089063	2	plus
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##		NC_030678.2	34993654	35005963	2	plus
		NC_030678.2	34993654	35005963	2	plus
		NC_030678.2	35189858	35198516	2	plus
		NC_030678.2	35260761	35260856	2	plus
##	1119	NC_030678.2	35266264	35266350	2	plus

##	1120	NC_030678.2	35293733	35293814	2	minus
##		NC_030678.2	36202374	36254154	2	plus
##		NC_030678.2	36202374	36254154	2	plus
##		NC_030678.2	36202374	36254154	2	plus
##		NC_030678.2	36202374	36254154	2	plus
##		NC_030678.2	36290987	36295624	2	minus
##		NC_030678.2	37921111	37921325	2	plus
##		NC_030678.2	37921862	37922071	2	plus
##		NC_030678.2	37922608	37922822	2	plus
##		NC_030678.2	37923359	37923573	2	plus
##		NC_030678.2	37924110	37924324	2	plus
##		NC_030678.2	37924861	37925075	2	plus
##		NC_030678.2	37925612	37925826	2	plus
##		NC_030678.2	37926363	37926577	2	plus
##	1134	NC_030678.2	37927114	37927328	2	plus
##	1135	NC_030678.2	37927865	37928079	2	plus
##	1136	NC_030678.2	37928616	37928830	2	plus
##	1137	NC_030678.2	37929367	37929581	2	plus
##	1138	NC_030678.2	37930118	37930332	2	plus
##	1139	NC_030678.2	37930869	37931083	2	plus
##	1140	NC_030678.2	37931621	37931835	2	plus
##	1141	NC_030678.2	37932372	37932586	2	plus
##	1142	NC_030678.2	37933123	37933337	2	plus
##	1143	NC_030678.2	37933874	37934088	2	plus
##	1144	NC_030678.2	37934625	37934839	2	plus
##		NC_030678.2	37935376	37935590	2	plus
##	1146	NC_030678.2	37936127	37936341	2	plus
##	1147	NC_030678.2	37936878	37937092	2	plus
##		NC_030678.2	37937629	37937843	2	plus
##	1149	NC_030678.2	37938380	37938594	2	plus
##		NC_030678.2	37939131	37939345	2	plus
##		NC_030678.2	37939882	37940096	2	plus
##		NC_030678.2	37940633	37940847	2	plus
##		NC_030678.2	37941384	37941598	2	plus
##		NC_030678.2	37942135	37942349	2	plus
##		NC_030678.2	37942886	37943100	2	plus
##		NC_030678.2	37943637	37943851	2	plus
##		NC_030678.2	37944388	37944602	2	plus
## ##		NC_030678.2 NC_030678.2	37945139 37945890	37945353 37946104	2 2	plus
##		NC_030678.2 NC_030678.2	37946641	37946104	2	plus plus
##		NC_030678.2 NC_030678.2	37947392	37947606	2	plus
##		NC_030678.2	37948143	37948357	2	plus
##		NC_030678.2	37948894	37949108	2	plus
##		NC_030678.2	37949645	37949860	2	plus
##		NC_030678.2	37950396	37950610	2	plus
##		NC_030678.2	37951146	37951360	2	plus
##		NC_030678.2	37969626	37969840	2	minus
##		NC_030678.2	37970376	37970587	2	minus
##		NC_030678.2	37971121	37971333	2	minus
##		NC_030678.2	37971868	37972083	2	minus
##		NC_030678.2	37972617	37972828	2	minus
##	1172	NC_030678.2	37973352	37973567	2	minus
##	1173	NC_030678.2	37974103	37974315	2	minus

##		NC_030678.2	37974843	37975056	2	minus
##		NC_030678.2	37975588	37975801	2	minus
##	1176	NC_030678.2	37976330	37976543	2	minus
##	1177	_	37977069	37977283	2	minus
##		NC_030678.2	37977403	37977617	2	plus
##		NC_030678.2	37978154	37978360	2	plus
##		NC_030678.2	37986602	37986816	2	plus
##		NC_030678.2	39012034	39017881	2	minus
##		NC_030678.2	41461298	41552673	2	plus
##		NC_030678.2	41461298	41552673	2	plus
##		NC_030678.2	42598924	42605067	2	plus
##		NC_030678.2	42598924	42605067	2	plus
##		NC_030678.2	42598924	42605067	2	plus
##		NC_030678.2	42786084	42790546	2	plus
##		NC_030678.2	42792005	42792090	2	plus
##		NC_030678.2	42793219	42793304	2	plus
##		NC_030678.2	43714050	43727432	2	plus
##		NC_030678.2	44496153	44501328	2	minus
##		NC_030678.2	44720168	44720285	2	plus
##		NC_030678.2	45004039	45004111	2	minus
##		NC_030678.2	45326634	45339497	2	minus
##		NC_030678.2	45327245	45327336	2	minus
##		NC_030678.2	45439360	45447548	2	minus
##		NC_030678.2	45534683	45535202	2	plus
##		NC_030678.2	45580841	45597172	2	minus
##		NC_030678.2	45726355	45728836	2	minus
##		NC_030678.2	46014797	46018035	2	minus
##		NC_030678.2	46144992	46145098	2	minus
##		NC_030678.2	46181045	46181151	2	minus
##		NC_030678.2	46182027	46182133	2	minus
##		NC_030678.2	46183009	46183115	2	minus
##		NC_030678.2	46183991	46184097	2	minus
##		NC_030678.2	46184973	46185079 46186061	2 2	minus
##		NC_030678.2	46185955	46187043	2	minus
##		NC_030678.2 NC_030678.2	46186937 46187919	46188025	2	minus
##		NC_030678.2 NC_030678.2	46188901	46189007	2	minus
##		NC_030678.2		46189989	_	minus
##		NC_030678.2	46189883 46190865	46190971	2 2	minus minus
##		NC_030678.2 NC_030678.2	46191847	46191953	2	minus
##		NC_030678.2	46192829	46192935	2	minus
##		NC_030678.2	46193811	46193917	2	minus
##		NC_030678.2	46194793	46194899	2	minus
##		NC_030678.2 NC_030678.2	46195775	46195881	2	minus
##		NC_030678.2	46196757	46196863	2	minus
##		NC_030678.2	47068799	47069539	2	plus
##		NC_030678.2	47369536	47380887	2	minus
##		NC_030678.2	47940931	47975642	2	minus
##		NC_030678.2	48011792	48030515	2	minus
##		NC_030678.2	48180155	48181509	2	minus
##		NC_030678.2	49425212	49435010	2	plus
##		NC_030678.2	49456127	49521448	2	minus
##		NC_030678.2	49749999	49756143	2	plus
##		NC_030678.2	49760343	49779691	2	plus
	,				-	r-uo

	4000	NG 000070 0	40760040	40770604	0	-
##		NC_030678.2	49760343	49779691	2	plus
##		NC_030678.2	49781869	49783355	2	plus
##		NC_030678.2	49785117	49790641	2	plus
##		NC_030678.2	49799683	49806743	2	plus
##		NC_030678.2	49799683	49806743	2	plus
##		NC_030678.2	50592580	50595537	2	plus
##		NC_030678.2	50706037	50707950	2	minus
##		NC_030678.2	50855760	50855831	2	plus
##		NC_030678.2	50857077	50857148	2	plus
##	1237	NC_030678.2	50864193	50864264	2	plus
##		NC_030678.2	51045412	51051142	2	minus
##		NC_030678.2	51243431	51250944	2	minus
##		NC_030678.2	51245682	51245767	2	minus
##		NC_030678.2	52270359	52272814	2	plus
##		NC_030678.2	52333788	52333867	2	plus
##	1243	NC_030678.2	52336921	52337010	2	plus
##	1244	NC_030678.2	52395377	52396274	2	minus
##	1245	NC_030678.2	52710902	52715000	2	plus
##	1246	NC_030678.2	52780262	52781543	2	plus
##	1247	NC_030678.2	52786931	52787002	2	minus
##	1248	NC_030678.2	52787683	52787754	2	minus
##	1249	NC_030678.2	52789296	52789367	2	minus
##	1250	NC_030678.2	52790040	52790111	2	minus
##	1251	NC_030678.2	52791653	52791724	2	minus
##	1252	NC_030678.2	52792405	52792476	2	minus
##	1253	NC_030678.2	52794018	52794089	2	minus
##	1254	NC_030678.2	52794764	52794835	2	minus
##	1255	NC_030678.2	52796377	52796448	2	minus
##	1256	NC_030678.2	52797129	52797200	2	minus
##	1257	NC_030678.2	52798742	52798813	2	minus
##	1258	NC_030678.2	52799489	52799560	2	minus
##	1259	NC_030678.2	52801102	52801173	2	minus
##	1260	NC_030678.2	52801848	52801919	2	minus
##	1261	NC_030678.2	52803461	52803532	2	minus
##		NC_030678.2	52804213	52804284	2	minus
##		NC_030678.2	52805826	52805897	2	minus
##		NC_030678.2	52806578	52806649	2	minus
##		NC_030678.2	52808191	52808262	2	minus
##		NC_030678.2	52808943	52809014	2	minus
##		NC_030678.2	52810556	52810627	2	minus
##		NC_030678.2	52811302	52811373	2	minus
##		NC_030678.2	52812915	52812986	2	minus
##		NC_030678.2	52813666	52813737	2	minus
##		NC_030678.2	52815286	52815358	2	minus
##		NC_030678.2	52816039	52816110	2	minus
##		NC_030678.2	52817653	52817725	2	minus
##		NC_030678.2	52818416	52818488	2	minus
##		NC_030678.2	52834501	52834572	2	plus
##		NC_030678.2	52836114	52836186	2	plus
##		NC_030678.2	52838458	52838530	2	plus
##		NC_030678.2	52840153	52840224	2	minus
##		NC_030678.2 NC_030678.2	52841771	52841842	2	minus
##		NC_030678.2	52842524	52842595	2	minus
##		NC_030678.2 NC_030678.2	52844133	52844204	2	minus
##	1201	110_000010.2	02044100	02044204	۷	minns

##		NC_030678.2	52844885	52844956	2	minus
##		NC_030678.2	52846498	52846569	2	minus
##		NC_030678.2	52847253	52847324	2	minus
##		NC_030678.2	52848005	52848076	2	minus
##		NC_030678.2	52849612	52849683	2	minus
##		NC_030678.2	52850364	52850435	2	minus
##	1288	NC_030678.2	52851977	52852048	2	minus
##	1289	_	52852723	52852794	2	minus
##		NC_030678.2	52853944	52854015	2	minus
##		NC_030678.2	53439451	53450537	2	minus
##		NC_030678.2	53711324	53714752	2	plus
##		NC_030678.2	53953259	54025512	2	plus
##		NC_030678.2	54936368	54945732	2	plus
##		NC_030678.2	54940735	54943514	2	minus
##		NC_030678.2	55171699	55176189	2	minus
##		NC_030678.2	55675914	55675977	2	plus
##		NC_030678.2	55676422	55676514	2	plus
##		NC_030678.2	56351703	56373612	2	minus
##		NC_030678.2	57209526	57223453	2	minus
##		NC_030678.2	57484156	57484264	2	minus
##		NC_030678.2	60377156	60380109	2	plus
##		NC_030678.2	60633779	60682929	2	plus
##		NC_030678.2	60898310	60900349	2	plus
##		NC_030678.2	60899540	60899621	2	plus
##		NC_030678.2	61573085	61706095	2	plus
##		NC_030678.2	63050278	63056378	2	plus
##		NC_030678.2	63113335	63166337	2	plus
##		NC_030678.2	63284805	63288057	2	plus
##		NC_030678.2	64021047	64033917	2	plus
##		NC_030678.2	66834865	66841081	2	minus
##		NC_030678.2	67068951	67072243	2	plus
##		NC_030678.2	67100822	67103981	2	plus
##		NC_030678.2	68404252	68413983	2	plus
##		NC_030678.2	68712420	68765338	2	minus
##		NC_030678.2	68712420	68765338	2	minus
##		NC_030678.2	68717764	68718613	2	plus
##		NC_030678.2	68811387	68817010	2	minus
		NC_030678.2	69321309	69323720	2	minus
		NC_030678.2	69459181	69476223	2	minus
		NC_030678.2	69563582	69572799	2	plus
		NC_030678.2	70158992	70164098	2	plus
		NC_030678.2	70596510	70624495	2	plus
		NC_030678.2	70984765	71012003	2	minus
##		NC_030678.2	71530333	71542769	2	plus
##		NC_030678.2	72274916	72276452	2	minus
##		NC_030678.2	72359053	72362327	2	plus
##		NC_030678.2	73038068	73055849	2	minus
##		NC_030678.2	73088397	73088468	2	minus
##		NC_030678.2	73088727	73088798	2	minus
##		NC_030678.2	73110979	73137391	2	minus
##		NC_030678.2	73123180	73123267	2	minus
		NC_030678.2	73493409	73503709	2	plus
		NC_030678.2	73493409	73503709	2	plus
##	1335	NC_030678.2	73493409	73503709	2	plus

##		NC_030678.2	73493409	73503709	2	plus
##		NC_030678.2	73523123	73523652	2	plus
##		NC_030678.2	73552982	73557557	2	minus
##		NC_030678.2	73769697	73772113	2	plus
##		NC_030678.2	73919913	73936005	2	minus
##		NC_030678.2	73977948	74024544	2	plus
##		NC_030678.2	74428166	74428236	2	minus
##		NC_030678.2	74428385	74428457	2	plus
##		NC_030678.2	74429178	74429248	2	minus
##		NC_030678.2	74429531	74429601	2	minus
##		NC_030678.2	74429742	74429814	2	plus
##		NC_030678.2	74430535	74430605	2	minus
##		NC_030678.2	74430888	74430958	2	minus
##		NC_030678.2	74431099	74431171	2	plus
##		NC_030678.2	74431892	74431962	2	minus
##		NC_030678.2	74432245	74432315	2	minus
##		NC_030678.2	74432456	74432528	2	plus
##		NC_030678.2	74433249	74433319	2	minus
##		NC_030678.2	74433602	74433672	2	minus
##		NC_030678.2	74433813	74433885	2	plus
##		NC_030678.2	74434606	74434676	2	minus
##		NC_030678.2	74434959	74435029	2	minus
##		NC_030678.2	74435170	74435241	2	plus
##		NC_030678.2	74435962	74436032	2	minus
##		NC_030678.2	74436315	74436385	2	minus
##		NC_030678.2	74436526	74436598	2	plus
##		NC_030678.2	74437319	74437389	2	minus
##		NC_030678.2	74437672	74437742	2	minus
##		NC_030678.2	74437883	74437955	2	plus
##		NC_030678.2	74438676	74438746	2	minus
##		NC_030678.2	74439029	74439099	2	minus
##		NC_030678.2	74439240	74439312	2	plus
##		NC_030678.2	74440033	74440103	2	minus
##		NC_030678.2	74440386	74440456	2	minus
##		NC_030678.2	74440596	74440668	2	plus
##		NC_030678.2	74441389	74441459	2	minus
##		NC_030678.2	74441742	74441812	2	minus
		NC_030678.2	74441953	74442025	2	plus
		NC_030678.2	74443097	74443167	2	minus
		NC_030678.2	74443308	74443380	2	plus
##		NC_030678.2	74444101	74444171	2	minus
##		NC_030678.2	74444454	74444524	2	minus
##		NC_030678.2	74444665	74444737	2	plus
##		NC_030678.2	74445457	74445527	2	minus
##		NC_030678.2	74445810	74445880	2	minus
##		NC_030678.2	74446021	74446093	2	plus
##		NC_030678.2	74446813	74446883	2	minus
##		NC_030678.2	74447167	74447237	2	minus
##		NC_030678.2	74447377	74447449	2	plus
##		NC_030678.2	74448169	74448239	2	minus
##		NC_030678.2	74448521	74448591	2	minus
		NC_030678.2	74448732	74448804	2	plus
		NC_030678.2	74449526	74449596	2	minus
##	1389	NC_030678.2	74449879	74449949	2	minus

```
## 1390 NC 030678.2
                     74450090
                                74450162
                                                   2
                                                             plus
## 1391 NC_030678.2
                     74450883
                                                   2
                                74450953
                                                            minus
## 1392 NC 030678.2
                      74451236
                                74451306
                                                   2
                                                            minus
                                                   2
## 1393 NC_030678.2
                      74451447
                                74451519
                                                             plus
## 1394 NC_030678.2
                      74452240
                                74452310
                                                   2
                                                            minus
                                                   2
## 1395 NC 030678.2
                     74452593
                                74452663
                                                            minus
                                                   2
## 1396 NC 030678.2
                      74452804
                                74452876
                                                             plus
## 1397 NC 030678.2
                      74453597
                                74453667
                                                   2
                                                            minus
## 1398 NC_030678.2
                      74453950
                                74454020
                                                   2
                                                            minus
                                                   2
## 1399 NC_030678.2
                      74454161
                                74454233
                                                            plus
## 1400 NC_030678.2
                      74454954
                                74455024
                                                   2
                                                            minus
                                                   2
## 1401 NC_030678.2
                      74455307
                                74455377
                                                            minus
## 1402 NC_030678.2
                      74455518
                                                   2
                                                             plus
                                74455590
## 1403 NC_030678.2
                                                   2
                      74456311
                                74456381
                                                            minus
## 1404 NC_030678.2
                                                   2
                      74456663
                                74456733
                                                            minus
## 1405 NC_030678.2
                      74456874
                                74456946
                                                   2
                                                             plus
                                                   2
## 1406 NC_030678.2
                      74457667
                                74457737
                                                            minus
## 1407 NC 030678.2
                      74458020
                                                   2
                                74458090
                                                            minus
                                                   2
## 1408 NC_030678.2
                      74458231
                                74458303
                                                             plus
## 1409 NC 030678.2
                      74459024
                                74459094
                                                   2
                                                            minus
## 1410 NC_030678.2
                      74459377
                                74459447
                                                   2
                                                            minus
## 1411 NC 030678.2
                                                   2
                      74459588
                                74459660
                                                             plus
## 1412 NC_030678.2
                      74460381
                                74460451
                                                   2
                                                            minus
                                                   2
## 1413 NC 030678.2
                      74460734
                                74460804
                                                            minus
## 1414 NC 030678.2
                      74460945
                                74461017
                                                   2
                                                            plus
## 1415 NC 030678.2
                      74461738
                                74461808
                                                   2
                                                            minus
                                                   2
## 1416 NC_030678.2
                      74462091
                                74462161
                                                            minus
                                                   2
## 1417 NC_030678.2
                      74462302
                                74462374
                                                             plus
## 1418 NC_030678.2
                                                   2
                      74463095
                                74463165
                                                            minus
## 1419 NC_030678.2
                      74463447
                                                   2
                                74463517
                                                            minus
## 1420 NC_030678.2
                      74463658
                                74463730
                                                   2
                                                             plus
## 1421 NC_030678.2
                      74464451
                                74464521
                                                   2
                                                            minus
                                                   2
## 1422 NC_030678.2
                      74464804
                                74464874
                                                            minus
                                                   2
## 1423 NC_030678.2
                      74465015
                                74465087
                                                             plus
## 1424 NC 030678.2
                      74465808
                                                   2
                                74465878
                                                            minus
                                                   2
## 1425 NC_030678.2
                     74466161
                                74466231
                                                            minus
## 1426 NC 030678.2
                      74466372
                                74466444
                                                   2
                                                             plus
## 1427 NC_030678.2
                                                   2
                      74467165
                                74467236
                                                            minus
## 1428 NC_030678.2
                                                   2
                      74467722
                                74467794
                                                             plus
                                                   2
## 1429 NC_030678.2
                      74468514
                                74468584
                                                            minus
                                                   2
## 1430 NC 030678.2
                      74468867
                                74468937
                                                            minus
## 1431 NC 030678.2
                                                   2
                      74469078
                                74469150
                                                             plus
## 1432 NC 030678.2
                      74469871
                                74469941
                                                   2
                                                            minus
## 1433 NC_030678.2
                      74470224
                                                   2
                                74470294
                                                            minus
## 1434 NC_030678.2
                      74470435
                                74470507
                                                   2
                                                             plus
                      74471228
                                                   2
## 1435 NC_030678.2
                                74471298
                                                            minus
## 1436 NC_030678.2
                      74471581
                                74471651
                                                   2
                                                            minus
                                                   2
## 1437 NC_030678.2
                      74471785
                                74471857
                                                            plus
## 1438 NC_030678.2
                      74472577
                                74472647
                                                   2
                                                            minus
                                                   2
## 1439 NC_030678.2
                      74472788
                                74472860
                                                             plus
                                                   2
## 1440 NC_030678.2
                      74473582
                                74473652
                                                            minus
                                                   2
## 1441 NC_030678.2
                      74473935
                                74474005
                                                            minus
## 1442 NC_030678.2
                      74474146
                                74474218
                                                   2
                                                             plus
                                                   2
## 1443 NC 030678.2 74474941
                                74475011
                                                            minus
```

		NC_030678.2	74475294	74475364	2	minus
##		NC_030678.2	74475499	74475571	2	plus
##		NC_030678.2	76104964	76111058	2	plus
##		NC_030678.2	76615002	76618285	2	minus
##		NC_030678.2	76700260	76704414	2	plus
##		NC_030678.2	76966113	76971904	2	minus
##		NC_030678.2	77262741	77266152	2	plus
##		NC_030678.2	77266451	77274642	2	plus
##		NC_030678.2	77370828	77373701	2	plus
##		NC_030678.2	77749221	77754638	2	minus
##		NC_030678.2	77749221	77754638	2	minus
##		NC_030678.2	78090922	78146355	2	minus
##		NC_030678.2	78090922	78146355	2	minus
##	1457	NC_030678.2	78090922	78146355	2	minus
##		NC_030678.2	78161660	78161811	2	plus
##		NC_030678.2	78453750	78453886	2	plus
##	1460	NC_030678.2	78906438	78936784	2	plus
##	1461	NC_030678.2	79094139	79105949	2	plus
##	1462	NC_030678.2	79517827	79517985	2	minus
##	1463	NC_030678.2	80332404	80332500	2	plus
##	1464	NC_030678.2	80359805	80359962	2	plus
##	1465	NC_030678.2	81317914	81324900	2	plus
##	1466	NC_030678.2	81549007	81590534	2	plus
##	1467	NC_030678.2	81549007	81590534	2	plus
##	1468	NC_030678.2	81549007	81590534	2	plus
##	1469	NC_030678.2	82209027	82209102	2	minus
##	1470	NC_030678.2	82209466	82209527	2	minus
##	1471	NC_030678.2	82237588	82274643	2	plus
##	1472	NC_030678.2	82237588	82274643	2	plus
##	1473	NC_030678.2	83085892	83088828	2	minus
##	1474	NC_030678.2	83201040	83227527	2	plus
##	1475	NC_030678.2	83346329	83347660	2	minus
##	1476	NC_030678.2	83557661	83567043	2	minus
##	1477	NC_030678.2	83557661	83567043	2	minus
##	1478	NC_030678.2	83557661	83567043	2	minus
##	1479	NC_030678.2	83557661	83567043	2	minus
##	1480	NC_030678.2	83558694	83558773	2	minus
##	1481	NC_030678.2	83558966	83559051	2	minus
##	1482	NC_030678.2	83561120	83561203	2	minus
##	1483	NC_030678.2	83561467	83561550	2	minus
##	1484	NC_030678.2	83561818	83561902	2	minus
##	1485	NC_030678.2	83562170	83562254	2	minus
##	1486	NC_030678.2	83563602	83563681	2	minus
##	1487	NC_030678.2	83564143	83564222	2	minus
##	1488	NC_030678.2	84982497	84985472	2	plus
##	1489	NC_030678.2	85623986	85627252	2	plus
##	1490	NC_030678.2	85887432	85937095	2	minus
##		NC_030678.2	85887432	85937095	2	minus
##		NC_030678.2	86364812	86380773	2	plus
##		NC_030678.2	87867492	87867581	2	plus
##		NC_030678.2	87868496	87868584	2	plus
##		NC_030678.2	87896228	87897571	2	minus
		NC_030678.2	88904871	88908306	2	plus
		NC_030678.2	88910924	88915749	2	plus
		_				-

##		NC_030678.2	88939420	88964155	2	plus
##		NC_030678.2	88945299	88950052	2	plus
##		NC_030678.2	88950166	88950591	2	plus
##		NC_030678.2	89222819	89222890	2	plus
##		NC_030678.2	89659925	89692901	2	minus
##		NC_030678.2	89911730	89912735	2	plus
##		NC_030678.2	90916851	90935497	2	plus
##		NC_030678.2	91021225	91046787	2	plus
##		NC_030678.2	91021225	91046787	2	plus
##		NC_030678.2	91021225	91046787	2	plus
##		NC_030678.2	91029290	91029418	2	plus
##		NC_030678.2	91032725	91032853	2	plus
##		NC_030678.2	91195519	91195589	2	plus
##		NC_030678.2	91196760	91196834	2	plus
##		NC_030678.2	91199072	91199137	2	plus
##		NC_030678.2	91199471	91199536	2	plus
##		NC_030678.2	91421128	91437808	2	minus
##		NC_030678.2	91571889	91693717	2	plus
##		NC_030678.2	91774846	91782583	2	minus
##		NC_030678.2	92274066	92300694	2	plus
##		NC_030678.2	93757846	93757939	2	plus
##		NC_030678.2	94364136	94369140	2	minus
##		NC_030678.2	94472630	94481169	2	plus
##		NC_030678.2	95220367	95234240	2	plus
##		NC_030678.2	95220367	95234240	2	plus
##		NC_030678.2	95220367	95234240	2	plus
##		NC_030678.2	95220367	95234240	2	plus
##		NC_030678.2	95220367	95234240	2	plus
##		NC_030678.2	95220367	95234240	2	plus
##		NC_030678.2	95225186	95225268	2	plus
##		NC_030678.2	95225395	95225478	2	plus
##		NC_030678.2	96099538	96106229	2	plus
##		NC_030678.2	97060227	97060580	2	plus
##		NC_030678.2	97820435	97820569	2	plus
##		NC_030678.2	97820787	97820927	2	plus
##		NC_030678.2	97821145	97821285	2	plus
##		NC_030678.2	97821503	97821643	2	plus
		NC_030678.2	97821861	97822001	2	plus
		NC_030678.2	97822219	97822359	2	plus
##		NC_030678.2	97822577	97822717	2	plus
##		NC_030678.2	97822935	97823075	2	plus
##		NC_030678.2	97823293	97823433	2	plus
##		NC_030678.2	97823651	97823791	2	plus
##		NC_030678.2	97824009	97824149	2	plus
##		NC_030678.2	97824367	97824507	2	plus
##		NC_030678.2	97824725	97824865	2	plus
##		NC_030678.2	97825083	97825223	2	plus
##		NC_030678.2	97825441	97825581	2	plus
##		NC_030678.2	97825799	97825939	2	plus
##		NC_030678.2	97826157	97826297	2	plus
##		NC_030678.2	97826515	97826655	2	plus
		NC_030678.2	97826873	97827013	2	plus
		NC_030678.2	97827231	97827371	2	plus
##	1551	NC_030678.2	97827589	97827729	2	plus

##		NC_030678.2	97827947	97828087	2	plus
##		NC_030678.2	97828305	97828445	2	plus
##		NC_030678.2	97828663	97828803	2	plus
##	1555	_	97829021	97829161	2	plus
##		_	97829379	97829519	2	plus
##	1557	_	97829737	97829877	2	plus
##	1558	_	97830095	97830235	2	plus
##	1559	_	97830453	97830593	2	plus
##		NC_030678.2	97830811	97830951	2	plus
##		NC_030678.2	97831169	97831309	2	plus
##		NC_030678.2	97831527	97831667	2	plus
##		NC_030678.2	97831885	97832025	2	plus
##		NC_030678.2	97832243	97832383	2	plus
##		NC_030678.2	97832601	97832741	2	plus
##		NC_030678.2	97832959	97833099	2	plus
##		NC_030678.2	97833317	97833457	2	plus
##		NC_030678.2	97833675	97833816	2	plus
##		NC_030678.2	97834034	97834174	2	plus
##		NC_030678.2	97834392	97834532	2	plus
##		NC_030678.2	97834750	97834890	2	plus
##		NC_030678.2	97835108	97835248	2	plus
##		NC_030678.2	97835466	97835606	2	plus
##		NC_030678.2	97835824	97835964	2	plus
##		NC_030678.2	97836182	97836322	2	plus
##		NC_030678.2	97836540	97836680	2	plus
##		NC_030678.2	97836898	97837038	2 2	plus
##		NC_030678.2 NC_030678.2	97837256 97837614	97837396	2	plus
##		NC_030678.2 NC_030678.2	97837972	97837754	2	plus
##		NC_030678.2	97838330	97838112 97838470	2	plus
##		NC_030678.2 NC_030678.2	97838688	97838829	2	plus plus
##		NC_030678.2	97839047	97839187	2	plus
##		NC_030678.2	97839405	97839545	2	plus
##		NC_030678.2	97839763	97839903	2	plus
##		NC_030678.2	97840121	97840261	2	plus
##		NC_030678.2	97840479	97840619	2	plus
##		NC_030678.2	97840837	97840977	2	plus
		NC_030678.2	97841195	97841335	2	plus
		NC_030678.2	97841553	97841693	2	plus
##		NC_030678.2	97841911	97842051	2	plus
##		NC_030678.2	97842269	97842409	2	plus
##		NC_030678.2	97842627	97842767	2	plus
##		NC_030678.2	97842985	97843125	2	plus
##		NC_030678.2	97843343	97843483	2	plus
##		NC_030678.2	97843701	97843841	2	plus
##		NC_030678.2	97844059	97844199	2	plus
##		NC_030678.2	97844417	97844557	2	plus
##		NC_030678.2	97844775	97844915	2	plus
##		NC_030678.2	97845133	97845273	2	plus
##		NC_030678.2	97845491	97845631	2	plus
##		NC_030678.2	97845849	97845989	2	plus
##		NC_030678.2	97846207	97846347	2	plus
##		NC_030678.2	97846565	97846705	2	plus
##		NC_030678.2	97846923	97847063	2	plus

##	NC_030678.2	97847280	97847420	2	plus
##	NC_030678.2	97847638	97847778	2	plus
##	NC_030678.2	97847996	97848136	2	plus
##	NC_030678.2	97848354	97848494	2	plus
##	NC_030678.2	97848712	97848852	2	plus
##	NC_030678.2	97849070	97849210	2	plus
##	NC_030678.2	97849428	97849568	2	plus
##	NC_030678.2	97849786	97849926	2	plus
##	NC_030678.2	97850144	97850284	2	plus
##	NC_030678.2	97850502	97850642	2	plus
##	NC_030678.2	97850860	97851000	2	plus
##	NC_030678.2	97851218	97851358	2	plus
##	NC_030678.2	97851576	97851715	2	plus
##	NC_030678.2	97851933	97852073	2	plus
##	NC_030678.2	97852291	97852431	2	plus
##	NC_030678.2	97852649	97852789	2	plus
##	NC_030678.2	97853007	97853147	2	plus
##	NC_030678.2	97853365	97853505	2	plus
##	NC_030678.2	97853723	97853863	2	plus
##	NC_030678.2	97854080	97854219	2	plus
##	NC_030678.2	97854437	97854577	2	plus
##	NC_030678.2	97854795	97854935	2	plus
##	NC_030678.2	97855153	97855294	2	plus
##	NC_030678.2	97855510	97855649	2	plus
##	NC_030678.2	97855866	97856004	2	plus
##	NC_030678.2	97856220	97856358	2	plus
##	NC_030678.2	97856571	97856709	2	plus
##	NC_030678.2	97892357	97892496	2	plus
##	NC_030678.2	97892713	97892852	2	plus
##	NC_030678.2	97893066	97893207	2 2	plus
##	NC_030678.2	97893427 97893791	97893567	2	plus
##	NC_030678.2		97893938 97894299	2	plus
##	NC_030678.2 NC_030678.2	97894153 97894520	97894663	2	plus
##	NC_030678.2	97894885	97895026	2	plus
##	NC_030678.2 NC_030678.2	97895245	97895385	2	plus plus
##	NC_030678.2	97895605	97895745	2	plus
	NC_030678.2 NC_030678.2	97895963	97896103	2	plus
	NC_030678.2 NC_030678.2	97896321	97896461	2	plus
##	NC_030678.2	97896679	97896819	2	plus
##	NC_030678.2	97897037	97897177	2	plus
##	NC_030678.2	97897395	97897535	2	plus
##	NC_030678.2	97897753	97897894	2	plus
##	NC_030678.2	97898112	97898252	2	plus
##	NC_030678.2	97898470	97898610	2	plus
##	NC_030678.2	97898828	97898968	2	plus
##	NC_030678.2	97899187	97899327	2	plus
##	NC_030678.2	97899545	97899685	2	plus
##	NC_030678.2	97899903	97900043	2	plus
##	NC_030678.2	97900261	97900401	2	plus
##	NC_030678.2	97900619	97900759	2	plus
##	NC_030678.2	97900977	97901117	2	plus
##	NC_030678.2	97901335	97901475	2	plus
	NC_030678.2	97901693	97901834	2	plus
	 			=	1

##		NC_030678.2	97902052	97902192	2	plus
##		NC_030678.2	97902410	97902550	2	plus
##		NC_030678.2	97902768	97902908	2	plus
##		NC_030678.2	97903126	97903266	2	plus
##		NC_030678.2	97903484	97903624	2	plus
##		NC_030678.2	97903842	97903982	2	plus
##		NC_030678.2	97904199	97904340	2	plus
##	1667	_	97904558	97904698	2	plus
##		NC_030678.2	97904915	97905055	2	plus
##		NC_030678.2	97905273	97905414	2	plus
##		NC_030678.2	97905633	97905775	2	plus
##		NC_030678.2	97905995	97906138	2	plus
##		NC_030678.2	97906358	97906499	2	plus
##		NC_030678.2	97906718	97906856	2	plus
##		NC_030678.2	97907076	97907215	2	plus
##		NC_030678.2	97907433	97907575	2	plus
##		NC_030678.2	97907792	97907932	2	plus
##		NC_030678.2	97908149	97908287	2	plus
##		NC_030678.2	97908506	97908645	2	plus
##		NC_030678.2	97908862	97909008	2	plus
##		NC_030678.2	97909227	97909367	2	plus
##		NC_030678.2	97909586	97909728	2	plus
##		NC_030678.2	97909947	97910086	2	plus
##		NC_030678.2	97910304	97910444	2	plus
##		NC_030678.2	97910664	97910808	2	plus
##		NC_030678.2	97911027	97911170	2 2	plus
##		NC_030678.2	97911387	97911528	2	plus
##		NC_030678.2	97911744 97912101	97911884 97912241	2	plus
##		NC_030678.2 NC_030678.2	97912101	97912241	2	plus
## ##		NC_030678.2 NC_030678.2	97912457	97912597	2	plus plus
##		NC_030678.2	97912014	97912934	2	plus
##		NC_030678.2	97913528	97913668	2	plus
##		NC_030678.2	97913890	97914030	2	plus
##		NC_030678.2	97914246	97914386	2	plus
##		NC_030678.2	97914602	97914742	2	plus
##		NC_030678.2	97914958	97915099	2	plus
##		NC_030678.2	97915316	97915456	2	plus
##		NC_030678.2	97915674	97915813	2	plus
##		NC_030678.2	97916031	97916170	2	plus
##		NC_030678.2	97916385	97916524	2	plus
##		NC_030678.2	97916753	97916892	2	plus
##		NC_030678.2	97917118	97917258	2	plus
##		NC_030678.2	97917471	97917609	2	plus
##		NC_030678.2	97917826	97917965	2	plus
##		NC_030678.2	97918182	97918323	2	plus
##		NC_030678.2	97918538	97918678	2	plus
##		NC_030678.2	97918894	97919033	2	plus
##		NC_030678.2	97919245	97919385	2	plus
##		NC_030678.2	97919600	97919739	2	plus
##		NC_030678.2	97919954	97920094	2	plus
##		NC_030678.2	97920310	97920448	2	plus
##		NC_030678.2	97920662	97920799	2	plus
##		NC_030678.2	97921011	97921152	2	plus

```
## 1714 NC 030678.2 97921369
                               97921505
                                                  2
                                                           plus
                               97991234
                                                  2
## 1715 NC_030678.2 97985433
                                                          minus
## 1716 NC 030678.2 97985433
                                                  2
                                                          minus
## 1717 NC_030678.2
                                                  2
                    97985433
                               97991234
                                                          minus
## 1718 NC_030678.2 97985433
                               97991234
                                                  2
                                                          minus
## 1719 NC 030678.2 98001890
                               98003717
                                                  2
                                                           plus
                                98113580
                                                  2
## 1720 NC 030678.2 98113447
                                                          minus
## 1721 NC 030678.2 98117139
                               98117270
                                                  2
                                                          minus
## 1722 NC_030678.2 98119201
                               98119326
                                                  2
                                                          minus
                                                  2
## 1723 NC_030678.2 98121792
                               98121930
                                                          minus
## 1724 NC_030678.2 100295215 100310083
                                                  2
                                                           plus
## 1725 NC_030678.2 100295215 100310083
                                                  2
                                                           plus
## 1726 NC_030678.2 100295215 100310083
                                                  2
                                                           plus
                                                  2
## 1727 NC_030678.2 100295215 100310083
                                                           plus
## 1728 NC_030678.2 100295215 100310083
                                                  2
                                                           plus
## 1729 NC_030678.2 100295215 100310083
                                                  2
                                                           plus
## 1730 NC_030678.2 100295215 100310083
                                                  2
                                                           plus
## 1731 NC 030678.2 100295215 100310083
                                                           plus
## 1732 NC_030678.2 100295215 100310083
                                                  2
                                                           plus
## 1733 NC 030678.2 100298852 100298979
                                                  2
                                                           plus
## 1734 NC_030678.2 100299508 100299632
                                                  2
                                                           plus
## 1735 NC_030678.2 100301065 100301204
                                                           plus
## 1736 NC_030678.2 100303865 100303992
                                                  2
                                                           plus
## 1737 NC 030678.2 100304502 100304626
                                                  2
                                                           plus
                                                  2
## 1738 NC 030678.2 100306059 100306198
                                                           plus
## 1739 NC 030678.2 100527269 100532031
                                                  2
                                                          minus
## 1740 NC_030678.2 101027888 101100529
                                                  2
                                                          minus
                                                  2
## 1741 NC_030678.2 101113501 101113572
                                                          minus
## 1742 NC_030678.2 104083780 104083970
                                                  2
                                                           plus
## 1743 NC_030678.2 104631556 104648503
                                                  2
                                                          plus
## 1744 NC_030678.2 104894015 104895188
                                                  2
                                                          minus
## 1745 NC_030678.2 105133659 105139771
                                                  2
                                                          minus
## 1746 NC_030678.2 106564326 106592919
                                                          minus
## 1747 NC_030678.2 106686013 106689663
                                                  2
                                                           plus
## 1748 NC 030678.2 108449348 108453029
                                                  2
                                                          minus
                                                  2
## 1749 NC_030678.2 110306344 110307032
                                                          minus
## 1750 NC 030678.2 110928603 110937879
                                                          minus
## 1751 NC_030678.2 110928603 110937879
                                                  2
                                                         minus
## 1752 NC_030678.2 111083033 111092421
                                                  2
                                                          plus
                                                  2
## 1753 NC_030678.2 111954448 111957664
                                                          plus
## 1754 NC 030678.2 112065302 112084363
                                                  2
                                                          minus
## 1755 NC 030678.2 112467044 112467857
                                                  2
                                                          minus
                                                  2
## 1756 NC_030678.2 112711076 112715192
                                                          minus
                                                  2
## 1757 NC_030678.2 112711076 112715192
                                                          minus
                                                  2
## 1758 NC_030678.2 113438763 113445484
                                                          minus
## 1759 NC_030678.2 114823054 114842138
                                                  2
                                                          minus
                                                  2
## 1760 NC_030678.2 115095232 115135661
                                                          minus
                                                  2
## 1761 NC_030678.2 115524924 115534185
                                                          minus
## 1762 NC_030678.2 116431376 116432884
                                                  2
                                                          minus
                                                  2
## 1763 NC_030678.2 116762140 116773094
                                                           plus
                                                  2
## 1764 NC_030678.2 119000820 119002266
                                                           plus
                                                  2
## 1765 NC_030678.2 119439666 119452124
                                                          minus
## 1766 NC_030678.2 119668983 119715335
                                                  2
                                                          minus
## 1767 NC 030678.2 120749930 120776911
                                                           plus
```

```
## 1768 NC 030678.2 121171410 121322170
                                                           plus
                                                  2
## 1769 NC_030678.2 121761354 121767091
                                                           minus
## 1770 NC 030678.2 123387281 123391350
                                                           minus
## 1771 NC_030678.2 123387841 123387918
                                                  2
                                                           minus
## 1772 NC_030678.2 123387960 123388038
                                                  2
                                                           minus
## 1773 NC 030678.2 123388085 123388168
                                                  2
                                                           minus
## 1774 NC 030678.2 123388213 123388293
                                                  2
                                                          minus
## 1775 NC 030678.2 123388355 123388441
                                                  2
                                                          minus
## 1776 NC_030678.2 123388483 123388569
                                                  2
                                                           minus
                                                  2
## 1777 NC_030678.2 124979156 124983455
                                                           minus
## 1778 NC_030678.2 125086598 125092615
                                                  2
                                                           plus
                                                  2
## 1779 NC_030678.2 125674737 125681277
                                                           minus
## 1780 NC_030678.2 125800053 125830495
                                                  2
                                                           minus
                                                  2
## 1781 NC_030678.2 125800053 125830495
                                                           minus
## 1782 NC_030678.2 125800053 125830495
                                                  2
                                                           minus
## 1783 NC_030678.2 126979448 127056204
                                                  2
                                                           minus
                                                  2
## 1784 NC_030678.2 126979448 127056204
                                                           minus
## 1785 NC 030678.2 127177085 127179626
                                                           minus
## 1786 NC_030678.2 130518944 130536133
                                                  2
                                                          minus
## 1787 NC 030678.2 132016064 132018088
                                                  2
                                                           minus
## 1788 NC_030678.2 132062896 132065130
                                                  2
                                                            plus
## 1789 NC_030678.2 132078966 132150510
                                                  2
                                                           minus
## 1790 NC 030678.2 132079830 132080857
                                                  2
                                                            plus
                                                  2
## 1791 NC 030678.2 132199815 132199921
                                                           minus
                                                  2
## 1792 NC 030678.2 132301754 132301825
                                                           minus
## 1793 NC 030678.2 132407262 132411364
                                                  2
                                                            plus
## 1794 NC_030678.2 133010533 133044957
                                                  2
                                                            plus
                                                  2
## 1795 NC_030678.2 133010533 133044957
                                                            plus
                                                  2
## 1796 NC_030678.2 133242514 133244867
                                                           plus
## 1797 NC_030678.2 133934971 133935101
                                                  2
                                                           minus
## 1798 NC_030678.2 133948528 133948702
                                                  2
                                                           minus
## 1799 NC_030678.2 134609588 134624469
                                                  2
                                                           plus
## 1800 NC_030678.2 135442587 135517623
                                                           minus
## 1801 NC_030678.2 135655869 135656003
                                                  2
                                                           minus
## 1802 NC 030678.2 135658461 135658593
                                                  2
                                                           minus
## 1803 NC_030678.2 135837562 135838513
                                                  2
                                                           plus
## 1804 NC 030678.2 137468059 137468140
                                                           minus
## 1805 NC_030678.2 137631826 137635111
                                                  2
                                                           minus
## 1806 NC_030678.2 138726527 138731527
                                                  2
                                                           plus
                                                  2
## 1807 NC_030678.2 138751470 138751538
                                                           minus
                                                  2
## 1808 NC 030678.2 138753072 138753146
                                                           minus
## 1809 NC 030678.2 138753916 138753987
                                                  2
                                                           minus
## 1810 NC 030678.2 138972146 138992100
                                                  2
                                                           minus
                                                  2
## 1811 NC_030678.2 139817732 139830858
                                                           minus
## 1812 NC_030678.2 139854495 139856219
                                                  2
                                                           minus
## 1813 NC_030678.2 140230711 140268521
                                                  2
                                                           minus
## 1814 NC_030678.2 140230711 140268521
                                                  2
                                                           minus
                                                  2
## 1815 NC_030678.2 140854206 140854302
                                                           minus
## 1816 NC_030678.2 141622382 141634938
                                                  2
                                                           plus
                                                  2
## 1817 NC_030678.2 141983501 141983585
                                                           minus
                                                  2
## 1818 NC_030678.2 142504169 142524373
                                                           minus
                                                  2
## 1819 NC 030678.2 142804090 142804912
                                                           minus
## 1820 NC_030678.2 143500307 143500659
                                                  2
                                                          minus
## 1821 NC 030678.2 143543576 143553752
                                                           minus
```

```
## 1822 NC 030678.2 144332207 144335848
                                                          minus
## 1823 NC_030678.2 145583569 145583665
                                                  2
                                                          minus
## 1824 NC 030678.2 145609114 145617471
                                                          minus
## 1825 NC_030678.2 145609114 145617471
                                                  2
                                                          minus
## 1826 NC_030678.2 145609114 145617471
                                                  2
                                                          minus
## 1827 NC 030678.2 145609114 145617471
                                                  2
                                                         minus
                                                  2
## 1828 NC 030678.2 145609114 145617471
                                                         minus
## 1829 NC 030678.2 145609114 145617471
                                                  2
                                                         minus
## 1830 NC 030678.2 146020588 146020658
                                                  2
                                                         minus
## 1831 NC_030678.2 146068659 146071866
                                                          plus
## 1832 NC_030678.2 146093564 146101169
                                                  2
                                                          plus
## 1833 NC_030678.2 146105354 146105459
                                                  2
                                                          minus
## 1834 NC_030678.2 146111407 146113506
                                                  2
                                                           plus
## 1835 NC_030678.2 146144885 146146773
                                                          minus
## 1836 NC_030678.2 147013350 147017215
                                                  2
                                                           plus
## 1837 NC_030678.2 147062145 147065482
                                                  2
                                                          minus
## 1838 NC_030678.2 147498812 147525008
                                                  2
                                                           plus
## 1839 NC 030678.2 147739190 147777252
                                                           plus
## 1840 NC_030678.2 147739190 147777252
                                                  2
                                                           plus
## 1841 NC 030678.2 147739190 147777252
                                                  2
                                                           plus
## 1842 NC_030678.2 149322973 149341818
                                                  2
                                                           plus
## 1843 NC_030678.2 149439621 149439702
                                                          minus
## 1844 NC_030678.2 149439756 149439838
                                                  2
                                                          minus
## 1845 NC 030678.2 149449250 149458357
                                                  2
                                                          minus
                                                  2
## 1846 NC 030678.2 150453281 150453488
                                                          minus
## 1847 NC 030678.2 150522909 150522985
                                                  2
                                                         minus
## 1848 NC_030678.2 151711171 151715928
                                                  2
                                                          plus
                                                  2
## 1849 NC_030678.2 151800270 151818158
                                                          minus
## 1850 NC_030678.2 151917330 151947157
                                                  2
                                                          minus
## 1851 NC_030678.2 151971336 151975500
                                                  2
                                                         minus
## 1852 NC_030678.2 152958883 152961396
                                                  2
                                                           plus
## 1853 NC_030678.2 153121203 153121298
                                                  2
                                                           plus
## 1854 NC_030678.2 154075344 154119831
                                                           plus
## 1855 NC_030678.2 154075344 154119831
                                                  2
                                                           plus
## 1856 NC 030678.2 154075344 154119831
                                                  2
                                                           plus
                                                  2
## 1857 NC_030678.2 154114423 154114494
                                                           plus
## 1858 NC 030678.2 154114737 154114810
                                                           plus
## 1859 NC_030678.2 154115514 154115586
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                                                           plus
## 1860 NC_030678.2 155514159 155514288
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                                                          minus
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## 1861 NC_030678.2 155721745 155726277
                                                           plus
## 1862 NC 030678.2 155798569 155804256
                                                  2
                                                           plus
## 1863 NC 030678.2 156371956 156432208
                                                  2
                                                           plus
## 1864 NC_030678.2 156431719 156434193
                                                  2
                                                          minus
## 1865 NC_030678.2 156455751 156463200
                                                  2
                                                           plus
## 1866 NC_030678.2 156491957 156504641
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                                                          plus
## 1867 NC_030678.2 156531371 156545788
                                                  2
                                                          minus
## 1868 NC_030678.2 156531371 156545788
                                                  2
                                                          minus
                                                  2
## 1869 NC_030678.2 156531371 156545788
                                                          minus
## 1870 NC_030678.2 156531371 156545788
                                                  2
                                                          minus
                                                  2
## 1871 NC_030678.2 156531371 156545788
                                                          minus
                                                  2
## 1872 NC_030678.2 156754352 156760113
                                                          minus
                                                  2
## 1873 NC 030678.2 157782076 157821548
                                                          plus
## 1874 NC_030678.2 157833533 157914095
                                                  2
                                                          minus
## 1875 NC 030678.2 157833533 157914095
                                                          minus
```

```
## 1876 NC 030678.2 157833533 157914095
                                                          minus
## 1877 NC_030678.2 157833533 157914095
                                                  2
                                                          minus
## 1878 NC 030678.2 158573742 158627831
                                                          plus
## 1879 NC_030678.2 158659839 158717463
                                                  2
                                                          minus
## 1880 NC_030678.2 158659839 158717463
                                                  2
                                                          minus
## 1881 NC 030678.2 158659839 158717463
                                                  2
                                                         minus
## 1882 NC 030678.2 159276776 159284815
                                                  2
                                                        minus
## 1883 NC_030678.2 160552184 160552329
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                                                         minus
## 1884 NC 030678.2 162051406 162103940
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                                                         plus
                                                  2
## 1885 NC_030678.2 162189581 162195802
                                                          minus
## 1886 NC_030678.2 162654970 162655949
                                                  2
                                                          minus
## 1887 NC_030678.2 164668462 164668680
                                                  2
                                                           plus
## 1888 NC_030678.2 164740906 164744037
                                                  2
                                                           plus
## 1889 NC_030678.2 164747520 164753151
                                                           plus
## 1890 NC_030678.2 164747520 164753151
                                                  2
                                                           plus
## 1891 NC_030678.2 164747520 164753151
                                                  2
                                                           plus
## 1892 NC_030678.2 164747520 164753151
                                                  2
                                                           plus
## 1893 NC 030678.2 164747520 164753151
                                                           plus
## 1894 NC_030678.2 164747520 164753151
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                                                           plus
## 1895 NC 030678.2 164747520 164753151
                                                  2
                                                           plus
## 1896 NC_030678.2 164769995 164774442
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                                                           plus
## 1897 NC_030678.2 164783185 164785061
                                                           plus
## 1898 NC_030678.2 164794189 164796141
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                                                           plus
## 1899 NC 030678.2 164816220 164819863
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                                                           plus
                                                  2
## 1900 NC 030678.2 164872146 164874721
                                                           plus
## 1901 NC_030678.2 164912875 164916733
                                                  2
                                                           plus
## 1902 NC_030678.2 164926382 164927393
                                                  2
                                                           plus
                                                  2
## 1903 NC_030678.2 165749699 165749769
                                                          minus
## 1904 NC_030678.2 171497992 171504011
                                                  2
                                                          minus
## 1905 NC_030678.2 172176890 172177035
                                                  2
                                                          minus
## 1906 NC_030678.2 172178195 172178341
                                                  2
                                                          minus
## 1907 NC_030678.2 172179598 172179744
                                                  2
                                                         minus
## 1908 NC_030678.2 172181876 172182018
                                                         minus
## 1909 NC_030678.2 172740717 172740847
                                                  2
                                                         minus
## 1910 NC 030678.2 173156716 173156787
                                                  2
                                                         plus
                                                  2
## 1911 NC_030678.2 173630340 173637386
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## 1912 NC 030678.2 174150756 174151846
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## 1913 NC_030678.2 174155433 174170178
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                                                         minus
## 1914 NC_030678.2 174227575 174230485
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                                                         plus
## 1915 NC_030678.2 174227575 174230485
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                                                          plus
## 1916 NC 030678.2 174266134 174267918
                                                  2
                                                          plus
## 1917 NC 030678.2 174274414 174318978
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                                                          minus
## 1918 NC 030678.2 174274414 174318978
                                                  2
                                                          minus
## 1919 NC_030678.2 174297930 174300691
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                                                           plus
                                                  2
## 1920 NC_030678.2 174329899 174332190
                                                           plus
## 1921 NC_030678.2 174338363 174392469
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                                                           plus
## 1922 NC_030678.2 174338363 174392469
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                                                           plus
## 1923 NC_030678.2 174338363 174392469
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                                                           plus
## 1924 NC_030678.2 174338363 174392469
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                                                          plus
## 1925 NC_030678.2 174339952 174439626
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                                                          minus
## 1926 NC_030678.2 174339952 174439626
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                                                          minus
## 1927 NC_030678.2 174374951 174377758
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                                                         minus
## 1928 NC_030678.2 174430469 174433126
                                                  2
                                                           plus
## 1929 NC 030678.2 174430469 174433126
                                                          plus
```

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## 1930 NC 030678.2 174461467 174464016
                                                           plus
## 1931 NC_030678.2 174461467 174464016
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                                                           plus
## 1932 NC 030678.2 174469398 175423560
                                                          minus
## 1933 NC_030678.2 174618111 174618203
                                                  2
                                                          minus
## 1934 NC_030678.2 174636512 174638920
                                                  2
                                                           plus
## 1935 NC 030678.2 174636512 174638920
                                                  2
                                                           plus
## 1936 NC 030678.2 174636512 174638920
                                                  2
                                                          plus
## 1937 NC_030678.2 174636512 174638920
                                                  2
                                                          plus
## 1938 NC 030678.2 175196745 175221377
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                                                          minus
                                                  2
## 1939 NC_030678.2 175196745 175221377
                                                          minus
## 1940 NC_030678.2 175252617 175254746
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                                                          minus
## 1941 NC_030678.2 175267968 175270560
                                                  2
                                                           plus
## 1942 NC_030678.2 175275185 175277406
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                                                          minus
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## 1943 NC_030678.2 175300465 175302656
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## 1944 NC_030678.2 175300465 175302656
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## 1945 NC_030678.2 175308171 175311095
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## 1946 NC_030678.2 175308171 175311095
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                                                          minus
## 1947 NC 030678.2 175326572 175329300
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## 1948 NC_030678.2 175326572 175329300
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## 1949 NC 030678.2 175352463 175354309
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## 1950 NC_030678.2 175386704 175389691
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                                                          plus
## 1951 NC_030678.2 175442994 175445184
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                                                          minus
## 1952 NC_030678.2 175442994 175445184
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                                                          minus
## 1953 NC 030678.2 175450542 175452802
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                                                          minus
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## 1954 NC 030678.2 175479601 175543520
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## 1955 NC_030678.2 175494960 175496843
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                                                          plus
## 1956 NC_030678.2 175501062 175504033
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                                                          minus
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## 1957 NC_030678.2 175501062 175504033
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## 1958 NC_030678.2 175540586 175546300
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                                                           plus
## 1959 NC_030678.2 175561742 175570900
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                                                          plus
## 1960 NC_030678.2 175594212 175636215
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                                                          plus
## 1961 NC_030678.2 175614559 175633594
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                                                          minus
## 1962 NC_030678.2 175633682 175638934
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## 1963 NC_030678.2 175636371 175641448
                                                  2
                                                           plus
## 1964 NC 030678.2 175638940 175650366
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                                                          minus
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## 1965 NC_030678.2 175638940 175650366
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## 1966 NC 030678.2 175664925 175691505
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## 1967 NC_030678.2 176006302 176007429
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## 1968 NC_030678.2 176614396 176620729
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## 1969 NC_030678.2 176632530 176641861
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## 1970 NC 030678.2 176645862 176661374
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## 1971 NC 030678.2 176645862 176661374
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## 1972 NC_030678.2 176653136 176688492
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## 1973 NC_030678.2 176661459 176690731
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                                                           plus
                                                  2
## 1974 NC_030678.2 176661459 176690731
                                                           plus
## 1975 NC_030678.2 176661459 176690731
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                                                           plus
                                                  2
## 1976 NC_030678.2 176690816 176708950
                                                           plus
## 1977 NC_030678.2 176720195 176736101
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                                                           plus
## 1978 NC_030678.2 176770784 176803195
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                                                           plus
                                                  2
## 1979 NC_030678.2 176770784 176803195
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                                                  2
## 1980 NC_030678.2 176779639 176806072
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                                                  2
## 1981 NC_030678.2 176779639 176806072
                                                          minus
## 1982 NC_030678.2 176779639 176806072
                                                  2
                                                          minus
## 1983 NC 030678.2 176779639 176806072
                                                          minus
```

```
## 1984 NC 030678.2 176779639 176806072
                                                          minus
## 1985 NC_030678.2 176779639 176806072
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                                                          minus
## 1986 NC 030678.2 176779639 176806072
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                                                          minus
## 1987 NC_030678.2 176855191 176857582
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                                                           plus
## 1988 NC_030678.2 176971072 176971138
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                                                          minus
## 1989 NC 030678.2 177373349 177396839
                                                  2
                                                           plus
## 1990 NC 030678.2 177373349 177396839
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                                                           plus
## 1991 NC 030678.2 177373349 177396839
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                                                           plus
## 1992 NC 030678.2 177516084 177537139
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                                                          minus
                                                  2
## 1993 NC_030678.2 177516084 177537139
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## 1994 NC_030678.2 177612113 177612914
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                                                          minus
## 1995 NC_030678.2 177753577 177755057
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                                                          minus
## 1996 NC_030678.2 177773361 177774824
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                                                           plus
                                                   2
## 1997 NC_030678.2 178056253 178057194
                                                           plus
## 1998 NC_030678.2 178071795 178082485
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                                                           plus
## 1999 NC_030678.2 178119230 178138122
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                                                           plus
## 2000 NC_030678.2 178164768 178172738
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                                                          minus
## 2001 NC 030678.2 178209808 178210847
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## 2002 NC_030678.2 178237351 178252089
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                                                          minus
## 2003 NC 030678.2 178311474 178317808
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                                                          minus
## 2004 NC_030678.2 178368481 178386263
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                                                           plus
## 2005 NC_030678.2 178394637 178397402
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                                                           plus
## 2006 NC_030678.2 178416772 178427802
                                                  2
                                                          minus
## 2007 NC 030678.2 178470541 178477055
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                                                          minus
                                                  2
## 2008 NC 030678.2 178500721 178521253
                                                          minus
## 2009 NC 030678.2 178500721 178521253
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                                                          minus
## 2010 NC_030678.2 178540485 178563853
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                                                  2
## 2011 NC_030678.2 178573459 178581717
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                                                  2
## 2012 NC_030678.2 178584654 178585701
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## 2013 NC_030678.2 178615156 178625376
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                                                           plus
## 2014 NC_030678.2 178638221 178655375
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                                                           plus
## 2015 NC_030678.2 178664864 178669400
                                                  2
                                                          minus
## 2016 NC_030678.2 178673812 178675159
                                                          minus
## 2017 NC_030678.2 178709340 178721326
                                                  2
                                                          minus
## 2018 NC 030678.2 178732756 178749229
                                                  2
                                                          minus
                                                  2
## 2019 NC_030678.2 179221446 179239890
                                                           plus
## 2020 NC 030678.2 179408791 179410828
                                                          minus
## 2021 NC_030678.2 179665410 179665518
                                                  2
                                                          minus
## 2022 NC 030678.2 179665664 179665782
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                                                          minus
## 2023 NC_030678.2 179665928 179666036
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                                                          minus
## 2024 NC 030678.2 179666182 179666300
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## 2025 NC 030678.2 179666439 179666557
                                                  2
                                                          minus
## 2026 NC 030678.2 179666696 179666814
                                                  2
                                                          minus
## 2027 NC_030678.2 179666950 179667068
                                                  2
                                                          minus
## 2028 NC_030678.2 179667214 179667332
                                                  2
                                                          minus
## 2029 NC_030678.2 179667477 179667584
                                                  2
                                                          minus
## 2030 NC_030678.2 179667730 179667848
                                                  2
                                                          minus
## 2031 NC_030678.2 179668155 179668273
                                                  2
                                                          minus
## 2032 NC_030678.2 179668412 179668530
                                                  2
                                                          minus
                                                  2
## 2033 NC_030678.2 179668837 179668955
                                                          minus
                                                  2
## 2034 NC_030678.2 179669094 179669212
                                                          minus
                                                  2
## 2035 NC_030678.2 179669358 179669476
                                                          minus
## 2036 NC_030678.2 179669622 179669730
                                                  2
                                                          minus
## 2037 NC 030678.2 179669869 179669987
                                                          minus
```

```
## 2038 NC 030678.2 179670132 179670250
                                                   2
                                                           minus
                                                   2
                                                           minus
## 2039 NC_030678.2 179670396 179670514
## 2040 NC 030678.2 179670660 179670778
                                                   2
                                                           minus
## 2041 NC_030678.2 179670924 179671032
                                                   2
                                                           minus
## 2042 NC_030678.2 179671171 179671289
                                                   2
                                                           minus
## 2043 NC 030678.2 179671435 179671542
                                                   2
                                                           minus
## 2044 NC 030678.2 179671688 179671806
                                                   2
                                                           minus
## 2045 NC 030678.2 179671952 179672070
                                                   2
                                                           minus
## 2046 NC 030678.2 179672209 179672327
                                                   2
                                                           minus
                                                   2
  2047 NC_030678.2 179672473 179672591
                                                           minus
  2048 NC_030678.2 179672992 179673108
                                                   2
                                                           minus
                                                   2
  2049 NC_030678.2 179673251 179673369
                                                           minus
## 2050 NC_030678.2 179680211 179680326
                                                   2
                                                           minus
  2051 NC_030678.2 179681506 179681622
                                                   2
                                                           minus
  2052 NC_030678.2 179681762 179681875
                                                   2
                                                           minus
## 2053 NC_030678.2 179682310 179682430
                                                   2
                                                           minus
                                                   2
  2054 NC_030678.2 179683153 179683270
                                                           minus
  2055 NC 030678.2 179683411 179683530
                                                   2
                                                           minus
  2056 NC_030678.2 179683670 179683788
                                                   2
                                                           minus
## 2057 NC 030678.2 179683932 179684051
                                                   2
                                                           minus
## 2058 NC_030678.2 179684197 179684315
                                                   2
                                                           minus
                                                   2
## 2059 NC 030678.2 179684453 179684572
                                                           minus
## 2060 NC_030678.2 179685490 179685605
                                                   2
                                                           minus
                                                   2
## 2061 NC 030678.2 179685753 179685871
                                                           minus
                                                   2
  2062 NC 030678.2 179686017 179686135
                                                           minus
  2063 NC 030678.2 179686274 179686392
                                                   2
                                                           minus
  2064 NC_030678.2 179686531 179686649
                                                   2
                                                           minus
                                                   2
## 2065 NC_030678.2 179686795 179686913
                                                           minus
                                                   2
  2066 NC_030678.2 179687067 179687185
                                                           minus
## 2067 NC_030678.2 179687331 179687449
                                                   2
                                                           minus
## 2068 NC_030678.2 179687595 179687713
                                                   2
                                                           minus
  2069 NC_030678.2 179687849 179687967
                                                   2
                                                           minus
                                                   2
  2070 NC_030678.2 179688106 179688224
                                                           minus
## 2071 NC_030678.2 179688370 179688490
                                                   2
                                                           minus
## 2072 NC 030678.2 179688636 179688754
                                                   2
                                                           minus
                                                   2
## 2073 NC_030678.2 179688900 179689018
                                                           minus
## 2074 NC 030678.2 179689155 179689273
                                                   2
                                                           minus
## 2075 NC_030678.2 179689419 179689527
                                                   2
                                                           minus
## 2076 NC 030678.2 179689656 179689774
                                                   2
                                                           minus
                                                   2
## 2077 NC_030678.2 179689814 179689932
                                                           minus
## 2078 NC 030678.2 179690071 179690178
                                                   2
                                                           minus
## 2079 NC 030678.2 179690324 179690442
                                                   2
                                                           minus
                                                   2
## 2080 NC 030678.2 179690588 179690706
                                                           minus
                                                   2
## 2081 NC_030678.2 179690845 179690963
                                                           minus
## 2082 NC_030678.2 179691109 179691227
                                                   2
                                                           minus
                                                   2
## 2083 NC_030678.2 179691619 179691737
                                                           minus
## 2084 NC_030678.2 179691883 179692001
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                                                           minus
                                                   2
  2085 NC_030678.2 179692147 179692265
                                                           minus
  2086 NC_030678.2 179692565 179692683
                                                   2
                                                           minus
                                                   2
## 2087 NC_030678.2 179692829 179692947
                                                           minus
                                                   2
## 2088 NC_030678.2 179693091 179693199
                                                           minus
                                                   2
## 2089 NC 030678.2 179693338 179693456
                                                           minus
## 2090 NC_030678.2 179693601 179693719
                                                   2
                                                           minus
## 2091 NC 030678.2 179693865 179693983
                                                   2
                                                           minus
```

```
## 2092 NC 030678.2 179694129 179694239
                                                           minus
                                                   2
## 2093 NC_030678.2 179694378 179694496
                                                           minus
## 2094 NC 030678.2 179694642 179694760
                                                   2
                                                           minus
## 2095 NC_030678.2 179694906 179695014
                                                   2
                                                           minus
## 2096 NC_030678.2 179695153 179695271
                                                   2
                                                           minus
## 2097 NC 030678.2 179695416 179695534
                                                   2
                                                           minus
## 2098 NC 030678.2 179695680 179695798
                                                   2
                                                           minus
## 2099 NC 030678.2 179695944 179696052
                                                   2
                                                           minus
## 2100 NC 030678.2 179696191 179696309
                                                   2
                                                           minus
                                                   2
## 2101 NC_030678.2 179696454 179696572
                                                           minus
## 2102 NC_030678.2 179696717 179696835
                                                   2
                                                           minus
## 2103 NC_030678.2 179699352 179699470
                                                   2
                                                           minus
## 2104 NC_030678.2 179699609 179699727
                                                   2
                                                           minus
## 2105 NC_030678.2 179699866 179699974
                                                   2
                                                           minus
## 2106 NC_030678.2 179700113 179700221
                                                   2
                                                           minus
## 2107 NC_030678.2 179700367 179700485
                                                   2
                                                           minus
## 2108 NC_030678.2 179700892 179701010
                                                   2
                                                           minus
## 2109 NC 030678.2 179701156 179701274
                                                           minus
## 2110 NC_030678.2 179701413 179701531
                                                   2
                                                           minus
## 2111 NC 030678.2 179701677 179701795
                                                   2
                                                           minus
## 2112 NC_030678.2 179701941 179702059
                                                   2
                                                           minus
## 2113 NC_030678.2 179702196 179702314
                                                   2
                                                           minus
## 2114 NC_030678.2 179702460 179702578
                                                   2
                                                           minus
## 2115 NC 030678.2 179702724 179702842
                                                   2
                                                           minus
                                                   2
## 2116 NC 030678.2 179702988 179703106
                                                           minus
## 2117 NC 030678.2 179703252 179703370
                                                   2
                                                           minus
## 2118 NC_030678.2 179703506 179703624
                                                   2
                                                           minus
                                                   2
## 2119 NC_030678.2 179703777 179703895
                                                           minus
                                                   2
## 2120 NC_030678.2 179704034 179704152
                                                           minus
## 2121 NC_030678.2 179704298 179704418
                                                   2
                                                           minus
## 2122 NC_030678.2 179704557 179704675
                                                   2
                                                           minus
## 2123 NC_030678.2 179704829 179704947
                                                   2
                                                           minus
                                                   2
## 2124 NC_030678.2 179705084 179705192
                                                           minus
## 2125 NC_030678.2 179705338 179705456
                                                   2
                                                           minus
## 2126 NC 030678.2 179705592 179705710
                                                   2
                                                           minus
                                                   2
## 2127 NC_030678.2 179746485 179750488
                                                            plus
## 2128 NC 030679.2
                        997947
                                 1011784
                                                   3
                                                            plus
## 2129 NC_030679.2
                                                   3
                        997947
                                 1011784
                                                            plus
## 2130 NC_030679.2
                                                   3
                       2176963
                                 2197627
                                                            plus
                                                   3
## 2131 NC_030679.2
                       2176963
                                 2197627
                                                            plus
                                                   3
## 2132 NC 030679.2
                       2195814
                                 2197387
                                                           minus
## 2133 NC 030679.2
                       2198502
                                                   3
                                 2200878
                                                            plus
## 2134 NC_030679.2
                       3634418
                                 3666199
                                                   3
                                                            plus
## 2135 NC_030679.2
                       3686312
                                                   3
                                 3699432
                                                           minus
## 2136 NC_030679.2
                       3701127
                                 3748872
                                                   3
                                                            plus
                       3701127
## 2137 NC_030679.2
                                 3748872
                                                   3
                                                            plus
## 2138 NC_030679.2
                       3748257
                                 3748349
                                                   3
                                                            plus
## 2139 NC_030679.2
                       3782236
                                 3785557
                                                   3
                                                            plus
## 2140 NC_030679.2
                       4293535
                                 4321076
                                                   3
                                                           minus
## 2141 NC_030679.2
                       5070652
                                 5070847
                                                   3
                                                           minus
                                                   3
## 2142 NC_030679.2
                      5467690
                                 5481096
                                                           minus
## 2143 NC_030679.2
                       6716555
                                 6716774
                                                   3
                                                            plus
## 2144 NC_030679.2
                       6720031
                                 6720249
                                                   3
                                                           minus
## 2145 NC 030679.2
                       6883968
                                 6909102
                                                   3
                                                            plus
```

##		NC_030679.2	7195587	7195805	3	plus
##		NC_030679.2	7199308	7199527	3	plus
##		NC_030679.2	7201449	7201667	3	plus
##		NC_030679.2	7322186	7327767	3	plus
##		NC_030679.2	7680624	7680709	3	plus
##		NC_030679.2	7739886	7743511	3	minus
##		NC_030679.2	8042853	8044818	3	plus
##		NC_030679.2	8065634	8065853	3	minus
##		NC_030679.2	8118758	8118977	3	minus
##		NC_030679.2	8123965	8124185	3	minus
##		NC_030679.2	8208639	8208858	3	minus
##		NC_030679.2	8415152	8415237	3	minus
##		NC_030679.2	8417069	8417154	3	minus
##		NC_030679.2	8418570	8418655	3	minus
##		NC_030679.2	8419071	8419156	3	minus
##		NC_030679.2	8419532	8419617	3	minus
##		NC_030679.2	8419987	8420072	3	minus
##		NC_030679.2	8420988	8421073	3	minus
##		NC_030679.2	8421489	8421574	3	minus
##		NC_030679.2	8422992	8423077	3	minus
##		NC_030679.2	8423453	8423538	3	minus
##		NC_030679.2	8423943	8424028	3	minus
##		NC_030679.2	8426662	8426747	3	minus
##		NC_030679.2	8427616	8427701	3	minus
##		NC_030679.2	8428077	8428162	3	minus
##		NC_030679.2	8429533	8429618	3	minus
##		NC_030679.2	8431497	8431582	3	minus
##		NC_030679.2	8432492	8432577	3	minus
##		NC_030679.2	8434487	8434572	3	minus
##		NC_030679.2	8435489	8435574	3	minus
##		NC_030679.2	8436906	8436991	3	minus
##		NC_030679.2	8439324	8439409	3	minus
##		NC_030679.2	9352198	9362668	3	plus
##		NC_030679.2	9471659	9641357	3	minus
##		NC_030679.2	10333119	10342282	3	plus
##		NC_030679.2	11047322	11049393	3	plus
##		NC_030679.2	11049741	11052953	3	plus
		NC_030679.2	11049741	11052953	3	plus
		NC_030679.2	11050371	11051130	3	minus
		NC_030679.2	11099143	11135863	3	minus
		NC_030679.2	11588686	11770288	3	minus
		NC_030679.2	12186826	12199110	3	plus
		NC_030679.2	12283252	12457158	3	minus
		NC_030679.2	12387628	12387760	3	minus
		NC_030679.2	12479186	12483251	3	plus
		NC_030679.2	14190245	14190326	3	minus
		NC_030679.2	14202778	14207316	3	minus
		NC_030679.2	14202778	14207316	3	minus
		NC_030679.2	14233943	14235750	3	minus
		NC_030679.2	14236169	14238101	3	minus
		NC_030679.2	14258120	14260093	3	minus
		NC_030679.2	14271205	14285584	3	minus
		NC_030679.2	14271205	14285584	3	minus
##	2199	NC_030679.2	14271205	14285584	3	minus

	0000	110 000070 0	4.400.000.4	4.4007040		-
		NC_030679.2	14296684	14297919	3	plus
##		NC_030679.2	14405968	14418068	3	plus
##		NC_030679.2	14471523	14473475	3	minus
##		NC_030679.2	14723051	14739711	3	minus
##		NC_030679.2	14741700	14743926	3	plus
##		NC_030679.2	14741700	14743926	3	plus
##		NC_030679.2	14977800	14978655	3	minus
##		NC_030679.2	15207014	15211160	3	plus
##		NC_030679.2	16275439	16307313	3	plus
##		NC_030679.2	16457004	16465300	3	minus
##		NC_030679.2	16819163	16820984	3	plus
##		NC_030679.2	16844866	16880775	3	plus
##		NC_030679.2	16844866	16880775	3	plus
##		NC_030679.2	16844866	16880775	3	plus
##		NC_030679.2	17219871	17355139	3	minus
##		NC_030679.2	17219871	17355139	3	minus
##		NC_030679.2	17222979	17223073	3	minus
##		NC_030679.2	17443067	17456577	3	minus
##		NC_030679.2	18086571	18116645	3	minus
##		NC_030679.2	18399396	18406815	3	plus
##		NC_030679.2	18441928	18449298	3	plus
##		NC_030679.2	18441928	18449298	3	plus
##		NC_030679.2	18441928	18449298	3	plus
##		NC_030679.2	18441928	18449298	3	plus
##		NC_030679.2	18441928	18449298	3	plus
##		NC_030679.2	18441928	18449298	3	plus
##		NC_030679.2	18441928	18449298	3	plus
##	2227	NC_030679.2	18441928	18449298	3	plus
##		NC_030679.2	19143799	19160640	3	minus
##	2229	NC_030679.2	19231516	19283482	3	plus
##		NC_030679.2	19376371	19377913	3	plus
##		NC_030679.2	19517856	19538238	3	plus
##		NC_030679.2	20311410	20312368	3	minus
##		NC_030679.2	20423116	20432917	3	plus
##		NC_030679.2	20757438	20758997	3	plus
##		NC_030679.2	21320685	21323147	3	minus
##	2236	NC_030679.2	21400981	21414949	3	plus
##		NC_030679.2	22188794	22205209	3	plus
##		NC_030679.2	22188794	22205209	3	plus
##		NC_030679.2	22428927	22430879	3	plus
##		NC_030679.2	22583366	22585066	3	minus
##		NC_030679.2	22919413	22965726	3	plus
##		NC_030679.2	22919413	22965726	3	plus
##		NC_030679.2	22919413	22965726	3	plus
##		NC_030679.2	23063822	23127832	3	minus
##		NC_030679.2	23063822	23127832	3	minus
##		NC_030679.2	23063822	23127832	3	minus
##		NC_030679.2	23063822	23127832	3	minus
##		NC_030679.2	23063822	23127832	3	minus
##		NC_030679.2	23208442	23211683	3	plus
##		NC_030679.2	23242975	23243064	3	plus
		NC_030679.2	23426696	23428244	3	minus
		NC_030679.2	24704900	24706448	3	minus
##	2253	NC_030679.2	24948428	24959696	3	minus

##	2254	NC_030679.2	25042875	25043032	3	minus
##		NC 030679.2	25101354	25124251	3	minus
##		NC_030679.2	25101001	25112583	3	minus
##		NC_030679.2	25591442	25606729	3	minus
##		NC_030679.2	25636064	25687507	3	plus
##		NC_030679.2	25636064	25687507	3	plus
##		NC_030679.2	26022840	26027017	3	minus
##		NC_030679.2	26758453	26760365	3	minus
##		NC_030679.2	27102850	27105219	3	plus
##		NC_030679.2	27107632	27112809	3	plus
##		NC_030679.2	27793088	27799602	3	plus
##		NC_030679.2	27871158	27897138	3	minus
##		NC_030679.2	28069781	28072640	3	minus
##	2267	NC_030679.2	30202746	30230028	3	plus
##		NC_030679.2	30729271	30733116	3	minus
##		NC_030679.2	31277947	31279528	3	minus
##		NC_030679.2	31287434	31289015	3	minus
##		NC_030679.2	31373571	31419878	3	plus
##		NC_030679.2	33295738	33295821	3	plus
##		NC_030679.2	33397806	33397890	3	_
##		NC_030679.2	35038333	35042112	3	plus minus
##		_	36047602	36071534	3	
	22752276	NC_030679.2	36199408	36202166	3	plus
##		NC_030679.2 NC_030679.2	36204122	36207388	3	minus
##	2277	-	36209258	36317052	3	minus
##		NC_030679.2 NC_030679.2	36259414	36271634	3	minus
## ##		_			3	plus
##		NC_030679.2	36643807 36733832	36647483 36771132	3	minus
		NC_030679.2	37446400	37449397	3	plus
##		NC_030679.2		37765713	3	minus
##		NC_030679.2	37756847 37761059	37761129	3	plus
##		NC_030679.2			3	minus
##	2285	NC_030679.2	37762041	37762111	3	minus
##	2286	NC_030679.2	37762620	37762690	3	minus
##	2287	NC_030679.2	37763118	37763190		minus
##	2288	NC_030679.2	40269610	40277097	3 3	plus
##	2289	NC_030679.2	40269610	40277097	3	plus
##		NC_030679.2	40271432	40271499	_	plus
##		NC_030679.2	40271683	40271749	3	plus
##		NC_030679.2	40273027	40273099	3	plus
##		NC_030679.2	40273766 40274442	40273857	3	plus
##		NC_030679.2		40274525	3	plus
##		NC_030679.2	40274706	40274796	3 3	plus
##		NC_030679.2 NC_030679.2	40275379	40275446	3	plus
##		NC_030679.2 NC_030679.2	40276022	40276088 40389979	3	plus
##		NC_030679.2	40373930		3	minus
##		_	40375566	40375651	3	minus minus
##		NC_030679.2	40376530 40529244	40376612	3	
##		NC_030679.2		40531437		plus
##		NC_030679.2	41415013	41416939	3 3	plus
##		NC_030679.2	41545624	41549985	3	minus
##		NC_030679.2	41941023	41941143	3	minus
##		NC_030679.2	42219048	42220129	3	plus
##		NC_030679.2	42698685	42717929	3	plus
##	2307	NC_030679.2	42767789	42787667	3	minus

##		NC_030679.2	43272726	43272824	3	minus
##		NC_030679.2	43448788	43454895	3	plus
##		NC_030679.2	44156562	44177927	3	minus
##		NC_030679.2	44632147	44637097	3	plus
##		NC_030679.2	44860528	44866433	3	plus
##		NC_030679.2	45598638	45617651	3	plus
##		NC_030679.2	46012193	46012608	3	plus
##		NC_030679.2	46113161	46156254	3	plus
##		NC_030679.2	46674106	46674225	3	minus
##		NC_030679.2	46731209 47500642	46846531 47507049	3 3	plus
##		NC_030679.2 NC_030679.2	48163555	48194250	3	minus
##		NC_030679.2	48271041	48312432	3	plus minus
##		NC_030679.2	48742987	48762147	3	minus
##		NC_030679.2	48820102	48826364	3	plus
##		NC_030679.2	48925325	48970640	3	minus
##		NC_030679.2	50435773	50447494	3	plus
##		NC_030679.2	50436000	50436071	3	plus
##		NC_030679.2	50772316	50430071	3	plus
##		NC_030679.2	51111380	51111479	3	plus
##		NC_030679.2	51537554	51537795	3	plus
##		NC_030679.2	51538573	51538796	3	plus
##		NC_030679.2	51575579	51608150	3	minus
##		NC_030679.2	52138732	52138816	3	minus
##		NC_030679.2	52540134	52543061	3	plus
##		NC_030679.2	53490542	53527290	3	minus
##		NC_030679.2	53490542	53527290	3	minus
##		NC_030679.2	53490542	53527290	3	minus
##		NC_030679.2	53490542	53527290	3	minus
##		NC_030679.2	53490542	53527290	3	minus
##		NC_030679.2	53490542	53527290	3	minus
##		NC_030679.2	53490542	53527290	3	minus
##	2340	NC_030679.2	53959997	53974950	3	minus
##	2341	NC_030679.2	55608011	55614430	3	minus
##	2342	NC_030679.2	55669180	55673420	3	minus
##	2343	NC_030679.2	55919618	55923323	3	minus
##	2344	NC_030679.2	57017749	57018358	3	plus
##	2345	NC_030679.2	57294286	57294416	3	minus
##	2346	NC_030679.2	57295283	57295413	3	minus
##	2347	NC_030679.2	57651668	57655343	3	minus
		NC_030679.2	58470261	58473641	3	minus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60243487	60345546	3	plus
		NC_030679.2	60703062	60727824	3	minus
		NC_030679.2	61119733	61125935	3	plus
##	2361	NC_030679.2	61147983	61163131	3	minus

шш	0260	NG 020670 0	C222240E	COO74440	2	
		NC_030679.2	63333425	63374410	3	plus
##		NC_030679.2	63635394	63637412	3	minus
##		NC_030679.2	65380029	65381619	3	plus
##		NC_030679.2	66952570	66962495	3	minus
##		NC_030679.2	66952570	66962495	3	minus
##	2367	-	66952570	66962495	3	minus
##		NC_030679.2	66952570	66962495	3	minus
##		NC_030679.2	66952570	66962495	3	minus
##		NC_030679.2	66952570	66962495	3	minus
##		NC_030679.2	67207509	67209700	3	plus
##		NC_030679.2	67216749	67219187	3	minus
##		NC_030679.2	67971509	67974308	3	minus
##	2374	NC_030679.2	69705105	69715957	3	minus
##	2375	NC_030679.2	70761646	70841399	3	plus
##	2376	NC_030679.2	73931516	73933376	3	minus
##	2377	NC_030679.2	74645667	74648994	3	plus
##	2378	NC_030679.2	75503588	75531169	3	minus
##	2379	NC_030679.2	75503588	75531169	3	minus
##	2380	NC_030679.2	75503588	75531169	3	minus
##	2381	NC_030679.2	75503588	75531169	3	minus
##	2382	NC_030679.2	75514736	75532510	3	plus
##	2383	NC_030679.2	75755976	75772239	3	plus
##	2384	NC_030679.2	75755976	75772239	3	plus
##	2385	NC_030679.2	76160043	76161150	3	minus
##	2386	NC_030679.2	76694167	76695343	3	plus
##	2387	NC_030679.2	77452584	77461179	3	plus
##	2388	NC_030679.2	77454506	77458376	3	plus
##	2389	NC_030679.2	78688391	78692367	3	plus
##	2390	NC_030679.2	79801126	79804692	3	plus
##	2391	NC_030679.2	80018969	80241263	3	plus
##		NC_030679.2	82192039	82198765	3	plus
##		NC_030679.2	82566637	82569347	3	minus
##		NC_030679.2	82646659	82650342	3	plus
##		NC_030679.2	83644100	83646206	3	minus
##		NC_030679.2	83826527	83867353	3	plus
##	2397	NC_030679.2	83875719	83906114	3	minus
##		NC_030679.2	84037811	84247299	3	minus
##		NC_030679.2	84037811	84247299	3	minus
##		NC_030679.2	84259775	84264239	3	plus
##		NC_030679.2	84740275	84740361	3	minus
##		NC_030679.2	84742942	84743016	3	minus
##		NC_030679.2	84746114	84761416	3	minus
##		NC_030679.2	84746114	84761416	3	minus
##		NC_030679.2	86325337	86326448	3	minus
##		NC_030679.2	86743819	86750030	3	plus
##		NC_030679.2	86743819	86750030	3	plus
##		NC_030679.2	87072975	87073071	3	plus
##		NC_030679.2	87074142	87074216	3	plus
##		NC_030679.2	87077899	87078003	3	plus
##		NC_030679.2	87944940	87945021	3	minus
##		NC_030679.2	89115667	89115738	3	minus
		NC_030679.2	89119609	89119682	3	plus
		NC_030679.2	89122793	89122864	3	plus
		NC_030679.2	89496223	89504110	3	minus
π π	2410	110_000013.2	00400220	00004110	3	штица

	NC_030679.2	89496223	89504110	3	minus
	NC_030679.2	89776787	89796718	3	minus
##	NC_030679.2	89776787	89796718	3	minus
##	NC_030679.2	89776787	89796718	3	minus
##	NC_030679.2	89776787	89796718	3	minus
##	NC_030679.2	89776787	89796718	3	minus
##	NC_030679.2	89776787	89796718	3	minus
##	NC_030679.2	89776787	89796718	3	minus
##	NC_030679.2	90156398	90162114	3	minus
##	NC_030679.2	90873367	90917766	3	plus
##	NC_030679.2	90873405	90873476	3	plus
##	NC_030679.2	90873956	90874027	3	plus
##	NC_030679.2	90964427	90978828	3	plus
##	NC_030679.2	91254063	91266800	3	minus
##	NC_030679.2	91566797	91573141	3	plus
##	NC_030679.2	91618875	91751522	3	minus
##	NC_030679.2	91791208	91801022	3	plus
##	NC_030679.2	91961380	92038112	3	minus
##	NC_030679.2	92097036	92101531	3	plus
##	NC_030679.2	92930925	92937049	3	minus
##	NC_030679.2	93243380	93248451	3	minus
##	NC_030679.2	93476705	93523175	3	minus
##	NC_030679.2	94610372	94617010	3	plus
##	NC_030679.2	94658653	94658785	3	minus
##	NC_030679.2	94660308	94660439	3	minus
##	NC_030679.2	94661410	94661540	3	minus
##	NC_030679.2	94816364	94836650	3	minus
##	NC_030679.2	94836676	94858664	3	plus
##	NC_030679.2	94850512	94862481	3	minus
##	NC_030679.2	94850512	94862481	3	minus
##	NC_030679.2	94907660	94923638	3	plus
##	NC_030679.2	94907660	94923638	3	plus
##	NC_030679.2	95405838	95405911	3 3	plus
##	NC_030679.2	95406911	95406982		plus
##	NC_030679.2	95407945	95408016 95408702	3 3	plus
##	NC_030679.2 NC_030679.2	95408631 95409650	95408702	3 3	plus
	_		95409721	_	plus
	NC_030679.2 NC_030679.2	95410335 95411354	95410406	3 3	plus plus
	NC_030679.2	95411334	95411425	3	plus
	NC_030679.2	95417211	95410204	3	plus
	NC_030679.2	95417211	95417262	3	plus
	NC_030679.2	95418921	95417907	3	plus
	NC_030679.2 NC_030679.2	95419609	95419680	3	plus
	NC_030679.2	95420642	95420713	3	plus
	NC_030679.2	95421360	95421431	3	plus
	NC_030679.2	95422385	95422456	3	plus
	NC_030679.2	95423072	95423143	3	plus
	NC_030679.2	95424106	95424177	3	plus
	NC_030679.2	95424794	95424865	3	plus
	NC_030679.2	95425828	95425899	3	plus
	NC_030679.2 NC_030679.2	95426548	95426619	3	plus
	NC_030679.2	95427582	95427653	3	plus
	NC_030679.2	95428300	95428371	3	plus
	 	30120000	10120011	Ŭ	rias

```
## 2470 NC_030679.2 95429325
                               95429401
                                                  3
                                                           plus
## 2471 NC_030679.2 95430018
                               95430089
                                                  3
                                                           plus
## 2472 NC 030679.2
                     95431052
                                                  3
                                                           plus
## 2473 NC_030679.2
                                                  3
                     95431740
                                95431811
                                                           plus
## 2474 NC_030679.2
                     95432774
                               95432845
                                                  3
                                                           plus
## 2475 NC 030679.2
                    95433746
                                95433817
                                                  3
                                                           plus
                     95434780
                                                  3
## 2476 NC 030679.2
                                95434851
                                                           plus
## 2477 NC_030679.2
                     95435472
                                95435543
                                                  3
                                                           plus
## 2478 NC_030679.2
                     95436506
                               95436577
                                                  3
                                                           plus
## 2479 NC_030679.2
                     95437194
                                95437265
                                                  3
                                                           plus
## 2480 NC_030679.2
                     95438366
                                95438437
                                                  3
                                                           plus
## 2481 NC_030679.2
                     95440210
                                95440281
                                                  3
                                                           plus
## 2482 NC_030679.2
                     96223644
                               96239976
                                                  3
                                                           plus
## 2483 NC_030679.2
                     96697921
                                                  3
                                                          minus
## 2484 NC_030679.2
                     96899818
                                                  3
                               96899922
                                                           plus
## 2485 NC_030679.2
                     97765219
                                97835316
                                                  3
                                                           plus
## 2486 NC_030679.2 97765219
                               97835316
                                                  3
                                                           plus
## 2487 NC 030679.2
                     97765219
                                                  3
                                                           plus
## 2488 NC_030679.2 98720265
                                                  3
                               98764318
                                                           plus
## 2489 NC 030679.2 98720265
                               98764318
                                                  3
                                                           plus
## 2490 NC_030679.2 98818092
                               98834411
                                                  3
                                                           plus
## 2491 NC_030679.2 99748814
                                                  3
                                                          minus
## 2492 NC_030679.2 100106579 100116099
                                                  3
                                                           plus
## 2493 NC 030679.2 100141339 100144451
                                                  3
                                                          plus
## 2494 NC 030679.2 100990006 101004634
                                                  3
                                                          minus
## 2495 NC_030679.2 102190797 102194922
                                                  3
                                                           plus
## 2496 NC_030679.2 102338798 102342363
                                                  3
                                                           plus
                                                  3
## 2497 NC_030679.2 102526085 102532875
                                                           plus
## 2498 NC_030679.2 103430586 103623529
                                                  3
                                                          minus
## 2499 NC_030679.2 103430586 103623529
                                                  3
                                                          minus
## 2500 NC_030679.2 104548928 104579947
                                                  3
                                                          plus
## 2501 NC_030679.2 104766402 104837883
                                                  3
                                                          plus
## 2502 NC_030679.2 104958789 104960623
                                                  3
                                                          minus
## 2503 NC_030679.2 104959198 104978629
                                                  3
                                                           plus
## 2504 NC 030679.2 104959198 104978629
                                                  3
                                                           plus
## 2505 NC_030679.2 105026899 105031353
                                                  3
                                                           plus
## 2506 NC 030679.2 106170106 106174705
                                                  3
                                                          minus
## 2507 NC_030679.2 106170106 106174705
                                                  3
                                                         minus
## 2508 NC_030679.2 106243644 106244506
                                                  3
                                                          plus
## 2509 NC_030679.2 107317136 107327170
                                                  3
                                                          plus
## 2510 NC 030679.2 107452848 107502220
                                                  3
                                                         minus
## 2511 NC_030679.2 107815075 107822227
                                                  3
                                                         minus
## 2512 NC_030679.2 107958855 108017967
                                                  3
                                                         minus
## 2513 NC_030679.2 108511053 108517483
                                                  3
                                                          plus
## 2514 NC_030679.2 108511053 108517483
                                                  3
                                                          plus
## 2515 NC_030679.2 108847167 108847860
                                                  3
                                                          minus
## 2516 NC_030679.2 109053622 109053693
                                                  3
                                                           plus
## 2517 NC_030679.2 109054007 109054078
                                                  3
                                                           plus
## 2518 NC_030679.2 109054449 109054520
                                                  3
                                                           plus
## 2519 NC_030679.2 109054873 109054944
                                                  3
                                                           plus
## 2520 NC_030679.2 109137045 109159421
                                                  3
                                                           plus
## 2521 NC_030679.2 109137045 109159421
                                                  3
                                                           plus
## 2522 NC_030679.2 109165200 109165272
                                                  3
                                                          minus
## 2523 NC 030679.2 109165619 109165691
                                                          minus
```

```
## 2524 NC 030679.2 109214832 109214904
                                                           plus
## 2525 NC_030679.2 109216407 109216479
                                                  3
                                                           plus
## 2526 NC 030679.2 109217687 109217759
                                                  3
                                                           plus
## 2527 NC_030679.2 109218255 109218327
                                                  3
                                                           plus
## 2528 NC_030679.2 109249854 109290983
                                                  3
                                                           plus
## 2529 NC 030679.2 109259909 109259984
                                                  3
                                                           plus
                                                  3
## 2530 NC 030679.2 109297279 109357396
                                                           plus
## 2531 NC 030679.2 109297279 109357396
                                                  3
                                                           plus
## 2532 NC 030679.2 109489047 109506825
                                                  3
                                                           plus
                                                  3
## 2533 NC_030679.2 110027866 110033274
                                                           plus
## 2534 NC_030679.2 110027866 110033274
                                                  3
                                                           plus
## 2535 NC_030679.2 110027866 110033274
                                                  3
                                                           plus
## 2536 NC_030679.2 110052684 110052786
                                                  3
                                                          minus
## 2537 NC_030679.2 110143789 110143889
                                                  3
                                                          minus
## 2538 NC_030679.2 111441386 111444245
                                                  3
                                                           plus
## 2539 NC_030679.2 112193588 112197881
                                                  3
                                                          minus
## 2540 NC_030679.2 112215928 112218661
                                                  3
                                                          minus
## 2541 NC 030679.2 113933496 113988790
                                                          minus
## 2542 NC_030679.2 113933496 113988790
                                                  3
                                                          minus
## 2543 NC 030679.2 113933496 113988790
                                                  3
                                                          minus
## 2544 NC_030679.2 113933496 113988790
                                                  3
                                                          minus
## 2545 NC_030679.2 113933496 113988790
                                                         minus
## 2546 NC_030679.2 113933496 113988790
                                                  3
                                                         minus
## 2547 NC 030679.2 113933496 113988790
                                                  3
                                                         minus
                                                  3
## 2548 NC 030679.2 113933496 113988790
                                                         minus
## 2549 NC_030679.2 113933496 113988790
                                                  3
                                                         minus
## 2550 NC_030679.2 114275646 114294596
                                                  3
                                                          plus
                                                  3
## 2551 NC_030679.2 115086707 115086779
                                                          plus
## 2552 NC_030679.2 115255319 115260402
                                                  3
                                                          minus
## 2553 NC_030679.2 115567070 115588310
                                                  3
                                                           plus
## 2554 NC_030679.2 115936250 115948982
                                                  3
                                                          plus
## 2555 NC_030679.2 116825653 116825724
                                                  3
                                                          minus
## 2556 NC_030679.2 116839610 117047201
                                                  3
                                                          minus
## 2557 NC_030679.2 117139284 117139416
                                                  3
                                                          minus
## 2558 NC 030679.2 117180807 117180878
                                                  3
                                                          minus
                                                  3
## 2559 NC_030679.2 117181489 117181557
                                                          minus
## 2560 NC 030679.2 117182883 117182952
                                                  3
                                                         minus
## 2561 NC_030679.2 117183257 117183356
                                                  3
                                                         minus
## 2562 NC 030679.2 117183564 117183633
                                                  3
                                                         minus
## 2563 NC_030679.2 117183979 117184078
                                                  3
                                                         minus
## 2564 NC 030679.2 117442820 117495548
                                                          plus
## 2565 NC 030679.2 117988970 118003579
                                                  3
                                                          minus
## 2566 NC 030679.2 118001468 118001634
                                                  3
                                                           plus
## 2567 NC_030679.2 118098884 118098956
                                                  3
                                                          minus
                                                  3
## 2568 NC_030679.2 118204098 118216759
                                                          minus
## 2569 NC_030679.2 118444690 118444772
                                                  3
                                                           plus
## 2570 NC_030679.2 120225499 120233806
                                                  3
                                                          plus
## 2571 NC_030679.2 120823814 120824027
                                                  3
                                                          plus
## 2572 NC_030679.2 120979615 120979800
                                                  3
                                                          minus
## 2573 NC_030679.2 121166166 121183355
                                                  3
                                                          minus
## 2574 NC_030679.2 121186615 121186686
                                                  3
                                                          minus
## 2575 NC_030679.2 121194765 121200413
                                                  3
                                                          minus
## 2576 NC_030679.2 122068293 122068363
                                                  3
                                                          minus
## 2577 NC 030679.2 123288813 123298559
                                                          plus
```

```
## 2578 NC 030679.2 125028721 125042624
                                                          minus
## 2579 NC_030679.2 125424968 125449996
                                                  3
                                                          minus
## 2580 NC 030679.2 125901614 125906357
                                                  3
                                                           plus
## 2581 NC_030679.2 126088440 126102310
                                                  3
                                                           plus
## 2582 NC_030679.2 126252033 126267567
                                                  3
                                                           plus
## 2583 NC 030679.2 126273772 126291032
                                                  3
                                                           plus
                                                  3
## 2584 NC 030679.2 126273772 126291032
                                                          plus
## 2585 NC 030679.2 126417148 126417219
                                                  3
                                                          minus
## 2586 NC 030679.2 126536587 126536658
                                                  3
                                                          minus
                                                  3
## 2587 NC_030679.2 126986785 126987980
                                                          minus
## 2588 NC_030679.2 128103931 128107783
                                                  3
                                                          minus
## 2589 NC_030679.2 128157229 128157849
                                                  3
                                                          minus
## 2590 NC_030679.2 128952262 128952358
                                                  3
                                                          minus
## 2591 NC_030679.2 128953702 128953798
                                                  3
                                                          minus
## 2592 NC_030679.2 128955625 128955722
                                                  3
                                                          minus
## 2593 NC_030679.2 129003704 129004876
                                                  3
                                                          plus
## 2594 NC_030679.2 129073216 129074144
                                                  3
                                                          minus
## 2595 NC 030679.2 129073216 129074144
                                                  3
                                                          minus
## 2596 NC_030679.2 129141027 129141896
                                                  3
                                                          minus
## 2597 NC 030679.2 129143053 129144242
                                                  3
                                                          minus
## 2598 NC_030679.2 129160336 129175512
                                                  3
                                                          plus
## 2599 NC_030679.2 129877422 129879130
                                                          minus
## 2600 NC_030679.2 130119521 130146772
                                                  3
                                                          plus
## 2601 NC 030679.2 130396690 130396771
                                                  3
                                                          minus
## 2602 NC 030679.2 131276453 131291065
                                                  3
                                                          plus
## 2603 NC_030679.2 132389597 132393030
                                                  3
                                                          minus
## 2604 NC_030679.2 132389597 132393030
                                                  3
                                                          minus
                                                  3
## 2605 NC_030679.2 132492327 132494339
                                                           plus
## 2606 NC_030679.2 132728444 132728516
                                                  3
                                                          minus
## 2607 NC_030679.2 132729141 132729213
                                                  3
                                                          minus
## 2608 NC_030679.2 132916234 132919975
                                                  3
                                                          plus
## 2609 NC_030679.2 133100936 133106843
                                                  3
                                                          minus
## 2610 NC_030679.2 133197840 133203702
                                                  3
                                                          minus
## 2611 NC_030679.2 133197840 133203702
                                                  3
                                                          minus
## 2612 NC 030679.2 133224332 133231582
                                                  3
                                                          minus
## 2613 NC_030679.2 133401936 133405067
                                                  3
                                                           plus
## 2614 NC 030679.2 133416518 133420030
                                                  3
                                                           plus
## 2615 NC_030679.2 133437261 133445408
                                                  3
                                                          plus
## 2616 NC 030679.2 133632168 133633922
                                                  3
                                                          plus
## 2617 NC_030679.2 133697014 133702437
                                                  3
                                                          minus
## 2618 NC 030679.2 133742074 133753212
                                                          minus
## 2619 NC 030679.2 133879205 133879362
                                                  3
                                                           plus
## 2620 NC 030679.2 133951972 133957057
                                                  3
                                                           plus
## 2621 NC_030679.2 134873905 134878965
                                                  3
                                                          minus
## 2622 NC_030679.2 135004158 135004230
                                                  3
                                                          minus
## 2623 NC_030679.2 135004699 135004771
                                                  3
                                                           plus
## 2624 NC_030679.2 135004849 135004934
                                                  3
                                                          plus
## 2625 NC_030679.2 135005256 135005327
                                                  3
                                                          minus
## 2626 NC_030679.2 135005573 135005644
                                                  3
                                                          minus
## 2627 NC_030679.2 135006583 135006655
                                                  3
                                                          minus
                                                  3
## 2628 NC_030679.2 135007124 135007196
                                                           plus
## 2629 NC_030679.2 135007273 135007358
                                                  3
                                                          plus
## 2630 NC_030679.2 135007680 135007751
                                                  3
                                                          minus
## 2631 NC 030679.2 135007985 135008056
                                                          minus
```

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## 2632 NC 030679.2 135009152 135009224
                                                         minus
## 2633 NC_030679.2 135009532 135009604
                                                 3
                                                         minus
## 2634 NC 030679.2 135059163 135059235
                                                         plus
## 2635 NC_030679.2 135059312 135059397
                                                 3
                                                          plus
## 2636 NC_030679.2 135060825 135060896
                                                 3
                                                         minus
## 2637 NC 030679.2 135061127 135061198
                                                 3
                                                         minus
## 2638 NC_030679.2 135062079 135062151
                                                 3
                                                         plus
## 2639 NC_030679.2 135062890 135062961
                                                 3
                                                         minus
## 2640 NC 030679.2 135063464 135063536
                                                 3
                                                         minus
## 2641 NC_030679.2 135064330 135064402
                                                 3
                                                         plus
## 2642 NC_030679.2 135065168 135065239
                                                 3
                                                         minus
## 2643 NC_030679.2 135270949 135271020
                                                 3
                                                          plus
## 2644 NC_030679.2 135271266 135271337
                                                  3
                                                         plus
## 2645 NC_030679.2 135271659 135271744
                                                  3
                                                         minus
## 2646 NC_030679.2 135271821 135271893
                                                 3
                                                         minus
## 2647 NC_030679.2 135272362 135272434
                                                 3
                                                         plus
## 2648 NC_030679.2 135272742 135272814
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                                                         plus
## 2649 NC 030679.2 135273655 135273726
                                                 3
                                                         plus
## 2650 NC_030679.2 135274048 135274133
                                                 3
                                                         minus
## 2651 NC_030679.2 135274210 135274282
                                                 3
                                                         minus
## 2652 NC_030679.2 135274751 135274823
                                                 3
                                                          plus
## 2653 NC_030679.2 135275131 135275203
                                                         plus
## 2654 NC_030679.2 135275728 135275799
                                                 3
                                                         plus
## 2655 NC 030679.2 135276045 135276116
                                                 3
                                                         plus
                                                 3
## 2656 NC 030679.2 135276438 135276523
                                                        minus
## 2657 NC_030679.2 135276599 135276671
                                                 3
                                                        minus
## 2658 NC_030679.2 135277140 135277212
                                                 3
                                                          plus
                                                  3
## 2659 NC_030679.2 135277520 135277592
                                                          plus
## 2660 NC_030679.2 135278117 135278188
                                                  3
                                                         plus
## 2661 NC_030679.2 135278434 135278505
                                                 3
                                                         plus
## 2662 NC_030679.2 135278827 135278912
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                                                         minus
## 2663 NC_030679.2 135278989 135279061
                                                 3
                                                         minus
## 2664 NC_030679.2 135279530 135279602
                                                 3
                                                          plus
## 2665 NC_030679.2 135279910 135279982
                                                 3
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## 2666 NC 030679.2 135280507 135280578
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## 2667 NC_030679.2 135280824 135280895
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## 2668 NC_030679.2 135281217 135281302
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## 2669 NC_030679.2 135281380 135281452
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                                                         minus
## 2670 NC_030679.2 135281921 135281993
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                                                          plus
## 2671 NC_030679.2 135282301 135282373
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## 2672 NC 030679.2 135282898 135282969
                                                          plus
## 2673 NC_030679.2 135283215 135283286
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                                                          plus
## 2674 NC_030679.2 135283608 135283693
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                                                         minus
## 2675 NC_030679.2 135283771 135283843
                                                  3
                                                         minus
## 2676 NC_030679.2 135284312 135284384
                                                  3
                                                          plus
## 2677 NC_030679.2 135284692 135284764
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                                                          plus
## 2678 NC_030679.2 135285289 135285360
                                                 3
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## 2679 NC_030679.2 135285606 135285677
                                                 3
                                                         plus
## 2680 NC_030679.2 135285999 135286084
                                                 3
                                                         minus
## 2681 NC_030679.2 135286162 135286234
                                                 3
                                                         minus
## 2682 NC_030679.2 135286703 135286775
                                                 3
                                                          plus
## 2683 NC 030679.2 135287083 135287155
                                                  3
                                                          plus
## 2684 NC_030679.2 135287680 135287751
                                                 3
                                                          plus
## 2685 NC 030679.2 135287997 135288068
                                                          plus
```

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## 2686 NC 030679.2 135288390 135288475
                                                          minus
## 2687 NC_030679.2 135355615 135355687
                                                  3
                                                         plus
## 2688 NC 030679.2 135355762 135355847
                                                  3
                                                          plus
## 2689 NC_030679.2 135356168 135356239
                                                  3
                                                          minus
## 2690 NC_030679.2 135356481 135356552
                                                  3
                                                          minus
## 2691 NC 030679.2 135357075 135357147
                                                  3
                                                        minus
## 2692 NC 030679.2 135357451 135357522
                                                  3
                                                        minus
## 2693 NC_030679.2 135357982 135358054
                                                  3
                                                          plus
## 2694 NC 030679.2 135358131 135358216
                                                  3
                                                         plus
                                                  3
## 2695 NC_030679.2 135358538 135358609
                                                          minus
## 2696 NC_030679.2 135358856 135358927
                                                  3
                                                          minus
## 2697 NC_030679.2 135359451 135359524
                                                  3
                                                          minus
## 2698 NC_030679.2 135360737 135360809
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## 2699 NC_030679.2 135361335 135361406
                                                  3
                                                          plus
## 2700 NC_030679.2 135361652 135361723
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                                                          plus
## 2701 NC_030679.2 135362045 135362130
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                                                          minus
## 2702 NC_030679.2 135362206 135362279
                                                  3
                                                          minus
## 2703 NC 030679.2 135362748 135362820
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                                                          plus
## 2704 NC_030679.2 135363128 135363200
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## 2705 NC 030679.2 135363725 135363796
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## 2706 NC_030679.2 135364042 135364113
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## 2707 NC_030679.2 135364435 135364520
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## 2708 NC_030679.2 135364597 135364669
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                                                         minus
## 2709 NC 030679.2 135365138 135365210
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                                                  3
## 2710 NC 030679.2 135365518 135365590
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## 2711 NC_030679.2 135366116 135366187
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                                                          plus
## 2712 NC_030679.2 135366433 135366504
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                                                          plus
                                                  3
## 2713 NC_030679.2 135366826 135366911
                                                          minus
## 2714 NC_030679.2 135366988 135367060
                                                  3
                                                          minus
## 2715 NC_030679.2 135367528 135367600
                                                  3
                                                           plus
## 2716 NC_030679.2 135367908 135367980
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                                                          plus
## 2717 NC_030679.2 135368505 135368576
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## 2718 NC_030679.2 135368822 135368893
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## 2719 NC_030679.2 135369215 135369300
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                                                          minus
## 2720 NC 030679.2 135369377 135369449
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## 2721 NC_030679.2 135369918 135369990
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## 2722 NC 030679.2 135370298 135370370
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## 2723 NC_030679.2 135402609 135402680
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## 2724 NC 030679.2 135403186 135403258
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## 2725 NC_030679.2 135421752 135421823
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## 2726 NC 030679.2 135422970 135423042
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## 2727 NC 030679.2 135423704 135423775
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## 2728 NC 030679.2 135429448 135429520
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## 2729 NC_030679.2 135429989 135430061
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## 2730 NC_030679.2 135430139 135430224
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## 2731 NC_030679.2 135430546 135430617
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## 2732 NC_030679.2 135430863 135430934
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## 2733 NC_030679.2 135431459 135431531
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                                                          minus
## 2734 NC_030679.2 135431839 135431911
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## 2735 NC_030679.2 135432380 135432453
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                                                          plus
## 2736 NC_030679.2 135432531 135432616
                                                  3
                                                          plus
## 2737 NC 030679.2 135432937 135433008
                                                  3
                                                          minus
## 2738 NC_030679.2 135433254 135433325
                                                  3
                                                         minus
## 2739 NC 030679.2 135433850 135433922
                                                         minus
```

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## 2740 NC 030679.2 135435062 135435134
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                                                           plus
## 2741 NC_030679.2 135436146 135436218
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## 2742 NC_030679.2 135436796 135436868
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                                                           plus
## 2743 NC_030679.2 135437499 135437570
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## 2744 NC_030679.2 135438008 135438080
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## 2745 NC 030679.2 135439095 135439167
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## 2746 NC_030679.2 135439744 135439816
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## 2747 NC_030679.2 135441327 135441399
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## 2748 NC 030679.2 135441956 135442028
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## 2749 NC_030679.2 135442659 135442730
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## 2750 NC_030679.2 135443181 135443253
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## 2751 NC_030679.2 135444264 135444336
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## 2752 NC_030679.2 135444913 135444985
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## 2753 NC_030679.2 135445462 135445533
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## 2754 NC_030679.2 135446115 135446187
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## 2755 NC_030679.2 135446818 135446889
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## 2756 NC_030679.2 135447340 135447412
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## 2757 NC 030679.2 135448424 135448496
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## 2758 NC_030679.2 135449073 135449145
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## 2759 NC_030679.2 135449776 135449847
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## 2760 NC_030679.2 135450283 135450355
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## 2761 NC_030679.2 135451366 135451438
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## 2762 NC_030679.2 135452015 135452087
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                                                           plus
## 2763 NC 030679.2 135452714 135452785
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## 2764 NC_030679.2 135453230 135453302
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## 2765 NC_030679.2 135454313 135454385
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## 2766 NC_030679.2 135454962 135455034
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                                                           plus
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## 2767 NC_030679.2 135455665 135455736
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## 2768 NC_030679.2 135456178 135456250
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## 2769 NC_030679.2 135457262 135457334
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## 2770 NC_030679.2 135457911 135457983
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## 2771 NC_030679.2 135458614 135458685
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## 2772 NC_030679.2 135459127 135459199
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## 2773 NC_030679.2 135460211 135460283
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## 2774 NC 030679.2 135460860 135460932
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## 2775 NC_030679.2 135461563 135461634
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## 2776 NC_030679.2 135462073 135462145
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## 2777 NC_030679.2 135463157 135463230
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## 2778 NC_030679.2 135463806 135463878
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## 2779 NC_030679.2 135465313 135465385
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## 2780 NC_030679.2 135465962 135466034
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## 2781 NC_030679.2 135467049 135467121
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## 2782 NC_030679.2 135468389 135468460
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## 2783 NC_030679.2 135468893 135468965
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## 2784 NC_030679.2 135469978 135470050
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## 2785 NC_030679.2 135470627 135470699
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## 2786 NC_030679.2 135471713 135471785
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## 2787 NC_030679.2 135478535 135478606
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## 2788 NC_030679.2 135479213 135479284
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## 2789 NC_030679.2 135479530 135479601
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## 2790 NC_030679.2 135515583 135515655
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## 2791 NC_030679.2 135516124 135516196
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## 2792 NC_030679.2 135516273 135516358
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                                                          plus
## 2793 NC_030679.2 135516680 135516751
                                                          minus
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## 2794 NC 030679.2 135516985 135517056
                                                          minus
## 2795 NC_030679.2 135517581 135517653
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                                                          minus
## 2796 NC_030679.2 135517961 135518033
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## 2797 NC_030679.2 135518502 135518574
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## 2798 NC_030679.2 135518652 135518737
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## 2799 NC 030679.2 135519059 135519130
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## 2800 NC_030679.2 135525097 135525168
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## 2801 NC_030679.2 135525693 135525765
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## 2802 NC 030679.2 135526074 135526146
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## 2803 NC_030679.2 135526615 135526687
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## 2804 NC_030679.2 135526765 135526850
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## 2805 NC_030679.2 135527172 135527243
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## 2806 NC_030679.2 135527489 135527560
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## 2807 NC_030679.2 135528084 135528156
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## 2808 NC_030679.2 135528464 135528536
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## 2809 NC_030679.2 135529280 135529352
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## 2810 NC_030679.2 135530363 135530435
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## 2811 NC 030679.2 135531012 135531084
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## 2812 NC_030679.2 135531715 135531786
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## 2813 NC_030679.2 135532306 135532378
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## 2814 NC_030679.2 135533009 135533080
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## 2815 NC_030679.2 135533517 135533589
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## 2816 NC_030679.2 135534601 135534673
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## 2817 NC 030679.2 135535250 135535322
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## 2818 NC_030679.2 135535953 135536024
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## 2819 NC_030679.2 135536460 135536532
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## 2820 NC_030679.2 135538595 135538667
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## 2821 NC_030679.2 135539244 135539316
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## 2822 NC_030679.2 135539947 135540018
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## 2823 NC_030679.2 135540457 135540529
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## 2824 NC_030679.2 135541531 135541603
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## 2825 NC_030679.2 135542180 135542252
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## 2826 NC_030679.2 135542883 135542954
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## 2827 NC_030679.2 135543393 135543465
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## 2828 NC 030679.2 135544478 135544550
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## 2829 NC_030679.2 135545127 135545199
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## 2830 NC_030679.2 135545830 135545901
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## 2831 NC_030679.2 135546340 135546412
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## 2832 NC_030679.2 135547426 135547498
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## 2833 NC_030679.2 135548075 135548147
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## 2834 NC 030679.2 135548778 135548849
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## 2835 NC_030679.2 135549289 135549361
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## 2836 NC_030679.2 135550374 135550446
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## 2837 NC_030679.2 135551023 135551095
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## 2838 NC_030679.2 135551726 135551797
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## 2839 NC_030679.2 135552236 135552308
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## 2840 NC_030679.2 135553321 135553393
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## 2841 NC_030679.2 135553970 135554042
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## 2842 NC_030679.2 135554673 135554744
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## 2843 NC_030679.2 135555186 135555258
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## 2844 NC_030679.2 135556271 135556343
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## 2845 NC_030679.2 135556920 135556992
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## 2846 NC_030679.2 135557623 135557694
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                                                           plus
## 2847 NC 030679.2 135558136 135558208
                                                           plus
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## 2848 NC_030679.2 135559221 135559293
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## 2849 NC_030679.2 135559870 135559942
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## 2850 NC_030679.2 135560573 135560644
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## 2851 NC_030679.2 135561084 135561156
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## 2852 NC_030679.2 135562169 135562241
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                                                           plus
## 2853 NC 030679.2 135562818 135562890
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## 2854 NC_030679.2 135563521 135563592
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## 2855 NC_030679.2 135564031 135564103
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## 2856 NC 030679.2 135565116 135565188
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## 2857 NC_030679.2 135565765 135565837
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## 2858 NC_030679.2 135566468 135566539
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## 2859 NC_030679.2 135566978 135567050
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## 2860 NC_030679.2 135568063 135568135
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## 2861 NC_030679.2 135568712 135568784
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## 2862 NC_030679.2 135569415 135569486
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## 2863 NC_030679.2 135569925 135569997
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## 2864 NC_030679.2 135571010 135571082
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## 2865 NC 030679.2 135571659 135571731
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## 2866 NC_030679.2 135572362 135572433
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## 2867 NC_030679.2 135572866 135572938
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## 2868 NC_030679.2 135573950 135574022
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## 2869 NC_030679.2 135574600 135574672
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## 2870 NC_030679.2 135581706 135581778
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## 2871 NC_030679.2 135582618 135582690
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                                                           plus
## 2872 NC_030679.2 135582767 135582852
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## 2873 NC_030679.2 135583173 135583244
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                                                          minus
## 2874 NC_030679.2 135584075 135584147
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                                                          minus
                                                  3
## 2875 NC_030679.2 135584455 135584527
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## 2876 NC_030679.2 135584996 135585068
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                                                          plus
## 2877 NC_030679.2 135585145 135585230
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## 2878 NC_030679.2 135585552 135585623
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## 2879 NC_030679.2 135585857 135585928
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## 2880 NC_030679.2 135586453 135586525
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                                                          minus
## 2881 NC_030679.2 135586833 135586905
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## 2882 NC_030679.2 135587374 135587446
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## 2883 NC_030679.2 135587523 135587608
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## 2884 NC_030679.2 135587929 135588000
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## 2885 NC_030679.2 135588246 135588317
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## 2886 NC_030679.2 135596488 135596560
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## 2887 NC_030679.2 135596868 135596940
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## 2888 NC_030679.2 135597409 135597481
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## 2889 NC_030679.2 135597558 135597643
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## 2890 NC_030679.2 135597965 135598036
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## 2891 NC_030679.2 135598270 135598341
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## 2892 NC_030679.2 135598866 135598938
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## 2893 NC_030679.2 135599247 135599319
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## 2894 NC_030679.2 135599796 135599868
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## 2895 NC_030679.2 135599944 135600029
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## 2896 NC_030679.2 135612746 135613195
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## 2897 NC_030679.2 135672382 135672454
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## 2898 NC_030679.2 135672762 135672834
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## 2899 NC_030679.2 135673303 135673375
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## 2900 NC_030679.2 135673451 135673536
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                                                          plus
## 2901 NC 030679.2 135673858 135673929
                                                  3
                                                          minus
```

```
## 2902 NC 030679.2 135674163 135674234
                                                          minus
## 2903 NC_030679.2 135674760 135674832
                                                  3
                                                          minus
## 2904 NC 030679.2 135675134 135675206
                                                  3
                                                          minus
## 2905 NC_030679.2 135675767 135675839
                                                  3
                                                           plus
## 2906 NC_030679.2 135675915 135676000
                                                  3
                                                          plus
## 2907 NC 030679.2 135676322 135676393
                                                  3
                                                          minus
## 2908 NC 030679.2 135676627 135676698
                                                  3
                                                        minus
## 2909 NC 030679.2 135677223 135677295
                                                  3
                                                         minus
## 2910 NC 030679.2 135677733 135684827
                                                  3
                                                           plus
                                                  3
## 2911 NC_030679.2 135677733 135684827
                                                           plus
## 2912 NC_030679.2 135685361 135685433
                                                  3
                                                          plus
## 2913 NC_030679.2 135685510 135685595
                                                  3
                                                           plus
## 2914 NC_030679.2 135685917 135685988
                                                  3
                                                          minus
## 2915 NC_030679.2 135686222 135686293
                                                  3
                                                          minus
## 2916 NC_030679.2 135687044 135687116
                                                  3
                                                           plus
## 2917 NC_030679.2 135687193 135687278
                                                  3
                                                          plus
## 2918 NC_030679.2 135687600 135687671
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                                                          minus
## 2919 NC 030679.2 135690562 135690636
                                                          minus
## 2920 NC_030679.2 135690737 135690807
                                                  3
                                                          plus
## 2921 NC 030679.2 135691288 135691360
                                                  3
                                                          minus
## 2922 NC_030679.2 135692805 135692876
                                                  3
                                                          minus
## 2923 NC_030679.2 135693624 135693696
                                                          plus
## 2924 NC_030679.2 135693773 135693858
                                                  3
                                                          plus
## 2925 NC 030679.2 135694180 135694251
                                                  3
                                                          minus
                                                  3
## 2926 NC 030679.2 135695081 135695153
                                                         minus
## 2927 NC 030679.2 135695461 135695532
                                                  3
                                                         minus
## 2928 NC_030679.2 135696093 135696165
                                                  3
                                                           plus
                                                  3
## 2929 NC_030679.2 135696241 135696326
                                                          plus
## 2930 NC_030679.2 135696648 135696719
                                                  3
                                                          minus
## 2931 NC_030679.2 135696953 135697024
                                                  3
                                                          minus
## 2932 NC_030679.2 135699250 135699322
                                                  3
                                                          minus
## 2933 NC_030679.2 135699631 135699703
                                                  3
                                                          minus
                                                  3
## 2934 NC_030679.2 135700266 135700338
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## 2935 NC_030679.2 135700413 135700498
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                                                          plus
## 2936 NC 030679.2 135700819 135700891
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                                                          minus
## 2937 NC_030679.2 135701127 135701198
                                                  3
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## 2938 NC 030679.2 135704228 135704299
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## 2939 NC_030679.2 135704825 135704897
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## 2940 NC_030679.2 135705205 135705277
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## 2941 NC_030679.2 135705838 135705910
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## 2942 NC 030679.2 135705986 135706071
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## 2943 NC 030679.2 135706393 135706464
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                                                          minus
## 2944 NC 030679.2 135706698 135706769
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## 2945 NC_030679.2 135706982 135707054
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## 2946 NC_030679.2 135707664 135707735
                                                           plus
## 2947 NC_030679.2 135708162 135708234
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## 2948 NC_030679.2 135717219 135717290
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## 2949 NC_030679.2 135717894 135717966
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                                                           plus
## 2950 NC_030679.2 135718979 135719051
                                                  3
                                                          plus
## 2951 NC_030679.2 135721202 135721273
                                                  3
                                                          minus
## 2952 NC_030679.2 135730279 135730351
                                                  3
                                                          minus
## 2953 NC_030679.2 135731063 135731149
                                                  3
                                                           plus
## 2954 NC_030679.2 135731472 135731543
                                                  3
                                                          minus
## 2955 NC 030679.2 135732388 135732460
                                                          minus
```

```
## 2956 NC 030679.2 135732767 135732839
                                                  3
                                                          minus
## 2957 NC_030679.2 135733309 135733381
                                                  3
                                                           plus
## 2958 NC 030679.2 135733458 135733543
                                                  3
                                                           plus
## 2959 NC_030679.2 135733865 135733936
                                                  3
                                                          minus
## 2960 NC_030679.2 135734183 135734254
                                                  3
                                                          minus
## 2961 NC 030679.2 135734779 135734851
                                                  3
                                                          minus
## 2962 NC 030679.2 135735159 135735231
                                                  3
                                                         minus
## 2963 NC_030679.2 135735700 135735772
                                                  3
                                                           plus
## 2964 NC 030679.2 135735849 135735934
                                                  3
                                                          plus
## 2965 NC_030679.2 135736256 135736328
                                                  3
                                                          minus
## 2966 NC_030679.2 135736574 135736645
                                                  3
                                                          minus
## 2967 NC_030679.2 135737170 135737242
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## 2968 NC_030679.2 135737549 135737621
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                                                          minus
## 2969 NC_030679.2 135738090 135738162
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                                                           plus
## 2970 NC_030679.2 135738239 135738324
                                                  3
                                                          plus
## 2971 NC_030679.2 135738646 135738717
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                                                          minus
## 2972 NC_030679.2 135738951 135739022
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## 2973 NC 030679.2 135739921 135739993
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                                                           plus
## 2974 NC_030679.2 135740570 135740642
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## 2975 NC 030679.2 135741273 135741344
                                                  3
                                                           plus
## 2976 NC_030679.2 135741786 135741858
                                                  3
                                                           plus
## 2977 NC_030679.2 135742870 135742942
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## 2978 NC_030679.2 135743520 135743592
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## 2979 NC 030679.2 135750587 135750658
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## 2980 NC 030679.2 135750858 135750943
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## 2981 NC_030679.2 135751265 135751336
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                                                          minus
## 2982 NC_030679.2 135751582 135751653
                                                  3
                                                          minus
## 2983 NC_030679.2 135753099 135753171
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                                                          minus
## 2984 NC_030679.2 135754013 135754085
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                                                           plus
## 2985 NC_030679.2 135754163 135754248
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## 2986 NC_030679.2 135754570 135754641
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                                                          minus
## 2987 NC_030679.2 135754887 135754958
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## 2988 NC_030679.2 135882639 135882710
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                                                          minus
## 2989 NC_030679.2 135890781 135890852
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                                                           plus
## 2990 NC 030679.2 135891832 135891903
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                                                           plus
## 2991 NC_030679.2 135892932 135893003
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## 2992 NC 030679.2 135894772 135894843
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## 2993 NC_030679.2 135895478 135895549
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## 2994 NC 030679.2 135896601 135896672
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## 2995 NC_030679.2 135897020 135897091
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                                                          minus
## 2996 NC 030679.2 135898187 135898258
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## 2997 NC 030679.2 135899152 135899223
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## 2998 NC_030679.2 135901655 135901726
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## 2999 NC_030679.2 135902952 135903023
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## 3000 NC_030679.2 135903901 135903973
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## 3001 NC_030679.2 135905532 135905604
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## 3002 NC_030679.2 135921329 135921400
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## 3003 NC_030679.2 135924720 135924792
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## 3004 NC_030679.2 135927669 135927740
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                                                          minus
## 3005 NC_030679.2 135927861 135927932
                                                  3
                                                          minus
                                                  3
## 3006 NC_030679.2 135928055 135928126
                                                          minus
## 3007 NC_030679.2 135929314 135929386
                                                  3
                                                          minus
## 3008 NC_030679.2 135934414 135934486
                                                  3
                                                          minus
## 3009 NC 030679.2 135937346 135937418
                                                          minus
```

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## 3010 NC 030679.2 135941133 135941204
                                                          minus
## 3011 NC_030679.2 135942504 135942576
                                                  3
                                                          minus
## 3012 NC 030679.2 135942720 135942791
                                                          minus
## 3013 NC_030679.2 135944259 135944331
                                                  3
                                                          minus
## 3014 NC_030679.2 135944485 135944556
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## 3015 NC 030679.2 135946673 135946745
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                                                        minus
## 3016 NC 030679.2 135949870 135949942
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## 3017 NC 030679.2 135952783 135952854
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## 3018 NC 030679.2 135953526 135953598
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## 3019 NC_030679.2 135954406 135954477
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## 3020 NC_030679.2 135955125 135955197
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## 3021 NC_030679.2 135956315 135956387
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## 3022 NC_030679.2 135957176 135957247
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## 3023 NC_030679.2 135958907 135958992
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## 3024 NC_030679.2 135959528 135959600
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## 3025 NC_030679.2 135962214 135962286
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                                                           plus
## 3026 NC_030679.2 135962737 135962809
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## 3027 NC 030679.2 135963738 135963809
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## 3028 NC_030679.2 135964372 135964443
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## 3029 NC 030679.2 135965450 135965535
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## 3030 NC_030679.2 135966095 135966167
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## 3031 NC_030679.2 135966795 135966867
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## 3032 NC_030679.2 135968980 135969065
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## 3033 NC 030679.2 135969620 135969692
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## 3034 NC 030679.2 135970499 135970570
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## 3035 NC 030679.2 135974215 135974287
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                                                           plus
## 3036 NC_030679.2 135975090 135975161
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                                                          minus
                                                  3
## 3037 NC_030679.2 135977203 135977275
                                                           plus
## 3038 NC_030679.2 135977550 135977622
                                                  3
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## 3039 NC_030679.2 135979111 135979196
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                                                           plus
## 3040 NC_030679.2 135979683 135979755
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                                                           plus
## 3041 NC_030679.2 135980566 135980637
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                                                           plus
## 3042 NC_030679.2 135981384 135981455
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                                                           plus
## 3043 NC_030679.2 135982424 135982509
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                                                           plus
## 3044 NC 030679.2 135983055 135983127
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                                                           plus
                                                  3
## 3045 NC_030679.2 135984755 135984827
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## 3046 NC 030679.2 135985280 135985352
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                                                           plus
## 3047 NC_030679.2 135986059 135986130
                                                  3
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## 3048 NC 030679.2 135986345 135986430
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                                                          plus
## 3049 NC_030679.2 135988840 135988913
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## 3050 NC 030679.2 135989608 135989693
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## 3051 NC 030679.2 135992232 135992305
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## 3052 NC 030679.2 135992989 135993074
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                                                           plus
## 3053 NC_030679.2 135993803 135993876
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## 3054 NC_030679.2 135994559 135994644
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## 3055 NC_030679.2 136024611 136024683
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## 3056 NC_030679.2 136027379 136027451
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                                                           plus
## 3057 NC_030679.2 136028206 136028278
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## 3058 NC_030679.2 136029758 136029830
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                                                          minus
## 3059 NC_030679.2 136030832 136030904
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## 3060 NC_030679.2 136040190 136040261
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                                                          minus
## 3061 NC_030679.2 136040432 136040505
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                                                          minus
## 3062 NC_030679.2 136040703 136040774
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                                                           plus
## 3063 NC 030679.2 136042184 136042255
                                                          minus
```

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## 3064 NC_030679.2 136047484 136047556
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                                                          minus
## 3065 NC_030679.2 136047845 136047917
                                                  3
                                                          minus
## 3066 NC_030679.2 136071615 136071707
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                                                           plus
## 3067 NC_030679.2 136076932 136077004
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                                                           plus
## 3068 NC_030679.2 136079838 136079910
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                                                          minus
## 3069 NC 030679.2 136082625 136082717
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                                                          minus
## 3070 NC_030679.2 136082947 136083018
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                                                          plus
## 3071 NC_030679.2 136083436 136083507
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## 3072 NC_030679.2 136083819 136083890
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## 3073 NC_030679.2 136084648 136084740
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## 3074 NC_030679.2 136086061 136086133
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## 3075 NC_030679.2 136088440 136088511
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## 3076 NC_030679.2 136090664 136090735
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## 3077 NC_030679.2 136090965 136091037
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## 3078 NC_030679.2 136093602 136093674
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## 3079 NC_030679.2 136094781 136094853
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## 3080 NC_030679.2 136095925 136095997
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## 3081 NC 030679.2 136097340 136097412
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## 3082 NC_030679.2 136098417 136098489
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## 3083 NC_030679.2 136099203 136099275
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## 3084 NC_030679.2 136100498 136100570
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## 3085 NC_030679.2 136101867 136101939
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## 3086 NC_030679.2 136103995 136104067
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## 3087 NC_030679.2 136105132 136105204
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## 3088 NC_030679.2 136106144 136106216
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## 3089 NC_030679.2 136107257 136107329
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## 3090 NC_030679.2 136108104 136108176
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## 3091 NC_030679.2 136111099 136111171
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## 3092 NC_030679.2 136112847 136112919
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## 3093 NC_030679.2 136116613 136116684
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## 3094 NC_030679.2 136118684 136118756
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## 3095 NC_030679.2 136123683 136123755
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## 3096 NC_030679.2 136125011 136125083
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## 3097 NC_030679.2 136126982 136127053
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## 3098 NC_030679.2 136127321 136127393
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## 3099 NC_030679.2 136127446 136127518
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## 3100 NC_030679.2 136128217 136128289
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## 3101 NC_030679.2 136130205 136130276
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## 3102 NC_030679.2 136131467 136131539
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## 3103 NC_030679.2 136132201 136132272
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## 3104 NC_030679.2 136133905 136133977
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## 3105 NC_030679.2 136134841 136134912
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## 3106 NC_030679.2 136135986 136136058
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## 3107 NC_030679.2 136136831 136136902
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## 3108 NC_030679.2 136137976 136138048
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## 3109 NC_030679.2 136139585 136139656
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## 3110 NC_030679.2 136141407 136141479
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## 3111 NC_030679.2 136142278 136142349
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## 3112 NC_030679.2 136144108 136144180
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## 3113 NC_030679.2 136146130 136146201
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## 3114 NC_030679.2 136148227 136148299
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## 3115 NC_030679.2 136149094 136149165
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                                                           plus
## 3116 NC_030679.2 136784190 136784261
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                                                           plus
## 3117 NC_030679.2 136784530 136784602
                                                           plus
```

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## 3118 NC_030679.2 136786260 136786331
                                                  3
                                                          minus
## 3119 NC_030679.2 136786616 136791378
                                                  3
                                                           plus
## 3120 NC 030679.2 136827570 136827642
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                                                           plus
## 3121 NC_030679.2 136863378 136863450
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                                                           plus
## 3122 NC_030679.2 136952810 136974310
                                                  3
                                                          minus
## 3123 NC 030679.2 137122436 137133282
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                                                           plus
## 3124 NC_030679.2 137122436 137133282
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                                                          plus
## 3125 NC_030679.2 137281064 137281135
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## 3126 NC_030679.2 137281571 137281642
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## 3127 NC_030679.2 137400849 137400920
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## 3128 NC_030679.2 137463038 137463109
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## 3129 NC_030679.2 137463545 137463616
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## 3130 NC_030679.2 137464194 137464286
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## 3131 NC_030679.2 137464401 137464472
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## 3132 NC_030679.2 137464907 137464978
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## 3133 NC_030679.2 137465555 137465647
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## 3134 NC_030679.2 137465762 137465833
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## 3135 NC 030679.2 137466269 137466340
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## 3136 NC_030679.2 137466917 137467009
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## 3137 NC 030679.2 137467124 137467195
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## 3138 NC_030679.2 137467631 137467702
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## 3139 NC_030679.2 137468279 137468371
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## 3140 NC_030679.2 137468486 137468557
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## 3141 NC 030679.2 137468993 137469064
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## 3142 NC 030679.2 137469641 137469733
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## 3143 NC_030679.2 137469869 137469940
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## 3144 NC_030679.2 137470376 137470447
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## 3145 NC_030679.2 137471024 137471116
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## 3146 NC_030679.2 137471230 137471301
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                                                           plus
## 3147 NC_030679.2 137471737 137471808
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                                                          plus
## 3148 NC_030679.2 137472385 137472477
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                                                          minus
## 3149 NC_030679.2 137472592 137472663
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                                                          plus
## 3150 NC_030679.2 137473099 137473170
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## 3151 NC_030679.2 137473747 137473839
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## 3152 NC 030679.2 137473954 137474025
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                                                           plus
## 3153 NC_030679.2 137474461 137474532
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## 3154 NC 030679.2 137475109 137475201
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## 3155 NC_030679.2 137475316 137475387
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## 3156 NC_030679.2 137475823 137475894
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## 3157 NC_030679.2 137476471 137476563
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## 3158 NC 030679.2 137476678 137476749
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## 3159 NC_030679.2 137477185 137477256
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## 3160 NC_030679.2 137477833 137477925
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## 3161 NC_030679.2 137478040 137478111
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## 3162 NC_030679.2 137478547 137478618
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## 3163 NC_030679.2 137479195 137479287
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## 3164 NC_030679.2 137479402 137479473
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## 3165 NC_030679.2 137479909 137479980
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## 3166 NC_030679.2 137480557 137480649
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## 3167 NC_030679.2 137480764 137480835
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## 3168 NC_030679.2 137481271 137481342
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## 3169 NC_030679.2 137481919 137482011
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                                                          minus
## 3170 NC_030679.2 137482126 137482197
                                                  3
                                                           plus
## 3171 NC 030679.2 137482633 137482704
                                                           plus
```

```
## 3172 NC 030679.2 137483281 137483373
                                                  3
                                                          minus
## 3173 NC_030679.2 137483488 137483559
                                                  3
                                                          plus
## 3174 NC 030679.2 137483995 137484066
                                                  3
                                                          plus
## 3175 NC_030679.2 137484643 137484735
                                                  3
                                                          minus
## 3176 NC_030679.2 137484850 137484921
                                                  3
                                                           plus
## 3177 NC 030679.2 137485357 137485428
                                                  3
                                                           plus
## 3178 NC 030679.2 137486005 137486097
                                                  3
                                                         minus
## 3179 NC_030679.2 137486212 137486283
                                                  3
                                                           plus
## 3180 NC_030679.2 137486719 137486790
                                                  3
                                                          plus
## 3181 NC_030679.2 137487367 137487459
                                                  3
                                                          minus
## 3182 NC_030679.2 137487574 137487645
                                                  3
                                                           plus
## 3183 NC_030679.2 137488081 137488152
                                                  3
                                                           plus
## 3184 NC_030679.2 137488729 137488821
                                                  3
                                                          minus
## 3185 NC_030679.2 137488936 137489007
                                                  3
                                                           plus
## 3186 NC_030679.2 137489443 137489514
                                                  3
                                                          plus
## 3187 NC_030679.2 137490091 137490183
                                                  3
                                                          minus
## 3188 NC_030679.2 137490298 137490369
                                                  3
                                                          plus
## 3189 NC 030679.2 137490805 137490876
                                                  3
                                                          plus
## 3190 NC_030679.2 137491453 137491545
                                                  3
                                                         minus
## 3191 NC 030679.2 137491660 137491731
                                                  3
                                                           plus
## 3192 NC_030679.2 137492167 137492238
                                                  3
                                                           plus
## 3193 NC_030679.2 137492815 137492907
                                                          minus
## 3194 NC_030679.2 137493022 137493093
                                                  3
                                                           plus
## 3195 NC 030679.2 137493529 137493600
                                                  3
                                                          plus
## 3196 NC 030679.2 137494177 137494269
                                                  3
                                                          minus
## 3197 NC_030679.2 137494384 137494455
                                                  3
                                                           plus
## 3198 NC_030679.2 137494891 137494962
                                                  3
                                                           plus
## 3199 NC_030679.2 137495539 137495631
                                                  3
                                                         minus
## 3200 NC_030679.2 137495746 137495817
                                                  3
                                                           plus
## 3201 NC_030679.2 137496253 137496324
                                                  3
                                                          plus
## 3202 NC_030679.2 137496901 137496993
                                                  3
                                                          minus
## 3203 NC_030679.2 137497108 137497179
                                                  3
                                                         plus
## 3204 NC_030679.2 137497615 137497686
                                                  3
                                                          plus
## 3205 NC_030679.2 137498263 137498355
                                                  3
                                                          minus
## 3206 NC 030679.2 137498470 137498541
                                                  3
                                                           plus
## 3207 NC_030679.2 137498977 137499048
                                                  3
                                                           plus
## 3208 NC 030679.2 137499625 137499717
                                                  3
                                                          minus
## 3209 NC_030679.2 137499832 137499903
                                                  3
                                                           plus
## 3210 NC_030679.2 137500339 137500410
                                                  3
                                                          plus
## 3211 NC_030679.2 137500987 137501079
                                                  3
                                                          minus
## 3212 NC 030679.2 137501194 137501265
                                                           plus
## 3213 NC_030679.2 137501701 137501772
                                                  3
                                                           plus
## 3214 NC_030679.2 137502349 137502441
                                                  3
                                                          minus
## 3215 NC_030679.2 137502703 137502774
                                                  3
                                                           plus
                                                  3
## 3216 NC_030679.2 137503210 137503281
                                                          plus
## 3217 NC_030679.2 138359985 138425618
                                                  3
                                                          minus
## 3218 NC_030679.2 138359985 138425618
                                                  3
                                                          minus
## 3219 NC_030679.2 138359985 138425618
                                                  3
                                                          minus
## 3220 NC_030679.2 138586904 138649140
                                                  3
                                                          minus
## 3221 NC_030679.2 138586904 138649140
                                                  3
                                                          minus
## 3222 NC_030679.2 138667722 138680495
                                                  3
                                                         minus
## 3223 NC_030679.2 138680465 138724503
                                                  3
                                                           plus
## 3224 NC_030679.2 138680465 138724503
                                                  3
                                                          plus
## 3225 NC 030679.2 138680465 138724503
                                                           plus
```

```
## 3226 NC 030679.2 138680465 138724503
                                                           plus
## 3227 NC_030679.2 138680465 138724503
                                                  3
                                                           plus
## 3228 NC 030679.2 138680465 138724503
                                                           plus
## 3229 NC_030679.2 138680465 138724503
                                                  3
                                                           plus
## 3230 NC_030679.2 138680465 138724503
                                                  3
                                                           plus
## 3231 NC 030679.2 138680465 138724503
                                                  3
                                                           plus
## 3232 NC_030679.2 138680465 138724503
                                                  3
                                                          plus
## 3233 NC_030679.2 138712279 138713840
                                                  3
                                                          plus
## 3234 NC 030679.2 138714590 138718223
                                                  3
                                                          minus
## 3235 NC_030679.2 138715676 138717701
                                                  3
                                                          minus
## 3236 NC_030679.2 138725645 138727301
                                                  3
                                                           plus
## 3237 NC_030679.2 138733089 138733757
                                                  3
                                                           plus
## 3238 NC_030679.2 138803468 138803577
                                                  3
                                                          minus
## 3239 NC_030679.2 138952809 138963938
                                                  3
                                                          minus
## 3240 NC_030679.2 138969088 138973341
                                                  3
                                                          minus
## 3241 NC_030679.2 139217828 139251163
                                                  3
                                                          minus
## 3242 NC_030679.2 139875134 139875841
                                                  3
                                                          minus
## 3243 NC 030679.2 140473203 140473270
                                                  3
                                                          plus
## 3244 NC_030679.2 140478988 140479059
                                                  3
                                                           plus
## 3245 NC 030679.2 141178824 141178921
                                                  3
                                                          minus
## 3246 NC_030679.2 141210116 141210193
                                                  3
                                                           plus
## 3247 NC_030679.2 141210724 141210799
                                                           plus
## 3248 NC_030679.2 141210860 141210927
                                                  3
                                                           plus
## 3249 NC 030679.2 141448821 141450366
                                                  3
                                                           plus
## 3250 NC 030679.2 141665653 141752125
                                                  3
                                                           plus
## 3251 NC_030679.2 141669321 141669392
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                                                           plus
## 3252 NC_030679.2 141673251 141673323
                                                  3
                                                           plus
## 3253 NC_030679.2 141673569 141673641
                                                  3
                                                           plus
## 3254 NC_030679.2 141674332 141674404
                                                  3
                                                           plus
## 3255 NC_030679.2 141674671 141674743
                                                  3
                                                           plus
## 3256 NC_030679.2 141674989 141675061
                                                  3
                                                           plus
## 3257 NC_030679.2 141866314 141866493
                                                  3
                                                          plus
## 3258 NC_030679.2 142301155 142301772
                                                  3
                                                          minus
## 3259 NC_030679.2 142458785 142458881
                                                  3
                                                          minus
## 3260 NC 030679.2 142688908 142697129
                                                  3
                                                           plus
## 3261 NC_030679.2 143128039 143131514
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                                                           plus
## 3262 NC_030679.2 143128039 143131514
                                                           plus
## 3263 NC_030679.2 143488328 143488399
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                                                           plus
## 3264 NC_030679.2 143488807 143488880
                                                  3
                                                          plus
## 3265 NC_030679.2 143489293 143489374
                                                  3
                                                          plus
## 3266 NC 030679.2 143490340 143490411
                                                  3
                                                          minus
## 3267 NC_030679.2 143491612 143491693
                                                  3
                                                          minus
## 3268 NC 030679.2 143492484 143492565
                                                  3
                                                           plus
## 3269 NC_030679.2 143599790 143602995
                                                  3
                                                          minus
## 3270 NC_030679.2 143738355 143744654
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                                                          plus
## 3271 NC_030679.2 144174836 144174909
                                                  3
                                                          minus
## 3272 NC_030679.2 144223304 144223376
                                                  3
                                                           plus
## 3273 NC_030679.2 144223428 144223509
                                                  3
                                                           plus
## 3274 NC_030679.2 144228863 144228936
                                                  3
                                                           plus
## 3275 NC_030679.2 144229190 144229263
                                                  3
                                                           plus
## 3276 NC_030679.2 144230309 144230382
                                                  3
                                                          minus
## 3277 NC 030679.2 144231168 144231241
                                                  3
                                                           plus
## 3278 NC_030679.2 144231860 144231941
                                                  3
                                                           plus
## 3279 NC 030679.2 144232204 144232285
                                                           plus
```

```
## 3280 NC 030679.2 144232641 144232714
                                                          minus
## 3281 NC_030679.2 144234195 144234268
                                                  3
                                                          minus
## 3282 NC 030679.2 144235065 144235138
                                                  3
                                                          minus
## 3283 NC_030679.2 144236361 144236434
                                                  3
                                                         minus
## 3284 NC_030679.2 144321613 144321686
                                                  3
                                                         plus
## 3285 NC 030679.2 144345704 144345785
                                                  3
                                                        minus
                                                  3
## 3286 NC 030679.2 144351098 144351169
                                                          plus
## 3287 NC 030679.2 144352681 144352752
                                                  3
                                                          plus
## 3288 NC 030679.2 144352934 144353015
                                                  3
                                                          minus
                                                  3
## 3289 NC_030679.2 144354547 144354685
                                                           plus
## 3290 NC_030679.2 144356662 144356800
                                                  3
                                                           plus
## 3291 NC_030679.2 144358586 144358724
                                                  3
                                                           plus
## 3292 NC_030679.2 144360751 144360889
                                                  3
                                                           plus
## 3293 NC_030679.2 144362982 144363120
                                                  3
                                                           plus
## 3294 NC_030679.2 144483359 144483440
                                                  3
                                                          plus
## 3295 NC_030679.2 144492439 144492510
                                                  3
                                                          minus
## 3296 NC_030679.2 144502019 144502100
                                                  3
                                                          minus
## 3297 NC 030679.2 144505481 144505552
                                                  3
                                                          plus
## 3298 NC_030679.2 144538928 144539009
                                                  3
                                                          minus
## 3299 NC 030679.2 144568462 144568532
                                                  3
                                                           plus
## 3300 NC_030679.2 144568808 144568878
                                                  3
                                                          plus
## 3301 NC_030679.2 144571377 144571447
                                                          plus
## 3302 NC_030679.2 144573110 144573180
                                                  3
                                                          minus
## 3303 NC 030679.2 144576895 144576965
                                                  3
                                                           plus
## 3304 NC 030679.2 144582601 144582671
                                                  3
                                                          plus
## 3305 NC 030679.2 144588631 144588701
                                                  3
                                                          minus
## 3306 NC_030679.2 144590752 144590822
                                                  3
                                                           plus
                                                  3
## 3307 NC_030679.2 144591892 144591962
                                                           plus
## 3308 NC_030679.2 144594562 144594632
                                                  3
                                                           plus
## 3309 NC_030679.2 144595031 144595101
                                                  3
                                                           plus
## 3310 NC_030679.2 144616560 144616641
                                                  3
                                                           plus
## 3311 NC_030679.2 144618543 144618624
                                                  3
                                                           plus
## 3312 NC_030679.2 144621078 144621159
                                                  3
                                                           plus
## 3313 NC_030679.2 144623276 144623357
                                                  3
                                                           plus
## 3314 NC 030679.2 144635733 144635814
                                                  3
                                                           plus
## 3315 NC_030679.2 144644978 144645059
                                                  3
                                                          minus
## 3316 NC 030679.2 144645913 144645986
                                                  3
                                                          minus
## 3317 NC_030679.2 144647788 144647869
                                                  3
                                                         minus
## 3318 NC 030679.2 144648324 144648397
                                                  3
                                                         minus
## 3319 NC_030679.2 144648959 144649040
                                                  3
                                                         minus
## 3320 NC 030679.2 144650675 144650746
                                                         minus
## 3321 NC 030679.2 144655229 144655302
                                                  3
                                                         minus
## 3322 NC 030679.2 144655755 144655836
                                                  3
                                                          minus
## 3323 NC_030679.2 144656672 144656745
                                                  3
                                                          minus
                                                  3
## 3324 NC_030679.2 144657051 144657124
                                                         minus
## 3325 NC_030679.2 144657785 144657866
                                                  3
                                                         plus
## 3326 NC_030679.2 144658225 144658298
                                                  3
                                                         plus
## 3327 NC_030679.2 144659148 144659229
                                                  3
                                                          plus
## 3328 NC_030679.2 144660201 144660274
                                                  3
                                                          minus
## 3329 NC_030679.2 144662004 144662085
                                                  3
                                                           plus
                                                  3
## 3330 NC_030679.2 144663537 144663618
                                                           plus
## 3331 NC 030679.2 144685495 144706691
                                                  3
                                                          minus
## 3332 NC_030679.2 144725446 144725527
                                                  3
                                                           plus
## 3333 NC 030679.2 144809875 144809948
                                                          minus
```

```
## 3334 NC 030679.2 144810056 144810137
                                                            plus
## 3335 NC_030679.2 144811054 144811125
                                                  3
                                                           minus
## 3336 NC 030679.2 144811651 144811732
                                                  3
                                                           minus
## 3337 NC_030679.2 144812067 144812138
                                                  3
                                                           minus
## 3338 NC_030679.2 144812664 144812745
                                                  3
                                                           minus
## 3339 NC 030679.2 144813828 144813909
                                                  3
                                                           minus
                                                  3
## 3340 NC 030679.2 144819101 144819174
                                                           minus
## 3341 NC 030679.2 144819282 144819363
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                                                            plus
## 3342 NC 030679.2 144820280 144820351
                                                  3
                                                           minus
## 3343 NC_030679.2 144820877 144820958
                                                  3
                                                           minus
## 3344 NC_030679.2 144821293 144821364
                                                  3
                                                           minus
                                                  3
## 3345 NC_030679.2 144821889 144821970
                                                           minus
## 3346 NC_030679.2 144823045 144823126
                                                  3
                                                           minus
## 3347 NC_030679.2 144823434 144823507
                                                  3
                                                           minus
## 3348 NC_030679.2 144823615 144823696
                                                  3
                                                            plus
## 3349 NC_030679.2 144824613 144824684
                                                  3
                                                           minus
## 3350 NC_030679.2 144825210 144825291
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                                                           minus
## 3351 NC 030679.2 144826187 144826268
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                                                           minus
## 3352 NC_030679.2 144827351 144827432
                                                  3
                                                           minus
## 3353 NC 030679.2 144827813 144827886
                                                  3
                                                           minus
## 3354 NC_030679.2 144827994 144828075
                                                  3
                                                            plus
## 3355 NC 030679.2 144828976 144829047
                                                  3
                                                           minus
## 3356 NC_030679.2 144829573 144829654
                                                  3
                                                           minus
                                                  3
## 3357 NC 030679.2 144829989 144830060
                                                           minus
## 3358 NC 030679.2 144830585 144830667
                                                  3
                                                           minus
## 3359 NC 030679.2 144832129 144832203
                                                  3
                                                           minus
## 3360 NC_030679.2 144832311 144832392
                                                  3
                                                            plus
## 3361 NC_030679.2 144833463 144833536
                                                  3
                                                           minus
                                                  3
## 3362 NC_030679.2 144833644 144833725
                                                            plus
## 3363 NC_030679.2 144834641 144834712
                                                  3
                                                           minus
## 3364 NC_030679.2 144835238 144835319
                                                  3
                                                           minus
## 3365 NC_030679.2 144835654 144835725
                                                  3
                                                           minus
## 3366 NC_030679.2 144836250 144836331
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                                                           minus
## 3367 NC_030679.2 144837413 144837494
                                                  3
                                                           minus
## 3368 NC 030679.2 144837875 144837948
                                                  3
                                                           minus
                                                  3
## 3369 NC_030679.2 144838056 144838137
                                                            plus
## 3370 NC 030679.2 144839054 144839125
                                                  3
                                                           minus
## 3371 NC_030679.2 144839651 144839732
                                                  3
                                                           minus
## 3372 NC 030679.2 144840067 144840138
                                                  3
                                                           minus
                                                  3
## 3373 NC_030679.2 144840663 144840744
                                                           minus
                                                  3
## 3374 NC 030679.2 144841827 144841908
                                                           minus
## 3375 NC 030679.2 144842289 144842362
                                                  3
                                                           minus
                                                            plus
## 3376 NC 030679.2 144842470 144842551
                                                  3
## 3377 NC_030679.2 144843468 144843539
                                                  3
                                                           minus
## 3378 NC_030679.2 144844065 144844146
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                                                           minus
## 3379 NC_030679.2 144844481 144844552
                                                  3
                                                           minus
## 3380 NC_030679.2 144845077 144845158
                                                  3
                                                           minus
                                                  3
## 3381 NC_030679.2 144846241 144846322
                                                           minus
## 3382 NC_030679.2 144846703 144846776
                                                  3
                                                           minus
## 3383 NC_030679.2 144846884 144846965
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                                                            plus
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## 3384 NC_030679.2 144847882 144847953
                                                           minus
## 3385 NC 030679.2 144848479 144848560
                                                  3
                                                           minus
## 3386 NC_030679.2 144848895 144848966
                                                  3
                                                           minus
## 3387 NC 030679.2 144850625 144850706
                                                  3
                                                           minus
```

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## 3388 NC 030679.2 144851087 144851160
                                                          minus
## 3389 NC_030679.2 144851268 144851349
                                                  3
                                                          plus
## 3390 NC 030679.2 144852850 144852931
                                                  3
                                                          minus
## 3391 NC_030679.2 144853266 144853337
                                                  3
                                                          minus
## 3392 NC_030679.2 144853862 144853943
                                                  3
                                                          minus
## 3393 NC 030679.2 144854609 144854690
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                                                        minus
                                                  3
## 3394 NC 030679.2 144860512 144860583
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## 3395 NC 030679.2 144862170 144862251
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                                                         minus
## 3396 NC 030679.2 144870913 144870994
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                                                          minus
                                                  3
## 3397 NC_030679.2 144871954 144872035
                                                          minus
## 3398 NC_030679.2 144873863 144873944
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                                                          minus
## 3399 NC_030679.2 144875425 144875506
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                                                          minus
## 3400 NC_030679.2 144876465 144876546
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                                                          minus
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## 3401 NC_030679.2 144877342 144877423
                                                          minus
## 3402 NC_030679.2 144934645 144934727
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                                                         minus
## 3403 NC_030679.2 144936517 144936590
                                                  3
                                                          minus
## 3404 NC_030679.2 144937931 144938004
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                                                         plus
## 3405 NC 030679.2 144938402 144938475
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                                                          plus
## 3406 NC_030679.2 144938953 144939035
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                                                         minus
## 3407 NC 030679.2 144939553 144939626
                                                  3
                                                           plus
## 3408 NC_030679.2 144941309 144941382
                                                  3
                                                          minus
## 3409 NC 030679.2 144941490 144941571
                                                          plus
## 3410 NC_030679.2 144942452 144942523
                                                  3
                                                         minus
## 3411 NC 030679.2 144943271 144943344
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                                                         minus
                                                  3
## 3412 NC 030679.2 144944124 144944197
                                                         minus
## 3413 NC 030679.2 144944413 144944495
                                                  3
                                                         plus
## 3414 NC_030679.2 144944855 144944937
                                                  3
                                                          minus
                                                  3
## 3415 NC_030679.2 144946773 144946854
                                                           plus
## 3416 NC_030679.2 144950606 144950687
                                                  3
                                                          minus
## 3417 NC_030679.2 144952155 144952228
                                                  3
                                                          minus
## 3418 NC_030679.2 144952573 144952646
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                                                          minus
## 3419 NC_030679.2 144952730 144952811
                                                  3
                                                           plus
## 3420 NC_030679.2 144953170 144953243
                                                  3
                                                           plus
## 3421 NC_030679.2 144953960 144954041
                                                  3
                                                           plus
## 3422 NC 030679.2 144954589 144954660
                                                  3
                                                           plus
                                                  3
## 3423 NC_030679.2 144955875 144955957
                                                          minus
## 3424 NC 030679.2 144956941 144957022
                                                  3
                                                          minus
## 3425 NC_030679.2 144958571 144958644
                                                  3
                                                        minus
## 3426 NC 030679.2 144958989 144959062
                                                  3
                                                         minus
## 3427 NC_030679.2 144959146 144959227
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                                                         plus
## 3428 NC 030679.2 144960349 144960420
                                                          plus
## 3429 NC 030679.2 144962037 144962118
                                                  3
                                                           plus
## 3430 NC 030679.2 144962425 144962498
                                                  3
                                                           plus
## 3431 NC_030679.2 144963903 144963984
                                                  3
                                                           plus
## 3432 NC_030679.2 144965173 144965255
                                                  3
                                                          minus
## 3433 NC_030679.2 144966072 144966145
                                                  3
                                                           plus
## 3434 NC_030679.2 144967155 144967226
                                                  3
                                                          minus
                                                  3
## 3435 NC_030679.2 144967789 144967870
                                                          plus
## 3436 NC_030679.2 144969059 144969132
                                                  3
                                                          minus
## 3437 NC_030679.2 144969614 144969687
                                                  3
                                                           plus
                                                  3
## 3438 NC_030679.2 144970956 144971037
                                                          minus
## 3439 NC_030679.2 144971496 144971569
                                                  3
                                                           plus
## 3440 NC_030679.2 144972149 144972222
                                                  3
                                                          minus
## 3441 NC 030679.2 144972398 144972469
                                                          minus
```

```
## 3442 NC 030679.2 144973005 144973078
                                                            plus
## 3443 NC_030679.2 144975685 144975767
                                                   3
                                                           minus
## 3444 NC 030679.2 144975966 144976039
                                                   3
                                                           plus
## 3445 NC_030679.2 144977308 144977389
                                                   3
                                                           minus
## 3446 NC_030679.2 144977848 144977921
                                                   3
                                                           plus
## 3447 NC 030679.2 144978501 144978574
                                                   3
                                                           minus
## 3448 NC 030679.2 144978750 144978821
                                                   3
                                                           minus
## 3449 NC 030679.2 144979357 144979430
                                                   3
                                                            plus
## 3450 NC 030679.2 144979752 144979825
                                                   3
                                                           plus
## 3451 NC_030679.2 144980133 144980206
                                                   3
                                                           plus
## 3452 NC_030679.2 144981602 144981683
                                                   3
                                                           plus
## 3453 NC_030679.2 144982870 144982952
                                                   3
                                                           minus
## 3454 NC_030679.2 144983151 144983224
                                                   3
                                                            plus
## 3455 NC_030679.2 144983673 144983744
                                                   3
                                                           plus
## 3456 NC_030679.2 144984708 144984781
                                                   3
                                                           minus
## 3457 NC_030679.2 144985614 144985695
                                                   3
                                                           minus
## 3458 NC_030679.2 144988082 144988155
                                                   3
                                                           plus
## 3459 NC 030679.2 144988536 144988617
                                                   3
                                                           plus
## 3460 NC_030679.2 144990250 144990323
                                                   3
                                                           minus
## 3461 NC 030679.2 144992472 144992554
                                                   3
                                                            plus
## 3462 NC_030679.2 144993932 144994013
                                                   3
                                                           minus
                                                   3
## 3463 NC 030679.2 144994887 144994960
                                                           minus
## 3464 NC 030679.2 144995611 144995684
                                                   3
                                                          minus
                                                   3
## 3465 NC 030679.2 144996934 144997006
                                                           minus
## 3466 NC 030679.2 144997675 144997747
                                                   3
                                                           minus
## 3467 NC 030679.2 144998495 144998567
                                                   3
                                                          minus
## 3468 NC_030679.2 144999251 144999323
                                                   3
                                                           minus
                                                   3
## 3469 NC_030679.2 144999569 144999641
                                                           minus
                                                   3
## 3470 NC_030679.2 144999743 144999815
                                                           minus
## 3471 NC_030679.2 145000063 145000134
                                                   3
                                                           minus
## 3472 NC_030679.2 145000506 145000578
                                                   3
                                                           minus
## 3473 NC_030679.2 145000824 145000896
                                                   3
                                                           minus
## 3474 NC_030679.2 145000998 145001070
                                                   3
                                                           minus
## 3475 NC_030679.2 145001316 145001387
                                                   3
                                                           minus
## 3476 NC 030679.2 145001765 145001837
                                                   3
                                                           minus
## 3477 NC_030679.2 145002083 145002155
                                                   3
                                                           minus
## 3478 NC 030679.2 145002903 145002975
                                                   3
                                                          minus
## 3479 NC_030679.2 145003222 145003293
                                                  3
                                                          minus
## 3480 NC 030679.2 145003671 145003743
                                                   3
                                                           minus
                                                   3
## 3481 NC_030679.2 145007219 145007300
                                                           minus
## 3482 NC 030679.2 145008170 145008243
                                                   3
                                                          minus
## 3483 NC 030679.2 145008891 145008964
                                                   3
                                                          minus
## 3484 NC 030679.2 145009564 145009646
                                                   3
                                                            plus
                                                   3
## 3485 NC_030679.2 145013967 145014040
                                                           minus
## 3486 NC_030679.2 145014691 145014764
                                                   3
                                                           minus
## 3487 NC_030679.2 145028320 145028401
                                                   3
                                                           minus
## 3488 NC_030679.2 145029275 145029348
                                                   3
                                                           minus
                                                   3
                                                           minus
## 3489 NC_030679.2 145029999 145030072
## 3490 NC_030679.2 145030694 145030776
                                                   3
                                                           plus
## 3491 NC_030679.2 145032072 145032153
                                                   3
                                                           minus
                                                   3
## 3492 NC_030679.2 145033027 145033100
                                                           minus
## 3493 NC_030679.2 145033751 145033824
                                                   3
                                                           minus
## 3494 NC_030679.2 145034445 145034527
                                                   3
                                                           plus
## 3495 NC 030679.2 145036028 145036109
                                                   3
                                                           minus
```

```
## 3496 NC 030679.2 145037707 145037780
                                                           minus
## 3497 NC_030679.2 145039843 145039924
                                                  3
                                                          minus
## 3498 NC 030679.2 145041522 145041595
                                                  3
                                                          minus
## 3499 NC_030679.2 145043659 145043740
                                                  3
                                                          minus
## 3500 NC_030679.2 145045338 145045411
                                                  3
                                                          minus
## 3501 NC 030679.2 145046033 145046115
                                                  3
                                                           plus
                                                  3
## 3502 NC 030679.2 145047492 145047573
                                                          minus
## 3503 NC 030679.2 145049171 145049244
                                                  3
                                                          minus
## 3504 NC 030679.2 145049865 145049947
                                                  3
                                                           plus
                                                  3
## 3505 NC_030679.2 145051324 145051405
                                                          minus
## 3506 NC_030679.2 145053003 145053076
                                                  3
                                                          minus
## 3507 NC_030679.2 145053697 145053779
                                                  3
                                                           plus
## 3508 NC_030679.2 145060446 145060528
                                                  3
                                                           plus
## 3509 NC_030679.2 145062311 145062392
                                                  3
                                                           minus
## 3510 NC_030679.2 145063978 145064051
                                                  3
                                                          minus
## 3511 NC_030679.2 145064673 145064755
                                                  3
                                                           plus
                                                  3
## 3512 NC_030679.2 145066133 145066214
                                                          minus
## 3513 NC 030679.2 145067088 145067161
                                                  3
                                                          minus
## 3514 NC_030679.2 145067812 145067885
                                                  3
                                                          minus
## 3515 NC 030679.2 145068456 145077357
                                                  3
                                                           plus
## 3516 NC_030679.2 145068507 145068589
                                                  3
                                                           plus
## 3517 NC 030679.2 145069966 145070047
                                                  3
                                                          minus
## 3518 NC_030679.2 145070483 145070554
                                                  3
                                                          minus
                                                  3
## 3519 NC 030679.2 145071243 145071315
                                                          minus
                                                  3
## 3520 NC 030679.2 145072290 145072361
                                                          minus
## 3521 NC 030679.2 145072739 145072811
                                                  3
                                                          minus
## 3522 NC_030679.2 145073057 145073129
                                                  3
                                                          minus
                                                  3
## 3523 NC_030679.2 145077342 145077423
                                                          minus
                                                  3
## 3524 NC_030679.2 145079021 145079094
                                                          minus
## 3525 NC_030679.2 145079716 145079798
                                                  3
                                                           plus
## 3526 NC_030679.2 145081159 145081240
                                                  3
                                                          minus
## 3527 NC_030679.2 145082114 145082187
                                                  3
                                                          minus
## 3528 NC_030679.2 145082838 145082911
                                                  3
                                                          minus
## 3529 NC_030679.2 145083533 145083615
                                                  3
                                                           plus
## 3530 NC 030679.2 145084749 145084830
                                                  3
                                                          minus
                                                  3
## 3531 NC_030679.2 145086427 145086500
                                                          minus
## 3532 NC 030679.2 145087122 145087204
                                                  3
                                                           plus
## 3533 NC_030679.2 145088573 145088654
                                                  3
                                                          minus
## 3534 NC 030679.2 145090252 145090325
                                                  3
                                                          minus
                                                  3
## 3535 NC_030679.2 145090947 145091029
                                                          plus
## 3536 NC 030679.2 145092406 145092487
                                                  3
                                                          minus
## 3537 NC 030679.2 145093361 145093434
                                                  3
                                                          minus
## 3538 NC 030679.2 145094085 145094158
                                                  3
                                                          minus
                                                  3
## 3539 NC_030679.2 145094766 145094848
                                                           plus
                                                  3
## 3540 NC_030679.2 145096225 145096306
                                                          minus
## 3541 NC_030679.2 145097180 145097253
                                                  3
                                                          minus
## 3542 NC_030679.2 145097904 145097977
                                                  3
                                                          minus
                                                  3
## 3543 NC_030679.2 145098599 145098681
                                                          plus
## 3544 NC_030679.2 145100058 145100139
                                                  3
                                                          minus
## 3545 NC_030679.2 145101009 145101082
                                                  3
                                                           minus
                                                  3
## 3546 NC_030679.2 145101733 145101806
                                                          minus
## 3547 NC 030679.2 145102428 145102510
                                                  3
                                                           plus
## 3548 NC_030679.2 145103806 145103887
                                                  3
                                                          minus
## 3549 NC 030679.2 145104773 145104846
                                                  3
                                                          minus
```

```
## 3550 NC 030679.2 145105497 145105570
                                                   3
                                                           minus
                                                   3
  3551 NC_030679.2 145106193 145106275
                                                            plus
  3552 NC 030679.2 145107409 145107490
                                                   3
                                                           minus
  3553 NC_030679.2 145108352 145108425
                                                   3
                                                           minus
  3554 NC_030679.2 145109076 145109149
                                                   3
                                                           minus
  3555 NC 030679.2 145109771 145109853
                                                   3
                                                            plus
                                                   3
  3556 NC 030679.2 145117060 145117141
                                                           minus
  3557 NC 030679.2 145117577 145117648
                                                   3
                                                           minus
   3558 NC 030679.2 145118026 145118098
                                                   3
                                                           minus
                                                   3
   3559 NC_030679.2 145118344 145118416
                                                           minus
   3560 NC_030679.2 145124570 145124642
                                                   3
                                                           minus
                                                   3
  3561 NC_030679.2 145131117 145131188
                                                           minus
   3562 NC_030679.2 145131566 145131638
                                                   3
                                                           minus
   3563 NC_030679.2 145131884 145131956
                                                   3
                                                           minus
  3564 NC_030679.2 145132705 145132777
                                                   3
                                                           minus
  3565 NC_030679.2 145133023 145133094
                                                   3
                                                           minus
                                                   3
  3566 NC_030679.2 145133472 145133544
                                                           minus
   3567 NC 030679.2 145133790 145133862
                                                   3
                                                           minus
                                                   3
  3568 NC_030679.2 145134611 145134683
                                                           minus
  3569 NC 030679.2 145134930 145135001
                                                   3
                                                           minus
  3570 NC_030679.2 145135379 145135451
                                                   3
                                                           minus
                                                   3
  3571 NC 030679.2 145135697 145135769
                                                           minus
## 3572 NC_030679.2 145136518 145136590
                                                   3
                                                           minus
                                                   3
  3573 NC 030679.2 145136838 145136909
                                                           minus
                                                   3
  3574 NC 030679.2 145137287 145137359
                                                           minus
  3575 NC 030679.2 145137605 145137677
                                                   3
                                                           minus
  3576 NC_030679.2 145138426 145138498
                                                   3
                                                           minus
                                                   3
  3577 NC_030679.2 145138746 145138817
                                                           minus
                                                   3
  3578 NC_030679.2 145139195 145139267
                                                           minus
  3579 NC_030679.2 145139513 145139585
                                                   3
                                                           minus
  3580 NC_030679.2 145140334 145140406
                                                   3
                                                           minus
  3581 NC_030679.2 145140653 145140724
                                                   3
                                                           minus
   3582 NC_030679.2 145141102 145141174
                                                   3
                                                           minus
                                                   3
  3583 NC_030679.2 145141420 145141492
                                                           minus
  3584 NC 030679.2 145142241 145142313
                                                   3
                                                           minus
                                                   3
  3585 NC_030679.2 145142561 145142632
                                                           minus
  3586 NC 030679.2 145143010 145143082
                                                   3
                                                           minus
  3587 NC_030679.2 145143328 145143400
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  3588 NC 030679.2 145144149 145144221
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                                                           minus
                                                   3
  3589 NC_030679.2 145144469 145144540
                                                           minus
                                                   3
  3590 NC 030679.2 145144918 145144990
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  3591 NC 030679.2 145145236 145145308
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                                                           minus
  3592 NC 030679.2 145146057 145146129
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                                                   3
  3593 NC_030679.2 145146377 145146448
                                                           minus
                                                   3
  3594 NC_030679.2 145146826 145146898
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                                                   3
  3595 NC_030679.2 145147144 145147216
                                                           minus
  3596 NC_030679.2 145147965 145148037
                                                   3
                                                           minus
                                                   3
  3597 NC_030679.2 145148284 145148355
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  3598 NC_030679.2 145148733 145148805
                                                   3
                                                           minus
  3599 NC_030679.2 145149051 145149123
                                                   3
                                                           minus
                                                   3
  3600 NC_030679.2 145149872 145149944
                                                           minus
## 3601 NC 030679.2 145150191 145150262
                                                   3
                                                           minus
## 3602 NC_030679.2 145150640 145150712
                                                   3
                                                           minus
## 3603 NC 030679.2 145150958 145151030
                                                   3
                                                           minus
```

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## 3604 NC 030679.2 145151779 145151851
                                                   3
                                                           minus
## 3605 NC_030679.2 145152099 145152170
                                                   3
                                                           minus
## 3606 NC 030679.2 145152548 145152620
                                                   3
                                                           minus
## 3607 NC_030679.2 145152866 145152938
                                                   3
                                                           minus
## 3608 NC_030679.2 145153687 145153759
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                                                           minus
## 3609 NC 030679.2 145154007 145154078
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## 3610 NC 030679.2 145154456 145154528
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## 3611 NC 030679.2 145154774 145154846
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  3612 NC 030679.2 145155594 145155666
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  3613 NC_030679.2 145155913 145155984
                                                           minus
  3614 NC_030679.2 145156363 145156436
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                                                           minus
                                                   3
  3615 NC_030679.2 145156681 145156753
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  3616 NC_030679.2 145157503 145157575
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  3617 NC_030679.2 145157823 145157894
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  3618 NC_030679.2 145158272 145158344
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## 3619 NC_030679.2 145206423 145206494
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## 3620 NC_030679.2 145206876 145206947
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  3621 NC 030679.2 145207192 145207266
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  3622 NC_030679.2 145208014 145208087
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## 3623 NC 030679.2 145208787 145208859
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                                                           minus
## 3624 NC_030679.2 145209105 145209177
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                                                           minus
                                                   3
## 3625 NC 030679.2 145209925 145209997
                                                           minus
## 3626 NC_030679.2 145210245 145210317
                                                   3
                                                           minus
                                                   3
## 3627 NC 030679.2 145210696 145210768
                                                           minus
## 3628 NC 030679.2 145211376 145211448
                                                   3
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  3629 NC 030679.2 145212197 145212269
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                                                           minus
  3630 NC_030679.2 145212517 145212588
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                                                           minus
                                                   3
  3631 NC_030679.2 145212966 145213038
                                                           minus
                                                   3
  3632 NC_030679.2 145213284 145213356
                                                           minus
  3633 NC_030679.2 145214105 145214177
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                                                           minus
## 3634 NC_030679.2 145214425 145214496
                                                   3
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  3635 NC_030679.2 145215095 145215167
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  3636 NC_030679.2 145215916 145215988
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                                                           minus
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  3637 NC_030679.2 145216235 145216306
                                                           minus
  3638 NC 030679.2 145216684 145216756
                                                   3
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## 3639 NC_030679.2 145217002 145217074
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## 3640 NC 030679.2 145217823 145217895
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## 3641 NC_030679.2 145218142 145218213
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                                                           minus
## 3642 NC 030679.2 145218812 145218884
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                                                           minus
                                                   3
## 3643 NC_030679.2 145219633 145219705
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  3644 NC 030679.2 145219953 145220024
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  3645 NC 030679.2 145220402 145220474
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  3646 NC 030679.2 145220720 145220792
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                                                           minus
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  3647 NC_030679.2 145221541 145221613
                                                           minus
## 3648 NC_030679.2 145222101 145222173
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                                                           minus
## 3649 NC_030679.2 145222922 145222994
                                                   3
                                                           minus
## 3650 NC_030679.2 145223241 145223312
                                                   3
                                                           minus
  3651 NC_030679.2 145224251 145224333
                                                   3
                                                            plus
  3652 NC_030679.2 145225786 145225867
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                                                            plus
## 3653 NC_030679.2 145227710 145227791
                                                   3
                                                            plus
                                                   3
## 3654 NC_030679.2 145229844 145229915
                                                            plus
## 3655 NC 030679.2 145232541 145232612
                                                   3
                                                            plus
## 3656 NC_030679.2 145233140 145233221
                                                   3
                                                            plus
## 3657 NC 030679.2 145235400 145235473
                                                   3
                                                            plus
```

```
## 3658 NC_030679.2 145236721 145236803
                                                           plus
## 3659 NC_030679.2 145237981 145238063
                                                  3
                                                           plus
## 3660 NC_030679.2 145238816 145238897
                                                           plus
## 3661 NC_030679.2 145241119 145241192
                                                  3
                                                           plus
## 3662 NC_030679.2 145241717 145241798
                                                  3
                                                           plus
## 3663 NC_030679.2 145243755 145243828
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                                                           plus
## 3664 NC_030679.2 145248165 145248247
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## 3665 NC_030679.2 145249001 145249082
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## 3666 NC_030679.2 145250103 145250184
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                                                           plus
## 3667 NC_030679.2 145251398 145251479
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                                                           plus
## 3668 NC_030679.2 145252482 145252555
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                                                           plus
## 3669 NC_030679.2 145252831 145252904
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                                                           plus
## 3670 NC_030679.2 145253603 145253674
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                                                           plus
                                                           plus
## 3671 NC_030679.2 145254057 145254139
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## 3672 NC_030679.2 145254733 145254806
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                                                           plus
## 3673 NC_030679.2 145255986 145256057
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                                                           plus
## 3674 NC_030679.2 145256595 145256676
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                                                           plus
## 3675 NC 030679.2 145257129 145257202
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                                                           plus
## 3676 NC_030679.2 145260115 145260196
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                                                           plus
## 3677 NC_030679.2 145274650 145274731
                                                  3
                                                           plus
## 3678 NC_030679.2 145276717 145276798
                                                  3
                                                           plus
## 3679 NC_030679.2 145285906 145292828
                                                  3
                                                          minus
## 3680 NC_030679.2 145403763 145403836
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                                                           plus
## 3681 NC 030679.2 145404030 145404103
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                                                           plus
## 3682 NC_030679.2 145404461 145404534
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                                                           plus
## 3683 NC_030679.2 145405185 145405258
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                                                           plus
## 3684 NC_030679.2 145479910 145479981
                                                  3
                                                           plus
## 3685 NC_030679.2 145480896 145480977
                                                  3
                                                          minus
## 3686 NC_030679.2 145481085 145481158
                                                  3
                                                           plus
## 3687 NC_030679.2 145482824 145482895
                                                  3
                                                           plus
## 3688 NC_030679.2 145483628 145483701
                                                  3
                                                           plus
## 3689 NC_030679.2 145484081 145484162
                                                  3
                                                           plus
## 3690 NC_030679.2 145491751 145491822
                                                  3
                                                          plus
## 3691 NC_030679.2 145649329 145649400
                                                  3
                                                          minus
## 3692 NC_030679.2 145652343 145652416
                                                  3
                                                          minus
## 3693 NC_030679.2 145652828 145652909
                                                  3
                                                         minus
## 3694 NC_030679.2 145655507 145655588
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                                                           plus
## 3695 NC_030679.2 145656195 145656266
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                                                          plus
## 3696 NC_030679.2 145656903 145656976
                                                  3
                                                          plus
## 3697 NC_030679.2 145657785 145657858
                                                  3
                                                         minus
## 3698 NC_030679.2 145658067 145658149
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                                                           plus
## 3699 NC_030679.2 145660163 145660234
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                                                           plus
## 3700 NC_030679.2 145660717 145660790
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## 3701 NC_030679.2 145661699 145661772
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                                                          minus
## 3702 NC_030679.2 145662437 145662518
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                                                           plus
## 3703 NC_030679.2 145663430 145663502
                                                  3
                                                           plus
## 3704 NC_030679.2 145663880 145663951
                                                  3
                                                           plus
## 3705 NC_030679.2 145664194 145664266
                                                  3
                                                          plus
## 3706 NC_030679.2 145665120 145665201
                                                  3
                                                          minus
## 3707 NC_030679.2 145667360 145667442
                                                  3
                                                           plus
## 3708 NC_030679.2 145667948 145668029
                                                  3
                                                           plus
## 3709 NC_030679.2 145668817 145668888
                                                  3
                                                           plus
## 3710 NC_030679.2 145669220 145669301
                                                  3
                                                          minus
## 3711 NC_030679.2 145669409 145669482
                                                           plus
```

```
## 3712 NC 030679.2 145670987 145671068
                                                          minus
## 3713 NC_030679.2 145671559 145671640
                                                  3
                                                          minus
## 3714 NC 030679.2 145672053 145672126
                                                  3
                                                          minus
## 3715 NC_030679.2 145672233 145672314
                                                  3
                                                           plus
## 3716 NC_030679.2 145674219 145674290
                                                  3
                                                          minus
                                                  3
## 3717 NC 030679.2 145674810 145674891
                                                          minus
                                                  3
## 3718 NC 030679.2 145675266 145675348
                                                          minus
## 3719 NC 030679.2 145675562 145675635
                                                  3
                                                          plus
## 3720 NC 030679.2 145677439 145677521
                                                  3
                                                          minus
                                                  3
## 3721 NC_030679.2 145677730 145677803
                                                          plus
## 3722 NC_030679.2 145679203 145679275
                                                  3
                                                          minus
## 3723 NC_030679.2 145679520 145679591
                                                  3
                                                          minus
## 3724 NC_030679.2 145679969 145680041
                                                  3
                                                          minus
                                                  3
## 3725 NC_030679.2 145682041 145682114
                                                           plus
## 3726 NC_030679.2 145683420 145683492
                                                  3
                                                          plus
## 3727 NC_030679.2 145685297 145685370
                                                  3
                                                          plus
## 3728 NC_030679.2 145686099 145686171
                                                  3
                                                          minus
## 3729 NC 030679.2 145686503 145686584
                                                  3
                                                          minus
## 3730 NC_030679.2 145687137 145687218
                                                  3
                                                          minus
## 3731 NC 030679.2 145688890 145688971
                                                  3
                                                          minus
## 3732 NC_030679.2 145689369 145689450
                                                  3
                                                          minus
## 3733 NC_030679.2 145689825 145689898
                                                  3
                                                         minus
## 3734 NC_030679.2 145690896 145690977
                                                  3
                                                           plus
## 3735 NC 030679.2 145691502 145691573
                                                  3
                                                           plus
                                                  3
## 3736 NC 030679.2 145691905 145691986
                                                           plus
## 3737 NC 030679.2 145692512 145692583
                                                  3
                                                           plus
## 3738 NC_030679.2 145693200 145693273
                                                  3
                                                           plus
                                                  3
## 3739 NC_030679.2 145696028 145696099
                                                          minus
## 3740 NC_030679.2 145696611 145696692
                                                  3
                                                          minus
## 3741 NC_030679.2 145697523 145697596
                                                  3
                                                          minus
## 3742 NC_030679.2 145698279 145698350
                                                  3
                                                           plus
## 3743 NC_030679.2 145699135 145699216
                                                  3
                                                          minus
                                                  3
## 3744 NC_030679.2 145699324 145699397
                                                           plus
## 3745 NC_030679.2 145699777 145699858
                                                  3
                                                           plus
## 3746 NC 030679.2 145700952 145701023
                                                  3
                                                           plus
                                                  3
## 3747 NC_030679.2 145701454 145701527
                                                           plus
## 3748 NC 030679.2 145723604 145729291
                                                  3
                                                           plus
## 3749 NC_030679.2 145936674 145943689
                                                  3
                                                           plus
## 3750 NC 030679.2 145948954 145959070
                                                  3
                                                           plus
## 3751 NC_030679.2 145996406 146007351
                                                  3
                                                           plus
## 3752 NC 030679.2 146065783 146076166
                                                  3
                                                           plus
## 3753 NC 030679.2 146137581 146142068
                                                  3
                                                           plus
## 3754 NC 030679.2 146195317 146206415
                                                  3
                                                           plus
## 3755 NC_030679.2 146235757 146242241
                                                  3
                                                           plus
                                                  3
## 3756 NC_030679.2 146248273 146248346
                                                          minus
## 3757 NC_030679.2 146249423 146249496
                                                  3
                                                          minus
## 3758 NC_030679.2 146249926 146249997
                                                  3
                                                          minus
                                                  3
## 3759 NC_030679.2 146251271 146251353
                                                          minus
## 3760 NC_030679.2 146252844 146252915
                                                  3
                                                          minus
## 3761 NC_030679.2 146254431 146254504
                                                  3
                                                          minus
                                                  3
## 3762 NC_030679.2 146256464 146256537
                                                          minus
## 3763 NC_030679.2 146258017 146258090
                                                  3
                                                          minus
## 3764 NC_030679.2 146261503 146261572
                                                  3
                                                          minus
## 3765 NC 030679.2 146262994 146263063
                                                          minus
```

```
## 3766 NC 030679.2 146263420 146263489
                                                  3
                                                          minus
## 3767 NC_030679.2 146365433 146365515
                                                  3
                                                           plus
                                                           plus
## 3768 NC 030679.2 146366193 146366274
                                                  3
## 3769 NC_030679.2 146369681 146369752
                                                  3
                                                           plus
## 3770 NC_030679.2 146370911 146370984
                                                  3
                                                           plus
## 3771 NC 030679.2 146371949 146372021
                                                  3
                                                           plus
                                                  3
## 3772 NC 030679.2 146372485 146372556
                                                           plus
## 3773 NC 030679.2 146372986 146373059
                                                  3
                                                           plus
## 3774 NC 030679.2 146374954 146375026
                                                  3
                                                           plus
                                                  3
## 3775 NC_030679.2 146376232 146376314
                                                           plus
## 3776 NC_030679.2 146377080 146377161
                                                  3
                                                           plus
## 3777 NC_030679.2 146377588 146377659
                                                  3
                                                           plus
## 3778 NC_030679.2 146378543 146378616
                                                  3
                                                           plus
## 3779 NC_030679.2 146379259 146379332
                                                  3
                                                          minus
## 3780 NC_030679.2 146381452 146381525
                                                  3
                                                            plus
## 3781 NC_030679.2 146386492 146386563
                                                  3
                                                           plus
## 3782 NC_030679.2 146386994 146387067
                                                  3
                                                           plus
## 3783 NC 030679.2 146387737 146387819
                                                  3
                                                           plus
## 3784 NC_030679.2 146388590 146388671
                                                  3
                                                           plus
## 3785 NC 030679.2 146389098 146389169
                                                  3
                                                           plus
## 3786 NC_030679.2 146427113 146428067
                                                  3
                                                          minus
## 3787 NC_030679.2 146436267 146437106
                                                  3
                                                          minus
## 3788 NC_030679.2 146617464 146618336
                                                  3
                                                           plus
## 3789 NC 030679.2 146622658 146627682
                                                  3
                                                           plus
## 3790 NC 030679.2 146629678 146638669
                                                  3
                                                          plus
## 3791 NC_030679.2 146781684 146785149
                                                  3
                                                          minus
## 3792 NC_030679.2 147345973 147369654
                                                  3
                                                          minus
                                                  3
## 3793 NC_030679.2 147491534 147504320
                                                           plus
## 3794 NC_030679.2 147491534 147504320
                                                  3
                                                           plus
## 3795 NC_030679.2 147543186 147550094
                                                  3
                                                           plus
## 3796 NC_030679.2 147796402 147796475
                                                  3
                                                          minus
## 3797 NC_030679.2 147821897 147821970
                                                  3
                                                          minus
                                                  3
## 3798 NC_030679.2 147823145 147823218
                                                          minus
## 3799 NC_030679.2 147824565 147824638
                                                  3
                                                          minus
## 3800 NC 030679.2 147824805 147824878
                                                  3
                                                           plus
                                                  3
## 3801 NC_030679.2 147824991 147825064
                                                           plus
## 3802 NC 030679.2 147825373 147825446
                                                  3
                                                           plus
## 3803 NC_030679.2 147830043 147830116
                                                  3
                                                          minus
## 3804 NC 030679.2 147830236 147830309
                                                  3
                                                          minus
## 3805 NC_030679.2 147831638 147831711
                                                  3
                                                          minus
## 3806 NC 030679.2 147831831 147831904
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## 3807 NC 030679.2 147832584 147832657
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                                                          minus
## 3808 NC_030679.2 147832777 147832850
                                                  3
                                                          minus
## 3809 NC_030679.2 147832963 147833036
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                                                          minus
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## 3810 NC_030679.2 147833339 147833412
                                                          minus
## 3811 NC_030679.2 147833530 147833603
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## 3812 NC_030679.2 147833912 147833985
                                                  3
                                                          minus
## 3813 NC_030679.2 147834478 147834551
                                                  3
                                                          minus
## 3814 NC_030679.2 147834664 147834737
                                                  3
                                                          minus
## 3815 NC_030679.2 147834857 147834930
                                                  3
                                                          minus
## 3816 NC_030679.2 147835043 147835116
                                                  3
                                                          minus
## 3817 NC 030679.2 147835422 147835495
                                                  3
                                                          minus
## 3818 NC_030679.2 147837129 147837202
                                                  3
                                                          minus
## 3819 NC 030679.2 147837320 147837393
                                                          minus
```

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## 3820 NC 030679.2 147837702 147837775
                                                           minus
## 3821 NC_030679.2 147838472 147838545
                                                   3
                                                           minus
## 3822 NC 030679.2 147838663 147838736
                                                   3
                                                           minus
## 3823 NC_030679.2 147838854 147838927
                                                   3
                                                           minus
## 3824 NC 030679.2 147839226 147839299
                                                   3
                                                           minus
## 3825 NC 030679.2 147839627 147839700
                                                   3
                                                           minus
                                                   3
## 3826 NC 030679.2 147840216 147840289
                                                          minus
## 3827 NC 030679.2 147840971 147841044
                                                   3
                                                          minus
## 3828 NC 030679.2 147842047 147842120
                                                   3
                                                            plus
                                                   3
  3829 NC_030679.2 148391064 148397902
                                                           plus
  3830 NC_030679.2 148391064 148397902
                                                   3
                                                           plus
## 3831 NC_030679.2 149017219 149017292
                                                   3
                                                           minus
## 3832 NC_030679.2 149029890 149029963
                                                   3
                                                           minus
                                                   3
## 3833 NC_030679.2 149034977 149035050
                                                           minus
## 3834 NC_030679.2 149035704 149035777
                                                   3
                                                           minus
## 3835 NC_030679.2 149035889 149035962
                                                   3
                                                           minus
## 3836 NC_030679.2 149036805 149036878
                                                   3
                                                           minus
  3837 NC 030679.2 149037299 149037372
                                                   3
                                                           minus
## 3838 NC_030679.2 149038038 149038111
                                                   3
                                                          minus
## 3839 NC 030679.2 149039403 149039476
                                                   3
                                                           minus
## 3840 NC_030679.2 149040633 149040706
                                                   3
                                                           minus
## 3841 NC 030679.2 149044914 149044987
                                                   3
                                                           minus
## 3842 NC_030679.2 149046611 149046684
                                                   3
                                                          minus
## 3843 NC 030679.2 149051530 149051603
                                                   3
                                                           minus
                                                   3
## 3844 NC 030679.2 149051875 149051948
                                                           minus
## 3845 NC 030679.2 149081415 149082343
                                                   3
                                                           plus
## 3846 NC_030679.2 149208377 149208458
                                                   3
                                                           minus
                                                   3
## 3847 NC_030679.2 149210145 149210216
                                                           minus
## 3848 NC_030679.2 149211093 149211174
                                                   3
                                                           minus
## 3849 NC_030679.2 149320945 149321706
                                                   3
                                                           minus
## 3850 NC_030679.2 149392854 149398784
                                                   3
                                                           minus
  3851 NC_030679.2 149481536 149481617
                                                   3
                                                            plus
  3852 NC_030679.2 149482776 149482857
                                                   3
                                                            plus
## 3853 NC_030679.2 149484066 149484147
                                                   3
                                                            plus
## 3854 NC 030679.2 149484425 149484506
                                                   3
                                                            plus
                                                   3
## 3855 NC_030679.2 149485094 149485175
                                                            plus
## 3856 NC 030679.2 149485870 149485941
                                                   3
                                                            plus
## 3857 NC_030679.2 149754450 149754523
                                                   3
                                                            plus
## 3858 NC 030679.2 149755783 149755856
                                                   3
                                                            plus
## 3859 NC_030679.2 149756271 149756344
                                                   3
                                                            plus
  3860 NC 030679.2 149756564 149756637
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                                                            plus
## 3861 NC 030679.2 149758629 149758702
                                                   3
                                                            plus
  3862 NC 030679.2 149779044 149779117
                                                   3
                                                            plus
  3863 NC_030679.2 150313779 150315226
                                                   3
                                                            plus
                                                   3
## 3864 NC_030679.2 150688465 150689179
                                                           minus
## 3865 NC_030679.2 152494440 152495336
                                                   3
                                                           plus
## 3866 NC_030679.2 152588534 152588674
                                                   3
                                                           minus
## 3867 NC_030679.2 152775931 152777772
                                                   3
                                                           minus
## 3868 NC_030679.2 152807643 152808385
                                                   3
                                                           plus
## 3869 NC_030679.2 153508883 153512133
                                                   3
                                                           minus
## 3870 NC_030680.2
                        21550
                                   21715
                                                   4
                                                           minus
## 3871 NC_030680.2
                       994340
                                 1013721
                                                   4
                                                           minus
## 3872 NC 030680.2
                      1263104
                                 1288751
                                                   4
                                                           minus
## 3873 NC 030680.2
                      1432957
                                 1466414
                                                           minus
```

		NC_030680.2	1748985	1785472	4	minus
##		NC_030680.2	1901709	1916265	4	minus
##		NC_030680.2	1931913	2025936	4	plus
##		NC_030680.2	1931913	2025936	4	plus
##		NC_030680.2	1931913	2025936	4	plus
##		NC_030680.2	1959823	1985983	4	plus
##		NC_030680.2	1959823	1985983	4	plus
##		NC_030680.2	2313472	2313562	4	minus
##		NC_030680.2	2314029	2314119	4	minus
##		NC_030680.2	2561846	2562767	4	plus
##		NC_030680.2	2565181	2568052	4	minus
##		NC_030680.2	4095012	4146255	4	minus
##		NC_030680.2	4158007	4196781	4	minus
##		NC_030680.2	5742784	5742959	4	minus
##		NC_030680.2	5745118	5745283	4	minus
##		NC_030680.2	5829801	5836060	4	plus
##		NC_030680.2	6265427	6376436	4	plus
##		NC_030680.2	6442091	6481647	4	plus
##		NC_030680.2	6928107	6928286	4	plus
##		NC_030680.2	6929267	6929446	4	plus
##		NC_030680.2	9842728	9842817	4	plus
##		NC_030680.2	9894080	9896895	4	plus
##		NC_030680.2	10738467	10752453	4	plus
##		NC_030680.2	11595098	11596272	4	plus
##		NC_030680.2	11619815	11620170	4	minus
##		NC_030680.2	11705379	11706190	4	minus
##		NC_030680.2	11709065	11710844	4	minus
##		NC_030680.2	11734128	11735505	4	plus
##		NC_030680.2	11738407	11739263	4	plus
##		NC_030680.2	11774828	11775594	4	plus
##		NC_030680.2	11809924	11818292	4	minus
##		NC_030680.2	11822688	11824627	4	plus
##		NC_030680.2	11894590	11903011	4	minus
##		NC_030680.2	11907800	11909471	4	plus
##		NC_030680.2	11912336	11913189	4	plus
##		NC_030680.2	11954525	11956058	4	plus
##		NC_030680.2	11958883	11959739	4	plus
		NC_030680.2	11978164	11979870	4	plus
		NC_030680.2	11982772	11983613	4	plus
		NC_030680.2	12079016	12079872	4	plus
		NC_030680.2	12127284	12127619	4	plus
##		NC_030680.2	12169548	12181064	4	minus
##		NC_030680.2	12169746	12170743	4	plus
##		NC_030680.2	12171671	12172527	4	plus
##		NC_030680.2	12197171	12198779	4	plus
##		NC_030680.2	12201666	12202451	4	plus
##		NC_030680.2	12305951	12307489	4	plus
##		NC_030680.2	12310350	12310685	4	plus
##		NC_030680.2	12333976	12335449	4	plus
##		NC_030680.2	12338311	12338646	4	plus
		NC_030680.2	12387628	12388472	4	plus
		NC_030680.2	12463990	12507619	4	minus
		NC_030680.2	12463990	12507619	4	minus
##	3927	NC_030680.2	12475319	12476930	4	plus

		NC_030680.2	12477230	12478805	4	plus
		NC_030680.2	12477230	12478805	4	plus
		NC_030680.2	12479792	12480648	4	plus
##		NC_030680.2	12497955	12499567	4	plus
##		NC_030680.2	12746117	12758741	4	plus
##		NC_030680.2	12916645	12916753	4	plus
##		NC_030680.2	12917857	12917964	4	plus
##		NC_030680.2	14032659	14033501	4	minus
##		NC_030680.2	14034090	14035665	4	plus
##		NC_030680.2	14815384	14817235	4	plus
##		NC_030680.2	15017958	15026371	4	plus
##		NC_030680.2	15079706	15082189	4	minus
##		NC_030680.2	15564170	15566342	4	plus
##		NC_030680.2	15640926	15643239	4	plus
		NC_030680.2	15657299	15659881	4	plus
		NC_030680.2	16610287	16610443	4	plus
		NC_030680.2	17185053	17198409	4	plus
		NC_030680.2	17391623	17397821	4	minus
		NC_030680.2	17402229	17421113	4	plus
##		NC_030680.2	17410555	17410837	4	minus
##		NC_030680.2	17453377	17461235	4	minus
##		NC_030680.2	17470694	17472731	4	minus
##		NC_030680.2	17495343	17496701	4	plus
##		NC_030680.2	17548550	17550422	4	minus
##		NC_030680.2	17566502	17605381	4	minus
##		NC_030680.2	17941714	17944719	4	minus
		NC_030680.2	17941714	17944719	4	minus
##		NC_030680.2	17941714	17944719	4	minus
##		NC_030680.2	17958078	17964348	4	plus
##		NC_030680.2	17977939	17987616	4	minus
##		NC_030680.2	17993605	17995872	4	minus
##		NC_030680.2	17997111	17999638	4	minus
##		NC_030680.2	18177356	18178314	4	minus
##		NC_030680.2	18192707	18193957	4	minus
##		NC_030680.2	18247466	18254295	4	plus
		NC_030680.2	18261490	18267661	4	minus
##		NC_030680.2	18405859	18418298	4	plus
		NC_030680.2	18405859	18418298	4	plus
		NC_030680.2	19339424	19347097	4	plus
		NC_030680.2	19548118	19549063	4	plus
		NC_030680.2	19793653	19801307	4	minus
		NC_030680.2	20057144	20121592	4	minus
		NC_030680.2	20149510	20215239	4	minus
		NC_030680.2	20215302	20232530	4	plus
		NC_030680.2	21686020	21688818	4	plus
		NC_030680.2	21704580	21705182	4	minus
		NC_030680.2	21730373	21733027	4	plus
		NC_030680.2	22551422	22553409	4	minus
		NC_030680.2	22696536	22697220	4	plus
		NC_030680.2	22703222	22724781	4	minus
		NC_030680.2	22735484	22737179	4	plus
		NC_030680.2	22780484	22789658	4	minus
		NC_030680.2	22915994	22917296	4	plus
##	3981	NC_030680.2	23048061	23051049	4	minus

		NC_030680.2	23218574	23219087	4	plus
##		NC_030680.2	23395208	23399205	4	plus
##		NC_030680.2	23470673	23474610	4	plus
##		NC_030680.2	23482113	23539798	4	minus
##		NC_030680.2	23482113	23539798	4	minus
##		NC_030680.2	23482113	23539798	4	minus
##		NC_030680.2	23482113	23539798	4	minus
##		NC_030680.2	23482113	23539798	4	minus
##		NC_030680.2	23482113	23539798	4	minus
##		NC_030680.2	23482113	23539798	4	minus
##		NC_030680.2	23482113	23539798	4	minus
##		NC_030680.2	23484509	23487538	4	plus
##		NC_030680.2	23539813	23549672	4	plus
##		NC_030680.2	23555897	23557382	4	minus
##		NC_030680.2	23560481	23564567	4	minus
##		NC_030680.2	23560481	23564567	4	minus
##		NC_030680.2	23568859	23592801	4	minus
##		NC_030680.2	23597616	23601534	4	plus
##		NC_030680.2	23606952	23613806	4	minus
##		NC_030680.2	23606952	23613806	4	minus
##		NC_030680.2	23609335	23612367	4	plus
##		NC_030680.2	23633380	23636163	4	minus
##		NC_030680.2	23699296	23702528	4	minus
##		NC_030680.2	23966381	23966452	4	minus
##		NC_030680.2	24067951	24093669	4	plus
##		NC_030680.2	24234065	24234137	4	minus
##		NC_030680.2	24318778	24325170	4	plus
##		NC_030680.2	24318778	24325170	4	plus
##		NC_030680.2	24399887	24405419	4	minus
##		NC_030680.2	24406359	24409235	4	minus
##		NC_030680.2	24526221	24527429	4	plus
##		NC_030680.2	24549355	24553870	4	minus
##		NC_030680.2	24758694	24759094	4	plus
##		NC_030680.2	24788518	24792846	4	plus
##		NC_030680.2	25200947	25201103	4	minus
##		NC_030680.2	25236882	25237426	4	plus
##	4018	NC_030680.2	26229678	26231888	4	minus
		NC_030680.2	26929338	26929660	4	plus
		NC_030680.2	26976194	26978646	4	minus
##		NC_030680.2	27165833	27167120	4	minus
##		NC_030680.2	27645576	27648095	4	minus
##		NC_030680.2	28127349	28128831	4	minus
##		NC_030680.2	29233204	29234868	4	minus
##		NC_030680.2	29248750	29249872	4	minus
##		NC_030680.2	30047825	30050383	4	minus
##		NC_030680.2	30730764	30894645	4	plus
##		NC_030680.2	30921829	30958540	4	plus
##		NC_030680.2	31463019	31473686	4	plus
##		NC_030680.2	31597416	31599492	4	plus
##		NC_030680.2	32073886	32076295	4	plus
##		NC_030680.2	32094076	32107779	4	minus
		NC_030680.2	32320496	32344842	4	minus
##		NC_030680.2	32349051	32350220	4	plus
##	4035	NC_030680.2	32391102	32393854	4	minus

	NC_030680.2	32405539	32409427	4	plus
	NC_030680.2	32410955	32414679	4	minus
##	NC_030680.2	32433367	32444445	4	plus
##	NC_030680.2	32464080	32469018	4	plus
##	NC_030680.2	32493706	32495426	4	minus
##	NC_030680.2	32507516	32513744	4	plus
##	NC_030680.2	32516469	32518657	4	minus
##	NC_030680.2	32602589	32635170	4	plus
##	NC_030680.2	32645495	32655804	4	plus
##	NC_030680.2	32645495	32655804	4	plus
##	NC_030680.2	32894461	32894546	4	plus
##	NC_030680.2	32896042	32896128	4	plus
##	NC_030680.2	33002239	33002311	4	plus
##	NC_030680.2	33010763	33010835	4	plus
##	NC_030680.2	33013168	33013240	4	plus
##	NC_030680.2	33016197	33016269	4	plus
##	NC_030680.2	33018254	33018326	4	plus
##	NC_030680.2	33020311	33020383	4	plus
##	NC_030680.2	33023244	33023316	4	plus
##	NC_030680.2	33025362	33025434	4	plus
##	NC_030680.2	33027139	33027211	4	plus
##	NC_030680.2	33029304	33029376	4	plus
##	NC_030680.2	33031147	33031219	4	plus
##	NC_030680.2	33034121	33034193	4	plus
##	NC_030680.2	33035279	33035351	4	plus
##	NC_030680.2	33036888	33036960	4	plus
##	NC_030680.2	33038035	33038107	4	plus
##	NC_030680.2	33040924	33040996	4	plus
##	NC_030680.2	33100437	33101933	4	plus
##	NC_030680.2	33100437 33386575	33101933	4	plus
##	NC_030680.2 NC_030680.2	33386575	33398686	4	plus
##	NC_030680.2		33398686 33466426	4	plus
##	NC_030680.2	33459296 33553404	33556275	4	plus
##	NC_030680.2	33558162	33558234	4	plus plus
##	NC_030680.2	33571624	33571696	4	plus
	NC_030680.2	33572654	33572726	4	plus
	NC_030680.2	33574415	33574487	4	plus
	NC_030680.2	33578484	33578556	4	plus
	NC_030680.2	33718170	33724348	4	minus
	NC_030680.2	33727747	33728354	4	plus
##	NC_030680.2	33734448	33734618	4	plus
##	NC_030680.2	33736924	33737228	4	plus
##	NC_030680.2	33742737	33750377	4	minus
##	NC_030680.2	33878669	33878741	4	plus
##	NC_030680.2	33880157	33880229	4	minus
##	NC_030680.2	33880781	33880853	4	minus
##	NC_030680.2	33881202	33883253	4	minus
##	NC_030680.2	33886302	33886374	4	minus
##	NC_030680.2	33886929	33887001	4	minus
##	NC_030680.2	33889852	33889924	4	minus
	NC_030680.2	33890610	33890682	4	minus
	NC_030680.2	33938119	33938190	4	minus
	NC_030680.2	33938410	33938482	4	plus
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##	4090	NC 030680.2	33938901	33938973	4	minus
##		NC_030680.2	33939182	33939263	4	plus
##		NC 030680.2	33939575	33939648	4	minus
##		NC_030680.2	33941201	33941272	4	plus
##		NC_030680.2	33943161	33943232	4	plus
##		NC_030680.2	33944632	33944705	4	minus
##		NC_030680.2	33946682	33946753	4	plus
##		NC_030680.2	33947283	33947355	4	minus
##		NC_030680.2	33958107	33958178	4	minus
##		NC_030680.2	33958352	33958423	4	plus
##		NC_030680.2	33960867	33960938	4	plus
##		NC_030680.2	33961832	33961903	4	minus
##		NC_030680.2	33962503	33962574	4	minus
##		NC_030680.2	33963695	33963766	4	minus
##		NC_030680.2	33964760	33964831	4	minus
##		NC_030680.2	33966196	33966267	4	plus
##		NC_030680.2	33967678	33967750	4	minus
##		NC_030680.2	33968261	33968332	4	minus
##		NC_030680.2	33968532	33968605	4	minus
##		NC_030680.2	34089646	34155765	4	minus
##		NC_030680.2	34454085	34458379	4	minus
##		NC_030680.2	34454532	34454622	4	minus
##		NC_030680.2	34531178	34555795	4	plus
##		NC_030680.2	34656260	34656402	4	plus
##		NC_030680.2	34884043	34889950	4	minus
##		NC_030680.2	34890581	34996888	4	minus
##		NC_030680.2	34890581	34996888	4	minus
##		NC_030680.2	34988421	34994318	4	minus
##		NC_030680.2	35505287	35506547	4	
##		NC_030680.2	36061842	36063609	4	plus minus
##		NC_030680.2	36327133	36329816	4	minus
##		NC_030680.2	36462403	36468220	4	
##		_	36462812	36462880	4	plus
##		NC_030680.2	36463027	36463097	4	plus
##		NC_030680.2 NC_030680.2	36464090	36464161	4	plus
##		NC_030680.2	36464302	36464381	4	plus
##		NC_030680.2	36465139	36465264	4	plus
				36466268	_	plus
		NC_030680.2 NC_030680.2	36466200 36466421	36466485	4	plus
		NC_030680.2	36466980	36467052	4	plus plus
		NC_030680.2	36467687	36467754	4	plus
		NC_030680.2	36857411	36896821	4	minus
		NC_030680.2	36961664	36961728	4	minus
		NC_030680.2	36992457	36992593	4	plus
		NC_030680.2	37054717	37058522	4	minus
		NC_030680.2	37437778	37437849	4	minus
		NC_030680.2	37438141	37438212	4	minus
		NC_030680.2	37438651	37438722	4	minus
##		NC_030680.2	37439530	37439603	4	
		NC_030680.2	37440096	37440167	4	plus minus
		NC_030680.2	37440459	37440107	4	minus
		NC_030680.2	37440459	37441040	4	minus
		NC_030680.2	37441848	37441040	4	plus
		NC_030680.2	37442414	37442485	4	minus
##	4143	110_030000.2	31442414	31442400	4	minus

	NC_030680.2	37442777	37442848	4	minus
	NC_030680.2	37443287	37443358	4	minus
	NC_030680.2	37444166	37444239	4	plus
	NC_030680.2	37444732	37444803	4	minus
##	NC_030680.2	37445095	37445166	4	minus
##	NC_030680.2	37445605	37445676	4	minus
##	NC_030680.2	37447034	37447105	4	minus
##	NC_030680.2	37447397	37447468	4	minus
	NC_030680.2	37447907	37447978	4	minus
##	NC_030680.2	37448786	37448859	4	plus
	NC_030680.2	37449352	37449423	4	minus
	NC_030680.2	37449715	37449786	4	minus
	NC_030680.2	37450225	37450296	4	minus
	NC_030680.2	37451104	37451177	4	plus
##	NC_030680.2	37451670	37451741	4	minus
##	NC_030680.2	37452033	37452104	4	minus
##	NC_030680.2	37452543	37452614	4	minus
	NC_030680.2	37453422	37453495	4	plus
	NC_030680.2	37453988	37454059	4	minus
	NC_030680.2	37454351	37454422	4	minus
	NC_030680.2	37454861	37454932	4	minus
	NC_030680.2	37455740	37455813	4	plus
	NC_030680.2	37456306	37456377	4	minus
	NC_030680.2	37456669	37456740	4	minus
	NC_030680.2	37457179	37457250	4 4	minus
	NC_030680.2	37458058	37458131	4	plus
	NC_030680.2	37458624	37458695	4	minus
	NC_030680.2 NC_030680.2	37458987 37459497	37459058 37459568	4	minus
	NC_030680.2	37460376	37459566	4	minus
	NC_030680.2	37460942	37461013	4	plus minus
	NC_030680.2	37460942	37461376	4	minus
	NC_030680.2	37461815	37461886	4	minus
	NC_030680.2	37462693	37462766	4	plus
	NC_030680.2	37463259	37463330	4	minus
	NC_030680.2	37463622	37463693	4	minus
	NC 030680.2	37464132	37464203	4	minus
	NC_030680.2	37465011	37465084	4	plus
	NC_030680.2	37465579	37465651	4	minus
	NC_030680.2	37465944	37466016	4	minus
	NC_030680.2	37466465	37466536	4	minus
	NC_030680.2	37467344	37467417	4	plus
	NC_030680.2	37467912	37467983	4	minus
	NC_030680.2	37468275	37468346	4	minus
	NC_030680.2	37468789	37468860	4	minus
	NC_030680.2	37469671	37469744	4	plus
	NC_030680.2	37471114	37471185	4	minus
	NC_030680.2	37472561	37472632	4	minus
	NC_030680.2	37472917	37472988	4	minus
	NC_030680.2	37473423	37473494	4	minus
	NC_030680.2	37499462	37499533	4	plus
	NC_030680.2	37499972	37500044	4	plus
	NC_030680.2	37500333	37500404	4	plus
	NC_030680.2	37500896	37500969	4	minus
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		NC_030680.2	37501778	37501849	4	plus
		NC_030680.2	37502290	37502361	4	plus
		NC_030680.2	37502649	37502720	4	plus
##		NC_030680.2	37504906	37504978	4	minus
##		NC_030680.2	37505272	37505344	4	minus
##		NC_030680.2	37505786	37505857	4	minus
##		NC_030680.2	37506668	37506741	4	plus
##		NC_030680.2	37507235	37507306	4	minus
##		NC_030680.2	37507598	37507669	4	minus
##		NC_030680.2	37508108	37508179	4	minus
##		NC_030680.2	37508987	37509060	4	plus
##		NC_030680.2	37509553	37509624	4	minus
##		NC_030680.2	37509915	37509986	4	minus
##		NC_030680.2	37510426	37510497	4	minus
##		NC_030680.2	37511304	37511377	4	plus
##		NC_030680.2	37511870	37511941	4	minus
##		NC_030680.2	37512785	37512856	4	minus
##		NC_030680.2	37513295	37513366	4	minus
##		NC_030680.2	37514174	37514247	4	plus
##		NC_030680.2	37514740	37514811	4	minus
##		NC_030680.2	37515103	37515174	4	minus
##		NC_030680.2	37515613	37515684	4	minus
##		NC_030680.2	37516492	37516565	4	plus
##		NC_030680.2	37517058	37517129	4	minus
##		NC_030680.2	37517421	37517492	4	minus
##		NC_030680.2	37517931	37518002	4	minus
		NC_030680.2	37518810	37518883	4	plus
		NC_030680.2	37519376	37519447	4	minus
		NC_030680.2	37519739	37519810	4	minus
##		NC_030680.2	37520249	37520320	4	minus
##		NC_030680.2	37521128	37521201	4	plus
		NC_030680.2	37521694	37521765	4	minus
		NC_030680.2	37522057	37522128	4	minus
		NC_030680.2	37522567	37522638	4	minus
		NC_030680.2	37523446	37523519	4	plus
		NC_030680.2	37524012	37524083	4	minus
		NC_030680.2	37524375	37524446	4	minus
		NC_030680.2	37524885	37524956	4	minus
		NC_030680.2	37525597	37525670	4	plus
		NC_030680.2	37587426	37587498	4	plus
		NC_030680.2	37689969	37690040	4	plus
		NC_030680.2	37693135	37693206	4	plus
		NC_030680.2	37694328	37694399	4	plus
		NC_030680.2	37932972	37933054	4	minus
		NC_030680.2	37934278	37934387	4	plus
		NC_030680.2	37936596	37936678	4	minus
		NC_030680.2	37938729	37938800	4	minus
		NC_030680.2	37939272	37939383	4	plus
		NC_030680.2	37940659	37940771	4	plus
		NC_030680.2	37943074	37943183	4	plus
		NC_030680.2	37944844	37944956	4	plus
		NC_030680.2	37945746	37945855	4	plus
		NC_030680.2	37946303	37946374	4	plus
##	4251	NC_030680.2	37949237	37949308	4	minus

		NC_030680.2	37950315	37950386	4	plus
##		NC_030680.2	38026126	38033785	4	minus
##		NC_030680.2	38281750	38296168	4	minus
##		NC_030680.2	38456995	38457068	4	minus
##		NC_030680.2	38521496	38534432	4	minus
##	4257	- · · · · · · ·	38583579	38683182	4	plus
##		NC_030680.2	38583579	38683182	4	plus
##		NC_030680.2	38908992	38909063	4	minus
##		NC_030680.2	39051567	39051639	4	minus
##		NC_030680.2	39295053	39350236	4	minus
##		NC_030680.2	39510735	39526522	4	plus
##		NC_030680.2	39510735	39526522	4	plus
##		NC_030680.2	39526352	39574923	4	minus
##		NC_030680.2	39526352	39574923	4	minus
##		NC_030680.2	40245503	40252085	4	minus
##		NC_030680.2	41118079	41118501	4	minus
##		NC_030680.2	41441781	41446798	4	minus
##		NC_030680.2	41441781	41446798	4	minus
##		NC_030680.2	41994354	42011899	4	plus
##		NC_030680.2	42270000	42282063	4	minus
##		NC_030680.2	42740245	42744533	4	minus
##		NC_030680.2	43145073	43211925	4	minus
		NC_030680.2	43258180	43259339	4	plus
##		NC_030680.2	43357577	43385432	4	plus
##		NC_030680.2	43357577	43385432	4	plus
##		NC_030680.2	43662178	43686154	4 4	minus
##		NC_030680.2	44280684	44513029		plus
##		NC_030680.2	44610337	44612054	4	minus
##		NC_030680.2	44638378	44640052	4 4	plus
##		NC_030680.2	44838292	44844325	4	minus
##		NC_030680.2	44838292	44844325 45783161	4	minus
##		NC_030680.2	45783004 45787250	45795504	4	minus
##		NC_030680.2 NC_030680.2		45795504 45855964	4	minus
##		NC_030680.2	45853913 45965615	45966602	4	minus
##		NC_030680.2	46014420	46047504	4	minus minus
##		NC_030680.2	46014420	46047504	4	minus
		NC_030680.2	46068613	46070009	4	minus
		NC_030680.2	46072089	46075207	4	minus
		NC_030680.2	46291144	46326377	4	plus
		NC_030680.2	46339578	46341816	4	plus
		NC_030680.2	46339578	46341816	4	plus
		NC_030680.2	46349391	46359789	4	plus
		NC_030680.2	46349391	46359789	4	plus
##		NC_030680.2	46457263	46463161	4	plus
##		NC_030680.2	46491902	46492556	4	plus
##		NC_030680.2	46563021	46564076	4	minus
##		NC_030680.2	46643851	46645379	4	plus
##		NC_030680.2	46697239	46704422	4	plus
##		NC_030680.2	46753636	46755016	4	plus
##		NC_030680.2	47472562	47477673	4	plus
		NC_030680.2	47799317	47801056	4	plus
		NC_030680.2	47959271	47959378	4	plus
		NC_030680.2	50807473	50817561	4	minus
		<u>-</u>				

		NC_030680.2	50884605	50886264	4	minus
		NC_030680.2	51737487	51742177	4	minus
##		NC_030680.2	51780272	51782143	4	minus
##		NC_030680.2	51801994	51803864	4	minus
##		NC_030680.2	51818889	51820714	4	minus
##		NC_030680.2	52271866	52272989	4	plus
##		NC_030680.2	52279199	52286388	4	plus
##		NC_030680.2	52279199	52286388	4	plus
##		NC_030680.2	52295658	52299036	4	plus
##		NC_030680.2	52306653	52311787	4	plus
##		NC_030680.2	52911051	52911905	4	plus
##		NC_030680.2	53651557	53657741	4	minus
##		NC_030680.2	54618792	54622988	4	plus
##		NC_030680.2	54897834	54900546	4	plus
##		NC_030680.2	57356624	57357772	4	minus
##		NC_030680.2	57358393	57360037 58140744	4 4	minus
##		NC_030680.2 NC_030680.2	58136747 58136747	58140744	4	plus
##		NC_030680.2	58136747	58140744	4	plus plus
##		NC_030680.2	58136747	58140744	4	plus
##		NC_030680.2	58218057	58219726	4	plus
##		NC_030680.2	58313841	58317251	4	minus
##		NC_030680.2	58506819	58549843	4	plus
##		NC_030680.2	58506819	58549843	4	plus
##		NC_030680.2	58630619	58640008	4	plus
##		NC_030680.2	58832230	58832313	4	plus
##		NC_030680.2	58833333	58833410	4	plus
##	4333	NC_030680.2	58833899	58833982	4	plus
##	4334	NC_030680.2	59354951	59355029	4	plus
##	4335	NC_030680.2	59467735	59512144	4	plus
##	4336	NC_030680.2	59521084	59550621	4	plus
##		NC_030680.2	59604522	59606315	4	plus
##		NC_030680.2	59852196	59861533	4	minus
##		NC_030680.2	59907372	59912040	4	minus
##		NC_030680.2	60310249	60351676	4	plus
##		NC_030680.2	60377376	60391190	4	plus
		NC_030680.2	60652455	60699235	4	minus
		NC_030680.2	60652455	60699235	4	minus
		NC_030680.2	60878909	60879002	4	minus
		NC_030680.2	61122903	61123291	4 4	minus
		NC_030680.2 NC_030680.2	61126177	61126503	4	plus
		NC_030680.2	61129164 61174425	61131093 61191768	4	minus plus
		NC_030680.2	62658307	62658839	4	minus
##		NC_030680.2	64017962	64039687	4	minus
		NC_030680.2	64017962	64039687	4	minus
##		NC_030680.2	64017962	64039687	4	minus
##		NC_030680.2	64808354	64823875	4	plus
##		NC_030680.2	65016752	65016855	4	plus
##		NC_030680.2	65165905	65169602	4	plus
##		NC_030680.2	65424776	65424848	4	minus
		NC_030680.2	65453219	65498252	4	minus
		NC_030680.2	68580609	68580750	4	plus
##	4359	NC_030680.2	68587498	68591385	4	plus

		NC_030680.2	69039631	69039704	4	plus
		NC_030680.2	71363707	71370338	4	plus
		NC_030680.2	72480643	72495475	4	minus
		NC_030680.2	72945954	72946542	4	plus
		NC_030680.2	74134672	74137471	4	plus
##		NC_030680.2	74267214	74273795	4	minus
##		NC_030680.2	74328053	74331831	4	plus
##		NC_030680.2	75284474	75320771	4	plus
##		NC_030680.2	75292011	75292081	4	minus
##		NC_030680.2	75292243	75292313	4	plus
##		NC_030680.2	75296976	75297046	4	minus
##		NC_030680.2	75297193	75297263	4	plus
##		NC_030680.2	75305097	75305167	4	minus
##		NC_030680.2	75305303	75305373	4	plus
##		NC_030680.2	75307813	75307883	4	minus
##		NC_030680.2	75730105	75736686	4	plus
##		NC_030680.2	76324921	76338258	4	minus
##		NC_030680.2	76338287	76347412	4	plus
		NC_030680.2	76767179	76935633	4	plus
		NC_030680.2	77596935	77597254	4	plus
		NC_030680.2	79569422	79599167	4	minus
		NC_030680.2	79668193	79674247	4	plus
		NC_030680.2	81161001 81235863	81175757	4	plus
		NC_030680.2		81235935	4	plus
		NC_030680.2	81236618	81236690	4	plus
##		NC_030680.2	81986393	81986851	4	minus
##		NC_030680.2	83806788	83814190 84477116	4	minus
##		NC_030680.2 NC_030680.2	84472256	84477116	4	plus
##		NC_030680.2	84472256 84476474	84476556	4	plus
##		NC_030680.2	84728315	84753571	4	plus plus
##		NC_030680.2	85768735	85784089	4	plus
##		NC_030680.2	86368154	86369369	4	plus
##		NC_030680.2	86694512	86739741	4	minus
##		NC_030680.2	87913986	87992100	4	minus
		NC_030680.2	87913986	87992100	4	minus
		NC 030680.2	88312742	88346181	4	minus
		NC_030680.2	88924688	88928439	4	minus
		NC_030680.2	90015673	90015754	4	minus
		NC_030680.2	90015961	90016043	4	minus
		NC_030680.2	90261650	90269293	4	minus
		NC_030680.2	90936165	90939223	4	minus
		NC_030680.2	90985896	90986027	4	minus
		NC_030680.2	90986181	90992728	4	minus
		NC_030680.2	90986349	90986416	4	minus
		NC_030680.2	90989059	90989133	4	minus
##	4406	NC_030680.2	90989341	90989411	4	minus
		NC_030680.2	90989612	90989682	4	minus
		NC_030680.2	90989878	90989948	4	minus
		NC_030680.2	90990367	90990443	4	minus
		NC_030680.2	90991345	90991481	4	minus
		NC_030680.2	90992550	90992620	4	minus
##	4412	NC_030680.2	90998682	90998785	4	minus
##	4413	NC_030680.2	91101684	91101796	4	minus

			01100000	0.1.1.000.00		
		NC_030680.2	91102253	91102367	4	minus
		NC_030680.2	91103158	91103272	4	minus
##		NC_030680.2	91103724	91103839	4	minus
##		NC_030680.2	91104295	91104408	4	minus
##		NC_030680.2	91104867	91104981	4	minus
##		NC_030680.2	91105439	91105554	4	minus
##		NC_030680.2	91106013	91106127	4	minus
##		NC_030680.2	91106586	91106699	4	minus
##		NC_030680.2	91107156	91107270	4	minus
##		NC_030680.2	91107728	91107842	4	minus
##		NC_030680.2	91108299	91108413	4	minus
##		NC_030680.2	91108872	91108986	4	minus
##		NC_030680.2	91109445	91109559	4	minus
##		NC_030680.2	91110018	91110132	4	minus
##		NC_030680.2	91110590	91110704	4	minus
##		NC_030680.2	91111162	91111277	4	minus
##		NC_030680.2	91111735	91111849	4	minus
##		NC_030680.2	91112307	91112421	4	minus
		NC_030680.2	91112879	91112993	4	minus
##		NC_030680.2	91113453	91113567 91114139	4	minus
##		NC_030680.2	91114025		4	minus
##		NC_030680.2	91114597	91114711	4	minus
## ##		NC_030680.2 NC_030680.2	91115169	91115283 91115855	4 4	minus minus
##		NC_030680.2	91115741 91116313	91116427	4	minus
##		NC_030680.2	91116313	91116427	4	minus
##		NC_030680.2	91117457	91117571	4	minus
##		NC_030680.2	91118029	91118143	4	minus
##		NC_030680.2	91118601	91118715	4	minus
##		NC_030680.2	91119173	91119287	4	minus
##		NC_030680.2	91119745	91119859	4	minus
##		NC_030680.2	91120317	91120431	4	minus
##		NC 030680.2	91120889	91121003	4	minus
##	4447	_	91121461	91121575	4	minus
##		NC_030680.2	91122033	91122147	4	minus
##		NC_030680.2	91122605	91122719	4	minus
		NC_030680.2	91123177	91123291	4	minus
		NC_030680.2	91123749	91123863	4	minus
		NC_030680.2	91124321	91124435	4	minus
		NC_030680.2	91124893	91125007	4	minus
		NC_030680.2	91125465	91125579	4	minus
		NC_030680.2	91126037	91126151	4	minus
		NC_030680.2	91126609	91126723	4	minus
		NC_030680.2	91127181	91127295	4	minus
		NC_030680.2	91127753	91127867	4	minus
		NC_030680.2	91128325	91128439	4	minus
##	4460	NC_030680.2	91128897	91129011	4	minus
##	4461	NC_030680.2	91129469	91129583	4	minus
##	4462	NC_030680.2	91130041	91130155	4	minus
##	4463	NC_030680.2	91130613	91130727	4	minus
		NC_030680.2	91131185	91131299	4	minus
		NC_030680.2	91131757	91131871	4	minus
		NC_030680.2	91132329	91132443	4	minus
##	4467	NC_030680.2	91132901	91133015	4	minus

```
## 4468 NC 030680.2 91133473 91133587
                                                          minus
                               91134159
## 4469 NC_030680.2 91134045
                                                          minus
## 4470 NC 030680.2 91134616
                               91134730
                                                          minus
## 4471 NC_030680.2 91135188
                               91135302
                                                  4
                                                          minus
## 4472 NC_030680.2 91135760
                               91135874
                                                  4
                                                          minus
## 4473 NC 030680.2 91136332
                                                  4
                               91136446
                                                          minus
## 4474 NC 030680.2 91136904
                                91137018
                                                          minus
## 4475 NC 030680.2 91137476
                               91137590
                                                  4
                                                          minus
## 4476 NC_030680.2 91138048
                               91138162
                                                  4
                                                          minus
## 4477 NC_030680.2
                     91138620
                                91138734
                                                          minus
## 4478 NC_030680.2
                     91139192
                               91139306
                                                          minus
## 4479 NC_030680.2
                     91139764
                               91139878
                                                  4
                                                          minus
## 4480 NC_030680.2 91145266
                                                  4
                               91145378
                                                          minus
                     91145835
## 4481 NC_030680.2
                                                          minus
## 4482 NC_030680.2
                     91146407
                                91146521
                                                  4
                                                          minus
## 4483 NC_030680.2
                     91146979
                               91147093
                                                          minus
## 4484 NC_030680.2 91246761
                                                  4
                               91246918
                                                          minus
## 4485 NC 030680.2
                     91885222
                                91899301
                                                          plus
## 4486 NC_030680.2
                     91915772
                                                  4
                               91916369
                                                          minus
## 4487 NC 030680.2
                     91921174
                               91923554
                                                  4
                                                           plus
## 4488 NC_030680.2
                    92806903
                               92812170
                                                  4
                                                           plus
## 4489 NC 030680.2
                     93122122
                                93124662
                                                          minus
## 4490 NC_030680.2
                     95871774
                                95875737
                                                  4
                                                           plus
## 4491 NC 030680.2
                     95902099
                               95902317
                                                  4
                                                           plus
## 4492 NC 030680.2
                     96107657
                                96146304
                                                  4
                                                          minus
## 4493 NC 030680.2
                     96622201
                                96649902
                                                  4
                                                          minus
                                                  4
## 4494 NC_030680.2
                     98095990
                                98104037
                                                           plus
## 4495 NC_030680.2
                     98095990
                               98104037
                                                  4
                                                           plus
## 4496 NC_030680.2
                     98096456
                                98096536
                                                           plus
## 4497 NC_030680.2
                     98098081
                                                  4
                                98098159
                                                           plus
## 4498 NC_030680.2
                     98098474
                                98098550
                                                           plus
## 4499 NC_030680.2
                     98099750
                               98099813
                                                  4
                                                           plus
## 4500 NC_030680.2
                     98100603
                                98100673
                                                           plus
                     98101035
## 4501 NC_030680.2
                                98101098
                                                  4
                                                           plus
## 4502 NC 030680.2
                     98101523
                                98101597
                                                           plus
## 4503 NC_030680.2 98101806
                               98101881
                                                  4
                                                           plus
## 4504 NC 030680.2
                     98103325
                                                           plus
## 4505 NC_030680.2
                     98247293
                                98286394
                                                  4
                                                          minus
## 4506 NC 030680.2 99655196
                                                  4
                               99663650
                                                          minus
## 4507 NC_030680.2 100311600 100348220
                                                          minus
## 4508 NC 030680.2 100311600 100348220
                                                          minus
## 4509 NC 030680.2 100869494 100895117
                                                  4
                                                           plus
## 4510 NC 030680.2 100869494 100895117
                                                  4
                                                           plus
## 4511 NC_030680.2 101276559 101278067
                                                           plus
## 4512 NC_030680.2 101287451 101288490
                                                          minus
## 4513 NC_030680.2 101328466 101348976
                                                  4
                                                          minus
## 4514 NC_030680.2 101557235 101559413
                                                  4
                                                          minus
## 4515 NC_030680.2 102183199 102273991
                                                           plus
## 4516 NC_030680.2 102183199 102273991
                                                           plus
## 4517 NC_030680.2 102755434 102757722
                                                           plus
## 4518 NC_030680.2 102863773 102867769
                                                  4
                                                          minus
## 4519 NC_030680.2 102864617 102864717
                                                          minus
## 4520 NC_030680.2 103837448 103837532
                                                          minus
## 4521 NC 030680.2 103913226 103941348
                                                          minus
```

```
## 4522 NC 030680.2 104116011 104130915
                                                           plus
## 4523 NC_030680.2 104513374 104514743
                                                          plus
## 4524 NC_030680.2 104708924 104721084
                                                          minus
## 4525 NC_030680.2 104728370 104739603
                                                          minus
## 4526 NC_030680.2 105467441 105474611
                                                 4
                                                         plus
## 4527 NC 030680.2 105680138 105682220
                                                         minus
## 4528 NC_030680.2 106610020 106646170
                                                        minus
## 4529 NC_030680.2 107022814 107025278
                                                          plus
## 4530 NC_030680.2 107415555 107415650
                                                 4
                                                         plus
## 4531 NC_030680.2 107420698 107420804
                                                          plus
## 4532 NC_030680.2 109180385 109184810
                                                          plus
## 4533 NC_030680.2 109694987 109710060
                                                           plus
## 4534 NC_030680.2 109912379 109912450
                                                           plus
## 4535 NC_030680.2 110491846 110493089
                                                          minus
## 4536 NC_030680.2 111319605 111335927
                                                          minus
## 4537 NC_030680.2 111405871 111405953
                                                          minus
## 4538 NC_030680.2 111406323 111406412
                                                         minus
## 4539 NC 030680.2 112875568 112875725
                                                         minus
## 4540 NC_030680.2 113727605 113728332
                                                         minus
## 4541 NC_030680.2 114105111 114172074
                                                          plus
## 4542 NC_030680.2 114203528 114213193
                                                          plus
## 4543 NC_030680.2 114203528 114213193
                                                          plus
## 4544 NC_030680.2 114826613 114875960
                                                           plus
## 4545 NC 030680.2 114826613 114875960
                                                 4
                                                           plus
## 4546 NC_030680.2 114826613 114875960
                                                           plus
## 4547 NC_030680.2 115005406 115016978
                                                           plus
## 4548 NC_030680.2 115112659 115112808
                                                           plus
## 4549 NC_030680.2 115119333 115119481
                                                           plus
## 4550 NC_030680.2 115121468 115121616
                                                           plus
## 4551 NC_030680.2 115123051 115123199
                                                          plus
## 4552 NC_030680.2 115125512 115125659
                                                           plus
## 4553 NC_030680.2 115127240 115127388
                                                           plus
## 4554 NC_030680.2 115129564 115129712
                                                           plus
## 4555 NC_030680.2 115131291 115131439
                                                           plus
## 4556 NC_030680.2 115229584 115230624
                                                          plus
## 4557 NC_030680.2 115360160 115360312
                                                 4
                                                          minus
## 4558 NC_030680.2 115361503 115361657
                                                          minus
## 4559 NC_030680.2 115363354 115363506
                                                         minus
## 4560 NC_030680.2 115575052 115580336
                                                         minus
## 4561 NC_030680.2 115987653 116017819
                                                        minus
## 4562 NC_030680.2 116018656 116021302
                                                         plus
## 4563 NC_030680.2 116592400 116595046
                                                          plus
## 4564 NC_030680.2 116704487 116710219
                                                  4
                                                          minus
## 4565 NC_030680.2 116942594 116954916
                                                          minus
## 4566 NC_030680.2 119138587 119149722
                                                          plus
## 4567 NC_030680.2 119177925 119202894
                                                          plus
## 4568 NC_030680.2 119241567 119242299
                                                  4
                                                         plus
## 4569 NC_030680.2 120158470 120158538
                                                         plus
## 4570 NC_030680.2 120832773 120832865
                                                          minus
## 4571 NC_030680.2 121888906 121892594
                                                           plus
## 4572 NC_030680.2 121892601 121893631
                                                           plus
## 4573 NC_030680.2 122177715 122203986
                                                          plus
## 4574 NC_030680.2 122394036 122475122
                                                          plus
## 4575 NC_030680.2 122661725 122662713
                                                          minus
```

```
## 4576 NC 030680.2 124208984 124211397
                                                         minus
## 4577 NC_030680.2 124208984 124211397
                                                         minus
## 4578 NC 030680.2 124215256 124215388
                                                         plus
## 4579 NC_030680.2 124709604 124711176
                                                         minus
## 4580 NC_030680.2 124720945 124724122
                                                         minus
## 4581 NC 030680.2 124813519 124818349
                                                         minus
## 4582 NC 030680.2 125005346 125008459
                                                        minus
## 4583 NC 030680.2 125026307 125029794
                                                  4
                                                        minus
## 4584 NC 030680.2 125366204 125367228
                                                  4
                                                         minus
## 4585 NC_030680.2 125871311 125882286
                                                         plus
## 4586 NC_030680.2 126064392 126157786
                                                         minus
## 4587 NC_030680.2 126086481 126086946
                                                          plus
## 4588 NC_030680.2 126093529 126101161
                                                  4
                                                         minus
## 4589 NC_030680.2 127116695 127130992
                                                         plus
## 4590 NC_030680.2 128080610 128083055
                                                         minus
## 4591 NC_030680.2 128233090 128233173
                                                          plus
## 4592 NC_030680.2 128516344 128520041
                                                  4
                                                         plus
## 4593 NC 030680.2 128522784 128527919
                                                         plus
## 4594 NC_030680.2 128529386 128530360
                                                         minus
## 4595 NC 030680.2 128565673 128565745
                                                         minus
## 4596 NC_030680.2 128570515 128570587
                                                         minus
## 4597 NC_030680.2 128571998 128572070
                                                         minus
## 4598 NC 030680.2 128572727 128572798
                                                  4
                                                         minus
## 4599 NC 030680.2 128575907 128575979
                                                 4
                                                         minus
## 4600 NC 030680.2 128576521 128576593
                                                         minus
## 4601 NC 030680.2 129153237 129220067
                                                         plus
## 4602 NC_030680.2 130863198 130867750
                                                         minus
## 4603 NC_030680.2 130890632 130890825
                                                         minus
## 4604 NC_030680.2 130907777 130920686
                                                         minus
## 4605 NC_030680.2 131161556 131176473
                                                         minus
## 4606 NC_030680.2 131853172 131863658
                                                         minus
## 4607 NC_030680.2 132208899 132210261
                                                  4
                                                         minus
## 4608 NC_030680.2 132320599 132326032
                                                         plus
## 4609 NC_030680.2 132683363 132691516
                                                         minus
## 4610 NC 030680.2 132807342 132810899
                                                         minus
## 4611 NC_030680.2 133178994 133232721
                                                  4
                                                         minus
## 4612 NC 030680.2 133391402 133392302
                                                        minus
## 4613 NC_030680.2 134939655 134939771
                                                         minus
## 4614 NC 030680.2 135418667 135421666
                                                 4
                                                         plus
## 4615 NC_030680.2 135763692 135763763
                                                         minus
## 4616 NC 030680.2 136187574 136187647
                                                         minus
## 4617 NC 030680.2 136187844 136187916
                                                  4
                                                          plus
## 4618 NC 030680.2 136655340 136658193
                                                  4
                                                          plus
## 4619 NC_030680.2 136713847 136713923
                                                         minus
## 4620 NC_030680.2 136717053 136717138
                                                         minus
## 4621 NC_030680.2 136929401 136938140
                                                  4
                                                          plus
## 4622 NC_030680.2 136929401 136938140
                                                  4
                                                         plus
## 4623 NC_030680.2 137318861 137319016
                                                         minus
## 4624 NC_030680.2 138574082 138583774
                                                         minus
## 4625 NC_030680.2 138971393 139048909
                                                  4
                                                          plus
## 4626 NC_030680.2 139319114 139324340
                                                  4
                                                          plus
## 4627 NC_030680.2 139500210 139500826
                                                         minus
## 4628 NC_030680.2 139501625 139502068
                                                         minus
## 4629 NC 030680.2 139914401 139953210
                                                         minus
```

```
## 4630 NC_030680.2 141653313 141660262
                                                            plus
## 4631 NC_030680.2 142771084 142817441
                                                           minus
## 4632 NC_030680.2 144441189 144603179
                                                            plus
## 4633 NC_030680.2 144441189 144603179
                                                            plus
## 4634 NC_030680.2 146235581 146238535
                                                   4
                                                            plus
## 4635 NC_030680.2 147759713 147772747
                                                   4
                                                           minus
## 4636 NC_030680.2 147974193 147975215
                                                            plus
## 4637 NC_030680.2 147990334 147995239
                                                            plus
## 4638 NC_030680.2 148317032 148326733
                                                   4
                                                           minus
## 4639 NC_030680.2 148422042 148427670
                                                            plus
## 4640 NC_030680.2 148422042 148427670
                                                            plus
## 4641 NC_030680.2 150133835 150151129
                                                            plus
## 4642 NC_030680.2 150368254 150375094
                                                   4
                                                            plus
## 4643 NC_030680.2 151043906 151044541
                                                           minus
## 4644 NC_030680.2 151481831 151483445
                                                            plus
## 4645 NC_030680.2 152411172 152411261
                                                           plus
## 4646 NC_030680.2 153001147 153001312
                                                   4
                                                           minus
## 4647 NC_030680.2 153005231 153005324
                                                           plus
## 4648 NC_030680.2 153014363 153014520
                                                   4
                                                           minus
## 4649 NC_030680.2 153040237 153043984
                                                   4
                                                            plus
## 4650 NC_030680.2 153504085 153562709
                                                   4
                                                           minus
## 4651 NC_030680.2 153554134 153558213
                                                            plus
## 4652 NC_030680.2 153689320 153689396
                                                   4
                                                           minus
                        341372
## 4653 NC_030681.2
                                  347948
                                                   5
                                                            plus
                        433568
## 4654 NC_030681.2
                                  433686
                                                   5
                                                            plus
## 4655 NC_030681.2
                        434087
                                  434195
                                                   5
                                                            plus
## 4656 NC_030681.2
                        434341
                                                   5
                                  434459
                                                            plus
                       434605
## 4657 NC_030681.2
                                  434723
                                                   5
                                                            plus
## 4658 NC_030681.2
                       434869
                                  434987
                                                   5
                                                            plus
## 4659 NC_030681.2
                        435133
                                  435251
                                                   5
                                                            plus
## 4660 NC_030681.2
                        435397
                                  435515
                                                   5
                                                            plus
## 4661 NC_030681.2
                        435661
                                  435779
                                                   5
                                                            plus
## 4662 NC_030681.2
                        435925
                                  436043
                                                            plus
## 4663 NC_030681.2
                        436189
                                  436307
                                                   5
                                                            plus
## 4664 NC_030681.2
                        436451
                                  436569
                                                   5
                                                            plus
                        436715
## 4665 NC_030681.2
                                  436833
                                                   5
                                                            plus
## 4666 NC_030681.2
                        436979
                                  437097
                                                   5
                                                            plus
## 4667 NC_030681.2
                        437243
                                  437361
                                                   5
                                                            plus
## 4668 NC_030681.2
                        437507
                                  437625
                                                   5
                                                            plus
## 4669 NC_030681.2
                        437771
                                  437889
                                                   5
                                                            plus
## 4670 NC_030681.2
                        438035
                                                   5
                                  438153
                                                            plus
## 4671 NC_030681.2
                        438299
                                  438417
                                                   5
                                                            plus
                        438563
## 4672 NC_030681.2
                                  438681
                                                   5
                                                            plus
                        438827
## 4673 NC_030681.2
                                  438939
                                                   5
                                                            plus
                        439085
## 4674 NC_030681.2
                                  439203
                                                   5
                                                            plus
## 4675 NC_030681.2
                        439349
                                  439467
                                                   5
                                                            plus
## 4676 NC_030681.2
                        439613
                                  439731
                                                   5
                                                            plus
                        439877
## 4677 NC_030681.2
                                  439995
                                                   5
                                                            plus
                                  440259
## 4678 NC_030681.2
                        440141
                                                   5
                                                            plus
## 4679 NC_030681.2
                        440405
                                  440523
                                                   5
                                                            plus
                        440669
## 4680 NC_030681.2
                                  440787
                                                   5
                                                            plus
## 4681 NC_030681.2
                        440933
                                  441051
                                                            plus
## 4682 NC_030681.2
                        441197
                                  441315
                                                   5
                                                            plus
## 4683 NC_030681.2
                        441461
                                  441579
                                                            plus
```

шш	1601	NG 020601 0	441705	441042	F	
		NC_030681.2	441725	441843 442107	5	plus
##		NC_030681.2	441989		5	plus
##		NC_030681.2	442253	442371	5	plus
##		NC_030681.2	442517	442635	5	plus
##		NC_030681.2	442781	442899	5	plus
##		NC_030681.2	443045	443163	5	plus
##		NC_030681.2	443309	443427	5	plus
##		NC_030681.2	443573	443691	5	plus
##		NC_030681.2	443837	443955	5	plus
##		NC_030681.2	444101	444219	5	plus
##		NC_030681.2	444365	444483	5	plus
##	4695	NC_030681.2	444629	444747	5	plus
##	4696	NC_030681.2	444893	445011	5	plus
##	4697	NC_030681.2	445157	445275	5	plus
##	4698	NC_030681.2	445421	445539	5	plus
##	4699	NC_030681.2	445685	445803	5	plus
##	4700	NC_030681.2	445949	446067	5	plus
##	4701	NC_030681.2	446213	446331	5	plus
##	4702	NC_030681.2	446477	446595	5	plus
##	4703	NC_030681.2	446741	446859	5	plus
##	4704	NC_030681.2	447005	447123	5	plus
##	4705	NC_030681.2	447269	447387	5	plus
##		NC_030681.2	447533	447651	5	plus
##		NC_030681.2	447797	447915	5	plus
##		NC_030681.2	448061	448179	5	plus
##		NC_030681.2	448325	448443	5	plus
##		NC_030681.2	448589	448707	5	plus
##		NC_030681.2	448853	448971	5	plus
##		NC_030681.2	449117	449235	5	plus
##		NC_030681.2	449381	449499	5	plus
##		NC_030681.2	449645	449763	5	plus
##		NC_030681.2	449909	450027	5	plus
##		NC_030681.2	450173	450291	5	plus
##	4717	NC_030681.2	450437	450555	5	plus
##		NC_030681.2	450701	450819	5	plus
##		NC_030681.2	450965	451083	5	plus
		NC_030681.2	451229	451347	5	plus
##		NC_030681.2	451493	451611	5	plus
##		NC_030681.2	451757	451875	5	plus
		NC_030681.2	452021	452139	5	plus
##		NC_030681.2	452285	452403	5	plus
##		NC_030681.2	452549	452667	5	plus
##		NC_030681.2	452813	452931	5	plus
##		NC_030681.2	453077	453195	5	plus
##		NC_030681.2	453341	453460	5	plus
##		NC_030681.2	453606	453724	5	plus
##		NC_030681.2	453870	453988	5	plus
##		NC_030681.2	454135	454253	5	plus
##		NC_030681.2	454399	454518	5	plus
##		NC_030681.2	454664	454782	5	plus
##		NC_030681.2	454928	455046	5	plus
##		NC_030681.2	454928	455310	5	plus
##		NC_030681.2	455456	455574	5	plus
##		NC_030681.2	455720	455838	5	plus
π#	±101	110_000001.2	1 00120	±00000	3	Prus

##	1720	NC_030681.2	455984	456102	5	חלום
		NC_030681.2	456248	456366	5	plus
##						plus
##		NC_030681.2	456512	456630	5	plus
##		NC_030681.2	456776	456894	5	plus
##		NC_030681.2	457040	457158	5	plus
##		NC_030681.2	457304	457422	5	plus
##		NC_030681.2	457568	457686	5	plus
##		NC_030681.2	457832	457950	5	plus
##		NC_030681.2	458096	458214	5	plus
##		NC_030681.2	458360	458478	5	plus
##		NC_030681.2	458624	458742	5	plus
##	4749	NC_030681.2	458888	459006	5	plus
##		NC_030681.2	459152	459270	5	plus
##	4751	NC_030681.2	459416	459534	5	plus
##	4752	NC_030681.2	459680	459798	5	plus
##	4753	NC_030681.2	459944	460062	5	plus
##	4754	NC_030681.2	460208	460326	5	plus
##	4755	NC_030681.2	460472	460590	5	plus
##	4756	NC_030681.2	460736	460854	5	plus
##	4757	NC_030681.2	461000	461118	5	plus
##	4758	NC_030681.2	461264	461382	5	plus
##	4759	NC_030681.2	461528	461646	5	plus
##		NC_030681.2	461792	461910	5	plus
##	4761	NC_030681.2	462056	462174	5	plus
##		NC_030681.2	462320	462438	5	plus
##		NC_030681.2	462584	462702	5	plus
##		NC_030681.2	462848	462966	5	plus
##		NC_030681.2	463112	463230	5	plus
##		NC_030681.2	463376	463494	5	plus
##	4767	NC_030681.2	463640	463758	5	plus
##		NC_030681.2	463904	464022	5	plus
##		NC_030681.2	464168	464286	5	plus
##		NC_030681.2	464432	464550	5	plus
##		NC_030681.2	464696	464814	5	plus
##		NC_030681.2	464960	465078	5	plus
##		NC_030681.2	465224	465342	5	plus
		NC_030681.2	465488	465606	5	plus
		NC_030681.2	465752	465870	5	plus
		NC_030681.2	466016	466134	5	plus
##		NC_030681.2	466280	466398	5	plus
##		NC_030681.2	466544	466662	5	plus
##		NC_030681.2	466808	466926	5	plus
##		NC_030681.2	467072	467190	5	plus
##		NC_030681.2 NC_030681.2	467336	467454	5	_
##		NC_030681.2	467600	467718	5	plus
##		NC_030681.2	467864	467982	5	plus plus
##		NC_030681.2 NC_030681.2	468128	467962	5	_
		NC_030681.2 NC_030681.2			5	plus
##		_	468392	468510		plus
##		NC_030681.2	468656	468774	5	plus
##		NC_030681.2	468920	469038	5	plus
##		NC_030681.2	469184	469302	5 5	plus
##		NC_030681.2	469448	469566	5	plus
##		NC_030681.2	469712	469830	5	plus
##	4/91	NC_030681.2	469976	470094	5	plus

##	4792	NC 030681.2	470240	470358	5	plus
##		NC_030681.2	470504	470622	5	plus
##		NC_030681.2	470768	470886	5	-
		NC_030681.2				plus
##			471032	471150	5	plus
##		NC_030681.2	471296	471414	5	plus
##		NC_030681.2	471560	471678	5	plus
##		NC_030681.2	471824	471942	5	plus
##		NC_030681.2	472088	472206	5	plus
##		NC_030681.2	472352	472470	5	plus
##		NC_030681.2	472616	472734	5	plus
##		NC_030681.2	472880	472998	5	plus
##		NC_030681.2	473144	473262	5	plus
##		NC_030681.2	473408	473526	5	plus
##		NC_030681.2	473672	473790	5	plus
##		NC_030681.2	473936	474054	5	plus
##		NC_030681.2	474200	474318	5	plus
##		NC_030681.2	474464	474582	5	plus
##		NC_030681.2	474728	474846	5	plus
##		NC_030681.2	474992	475110	5	plus
##		NC_030681.2	475256	475374	5	plus
##		NC_030681.2	475520	475638	5	plus
##		NC_030681.2	475784	475902	5	plus
##		NC_030681.2	476048	476166	5	plus
##		NC_030681.2	476312	476430	5	plus
##		NC_030681.2	476576	476694	5	plus
##	4817	NC_030681.2	476840	476958	5	plus
##	4818	NC_030681.2	667187	670294	5	plus
##	4819	NC_030681.2	726333	751872	5	minus
##	4820	NC_030681.2	991364	992429	5	minus
##	4821	NC_030681.2	1005272	1019835	5	plus
##	4822	NC_030681.2	1069350	1071768	5	plus
##	4823	NC_030681.2	1134822	1137375	5	plus
##	4824	NC_030681.2	1138161	1171433	5	minus
##	4825	NC_030681.2	1682483	1685714	5	minus
##	4826	NC_030681.2	2468383	2496055	5	plus
##	4827	NC_030681.2	2704458	2736270	5	minus
##	4828	NC_030681.2	2818122	2822583	5	plus
##	4829	NC_030681.2	2866455	2868666	5	plus
##	4830	NC_030681.2	2975382	2990996	5	minus
##	4831	NC_030681.2	2975382	2990996	5	minus
##	4832	NC_030681.2	3796753	3797913	5	plus
##	4833	NC_030681.2	5407571	5461889	5	minus
##	4834	NC_030681.2	6006607	6006688	5	plus
##	4835	NC_030681.2	6007502	6007582	5	plus
##	4836	NC_030681.2	6008112	6008192	5	plus
##	4837	NC_030681.2	6010207	6010290	5	plus
##	4838	NC_030681.2	6010847	6010926	5	plus
##	4839	NC_030681.2	6011772	6011849	5	plus
##		NC_030681.2	6639840	6642848	5	minus
##		NC_030681.2	6790584	6794223	5	minus
##		NC_030681.2	7996127	7997722	5	minus
##		NC_030681.2	8355475	8355546	5	minus
		NC_030681.2	8356030	8356101	5	minus
##		NC_030681.2	8356826	8356897	5	minus
		_				

##	4846	NC_030681.2	8357437	8357508	5	minus
##		NC_030681.2	8358619	8358690	5	plus
##		NC_030681.2	8359266	8359337	5	minus
##		NC_030681.2	8359867	8359938	5	minus
##		NC_030681.2	8360491	8360562	5	minus
##		NC_030681.2	8361345	8361416	5	minus
##		NC_030681.2	8362204	8362275	5	minus
##		NC_030681.2	8362491	8362562	5	minus
##		NC_030681.2	8365195	8365266	5	minus
##		NC_030681.2	8366130	8366201	5	minus
##		NC_030681.2	8367056	8367127	5	minus
##	4857	NC_030681.2	8368604	8368675	5	minus
##		NC_030681.2	8370022	8370093	5	minus
##		NC_030681.2 NC_030681.2	8371085	8371156	5	minus
##		NC_030681.2 NC_030681.2	8373821	8373892	5	minus
##		NC_030681.2	8374555	8374626	5	minus
##		NC_030681.2	8375380	8375451	5	minus
##		NC_030681.2	8377409	8377480	5	minus
##		NC_030681.2 NC_030681.2	8380394	8380465	5	minus
##		NC_030681.2 NC_030681.2	8380693	8380764	5	minus
##		NC_030681.2	8381218	8381289	5	minus
##	4867	_	8383278	8383349	5	minus
		NC_030681.2	8384468	8384539	5	
##		NC_030681.2	8385136	8385207	5	minus
##		NC_030681.2	8387001	8387072	5	plus
##		NC_030681.2	8388336	8388407	5	plus
## ##		NC_030681.2		8390130	5	minus
##		NC_030681.2	8390059 8390541	8390612	5	plus
		NC_030681.2		8391937	5	plus
##		NC_030681.2	8391866	8392418	5	plus
##	4875	NC_030681.2	8392347 8393429	8393500	5	plus
##	4876	NC_030681.2				minus
##	4877	NC_030681.2	8394445	8394516	5	plus
##	4878	NC_030681.2	8394926	8394997	5	plus
##	4879	NC_030681.2	8395988	8396059	5	minus
##	4880	NC_030681.2	8396684	8396755	5 5	minus
##		NC_030681.2	8397446	8397517	5 5	plus
##		NC_030681.2	8398771	8398842	_	plus
##		NC_030681.2	8399252	8399323	5	plus
		NC_030681.2	8400865	8400936	5 5	minus
##		NC_030681.2 NC_030681.2	8401561	8401632 8402722	5	minus
##		NC_030681.2	8402651		5	plus
##		NC_030681.2	8403781	8403852		plus
##		_	8522075	8523780 9430723	5 5	minus
## ##		NC_030681.2 NC_030681.2	9429958 9559398	9559479	5	minus plus
##		NC_030681.2	9772108	9775835	5	-
##		NC_030681.2	9802644	9832827	5	plus
##		NC_030681.2	10522027	10556556	5	plus
		_			5	plus
## ##		NC_030681.2 NC_030681.2	10522027 10620810	10556556 10620889	5	plus
		NC_030681.2 NC_030681.2			5	plus
## ##		_	10621780 12268617	10621876 12269889	5	plus
		NC_030681.2			5	minus
##		NC_030681.2	13105403	13105560	5 5	plus
##	4099	NC_030681.2	13534717	13592327	5	plus

```
## 4900 NC 030681.2 13594222
                                13596183
                                                   5
                                                             plus
## 4901 NC_030681.2
                      14791439
                                14798259
                                                   5
                                                            minus
                      14911927
                                14916626
## 4902 NC 030681.2
                                                   5
                                                            minus
## 4903 NC_030681.2
                      15055941
                                15141664
                                                   5
                                                             plus
## 4904 NC_030681.2
                      15060708
                                15062301
                                                   5
                                                            minus
## 4905 NC 030681.2
                                15294035
                    15285044
                                                   5
                                                            minus
## 4906 NC 030681.2
                     15285044
                                15294035
                                                   5
                                                            minus
## 4907 NC 030681.2
                      16915452
                                16923480
                                                   5
                                                             plus
## 4908 NC_030681.2
                      17291721
                                17291814
                                                   5
                                                            plus
                                                   5
## 4909 NC_030681.2
                      17779296
                                17782666
                                                            minus
## 4910 NC_030681.2
                      18250339
                                18268332
                                                   5
                                                             plus
                                                   5
## 4911 NC_030681.2
                      18713048
                                18736045
                                                            minus
## 4912 NC_030681.2
                      20647897
                                20647968
                                                   5
                                                            minus
                      20650324
                                                   5
## 4913 NC_030681.2
                                20650395
                                                            minus
## 4914 NC_030681.2
                      20653786
                                                   5
                                20653857
                                                            minus
## 4915 NC_030681.2
                      20656369
                                20656440
                                                   5
                                                            minus
## 4916 NC_030681.2
                                                   5
                      20657922
                                20657993
                                                            minus
## 4917 NC 030681.2
                      20661237
                                 20661308
                                                   5
                                                            minus
## 4918 NC_030681.2
                      20661955
                                                   5
                                20662026
                                                            minus
## 4919 NC 030681.2
                      20664014
                                20664085
                                                   5
                                                            minus
## 4920 NC_030681.2
                      20664779
                                20664850
                                                   5
                                                            minus
## 4921 NC 030681.2
                      20666580
                                                   5
                                 20666651
                                                             plus
## 4922 NC_030681.2
                      20666815
                                20666886
                                                   5
                                                             plus
## 4923 NC 030681.2
                      20667337
                                20667408
                                                   5
                                                             plus
## 4924 NC 030681.2
                      20668112
                                20668183
                                                   5
                                                            plus
## 4925 NC 030681.2
                      20670090
                                20670161
                                                   5
                                                            minus
## 4926 NC_030681.2
                      20672408
                                                   5
                                20672479
                                                            minus
                                                   5
## 4927 NC_030681.2
                      20673646
                                20673717
                                                            minus
## 4928 NC_030681.2
                                                   5
                      20677772
                                20677843
                                                            minus
## 4929 NC_030681.2
                      20681455
                                20681526
                                                   5
                                                            minus
## 4930 NC_030681.2
                      20684188
                                20684259
                                                   5
                                                            plus
## 4931 NC_030681.2
                      20686086
                                20686157
                                                   5
                                                            minus
                                                   5
## 4932 NC_030681.2
                      20687699
                                 20687770
                                                            minus
## 4933 NC_030681.2
                      20689496
                                20689567
                                                   5
                                                             plus
## 4934 NC 030681.2
                      20691087
                                 20691158
                                                   5
                                                             plus
## 4935 NC_030681.2
                      20692458
                                20692529
                                                   5
                                                             plus
## 4936 NC 030681.2
                      20693845
                                 20693916
                                                   5
                                                            minus
## 4937 NC_030681.2
                      20695032
                                20695103
                                                   5
                                                            minus
## 4938 NC_030681.2
                      20696518
                                                   5
                                20696589
                                                            minus
## 4939 NC_030681.2
                                                   5
                      20696898
                                20696969
                                                             plus
## 4940 NC 030681.2
                                                   5
                      20698377
                                 20698448
                                                            plus
## 4941 NC 030681.2
                      20699747
                                                   5
                                20699818
                                                             plus
## 4942 NC 030681.2
                      20701135
                                20701206
                                                   5
                                                            minus
## 4943 NC_030681.2
                      20702852
                                                   5
                                20702923
                                                             plus
                                                   5
## 4944 NC_030681.2
                      20704912
                                20704983
                                                            minus
## 4945 NC_030681.2
                      20705438
                                                   5
                                20705509
                                                             plus
## 4946 NC_030681.2
                      20706699
                                20706770
                                                   5
                                                             plus
                                                   5
## 4947 NC_030681.2
                      20708288
                                20708359
                                                             plus
## 4948 NC_030681.2
                      20709126
                                20709197
                                                   5
                                                            plus
## 4949 NC_030681.2
                      20711641
                                20711712
                                                   5
                                                            minus
                                                   5
## 4950 NC_030681.2
                      20715280
                                20715351
                                                            minus
## 4951 NC 030681.2
                      20715678
                                20715749
                                                   5
                                                             plus
## 4952 NC_030681.2
                      20717442
                                20717513
                                                   5
                                                            minus
## 4953 NC 030681.2 20719604
                                20719675
                                                   5
                                                            minus
```

		NC_030681.2	20720003	20720074	5	plus
##		NC_030681.2	21040556	21041379	5	plus
##		NC_030681.2	23147029	23148610	5	plus
##		NC_030681.2	23307318	23308899	5	plus
##		NC_030681.2	23712466	23721732	5	minus
##		NC_030681.2	23712466	23721732	5	minus
##		NC_030681.2	23712466	23721732	5	minus
##		NC_030681.2	23922831	23923327	5	plus
##		NC_030681.2	23954402	23955525	5	plus
##		NC_030681.2	23961247	23962260	5	plus
##		NC_030681.2	24147721	24151990	5	minus
##		NC_030681.2	24147721	24151990	5	minus
##		NC_030681.2	24147721	24151990	5	minus
##		NC_030681.2	24147721	24151990	5	minus
##		NC_030681.2	24278007	24284140	5	plus
##		NC_030681.2	24278007	24284140	5	plus
##		NC_030681.2	25309714	25393610	5	minus
##		NC_030681.2	27124198	27125470	5	plus
		NC_030681.2	27130397	27131691	5	plus
		NC_030681.2	27823233	27824778	5	plus
		NC_030681.2	27841835	27843082	5	plus
##		NC_030681.2	28154849	28156414	5	plus
##		NC_030681.2	28206313	28207887	5	minus
##		NC_030681.2	29078972	29080262	5	minus
##		NC_030681.2	29199635	29201015	5	minus
##		NC_030681.2	29653221	29654191	5	minus
##		NC_030681.2	29657152	29657816	5	minus
##		NC_030681.2	29658381	29660091	5	minus
##		NC_030681.2	29696129	29697525	5	plus
##		NC_030681.2	29696129	29697525	5	plus
##		NC_030681.2	29697816	29700101	5	plus
##		NC_030681.2	29700517	29701566	5	plus
##		NC_030681.2	29847355	29850577	5	minus
##		NC_030681.2	31197136	31202706	5	plus
##		NC_030681.2	31995199	31997526	5	plus
##		NC_030681.2	31999747	32000684	5	plus
##		NC_030681.2	32071829	32103217	5	plus
		NC_030681.2	32514483	32517179	5	minus
		NC_030681.2	32520216	32523900	5	minus
		NC_030681.2	33228331	33229649	5	plus
		NC_030681.2	33960024	33980840	5	minus
		NC_030681.2	34748775	34749208	5	minus
		NC_030681.2	35366084	35366174	5	plus
##		NC_030681.2	35366455	35366537	5	plus
##		NC_030681.2	35529290	35531276	5	plus
		NC_030681.2	36390699	36400492	5	minus
		NC_030681.2	36390699	36400492	5	minus
		NC_030681.2	36390768	36395060	5	plus
		NC_030681.2	36390768	36395060	5	plus
		NC_030681.2	36466579	36468135	5	plus
		NC_030681.2	37365361	37379295	5	minus
		NC_030681.2	37565693	37567237	5	plus
		NC_030681.2	37856567	37860655	5	plus
##	5007	NC_030681.2	37856567	37860655	5	plus

##	NC_030681.2	37905364	37909675	5	plus
##	NC_030681.2	37905364	37909675	5	plus
##	NC_030681.2	37912818	38021697	5	minus
##	NC_030681.2	37953946	37955737	5	plus
##	NC_030681.2	37957830	37990558	5	minus
##	NC_030681.2	38021743	38026157	5	plus
##	NC_030681.2	38021743	38026157	5	plus
##	NC_030681.2	38028271	38079884	5	minus
##	NC_030681.2	38079931	38084312	5	plus
##	NC_030681.2	38079931	38084312	5	plus
##	NC_030681.2	38674266	38681927	5	minus
##	NC_030681.2	39784771	39787040	5	plus
##	NC_030681.2	39901072	40177182	5	plus
##	NC_030681.2	39901072	40177182	5	plus
##	NC_030681.2	39901072	40177182	5	plus
##	NC_030681.2	40487376	40489523	5	plus
##	NC_030681.2	41407579	41459494	5	minus
##	NC_030681.2	42709830	42713067	5	minus
##	NC_030681.2	42717893	42724148	5	minus
##	NC_030681.2	42717893	42724148	5	minus
##	NC_030681.2	43604527	43608091	5	plus
##	NC_030681.2	44052962	44053099	5	plus
##	NC_030681.2	44055335	44055469	5	plus
##	NC_030681.2	44419131	44433746	5	plus
##	NC_030681.2	45288054	45288136	5	plus
##	NC_030681.2	45334460	45334547	5	plus
##	NC_030681.2	45347258	45347340	5	plus
##	NC_030681.2	45354466	45354548	5	minus
##	NC_030681.2	46087832	46094064	5	minus
##	NC_030681.2	46744872	46767648	5	minus
##	NC_030681.2 NC_030681.2	46833043 47463537	46834787 47464763	5 5	plus
##	NC_030681.2	49766224		5 5	minus
##	NC_030681.2	49700224	49768384 49805299	5 5	plus
##	NC_030681.2 NC_030681.2	49798891	49805299	5	plus plus
##	NC_030681.2 NC_030681.2	49798891	49805299	5	plus
##	NC_030681.2	49798891	49805299	5 5	plus
	NC_030681.2 NC_030681.2	49798891	49805299	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
##	NC_030681.2	49827711	49839612	5	plus
	NC_030681.2	49827711	49839612	5	plus
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##		NC_030681.2	49827711	49839612	5	plus
##		NC_030681.2	49827711	49839612	5	plus
##		NC_030681.2	49827711	49839612	5	plus
##		NC_030681.2	49827711	49839612	5	plus
##		NC_030681.2	50520487	50601387	5	plus
##		NC_030681.2	51803076	51805832	5	plus
##		NC_030681.2	52831636	52833617	5	plus
##		NC_030681.2	53295103	53395784	5	plus
##		NC_030681.2	53295103	53395784	5	plus
##		NC_030681.2	53295103	53395784	5	plus
##		NC_030681.2	53981761	53982937	5	plus
##		NC_030681.2	53981761	53982937	5	plus
##		NC_030681.2	56254139	56257130	5	minus
##		NC_030681.2	58625078	58675743	5	plus
##	5076	NC_030681.2	58625078	58675743	5	plus
##	5077	NC_030681.2	58625078	58675743	5	plus
##	5078	NC_030681.2	58886256	59039864	5	minus
##	5079	NC_030681.2	58886256	59039864	5	minus
##	5080	NC_030681.2	59410488	59419319	5	plus
##	5081	NC_030681.2	60205083	60224479	5	plus
##	5082	NC_030681.2	60354200	60360813	5	plus
##	5083	NC_030681.2	60394145	60395733	5	minus
##	5084	NC_030681.2	60570728	60585087	5	plus
##		NC 030681.2	60658347	60668330	5	minus
##		NC_030681.2	60886939	60888863	5	plus
##	5087	NC_030681.2	61154644	61157103	5	plus
##		NC_030681.2	61241981	61251525	5	plus
##	5089	_	62094836	62153956	5	plus
##		NC_030681.2	62148585	62149277	5	minus
##		NC_030681.2	62160500	62162567	5	plus
##		NC_030681.2	62445865	62450304	5	minus
##		NC_030681.2	62445865	62450304	5	minus
##		NC_030681.2	62445865	62450304	5	minus
##		NC_030681.2	62700455	62702985	5	minus
##		NC_030681.2	62910041	63006670	5	plus
##	5097	NC_030681.2 NC_030681.2	63273964	63279879	5	plus
##		NC_030681.2	63393592	63396087	5	minus
					_	
		NC_030681.2	63551059 63551059	63558696	5	plus
		NC_030681.2		63558696	5	plus
		NC_030681.2	63551059	63558696	5	plus
##		NC_030681.2	64136126	64139026	5	plus
		NC_030681.2	64784671	64951394	5	minus
		NC_030681.2	66322693	66790708	5	plus
##		NC_030681.2	67311346	67319554	5	plus
##		NC_030681.2	69362846	69363361	5	minus
##		NC_030681.2	69398668	69403132	5	minus
##		NC_030681.2	69499560	69499992	5	plus
##		NC_030681.2	69606352	69654825	5	plus
##		NC_030681.2	70317643	70320096	5	minus
##		NC_030681.2	70605046	70605119	5	plus
##		NC_030681.2	70605610	70605692	5	plus
		NC_030681.2	70607302	70607392	5	plus
		NC_030681.2	73422153	73425351	5	plus
##	5115	NC_030681.2	73475902	73484833	5	minus

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		NC_030681.2	73475902	73484833	5	minus
##		NC_030681.2	73807271	73818116	5	minus
##		NC_030681.2	74187055	74203288	5	minus
##		NC_030681.2	74187055	74203288	5	minus
##		NC_030681.2	74187055	74203288	5	minus
##		NC_030681.2	74682574	74684155	5	plus
##		NC_030681.2	74759743	74761474	5	minus
##	5123	NC_030681.2	75159522	75166013	5	plus
##	5124	NC_030681.2	75159522	75166013	5	plus
##	5125	NC_030681.2	75586637	75588588	5	plus
##	5126	NC_030681.2	76301005	76309333	5	plus
##	5127	NC_030681.2	76432473	76436566	5	plus
##	5128	NC_030681.2	76437700	76438374	5	plus
##	5129	NC_030681.2	76458753	76458928	5	minus
##		NC_030681.2	76515574	76519117	5	minus
##		NC_030681.2	76789600	76792328	5	minus
##		NC_030681.2	77213716	77214635	5	plus
##		NC 030681.2	78081829	78085748	5	plus
##		NC_030681.2	78106576	78108260	5	minus
##		NC_030681.2	78362007	78365564	5	plus
##		NC_030681.2	79068503	79072254	5	plus
##		NC_030681.2	80081590	80100929	5	minus
		_				
##		NC_030681.2	80967594	80972179	5	plus
##		NC_030681.2	82145415	82155999	5	plus
##		NC_030681.2	83151157	83154479	5	plus
##		NC_030681.2	83915834	83923347	5	plus
##		NC_030681.2	83915834	83923347	5	plus
##		NC_030681.2	83915834	83923347	5	plus
##		NC_030681.2	83915834	83923347	5	plus
##		NC_030681.2	85062739	85065432	5	minus
##		NC_030681.2	87310857	87385782	5	plus
##		NC_030681.2	89011443	89013507	5	minus
##	5148	NC_030681.2	91815499	91815570	5	minus
##	5149	NC_030681.2	92175401	92176695	5	minus
##	5150	NC_030681.2	92546211	92571209	5	plus
##	5151	NC_030681.2	92563588	92563658	5	plus
##	5152	NC_030681.2	92570966	92571043	5	plus
##	5153	NC_030681.2	92681793	92688748	5	plus
##	5154	NC_030681.2	93440583	93442973	5	plus
##	5155	NC_030681.2	93606834	93612494	5	plus
##	5156	NC_030681.2	94654324	94781240	5	minus
##	5157	NC_030681.2	94654324	94781240	5	minus
##	5158	NC_030681.2	94660954	94691122	5	minus
		NC_030681.2	94968014	95090780	5	plus
		NC_030681.2	95121196	95125965	5	plus
		NC_030681.2	95121196	95125965	5	plus
##	5162	NC_030681.2	95301734	95312229	5	minus
		NC_030681.2	95329273	95333052	5	plus
		NC_030681.2	96031132	96074789	5	plus
		NC_030681.2	96584879	96587203	5	plus
		NC_030681.2	96930348	96942217	5	minus
		NC_030681.2	97025933	97169416	5	minus
		NC_030681.2		100284095	5	minus
##		NC_030681.2		100508528	5	minus
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## 5170 NC 030681.2 100839191 100839265
                                                           minus
## 5171 NC_030681.2 100844489 100844555
                                                  5
                                                          minus
## 5172 NC 030681.2 101009207 101010599
                                                  5
                                                          minus
## 5173 NC_030681.2 101102911 101109416
                                                  5
                                                          minus
## 5174 NC_030681.2 101117059 101145176
                                                  5
                                                          minus
## 5175 NC 030681.2 101117059 101145176
                                                  5
                                                          minus
## 5176 NC 030681.2 101117059 101145176
                                                  5
                                                          minus
## 5177 NC 030681.2 101117059 101145176
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                                                          minus
## 5178 NC 030681.2 101117059 101145176
                                                  5
                                                          minus
                                                  5
## 5179 NC_030681.2 101117059 101145176
                                                          minus
## 5180 NC_030681.2 101117059 101145176
                                                  5
                                                          minus
                                                  5
## 5181 NC_030681.2 101117059 101145176
                                                          minus
## 5182 NC_030681.2 101117059 101145176
                                                  5
                                                          minus
                                                  5
## 5183 NC_030681.2 101117059 101145176
                                                           minus
## 5184 NC_030681.2 101117059 101145176
                                                  5
                                                          minus
## 5185 NC_030681.2 101117059 101145176
                                                  5
                                                          minus
## 5186 NC_030681.2 101257786 101273842
                                                  5
                                                          minus
## 5187 NC 030681.2 101713094 101716834
                                                  5
                                                           plus
## 5188 NC_030681.2 101874438 101885331
                                                  5
                                                            plus
## 5189 NC 030681.2 102029702 102051400
                                                  5
                                                            plus
## 5190 NC_030681.2 102201736 102202541
                                                  5
                                                            plus
                                                  5
## 5191 NC_030681.2 102677878 102773230
                                                          minus
## 5192 NC 030681.2 103025861 103026705
                                                  5
                                                            plus
## 5193 NC 030681.2 103033412 103040025
                                                  5
                                                          minus
## 5194 NC 030681.2 105668173 105673197
                                                  5
                                                          minus
## 5195 NC 030681.2 105916423 105929218
                                                  5
                                                          minus
## 5196 NC_030681.2 105919253 105919383
                                                  5
                                                          minus
                                                  5
## 5197 NC_030681.2 105920206 105920336
                                                          minus
                                                  5
## 5198 NC_030681.2 105921656 105921831
                                                          minus
## 5199 NC_030681.2 105924002 105924071
                                                  5
                                                          minus
## 5200 NC_030681.2 105927947 105928018
                                                  5
                                                          minus
## 5201 NC_030681.2 106016083 106025524
                                                  5
                                                           plus
## 5202 NC_030681.2 106016083 106025524
                                                  5
                                                           plus
## 5203 NC_030681.2 106562061 106564963
                                                  5
                                                          minus
## 5204 NC 030681.2 108435386 108448693
                                                  5
                                                           minus
## 5205 NC_030681.2 110717126 110722540
                                                  5
                                                          minus
## 5206 NC 030681.2 111375996 111377415
                                                          minus
## 5207 NC_030681.2 112603465 112642649
                                                  5
                                                          minus
## 5208 NC 030681.2 112612796 112612875
                                                  5
                                                          minus
## 5209 NC_030681.2 112925653 112968852
                                                  5
                                                          plus
## 5210 NC 030681.2 113835465 113842164
                                                  5
                                                          minus
## 5211 NC 030681.2 114729696 114729997
                                                  5
                                                           plus
## 5212 NC 030681.2 114788447 114788530
                                                  5
                                                           minus
                                                  5
## 5213 NC_030681.2 114788604 114788691
                                                           minus
## 5214 NC_030681.2 115294162 115296285
                                                  5
                                                          minus
## 5215 NC_030681.2 115296369 115298159
                                                  5
                                                          minus
## 5216 NC_030681.2 115296369 115298159
                                                  5
                                                          minus
                                                  5
## 5217 NC_030681.2 115298168 115301474
                                                          minus
## 5218 NC_030681.2 115346379 115347869
                                                  5
                                                          minus
## 5219 NC_030681.2 115867256 115868414
                                                  5
                                                          minus
## 5220 NC_030681.2 116101204 116103445
                                                  5
                                                            plus
## 5221 NC_030681.2 116358373 116377330
                                                  5
                                                           plus
## 5222 NC_030681.2 118427545 118458444
                                                  5
                                                          minus
## 5223 NC 030681.2 119144651 119167629
                                                  5
                                                          minus
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## 5224 NC 030681.2 119833674 119839655
                                                            plus
## 5225 NC_030681.2 119870535 119872084
                                                   5
                                                           minus
## 5226 NC 030681.2 120002637 120005915
                                                            plus
## 5227 NC_030681.2 120997489 120998279
                                                   5
                                                            plus
## 5228 NC_030681.2 121334298 121346830
                                                   5
                                                           minus
## 5229 NC 030681.2 121461172 121464130
                                                   5
                                                           minus
## 5230 NC 030681.2 121519668 121535840
                                                   5
                                                           minus
## 5231 NC 030681.2 121545365 121568822
                                                   5
                                                            plus
## 5232 NC 030681.2 121546998 121549128
                                                   5
                                                           minus
## 5233 NC_030681.2 122170870 122204760
                                                   5
                                                           minus
## 5234 NC_030681.2 122965467 123109115
                                                   5
                                                           minus
                                                   5
## 5235 NC_030681.2 122965467 123109115
                                                           minus
## 5236 NC_030681.2 122965467 123109115
                                                   5
                                                           minus
## 5237 NC_030681.2 123704065 123723495
                                                   5
                                                           minus
## 5238 NC_030681.2 124798769 124802023
                                                   5
                                                           minus
## 5239 NC_030681.2 124798769 124802023
                                                   5
                                                           minus
## 5240 NC_030681.2 125374703 125376395
                                                   5
                                                           plus
## 5241 NC 030681.2 125424196 125431458
                                                   5
                                                           minus
## 5242 NC_030681.2 125798408 125811666
                                                   5
                                                            plus
## 5243 NC 030681.2 126733838 126734106
                                                   5
                                                            plus
## 5244 NC_030681.2 126734854 126735131
                                                   5
                                                            plus
                                                   5
## 5245 NC 030681.2 126794260 126796669
                                                           minus
## 5246 NC 030681.2 127141795 127170292
                                                   5
                                                            plus
## 5247 NC 030681.2 127542922 127542992
                                                   5
                                                           minus
## 5248 NC 030681.2 127544580 127544650
                                                   5
                                                           minus
## 5249 NC 030681.2 127544884 127544954
                                                   5
                                                           minus
## 5250 NC_030681.2 127545340 127545410
                                                   5
                                                           minus
                                                   5
## 5251 NC_030681.2 127545492 127545562
                                                           minus
                                                   5
## 5252 NC_030681.2 127545796 127545866
                                                           minus
## 5253 NC_030681.2 127548838 127548908
                                                   5
                                                           minus
## 5254 NC_030681.2 127549751 127549821
                                                   5
                                                           minus
## 5255 NC_030681.2 127550055 127550125
                                                   5
                                                           minus
## 5256 NC_030681.2 127551423 127551493
                                                   5
                                                           minus
## 5257 NC_030681.2 127552943 127553013
                                                   5
                                                           minus
## 5258 NC 030681.2 127553095 127553165
                                                   5
                                                           minus
## 5259 NC_030681.2 127553399 127553469
                                                   5
                                                           minus
## 5260 NC 030681.2 127555072 127555142
                                                           minus
## 5261 NC_030681.2 127555376 127555446
                                                   5
                                                           minus
## 5262 NC 030681.2 127555528 127555598
                                                   5
                                                           minus
## 5263 NC_030681.2 127555680 127555750
                                                   5
                                                           minus
## 5264 NC 030681.2 127555832 127555902
                                                   5
                                                           minus
## 5265 NC 030681.2 127556136 127556206
                                                   5
                                                           minus
## 5266 NC 030681.2 127556882 127556952
                                                   5
                                                           minus
                                                   5
## 5267 NC_030681.2 127557186 127557256
                                                           minus
## 5268 NC_030681.2 127557642 127557712
                                                   5
                                                           minus
                                                   5
## 5269 NC_030681.2 127558098 127558168
                                                           minus
## 5270 NC_030681.2 127559285 127559355
                                                   5
                                                           minus
                                                   5
## 5271 NC_030681.2 127559437 127559507
                                                           minus
## 5272 NC_030681.2 127559589 127559659
                                                   5
                                                           minus
## 5273 NC_030681.2 127559741 127559811
                                                   5
                                                           minus
## 5274 NC_030681.2 127560500 127560570
                                                   5
                                                           minus
## 5275 NC_030681.2 127561260 127561330
                                                   5
                                                           minus
## 5276 NC_030681.2 127562020 127562090
                                                   5
                                                           minus
## 5277 NC 030681.2 127562324 127562394
                                                   5
                                                           minus
```

```
## 5278 NC 030681.2 127562780 127562850
                                                   5
                                                           minus
                                                           minus
## 5279 NC_030681.2 127563084 127563154
                                                   5
## 5280 NC 030681.2 127563692 127563762
                                                   5
                                                           minus
## 5281 NC_030681.2 127564908 127564978
                                                   5
                                                           minus
## 5282 NC_030681.2 127565060 127565130
                                                   5
                                                           minus
## 5283 NC 030681.2 127565212 127565282
                                                   5
                                                           minus
## 5284 NC 030681.2 127565516 127565586
                                                   5
                                                           minus
## 5285 NC_030681.2 127565820 127565890
                                                   5
                                                           minus
  5286 NC 030681.2 127567159 127567229
                                                   5
                                                           minus
   5287 NC_030681.2 127567311 127567381
                                                   5
                                                           minus
   5288 NC_030681.2 127567463 127567533
                                                   5
                                                           minus
                                                   5
   5289 NC_030681.2 127567615 127567685
                                                           minus
## 5290 NC_030681.2 127568374 127568444
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                                                           minus
   5291 NC_030681.2 127569134 127569204
                                                   5
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## 5292 NC_030681.2 127569438 127569508
                                                   5
                                                           minus
## 5293 NC_030681.2 127570350 127570420
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                                                           minus
## 5294 NC_030681.2 127571719 127571789
                                                   5
                                                           minus
   5295 NC 030681.2 127571871 127571941
                                                   5
                                                           minus
  5296 NC_030681.2 127572175 127572245
                                                   5
                                                           minus
## 5297 NC 030681.2 127572921 127572991
                                                   5
                                                           minus
## 5298 NC_030681.2 127573225 127573295
                                                   5
                                                           minus
## 5299 NC_030681.2 127573681 127573751
                                                   5
                                                           minus
## 5300 NC_030681.2 127575187 127575257
                                                   5
                                                           minus
## 5301 NC 030681.2 127575339 127575409
                                                   5
                                                           minus
   5302 NC 030681.2 127575491 127575561
                                                   5
                                                           minus
   5303 NC 030681.2 127575643 127575713
                                                   5
                                                           minus
                                                   5
  5304 NC_030681.2 127575947 127576017
                                                           minus
                                                   5
## 5305 NC_030681.2 127576555 127576625
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                                                   5
   5306 NC_030681.2 127577286 127577356
                                                           minus
## 5307 NC_030681.2 127577438 127577508
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## 5308 NC_030681.2 127577590 127577660
                                                   5
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  5309 NC_030681.2 127577742 127577812
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                                                           minus
   5310 NC_030681.2 127578500 127578570
                                                   5
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## 5311 NC_030681.2 127579108 127579178
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## 5312 NC 030681.2 127580021 127580091
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                                                           minus
## 5313 NC_030681.2 127580925 127580995
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                                                           minus
## 5314 NC 030681.2 127581229 127581299
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## 5315 NC_030681.2 127581989 127582059
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## 5316 NC_030681.2 127582597 127582667
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  5317 NC_030681.2 127584573 127584643
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  5318 NC 030681.2 127588377 127588447
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## 5319 NC 030681.2 127589594 127589664
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                                                           minus
## 5320 NC 030681.2 127591115 127591185
                                                   5
                                                           minus
                                                   5
## 5321 NC_030681.2 127592636 127592706
                                                           minus
## 5322 NC_030681.2 127593700 127593770
                                                   5
                                                           minus
                                                   5
## 5323 NC_030681.2 127594611 127594681
                                                           minus
## 5324 NC_030681.2 127596132 127596202
                                                   5
                                                           minus
                                                   5
## 5325 NC_030681.2 127597045 127597115
                                                           minus
## 5326 NC_030681.2 127599326 127599396
                                                   5
                                                           minus
## 5327 NC_030681.2 127600695 127600765
                                                   5
                                                           minus
                                                   5
## 5328 NC_030681.2 127601911 127601981
                                                           minus
## 5329 NC 030681.2 127604648 127604718
                                                   5
                                                           minus
## 5330 NC_030681.2 127605561 127605631
                                                   5
                                                           minus
## 5331 NC 030681.2 127605865 127605935
                                                   5
                                                           minus
```

```
## 5332 NC 030681.2 127607385 127607455
                                                  5
                                                          minus
## 5333 NC_030681.2 128371979 128373159
                                                  5
                                                           plus
## 5334 NC_030681.2 129638995 129664745
                                                           plus
## 5335 NC_030681.2 130406517 130409210
                                                  5
                                                           plus
## 5336 NC_030681.2 130651082 130797754
                                                  5
                                                          minus
## 5337 NC 030681.2 130651082 130797754
                                                  5
                                                          minus
## 5338 NC_030681.2 132204271 132210343
                                                  5
                                                           plus
## 5339 NC_030681.2 132596539 132602076
                                                  5
                                                           plus
## 5340 NC 030681.2 133495852 133498512
                                                  5
                                                          plus
## 5341 NC_030681.2 133874231 133881311
                                                  5
                                                          plus
## 5342 NC_030681.2 135011792 135015579
                                                  5
                                                          minus
## 5343 NC_030681.2 135153402 135164004
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                                                           plus
## 5344 NC_030681.2 135178307 135181444
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## 5345 NC_030681.2 135211945 135215298
                                                           plus
## 5346 NC_030681.2 135291090 135291311
                                                  5
                                                           plus
## 5347 NC_030681.2 135292211 135292329
                                                  5
                                                           plus
## 5348 NC_030681.2 135292330 135292551
                                                  5
                                                           plus
## 5349 NC 030681.2 135292923 135293144
                                                           plus
## 5350 NC_030681.2 135294665 135294886
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## 5351 NC 030681.2 135296523 135296744
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                                                           plus
## 5352 NC_030681.2 135300538 135300759
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## 5353 NC_030681.2 137287696 137289404
                                                           plus
## 5354 NC 030681.2 137325189 137334539
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                                                           plus
## 5355 NC 030681.2 137427782 137433729
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                                                          minus
## 5356 NC 030681.2 137434388 137438258
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## 5357 NC_030681.2 137791180 137804210
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                                                          minus
## 5358 NC_030681.2 137912166 137918434
                                                  5
                                                          minus
                                                  5
## 5359 NC_030681.2 138741965 138745996
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## 5360 NC_030681.2 139553875 139558973
                                                          minus
## 5361 NC_030681.2 139839671 139839864
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                                                          minus
## 5362 NC_030681.2 140449764 140450760
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## 5363 NC_030681.2 140655687 140655821
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## 5364 NC_030681.2 140657029 140657163
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## 5365 NC_030681.2 140660334 140660467
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## 5366 NC 030681.2 140660912 140661047
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## 5367 NC_030681.2 141048358 141246503
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## 5368 NC 030681.2 142999754 143002638
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## 5369 NC_030681.2 143011472 143012792
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## 5370 NC_030681.2 143549028 143549109
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## 5371 NC_030681.2 144075615 144076994
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## 5372 NC_030681.2 145092265 145093845
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## 5373 NC_030681.2 145524553 145542297
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                                                           plus
## 5374 NC_030681.2 145554946 145561174
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                                                           plus
## 5375 NC_030681.2 145917525 145924723
                                                  5
## 5376 NC_030681.2 145917525 145924723
                                                  5
                                                          minus
## 5377 NC_030681.2 146031466 146071180
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                                                          minus
## 5378 NC_030681.2 146606499 146607570
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## 5379 NC_030681.2 146628173 146629450
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                                                          minus
## 5380 NC_030681.2 146805184 146808651
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                                                          minus
## 5381 NC_030681.2 146931187 146932996
                                                  5
                                                          minus
## 5382 NC_030681.2 147421548 147423973
                                                  5
                                                          minus
## 5383 NC_030681.2 147434118 147436955
                                                          minus
## 5384 NC_030681.2 148345588 148347756
                                                  5
                                                          minus
## 5385 NC 030681.2 150313235 150318922
                                                          plus
```

```
## 5386 NC_030681.2 150316511 150316580
                                                  5
                                                           plus
## 5387 NC_030681.2 150317686 150317760
                                                  5
                                                           plus
## 5388 NC_030681.2 151066017 151068655
                                                          minus
## 5389 NC_030681.2 151223552 151223634
                                                  5
                                                           plus
## 5390 NC_030681.2 151961316 151962761
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                                                           plus
## 5391 NC_030681.2 151994100 152004073
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## 5392 NC_030681.2 152321736 152341063
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## 5393 NC_030681.2 152734576 152798281
                                                  5
                                                          minus
## 5394 NC_030681.2 153083310 153189953
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                                                          plus
## 5395 NC_030681.2 153767852 153776278
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                                                          minus
## 5396 NC_030681.2 153843071 153875233
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                                                          minus
## 5397 NC_030681.2 153871330 153873820
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                                                           plus
## 5398 NC_030681.2 153886585 153888788
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                                                           plus
## 5399 NC_030681.2 153941198 153943851
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## 5400 NC_030681.2 154496943 154511070
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                                                          minus
## 5401 NC_030681.2 154534023 154538758
                                                  5
                                                           plus
## 5402 NC_030681.2 154534023 154538758
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                                                           plus
## 5403 NC_030681.2 154561349 154566916
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## 5404 NC_030681.2 154567379 154569954
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## 5405 NC_030681.2 154621960 154629361
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                                                           plus
## 5406 NC_030681.2 154642899 154649185
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                                                           plus
## 5407 NC_030681.2 154663678 154676810
                                                           plus
## 5408 NC_030681.2 155079121 155083595
                                                  5
                                                          minus
## 5409 NC_030681.2 155084913 155092362
                                                  5
                                                           plus
## 5410 NC_030681.2 155188261 155196382
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                                                          minus
## 5411 NC_030681.2 155462516 155482104
                                                  5
                                                          minus
## 5412 NC_030681.2 155772750 155829440
                                                  5
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## 5413 NC_030681.2 155863271 155866352
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                                                          minus
## 5414 NC_030681.2 155893140 155894000
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## 5415 NC_030681.2 155901006 155902826
                                                  5
                                                          plus
## 5416 NC_030681.2 155916386 155941107
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                                                          minus
## 5417 NC_030681.2 155968542 155968627
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                                                          minus
## 5418 NC_030681.2 155999888 156003397
                                                           plus
## 5419 NC_030681.2 156065253 156067232
                                                  5
                                                           plus
## 5420 NC_030681.2 156077916 156085334
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                                                           plus
## 5421 NC_030681.2 156133315 156140715
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## 5422 NC_030681.2 156147893 156151766
                                                          minus
## 5423 NC_030681.2 156187688 156208661
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                                                           plus
## 5424 NC_030681.2 156217946 156222090
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## 5425 NC_030681.2 156228669 156239411
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## 5426 NC_030681.2 156342735 156344268
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                                                           plus
## 5427 NC_030681.2 156840267 156894404
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                                                          minus
## 5428 NC_030681.2 156941229 156947927
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                                                          minus
## 5429 NC_030681.2 157526767 157541134
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## 5430 NC_030681.2 157611477 157617479
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## 5431 NC_030681.2 157650120 157654430
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                                                          minus
## 5432 NC_030681.2 157664629 157677631
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                                                          minus
## 5433 NC_030681.2 157678612 157693717
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                                                          minus
## 5434 NC_030681.2 157782976 157803103
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                                                          minus
## 5435 NC_030681.2 157800024 157800109
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                                                          plus
## 5436 NC_030681.2 157866387 157868262
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                                                          minus
## 5437 NC_030681.2 157905096 157905983
                                                           plus
## 5438 NC_030681.2 158043999 158055666
                                                  5
                                                           plus
## 5439 NC_030681.2 158065057 158078389
                                                           plus
```

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## 5440 NC_030681.2 158127309 158140081
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                                                            plus
## 5441 NC_030681.2 158172342 158174921
                                                  5
                                                           plus
## 5442 NC_030681.2 158181859 158185730
                                                           plus
## 5443 NC_030681.2 158187033 158194899
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                                                            plus
## 5444 NC_030681.2 158199880 158209044
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                                                           plus
## 5445 NC 030681.2 158282547 158302493
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                                                           plus
## 5446 NC_030681.2 158331262 158347619
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                                                           plus
## 5447 NC_030681.2 158355142 158365888
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## 5448 NC 030681.2 158530338 158535898
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                                                           plus
## 5449 NC_030681.2 158632486 158641008
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                                                           plus
## 5450 NC_030681.2 158885940 158896792
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                                                          minus
## 5451 NC_030681.2 159014647 159020524
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                                                          minus
## 5452 NC_030681.2 159024256 159056982
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                                                          minus
## 5453 NC_030681.2 159087427 159137564
                                                          minus
## 5454 NC_030681.2 159225237 159238225
                                                  5
                                                          minus
## 5455 NC_030681.2 159253213 159298531
                                                  5
                                                          minus
## 5456 NC_030681.2 159344733 159358722
                                                  5
                                                           plus
## 5457 NC 030681.2 159452938 159459128
                                                           plus
## 5458 NC_030681.2 159468049 159477607
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                                                           plus
## 5459 NC 030681.2 159767010 159768893
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                                                           plus
## 5460 NC_030681.2 160350829 160355088
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                                                          minus
## 5461 NC_030681.2 161177324 161229422
                                                  5
                                                          minus
## 5462 NC_030681.2 161177324 161229422
                                                  5
                                                          minus
## 5463 NC 030681.2 161177324 161229422
                                                  5
                                                          minus
## 5464 NC_030681.2 161177324 161229422
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## 5465 NC_030681.2 161177324 161229422
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                                                          minus
## 5466 NC_030681.2 161408205 161408276
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                                                          minus
                                                  5
## 5467 NC_030681.2 161409937 161410009
                                                          minus
## 5468 NC_030681.2 161410841 161410912
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                                                          minus
## 5469 NC_030681.2 161412344 161412416
                                                  5
                                                          minus
## 5470 NC_030681.2 161413076 161413147
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                                                          minus
## 5471 NC_030681.2 161413920 161413992
                                                  5
                                                          minus
## 5472 NC_030681.2 161415627 161415712
                                                  5
                                                          minus
## 5473 NC_030681.2 161416106 161416177
                                                  5
                                                          minus
## 5474 NC_030681.2 161417850 161417922
                                                  5
                                                          minus
## 5475 NC_030681.2 161420902 161420987
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                                                           plus
## 5476 NC_030681.2 161421439 161421523
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## 5477 NC_030681.2 161422247 161422318
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                                                           plus
## 5478 NC_030681.2 161525841 161547933
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                                                           plus
## 5479 NC_030681.2 161771719 161772642
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                                                           plus
## 5480 NC 030681.2 161833336 161835273
                                                  5
                                                          minus
## 5481 NC_030681.2 161910950 161918527
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                                                           plus
## 5482 NC_030681.2 161951108 161960806
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                                                          minus
## 5483 NC_030681.2 161967143 161969317
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## 5484 NC_030681.2 161972794 161974955
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## 5485 NC_030681.2 162250711 162260149
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## 5486 NC_030681.2 162969588 162974754
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                                                          minus
## 5487 NC_030681.2 163046966 163063066
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                                                          plus
## 5488 NC_030681.2 163288733 163342420
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                                                          minus
## 5489 NC_030681.2 163387068 163398689
                                                  5
                                                          minus
## 5490 NC_030681.2 163649732 163651336
                                                  5
                                                           plus
## 5491 NC_030681.2 163649732 163651336
                                                           plus
## 5492 NC_030681.2 163649732 163651336
                                                  5
                                                           plus
## 5493 NC 030681.2 163649732 163651336
                                                           plus
```

##	5/19/	NC_030681.2	163810407	163810564	5	plus
##		NC_030681.2			5	plus
##		NC_030681.2	91068	93427	6	minus
		-				
##		NC_030682.2	110570	110736	6	minus
##		NC_030682.2 NC_030682.2	142659	142816	6	minus
##		-	151111	151268	6	minus
##		NC_030682.2	170892	171980	6	minus
##		NC_030682.2 NC_030682.2	244534 782771	289920 814243	6	minus
## ##		NC_030682.2	924316	927973	6	plus minus
		NC_030682.2	924316	927973	6	
##		_				minus
##		NC_030682.2	1068439 1794083	1070233 1796845	6	plus
##		NC_030682.2				plus
##		NC_030682.2	1827783	1828871	6	minus
##		NC_030682.2	1912971	1916218	6	plus
##		NC_030682.2	1979489	1983663	6	plus
##		NC_030682.2	2094387	2103532	6	plus
##		NC_030682.2	2131370	2175603	6	plus
##		NC_030682.2	2131370	2175603	6	plus
##		NC_030682.2	2186584	2190037	6	plus
##		NC_030682.2	2205523	2205688	6	minus
##		NC_030682.2	2658379	2662443	6	plus
##		NC_030682.2	3018377	3033614	6	minus
##		NC_030682.2	3131652	3134267	6	minus
##		NC_030682.2	3181261	3198337	6	plus
##		NC_030682.2	3181261	3198337	6	plus
##		NC_030682.2	3298160	3301186	6	plus
##		NC_030682.2	3392268	3399026	6	plus
##		NC_030682.2	3461627	3464531	6	minus
##		NC_030682.2	3588385	3590120	6	plus
##		NC_030682.2	3614393	3616145	6	plus
##		NC_030682.2	3636060	3636823	6	plus
##	5526	NC_030682.2	3874773	3877237	6	plus
##	5527	NC_030682.2	4017534	4022235	6	plus
##	5528	NC_030682.2	4055171	4059590	6	minus
##	5529	_	4067375	4080047	6	minus
##		NC_030682.2	4153014	4154664	6	minus
		NC_030682.2	4346056	4351326	6	plus
		NC_030682.2	4346056	4351326	6	plus
##		NC_030682.2	4359934	4364904	6	minus
##		NC_030682.2	4362491	4362747	6	minus
##		NC_030682.2	4364068	4364310	6	minus
##		NC_030682.2	4414886	4418267	6	minus
##		NC_030682.2	4500706	4652063	6	plus
##		NC_030682.2	4579960	4584654	6	plus
##		NC_030682.2	4598246	4625904	6	plus
##		NC_030682.2	4705706	4706108	6	minus
##		NC_030682.2	4771630	4774027	6	plus
##		NC_030682.2	4803703	4807301	6	plus
##		NC_030682.2	5349273	5356386	6	minus
##		NC_030682.2	5774980	5776840	6	minus
##		NC_030682.2	5777856	5787650	6	plus
##		NC_030682.2	5990968	6019951	6	plus
##	5547	NC_030682.2	6244264	6250724	6	plus

шш	FF40	NG 020000 0	0070444	6006070	0	7
		NC_030682.2	6276441	6286872	6	plus
##		NC_030682.2	6312195	6330321	6	minus
##		NC_030682.2	6331708	6331818	6	minus
##		NC_030682.2	6332431	6332568	6	plus
##		NC_030682.2	6343352	6344379	6	plus
##		NC_030682.2	6343919	6344052	6	plus
##		NC_030682.2	6364597	6364709	6	plus
##		NC_030682.2	6366602	6369722	6	plus
##		NC_030682.2	6552461	6558759	6	minus
##	5557	NC_030682.2	6725177	6726528	6	minus
##		NC_030682.2	6763914	6774902	6	plus
##	5559	NC_030682.2	6763914	6774902	6	plus
##	5560	NC_030682.2	6763914	6774902	6	plus
##		NC_030682.2	6768535	6768668	6	plus
##	5562	NC_030682.2	6768839	6768975	6	plus
##	5563	NC_030682.2	6769314	6769448	6	plus
##	5564	NC_030682.2	6769897	6770025	6	plus
##	5565	NC_030682.2	6770385	6770455	6	plus
##	5566	NC_030682.2	6771083	6771153	6	plus
##	5567	NC_030682.2	6771777	6771913	6	plus
##	5568	NC_030682.2	6772252	6772386	6	plus
##	5569	NC_030682.2	6772714	6772842	6	plus
##	5570	NC_030682.2	6773718	6773788	6	plus
##		NC_030682.2	6774445	6774578	6	plus
##		NC_030682.2	7837409	8025165	6	minus
##		NC_030682.2	7837409	8025165	6	minus
##		NC_030682.2	7837409	8025165	6	minus
##	5575	NC_030682.2	11387836	11387918	6	minus
##	5576	NC_030682.2	11802050	11868169	6	minus
##	5577	NC_030682.2	11812591	11814090	6	plus
##	5578	NC_030682.2	11846954	11850098	6	plus
##	5579	NC_030682.2	11879614	11880688	6	plus
##	5580	NC_030682.2	11885236	11886321	6	plus
##	5581	NC_030682.2	11909314	11922394	6	minus
##		NC_030682.2	11935051	11948923	6	plus
##		NC_030682.2	11957320	11987969	6	plus
##		NC_030682.2	11974793	11978814	6	plus
		-			_	
## ##		NC_030682.2 NC_030682.2	12114109 12162034	12130551 12172775	6	plus
##		NC_030682.2	12302248	12306507	6	plus minus
		NC_030682.2	12340871		6	
##		_		12390959 12575479	6	plus
##		NC_030682.2	12573901 12573901			plus
##		NC_030682.2		12575479	6	plus
##		NC_030682.2	12575456	12575591	6	minus
##		NC_030682.2	12576365	12576501	6	minus
##		NC_030682.2	12577618	12577753	6	minus
##		NC_030682.2	12580717	12580852	6	minus
##		NC_030682.2	12581899	12582033	6	minus
##		NC_030682.2	14605080	14630112	6	plus
##		NC_030682.2	14605080	14630112	6	plus
##		NC_030682.2	15003654	15007583	6	plus
##		NC_030682.2	16630313	16635587	6	minus
##		NC_030682.2	17395963	17399180	6	plus
##	5601	NC_030682.2	17398413	17398484	6	plus

		NC_030682.2	17399032	17399114	6	plus
##		NC_030682.2	17568413	17635982	6	plus
##		NC_030682.2	17568413	17635982	6	plus
##		NC_030682.2	17861069	17861154	6	minus
##		NC_030682.2	19846585	19864923	6	minus
##		NC_030682.2	21685351	21709324	6	minus
##		NC_030682.2	21685351	21709324	6	minus
##		NC_030682.2	22919193	22924295	6	minus
##		NC_030682.2	24026748	24038099	6	plus
##		NC_030682.2	24516718	24521311	6	plus
##		NC_030682.2	24522259	24522582	6	plus
##		NC_030682.2	24793919	24795757	6	minus
##		NC_030682.2	25151826	25152178	6	plus
##		NC_030682.2	25172776	25173128	6	plus
##		NC_030682.2	25938890	26194419	6	minus
##		NC_030682.2	26377501	26447140	6	plus
##	5618	NC_030682.2	26945760	26945833	6	plus
##		NC_030682.2	26948827	26952965	6	plus
##	5620	NC_030682.2	27957191	27957337	6	plus
##	5621	NC_030682.2	28897978	28920903	6	minus
##	5622	NC_030682.2	28897978	28920903	6	minus
##	5623	NC_030682.2	28897978	28920903	6	minus
##	5624	NC_030682.2	28897978	28920903	6	minus
##	5625	NC_030682.2	28964278	28968876	6	plus
##	5626	NC_030682.2	29016150	29016302	6	plus
##	5627	NC_030682.2	31777548	31779417	6	minus
##	5628	NC_030682.2	32372889	32372972	6	minus
##	5629	NC_030682.2	32766618	32772198	6	minus
##	5630	NC_030682.2	32849433	32868997	6	plus
##	5631	NC_030682.2	32849433	32868997	6	plus
##	5632	NC_030682.2	32849433	32868997	6	plus
##	5633	NC_030682.2	32996262	33024069	6	plus
##	5634	NC_030682.2	33881293	33906856	6	minus
##	5635	NC_030682.2	34288271	34297975	6	plus
##	5636	NC_030682.2	34288271	34297975	6	plus
##	5637	NC_030682.2	34355890	34360777	6	minus
##	5638	NC_030682.2	34355890	34360777	6	minus
##	5639	NC_030682.2	35263065	35388886	6	plus
##	5640	NC_030682.2	36498771	36498889	6	minus
##	5641	NC_030682.2	38432982	38444086	6	minus
##	5642	NC_030682.2	39199943	39205792	6	minus
##	5643	NC_030682.2	39292489	39302912	6	minus
##	5644	NC_030682.2	39292489	39302912	6	minus
##	5645	NC_030682.2	39960598	39966907	6	minus
##	5646	NC_030682.2	39973851	39978093	6	plus
##	5647	NC_030682.2	39984693	39987588	6	plus
##	5648	NC_030682.2	39984693	39987588	6	plus
##	5649	NC_030682.2	39996576	40001975	6	plus
##		NC_030682.2	40006937	40012552	6	plus
##		NC_030682.2	40006937	40012552	6	plus
		NC_030682.2	40039112	40091253	6	minus
		NC_030682.2	40160799	40162484	6	minus
		NC_030682.2	40328520	40344196	6	plus
##		NC_030682.2	40464123	40468122	6	minus

##	5656	NC_030682.2	40557439	40562008	6	minua
##		NC_030682.2 NC_030682.2	40705183	40705340	6	minus
		_		41567109		minus
##		NC_030682.2	41567024		6	minus
##		NC_030682.2	41592341	41610574	6	minus
##		NC_030682.2	41638021	41645334	6	minus
##		NC_030682.2	42138202	42145728	6	plus
##		NC_030682.2	42161070	42163466	6	plus
##		NC_030682.2	42181444	42195159	6	plus
##		NC_030682.2	42197222	42207438	6	minus
##		NC_030682.2	42206890	42206976	6	minus
##	5666	NC_030682.2	42452276	42456034	6	minus
##	5667	NC_030682.2	42832539	42840883	6	plus
##	5668	NC_030682.2	42880351	42880508	6	minus
##	5669	NC_030682.2	43807608	43812034	6	minus
##	5670	NC_030682.2	43969302	43972702	6	plus
##	5671	NC_030682.2	46531111	46539018	6	minus
##	5672	NC_030682.2	46776785	46787001	6	plus
##	5673	NC_030682.2	46972878	46976955	6	plus
##	5674	NC_030682.2	46980297	46990409	6	plus
##	5675	NC_030682.2	48234690	48234786	6	plus
##	5676	NC_030682.2	49265778	49284585	6	plus
##	5677	NC_030682.2	50283864	50288150	6	plus
##	5678	NC 030682.2	50585166	50587825	6	minus
##	5679	NC_030682.2	50621533	50621617	6	minus
##		NC_030682.2	50665418	50668732	6	plus
##		NC_030682.2	50875074	50991980	6	plus
##		NC_030682.2	51122163	51125745	6	minus
##		NC_030682.2	52489451	52584397	6	plus
##		NC_030682.2	53772645	53783429	6	minus
##		NC_030682.2	53794512	53804510	6	minus
##	5686	NC_030682.2	53897245	53927805	6	minus
##	5687	NC_030682.2	54034240	54043755	6	plus
##	5688	NC_030682.2	54158531	54160316	6	minus
##	5689	NC_030682.2	54206265	54208148	6	plus
##	5690	NC_030682.2	54228668	54230859	6	plus
##	5691	NC_030682.2	54273338	54275532	6	plus
##		NC_030682.2	54284914	54286203	6	minus
		NC_030682.2	54341829	54342632	6	minus
		NC_030682.2	54513935	54521052	6	minus
##		NC_030682.2	54980482	55011066	6	minus
##		NC_030682.2	55235620	55235777	6	minus
##		NC_030682.2	55544499	55546703	6	plus
##		NC_030682.2	59492884	59500608	6	minus
##		NC_030682.2	59492884	59500608	6	minus
##		NC_030682.2	60025038	60036325	6	plus
		NC_030682.2	60340306	60340765	6	plus
## ##		NC_030682.2 NC_030682.2	60912448	60914649	6	plus
		NC_030682.2	60942864		6	_
##		NC_030682.2 NC_030682.2		61008293	6	plus
##		_	62018660	62024468		plus
##		NC_030682.2	62018660	62024468	6	plus
##		NC_030682.2	62018660	62024468	6	plus
##		NC_030682.2	62442309	62565986	6	plus
##		NC_030682.2	63239533	63240469	6	plus
##	5/09	NC_030682.2	63278148	63280344	6	plus

		NC_030682.2	63613422	63618256	6	plus
		NC_030682.2	63655211	63659234	6	plus
		NC_030682.2	63655211	63659234	6	plus
##		NC_030682.2	63660121	63663706	6	plus
##		NC_030682.2	64483169	64515803	6	minus
##		NC_030682.2	65447601	65523433	6	plus
##		NC_030682.2	65447601	65523433	6	plus
##		NC_030682.2	65447601	65523433	6	plus
##		NC_030682.2	65539728	65539807	6	plus
##		NC_030682.2	65993333	65998489	6	minus
##		NC_030682.2	66079424	66079496	6	minus
##		NC_030682.2	66080986	66081058	6	plus
##		NC_030682.2	66346701	66348069	6	minus
##		NC_030682.2	66361289	66390009	6	minus
##		NC_030682.2	66809832	66809913	6	minus
##		NC_030682.2	67129201	67132239	6	minus
##		NC_030682.2	67196212	67197612	6	plus
##		NC_030682.2	68844688	68846134	6	minus
##		NC_030682.2	68847353	68850838	6	minus
##		NC_030682.2	68857046	68861125	6	minus
##		NC_030682.2	69501480	69502705	6	plus
##		NC_030682.2	69715202	69717316	6	minus
##		NC_030682.2	69804223	69804296	6	minus
##		NC_030682.2	69991480	69994505	6	minus
##		NC_030682.2	70482352	70504191	6	plus
##		NC_030682.2	71135693	71138814	6	plus
##		NC_030682.2	71176823	71485728	6	plus
##	5737	NC_030682.2	71679324	71692742	6	plus
##		NC_030682.2	72095797	72097145	6	plus
##	5739	NC_030682.2	72095797 73326109	72097145 73327595	6 6	plus
##		NC_030682.2 NC_030682.2	73477132	73478317	6	plus
## ##		NC_030682.2	73743790	73745636	6	plus
##		NC_030682.2	74022093	74028183	6	plus plus
##		NC_030682.2	74503017	74509441	6	minus
##		NC_030682.2	74671459	74676551	6	plus
##		NC_030682.2	75454702	75461575	6	plus
		NC_030682.2	76169611	76174631	6	plus
		NC_030682.2	78112292	78113182	6	plus
		NC 030682.2	78281549	78304108	6	minus
		NC_030682.2	78354212	78358901	6	minus
		NC 030682.2	78600705	78603289	6	minus
		NC 030682.2	79193187	79194939	6	plus
##		NC_030682.2	79282954	79285562	6	minus
##		NC 030682.2	79542344	79555080	6	minus
##		NC_030682.2	79992673	79993739	6	plus
##		NC_030682.2	80724223	80728547	6	plus
##		NC_030682.2	83111602	83207382	6	plus
##		NC_030682.2	83111602	83207382	6	plus
##		NC_030682.2	84449136	84450553	6	minus
##		NC_030682.2	86276419	86280551	6	minus
		NC_030682.2	87320723	87342531	6	minus
		NC_030682.2	87373036	87403764	6	minus
		NC_030682.2	87373036	87403764	6	minus
		-				

				07400704		
		NC_030682.2	87373036	87403764	6	minus
##		NC_030682.2	87373036	87403764	6	minus
##		NC_030682.2	87373036	87403764	6	minus
##		NC_030682.2	87373036	87403764	6	minus
##		NC_030682.2	87373036	87403764	6	minus
##		NC_030682.2	87701665	87737064	6	minus
##		NC_030682.2	87809685	87831809	6	plus
##	5771	NC_030682.2	88897227	88899170	6	plus
##	5772	NC_030682.2	89172331	89212295	6	plus
##	5773	NC_030682.2	89172331	89212295	6	plus
##	5774	$NC_030682.2$	89172331	89212295	6	plus
##	5775	$NC_030682.2$	90123100	90129101	6	minus
##	5776	NC_030682.2	90138784	90145751	6	plus
##	5777	NC_030682.2	90291736	90314269	6	minus
##	5778	NC_030682.2	90291736	90314269	6	minus
##	5779	NC_030682.2	90409663	90410271	6	minus
##	5780	NC_030682.2	90636503	90639408	6	minus
##	5781	NC_030682.2	92483053	92483384	6	plus
##	5782	NC_030682.2	92912245	92917727	6	plus
##	5783	NC_030682.2	93136944	93138156	6	minus
##	5784	NC_030682.2	93502223	93534981	6	minus
##	5785	NC 030682.2	93625639	93630437	6	minus
##	5786	NC_030682.2	94113209	94114313	6	plus
##	5787	NC_030682.2	94267531	94269368	6	plus
##		NC_030682.2	94301241	94307973	6	minus
##		NC_030682.2	94301241	94307973	6	minus
##		NC_030682.2	94301241	94307973	6	minus
##		NC_030682.2	94345990	94359240	6	minus
##		NC_030682.2	94372400	94374528	6	minus
##		NC_030682.2	94925263	94926737	6	minus
##		NC_030682.2	95127746	95312512	6	plus
##	5795	_	95127746	95312512	6	plus
##	5796	NC_030682.2	95127746	95312512	6	plus
##	5797	NC_030682.2	95127746	95312512	6	plus
##	5798	NC_030682.2	95288888	95289076	6	minus
##	5799	_	96221436	96222744	6	minus
##		NC_030682.2		100233200	6	minus
		NC_030682.2			6	minus
		NC_030682.2			6	minus
		NC_030682.2			6	minus
		NC_030682.2			6	minus
		NC_030682.2			6	minus
		NC_030682.2			6	minus
##		NC_030682.2			6	minus
##		NC_030682.2			6	plus
		NC_030682.2			6	plus
		NC_030682.2			6	minus
		NC_030682.2			6	plus
		NC_030682.2			6	plus
		NC_030682.2			6	plus
		NC_030682.2 NC_030682.2			6	
		NC_030682.2 NC_030682.2			6	minus
		_			6	plus
		NC_030682.2				plus
##	2017	NC_030682.2	101380519	101392808	6	plus

```
## 5818 NC 030682.2 108621908 108621993
                                                          minus
## 5819 NC_030682.2 108624338 108624421
                                                  6
                                                          minus
## 5820 NC 030682.2 108671947 108678646
                                                          minus
## 5821 NC_030682.2 108763260 108765624
                                                  6
                                                         minus
## 5822 NC_030682.2 108841818 108858907
                                                  6
                                                         plus
## 5823 NC 030682.2 109512842 109517143
                                                  6
                                                         minus
## 5824 NC 030682.2 109956184 109956293
                                                  6
                                                         plus
## 5825 NC 030682.2 111343991 111350196
                                                  6
                                                          minus
## 5826 NC 030682.2 111601846 111617431
                                                  6
                                                           plus
                                                  6
## 5827 NC_030682.2 111727511 111734632
                                                           plus
## 5828 NC_030682.2 111934593 111937496
                                                          plus
## 5829 NC_030682.2 113069402 113069566
                                                  6
                                                           plus
## 5830 NC_030682.2 113261214 113261286
                                                  6
                                                          minus
## 5831 NC_030682.2 113364170 113364325
                                                          plus
## 5832 NC_030682.2 114893136 114896444
                                                          minus
## 5833 NC_030682.2 115338075 115338774
                                                  6
                                                          minus
## 5834 NC_030682.2 115627733 115630396
                                                  6
                                                          minus
## 5835 NC 030682.2 115627733 115630396
                                                         minus
## 5836 NC_030682.2 115679171 115680977
                                                  6
                                                         minus
## 5837 NC 030682.2 115716766 115716830
                                                  6
                                                         minus
## 5838 NC_030682.2 116863062 116898819
                                                  6
                                                         minus
## 5839 NC_030682.2 117207837 117207927
                                                  6
                                                         plus
## 5840 NC_030682.2 117241753 117244568
                                                  6
                                                         minus
## 5841 NC 030682.2 117390800 117393812
                                                  6
                                                         minus
                                                  6
## 5842 NC 030682.2 118134384 118136739
                                                         plus
## 5843 NC_030682.2 118136265 118136352
                                                          plus
## 5844 NC_030682.2 118609358 118651801
                                                  6
                                                          minus
## 5845 NC_030682.2 118609358 118651801
                                                  6
                                                          minus
## 5846 NC_030682.2 119146229 119161795
                                                          plus
## 5847 NC_030682.2 119162039 119162971
                                                  6
                                                          plus
## 5848 NC_030682.2 120651260 120661595
                                                  6
                                                          minus
## 5849 NC_030682.2 121412881 121415633
                                                  6
                                                           plus
## 5850 NC_030682.2 121980555 121994519
                                                          plus
## 5851 NC_030682.2 123308092 123312118
                                                  6
                                                          plus
## 5852 NC 030682.2 123504397 123504523
                                                  6
                                                          minus
## 5853 NC_030682.2 123927483 123928418
                                                  6
                                                         minus
## 5854 NC 030682.2 124017771 124024334
                                                         minus
## 5855 NC_030682.2 124085469 124089650
                                                  6
                                                          plus
## 5856 NC 030682.2 125098594 125107990
                                                  6
                                                         plus
## 5857 NC_030682.2 125342140 125344037
                                                  6
                                                         minus
## 5858 NC 030682.2 125344802 125346188
                                                         minus
## 5859 NC 030682.2 126181787 126193701
                                                  6
                                                         minus
## 5860 NC 030682.2 126181787 126193701
                                                  6
                                                        minus
## 5861 NC_030682.2 126254182 126263863
                                                  6
                                                           plus
## 5862 NC_030682.2 126326845 126351712
                                                  6
                                                          plus
## 5863 NC_030682.2 126801353 126801504
                                                  6
                                                           plus
## 5864 NC_030682.2 127355088 127355159
                                                  6
                                                           plus
## 5865 NC_030682.2 127802703 127803721
                                                  6
                                                           plus
## 5866 NC_030682.2 128004505 128050058
                                                  6
                                                           plus
## 5867 NC_030682.2 129375850 129375981
                                                  6
                                                           plus
## 5868 NC_030682.2 130407090 130407171
                                                  6
                                                           plus
## 5869 NC_030682.2 130769414 130790298
                                                          minus
## 5870 NC_030682.2 130886341 130886422
                                                  6
                                                          minus
## 5871 NC 030682.2 130886523 130886604
                                                          minus
```

```
## 5872 NC_030682.2 130976616 130976697
                                                  6
                                                          minus
## 5873 NC_030682.2 131403199 131417340
                                                           plus
                                                           plus
## 5874 NC_030682.2 136142646 136152015
## 5875 NC_030682.2 136142646 136152015
                                                  6
                                                           plus
## 5876 NC_030682.2 138306466 138337533
                                                  6
                                                           plus
## 5877 NC 030682.2 138386718 138388570
                                                  6
                                                           plus
## 5878 NC_030682.2 140811601 140813826
                                                  6
                                                           plus
## 5879 NC_030682.2 141236415 141393435
                                                  6
                                                           plus
## 5880 NC_030682.2 141236415 141393435
                                                  6
                                                           plus
## 5881 NC_030682.2 141236415 141393435
                                                  6
                                                          plus
## 5882 NC_030682.2 141477353 141477456
                                                  6
                                                          minus
## 5883 NC_030682.2 142133242 142143152
                                                  6
                                                           plus
## 5884 NC_030682.2 142694207 142694279
                                                  6
                                                           plus
## 5885 NC_030682.2 142694694 142694766
                                                           plus
## 5886 NC_030682.2 142695359 142695431
                                                  6
                                                           plus
## 5887 NC_030682.2 142695703 142695775
                                                  6
                                                           plus
## 5888 NC_030682.2 142696645 142696717
                                                  6
                                                           plus
## 5889 NC_030682.2 142697132 142697204
                                                           plus
## 5890 NC_030682.2 142697797 142697869
                                                  6
                                                           plus
## 5891 NC_030682.2 142698141 142698213
                                                  6
                                                           plus
## 5892 NC_030682.2 142699083 142699155
                                                  6
                                                           plus
## 5893 NC_030682.2 142699570 142699642
                                                  6
                                                           plus
## 5894 NC_030682.2 142700235 142700307
                                                  6
                                                           plus
## 5895 NC_030682.2 142700579 142700651
                                                  6
                                                           plus
## 5896 NC_030682.2 142701521 142701593
                                                  6
                                                           plus
## 5897 NC_030682.2 142702008 142702080
                                                  6
                                                           plus
## 5898 NC_030682.2 142702673 142702745
                                                  6
                                                           plus
## 5899 NC_030682.2 142703017 142703089
                                                  6
                                                           plus
## 5900 NC_030682.2 142703959 142704031
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## 5901 NC_030682.2 142704446 142704518
                                                  6
                                                           plus
## 5902 NC_030682.2 142705102 142705174
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## 5903 NC_030682.2 142705589 142705661
                                                  6
                                                           plus
## 5904 NC_030682.2 142706254 142706326
                                                           plus
## 5905 NC_030682.2 142706598 142706670
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## 5906 NC_030682.2 142707510 142707582
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## 5907 NC_030682.2 142707997 142708069
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## 5908 NC_030682.2 142708653 142708725
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## 5909 NC_030682.2 142709140 142709212
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## 5910 NC_030682.2 142710256 142710328
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## 5911 NC_030682.2 142710600 142710672
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## 5912 NC_030682.2 142711431 142711503
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## 5913 NC_030682.2 142712757 142712829
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## 5914 NC_030682.2 142713588 142713660
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## 5915 NC_030682.2 142714079 142714151
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                                                           plus
## 5916 NC_030682.2 142715021 142715093
                                                  6
                                                           plus
## 5917 NC_030682.2 142715508 142715580
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## 5918 NC_030682.2 142716164 142716236
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## 5919 NC_030682.2 142716651 142716723
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## 5920 NC_030682.2 142717767 142717839
                                                  6
                                                           plus
## 5921 NC_030682.2 142718111 142718183
                                                  6
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## 5922 NC_030682.2 142718942 142719014
                                                  6
                                                           plus
## 5923 NC_030682.2 142719433 142719505
                                                           plus
## 5924 NC_030682.2 142720375 142720447
                                                  6
                                                           plus
## 5925 NC_030682.2 142721401 142721473
                                                           plus
```

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## 5926 NC_030682.2 142721892 142721964
                                                           plus
## 5927 NC_030682.2 142722834 142722906
                                                           plus
## 5928 NC_030682.2 142723178 142723250
                                                           plus
## 5929 NC_030682.2 142723665 142723737
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                                                           plus
## 5930 NC_030682.2 142724009 142724081
                                                  6
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## 5931 NC 030682.2 142724500 142724572
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                                                           plus
## 5932 NC_030682.2 142725442 142725514
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## 5933 NC_030682.2 142726131 142726203
                                                  6
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## 5934 NC_030682.2 142726618 142726690
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## 5935 NC_030682.2 142727644 142727716
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## 5936 NC_030682.2 142728135 142728207
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## 5937 NC_030682.2 142729077 142729149
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## 5938 NC_030682.2 142729421 142729493
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## 5939 NC_030682.2 142729908 142729980
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## 5940 NC_030682.2 142730252 142730324
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## 5941 NC_030682.2 142730743 142730815
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## 5942 NC_030682.2 142731685 142731757
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## 5943 NC_030682.2 142732374 142732446
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## 5944 NC_030682.2 142732861 142732933
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## 5945 NC_030682.2 142733526 142733598
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## 5946 NC_030682.2 142733887 142733959
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## 5947 NC_030682.2 142734374 142734446
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## 5948 NC_030682.2 142734718 142734790
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## 5949 NC_030682.2 142736151 142736223
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## 5950 NC_030682.2 142736495 142736567
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## 5951 NC_030682.2 142737326 142737398
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## 5952 NC_030682.2 142737813 142737885
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## 5953 NC_030682.2 142738929 142739001
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## 5954 NC_030682.2 142739273 142739345
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## 5955 NC_030682.2 142740104 142740176
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## 5956 NC_030682.2 142740591 142740663
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## 5957 NC_030682.2 142740902 142740974
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## 5958 NC_030682.2 142741246 142741318
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## 5959 NC_030682.2 142741737 142741809
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## 5960 NC_030682.2 142742811 142742883
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## 5961 NC_030682.2 142744762 142744834
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## 5962 NC_030682.2 142751307 142751379
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## 5963 NC_030682.2 143063039 143067370
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## 5964 NC_030682.2 144168241 144168320
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## 5965 NC_030682.2 144169722 144190789
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## 5966 NC_030682.2 144172473 144172553
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                                                         minus
## 5967 NC_030682.2 146041197 146041282
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                                                           plus
## 5968 NC_030682.2 146041411 146041496
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                                                           plus
## 5969 NC_030682.2 146041518 146041603
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## 5970 NC_030682.2 146041625 146041710
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## 5971 NC_030682.2 146041732 146041817
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## 5972 NC_030682.2 146041839 146041924
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## 5973 NC_030682.2 146042053 146042138
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## 5974 NC_030682.2 146042160 146042245
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## 5975 NC_030682.2 146042588 146042673
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                                                           plus
## 5976 NC_030682.2 146042909 146042994
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                                                           plus
## 5977 NC_030682.2 146043123 146043208
                                                           plus
## 5978 NC_030682.2 146043230 146043315
                                                  6
                                                           plus
## 5979 NC_030682.2 146043337 146043422
                                                           plus
```

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## 5980 NC 030682.2 146043551 146043636
                                                  6
                                                            plus
## 5981 NC_030682.2 146043658 146043743
                                                  6
                                                           plus
## 5982 NC_030682.2 146043979 146044064
                                                           plus
## 5983 NC_030682.2 146044193 146044278
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                                                            plus
## 5984 NC_030682.2 146044838 146044923
                                                  6
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## 5985 NC 030682.2 146044945 146045030
                                                  6
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## 5986 NC_030682.2 146045052 146045137
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## 5987 NC_030682.2 146045265 146045350
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## 5988 NC 030682.2 146045468 146045553
                                                  6
                                                           plus
## 5989 NC_030682.2 146045575 146045660
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## 5990 NC_030682.2 146045682 146045767
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                                                           plus
## 5991 NC_030682.2 146045788 146045873
                                                  6
                                                            plus
## 5992 NC_030682.2 146045991 146046076
                                                  6
                                                            plus
## 5993 NC_030682.2 146046194 146046279
                                                           plus
## 5994 NC_030682.2 146046621 146046706
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                                                           plus
## 5995 NC_030682.2 146046835 146046920
                                                  6
                                                           plus
## 5996 NC_030682.2 146046942 146047027
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## 5997 NC_030682.2 146047049 146047134
                                                           plus
## 5998 NC_030682.2 146047156 146047241
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## 5999 NC_030682.2 146047263 146047348
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## 6000 NC_030682.2 146047370 146047455
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## 6001 NC_030682.2 146047477 146047562
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## 6002 NC_030682.2 146047584 146047669
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## 6003 NC 030682.2 146047691 146047776
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## 6004 NC_030682.2 146047798 146047883
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## 6005 NC_030682.2 146047905 146047990
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## 6006 NC_030682.2 146048218 146048303
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## 6007 NC_030682.2 146048324 146048409
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                                                           plus
## 6008 NC_030682.2 146048637 146048722
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## 6009 NC_030682.2 146049383 146049468
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## 6010 NC_030682.2 147228174 147232306
                                                  6
                                                          minus
## 6011 NC_030682.2 148902732 148902896
                                                  6
                                                          minus
## 6012 NC_030682.2 149273723 149275767
                                                          plus
## 6013 NC_030682.2 149306935 149307053
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                                                          minus
## 6014 NC_030682.2 149768978 149772471
                                                  6
                                                          plus
## 6015 NC_030682.2 149812807 149814816
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## 6016 NC_030682.2 149813534 149813668
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## 6017 NC_030682.2 149813862 149813994
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## 6018 NC_030682.2 150884649 150891721
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                                                          plus
## 6019 NC_030682.2 151043204 151044984
                                                  6
                                                          minus
## 6020 NC_030682.2 151084026 151089948
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                                                          minus
## 6021 NC_030682.2 151407181 151408775
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                                                           plus
## 6022 NC_030682.2 151613604 151644480
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## 6023 NC_030682.2 151688087 151688184
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## 6024 NC_030682.2 151740646 151743420
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                                                          minus
## 6025 NC_030682.2 151765906 151768015
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                                                          minus
## 6026 NC_030682.2 152022778 152022896
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## 6027 NC_030682.2 152023595 152023715
                                                          minus
## 6028 NC_030682.2 152024356 152024476
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                                                          minus
## 6029 NC_030682.2 152025070 152025188
                                                  6
                                                          minus
## 6030 NC_030682.2 152025774 152025892
                                                  6
                                                          minus
## 6031 NC_030682.2 152026501 152026619
                                                          minus
## 6032 NC_030682.2 152027180 152027298
                                                  6
                                                          minus
## 6033 NC_030682.2 152027885 152028003
                                                          minus
```

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## 6034 NC 030682.2 152028581 152028699
                                                   6
                                                           minus
## 6035 NC_030682.2 152029260 152029378
                                                   6
                                                           minus
  6036 NC 030682.2 152029947 152030065
                                                   6
                                                           minus
  6037 NC_030682.2 152030643 152030761
                                                   6
                                                           minus
## 6038 NC_030682.2 152031365 152031483
                                                   6
                                                           minus
  6039 NC 030682.2 152032064 152032182
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  6040 NC 030682.2 152032827 152032945
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                                                           minus
## 6041 NC 030682.2 152033673 152033791
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                                                           minus
  6042 NC 030682.2 152034016 152034134
                                                   6
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                                                   6
  6043 NC_030682.2 152034728 152034846
                                                           minus
  6044 NC_030682.2 152035423 152035541
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                                                           minus
                                                   6
  6045 NC_030682.2 152036133 152036251
                                                           minus
  6046 NC_030682.2 152036855 152036973
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                                                           minus
  6047 NC_030682.2 152037576 152037694
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                                                           minus
## 6048 NC_030682.2 152038284 152038402
                                                   6
                                                           minus
## 6049 NC_030682.2 152039044 152039162
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  6050 NC_030682.2 152039883 152040002
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  6051 NC 030682.2 152040227 152040345
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  6052 NC_030682.2 152040972 152041090
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                                                           minus
## 6053 NC 030682.2 152041668 152041786
                                                   6
                                                           minus
  6054 NC_030682.2 152042504 152042622
                                                   6
                                                           minus
## 6055 NC 030682.2 152043213 152043331
                                                   6
                                                           minus
  6056 NC 030682.2 152043941 152044059
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                                                           minus
  6057 NC 030682.2 152044634 152044752
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  6058 NC 030682.2 152045350 152045468
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  6059 NC 030682.2 152045693 152045811
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  6060 NC_030682.2 152046451 152046569
                                                   6
                                                           minus
  6061 NC_030682.2 152047195 152047313
                                                   6
                                                           minus
                                                   6
  6062 NC_030682.2 152047891 152048009
                                                           minus
## 6063 NC_030682.2 152048730 152048848
                                                   6
                                                           minus
## 6064 NC_030682.2 152049442 152049560
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                                                           minus
  6065 NC_030682.2 152050170 152050288
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   6066 NC_030682.2 152050856 152050974
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  6067 NC_030682.2 152051578 152051696
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  6068 NC 030682.2 152052252 152052370
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                                                           minus
  6069 NC_030682.2 152053012 152053130
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  6070 NC 030682.2 152053850 152053968
                                                   6
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## 6071 NC_030682.2 152054193 152054311
                                                   6
                                                           minus
## 6072 NC 030682.2 152054937 152055055
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                                                   6
  6073 NC_030682.2 152055665 152055783
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  6074 NC 030682.2 152056359 152056477
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## 6075 NC 030682.2 152057103 152057221
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## 6076 NC 030682.2 152057830 152057948
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  6077 NC_030682.2 152058668 152058786
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## 6078 NC_030682.2 152059348 152059466
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## 6079 NC_030682.2 152060076 152060194
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                                                           minus
## 6080 NC_030682.2 152065423 152065541
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                                                           minus
                                                   6
  6081 NC_030682.2 152066109 152066227
                                                           minus
## 6082 NC_030682.2 152066821 152066939
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                                                           minus
## 6083 NC_030682.2 152067501 152067619
                                                   6
                                                           minus
                                                   6
## 6084 NC_030682.2 152068181 152068299
                                                           minus
## 6085 NC_030682.2 152068877 152068995
                                                   6
                                                           minus
## 6086 NC_030682.2 152069595 152069713
                                                   6
                                                           minus
## 6087 NC 030682.2 152070275 152070393
                                                           minus
```

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##		NC_030682.2			6	plus
##		NC_030682.2			6	minus
##	6090	NC_030682.2	153633921	153649082	6	plus
##	6091	NC_030682.2	153640142	153642250	6	plus
##	6092	NC_030682.2	153640142	153642250	6	plus
##	6093	NC_030682.2	153640142	153642250	6	plus
##	6094	NC_030682.2	153836841	153837808	6	plus
##		NC_030682.2		153853503	6	plus
##		NC_030682.2		153980558	6	minus
##	6097	_		153983488	6	minus
##		NC_030682.2			6	minus
##		NC_030682.2			6	plus
##		NC_030682.2			6	plus
##		NC_030682.2			6	plus
##		NC_030682.2			6	plus
		NC_030683.2	105613	111297	7	=
##		_				minus
##		NC_030683.2	173446	173565	7	minus
##		NC_030683.2	173711	173829	7	minus
##		NC_030683.2	173975	174092	7	minus
##		NC_030683.2	174230	174348	7	minus
##		NC_030683.2	174494	174612	7	minus
##		NC_030683.2	174758	174876	7	minus
##		NC_030683.2	175022	175140	7	minus
##		NC_030683.2	175288	175406	7	minus
##		NC_030683.2	175563	175681	7	minus
##		NC_030683.2	246139	246257	7	minus
##	6114	NC_030683.2	266569	273708	7	plus
##	6115	NC_030683.2	378521	379250	7	plus
##	6116	NC_030683.2	378521	379250	7	plus
##	6117	NC_030683.2	385911	386527	7	plus
##	6118	NC_030683.2	385911	386527	7	plus
##	6119	NC_030683.2	398336	414874	7	minus
##	6120	NC_030683.2	398393	413385	7	minus
##	6121	NC_030683.2	597676	625355	7	minus
##	6122	NC_030683.2	597676	625355	7	minus
##	6123	NC_030683.2	719089	719872	7	minus
##	6124	NC_030683.2	719089	719872	7	minus
##		NC_030683.2	721298	722591	7	minus
##	6126	NC_030683.2	721298	722591	7	minus
##		NC_030683.2	724105	734425	7	minus
##		NC_030683.2	724105	734425	7	minus
##	6129	NC_030683.2	736325	742129	7	plus
##		NC_030683.2	1052217	1054092	7	plus
##		NC_030683.2	1126618	1153505	7	minus
##	6132	NC_030683.2	1126618	1153505	7	minus
##		NC_030683.2	1126618	1153505	7	minus
##		NC_030683.2	2185448	2187395	7	plus
##		NC_030683.2	2435858	2436808	7	plus
##		NC_030683.2	2481636	2491366	7	plus
##		NC_030683.2	2631369	2633173	7	plus
##		NC_030683.2	2943183	2944934	7	minus
##		NC_030683.2	2964009	2985163	7	plus
##		NC_030683.2	3050877	3051962	7	minus
##		NC_030683.2	3061860	3064082	7	minus
ırπ	01-11		2001000	0004002	,	ming

##	61/10	NC_030683.2	3162581	3320606	7	minus
		NC_030683.2	3989932	4045761	7	
##		_				minus
##		NC_030683.2	6149682	6149802	7	minus
##		NC_030683.2	6150893	6151016	7	minus
##		NC_030683.2	6152672	6152795	7	minus
##		NC_030683.2	6155109	6155235	7	minus
##		NC_030683.2	6155721	6155854	7	minus
##		NC_030683.2	6157912	6158038	7	minus
##		NC_030683.2	6190839	6193238	7	minus
##		NC_030683.2	6193239	6194350	7	minus
##	6152	NC_030683.2	6479470	6487381	7	plus
##	6153	NC_030683.2	7087997	7118124	7	minus
##	6154	NC_030683.2	7123320	7159813	7	minus
##	6155	NC_030683.2	7168755	7201925	7	plus
##	6156	NC_030683.2	7352572	7355755	7	plus
##	6157	NC_030683.2	7352572	7355755	7	plus
##	6158	NC_030683.2	7352572	7355755	7	plus
##	6159	NC_030683.2	7352572	7355755	7	plus
##	6160	NC_030683.2	7352572	7355755	7	plus
##	6161	NC_030683.2	7468943	7470722	7	minus
##	6162	NC_030683.2	7481078	7488110	7	plus
##		NC 030683.2	7543928	7565602	7	minus
##	6164	NC 030683.2	7689967	7704647	7	plus
##		NC 030683.2	7689967	7704647	7	plus
##		NC_030683.2	7768863	7796863	7	minus
##	6167	_	7867417	7869637	7	minus
##		NC_030683.2	7874497	7875255	7	minus
##		NC_030683.2	7918707	7919448	7	minus
##		NC_030683.2	8013447	8019951	7	plus
##		NC_030683.2	8013447	8019951	7	plus
##		NC_030683.2	8296176	8301016	7	plus
##		NC_030683.2	8318908	8319705	7	minus
##		NC_030683.2	8326155	8337474	7	minus
##		NC_030683.2	8326155	8337474	7	minus
##		NC_030683.2	8341248	8342962	7	minus
##	6177	NC_030683.2	8376809	8381585	7	minus
##		NC_030683.2	8585015	8587025	7	minus
		NC_030683.2	8587073	8590154	7	minus
		NC_030683.2	8587073	8590154	7	minus
##		NC_030683.2	8587073	8590154	7	minus
##		NC_030683.2	8590777	8646728	7	minus
##		NC_030683.2	8590777	8646728	7	minus
##		NC_030683.2	8590777	8646728	7	minus
##		NC_030683.2	8614318	8615239	7	plus
##		NC_030683.2	8674266	8675126	7	plus
##		NC_030683.2	9233455	9234493	7	plus
##		NC_030683.2	9438112	9446335	7	minus
##		NC_030683.2	9565456	9565512	7	minus
##		NC_030683.2	9582451	9583737	7	plus
##		NC_030683.2	9979629	9979925	7	plus
		NC_030683.2 NC_030683.2			7	-
## ##		_	9983689 10068428	9983998 10068564	7	plus minus
		NC_030683.2			7	
##		NC_030683.2	10254083	10254603		plus
##	0195	NC_030683.2	10265953	10266450	7	plus

					_	_
		NC_030683.2	10269156	10270249	7	plus
##		NC_030683.2	10323641	10324636	7	plus
##		NC_030683.2	10540462	10548883	7	minus
##		NC_030683.2	10797542	10798475	7	minus
##		NC_030683.2	10818503	10819428	7	minus
##		NC_030683.2	11508614	11509556	7	minus
##		NC_030683.2	11911448	11913275	7	minus
##		NC_030683.2	11918049	11919898	7	minus
##		NC_030683.2	12252236	12259747	7	minus
##		NC_030683.2	12601164	12602237	7	plus
##		NC_030683.2	13167952	13190483	7	minus
##		NC_030683.2	13233843	13242939	7	minus
##		NC_030683.2	13336932	13347375	7	minus
##		NC_030683.2	13557724	13581052	7	minus
##		NC_030683.2	15136878	15139217	7	plus
##		NC_030683.2	15686026	15694572	7	minus
##		NC_030683.2	16118442	16129743	7	minus
##		NC_030683.2	18236679	18243068	7	plus
##		NC_030683.2	18236679	18243068	7	plus
##		NC_030683.2	18271604	18276788	7	minus
##		NC_030683.2	18629516	18636917	7	plus
##		NC_030683.2	18643339	18656642	7	plus
##		NC_030683.2	19499646	19499795	7	minus
##		NC_030683.2	19760233	19767644	7	minus
##		NC_030683.2	20267866	20281084	7	plus
##		NC_030683.2	20291929 21384771	20337835 21385921	7 7	minus
##		NC_030683.2	21865434	21878331	7	plus
## ##		NC_030683.2	21865434	21878331	7	minus
##		NC_030683.2 NC_030683.2	21926307	21929748	7	minus
##		NC_030683.2	22296028	22303554	7	plus minus
##	6227	NC_030683.2	23704526	23710767	7	
##		NC_030683.2	24927362	24930281	7	plus plus
##		NC_030683.2	26739231	26739382	7	minus
##		NC_030683.2	26767250	26768953	7	minus
##		NC_030683.2	26788810	26789340	7	plus
##		NC_030683.2	26826656	26826742	7	plus
##		NC_030683.2	26834364	26834450	7	plus
##		NC_030683.2	26913319	26915364	7	plus
##		NC_030683.2	27531002	27546317	7	minus
##		NC_030683.2	27954029	28016102	7	plus
##		NC_030683.2	27954029	28016102	7	plus
##		NC_030683.2	28023579	28040520	7	plus
##		NC_030683.2	28056693	28063740	7	plus
##		NC_030683.2	28073392	28077626	7	plus
##		NC_030683.2	28101384	28105499	7	plus
##		NC_030683.2	28112106	28116401	7	plus
##		NC_030683.2	28846709	28867287	7	plus
##		NC_030683.2	29222593	29225881	7	minus
##		NC_030683.2	29449003	29479045	7	minus
##		NC_030683.2	29449003	29479045	7	minus
##		NC_030683.2	29893511	29893911	7	plus
##		NC_030683.2	30131531	30132976	7	plus
##		NC_030683.2	30632643	30635955	7	plus
		_				-

##	COEO	MC 020602 0	31068776	21004605	7	mina
##		NC_030683.2		31084625	7	minus
##		NC_030683.2	31187005	31212254		minus
##		NC_030683.2	31788395	31795512	7	plus
##		NC_030683.2	32404706	32410522	7	plus
##		NC_030683.2	32766533	32768773	7	minus
##		NC_030683.2	32766533	32768773	7	minus
##		NC_030683.2	32774652	32785980	7	minus
##	6257	_	32786162	32811773	7	minus
##		NC_030683.2	32786162	32811773	7	minus
##		NC_030683.2	32818414	32826264	7	minus
##		NC_030683.2	32828919	32837886	7	minus
##		NC_030683.2	32840019	32843022	7	minus
##		NC_030683.2	32845728	32854204	7	minus
##	6263	NC_030683.2	32845728	32854204	7	minus
##	6264	NC_030683.2	32856705	32859707	7	minus
##	6265	NC_030683.2	32866326	32868274	7	minus
##	6266	NC_030683.2	32872005	32875250	7	minus
##	6267	NC_030683.2	32878751	32887191	7	minus
##	6268	NC_030683.2	32878751	32887191	7	minus
##	6269	NC_030683.2	32888127	32895913	7	minus
##	6270	NC_030683.2	32888127	32895913	7	minus
##	6271	NC_030683.2	33328510	33357205	7	minus
##	6272	NC 030683.2	33372069	33372163	7	minus
##	6273	NC_030683.2	34424364	34427534	7	minus
##		NC_030683.2	34424364	34427534	7	minus
##		NC_030683.2	34597826	34597983	7	plus
##		NC_030683.2	34890684	34891730	7	plus
##	6277	NC_030683.2	34915369	34916928	7	plus
##		NC_030683.2	34937439	34939025	7	plus
##	6279	NC_030683.2	35151942	35175098	7	plus
##	6280	NC_030683.2	35722626	35725292	7	plus
##		NC_030683.2	35917104	35918629	7	plus
##		NC_030683.2	35935421	35936845	7	plus
##		NC 030683.2	36268318	36271073	7	plus
##		NC_030683.2	36367343	36367415	7	minus
##		NC_030683.2	36876273	36880861	7	plus
		_	36876273	36880861	7	
##		NC_030683.2			_	plus
##		NC_030683.2	36995781	36997033	7	minus
##		NC_030683.2	37201774	37208127	7	minus
##		NC_030683.2	37482316	37516672	7	minus
##		NC_030683.2	37482316	37516672	7	minus
##		NC_030683.2	37482316	37516672	7	minus
##		NC_030683.2	37494668	37498523	7	minus
##		NC_030683.2	38267749	38269644	7	plus
##		NC_030683.2	38878759	38896237	7	minus
##		NC_030683.2	39641438	39641595	7	plus
##		NC_030683.2	39988348	39989932	7	minus
##		NC_030683.2	40372881	40380832	7	plus
##		NC_030683.2	40403813	40421935	7	plus
##		NC_030683.2	40403813	40421935	7	plus
##		NC_030683.2	40403813	40421935	7	plus
##		NC_030683.2	41063950	41183718	7	plus
##		NC_030683.2	43086552	43088582	7	plus
##	6303	NC_030683.2	43088025	43090384	7	minus

##	6304	NC_030683.2	43088025	43090384	7	minus
##		NC_030683.2	44453268	44456631	7	minus
		NC_030683.2	46239803	46249297	7	plus
##		_				-
##		NC_030683.2	47960357	47962825	7	plus
##		NC_030683.2	49453807	49457732	7	plus
##		NC_030683.2	49466731	49468614	7	minus
##		NC_030683.2	49473402	49475278	7	minus
##		NC_030683.2	49479766	49481651	7	minus
##		NC_030683.2	49489568	49492616	7	minus
##		NC_030683.2	49536618	49539429	7	plus
##		NC_030683.2	49744346	49747129	7	plus
##		NC_030683.2	49760996	49762707	7	minus
##		NC_030683.2	49826600	49831422	7	plus
##		NC_030683.2	49914645	49925831	7	minus
##		NC_030683.2	50711816	50713414	7	minus
##		NC_030683.2	52182882	52186007	7	minus
##		NC_030683.2	52900607	52900808	7	plus
##		NC_030683.2	52902430	52902630	7	plus
##		NC_030683.2	52902840	52903044	7	plus
##		NC_030683.2	52906225	52906415	7	plus
##		NC_030683.2	53228062	53243960	7	minus
##		NC_030683.2	56180962	56181564	7	plus
##		NC_030683.2	56509662	56516693	7	plus
##	6327	_	56575160	56594210	7	plus
##		NC_030683.2	57106954	57107660	7	plus
##		NC_030683.2	57301198	57302400	7	plus
##	6330	NC_030683.2	57638606	57651324	7	minus
##	6331	NC_030683.2	58014875	58016077	7	minus
##	6332	NC_030683.2	58439106	58441135	7	plus
##	6333	NC_030683.2	59146083	59155039	7	minus
##	6334	NC_030683.2	59274967	59276640	7	plus
##	6335	NC_030683.2	59300832	59340847	7	minus
##	6336	NC_030683.2	59300832	59340847	7	minus
##	6337	NC_030683.2	59300832	59340847	7	minus
##	6338	NC_030683.2	59479058	59531344	7	minus
##	6339	NC_030683.2	59768514	59774930	7	plus
##	6340	NC_030683.2	59880085	59887351	7	plus
##	6341	NC_030683.2	59941618	60068143	7	minus
##	6342	NC_030683.2	60529702	60532990	7	minus
##	6343	NC_030683.2	60536288	60563092	7	minus
##	6344	NC_030683.2	60536288	60563092	7	minus
##	6345	NC_030683.2	60536288	60563092	7	minus
##	6346	NC_030683.2	60668947	60672523	7	plus
##	6347	NC_030683.2	61019253	61022361	7	minus
##	6348	NC_030683.2	61174146	61178275	7	minus
##	6349	NC_030683.2	61268320	61270199	7	plus
##	6350	NC_030683.2	61537528	61538600	7	plus
##	6351	NC_030683.2	61857316	61895581	7	minus
##		NC_030683.2	61857316	61895581	7	minus
##		NC_030683.2	62043042	62063957	7	minus
##		NC_030683.2	62123266	62134733	7	minus
##		NC_030683.2	62123266	62134733	7	minus
##		NC_030683.2	62156441	62160339	7	minus
##		NC_030683.2	63051512	63057720	7	plus
		_				•

	2050	NG 000000 0	60044047	60046040	7	
##		NC_030683.2	63314817	63316942	7	minus
##		NC_030683.2	64303390	64313384	7	plus
##		NC_030683.2	64377035	64383606	7	plus
##		NC_030683.2	64493803	64604619	7	plus
##		NC_030683.2	64493803	64604619	7	plus
##		NC_030683.2	64905123	64919087	7	plus
##		NC_030683.2	64905123	64919087	7	plus
##	6365	NC_030683.2	64905123	64919087	7	plus
##	6366	NC_030683.2	65209700	65216787	7	minus
##	6367	NC_030683.2	65606040	65618058	7	minus
##	6368	NC_030683.2	65759751	65802866	7	plus
##	6369	NC_030683.2	65915969	65931921	7	plus
##	6370	NC_030683.2	66153954	66154049	7	minus
##	6371	NC_030683.2	66154989	66155084	7	minus
##	6372	NC_030683.2	66155775	66155870	7	minus
##	6373	NC_030683.2	67417754	67423121	7	plus
##	6374	NC_030683.2	67721582	67804062	7	plus
##	6375	NC_030683.2	68819475	68828200	7	plus
##	6376	NC_030683.2	69631058	69671929	7	plus
##	6377	NC_030683.2	69631058	69671929	7	plus
##	6378	NC_030683.2	69631058	69671929	7	plus
##		NC 030683.2	69631058	69671929	7	plus
##		NC 030683.2	69631058	69671929	7	plus
##		NC 030683.2	70063266	70094026	7	plus
##		NC_030683.2	72424310	72426760	7	minus
##		NC_030683.2	72537926	72538083	7	plus
##		NC_030683.2	72549789	72555353	7	plus
##		NC_030683.2	73085111	73087736	7	plus
##	6386	NC_030683.2	73085111	73087736	7	plus
##	6387	NC_030683.2	76215853	76218524	7	minus
##	6388	NC_030683.2	76254834	76255747	7	plus
##	6389	NC_030683.2	76619224	76636518	7	plus
##	6390	NC_030683.2	76645614	76649648	7	minus
##	6391	NC_030683.2	76661271	76666165	7	minus
##		_	76668997	76673893	7	
##		NC_030683.2 NC_030683.2	76676705	76681600	7	minus
		_	76684454		7	minus
##		NC_030683.2		76689349	<u> </u>	minus
##		NC_030683.2	76692187	76697066	7	minus
##		NC_030683.2	76703001	76710308	7	minus
##		NC_030683.2	76710549	76718079	7	minus
##		NC_030683.2	76718313	76729763	7	minus
##		NC_030683.2	76732815	76737490	7	minus
##		NC_030683.2	76747252	76751236	7	plus
##		NC_030683.2	76752632	76756399	7	minus
##		NC_030683.2	76756741	76756894	7	minus
##		NC_030683.2	76757395	76759220	7	minus
##		NC_030683.2	76767017	76772051	7	minus
##		NC_030683.2	76772389	76772544	7	minus
##		NC_030683.2	76773046	76774872	7	minus
##		NC_030683.2	76783949	76788071	7	minus
##		NC_030683.2	76788413	76788566	7	minus
##		NC_030683.2	76789067	76790892	7	minus
##		NC_030683.2	76798562	76802685	7	minus
##	6411	NC_030683.2	76803028	76803181	7	minus

##	6/12	NC 030683.2	76803685	76805510	7	minus
##		NC_030683.2	76813483	76817606	7	minus
		NC_030683.2	76817949	76818102	7	
##		_				minus
##		NC_030683.2	76818606	76820431	7	minus
##		NC_030683.2	76819073	76829547	7	plus
##		NC_030683.2	76838030	76838183	7	plus
##		NC_030683.2	76849692	76851517	7	plus
##		NC_030683.2	76852019	76852172	7	plus
##		NC_030683.2	76852515	76856688	7	plus
##		NC_030683.2	76857343	76861471	7	minus
##		NC_030683.2	76861810	76861964	7	minus
##		NC_030683.2	76868742	76872803	7	plus
##		NC_030683.2	76871656	76875789	7	minus
##		NC_030683.2	76876137	76876291	7	minus
##		NC_030683.2	76890127	76894248	7	minus
##		NC_030683.2	76894590	76894743	7	minus
##		NC_030683.2	76895246	76897071	7	minus
##		NC_030683.2	76902132	76903957	7	plus
##		NC_030683.2	76904459	76904612	7	plus
##		NC_030683.2	76904955	76909078	7	plus
##		NC_030683.2	76916877	76918702	7	plus
##	6433	NC_030683.2	76919203	76919356	7	plus
##	6434	NC_030683.2	76919699	76923822	7	plus
##	6435	NC_030683.2	76947229	76951353	7	minus
##	6436	NC_030683.2	76951696	76951849	7	minus
##	6437	NC_030683.2	76952350	76954175	7	minus
##	6438	NC_030683.2	76961973	76966097	7	minus
##	6439	NC_030683.2	76966440	76966593	7	minus
##	6440	NC_030683.2	76967094	76968919	7	minus
##	6441	NC_030683.2	76976013	76980136	7	minus
##	6442	NC_030683.2	76980477	76980624	7	minus
##	6443	NC_030683.2	77003518	77006891	7	minus
##	6444	NC_030683.2	77003518	77006891	7	minus
##	6445	NC_030683.2	77003518	77006891	7	minus
##	6446	NC_030683.2	77007425	77009391	7	minus
##	6447	NC_030683.2	77010881	77018188	7	minus
##	6448	NC_030683.2	77020760	77039739	7	minus
##	6449	NC_030683.2	77065773	77065992	7	plus
##	6450	NC_030683.2	77080697	77082092	7	plus
##	6451	NC_030683.2	77143620	77150160	7	plus
##	6452	NC_030683.2	77504426	77550643	7	plus
##	6453	NC_030683.2	77504426	77550643	7	plus
##	6454	NC_030683.2	77594227	77595010	7	minus
##		NC_030683.2	77626883	77627014	7	plus
##		NC_030683.2	77628386	77628517	7	plus
##		NC_030683.2	77777594	77777657	7	minus
##		NC_030683.2	78247131	78247218	7	minus
##		NC_030683.2	79335411	79339324	7	minus
##		NC_030683.2	79883885	79885549	7	minus
##		NC_030683.2	80821778	80824150	7	plus
##		NC_030683.2	81309872	81310809	7	plus
##		NC_030683.2	82249157	82252340	7	minus
##		NC_030683.2	82504809	82505692	7	minus
##		NC_030683.2	84097122	84098567	7	minus
					•	

		NC_030683.2	84097612	84097696	7	minus
##		NC_030683.2	84109157	84109223	7	plus
##		NC_030683.2	84734056	84816277	7	plus
##		NC_030683.2	84798358	84798772	7	minus
##		NC_030683.2	84838508	84843308	7	plus
##		NC_030683.2	85207270	85210197	7	minus
##		NC_030683.2	85450192	85451845	7	minus
##		NC_030683.2	85509289	85513881	7	minus
##		NC_030683.2	87416406	87422512	7	plus
##		NC_030683.2	87786784	87793432	7	plus
##		NC_030683.2	87887282	87887368	7	minus
##		NC_030683.2	87890107	87890195	7	minus
##		NC_030683.2	87891785	87891873	7	minus
##		NC_030683.2	88907552	88908839	7	plus
##		NC_030683.2	89059345	89172968	7	minus
##		NC_030683.2	89122346	89122465	7	plus
##	6482	NC_030683.2	89756582	89779288	7	minus
##		NC_030683.2	89756753	89756848	7	minus
##	6484	NC_030683.2	90241297	90256668	7	plus
##	6485	NC_030683.2	90932162	90937516	7	plus
##	6486	NC_030683.2	91361145	91363675	7	minus
##	6487	NC_030683.2	91868589	91868692	7	minus
##	6488	NC_030683.2	92332881	92336487	7	plus
##	6489	NC_030683.2	92436892	92444246	7	plus
##	6490	NC_030683.2	92964039	92965118	7	minus
##	6491	NC_030683.2	93166835	93170049	7	minus
##	6492	NC_030683.2	93543781	93563147	7	minus
##	6493	NC_030683.2	93710444	93715550	7	minus
##	6494	NC_030683.2	93716168	93716240	7	minus
##	6495	NC_030683.2	93718093	93718175	7	plus
##	6496	NC_030683.2	93718368	93718440	7	minus
##	6497	NC_030683.2	93719227	93719308	7	plus
##	6498	NC_030683.2	93722011	93722083	7	plus
##	6499	NC_030683.2	93722766	93722848	7	minus
##	6500	NC_030683.2	93743060	93743132	7	minus
##	6501	NC_030683.2	93743511	93743593	7	plus
##	6502	NC_030683.2	93782105	93820976	7	minus
##	6503	NC_030683.2	93782105	93820976	7	minus
##	6504	NC_030683.2	93782105	93820976	7	minus
##	6505	NC_030683.2	93782105	93820976	7	minus
##	6506	NC_030683.2	95520957	95561530	7	plus
##	6507	NC_030683.2	95520957	95561530	7	plus
##	6508	NC_030683.2	97464777	97487505	7	minus
##	6509	NC_030683.2	98152119	98191227	7	minus
##	6510	NC_030683.2	98194316	98217078	7	plus
##	6511	NC_030683.2	98248170	98250253	7	plus
##	6512	NC_030683.2	98380568	98380773	7	plus
##	6513	NC_030683.2	99488739	99490634	7	plus
##	6514	NC_030683.2	101275486	101280000	7	minus
##		NC_030683.2			7	minus
##		NC_030683.2			7	plus
##		NC_030683.2			7	minus
##		NC_030683.2			7	plus
##		NC_030683.2			7	plus
		_				-

```
## 6520 NC 030683.2 102767977 102768059
                                                           plus
## 6521 NC_030683.2 102770998 102771070
                                                           plus
## 6522 NC 030683.2 102771368 102771450
                                                           plus
## 6523 NC_030683.2 102773527 102773599
                                                          minus
## 6524 NC_030683.2 102774615 102774687
                                                  7
                                                          minus
                                                  7
## 6525 NC 030683.2 102775022 102775104
                                                           plus
                                                  7
## 6526 NC 030683.2 102776198 102776270
                                                          plus
## 6527 NC 030683.2 102845022 102847139
                                                  7
                                                          minus
## 6528 NC 030683.2 103041920 103042988
                                                  7
                                                          plus
## 6529 NC_030683.2 103068206 103080700
                                                          minus
## 6530 NC_030683.2 103144920 103152840
                                                          minus
## 6531 NC_030683.2 103161508 103168581
                                                          minus
## 6532 NC_030683.2 103178581 103181081
                                                  7
                                                          minus
                                                  7
## 6533 NC_030683.2 103205121 103213441
                                                          minus
## 6534 NC_030683.2 103234457 103235323
                                                  7
                                                          minus
## 6535 NC_030683.2 103303614 103310120
                                                          minus
## 6536 NC_030683.2 103342878 103348400
                                                  7
                                                          minus
## 6537 NC 030683.2 103357220 103361206
                                                         minus
## 6538 NC_030683.2 103634618 103644377
                                                         minus
## 6539 NC 030683.2 103974343 103976272
                                                  7
                                                         minus
## 6540 NC_030683.2 105105072 105167756
                                                  7
                                                          plus
## 6541 NC_030683.2 105897229 105897539
                                                  7
                                                          plus
                                                  7
## 6542 NC_030683.2 105958333 105988731
                                                          minus
## 6543 NC 030683.2 106462888 106573288
                                                  7
                                                         minus
## 6544 NC 030683.2 106462888 106573288
                                                          minus
## 6545 NC_030683.2 106575037 106681961
                                                          minus
## 6546 NC_030683.2 106575037 106681961
                                                          minus
                                                  7
## 6547 NC_030683.2 106575037 106681961
                                                          minus
## 6548 NC_030683.2 106579184 106584928
                                                          minus
## 6549 NC_030683.2 106579184 106584928
                                                  7
                                                         minus
## 6550 NC_030683.2 107647836 107679504
                                                          plus
## 6551 NC_030683.2 107647836 107679504
                                                  7
                                                          plus
## 6552 NC_030683.2 107785475 107788957
                                                          plus
## 6553 NC_030683.2 107927365 107939502
                                                          minus
## 6554 NC 030683.2 107941095 107948344
                                                  7
                                                          minus
                                                  7
## 6555 NC_030683.2 107997130 108008472
                                                          minus
## 6556 NC 030683.2 108470401 108501383
                                                         minus
## 6557 NC_030683.2 108470401 108501383
                                                  7
                                                         minus
## 6558 NC_030683.2 108508767 108511250
                                                  7
                                                         minus
## 6559 NC_030683.2 108542982 108543927
                                                         plus
## 6560 NC 030683.2 108597406 108602349
                                                  7
                                                          plus
## 6561 NC_030683.2 109327552 109332446
                                                           plus
## 6562 NC 030683.2 109345105 109346896
                                                  7
                                                          minus
                                                  7
## 6563 NC_030683.2 109449047 109451124
                                                          plus
                                                  7
## 6564 NC_030683.2 109562837 109564749
                                                          minus
## 6565 NC_030683.2 110452635 110452698
                                                          minus
## 6566 NC_030683.2 110596423 110600147
                                                  7
                                                          plus
## 6567 NC_030683.2 110967747 110992785
                                                          minus
## 6568 NC_030683.2 111341642 111352127
                                                          minus
                                                  7
## 6569 NC_030683.2 111573777 111576109
                                                          minus
                                                  7
## 6570 NC_030683.2 111625160 111631804
                                                          plus
                                                  7
## 6571 NC 030683.2 111669270 111670182
                                                          minus
## 6572 NC_030683.2 111739631 111765629
                                                  7
                                                           plus
## 6573 NC 030683.2 111847568 111847938
                                                           plus
```

```
## 6574 NC 030683.2 111860770 111864259
                                                           plus
## 6575 NC_030683.2 111860770 111864259
                                                           plus
## 6576 NC 030683.2 113091584 113093317
                                                           plus
## 6577 NC_030683.2 113118474 113121427
                                                           plus
## 6578 NC_030683.2 113252440 113252940
                                                  7
                                                          minus
## 6579 NC 030683.2 113537592 113542537
                                                          minus
## 6580 NC 030683.2 114137164 114138434
                                                  7
                                                          minus
## 6581 NC_030683.2 114545388 114568648
                                                  7
                                                          minus
## 6582 NC 030683.2 114612068 114624289
                                                  7
                                                          minus
## 6583 NC_030683.2 117187047 117187118
## 6584 NC_030683.2 117191530 117191601
                                                          minus
## 6585 NC_030683.2 117193670 117193741
                                                          minus
## 6586 NC_030683.2 117194315 117194386
                                                  7
                                                          minus
## 6587 NC_030683.2 117196613 117196684
                                                          minus
## 6588 NC_030683.2 117199727 117199798
                                                  7
                                                          minus
## 6589 NC_030683.2 117200381 117200452
                                                          minus
## 6590 NC_030683.2 117204016 117204087
                                                  7
                                                          minus
## 6591 NC 030683.2 117209138 117209209
                                                          minus
## 6592 NC_030683.2 117210467 117210538
                                                         minus
## 6593 NC 030683.2 117210866 117210937
                                                  7
                                                          minus
## 6594 NC_030683.2 117211942 117212013
                                                  7
                                                          minus
## 6595 NC_030683.2 117375206 117381552
                                                  7
                                                         minus
## 6596 NC_030683.2 117375660 117375748
                                                         minus
## 6597 NC 030683.2 117377356 117377444
                                                  7
                                                         minus
## 6598 NC 030683.2 117378031 117378124
## 6599 NC_030683.2 117379006 117379094
                                                         minus
## 6600 NC_030683.2 117379627 117379715
                                                          minus
                                                  7
## 6601 NC_030683.2 119283378 119283488
                                                          minus
## 6602 NC_030683.2 119289260 119292320
                                                          plus
## 6603 NC_030683.2 119740341 119776839
                                                  7
                                                          minus
## 6604 NC_030683.2 119948206 119949226
                                                          minus
## 6605 NC_030683.2 120146127 120146188
                                                  7
                                                          minus
## 6606 NC_030683.2 120158063 120158151
                                                          minus
## 6607 NC_030683.2 120161035 120161110
                                                          minus
## 6608 NC 030683.2 120161102 120247696
                                                  7
                                                          minus
## 6609 NC_030683.2 120224359 120229102
                                                  7
                                                          plus
## 6610 NC 030683.2 120788912 120789789
                                                          minus
## 6611 NC_030683.2 121133066 121135417
                                                           plus
## 6612 NC 030683.2 121181916 121186051
                                                  7
                                                           plus
## 6613 NC_030683.2 121246514 121257706
                                                           plus
## 6614 NC 030683.2 122393163 122398418
                                                  7
                                                          plus
## 6615 NC 030683.2 122602292 122606962
                                                          minus
## 6616 NC 030683.2 123016082 123019227
                                                  7
                                                          minus
                                                  7
## 6617 NC_030683.2 123020528 123021831
                                                          minus
                                                  7
## 6618 NC_030683.2 123370493 123371847
                                                           plus
## 6619 NC_030683.2 123432274 123435061
                                                           plus
## 6620 NC_030683.2 123511608 123526805
                                                  7
                                                           plus
## 6621 NC_030683.2 124981827 124991223
                                                           plus
## 6622 NC_030683.2 125140125 125141176
                                                           plus
## 6623 NC_030683.2 125609217 125637992
                                                          minus
                                                  7
## 6624 NC_030683.2 126153902 126156955
                                                           plus
                                                  7
## 6625 NC_030683.2 126201198 126204125
                                                           plus
## 6626 NC_030683.2 126772392 126786897
                                                  7
                                                           plus
## 6627 NC 030683.2 127104212 127112753
                                                           plus
```

```
## 6628 NC 030683.2 127500357 127501764
                                                           plus
## 6629 NC_030683.2 127559556 127578963
                                                  7
                                                          minus
## 6630 NC 030683.2 127903694 127910987
                                                          minus
## 6631 NC_030683.2 127911135 127916645
                                                           plus
## 6632 NC_030683.2 128815000 128868929
                                                  7
                                                          minus
## 6633 NC 030683.2 130084698 130084754
                                                  7
                                                           plus
## 6634 NC 030683.2 130085079 130085135
                                                  7
                                                          plus
## 6635 NC 030683.2 130085844 130085902
                                                  7
                                                           plus
## 6636 NC 030683.2 130091759 130091815
                                                  7
                                                           plus
## 6637 NC_030683.2 130092119 130092175
                                                           plus
## 6638 NC_030683.2 130092854 130092910
                                                           plus
## 6639 NC_030683.2 130096039 130096095
                                                           plus
## 6640 NC_030683.2 130097062 130097118
                                                  7
                                                           plus
                                                  7
## 6641 NC_030683.2 130099751 130099807
                                                           plus
## 6642 NC_030683.2 130101030 130101084
                                                  7
                                                          minus
## 6643 NC_030683.2 130101576 130101632
                                                           plus
## 6644 NC_030683.2 130102599 130102655
                                                  7
                                                          plus
## 6645 NC 030683.2 130103491 130103547
                                                          minus
## 6646 NC_030683.2 130104191 130104247
                                                  7
                                                           plus
## 6647 NC 030683.2 130104458 130104514
                                                  7
                                                           plus
## 6648 NC_030683.2 130105268 130105324
                                                  7
                                                          minus
## 6649 NC_030683.2 130105968 130106024
                                                  7
                                                           plus
## 6650 NC_030683.2 130106235 130106291
                                                  7
                                                           plus
## 6651 NC 030683.2 130107491 130107547
                                                  7
                                                           plus
## 6652 NC 030683.2 130108317 130108375
                                                  7
                                                           plus
## 6653 NC_030683.2 130111356 130111412
                                                  7
                                                           plus
## 6654 NC_030683.2 130112234 130112290
                                                  7
                                                           plus
                                                  7
## 6655 NC_030683.2 130113351 130113407
                                                           plus
                                                  7
## 6656 NC_030683.2 130114182 130114238
                                                          minus
                                                  7
## 6657 NC_030683.2 130114861 130114917
                                                          minus
## 6658 NC_030683.2 130117673 130117729
                                                  7
                                                          minus
## 6659 NC_030683.2 130118510 130118566
                                                  7
                                                          minus
## 6660 NC_030683.2 130119784 130119840
                                                          minus
## 6661 NC_030683.2 130120462 130120518
                                                          plus
                                                  7
## 6662 NC 030683.2 130121426 130121482
                                                          minus
## 6663 NC_030683.2 130126285 130126341
                                                  7
                                                          plus
## 6664 NC 030683.2 130126830 130126886
                                                  7
                                                          minus
## 6665 NC_030683.2 130128593 130128649
                                                  7
                                                           plus
## 6666 NC_030683.2 130129709 130129765
                                                           plus
##
                                                                                 Name
## 1
                                                                             tRNA-Phe
## 2
                                                                               s-rRNA
## 3
                                                                             tRNA-Val
## 4
                                                                               1-rRNA
## 5
                                                                             tRNA-Leu
                                                                             tRNA-Ile
## 6
## 7
                                                                             tRNA-Gln
## 8
                                                                             tRNA-Met
## 9
                                                                             tRNA-Trp
## 10
                                                                             tRNA-Ala
## 11
                                                                             tRNA-Asn
## 12
                                                                             tRNA-Cys
## 13
                                                                             tRNA-Tyr
## 14
                                                                             tRNA-Ser
```

## 15	tRNA-Asp
## 16	tRNA-Lys
## 17	tRNA-Gly
## 18	tRNA-Arg
## 19	tRNA-His
## 20	tRNA-Ser
## 21	tRNA-Leu
## 22	tRNA-Glu
## 23	tRNA-Thr
## 24	tRNA-Pro
## 25	peptidase inhibitor 16
## 26	uncharacterized LOC116408404
## 27	uncharacterized LOC116408258, transcript variant X2
## 28	uncharacterized LOC116408258, transcript variant X2
## 29	uncharacterized gene
## 30	uncharacterized LOC116408259
## 31	small nucleolar RNA SNORA51
## 32	small nucleolar RNA SNORD56
## 33	small nucleolar RNA SNORD57
## 34	vomeronasal type-2 receptor 26-like
## 35	vomeronasal type-2 receptor 26
## 36	vomeronasal type-2 receptor 26-like
## 37	vomeronasal type-2 receptor 26-like
## 38	vomeronasal type-2 receptor 26-like
## 39	vomeronasal type-2 receptor 26-like
## 40	vomeronasal type-2 receptor 26-like
## 41	vomeronasal type-2 receptor 26-like
## 42	vomeronasal type-2 receptor 26
## 43	vomeronasal type-2 receptor 26
## 44	vomeronasal type-2 receptor 26
## 45	vomeronasal type-2 receptor 26-like
## 46	vomeronasal type-2 receptor 26-like
## 47	vomeronasal type-2 receptor 26-like
## 48	vomeronasal type-2 receptor 26-like
## 49	vomeronasal type-2 receptor 26-like
## 50	vomeronasal type-2 receptor 26
## 51	vomeronasal type-2 receptor 26-like
## 52	vomeronasal type-2 receptor 26-like
## 53	vomeronasal type-2 receptor 26-like
## 54	vomeronasal type-2 receptor 26-like
## 55	vomeronasal type-2 receptor 26-like
## 56	vomeronasal type-2 receptor 26
## 57	vomeronasal type-2 receptor 26
## 58	uncharacterized gene
## 59	vomeronasal type-2 receptor 26-like
## 60	vomeronasal type-2 receptor 26
## 61	vomeronasal type-2 receptor 26-like
## 62	vomeronasal type-2 receptor 26
## 63	vomeronasal type-2 receptor 26-like
## 64	vomeronasal type-2 receptor 26-like
## 65	vomeronasal type-2 receptor 26
## 66	vomeronasal type-2 receptor 26
## 67	vomeronasal type-2 receptor 26-like
## 68	vomeronasal type-2 receptor 26

##	69		vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26-like
##			vomeronasal type-2 receptor 26-like
##			vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26-like
##			vomeronasal type-2 receptor 26-like
##			uncharacterized gene
##			vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26
##			LOC101734200, transcript variant X3
##			LOC101734200, transcript variant X3
##		uncharacterized	LOC101734200, transcript variant X3
##			uncharacterized gene
##			vomeronasal type-2 receptor 26
##			uncharacterized gene
##			vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26-like
##			uncharacterized LOC101734240
##			vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26-like
##			uncharacterized gene
## ##			vomeronasal type-2 receptor 26-like vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26
##			vomeronasal type-2 receptor 26
##			U4atac minor spliceosomal RNA
##			uncharacterized gene
##			U4atac minor spliceosomal RNA
##	100		uncharacterized gene
##	101		uncharacterized gene
##	102		uncharacterized gene
##	103		uncharacterized gene
##	104		U4atac minor spliceosomal RNA
##	105		U4atac minor spliceosomal RNA
##	106		vomeronasal type-2 receptor 26-like
##	107		uncharacterized gene
##	108		vomeronasal type-2 receptor 26
##	109		vomeronasal type-2 receptor 26
##	110		vomeronasal type-2 receptor 26
	111		vomeronasal type-2 receptor 26
	112		vomeronasal type-2 receptor 26-like
	113		vomeronasal type-2 receptor 26
	114		vomeronasal type-2 receptor 26
	115		vomeronasal type-2 receptor 26
	116		vomeronasal type-2 receptor 26-like
	117		vomeronasal type-2 receptor 26-like
	118		uncharacterized gene
	119		vomeronasal type-2 receptor 26
	120		vomeronasal type-2 receptor 26
	121		vomeronasal type-2 receptor 26
##	122		vomeronasal type-2 receptor 26

	123	vomeronasal type-2 receptor 26
	124	vomeronasal type-2 receptor 26
	125	vomeronasal type-2 receptor 26
	126	uncharacterized LOC105946280
	127	uncharacterized gene
	128	vomeronasal type-2 receptor 26-like
	129	vomeronasal type-2 receptor 26
	130	vomeronasal type-2 receptor 26-like
	131	vomeronasal type-2 receptor 26
	132	vomeronasal type-2 receptor 26-like
	133	vomeronasal type-2 receptor 26
	134	uncharacterized gene
	135	vomeronasal type-2 receptor 26-like
	136	vomeronasal type-2 receptor 26
	137	vomeronasal type-2 receptor 26-like
	138	vomeronasal type-2 receptor 26
	139	vomeronasal type-2 receptor 26
	140	uncharacterized gene
	141	vomeronasal type-2 receptor 26-like
	142	uncharacterized gene
	143	uncharacterized gene
	144	uncharacterized LOC108645250
	145	uncharacterized gene
	146	uncharacterized gene
	147	uncharacterized gene
	148	uncharacterized gene
	149	uncharacterized gene
	150	uncharacterized gene
	151	uncharacterized gene
	152	uncharacterized gene
	153	uncharacterized gene
	154	uncharacterized gene
	155	uncharacterized gene
	156	uncharacterized gene
	157	uncharacterized gene
	158 159	uncharacterized gene
		uncharacterized LOC101733471, transcript variant X2
	160 161	uncharacterized LOC101733471, transcript variant X2
	162	uncharacterized gene uncharacterized gene
	163	uncharacterized gene uncharacterized gene
	164	uncharacterized gene uncharacterized gene
	165	uncharacterized gene uncharacterized gene
	166	uncharacterized gene
	167	uncharacterized gene
	168	uncharacterized gene
	169	uncharacterized gene
	170	uncharacterized LOC116408263
	171	uncharacterized LOC116408419, transcript variant X6
	172	uncharacterized LOC116408419, transcript variant X6
	173	uncharacterized LOC116408419, transcript variant X6
	174	uncharacterized LOC116408419, transcript variant X6
	175	uncharacterized LOC116408419, transcript variant X6
	176	uncharacterized LOC116408419, transcript variant X6
##	110	uncharacterized Lucito4v0413, transcript variant Ao

177	uncharacterized LOC116408264
178	uncharacterized LOC116408265
179	uncharacterized LOC116408266
180	alpha-1D adrenergic receptor
181	uncharacterized LOC116408270
182	microRNA mir-103-2
183	uncharacterized LOC116408420
184	uncharacterized LOC116408421
185	uncharacterized LOC101732343
186	microRNA mir-146b
187	uncharacterized LOC101732811
188	uncharacterized LOC116408422
189	uncharacterized LOC116408423
190	uncharacterized LOC116408271
191	uncharacterized LOC116408272
192	uncharacterized LOC116408273
193	uncharacterized LOC116408274
194	uncharacterized LOC116408275
 195	uncharacterized gene
196	uncharacterized LOC101730339
197	uncharacterized LOC116408427
198	SET and MYND domain-containing protein 5-like
199	uncharacterized LOC105946332, transcript variant X2
200	uncharacterized LOC105946332, transcript variant X2
201	uncharacterized LOC116408276
202	uncharacterized LOC116408429
203	SET and MYND domain-containing protein 5-like
204	uncharacterized LOC116408428
205	uncharacterized LOC116408430
206	uncharacterized LOC116408277
207	uncharacterized LOC116408278
208	uncharacterized LOC116408279
209	uncharacterized LOC116408280
210	uncharacterized LOC116408281
211	uncharacterized LOC116408282
212	uncharacterized LOC116408283
213	uncharacterized LOC116408284
214	uncharacterized LOC116408285
215	uncharacterized LOC116408286
216	vomeronasal type-2 receptor 26
217	vomeronasal type-2 receptor 26
218	vomeronasal type-2 receptor 26
219 220	vomeronasal type-2 receptor 26
	vomeronasal type-2 receptor 26
221	vomeronasal type-2 receptor 26-like
222	vomeronasal type-2 receptor 26
223	vomeronasal type-2 receptor 26
224	vomeronasal type-2 receptor 26 small nucleolar RNA SNORD94
225	
226	small nucleolar RNA SNORD94
227 228	uncharacterized LOC116408431 uncharacterized LOC116408432
229 230	uncharacterized LOC105946477
7.3()	uncharacterized gene

	231	histone-lysine N-methyltransferase NSD2
	232	uncharacterized LOC116408434
	233	uncharacterized LOC116408435
	234	uncharacterized gene
	235	uncharacterized LOC116408436
	236	uncharacterized LOC108645669
	237	uncharacterized LOC105946263
	238	uncharacterized LOC116408437
	239	uncharacterized LOC105946260
	240	uncharacterized LOC105946261
	241	uncharacterized LOC116408438
	242	EvC ciliary complex subunit 1
	243	uncharacterized protein LOC101734699
	244	uncharacterized protein KO2A2.6
	245	uncharacterized LOC116408287
	246	uncharacterized LOC116408439
	247	uncharacterized LOC116408440
	248	uncharacterized LOC116408441, transcript variant X2
	249	uncharacterized LOC116408441, transcript variant X2
	250	uncharacterized LOC116408442
	251	prominin 1
	252	prominin 1
	253	prominin 1
	254	prominin 1
	255	prominin 1
	256	prominin 1
	257	prominin 1
	258	prominin 1
	259	prominin 1
	260 261	prominin 1
	262	prominin 1
	263	prominin 1 uncharacterized LOC116408443
	264	microRNA mir-218-1
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	266	uncharacterized gene uncharacterized gene
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	285	uncharacterized LOC116408456
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##	293	small nucleolar RNA SNORA26
##	294	small nucleolar RNA SNORA26
##	295	uncharacterized LOC116408292
##	296	uncharacterized LOC101730516
##	297	uncharacterized LOC116408293
##	298	microRNA mir-383
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##	300	uncharacterized LOC116408464
##	301	protocadherin Fat 1 isoform X4
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##	303	uncharacterized LOC116408466
##	304	uncharacterized LOC105946470
##	305	uncharacterized LOC116408468
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##	307	uncharacterized LOC116408296
##	308	15-hydroxyprostaglandin dehydrogenase
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##	312	uncharacterized LOC101731713, transcript variant X1
##	313	uncharacterized LOC105946249, transcript variant X2
##	314	uncharacterized LOC105946249, transcript variant X2
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##	317	uncharacterized LOC105946247
##	318	uncharacterized LOC116408470, transcript variant X2
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##	320	transmembrane protein 192
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##	322	uncharacterized LOC116408297
##	323	glutamate receptor, ionotropic, AMPA 2
##	324	glycine receptor beta
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##	326	uncharacterized gene
##	327	transmembrane protein 131-like isoform X1
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	346	uncharacterized LOC116408479
	347	SH3 domain-containing protein 19 isoform X5
	348 349	SH3 domain-containing protein 19 isoform X5
	350	SH3 domain-containing protein 19 isoform X5 SH3 domain-containing protein 19 isoform X5
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	359	uncharacterized LOC116408481
	360	uncharacterized LOC116408300
	361	uncharacterized LOC116408302
	362	protein MGARP isoform X1
	363	cystine/glutamate transporter
	364	protocadherin 10
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	367	uncharacterized LOC108648245
	368	uncharacterized LOC116408303
	369	uncharacterized LOC116410961
	370	uncharacterized gene
	371	uncharacterized LOC116410960
	372	adenosine deaminase domain-containing protein 1-like isoform X1
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	375	protein kinase C delta type-like
	376	protein kinase C delta type-like
	377	adenosine deaminase domain-containing protein 1
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	385	tRNA-Val
	386	tRNA-Val
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	389	uncharacterized LOC108648251
	390	microRNA mir-367
	391	microRNA mir-302
	392	uncharacterized LOC116411088
ππ	002	uncharacterized Lucrio411000

	393	uncharacterized LOC101732926
	394	small nucleolar RNA SNORA24
	395	small nucleolar RNA SNORA24
	396	chromosome 4 open reading frame 3
	397	uncharacterized LOC116411102
	398	uncharacterized LOC116411109
	399	glutathione S-transferase C-terminal domain-containing protein
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	402	small Cajal body-specific RNA 15
	403	uncharacterized LOC116411449, transcript variant X2
	404	uncharacterized LOC116411449, transcript variant X2
	405	uncharacterized LOC116411450
	406	RUN and FYVE domain containing 3
##	407	uncharacterized LOC116411451
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	409	uncharacterized LOC105945456, transcript variant X1
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	411	uncharacterized LOC116411453
	412	uncharacterized LOC105948228, transcript variant X2
##	413	uncharacterized LOC105948228, transcript variant X2
	414	uncharacterized LOC116411454, transcript variant X2
##	415	uncharacterized LOC116411454, transcript variant X2
	416	heterogeneous nuclear ribonucleoprotein D
	417	heterogeneous nuclear ribonucleoprotein D
	418	heterogeneous nuclear ribonucleoprotein D like
	419	RNA binding protein with multiple splicing
	420	extracellular matrix protein FRAS1 isoform X1
	421	extracellular matrix protein FRAS1 isoform X1
	422	uncharacterized gene
	423	uncharacterized LOC100489354, transcript variant X1
	424	uncharacterized LOC100489354, transcript variant X1
	425	uncharacterized LOC105946056, transcript variant X2
	426	uncharacterized LOC105946056, transcript variant X2
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	428	uncharacterized LOC116408311
	429	uncharacterized LOC105948145
	430	uncharacterized LOC105948246, transcript variant X2
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	436	uncharacterized gene
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	441	uncharacterized LOC116411519
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	466	U4 spliceosomal RNA
	467	uncharacterized LOC108648369
	468	glutathione peroxidase 4
	469	tRNA-Ala
	470	U6 spliceosomal RNA
	471	uncharacterized gene
	472	uncharacterized gene
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	474	uncharacterized LOC116412000
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## ## ## ##	477 478 479 480	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene
## ## ## ##	477 478 479 480 481	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene UDP-glucuronosyltransferase 2A2 pseudogene
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## ## ## ## ##	477 478 479 480 481 482 483	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene UDP-glucuronosyltransferase 2A2 pseudogene uncharacterized gene tRNA-Tyr
## ## ## ## ## ##	477 478 479 480 481 482 483 484	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene UDP-glucuronosyltransferase 2A2 pseudogene uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4
## ## ## ## ## ##	477 478 479 480 481 482 483 484 485	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene UDP-glucuronosyltransferase 2A2 pseudogene uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized LOC105945731, transcript variant X4
## ## ## ## ## ##	477 478 479 480 481 482 483 484 485 486	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene UDP-glucuronosyltransferase 2A2 pseudogene uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized LOC105945731, transcript variant X4 uncharacterized LOC105945731, transcript variant X4
## ## ## ## ## ## ##	477 478 479 480 481 482 483 484 485 486 487	uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4
## ## ## ## ## ## ##	477 478 479 480 481 482 483 484 485 486 487	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene UDP-glucuronosyltransferase 2A2 pseudogene uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003
## ## ## ## ## ## ##	477 478 479 480 481 482 483 484 485 486 487 488	uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003 BTB/POZ domain-containing protein 2 isoform X1
## ## ## ## ## ## ## ##	477 478 479 480 481 482 483 484 485 486 487 488 489 490	uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003 BTB/POZ domain-containing protein 2 isoform X1 uncharacterized LOC116412038
## ## ## ## ## ## ## ## ##	477 478 479 480 481 482 483 484 485 486 487 488 489 490 491	uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003 BTB/POZ domain-containing protein 2 isoform X1 uncharacterized LOC116412038 uncharacterized LOC116412039
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######################################	477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene UDP-glucuronosyltransferase 2A2 pseudogene uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003 BTB/POZ domain-containing protein 2 isoform X1 uncharacterized LOC116412038 uncharacterized LOC116412039 uncharacterized LOC105945613, transcript variant X2 uncharacterized LOC105945613, transcript variant X2
######################################	477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene UDP-glucuronosyltransferase 2A2 pseudogene uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003 BTB/POZ domain-containing protein 2 isoform X1 uncharacterized LOC116412038 uncharacterized LOC116412039 uncharacterized LOC105945613, transcript variant X2 uncharacterized gene
######################################	477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495	uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene UDP-glucuronosyltransferase 2A2 pseudogene uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003 BTB/POZ domain-containing protein 2 isoform X1 uncharacterized LOC116412038 uncharacterized LOC116412039 uncharacterized LOC105945613, transcript variant X2 uncharacterized gene tRNA-Gly
######################################	477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496	uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003 BTB/POZ domain-containing protein 2 isoform X1 uncharacterized LOC116412038 uncharacterized LOC116412039 uncharacterized LOC105945613, transcript variant X2 uncharacterized LOC105945613, transcript variant X2 uncharacterized gene tRNA-Gly tRNA-Gly
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######################################	477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498	uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003 BTB/POZ domain-containing protein 2 isoform X1 uncharacterized LOC116412038 uncharacterized LOC116412039 uncharacterized LOC105945613, transcript variant X2 uncharacterized LOC105945613, transcript variant X2 uncharacterized gene tRNA-Gly tRNA-Glu uncharacterized LOC116408317 uncharacterized LOC116408319
############################	477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497	uncharacterized gene tRNA-Tyr uncharacterized LOC105945731, transcript variant X4 uncharacterized protein LOC116412003 BTB/POZ domain-containing protein 2 isoform X1 uncharacterized LOC116412038 uncharacterized LOC116412039 uncharacterized LOC105945613, transcript variant X2 uncharacterized LOC105945613, transcript variant X2 uncharacterized gene tRNA-Gly tRNA-Glu uncharacterized LOC116408317

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	504	uncharacterized LOC116406518
	505	uncharacterized LOC108648926
	506	uncharacterized LOC105945472, transcript variant X2
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	508	uncharacterized LOC116406520
	509	protein Hook homolog 3 isoform X4
	510	uncharacterized gene
	511	uncharacterized LOC101731124, transcript variant X2
	512	uncharacterized LOC101731124, transcript variant X2
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	514	microRNA mir-9b
	515	CUGBP Elav-like family member 5
	516	CUGBP Elav-like family member 5
##	517	SH2 domain-containing adapter protein B
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	519	uncharacterized LOC116408323
	520	uncharacterized LOC116408324
	521	muscle M-line assembly protein unc-89
	522	nipsnap homolog 3A
	523	T-cell acute lymphocytic leukemia 2
	524	microRNA mir-31a
	525	uncharacterized LOC116406523
	526	uncharacterized LOC116406524
	527	FRAS1-related extracellular matrix protein 1 isoform X1
	528	zinc finger DHHC-type containing 21
	529	tRNA-His
	530	uncharacterized LOC116406525
	531	microRNA mir-101a-1
	532	regulatory factor X3
	533	uncharacterized gene
	534	uncharacterized LOC116406561
	535	uncharacterized gene
	536	U5 spliceosomal RNA
	537	uncharacterized LOC116408325
	538	tRNA-Tyr
	539	uncharacterized LOC108644692
	540	MAM domain containing 2
	541	microRNA mir-204-2
	542	uncharacterized gene
	543	uncharacterized LOC105948580
	544 545	uncharacterized LOC105948530
	545 546	microRNA mir-7-1
		uncharacterized LOC116406593
	547	microRNA mir-23b microRNA mir-27b
	548 540	
	549	microRNA mir-24a
	550 EE1	protein patched homolog 1 isoform X1 uncharacterized LOC101734454
	551 552	uncharacterized LUC101734454 uncharacterized LOC116408326
	553 554	uncharacterized LOC116406620
	hh/	uncharacterized LOC116406630, transcript variant X2

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	557	microRNA mir-208
	558	tRNA-Arg
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##	643	MORC family CW-type zinc finger 2
##	644	MORC family CW-type zinc finger 2
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##	646	uncharacterized LOC116408328
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	648	uncharacterized LOC108645063, transcript variant $\ensuremath{\mathtt{X2}}$
##	649	uncharacterized LOC108645074
##	650	uncharacterized LOC108645148, transcript variant $\ensuremath{\texttt{X2}}$
	651	uncharacterized LOC108645148, transcript variant $\ensuremath{\text{X2}}$
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##	653	uncharacterized LOC108645158
##	654	small G protein signaling modulator 1
##	655	uncharacterized LOC108645160
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##	657	uncharacterized LOC105948288
##	658	uncharacterized LOC100497306, transcript variant X1
##	659	uncharacterized LOC100497306, transcript variant X1
##	660	uncharacterized gene
##	661	tetratricopeptide repeat protein 28 isoform X1
##	662	U6 spliceosomal RNA
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	663 664	uncharacterized LOC116408330
		BICD family like cargo adaptor 1
	665	uncharacterized gene
	666	U4 spliceosomal RNA
	667	U4 spliceosomal RNA
	668	GATOR complex protein DEPDC5 isoform X3
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	703	microRNA mir-454
	704	microRNA mir-301-2
	705	microRNA mir-130c
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##	714	uncharacterized LOC105948212
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	718	uncharacterized protein LOC100488577
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	721	tRNA-Asp
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	723	tRNA-Phe
	724	tRNA-Asp
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##	738	TRAF-type zinc finger domain containing 1
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##	741	uncharacterized LOC101733588, transcript variant X2
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##	743	small nucleolar RNA SNORD34
##	744	uncharacterized LOC116407554
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## ##	746	putative histone-lysine N-methyltransferase PRDM6
## ## ##	746 747	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332
## ## ## ##	746 747 748	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2
## ## ## ##	746 747 748 749	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2
## ## ## ## ##	746 747 748 749 750	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2
## ## ## ## ##	746 747 748 749 750 751	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2
## ## ## ## ## ##	746 747 748 749 750 751 752	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580
## ## ## ## ## ##	746 747 748 749 750 751 752 753	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene
## ## ## ## ## ##	746 747 748 749 750 751 752 753 754	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers
## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3
## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3
## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407637
## ###################################	746 747 748 749 750 751 752 753 754 755 756 757	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407637 uncharacterized LOC116407640, transcript variant X2
## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 759	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407637
## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 759 760	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407637 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC105948038
## ## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407641, transcript variant X2 uncharacterized LOC105948038 uncharacterized LOC10734714, transcript variant X4
## ## ## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407637 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC105948038 uncharacterized LOC101734714, transcript variant X4 uncharacterized LOC101734714, transcript variant X4
## ## ## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407637 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC105948038 uncharacterized LOC10734714, transcript variant X4 uncharacterized LOC101734714, transcript variant X4
## ## ## ## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407637 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC101734714, transcript variant X4
## ## ## ## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407637 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC101734714, transcript variant X4
## ## ## ## ## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 760 761 762 763 764 765 766 767	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC1165948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC101734714, transcript variant X4
## ## ## ## ## ## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407637 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC101734714, transcript variant X4
## ## ## ## ## ## ## ## ## ## ## ## ##	746 747 748 749 750 751 752 753 754 755 756 757 758 760 761 762 763 764 765 766 767	putative histone-lysine N-methyltransferase PRDM6 uncharacterized LOC116408332 uncharacterized gene uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC105948047, transcript variant X2 uncharacterized LOC1165948047, transcript variant X2 uncharacterized LOC116407580 uncharacterized gene mutated in colorectal cancers neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 neuronal regeneration related protein, transcript variant X3 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC116407640, transcript variant X2 uncharacterized LOC101734714, transcript variant X4

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	777	uncharacterized LOC116408335
	778	uncharacterized LOC116407697
	779	occludin pseudogene
	780	small EDRK-rich factor 1
	781	uncharacterized LOC116407733
	782	hexosaminidase B (beta polypeptide)
	783	uncharacterized LOC116407780
	784	uncharacterized LOC116407786
	785	U6 spliceosomal RNA
	786	small nucleolar RNA SNORA47
	787	uncharacterized LOC101734782
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	791	uncharacterized LOC116407908
	792	uncharacterized LOC100486571
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	795	uncharacterized LOC116407909
	796	transcriptional regulator ATRX homolog
	797	uncharacterized LOC116408336
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	810	uncharacterized LOC116407918
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	892	small nucleolar RNA SNORD121A
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	979	polymerase (DNA directed), theta
	980	U4atac minor spliceosomal RNA
	981	uncharacterized LOC108645742
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	1018	uncharacterized LOC108645748
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	1086	anaphase-promoting complex subunit 4-like isoform X1 anaphase-promoting complex subunit 4-like isoform X1
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		anaptor roradou prodoin dompron i bubunio bigmu z

шш	1005	
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	1213	U6 spliceosomal RNA
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##	1222	uncharacterized LOC105946524
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##	1226	uncharacterized LOC116408807
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##	1228	uncharacterized LOC108645765, transcript variant X1
	1229	uncharacterized LOC108645766
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	1232	uncharacterized LOC105948483, transcript variant X2
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	1241	uncharacterized LOC116408815
	1242	microRNA mir-29b
	1243	microRNA mir-29c
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1294	myogenin (myogenic factor 4)
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1298	microRNA mir-221
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1303	protein Wnt-2b
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1305	microRNA let-7b
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1308	kinesin-like protein KIF21B isoform X1
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	1314	uncharacterized LOC116408830
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	1316	uncharacterized LOC105948383, transcript variant X2
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##	1322	uncharacterized LOC116408833
##	1323	chitinase-like, acidic
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##	1339	uncharacterized LOC116408686
##	1340	uncharacterized LOC116408840
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	1453	uncharacterized LOC105946735, transcript variant X1
	1454	uncharacterized LOC105946735, transcript variant X1
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	1457	AT-hook DNA-binding motif-containing protein 1
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	1459	U11 spliceosomal RNA
	1460	uncharacterized LOC116408845
	1461	cAMP-dependent protein kinase inhibitor beta
	1462	small Cajal body-specific RNA 1
	1463	uncharacterized gene
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	1470	microRNA mir-1b
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## 1473 ## 1474 ## 1475 ## 1475 ## 1476 ## 1476 ## 1477 ## 1477 ## 1477 ## 1478 ## 1477 ## 1478 ## 1478 ## 1478 ## 1477 ## 1478 ## 1478 ## 1479 ## 1480 ## 1480 ## 1481 ## 1482 ## 1482 ## 1483 ## 1484 ## 1485 ## 1485 ## 1486 ## 1486 ## 1487 ## 1486 ## 1486 ## 1487 ## 1487 ## 1488 ## 1488 ## 1489 ## 1489 ## 1489 ## 1489 ## 1490 ## 149	6408848 6408849 0495928 0495928 0495928 0495928 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1475 ## 1476 ## 1477 ## 1477 ## 1477 ## 1478 ## 1478 ## 1479 ## 1480 ## 1480 ## 1481 ## 1482 ## 1483 ## 1483 ## 1484 ## 1485 ## 1485 ## 1486 ## 1489 ## 1487 ## 1487 ## 1488 ## 1489 ## 1487 ## 1488 ## 1489 ## 1489 ## 1489 ## 1489 ## 1489 ## 1489 ## 1489 ## 1489 ## 1489 ## 1490 ## 1490 ## 1491 ## 1492 ## 1493 ## 1494 ## 1494 ## 1495 ## 1496 ## 1496 ## 1496 ## 1497 ## 1496 ## 1496 ## 1497 ## 1496	6408849 0495928 0495928 0495928 0495928 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 control of the
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## 1477 ## 1478 ## 1479 ## 1480 ## 1481 ## 1481 ## 1482 ## 1483 ## 1484 ## 1484 ## 1485 ## 1485 ## 1486 ## 1487 ## 1488 ## 1487 ## 1488 ## 1487 ## 1489 ## 1489 ## 1490 ## 1490 ## 1490 ## 1491 ## 1492 ## 1493 ## 1494 ## 1495 ## 1496 ## 1496 ## 1497 ## 1497 ## 1497 ## 1496 ## 1497 ## 1497 ## 1497 ## 1497 ## 1496 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1496 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1496 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1496 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1497 ## 1496 ## 1497 ## 1497 ## 1497	0495928 0495928 0495928 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1478 uncharacterized protein LOC10 ## 1479 uncharacterized protein LOC10 ## 1480 small nucleolar RNA SNORD103/ ## 1481 small nucleolar RNA SNORD103/ ## 1482 small nucleolar RNA SNORD103/ ## 1483 small nucleolar RNA SNORD103/ ## 1484 small nucleolar RNA SNORD103/ ## 1485 small nucleolar RNA SNORD103/ ## 1486 small nucleolar RNA SNORD103/ ## 1487 small nucleolar RNA SNORD103/ ## 1488 uncharacterized LOC11 ## 1489 uncharacterized LOC11 ## 1490 uncharacterized LOC116408851, transcript var ## 1491 uncharacterized LOC116408851, transcript var ## 1492 BSD domain conta ## 1493 microRNA ## 1494 uncharacterized LOC11 ## 1495 uncharacterized LOC11 ## 1496 uncharacterized LOC11 ## 1497 uncharacterized LOC11 ## 1497 uncharacterized LOC11 ## 1497 uncharacterized LOC11	0495928 0495928 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1479	0495928 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1480 small nucleolar RNA SNORD103/ ## 1481 small nucleolar RNA SNORD103/ ## 1482 small nucleolar RNA SNORD103/ ## 1483 small nucleolar RNA SNORD103/ ## 1484 small nucleolar RNA SNORD103/ ## 1485 small nucleolar RNA SNORD103/ ## 1486 small nucleolar RNA SNORD103/ ## 1487 small nucleolar RNA SNORD103/ ## 1488 uncharacterized LOC11 ## 1489 uncharacterized LOC11 ## 1490 uncharacterized LOC116408851, transcript var ## 1491 uncharacterized LOC116408851, transcript var ## 1492 BSD domain conta ## 1493 microRNA ## 1494 microRNA mi ## 1495 ## 1496 uncharacterized LOC11 ## 1497 uncharacterized LOC11 ## 1497	SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1481	SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1482	SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1483 ## 1484 ## 1485 ## 1486 ## 1487 ## 1488 ## 1488 ## 1489 ## 1490 ## 1490 ## 1491 ## 1492 ## 1492 ## 1493 ## 1493 ## 1494 ## 1495 ## 1496 ## 1496 ## 1497 ## 1496 ## 1497	SNORD85 SNORD85 SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1484 small nucleolar RNA SNORD103/ ## 1485 small nucleolar RNA SNORD103/ ## 1486 small nucleolar RNA SNORD103/ ## 1487 small nucleolar RNA SNORD103/ ## 1488 uncharacterized LOC11 ## 1490 uncharacterized LOC116408851, transcript var ## 1491 uncharacterized LOC116408851, transcript var ## 1492 BSD domain conta ## 1493 microRNA ## 1494 microRNA mi ## 1495 uncharacterized LOC11 ## 1496 ## 1496 ## 1497	SNORD85 SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1485 small nucleolar RNA SNORD103/ ## 1486 small nucleolar RNA SNORD103/ ## 1487 small nucleolar RNA SNORD103/ ## 1488 uncharacterized LOC11 ## 1499 uncharacterized LOC116408851, transcript var ## 1491 uncharacterized LOC116408851, transcript var ## 1492 BSD domain conta ## 1493 microRNA ## 1494 microRNA mi ## 1495 uncharacterized LOC11 ## 1496 ## 1497 uncharacterized LOC11 ## 1497	SNORD85 SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1486 small nucleolar RNA SNORD103/ ## 1487 small nucleolar RNA SNORD103/ ## 1488 uncharacterized LOC11 ## 1499 uncharacterized LOC116408851, transcript var ## 1491 uncharacterized LOC116408851, transcript var ## 1492 BSD domain conta ## 1493 microRNA ## 1494 microRNA mi ## 1495 ## 1496 uncharacterized LOC11 ## 1496 ## 1497	SNORD85 SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1487 small nucleolar RNA SNORD103/ ## 1488 uncharacterized LOC11 ## 1489 uncharacterized LOC11 ## 1490 uncharacterized LOC116408851, transcript var ## 1491 uncharacterized LOC116408851, transcript var ## 1492 BSD domain conta ## 1493 microRNA ## 1494 microRNA mi ## 1495 uncharacterized LOC11 ## 1496 uncharacterized LOC11 ## 1497 uncharacterized LOC10	SNORD85 6408693 6408850 iant X2 iant X2 ining 1 mir-30e
## 1488 uncharacterized LOC11 ## 1489 uncharacterized LOC11 ## 1490 uncharacterized LOC116408851, transcript var ## 1491 uncharacterized LOC116408851, transcript var ## 1492 BSD domain conta ## 1493 microRNA ## 1494 microRNA mi ## 1495 uncharacterized LOC11 ## 1496 uncharacterized LOC11 ## 1497 uncharacterized LOC10	6408693 6408850 iant X2 iant X2 ining 1 mir-30e
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## 1496 uncharacterized LOC11 ## 1497 uncharacterized LOC10	
## 1497 uncharacterized LOC10	
## 1498 uncharacterized LUCIO	
## 1499 uncharacterized LOC10	
## 1500 uncharacterized LOC10	
	RNA-Asp
## 1502 uncharacterized LOC10	
## 1503 uncharacterized LOC11	
## 1504 tRNA isopentenyltransf	
## 1505 poly(A) binding protein cytopl	
## 1506 poly(A) binding protein cytopl	
## 1507 poly(A) binding protein cytopl ## 1508 small nucleolar RNA	
## 1510 small nucleolar small nucleolar	
## 1511 ## 1512 small nucleolar RNA	
## 1512 Small nucleolar RNA ## 1513 small nucleolar RNA	
## 1513 Small nucleolar RNA ## 1514 uncharacterized LOC11	อพบนบ42
## 1014 uncharacter12ed LUCI1	6108051
## 1515 uncharacterized protein LOC10	0490302
## 1515 uncharacterized protein LOC10 ## 1516 uncharacterized LOC10	0490302 1731276
<pre>## 1515 ## 1516 ## 1517 uncharacterized protein LOC10 uncharacterized LOC10 uncharacterized LOC10</pre>	0490302 1731276 1731542
## 1515 uncharacterized protein LOC10 ## 1516 uncharacterized LOC10 ## 1517 uncharacterized LOC10 ## 1518 Z30 small nucleo	0490302 1731276 1731542 lar RNA
## 1515 uncharacterized protein LOC10 ## 1516 uncharacterized LOC10 ## 1517 uncharacterized LOC10 ## 1518 Z30 small nucleo ## 1519 uncharacterized LOC10	0490302 1731276 1731542 lar RNA 8645863
## 1515 ## 1516 ## 1517 ## 1518 ## 1518 ## 1519 ## 1520 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC11	0490302 1731276 1731542 lar RNA 8645863 6408855
## 1515 ## 1516 ## 1517 ## 1518 ## 1518 ## 1519 ## 1520 ## 1520 ## 1521 ## 1521 ## 1521 ## 1521 ## 1521 ## 1520 ## 1520 ## 1521 ## 1521 ## 1520 ## 1520 ## 1521 ## 1521 ## 1521 ## 1521 ## 1521 ## 1520 ## 1520 ## 1521	0490302 1731276 1731542 lar RNA 8645863 6408855 otein 2
## 1515 ## 1516 ## 1517 ## 1518 ## 1518 ## 1519 ## 1520 ## 1521 ## 1521 ## 1522 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC11 spindle and kinetochore-associated pr	0490302 1731276 1731542 lar RNA 8645863 6408855 otein 2 otein 2
## 1515 ## 1516 ## 1517 ## 1518 ## 1518 ## 1519 ## 1520 ## 1521 ## 1522 ## 1523 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC11 spindle and kinetochore-associated pr spindle and kinetochore-associated pr spindle and kinetochore-associated pr	0490302 1731276 1731542 lar RNA 8645863 6408855 otein 2 otein 2
## 1515 ## 1516 ## 1517 ## 1518 ## 1518 ## 1519 ## 1520 ## 1522 ## 1523 ## 1524 ## 1521 ## 1524 ## 1521 ## 1524 ## 1524 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC11 spindle and kinetochore-associated pr spindle and kinetochore-associated pr	0490302 1731276 1731542 lar RNA 8645863 6408855 otein 2 otein 2 otein 2 otein 2
## 1515 ## 1516 ## 1517 ## 1518 ## 1518 ## 1519 ## 1520 ## 1521 ## 1522 ## 1523 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC10 uncharacterized LOC11 spindle and kinetochore-associated pr spindle and kinetochore-associated pr spindle and kinetochore-associated pr	0490302 1731276 1731542 lar RNA 8645863 6408855 otein 2 otein 2 otein 2 otein 2

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## 1741
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## 1742
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	1869	rho GTPase-activating protein 42 isoform X1 rho GTPase-activating protein 42 isoform X1
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	1902 1903	uncharacterized LOC116408909
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	1913	uncharacterized LOC116408648
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	1915	uncharacterized LOC116408647, transcript variant X2
	1916	uncharacterized LOC116408644
	1917	proteasomal ATPase-associated factor 1 isoform X1
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	1919	uncharacterized LOC105946618
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	1933 1934	uncharacterized gene
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## ## ## ##	1934 1935 1936 1937	uncharacterized gene uncharacterized LOC116408635, transcript variant X4
## ## ## ## ##	1934 1935 1936 1937 1938	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408643
## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2
## ## ## ## ## ##	1934 1935 1936 1937 1938 1939	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408643
## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408643 uncharacterized LOC116408658 uncharacterized LOC116408637 uncharacterized LOC116408637
## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408643 uncharacterized LOC116408658 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408649, transcript variant X2
## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645 uncharacterized LOC116408643 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408639, transcript variant X2
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## ###################################	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408643 uncharacterized LOC116408658 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2
## ## ## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408648 uncharacterized LOC116408658 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2
## ## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408643 uncharacterized LOC116408658 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2
## ## ## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408658 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408636 uncharacterized LOC116408636
## ## ## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408648 uncharacterized LOC116408638 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638 uncharacterized LOC116408653 uncharacterized LOC116408653
## ## ## ## ## ## ## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408648 uncharacterized LOC116408658 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408636 uncharacterized LOC116408653 uncharacterized LOC116408650, transcript variant X2
## ## ## ## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408648 uncharacterized LOC116408658 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408636, transcript variant X2 uncharacterized LOC116408650, transcript variant X2
## ## ## ## ## ## ## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408648 uncharacterized LOC116408658 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408636, transcript variant X2 uncharacterized LOC116408650, transcript variant X2 uncharacterized LOC1164086660 uncharacterized LOC1164086660
## ## ## ## ## ## ## ## ## ## ##	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955	uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408635, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408630, transcript variant X2 uncharacterized LOC116408650, transcript variant X2 uncharacterized LOC116408646 uncharacterized LOC116408646 uncharacterized LOC116408646
######################################	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956	uncharacterized gene uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408643 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408636, transcript variant X2 uncharacterized LOC116408650, transcript variant X2 uncharacterized LOC116408646 uncharacterized LOC116408641 uncharacterized LOC116408656, transcript variant X2
######################################	1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955	uncharacterized LOC116408635, transcript variant X4 uncharacterized LOC116408635, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645, transcript variant X2 uncharacterized LOC116408645 uncharacterized LOC116408637 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408649, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408639, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408638, transcript variant X2 uncharacterized LOC116408630, transcript variant X2 uncharacterized LOC116408650, transcript variant X2 uncharacterized LOC116408646 uncharacterized LOC116408646 uncharacterized LOC116408646

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	1960	uncharacterized protein LOC101733677
	1961	uncharacterized LOC101734525
	1962	uncharacterized LOC116408652
	1963	uncharacterized LOC116408654
	1964	uncharacterized LOC116408651, transcript variant X2
	1965	uncharacterized LOC116408651, transcript variant X2
	1966	autophagy-related protein 16-2 isoform X1
	1967	uncharacterized gene
	1968	uncharacterized LOC116408717
	1969	uncharacterized LOC116408924
	1970	uncharacterized LOC101734567, transcript variant X2
	1971	uncharacterized LOC101734567, transcript variant $X2$
	1972	uncharacterized LOC101734358
	1973	uncharacterized LOC116408920, transcript variant X3
	1974	uncharacterized LOC116408920, transcript variant X3
	1975	uncharacterized LOC116408920, transcript variant X3
	1976	uncharacterized LOC116408921
##	1977	uncharacterized LOC105946621
##	1978	uncharacterized LOC105945784, transcript variant X2
##	1979	uncharacterized LOC105945784, transcript variant X2
##	1980	uncharacterized LOC116408922, transcript variant X7
##	1981	uncharacterized LOC116408922, transcript variant X7
##	1982	uncharacterized LOC116408922, transcript variant X7
##	1983	uncharacterized LOC116408922, transcript variant X7
##	1984	uncharacterized LOC116408922, transcript variant X7
##	1985	uncharacterized LOC116408922, transcript variant X7
##	1986	uncharacterized LOC116408922, transcript variant X7
##	1987	uncharacterized LOC101731085
##	1988	microRNA mir-139
##	1989	uncharacterized LOC116408923, transcript variant X3
	1990	uncharacterized LOC116408923, transcript variant X3
##	1991	uncharacterized LOC116408923, transcript variant X3
##	1992	uncharacterized LOC101733363, transcript variant $\mbox{\em X2}$
	1993	uncharacterized LOC101733363, transcript variant X2
##	1994	uncharacterized LOC116408925
##	1995	uncharacterized LOC105945550
	1996	uncharacterized LOC100490566
	1997	uncharacterized LOC116408721
	1998	uncharacterized LOC116408928
	1999	uncharacterized LOC116408929
	2000	vomeronasal type-2 receptor 26-like
	2001	vomeronasal type-2 receptor 26-like
	2002	vomeronasal type-2 receptor 26-like
	2003	vomeronasal type-2 receptor 26-like
	2004	uncharacterized LOC116408931
	2005	vomeronasal type-2 receptor 26
##	2006	vomeronasal type-2 receptor 26-like
##	2007	vomeronasal type-2 receptor 26-like
##	2008	vomeronasal type-2 receptor 26
##	2009	vomeronasal type-2 receptor 26
##	2010	vomeronasal type-2 receptor 26
##	2011	vomeronasal type-2 receptor 26-like
##	2012	vomeronasal type-2 receptor 26-like

	2013	uncharacterized gene
	2014	vomeronasal type-2 receptor 26
	2015	vomeronasal type-2 receptor 26
	2016	vomeronasal type-2 receptor 26-like
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	2018	vomeronasal type-2 receptor 26
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	2020	uncharacterized gene
	2021	uncharacterized gene
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		uncharacterized gene
		5S ribosomal RNA
		5S ribosomal RNA
		5S ribosomal RNA 5S ribosomal RNA
		5S TIDOSOMAI RNA 5S ribosomal RNA
		uncharacterized gene 5S ribosomal RNA
		5S TIDOSOMAI RNA 5S ribosomal RNA
		uncharacterized gene
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		uncharacterized gene
		5S ribosomal RNA
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##	2051	5S ribosomal RNA
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	2065	5S ribosomal RNA
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##	2095	uncharacterized gene
##	2096	uncharacterized gene
	2097	uncharacterized gene
	2098	5S ribosomal RNA
	2099	uncharacterized gene
##	2100	5S ribosomal RNA
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	2102	uncharacterized gene
	2103	uncharacterized gene
	2104	5S ribosomal RNA
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	2110	5S ribosomal RNA
	2111	5S ribosomal RNA
	2112	5S ribosomal RNA
	2113	5S ribosomal RNA
	2114	5S ribosomal RNA
	2115	5S ribosomal RNA
	2116	uncharacterized gene
	2117	5S ribosomal RNA
	2118	5S ribosomal RNA
	2119	5S ribosomal RNA
##	2120	5S ribosomal RNA

шш	0101	
	2121 2122	uncharacterized gene 5S ribosomal RNA
	2122	55 TIDOSOMAI RNA 5S ribosomal RNA
	2123	
	2124	uncharacterized gene 5S ribosomal RNA
	2126	55 TIDOSOMAI RNA 5S ribosomal RNA
	2127	uncharacterized LOC116408940
	2128	solute carrier organic anion transporter family member 1A2
	2129	solute carrier organic anion transporter family member 1A2
	2130	nuclear receptor-interacting protein 3 isoform X1
	2131	nuclear receptor-interacting protein 3 isoform X1
	2132	uncharacterized LOC105945982
	2133	uncharacterized LOC116409666
	2134	uncharacterized LOC116409671
	2135	uncharacterized LOC116409672
	2136	uncharacterized LOC105945878, transcript variant X2
	2137	uncharacterized LOC105945878, transcript variant X2
	2138	microRNA let-7e-2
	2139	uncharacterized gene
##	2140	uncharacterized LOC116409674
##	2141	U2 spliceosomal RNA
##	2142	hemagglutinin/amebocyte aggregation factor isoform X1
##	2143	small nucleolar RNA U3
##	2144	small nucleolar RNA U3
##	2145	uncharacterized LOC116409455
	2146	small nucleolar RNA U3
	2147	small nucleolar RNA U3
	2148	small nucleolar RNA U3
	2149	uncharacterized LOC101731742
	2150	tRNA-Arg
	2151	uncharacterized LOC116409456
	2152	uncharacterized LOC116409457
	2153 2154	small nucleolar RNA U3 small nucleolar RNA U3
	2154	small nucleolar RNA U3
	2156	small nucleolar RNA U3
	2157	tRNA-Arg
	2158	tRNA-Arg
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	2160	tRNA-Arg
	2161	tRNA-Arg
	2162	tRNA-Arg
	2163	tRNA-Arg
	2164	tRNA-Arg
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##	2168	tRNA-Arg
##	2169	tRNA-Arg
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	2171	tRNA-Arg
	2172	tRNA-Arg
	2173	tRNA-Arg
##	2174	tRNA-Arg

2175	tRNA-Arg
2176	tRNA-Arg
2177	tRNA-Arg
2178	uncharacterized LOC101731549
2179	ELKS/RAB6-interacting/CAST family member 1
2180	uncharacterized gene
2181	uncharacterized LOC116409684
2182	uncharacterized LOC116409458, transcript variant X2
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2186	uncharacterized LOC116409686
2187	uncharacterized LOC101730684
2188	glutamate receptor 1 isoform X3
2189	uncharacterized gene
2190	uncharacterized LOC116409687
2191	tRNA-Ser
2192	uncharacterized LOC116409689, transcript variant X2
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	uncharacterized LOC116409462
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2208	uncharacterized LOC116409694
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2211	antioxidant 1 copper chaperone
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2213	antioxidant 1 copper chaperone
2214	proton-coupled amino acid transporter 1 isoform X1
2215	proton-coupled amino acid transporter 1 isoform X1
2216	microRNA mir-9406
2217	uncharacterized LOC100495195
2218	hepatitis A virus cellular receptor 1 homolog isoform X3
2219	uncharacterized LOC105946924
2220	uncharacterized LOC100495624, transcript variant X8
2221	uncharacterized LOC100495624, transcript variant X8
2222	uncharacterized LOC100495624, transcript variant X8
2223	uncharacterized LOC100495624, transcript variant X8
2224	uncharacterized LOC100495624, transcript variant X8
2225	uncharacterized LOC100495624, transcript variant X8
2226	uncharacterized LOC100495624, transcript variant X8
2227	uncharacterized LOC100495624, transcript variant X8
2228	uncharacterized LOC101733543

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	2233	uncharacterized LOC105946797
##	2234	uncharacterized LOC116409463
##	2235	uncharacterized LOC105946788
##	2236	uncharacterized gene
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##	2238	uncharacterized LOC105946789, transcript variant X2
##	2239	uncharacterized LOC116409465
##	2240	uncharacterized LOC116409466
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##	2242	uncharacterized protein LOC101734158
##	2243	uncharacterized protein LOC101734158
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##	2245	uncharacterized LOC105946784, transcript variant X5
##	2246	uncharacterized LOC105946784, transcript variant X5
##	2247	uncharacterized LOC105946784, transcript variant X5
##	2248	uncharacterized LOC105946784, transcript variant X5
##	2249	uncharacterized LOC116409660
##	2250	microRNA mir-146a
##	2251	uncharacterized gene
##	2252	uncharacterized gene
##	2253	hyaluronan-mediated motility receptor-like
##	2254	uncharacterized gene
##	2255	uncharacterized gene
##	2256	uncharacterized LOC108646295
##	2257	uncharacterized LOC108646296
##	2258	uncharacterized LOC105946792, transcript variant X1
##	2259	uncharacterized LOC105946792, transcript variant X1
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##	2261	uncharacterized LOC116409472
##	2262	protocadherin alpha-5
##	2263	uncharacterized gene
##	2264	uncharacterized LOC116409707
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##	2267	uncharacterized LOC116409476
##	2268	uncharacterized LOC105946800
##	2269	uncharacterized gene
##	2270	uncharacterized gene
##	2271	protein FAM13B
##	2272	microRNA mir-218-2
##	2273	microRNA mir-103-1
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##	2275	uncharacterized LOC108646150
##	2276	uncharacterized LOC116409710
##	2277	uncharacterized LOC116409711
##	2278	uncharacterized LOC116409712
##	2279	uncharacterized LOC105946809
##	2280	uncharacterized LOC116409714
##	2281	prolyl 4-hydroxylase, alpha polypeptide 2
##	2282	uncharacterized LOC105945983

	2283	uncharacterized LOC105946806
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	2285	tRNA-Gly
	2286	tRNA-Gly
	2287	tRNA-Thr
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	2289	uncharacterized LOC100495377, transcript variant X2
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	2291	small nucleolar RNA SNORD50
	2292	small nucleolar RNA SNORD34
	2293	small nucleolar RNA SNORD35
	2294	small nucleolar RNA SNORD35
	2295	small nucleolar RNA SNORD35
	2296	small nucleolar RNA SNORD50
	2297	small nucleolar RNA SNORD50
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	2299	microRNA mir-145
	2300	microRNA mir-143
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	2302	uncharacterized gene
	2303	uncharacterized LOC116409717
	2304	uncharacterized gene
	2305	uncharacterized LOC116409479
	2306	uncharacterized LOC116409718
	2307	vomeronasal type-2 receptor 26-like
	2308	uncharacterized gene
	2309	uncharacterized LOC116409719
	2310	uncharacterized gene
	2311	uncharacterized LOC116409723
	2312	uncharacterized LOC108646273
	2313	uncharacterized LOC100491057
	2314	uncharacterized LOC116409727
	2315	lateral signaling target protein 2 homolog isoform X1
	2316	U5 spliceosomal RNA
	2317	uncharacterized LOC108646152
	2318	uncharacterized LOC105946815
	2319	uncharacterized LOC108646154
	2320	apoptotic protease-activating factor 1
	2321	uncharacterized LOC116409729
	2322	uncharacterized LOC116409730
	2323	uncharacterized LOC105946819
	2324	uncharacterized LOC105946821
	2325	tRNA-Asp
	2326	NEDD1 gamma-tubulin ring complex targeting factor
	2327	microRNA mir-135-1
	2328	small nucleolar RNA SNORA53
	2329	small nucleolar RNA SNORA53
	2330	uncharacterized LOC116409481
	2331	microRNA let-7i
	2332	uncharacterized LOC116409732
	2333	uncharacterized LOC101731354, transcript variant X7
	2334	uncharacterized LOC101731354, transcript variant X7
	2335	uncharacterized LOC101731354, transcript variant X7
##	2336	uncharacterized LOC101731354, transcript variant X7

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	2339	uncharacterized LOC101731354, transcript variant X7
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	2342	uncharacterized LOC108646159
	2343	uncharacterized LOC116409734
	2344	uncharacterized LOC116409482
	2345	small nucleolar RNA SNORA68
	2346	small nucleolar RNA SNORA68 uncharacterized LOC116409736
	2347	uncharacterized LUC116409736 uncharacterized LUC105946828
	2348 2349	
		uncharacterized LOC101734767, transcript variant X10
	2350 2351	uncharacterized LOC101734767, transcript variant X10 uncharacterized LOC101734767, transcript variant X10
	2352	uncharacterized LOC101734767, transcript variant X10 uncharacterized LOC101734767, transcript variant X10
	2353	uncharacterized LOC101734767, transcript variant X10 uncharacterized LOC101734767, transcript variant X10
	2354	uncharacterized LOC101734767, transcript variant X10 uncharacterized LOC101734767, transcript variant X10
	2355	uncharacterized LOC101734767, transcript variant X10
	2356	uncharacterized LOC101734707, transcript variant X10
	2357	uncharacterized LOC101734707, transcript variant X10
	2358	uncharacterized LOC101734767, transcript variant X10
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	2360	uncharacterized LOC100490181
	2361	uncharacterized LOC116409737
	2362	uncharacterized LOC105946836
	2363	uncharacterized LOC116409738
	2364	uncharacterized LOC116409739
	2365	uncharacterized LOC100488397, transcript variant X6
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##	2374	uncharacterized LOC116409742
##	2375	uncharacterized LOC105946844
##	2376	uncharacterized LOC116409743
##	2377	uncharacterized LOC116409483
	2378	uncharacterized LOC105946847, transcript variant $X4$
	2379	uncharacterized LOC105946847, transcript variant X4
	2380	uncharacterized LOC105946847, transcript variant X4
	2381	uncharacterized LOC105946847, transcript variant X4
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	2384	uncharacterized LOC116409485, transcript variant X2
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	2387	uncharacterized LOC116409747
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	2389	uncharacterized LOC105946850
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	2391	uncharacterized LOC108646168
	2392	uncharacterized LOC116409749
	2393	uncharacterized gene
	2394	uncharacterized LOC116409750
##	2395	uncharacterized LOC116409484
##	2396	inter-alpha-trypsin inhibitor heavy chain H5
##	2397	transmembrane protein 110, like
##	2398	uncharacterized LOC105946852, transcript variant X1
##	2399	uncharacterized LOC105946852, transcript variant X1
##	2400	uncharacterized LOC116409751
##	2401	microRNA mir-29a
	2402	microRNA mir-29d
	2403	uncharacterized LOC116409752, transcript variant X2
##	2404	uncharacterized LOC116409752, transcript variant X2
##	2405	uncharacterized LOC116409753
	2406	small lysine rich protein 1, transcript variant X1
	2407	small lysine rich protein 1, transcript variant X1
	2408	microRNA mir-183
##	2409	microRNA mir-96
##	2410	microRNA mir-182
##	2411	microRNA mir-129-2
	2412	tRNA-Pro
##	2413	tRNA-Thr
##	2414	tRNA-Pro
##	2415	NME/NM23 nucleoside diphosphate kinase 6
	2416	NME/NM23 nucleoside diphosphate kinase 6
	2417	uncharacterized LOC100487908, transcript variant X7
	2418	uncharacterized LOC100487908, transcript variant X7
	2419	uncharacterized LOC100487908, transcript variant X7
	2420	uncharacterized LOC100487908, transcript variant X7
	2421	uncharacterized LOC100487908, transcript variant X7
	2422	uncharacterized LOC100487908, transcript variant X7
	2423	uncharacterized LOC100487908, transcript variant X7
	2424	uncharacterized LOC116409755
	2425	uncharacterized LOC116409756
	2426	tRNA-His
	2427	tRNA-His
	2428	uncharacterized LOC105947764
	2429	uncharacterized LOC108646170
	2430	uncharacterized LOC116409758
	2431	talin-2 isoform X1
	2432	uncharacterized LOC105947763
	2433	unconventional myosin-IXa isoform X1
	2434	uncharacterized LOC116409759
	2435	uncharacterized LOC116409762
	2436	uncharacterized LOC116409764
	2437	little elongation complex subunit 2 isoform X1
	2438	uncharacterized LOC105947765
	2439	small nucleolar RNA SNORA71
	2440	small nucleolar RNA SNORA71
	2441	small nucleolar RNA SNORA71
	2442	RNA-binding protein with multiple splicing 2
	2443	uncharacterized LOC116409766
##	2444	uncharacterized LOC116409765, transcript variant X2

	0445			
	2445			transcript variant X2
	2446		-	cysteine decarboxylase
	2447	phosph	nopantothenoylo	cysteine decarboxylase
	2448			tRNA-Phe
##	2449			tRNA-Asp
##	2450			tRNA-Asp
##	2451			tRNA-Asp
##	2452			tRNA-Asp
##	2453			tRNA-Asp
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##	2458			tRNA-Asp
##	2459			tRNA-Asp
##	2460			tRNA-Asp
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##	2462			tRNA-Asp
##	2463			tRNA-Asp
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##	2470			tRNA-Asp
##	2471			tRNA-Asp
##	2472			tRNA-Asp
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##	2474			tRNA-Asp
##	2475			tRNA-Asp
##	2476			tRNA-Asp
	2477			tRNA-Asp
	2478			tRNA-Asp
	2479			tRNA-Asp
	2480			tRNA-Asp
	2481			tRNA-Asp
	2482		unchara	acterized LOC101733305
	2483			acterized LOC116409767
	2484		u 0.1.u.1	microRNA mir-204-1
	2485	uncharacterized	I.OC116409768.	transcript variant X3
	2486			transcript variant X3
	2487			transcript variant X3
	2488			transcript variant X2
	2489			transcript variant X2
	2490	difficient do tot 120d		acterized LOC105948491
	2491			onula adherens protein
	2492		-	acterized LOC105946778
	2493			acterized LOC108646278
	2494			acterized LOC106040276
	2495			acterized LOC116409769
	2496			acterized LOC116409709
	2497			acterized LOC116409770
	2497 2498	uncharactorized		
##	Z 1 30	uncharacterized	LUCIU0940/02,	transcript variant X2

##	2499			un	haracte	rized	LOC1	105946762,	transcript variant	: X2
##	2500						sper	matogenes	is associated 5-lik	e 1
##	2501	transient	receptor	potenti	al catio	n cha	nnel	subfamily	M member 7 isoform	1 X1
##	2502								acterized LOC105946	
	2503				0 1			-	factor subunit bet	
	2504			GA bi	nding pr	otein	trar	_	factor subunit bet	
	2505								acterized LOC108646	
	2506								transcript variant	
	2507			un	characte	rized	LOC1		transcript variant	
	2508								acterized LOC101730	
	2509					D114	-		acterized LOC116409	
	2510					RNA	ротуп		elongation factor E	
	2511								acterized LOC116409	
	25122513				.h.m.a+a		T 001		acterized LOC116409	
	2513								transcript variant transcript variant	
	2514			un	liai ac te	rizeu	LUCI		acterized LOC116409	
	2516							unchar	tRNA-	
	2517								tRNA-	-
	2518								tRNA-	-
	2519								tRNA-	-
	2520						kines	sin-like p	rotein KIF7 isoform	-
##	2521							-	rotein KIF7 isoform	
##	2522							•	tRNA-	
##	2523								tRNA-	_
##	2524								tRNA-	Arg
##	2525								tRNA-	Arg
##	2526								tRNA-	Arg
##	2527								tRNA-	Arg
	2528							unchar	acterized LOC116409	777
	2529								microRNA mir-	
	2530								transcript variant	
	2531			un	characte	erized	LOC1	-	transcript variant	
	2532						T 0.04		acterized LOC116409	
	2533								transcript variant	
	25342535								transcript variant transcript variant	
	2536			un	liai ac te	rizeu	LUCI	101733479,	microRNA mir-	
	2537								uncharacterized g	. –
	2538							unchar	acterized LOC105946	
	2539							anonar	uncharacterized g	
	2540							unchar	acterized LOC116409	•
	2541			un	haracte	rized	LOC1		transcript variant	
	2542								transcript variant	
	2543								transcript variant	
##	2544			un	haracte	rized	LOC1	105946774,	transcript variant	: X9
##	2545			un	characte	rized	LOC1	105946774,	transcript variant	X9
##	2546			un	characte	rized	LOC1	105946774,	transcript variant	: X9
##	2547			un	characte	rized	LOC1	105946774,	transcript variant	X9
##	2548								transcript variant	
	2549			un	characte	rized	LOC1		transcript variant	
	2550							unchar	acterized LOC116409	
	2551								tRNA-	
##	2552							unchar	acterized LOC101730	683

	2553	ankyrin repeat and SOCS box containing 7
	2554	uncharacterized LOC116409781
	2555	tRNA-Gln
	2556	multiple epidermal growth factor-like domains protein 11 isoform X1
##	2557	small Cajal body-specific RNA 14
##	2558	small nucleolar RNA SNORD18
##	2559	small nucleolar RNA SNORD18
##	2560	small nucleolar RNA SNORD18
##	2561	small nucleolar RNA SNORD16
##	2562	small nucleolar RNA SNORD18
##	2563	small nucleolar RNA SNORD16
##	2564	IQ domain-containing protein H
##	2565	uncharacterized LOC108646189
##	2566	uncharacterized gene
##	2567	tRNA-Lys
##	2568	eukaryotic translation initiation factor 3 subunit J
##	2569	microRNA mir-184
##	2570	uncharacterized LOC105946757
##	2571	uncharacterized gene
##	2572	U2 spliceosomal RNA
##	2573	uncharacterized LOC105946755
##	2574	tRNA-Glu
	2575	uncharacterized LOC116409782
	2576	tRNA-Gly
	2577	uncharacterized LOC116409491
	2578	astacin-like metalloendopeptidase isoform X1
	2579	uncharacterized LOC116409492
	2580	uncharacterized LOC116409785
	2581	uncharacterized LOC116409786
	2582	uncharacterized LOC108646185
	2583	uncharacterized LOC116409787, transcript variant X2
	2584	uncharacterized LOC116409787, transcript variant X2
	2585	tRNA-Pro
	2586	tRNA-Pro
	2587	uncharacterized LOC116409789
	2588	uncharacterized LOC101732064
	2589	uncharacterized gene
##	2590	small nucleolar RNA U13
	2591	small nucleolar RNA U13
	2592	small nucleolar RNA U13
	2593	uncharacterized gene
	2594	uncharacterized LOC100487547, transcript variant X2
	2595	uncharacterized LOC100487547, transcript variant X2
	2596	uncharacterized LOC116409790
	2597	uncharacterized LOC116409791
	2598	uncharacterized LOC105946751
	2599	uncharacterized LOC116409792
	2600	rho-related BTB domain-containing protein 2 isoform X2
	2601	microRNA mir-2188
	2602	uncharacterized gene
	2603	uncharacterized LOC116409795, transcript variant X2
	2604	uncharacterized LOC116409795, transcript variant X2
	2605	uncharacterized LOC116409500
	2606	tRNA-Met
##	2000	CRNA-Met

	0007	
	2607	tRNA-Lys
	2608	uncharacterized LOC108646192
	2609	uncharacterized LOC116409501
	2610 2611	uncharacterized LOC116409799, transcript variant X2
	2612	uncharacterized LOC116409799, transcript variant X2 uncharacterized LOC101730852
	2613	uncharacterized LOC101730632
	2614	uncharacterized LOC116409802
	2615	uncharacterized LOC116409801
	2616	uncharacterized LOC116409803
	2617	uncharacterized LOC116409804
	2618	uncharacterized LOC116409800
	2619	uncharacterized gene
	2620	uncharacterized protein LOC101730320
	2621	uncharacterized LOC116409806
	2622	tRNA-Phe
	2623	tRNA-Met
	2624	tRNA-Tyr
	2625	tRNA-Gly
	2626	tRNA-Glu
##	2627	tRNA-Phe
##	2628	tRNA-Met
##	2629	tRNA-Tyr
##	2630	tRNA-Gly
##	2631	tRNA-Glu
##	2632	tRNA-Ala
##	2633	tRNA-Phe
##	2634	tRNA-Met
##	2635	tRNA-Tyr
##	2636	tRNA-Glu
##	2637	tRNA-Glu
##	2638	tRNA-Met
##	2639	tRNA-Glu
	2640	tRNA-Ala
	2641	tRNA-Met
	2642	tRNA-Glu
	2643	tRNA-Glu
	2644	tRNA-Gly
	2645	tRNA-Tyr
	2646	tRNA-Met
	2647	tRNA-Phe
	2648	tRNA-Ala
	2649	tRNA-Gly
	2650	tRNA-Tyr
	2651	tRNA-Met
	2652	tRNA-Phe
	2653	tRNA-Ala
	2654	tRNA-Glu
	2655	tRNA-Gly
	2656 2657	tRNA-Tyr tRNA-Met
	2658	tRNA-Met
	2659	tRNA-Ala
	2660	tRNA-Glu
##	2000	CRNA-GIU

##	2661	tRNA-Gly
	2662	tRNA-Tyr
##	2663	tRNA-Met
##	2664	tRNA-Phe
##	2665	tRNA-Ala
##	2666	tRNA-Glu
##	2667	tRNA-Gly
##	2668	tRNA-Tyr
	2669	tRNA-Met
	2670	tRNA-Phe
	2671	tRNA-Ala
	2672	tRNA-Glu
	2673	tRNA-Gly
	2674	tRNA-Tyr
	2675	tRNA-Met
	2676	tRNA-Phe
	2677	tRNA-Ala
	2678	tRNA-Glu
	2679	tRNA-Gly
	2680	tRNA-Tyr
	2681	tRNA-Met
	2682	tRNA-Phe
	2683	tRNA-Ala
	2684	tRNA-Glu
	2685	tRNA-Gly
	2686	tRNA-Tyr
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	2688	tRNA-Tyr
	2689	tRNA-Gly
	2690	tRNA-Glu
	2691	tRNA-Ala
	2692	tRNA-Phe
	2693	tRNA-Met
	2694	tRNA-Tyr
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	2696	tRNA-Glu
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	2698	tRNA-Ala
	2699	tRNA-Glu
	2700	tRNA-Gly
	2701	tRNA-Tyr
	2702	tRNA-Met
	2703	tRNA-Phe
	2704	tRNA-Ala
	2705	tRNA-Glu
	2706	tRNA-Gly
	2707	tRNA-Tyr
	± 2708	tRNA-Met
	± 2709	tRNA-Phe
	± 2710	tRNA-Ala
	± 2711	tRNA-Glu
	± 2712	tRNA-Gly
	± 2713	tRNA-Tyr
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##	2718	tRNA-Gly
##	2719	tRNA-Tyr
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##	2725	tRNA-Gly
##	2726	tRNA-Lys
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##	2733	tRNA-Ala
##	2734	tRNA-Phe
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##	2738	tRNA-Glu
##	2739	tRNA-Ala
##	2740	tRNA-Val
##	2741	tRNA-Lys
##	2742	tRNA-Val
##	2743	tRNA-Glu
##	2744	tRNA-Val
##	2745	tRNA-Lys
##	2746	tRNA-Val
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##	2748	tRNA-Val
##	2749	tRNA-Glu
##	2750	tRNA-Val
##	2751	tRNA-Lys
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##	2753	tRNA-Glu
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##	2755	tRNA-Glu
##	2756	tRNA-Val
	2757	tRNA-Lys
##	2758	tRNA-Val
##	2759	tRNA-Glu
	2760	tRNA-Val
	2761	tRNA-Lys
	2762	tRNA-Val
	2763	tRNA-Glu
	2764	tRNA-Val
	2765	tRNA-Lys
	2766	tRNA-Val
	2767	tRNA-Glu
##	2768	tRNA-Val

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##	# 2771	tRNA-Glu
##	# 2772	tRNA-Val
##	# 2773	tRNA-Lys
##	# 2774	tRNA-Val
##	# 2775	tRNA-Glu
##	# 2776	tRNA-Val
##	# 2777	tRNA-Lys
##	# 2778	tRNA-Val
##	# 2779	tRNA-Lys
##	# 2780	tRNA-Val
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##	# 2782	tRNA-Glu
##	# 2783	tRNA-Val
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##	# 2785	tRNA-Val
##	# 2786	tRNA-Lys
##	# 2787	tRNA-Glu
##	# 2788	tRNA-Gly
	# 2789	tRNA-Glu
	# 2790	tRNA-Phe
	# 2791	tRNA-Met
	# 2792	tRNA-Tyr
	# 2793	tRNA-Gly
	# 2794	tRNA-Glu
	# 2795	tRNA-Ala
	# 2796	tRNA-Phe
	# 2797	tRNA-Met
	# 2798	tRNA-Tyr
	# 2799	tRNA-Gly
	# 2800	tRNA-Glu
	# 2801	tRNA-Ala
	# 2802	tRNA-Phe
	# 2803	tRNA-Met
	# 2804	tRNA-Tyr
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	# 2806	tRNA-Glu
	# 2807	tRNA-Ala
	# 2808	tRNA-Phe
	# 2809	tRNA-Val
	# 2810	tRNA-Lys
	# 2811	tRNA-Val
	# 2812 # 2813	tRNA-Glu
	# 2813 # 2814	tRNA-Val
	# 2814 # 2815	tRNA-Glu
	# 2816	tRNA-Val
	# 2817	tRNA-Lys tRNA-Val
	# 281 <i>1</i> # 2818	
	# 2818 # 2819	tRNA-Glu
	# 2819 # 2820	tRNA-Val
	# 2820 # 2821	tRNA-Lys tRNA-Val
	# 2821 # 2822	
##	# <u> </u>	tRNA-Glu

##	2823	tRNA-Val
##	2824	tRNA-Lys
##	2825	tRNA-Val
##	2826	tRNA-Glu
##	2827	tRNA-Val
##	2828	tRNA-Lys
##	2829	tRNA-Val
##	2830	tRNA-Glu
##	2831	tRNA-Val
##	2832	tRNA-Lys
##	2833	tRNA-Val
##	2834	tRNA-Glu
##	2835	tRNA-Val
##	2836	tRNA-Lys
##	2837	tRNA-Val
##	2838	tRNA-Glu
##	2839	tRNA-Val
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##	2842	tRNA-Glu
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	2873	tRNA-Gly
	2874	tRNA-Ala
	2875	tRNA-Phe
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	2877	tRNA-Tyr
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##	2880	tRNA-Ala
##	2881	tRNA-Phe
##	2882	tRNA-Met
##	2883	tRNA-Tyr
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	2885	tRNA-Glu
	2886	tRNA-Ala
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	2888	tRNA-Met
	2889	tRNA-Tyr
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	2891	tRNA-Glu
	2892	tRNA-Ala
	2893	tRNA-Phe
		tRNA-FHe
	2894	
	2895	tRNA-Tyr
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	2898	tRNA-Phe
	2899	tRNA-Met
	2900	tRNA-Tyr
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	2903	tRNA-Ala
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	2907	tRNA-Gly
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	2909	tRNA-Ala
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	2911	uncharacterized protein LOC116409808
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##	2927	tRNA-Phe
	2928	tRNA-Met
	2929	tRNA-Tyr
	2930	tRNA-Gly
		<u>y</u>

##	2931	tRNA-Glu
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##	2934	tRNA-Met
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##	2951	tRNA-Val
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##	2953	tRNA-Tyr
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	2956	tRNA-Phe
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	2961	tRNA-Ala
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	2963	tRNA-Met
	2964	tRNA-Tyr
	2965	tRNA-Gly
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	2968	tRNA-Phe
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	2978	tRNA-Val
	2979	tRNA-Glu
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	2981	tRNA-Arg
	2982	tRNA-Glu
	2983	tRNA-Ala
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	3032	tRNA-Tyr
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	3035	tRNA-Lys
	3036	tRNA-Glu
	3037	tRNA-Val
##	3038	tRNA-Val

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	3069	tRNA-Ile
	3070	tRNA-Pro
	3071	tRNA-Pro
	3072	tRNA-Pro
	3073	tRNA-Ile
	3074	tRNA-Lys
	3075	tRNA-His
	3076	tRNA-His
	3077	tRNA-Lys
	3078	tRNA-Lys
	3079	tRNA-Lys
	3080	tRNA-Arg
	3081	tRNA-Arg
	3082 3083	tRNA-Arg
	3084	tRNA-Val
	3085	tRNA-Lys tRNA-Val
	3086	tRNA-Val
	3087	tRNA-Arg
	3088	tRNA-Arg
	3089	tRNA-Arg
	3090	tRNA-Lys
	3091	tRNA-Lys
	3092	tRNA-Lys
##	5002	CIMINA LYS

	0000	. DWA W.
	3093	tRNA-His
	3094	tRNA-Arg
	3095	tRNA-Lys
	3096	tRNA-Lys
	3097	tRNA-His
##	3098	tRNA-Lys
##	3099	tRNA-Lys
##	3100	tRNA-Lys
##	3101	tRNA-His
##	3102	tRNA-Lys
##	3103	tRNA-His
##	3104	tRNA-Lys
##	3105	tRNA-His
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##	3108	tRNA-Lys
##	3109	tRNA-His
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##	3111	tRNA-His
##	3112	tRNA-Lys
##	3113	tRNA-His
##	3114	tRNA-Lys
##	3115	tRNA-His
##	3116	tRNA-Glu
##	3117	tRNA-Lys
##	3118	tRNA-His
##	3119	uncharacterized LOC116409815
##	3120	tRNA-Arg
##	3121	tRNA-Arg
##	3122	uncharacterized LOC116409816
##	3123	uncharacterized LOC105945317, transcript variant X2
##	3124	uncharacterized LOC105945317, transcript variant X2
##	3125	tRNA-Pro
##	3126	tRNA-Pro
##	3127	tRNA-Pro
##	3128	tRNA-Pro
##	3129	tRNA-Pro
##	3130	tRNA-Ile
##	3131	tRNA-Pro
##	3132	tRNA-Pro
##	3133	tRNA-Ile
##	3134	tRNA-Pro
##	3135	tRNA-Pro
##	3136	tRNA-Ile
##	3137	tRNA-Pro
##	3138	tRNA-Pro
##	3139	tRNA-Ile
##	3140	tRNA-Pro
##	3141	tRNA-Pro
	3142	tRNA-Ile
	3143	tRNA-Pro
	3144	tRNA-Pro
	3145	tRNA-Ile
	3146	tRNA-Pro
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##	3147	tRNA-Pro
	3148	tRNA-Ile
	3149	tRNA-Pro
	3150	tRNA-Pro
	3151	tRNA-Ile
	3152	tRNA-Pro
	3153	tRNA-Pro
	3154	tRNA-Ile
	3155	tRNA-Pro
	3156	tRNA-Pro
	3157	tRNA-Ile
	3158	tRNA-Pro
	3159	tRNA-Pro
	3160	tRNA-Ile
	3161	tRNA-Pro
	3162	tRNA-Pro
	3163	tRNA-Ile
	3164	tRNA-Pro
	3165	tRNA-Pro
	3166	tRNA-Ile
	3167	tRNA-Pro
	3168	tRNA-Pro
	3169	tRNA-Ile
	3170	tRNA-Pro
	3171	tRNA-Pro
	3172	tRNA-Ile
	3173	tRNA-Pro
	3174	tRNA-Pro
	3175	tRNA-Ile
	3176	tRNA-Pro
	3177	tRNA-Pro
	3178	tRNA-Ile
	3179 3180	tRNA-Pro
	3181	tRNA-Pro tRNA-Ile
	3182	tRNA-IIe
	3183	tRNA-Pro
	3184	tRNA-Ile
	3185	tRNA-Pro
	3186	tRNA-Pro
	3187	tRNA-Ile
	3188	tRNA-Pro
	3189	tRNA-Pro
	3190	tRNA-Ile
	3191	tRNA-Pro
	3192	tRNA-Pro
	3193	tRNA-Ile
	3194	tRNA-Pro
	3195	tRNA-Pro
	3196	tRNA-Ile
	3197	tRNA-Pro
	3198	tRNA-Pro
	3199	tRNA-Ile
	3200	tRNA-Pro

	3201	tRNA-Pro
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	3203	tRNA-Pro
	3204	tRNA-Pro
##	3205	tRNA-Ile
##	3206	tRNA-Pro
##	3207	tRNA-Pro
##	3208	tRNA-Ile
##	3209	tRNA-Pro
##	3210	tRNA-Pro
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##	3212	tRNA-Pro
##	3213	tRNA-Pro
##	3214	tRNA-Ile
	3215	tRNA-Pro
	3216	tRNA-Pro
	3217	beta-1,3-galactosyltransferase 2-like
	3218	beta-1,3-galactosyltransferase 2-like
	3219	beta-1,3-galactosyltransferase 2-like
	3220	potassium channel subfamily T member 2 isoform X1
	3221	potassium channel subfamily T member 2 isoform X1
	3222	queuine tRNA-ribosyltransferase 1
	3223	uncharacterized LOC105946166, transcript variant X10
	3223	uncharacterized LOC105946166, transcript variant X10
	3224	· · · · · · · · · · · · · · · · · · ·
	3226	uncharacterized LOC105946166, transcript variant X10
	3227	uncharacterized LOC105946166, transcript variant X10
		uncharacterized LOC105946166, transcript variant X10
	3228	uncharacterized LOC105946166, transcript variant X10
	3229	uncharacterized LOC105946166, transcript variant X10
	3230	uncharacterized LOC105946166, transcript variant X10
	3231	uncharacterized LOC105946166, transcript variant X10
	3232	uncharacterized LOC105946166, transcript variant X10
	3233	uncharacterized LOC116409821
	3234	uncharacterized LOC116409819
	3235	uncharacterized LOC116409823
	3236	uncharacterized LOC116409820
	3237	uncharacterized LOC116409822
	3238	microRNA mir-199b
	3239	uncharacterized LOC116409502
	3240	uncharacterized LOC116409824
	3241	ELAV like neuron-specific RNA binding protein 3
	3242	uncharacterized gene
	3243	small nucleolar RNA SNORD41
	3244	small nucleolar RNA SNORD41
	3245	uncharacterized gene
	3246	microRNA mir-23a-1
	3247	microRNA mir-27a
	3248	microRNA mir-24b
	3249	uncharacterized LOC116409828
##	3250	complement component 3 precursor pseudogene
##	3251	tRNA-His
##	3252	tRNA-His
##	3253	tRNA-Lys
##	3254	tRNA-Arg

	3255	tRNA-Arg
	3256	tRNA-Lys
	3257	uncharacterized gene
	3258	uncharacterized LOC116409519
	3259	uncharacterized gene
	3260	uncharacterized LOC116409521
	3261	uncharacterized LOC116409831, transcript variant X2
	3262	uncharacterized LOC116409831, transcript variant X2
	3263	tRNA-Pro
	3264	tRNA-Thr
	3265	tRNA-Ser
	3266	tRNA-Pro
	3267	tRNA-Ser
	3268	tRNA-Ser
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	3270	uncharacterized LOC116409524
	3271	tRNA-Ile
	3272	microRNA mir-93a
	3273	microRNA mir-25-1
	3274	tRNA-Ile
	3275	tRNA-Ile
	3276	tRNA-Ile
	3277	tRNA-Ile
	3278	tRNA-Ser
	3279	tRNA-Ser
	3280	tRNA-Ile
	3281	tRNA-Ile
	3282	tRNA-Ile
	3283	tRNA-Ile
	3284	tRNA-Ile
	3285	tRNA-Leu
	3286 3287	tRNA-Pro
		tRNA-Trp tRNA-Ser
	3288 3289	
	3299	U8 small nucleolar RNA U8 small nucleolar RNA
	3290	US small nucleolar RNA
		US small nucleolar RNA
	3292 3293	U8 small nucleolar RNA
		tRNA-Leu
	3294 3295	tRNA-Leu
	3296 3297	tRNA-Leu tRNA-Pro
	3297	tRNA-Pro
	3298	tRNA-Leu tRNA-Gly
	3300	tRNA-Gly
	3300	tRNA-Gly
	3301	tRNA-Gly
	3302	tRNA-Gly
	3304	tRNA-Gly
	3304	· ·
	3305	tRNA-Gly tRNA-Gly
	3306	tRNA-Gly
	3308	tRNA-Gly
##	5500	CRNA-GIY

##	3309	tRNA-Gly
##	3310	tRNA-Leu
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	3312	tRNA-Leu
##	3313	tRNA-Leu
##	3314	tRNA-Leu
##	3315	tRNA-Ser
##	3316	tRNA-Thr
##	3317	tRNA-Ser
##	3318	tRNA-Thr
##	3319	tRNA-Ser
##	3320	tRNA-Pro
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##	3323	tRNA-Thr
##	3324	tRNA-Thr
	3325	tRNA-Ser
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	3327	tRNA-Ser
	3328	tRNA-Thr
	3329	tRNA-Ser
	3330	tRNA-Ser
	3331	centrobin
	3332	tRNA-Leu
	3333	tRNA-Thr
	3334	tRNA-Ser
	3335	tRNA-Pro
	3336	tRNA-Ser
	3337	tRNA-Pro
	3338	tRNA-Leu
	3339	tRNA-Ser
	3340	tRNA-Thr
	3341	tRNA-Ser
	3342	tRNA-Pro
	3343	tRNA-Ser
	3344	tRNA-Pro
	3345	tRNA-Leu
	3346	tRNA-Ser
	3347	tRNA-Thr
	3348	tRNA-Ser
	3349	tRNA-Pro
	3350	tRNA-Ser
	3351	tRNA-Leu
	3352	tRNA-Ser
	3353	tRNA-Thr
	3354	tRNA-Ser
	3355	tRNA-Pro
	3356	tRNA-F10
	3357	tRNA-Ser tRNA-Pro
	3358	tRNA-F10
	3359	tRNA-Leu tRNA-Thr
	3360	tRNA-Inr tRNA-Ser
	3361	tRNA-Ser tRNA-Thr
##	3362	tRNA-Ser

##	3363	tRNA-Pro
##	3364	tRNA-Ser
##	3365	tRNA-Pro
##	3366	tRNA-Leu
##	3367	tRNA-Ser
##	3368	tRNA-Thr
##	3369	tRNA-Ser
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##	3373	tRNA-Leu
##	3374	tRNA-Ser
##	3375	tRNA-Thr
##	3376	tRNA-Ser
##	3377	tRNA-Pro
##	3378	tRNA-Ser
##	3379	tRNA-Pro
##	3380	tRNA-Leu
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##	3382	tRNA-Thr
##	3383	tRNA-Ser
##	3384	tRNA-Pro
##	3385	tRNA-Ser
##	3386	tRNA-Pro
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##	3388	tRNA-Thr
##	3389	tRNA-Ser
##	3390	tRNA-Ser
##	3391	tRNA-Pro
##	3392	tRNA-Leu
##	3393	tRNA-Ser
##	3394	tRNA-Pro
##	3395	tRNA-Leu
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##	3397	tRNA-Leu
##	3398	tRNA-Leu
##	3399	tRNA-Leu
##	3400	tRNA-Leu
##	3401	tRNA-Leu
##	3402	tRNA-Leu
##	3403	tRNA-Thr
##	3404	tRNA-Thr
##	3405	tRNA-Thr
	3406	tRNA-Leu
##	3407	tRNA-Thr
##	3408	tRNA-Thr
	3409	tRNA-Ser
	3410	tRNA-Pro
	3411	tRNA-Thr
	3412	tRNA-Pro
	3413	tRNA-Leu
	3414	tRNA-Leu
	3415	tRNA-Ser
##	3416	tRNA-Ser

##	3417	tRNA-Thr
	3418	tRNA-Thr
	3419	tRNA-Ser
	3420	tRNA-Ala
	3421	tRNA-Asn
	3422	tRNA-Pro
	3423	tRNA-Leu
	3424	tRNA-Ser
	3425	tRNA-Thr
	3426	tRNA-Thr
	3427	tRNA-Ser
	3428	tRNA-Pro
	3429	tRNA-Ser
	3430	tRNA-Thr
	3431	tRNA-Ser
	3432	tRNA-Leu
	3433	tRNA-Thr
	3434	tRNA-Pro
	3435	tRNA-Ser
	3436	tRNA-Thr
	3437	tRNA-Thr
	3438	tRNA-Ser
	3439	tRNA-Thr
	3440	tRNA-Thr
	3441	tRNA-Pro
	3442	tRNA-Thr
	3443	tRNA-Leu
	3444	tRNA-Thr
	3445	tRNA-Ser
	3446	tRNA-Thr
	3447	tRNA-Thr
	3448	tRNA-Pro
	3449	tRNA-Thr
	3450	tRNA-Met
	3451	tRNA-Thr
	3452	tRNA-Ser
	3453	tRNA-Leu
	3454	tRNA-Thr
	3455	tRNA-Pro
	3456	tRNA-Thr
	3457	tRNA-Ser
	3458	tRNA-Thr
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	3460	tRNA-Thr
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	3464	tRNA-Thr
	3465	tRNA-Arg
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	3467	tRNA-Arg
	3468	tRNA-Lys
	3469	tRNA-Arg
##	3470	tRNA-Arg

	3471	tRNA-His
##	3472	tRNA-Lys
##	3473	tRNA-Arg
##	3474	tRNA-Arg
##	3475	tRNA-His
##	3476	tRNA-Lys
##	3477	tRNA-Arg
##	3478	tRNA-Arg
##	3479	tRNA-His
##	3480	tRNA-Lys
##	3481	tRNA-Ser
##	3482	tRNA-Thr
##	3483	tRNA-Thr
##	3484	tRNA-Leu
##	3485	tRNA-Thr
##	3486	tRNA-Thr
##	3487	tRNA-Ser
	3488	tRNA-Thr
	3489	tRNA-Thr
##	3490	tRNA-Leu
	3491	tRNA-Ser
	3492	tRNA-Thr
	3493	tRNA-Thr
	3494	tRNA-Leu
	3495	tRNA-Ser
	3496	tRNA-Thr
	3497	tRNA-Ser
	3498	tRNA-Thr
	3499	tRNA-Ser
	3500	tRNA-Thr
	3501	tRNA-Leu
	3502	tRNA-Ser
	3503	tRNA-Thr
	3504	tRNA-Leu
	3505	tRNA-Ser
	3506	tRNA-Thr
	3507	tRNA-Leu
	3508	tRNA-Leu
	3509	tRNA-Ser
	3510	tRNA-Thr
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	3513	tRNA-Thr
	3514	tRNA-Thr
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	3516	tRNA-Leu
	3517	tRNA-Ser
	3518	tRNA-His
	3519	tRNA-Arg
	3520	tRNA-His
	3521	tRNA-Lys
	3522	tRNA-Arg
	3523	tRNA-Ser
	3524	tRNA-Thr
11 11	552 ⁻¹	CHWA THE

##	3525	tRNA-Leu
##	3526	tRNA-Ser
##	3527	tRNA-Thr
##	3528	tRNA-Thr
##	3529	tRNA-Leu
##	3530	tRNA-Ser
##	3531	tRNA-Thr
##	3532	tRNA-Leu
##	3533	tRNA-Ser
##	3534	tRNA-Thr
##	3535	tRNA-Leu
##	3536	tRNA-Ser
##	3537	tRNA-Thr
##	3538	tRNA-Thr
##	3539	tRNA-Leu
##	3540	tRNA-Ser
##	3541	tRNA-Thr
##	3542	tRNA-Thr
##	3543	tRNA-Leu
##	3544	tRNA-Ser
##	3545	tRNA-Thr
##	3546	tRNA-Thr
##	3547	tRNA-Leu
##	3548	tRNA-Ser
##	3549	tRNA-Thr
##	3550	tRNA-Thr
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##	3552	tRNA-Ser
##	3553	tRNA-Thr
##	3554	tRNA-Thr
##	3555	tRNA-Leu
##	3556	tRNA-Ser
##	3557	tRNA-His
##	3558	tRNA-Lys
##	3559	tRNA-Arg
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##	3561	tRNA-His
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##	3571	tRNA-Arg
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##	3574	tRNA-Lys
	3575	tRNA-Arg
	3576	tRNA-Arg
	3577	tRNA-His
##	3578	tRNA-Lys
		· ·

##	3579	tRNA-Arg
##	3580	tRNA-Arg
##	3581	tRNA-His
##	3582	tRNA-Lys
##	3583	tRNA-Arg
##	3584	tRNA-Arg
##	3585	tRNA-His
##	3586	tRNA-Lys
##	3587	tRNA-Arg
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##	3589	tRNA-His
##	3590	tRNA-Lys
##	3591	tRNA-Arg
	3592	tRNA-Arg
	3593	tRNA-His
	3594	tRNA-Lys
	3595	tRNA-Arg
	3596	tRNA-Arg
	3597	tRNA-His
	3598	tRNA-Lys
	3599	tRNA-Arg
	3600	tRNA-Arg
	3601	tRNA-His
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	3604	tRNA-Arg
	3605	tRNA-His
	3606	tRNA-Lys
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	3608	tRNA-Arg
	3609	tRNA-His
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	3623	tRNA-Lys
	3624	tRNA-Arg
	3625	tRNA-Arg
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	3627	tRNA-HIS
	3628	tRNA-Lys
	3629	
	3630	tRNA-Arg tRNA-His
	3631	
		tRNA-Lys
##	3632	tRNA-Arg

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##	3637	tRNA-His
##	3638	tRNA-Lys
##	3639	tRNA-Arg
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##	3647	tRNA-Arg
##	3648	tRNA-Arg
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##	3652	tRNA-Ser
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##	3655	tRNA-Pro
##	3656	tRNA-Ser
##	3657	tRNA-Thr
##	3658	tRNA-Ser
##	3659	tRNA-Leu
##	3660	tRNA-Ser
##	3661	tRNA-Thr
##	3662	tRNA-Ser
##	3663	tRNA-Thr
##	3664	tRNA-Leu
##	3665	tRNA-Ser
##	3666	tRNA-Ser
##	3667	tRNA-Arg
##	3668	tRNA-Thr
##	3669	tRNA-Thr
##	3670	tRNA-Pro
##	3671	tRNA-Leu
	3672	tRNA-Thr
	3673	tRNA-Pro
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	3675	tRNA-Thr
	3676	tRNA-Ser
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	3686	tRNA-Thr

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##	3688	tRNA-Thr
##	3689	tRNA-Ser
##	3690	tRNA-Pro
##	3691	tRNA-Pro
##	3692	tRNA-Thr
##	3693	tRNA-Ser
##	3694	tRNA-Ser
##	3695	tRNA-Pro
##	3696	tRNA-Thr
##	3697	tRNA-Thr
##	3698	tRNA-Leu
##	3699	tRNA-Pro
##	3700	tRNA-Thr
##	3701	tRNA-Thr
##	3702	tRNA-Ser
##	3703	tRNA-Lys
##	3704	tRNA-His
##	3705	tRNA-Arg
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##	3707	tRNA-Leu
##	3708	tRNA-Ser
##	3709	tRNA-Pro
##	3710	tRNA-Ser
##	3711	tRNA-Thr
##	3712	tRNA-Ser
##	3713	tRNA-Ser
##	3714	tRNA-Thr
##	3715	tRNA-Ser
##	3716	tRNA-Pro
##	3717	tRNA-Ser
##	3718	tRNA-Leu
##	3719	tRNA-Thr
##	3720	tRNA-Leu
	3721	tRNA-Thr
##	3722	tRNA-Arg
##	3723	tRNA-His
	3724	tRNA-Lys
	3725	tRNA-Thr
	3726	tRNA-Arg
	3727	tRNA-Thr
	3728	tRNA-Lys
	3729	tRNA-Ser
	3730	tRNA-Leu
	3731	tRNA-Ser
	3732	tRNA-Ser
	3733	tRNA-Thr
	3734	tRNA-Leu
	3735	tRNA-Pro
	3736	tRNA-Ser
	3737	tRNA-Pro
	3738	tRNA-Thr
	3739	tRNA-Pro
##	3740	tRNA-Ser

	3741	tRNA-Thr
	3742	tRNA-Pro
	3743	tRNA-Ser
	3744	tRNA-Thr
	3745	tRNA-Ser
	3746	tRNA-Pro
	3747	tRNA-Thr
	3748	vomeronasal type-2 receptor 26
	3749	vomeronasal type-2 receptor 26
	3750	vomeronasal type-2 receptor 26-like
	3751	vomeronasal type-2 receptor 26-like
	3752	vomeronasal type-2 receptor 26
	3753	vomeronasal type-2 receptor 26
##	3754	vomeronasal type-2 receptor 26
##	3755	vomeronasal type-2 receptor 26
##	3756	tRNA-Thr
##	3757	tRNA-Thr
	3758	tRNA-Arg
##	3759	tRNA-Leu
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	3761	tRNA-Thr
##	3762	tRNA-Thr
##	3763	tRNA-Thr
##	3764	microRNA mir-427-2
##	3765	microRNA mir-427-1
	3766	microRNA mir-427-3
##	3767	tRNA-Leu
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##	3769	tRNA-His
##	3770	tRNA-Thr
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##	3772	tRNA-His
##	3773	tRNA-Thr
	3774	tRNA-Lys
	3775	tRNA-Leu
	3776	tRNA-Ser
##	3777	tRNA-His
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	3779	tRNA-Thr
	3780	tRNA-Thr
	3781	tRNA-His
	3782	tRNA-Thr
	3783	tRNA-Leu
	3784	tRNA-Ser
	3785	tRNA-His
	3786	vomeronasal type-2 receptor 26-like
	3787	vomeronasal type-2 receptor 26
	3788	vomeronasal type-2 receptor 26-like
	3789	uncharacterized gene
##	3790	vomeronasal type-2 receptor 26
	3791	uncharacterized gene
	3792	uncharacterized protein LOC101730300 isoform X2
	3793	uncharacterized protein LOC101730874
##	3794	uncharacterized protein LOC101730874

##	3795	WD repeat containing, antisense to TP53
	3796	tRNA-Thr
	3797	tRNA-Thr
	3798	tRNA-Thr
	3799	tRNA-Thr
	3800	tRNA-Asn
	3801	tRNA-Thr
	3802	tRNA-Thr
	3803	tRNA-Thr
	3804	tRNA-Thr
	3805	tRNA-Thr
	3806	tRNA-Thr
	3807	tRNA-Thr
	3808	tRNA-Thr
	3809	tRNA-Thr
	3810	tRNA-Thr
	3811	tRNA-Thr
	3812	tRNA-Thr
	3813	tRNA-Thr
	3814	tRNA-Thr
	3815	tRNA-Thr
	3816	tRNA-Thr
##	3817	tRNA-Thr
##	3818	tRNA-Thr
##	3819	tRNA-Thr
##	3820	tRNA-Thr
##	3821	tRNA-Thr
##	3822	tRNA-Thr
##	3823	tRNA-Thr
##	3824	tRNA-Thr
##	3825	tRNA-Thr
##	3826	tRNA-Thr
##	3827	tRNA-Thr
##	3828	tRNA-Thr
##	3829	uncharacterized protein LOC116409844 isoform X1
##	3830	uncharacterized protein LOC116409844 isoform X1
##	3831	tRNA-Thr
##	3832	tRNA-Thr
##	3833	tRNA-Thr
##	3834	tRNA-Thr
	3835	tRNA-Thr
	3836	tRNA-Thr
	3837	tRNA-Thr
	3838	tRNA-Thr
	3839	tRNA-Ile
	3840	tRNA-Thr
	3841	tRNA-Thr
	3842	tRNA-Thr
	3843	tRNA-Thr
	3844	tRNA-Thr
	3845	uncharacterized gene
	3846	tRNA-Ser
	3847	tRNA-Ser tRNA-Pro
	3848	tRNA-F10
##	5040	triva-Ser

	3849	uncharacterized gene
	3850	uncharacterized LOC105946968
	3851	tRNA-Ser
	3852	tRNA-Ser
##	3853	tRNA-Ser
##	3854	tRNA-Ser
##	3855	tRNA-Ser
##	3856	tRNA-Pro
	3857	tRNA-Thr
##	3858	tRNA-Ile
##	3859	tRNA-Thr
##	3860	tRNA-Thr
##	3861	tRNA-Thr
##	3862	tRNA-Thr
##	3863	uncharacterized gene
##	3864	uncharacterized gene
##	3865	uncharacterized LOC116409855
##	3866	small nucleolar RNA SNORD10
##	3867	transmembrane protein 256
##	3868	uncharacterized LOC116409857
##	3869	uncharacterized LOC116409861
##	3870	uncharacterized gene
##	3871	coiled-coil domain-containing protein 77
##	3872	uncharacterized LOC100158538
##	3873	uncharacterized gene
##	3874	uncharacterized gene
##	3875	uncharacterized LOC100498328
##	3876	uncharacterized protein LOC100498645 isoform X1
##	3877	uncharacterized protein LOC100498645 isoform X1
##	3878	uncharacterized protein LOC100498645 isoform X1
##	3879	uncharacterized LOC101734743, transcript variant X2
##	3880	uncharacterized LOC101734743, transcript variant X2
##	3881	small nucleolar RNA SNORD14
##	3882	small nucleolar RNA SNORD14
##	3883	uncharacterized LOC116410359
##	3884	uncharacterized LOC101733371
##	3885	signal peptide, CUB domain, EGF-like 2
##	3886	DENN/MADD domain containing 5A
	3887	small nucleolar RNA SNORD97
	3888	small nucleolar RNA SNORD97
##	3889	uncharacterized LOC105947164
	3890	F-actin-monooxygenase MICAL2 isoform X1
	3891	alpha-parvin
	3892	small nucleolar RNA SNORA23
	3893	small nucleolar RNA SNORA23
	3894	microRNA mir-129-1
	3895	uncharacterized LOC116410521
##	3896	uncharacterized LOC116410242
##	3897	uncharacterized LOC116410249
##	3898	uncharacterized LOC116410244
##	3899	uncharacterized LOC116410246
	3900	uncharacterized LOC116410251
	3901	uncharacterized LOC116410248
##	3902	uncharacterized LOC116410245

##	3903	uncharacterized LOC116410247
##	3904	uncharacterized LOC108644862
##	3905	uncharacterized LOC116410250
##	3906	uncharacterized LOC101731353
##	3907	uncharacterized LOC116410253
##	3908	uncharacterized LOC116410252
##	3909	uncharacterized LOC116410267
##	3910	uncharacterized LOC116410256
##	3911	uncharacterized LOC116410270
##	3912	uncharacterized LOC116410260
##	3913	uncharacterized LOC116410257
##	3914	uncharacterized LOC116410262
##	3915	synaptotagmin-13-like
##	3916	uncharacterized LOC116410264
##	3917	uncharacterized LOC116410258
##	3918	uncharacterized LOC116410269
##	3919	uncharacterized LOC116410261
##	3920	uncharacterized LOC116410265
	3921	uncharacterized LOC116410263
##	3922	uncharacterized LOC116410268
##	3923	uncharacterized LOC116410266
##	3924	uncharacterized LOC116410259
##	3925	synaptotagmin-13-like isoform X1
##	3926	synaptotagmin-13-like isoform X1
##	3927	uncharacterized LOC116410275
##	3928	uncharacterized LOC116410272, transcript variant X2
##	3929	uncharacterized LOC116410272, transcript variant X2
##	3930	uncharacterized LOC116410273
	3931	uncharacterized LOC116410274
##	3932	uncharacterized LOC116410533
	3933	small nucleolar RNA SNORD67
##	3934	small nucleolar RNA SNORD67
##	3935	uncharacterized LOC116410280
	3936	uncharacterized LOC105947176
	3937	uncharacterized LOC105947174
	3938	uncharacterized LOC116410281
	3939	protein kinase C delta type-like
	3940	uncharacterized LOC116410286
	3941	uncharacterized LOC116410285
	3942	uncharacterized LOC105946069
	3943	uncharacterized gene
	3944	uncharacterized LOC116410525
	3945	uncharacterized LOC101731609
	3946	uncharacterized LOC116410292
	3947	uncharacterized LOC116410291
	3948	uncharacterized LOC116410293
	3949	uncharacterized LOC116410294
	3950	uncharacterized LOC101731569
	3951	uncharacterized LOC116410295
	3952	uncharacterized cocifications uncharacterized gene
	3953	uncharacterized LOC116410297, transcript variant X3
	3954	uncharacterized LOC116410297, transcript variant X3
	3955	uncharacterized LOC116410297, transcript variant X3
	3956	uncharacterized LUCI16410297, transcript variant As uncharacterized LUC105947771
	סטטט	uncharacterized LUC10594///1

## 3957	uncharacterized LOC116410296
## 3958	uncharacterized LOC116410526
## 3959	uncharacterized LOC105946173
## 3960	uncharacterized LOC116410298
## 3961	uncharacterized LOC116410300
## 3962	uncharacterized LOC116410299
## 3963	uncharacterized LOC108646158
## 3964	uncharacterized LOC116410301, transcript variant X2
## 3965	uncharacterized LOC116410301, transcript variant X2
## 3966	uncharacterized LOC105947209
## 3967	uncharacterized LOC116410305
## 3968	uncharacterized LOC116410303
## 3969	uncharacterized LOC116410304
## 3970	uncharacterized LOC101732864
## 3971	uncharacterized LOC116410527
## 3972	uncharacterized LOC116410222
## 3973	uncharacterized LOC116410307
## 3974	uncharacterized LOC116410542
## 3975	uncharacterized LOC101731613
## 3976	uncharacterized LOC108647373
## 3977	uncharacterized gene
## 3978	uncharacterized LOC108647376
## 3979	uncharacterized gene
## 3980	uncharacterized LOC116410310
## 3981	uncharacterized LOC116410539
## 3982	uncharacterized LOC116410540
## 3983	uncharacterized LOC105947191
## 3984	uncharacterized LOC105947190
## 3985	sn1-specific diacylglycerol lipase alpha isoform X1
## 3986	sn1-specific diacylglycerol lipase alpha isoform X1
## 3987	sn1-specific diacylglycerol lipase alpha isoform X1
## 3988	sn1-specific diacylglycerol lipase alpha isoform X1
## 3989	sn1-specific diacylglycerol lipase alpha isoform X1
## 3990	sn1-specific diacylglycerol lipase alpha isoform X1
## 3991	sn1-specific diacylglycerol lipase alpha isoform X1
## 3992	sn1-specific diacylglycerol lipase alpha isoform X1
## 3993	uncharacterized LOC116410315
## 3994	uncharacterized LOC116410314
## 3995	uncharacterized LOC108647379
## 3996	uncharacterized LOC108647378, transcript variant X2
## 3997	uncharacterized LOC108647378, transcript variant X2
## 3998	sn1-specific diacylglycerol lipase alpha-like isoform X1
## 3999	uncharacterized LOC116410316
## 4000	uncharacterized LOC101733421, transcript variant X2
## 4001	uncharacterized LOC101733421, transcript variant X2
## 4002	uncharacterized LOC116410317
## 4003	uncharacterized LOC116410318
## 4004	uncharacterized LOC101733500
## 4005	tRNA-Ala
## 4006	protein phosphatase 1 regulatory subunit 12A isoform X1
## 4007	tRNA-Ala
## 4007	interferon-induced transmembrane protein 1-like isoform X1
## 4009	interferon-induced transmembrane protein 1-like isoform X1
## 4010	uncharacterized LOC101734551
"". IOIO	uncharacterized Locio1/34331

	4011	uncharacterized LOC116410541
	4012	uncharacterized LOC116410320
	4013	uncharacterized LOC108647386
	4014	uncharacterized LOC116410322
	4015	vomeronasal type-2 receptor 26-like
##	4016	uncharacterized gene
##	4017	uncharacterized LOC116410325
##	4018	uncharacterized LOC116410329
##	4019	uncharacterized LOC116410333
##	4020	uncharacterized LOC116410330
##	4021	uncharacterized LOC116410331
##	4022	uncharacterized LOC105947262
##	4023	uncharacterized LOC116410332
##	4024	uncharacterized LOC116410337
##	4025	uncharacterized LOC116410338
##	4026	uncharacterized LOC116410336
##	4027	chitinase domain containing 1
##	4028	uncharacterized LOC116410340
##	4029	cell cycle exit and neuronal differentiation 1
##	4030	uncharacterized LOC116410342
##	4031	uncharacterized LOC100487206
##	4032	uncharacterized LOC116410343
##	4033	double PHD fingers 2
##	4034	uncharacterized LOC116410276
##	4035	uncharacterized LOC116410344
##	4036	uncharacterized gene
##	4037	uncharacterized gene
##	4038	uncharacterized gene
##	4039	uncharacterized gene
##	4040	uncharacterized LOC116410545
##	4041	uncharacterized gene
##	4042	uncharacterized LOC116410546
##	4043	basic leucine zipper transcriptional factor ATF-like 2 isoform X1
##	4044	protein kinase C-like
##	4045	protein kinase C-like
##	4046	microRNA mir-194-2
##	4047	microRNA mir-192
	4048	tRNA-Thr
	4049	tRNA-Thr
	4050	tRNA-Thr
	4051	tRNA-Thr
	4052	tRNA-Thr
	4053	tRNA-Thr
	4054	tRNA-Thr
	4055	tRNA-Thr
	4056	tRNA-Thr
	4057	tRNA-Thr
	4058	tRNA-Thr
##	4059	tRNA-Thr
##	4060	tRNA-Thr
##	4061	tRNA-Thr
##	4062	tRNA-Thr
##	4063	tRNA-Thr
##	4064	uncharacterized LOC116410346, transcript variant X2

	4005	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	4065	uncharacterized LOC116410346, transcript variant X2
	4066	uncharacterized LOC101732269, transcript variant X2
	4067	uncharacterized LOC101732269, transcript variant X2
	4068	uncharacterized LOC116410347
	4069	uncharacterized LOC108647425
	4070	tRNA-Thr
	4071	tRNA-Thr
	4072	tRNA-Thr
	4073	tRNA-Thr
	4074	tRNA-Thr
	4075	uncharacterized LOC101731863
	4076	uncharacterized LOC116410350
	4077	uncharacterized LOC116410349
	4078	uncharacterized LOC116410348
	4079	uncharacterized LOC105947280
	4080	tRNA-Val
	4081	tRNA-Val
	4082	tRNA-Val
	4083	uncharacterized LOC116410351
	4084	tRNA-Val
	4085	tRNA-Val
	4086	tRNA-Ile
##	4087	tRNA-Val
##	4088	tRNA-Trp
##	4089	tRNA-Val
##	4090	tRNA-Thr
##	4091	tRNA-Ser
##	4092	tRNA-Thr
##	4093	tRNA-Ala
##	4094	tRNA-Ala
##	4095	tRNA-Thr
##	4096	tRNA-Ala
##	4097	tRNA-Thr
##	4098	tRNA-Trp
	4099	tRNA-Ala
	4100	tRNA-Ala
##	4101	tRNA-Trp
##	4102	tRNA-Trp
	4103	tRNA-Trp
	4104	tRNA-Trp
##	4105	tRNA-Gln
##	4106	tRNA-Thr
##	4107	tRNA-Trp
##	4108	tRNA-Thr
##	4109	uncharacterized gene
##	4110	uncharacterized LOC116410352
##	4111	microRNA mir-210
##	4112	uncharacterized LOC116410353
##	4113	uncharacterized gene
##	4114	uncharacterized LOC116410356
##	4115	uncharacterized LOC116410354, transcript variant X2
##	4116	uncharacterized LOC116410354, transcript variant X2
##	4117	uncharacterized LOC116410355
##	4118	uncharacterized LOC116410358

4119	uncharacterized LOC100492571
4120	uncharacterized LOC105945466
4121	uncharacterized LOC100486597
4122	small nucleolar RNA U25
4123	small nucleolar RNA SNORD26
4124	small nucleolar RNA SNORD27
4125	small nucleolar RNA SNORD28
4126	small nucleolar RNA SNORD22
4127	small nucleolar RNA SNORD31
4128	small nucleolar RNA SNORD29
4129	small nucleolar RNA SNORD30
4130	small nucleolar RNA SNORD31
4131	echinoderm microtubule-associated protein-like 3
4132	small nucleolar RNA SNORD31
4133	small nucleolar RNA SNORA57
4134	uncharacterized LOC116410563
4135	tRNA-Gln
4136	tRNA-Gln
4137	tRNA-Gln
4138	tRNA-Ile
4139	tRNA-Gln
4140	tRNA-Gln
4141 4142	tRNA-Gln tRNA-Ile
4143	tRNA-Gln
4144	$ ag{tRNA-Gln} \ ag{tRNA-Gln}$
4145	tRNA-Ile
4146	tRNA-IIe
4147 4148	tRNA-Gln
4149	tRNA-Gln
4149	tRNA-Gln
4150	tRNA-Gln
4151	tRNA-Gln
4153	tRNA-Ile
4154	tRNA-Gln
4155	tRNA-Gln
4156	tRNA-Gln
4157	tRNA-Ile
4158	tRNA-Gln
4159	tRNA-Gln
4160	tRNA-Gln
4161	tRNA-Ile
4162	tRNA-Gln
4163	tRNA-Gln
4164	tRNA-Gln
4165	tRNA-Ile
4166	tRNA-Gln
4167	tRNA-Gln
4168	tRNA-Gln
4169	tRNA-Ile
4170	tRNA-Gln
4171	tRNA-Gln
4172	tRNA-Gln
 	Olwin din

	‡ 4173	tRNA-Ile
	± 4174	tRNA-Gln
	± 4175	tRNA-Gln
	‡ 4176	tRNA-Gln
	£ 4177	tRNA-Ile
	÷ 4178	tRNA-Gln
	÷ 4179	tRNA-Gln
	£ 4180	tRNA-Gln
	÷ 4181	tRNA-Ile
	÷ 4182	tRNA-Gln
	÷ 4183	tRNA-Gln
	÷ 4184	tRNA-Gln
	÷ 4185	tRNA-Ile
	÷ 4186	tRNA-Gln
	÷ 4187	tRNA-Gln
	‡ 4188	tRNA-Gln
	÷ 4189	tRNA-Ile
	÷ 4190	tRNA-Gln
	÷ 4191	tRNA-Gln
	÷ 4192	tRNA-Gln
	÷ 4193	tRNA-Gln
	÷ 4194	tRNA-Gln
	÷ 4195	tRNA-Gln
	÷ 4196	tRNA-Gln
	÷ 4197	tRNA-Ile
	÷ 4198	tRNA-Gln
	÷ 4199	tRNA-Gln
	4200	tRNA-Gln
	4201	tRNA-Gln
	± 4202	tRNA-Gln
	£ 4203	tRNA-Gln
	£ 4204	tRNA-Ile
	£ 4205	tRNA-Gln
	£ 4206	tRNA-Gln
	£ 4207	tRNA-Gln
	± 4208	tRNA-Ile
	£ 4209	tRNA-Gln
	£ 4210	tRNA-Gln
	4211	tRNA-Gln
	± 4212	tRNA-Ile
	4213	tRNA-Gln
	£ 4214	tRNA-Gln
	4215	tRNA-Gln
	4216	tRNA-Ile
	÷ 4217	tRNA-Gln
	4218	tRNA-Gln
	4219	tRNA-Gln
	4220	tRNA-Ile
	4221	tRNA-Gln
	£ 4222	tRNA-Gln
	4223	tRNA-Gln
	4224	tRNA-Ile
	4225	tRNA-Gln
##	4226	tRNA-Gln

##	4227	tRNA-Gln
##	4228	tRNA-Ile
##	4229	tRNA-Gln
##	4230	tRNA-Gln
##	4231	tRNA-Gln
##	4232	tRNA-Ile
##	4233	tRNA-Gln
##	4234	tRNA-Gln
##	4235	tRNA-Gln
##	4236	tRNA-Ile
##	4237	tRNA-Ala
##	4238	tRNA-Ala
##	4239	tRNA-Ala
##	4240	tRNA-Ala
##	4241	tRNA-Leu
##	4242	tRNA-Leu
##	4243	tRNA-Leu
##	4244	tRNA-Gln
##	4245	tRNA-Leu
##	4246	tRNA-Leu
##	4247	tRNA-Leu
##	4248	tRNA-Leu
##	4249	tRNA-Leu
##	4250	tRNA-Gln
##	4251	tRNA-Asp
##	4252	tRNA-Asp
##	4253	uncharacterized LOC101732770
##	4254	uncharacterized LOC116410362
##	4255	tRNA-Ile
##	4256	transmembrane protein 272 isoform X2
##	4257	uncharacterized LOC101733257, transcript variant X2
##	4258	uncharacterized LOC101733257, transcript variant X2
##	4259	tRNA-Ala
##	4260	tRNA-Thr
##	4261	uncharacterized LOC116410365
##	4262	uncharacterized LOC116410367, transcript variant X2
##	4263	uncharacterized LOC116410367, transcript variant X2
##	4264	uncharacterized LOC116410366, transcript variant X2
##	4265	uncharacterized LOC116410366, transcript variant X2
##	4266	XenBase Gene 105947229
	4267	uncharacterized LOC105947228
	4268	uncharacterized LOC105947227, transcript variant X1
	4269	uncharacterized LOC105947227, transcript variant X1
##	4270	uncharacterized LOC116410553
	4271	uncharacterized LOC101731264
##	4272	uncharacterized LOC101731219
	4273	dipeptidase 2 isoform X1
	4274	uncharacterized LOC116410368
	4275	uncharacterized LOC101731526, transcript variant X1
	4276	uncharacterized LOC101731526, transcript variant X1
		uncharacterized LOC116410369
$\pi\pi$	4277	uncharacterized LUC110410309
	4277 4278	
##	4278	zinc finger protein 423 isoform X1
## ##		

## 4281	uncharacterized LOC108647434, transcript variant X2					
## 4282	uncharacterized LOC108647434, transcript variant X2					
## 4283	uncharacterized gene					
## 4284						
## 4285	· · · · · · · · · · · · · · · · · · ·					
## 4286	uncharacterized LOC105945554					
## 4287	uncharacterized LOC116410373, transcript variant X2					
## 4288	uncharacterized LOC116410373, transcript variant X2					
## 4289	uncharacterized LOC105945696					
## 4290	uncharacterized LOC101733854					
## 4291	uncharacterized gene					
## 4292	uncharacterized LOC116410550, transcript variant X2					
## 4293	uncharacterized LOC116410550, transcript variant X2					
## 4294	uncharacterized LOC116406498, transcript variant X2					
## 4295	uncharacterized LOC116406498, transcript variant X2					
## 4296	uncharacterized LOC100487280					
## 4297	uncharacterized LOC116410378					
## 4298	uncharacterized LOC116406480					
## 4299	uncharacterized LOC116410551					
## 4300	uncharacterized LOC116410383					
## 4301	uncharacterized gene					
## 4302	uncharacterized LOC101731451					
## 4303	uncharacterized LOC105945484					
## 4304	uncharacterized gene					
## 4305	uncharacterized LOC105947224					
## 4306	uncharacterized LOC116410390					
## 4307	uncharacterized LOC116410392					
## 4308	uncharacterized LOC116410554					
## 4309	uncharacterized LOC116410555					
## 4310	uncharacterized LOC116410556					
## 4311	uncharacterized LOC116410557					
## 4312	uncharacterized LOC105947231, transcript variant X2					
## 4313	uncharacterized LOC105947231, transcript variant X2					
## 4314	uncharacterized LOC105947232					
## 4315	uncharacterized LOC116410393					
## 4316	uncharacterized gene					
## 4317	uncharacterized LOC108647443					
## 4318	uncharacterized LOC116410395					
## 4319	uncharacterized LOC116410558					
## 4320	uncharacterized LOC116410306					
## 4321	uncharacterized LOC116410565					
## 4322	uncharacterized LOC116410397, transcript variant X4					
## 4323	uncharacterized LOC116410397, transcript variant X4					
## 4324	uncharacterized LOC116410397, transcript variant X4					
## 4325	uncharacterized LOC116410397, transcript variant X4					
## 4326	uncharacterized LOC116410398					
## 4327	uncharacterized LOC116410559					
## 4328	acyl-CoA synthetase family member 3					
## 4329	acyl-CoA synthetase family member 3					
## 4330	uncharacterized protein LOC100489253 isoform X1					
## 4331	small nucleolar RNA MBII-202					
## 4332	small nucleolar RNA MBII-202					
## 4333	small nucleolar RNA MBII-202					
## 4334	small nucleolar RNA SNORD71					

	4335	Fanconi anemia group A protein isoform X1		
	4336	uncharacterized LOC108647446		
	4337	uncharacterized LOC116410560		
	4338	uncharacterized LOC116410561		
	4339	uncharacterized LOC105947112		
	4340	uncharacterized LOC105947251		
	4341	uncharacterized LOC116410400		
	4342	uncharacterized LOC105947250, transcript variant X2		
	4343	uncharacterized LOC105947250, transcript variant X2		
	4344	microRNA mir-140		
	4345	uncharacterized LOC116410401		
	4346	uncharacterized LOC116410402		
	4347	uncharacterized LOC116410403		
	4348	uncharacterized LOC105947670		
	4349	uncharacterized LOC116410404		
##	4350	uncharacterized LOC100495799, transcript variant X2		
##	4351	uncharacterized LOC100495799, transcript variant X2		
##	4352	uncharacterized LOC100495799, transcript variant X2		
##	4353	uncharacterized LOC101733208		
##	4354	U6 spliceosomal RNA		
##	4355	uncharacterized LOC108647449		
##	4356	tRNA-Met		
##	4357	zinc finger CCHC-type containing 14		
##	4358	U4 spliceosomal RNA		
##	4359	uncharacterized LOC116410407		
##	4360	tRNA-Thr		
##	4361	chromosome 19 open reading frame 12		
##	4362	uncharacterized LOC105945955		
##	4363	uncharacterized gene		
##	4364	uncharacterized LOC116410564		
##	4365	uncharacterized LOC116410410		
##	4366	uncharacterized LOC116410411		
	4367	uncharacterized LOC116410413		
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	4373	tRNA-Gly		
	4374	tRNA-Gly		
##	4375	uncharacterized LOC116410414		
##	4376	U6 snRNA biogenesis phosphodiesterase 1		
	4377	uncharacterized LOC100490462		
##	4378	collagen, type XXIV, alpha 1		
##	4379	uncharacterized LOC116410415		
	4380	uncharacterized LOC116410416		
	4381	uncharacterized protein LOC101731929		
##	4382	uncharacterized LOC105946989		
##	4383	tRNA-Val		
##	4384	tRNA-Val		
##	4385	uncharacterized LOC116410417		
##	4386	tctex1 domain-containing protein 1		
##	4387	uncharacterized LOC116410418, transcript variant X2		
##	4388	uncharacterized LOC116410418, transcript variant X2		

	4389	microRNA mir-101a-2			
	4390	uncharacterized LOC105946991			
	4391	TM2 domain-containing protein 1			
	4392	uncharacterized LOC116410419			
	4393	uncharacterized LOC105946992			
	4394	uncharacterized LOC108647362, transcript variant X2			
	4395	uncharacterized LOC108647362, transcript variant X2			
	4396	uncharacterized LOC116410421			
	4397	uncharacterized LOC116410215			
	4398	microRNA mir-27c-1			
	4399	microRNA mir-23a-2			
	4400	uncharacterized LOC105946996			
	4401	uncharacterized LOC116410423			
	4402	small nucleolar RNA SNORA35			
	4403	uncharacterized LOC116410424			
	4404	small nucleolar RNA SNORD38			
	4405	small nucleolar RNA SNORD55/SNORD39			
	4406	small nucleolar RNA SNORD38			
	4407	small nucleolar RNA SNORD38			
	4408	small nucleolar RNA SNORD38			
	4409	small nucleolar RNA SNORD55/SNORD39			
	4410	small nucleolar RNA SNORA35			
	4411	small nucleolar RNA SNORD38			
	4412	small nucleolar RNA SNORD46			
	4413	U5 spliceosomal RNA			
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	4487	uncharacterized gene
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	4489	uncharacterized LOC116410396
	4490	uncharacterized LOC101734422
	4491	uncharacterized gene
	4492	uncharacterized LOC105947002
	4493	coiled-coil and C2 domain-containing protein 1B isoform X1
	4494	uncharacterized LOC116410428, transcript variant X2
	4495	uncharacterized LOC116410428, transcript variant X2
##	4496	small nucleolar RNA SNORD74

	4497	small nucleolar RNA SNORD79
	4498	small nucleolar RNA snR60/Z15/Z230/Z193/J17
	4499	small nucleolar RNA SNORD78
	4500	small nucleolar RNA SNORD47
	4501	small nucleolar RNA SNORD75
	4502	small nucleolar RNA snR60/Z15/Z230/Z193/J17
	4503	small nucleolar RNA snR60/Z15/Z230/Z193/J17
	4504	small nucleolar RNA SNORD47
	4505	uncharacterized protein KIAA0040 homolog
	4506	uncharacterized LOC105947150
	4507	uncharacterized LOC105947005, transcript variant X2
	4508	uncharacterized LOC105947005, transcript variant X2
	4509	uncharacterized LOC105947007, transcript variant X2
	4510	uncharacterized LOC105947007, transcript variant X2
	4511	uncharacterized LOC105947285
	4512	uncharacterized LOC101734396
	4513	uncharacterized LOC101734344
	4514	uncharacterized LOC105947284
	4515	uncharacterized LOC105947287, transcript variant X2
	4516	uncharacterized LOC105947287, transcript variant X2
	4517	uncharacterized LOC116410382
	4518	uncharacterized LOC116410430
	4519	microRNA mir-137-1
	4520	tRNA-Arg
	4521	uncharacterized LOC116410431
	4522	uncharacterized LOC105947290
	4523	uncharacterized LOC116410432
	4524	uncharacterized LOC116410433
	4525	uncharacterized LOC116410434
	4526	uncharacterized LOC116410217
	4527	uncharacterized LOC116410435
	4528	uncharacterized gene uncharacterized LOC116410436
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	4530	microRNA mir-199a
	4531 4532	microRNA mir-214 uncharacterized LOC116410438
	4533	RNA binding region (RNP1, RRM) containing 3
	4534	tRNA-Gly
	4535	uncharacterized LOC116410439
	4536	uncharacterized LOC116410439 uncharacterized LOC116410441
	4537	microRNA mir-181b-1
	453 <i>1</i> 4538	microRNA mir-181b-1 microRNA mir-181a-1
	4539	uncharacterized gene
	4540	uncharacterized LOC105946973
	4541	uncharacterized LOC116410444
	4541	uncharacterized LOC116410445, transcript variant X2
	4543	uncharacterized LOC116410445, transcript variant X2
	4544	uncharacterized LOC116410445, transcript variant X3
	4545	uncharacterized LOC105946975, transcript variant X3
	4546	uncharacterized LOC105946975, transcript variant X3
	4547	uncharacterized LOC105946975, transcript variant XS uncharacterized LOC100487502
	4548	U12 minor spliceosomal RNA
	4549	U12 minor spliceosomal RNA
	4549	U12 minor spliceosomal RNA
##	-100U	012 minor spriceosomal RNA

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## 4556	uncharacterized LOC108647464
## 4557	small nucleolar RNA SNORA62/SNORA6 family
## 4558	small nucleolar RNA SNORA62/SNORA6 family
## 4559	small nucleolar RNA SNORA62/SNORA6 family
## 4560	uncharacterized LOC116410446
## 4561 ## 4560	lethal(3)malignant brain tumor-like protein 2 isoform X2
## 4562	uncharacterized LOC116410290
## 4563 ## 4564	uncharacterized LOC116410448
## 4564 ## 4565	uncharacterized LOC105947123 uncharacterized LOC105947125
## 4566	
## 4567	hydroxysteroid (17-beta) dehydrogenase 7 leucine-rich repeat-containing protein 52
## 4568	uncharacterized LOC116410451
## 4569	microRNA mir-33b
## 4570	small nucleolar RNA U83B
## 4571	uncharacterized LOC101731822
## 4572	uncharacterized LOC116410453
## 4573	uncharacterized LOC105946980
## 4574	uncharacterized LOC105946981
## 4575	uncharacterized loc100145554
## 4576	uncharacterized LOC108647466, transcript variant X2
## 4577	uncharacterized LOC108647466, transcript variant X2
## 4578	small nucleolar RNA SNORA84
## 4579	uncharacterized LOC116410237
## 4580	uncharacterized LOC116410238
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## 4582	uncharacterized LOC116410239
## 4583	uncharacterized LOC105946041
## 4584	uncharacterized LOC105945453
## 4585	uncharacterized protein LOC105947715
## 4586	cadherin-related family member 4 isoform X1
## 4587	uncharacterized LOC116410458
## 4588	uncharacterized LOC116410457
## 4589	uncharacterized LOC116410459
## 4590	uncharacterized LOC116410240
## 4591	microRNA let-7g
## 4592	uncharacterized LOC100493054
## 4593	uncharacterized LOC116410461
## 4594	vomeronasal type-2 receptor 26-like
## 4595 ## 4506	tRNA-Arg
## 4596 ## 4507	tRNA-Gln
## 4597	tRNA-Arg
## 4598 ## 4500	tRNA-Arg
## 4599 ## 4600	tRNA-Arg
## 4600 ## 4601	tRNA-Arg
## 4601 ## 4602	uncharacterized gene uncharacterized LOC116410465
## 4602 ## 4603	U2 spliceosomal RNA
## 4603 ## 4604	uncharacterized LOC116410466
"" 1001	uncharacterized Locifo410400

	4605	protein SSUH2 homolog
	4606	methyl-CpG binding domain 4, DNA glycosylase
	4607	uncharacterized LOC116410467
	4608	uncharacterized LOC105947017
	4609	uncharacterized LOC116410469
	4610	uncharacterized LOC116410470
	4611	uncharacterized LOC116410471
	4612	uncharacterized LOC116410472
	4613	uncharacterized gene
	4614	uncharacterized LOC101735185
	4615	microRNA mir-205b
	4616	tRNA-Asn
	4617	tRNA-Phe
	4618 4619	uncharacterized gene microRNA mir-425
	4619	
	4621	microRNA mir-191
	4621	uncharacterized LOC105947016, transcript variant X2 uncharacterized LOC105947016, transcript variant X2
	4623	uncharacterized Euclos947010, transcript variant x2
	4624	transcriptional adaptor 3
	4625	LHFPL tetraspan subfamily member 4
	4626	uncharacterized LOC116410278
	4627	uncharacterized LOC116410302
	4628	uncharacterized LOC116410279
	4629	glucoside xylosyltransferase 2
	4630	uncharacterized LOC116410476
	4631	uncharacterized gene
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##	4633	ADAM metallopeptidase with thrombospondin type 1 motif 9
##	4634	uncharacterized LOC116410283
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##	4636	uncharacterized LOC116410284
##	4637	phosphodiesterase 12
##	4638	uncharacterized LOC116410479
##	4639	uncharacterized LOC100497741, transcript variant X2
	4640	uncharacterized LOC100497741, transcript variant X2
	4641	uncharacterized LOC116410480
	4642	uncharacterized LOC105947034
	4643	uncharacterized LOC116410482
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	4645	microRNA let-7e-1
	4646	uncharacterized gene
	4647	U4atac minor spliceosomal RNA
	4648	uncharacterized gene
	4649	uncharacterized LOC116410489
	4650	inter-alpha-trypsin inhibitor heavy chain H3
	4651	uncharacterized gene
	4652	small nucleolar RNA SNORD19
	4653	ribosomal RNA processing 36
	4654	uncharacterized gene
	4655 4656	uncharacterized gene 5S ribosomal RNA
	4657	55 FIDOSOMAI RNA 55 ribosomal RNA
	4658	55 FIDOSOMAI RNA 55 ribosomal RNA
##	4000	55 ribosomal kna

##	4659	58	ribosomal RNA
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## 4819	uncharacterized gene
## 4820	uncharacterized gene
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	4821	uncharacterized gene
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	4823	uncharacterized LOC116410924
	4824	serum response factor isoform X1
	4825	uncharacterized LOC116410944
	4826	exportin-5 isoform X1
	4827	ATP binding cassette subfamily C member 10
	4828	alpha-1,6-mannosyl-glycoprotein 2-beta-N-acetylglucosaminyltransferase
	4829	uncharacterized LOC116410850
	4830	uncharacterized LOC116411114, transcript variant X2
	4831	uncharacterized LOC116411114, transcript variant X2
	4832	uncharacterized LOC116410881
	4833	uncharacterized protein MGC86483
	4834	small nucleolar RNA SNORD53/SNORD92
	4835	small nucleolar RNA SNORD53/SNORD92
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	4837	small nucleolar RNA SNORD53/SNORD92
	4838	small nucleolar RNA SNORD53/SNORD92
	4839	small nucleolar RNA SNORD53/SNORD92
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	4841	uncharacterized LOC108647646
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	4873	tRNA-Ala
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	4889	uncharacterized LOC116410901
	4890	tRNA-Ser
	4891	uncharacterized LOC116410837
	4892	uncharacterized LOC116410932
##	4893	uncharacterized LOC105947462, transcript variant X2
##	4894	uncharacterized LOC105947462, transcript variant X2
##	4895	microRNA mir-194-1
##	4896	microRNA mir-215
##	4897	uncharacterized gene
##	4898	uncharacterized gene
##	4899	tyrosine-protein phosphatase non-receptor type 14
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##	4901	uncharacterized LOC116411123
##	4902	uncharacterized LOC116411098
##	4903	uncharacterized LOC116410914
##	4904	uncharacterized LOC116410915
##	4905	uncharacterized LOC105947013, transcript variant X2
##	4906	uncharacterized LOC105947013, transcript variant X2
##	4907	uncharacterized LOC116411119
##	4908	tRNA-Ile
##	4909	uncharacterized LOC116410900
##	4910	uncharacterized LOC116410802
##	4911	prolyl endopeptidase-like
##	4912	tRNA-Cys
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##	4918	tRNA-Cys
##	4919	tRNA-Cys
##	4920	tRNA-His
##	4921	tRNA-Cys
##	4922	tRNA-Cys
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##	4954			tRNA-Cys
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##	4957			uncharacterized gene
##				
##	4958	uncharacterized	LOC108647651,	transcript variant X3
	4958 4959			<u>-</u>
##		uncharacterized	LOC108647651,	transcript variant X3
## ##	4959	uncharacterized	LOC108647651, LOC108647651,	<u>-</u>
## ## ##	4959 4960	uncharacterized	LOC108647651, LOC108647651, unchar	transcript variant X3 transcript variant X3
## ## ## ##	4959 4960 4961	uncharacterized	LOC108647651, LOC108647651, unchar unchar	transcript variant X3 transcript variant X3 acterized LOC105947455
## ## ## ##	4959 4960 4961 4962	uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928
## ## ## ## ##	4959 4960 4961 4962 4963	uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4
## ## ## ## ##	4959 4960 4961 4962 4963 4964	uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4
## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4
## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X4
## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC105947452,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4
## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X2 transcript variant X2
## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X2 transcript variant X2 acterized LOC105947449
## ###################################	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X2 transcript variant X2 acterized LOC105947449 uncharacterized gene
######################################	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X2 transcript variant X2 acterized LOC105947449 uncharacterized gene uncharacterized gene
######################################	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971 4972 4973	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X2 transcript variant X2 uranscript variant X2 acterized LOC105947449 uncharacterized gene uncharacterized gene uncharacterized gene
## ## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X2 transcript variant X2 transcript variant X2 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene
## ## ## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971 4972 4973 4974	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X2 transcript variant X2 transcript variant X2 uncharacterized gene
## ## ## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971 4972 4973 4974 4975	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X2 transcript variant X2 transcript variant X2 uncharacterized gene
## ## ## ## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971 4972 4973 4974 4975 4976	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X2 transcript variant X2 transcript variant X2 uncharacterized gene
## ## ## ## ## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971 4972 4973 4974 4975 4976 4977	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651, unchar unchar unchar LOC105947452, LOC105947452, LOC105947452, LOC105947452, LOC101732612, LOC101732612, unchar	transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X2 transcript variant X2 acterized LOC105947449 uncharacterized gene
## ## ## ## ## ## ## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971 4972 4973 4974 4975 4976 4977 4978 4979	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651,	transcript variant X3 transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X2 transcript variant X2 transcript variant X2 uncharacterized gene
## ## ## ## ## ## ## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971 4972 4973 4974 4975 4976 4977 4978 4979 4980	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651,	transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X2 transcript variant X2 acterized LOC105947449 uncharacterized gene acterized LOC116411066 acterized LOC116410790
## ## ## ## ## ## ## ## ## ## ## ## ##	4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971 4972 4973 4974 4975 4976 4977 4978 4979	uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized uncharacterized	LOC108647651,	transcript variant X3 acterized LOC105947455 acterized LOC116410855 acterized LOC116410928 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X4 transcript variant X2 transcript variant X2 acterized LOC105947449 uncharacterized gene acterized LOC116411066

##	4983	uncharacterized LOC116411096, transcript variant X2
	4984	uncharacterized LOC116410906
	4985	uncharacterized LOC116410905
	4986	uncharacterized LOC116410888
	4987	uncharacterized LOC116411108
	4988	uncharacterized LOC105947326
	4989	uncharacterized LOC116410803
	4990	uncharacterized LOC116410856
	4991	uncharacterized LOC101734623
##	4992	uncharacterized LOC116410946
	4993	uncharacterized LOC108647655
	4994	uncharacterized LOC116410808
	4995	ribosomal protein L34 pseudogene
##	4996	microRNA mir-216
##	4997	microRNA mir-217
##	4998	uncharacterized LOC116410807
##	4999	uncharacterized LOC116411077, transcript variant X2
##	5000	uncharacterized LOC116411077, transcript variant X2
##	5001	uncharacterized LOC116411076, transcript variant X2
##	5002	uncharacterized LOC116411076, transcript variant X2
##	5003	uncharacterized gene
##	5004	uncharacterized LOC105947360
##	5005	uncharacterized LOC116410883
##	5006	uncharacterized LOC105945673, transcript variant X1
##	5007	uncharacterized LOC105945673, transcript variant X1
##	5008	uncharacterized LOC105947441, transcript variant X1
##	5009	uncharacterized LOC105947441, transcript variant X1
##	5010	transcription factor Ovo-like 2
##	5011	uncharacterized LOC116410847
##	5012	uncharacterized gene
##	5013	uncharacterized LOC101731568, transcript variant X2
##	5014	uncharacterized LOC101731568, transcript variant X2
##	5015	sorting nexin-5-like
##	5016	uncharacterized LOC101731856, transcript variant $X1$
##	5017	uncharacterized LOC101731856, transcript variant X1
##	5018	uncharacterized LOC116411103
##	5019	uncharacterized gene
	5020	uncharacterized LOC101730793, transcript variant X2
	5021	uncharacterized LOC101730793, transcript variant $X2$
	5022	uncharacterized LOC101730793, transcript variant $X2$
	5023	mitoregulin
	5024	HEAT repeat containing 1
	5025	uncharacterized LOC108647666
##	5026	uncharacterized protein LOC101734088
	5027	uncharacterized protein LOC101734088
##	5028	uncharacterized LOC105947439
	5029	small nucleolar RNA SNORA29
##	5030	small nucleolar RNA SNORA29
##	5031	probable tubulin polyglutamylase TTLL2
##	5032	tRNA-Leu
##	5033	tRNA-Leu
##	5034	tRNA-Leu
##	5035	tRNA-Leu
##	5036	uncharacterized LOC105947438

	5037	uncharacterized LOC116410890
	5038	uncharacterized LOC116410879
	5039	uncharacterized gene
	5040	uncharacterized LOC105947436
	5041	uncharacterized LOC101732544, transcript variant X5
	5042	uncharacterized LOC101732544, transcript variant X5
	5043	uncharacterized LOC101732544, transcript variant X5
	5044	uncharacterized LOC101732544, transcript variant X5
	5045	uncharacterized LOC101732544, transcript variant X5
	5046	uncharacterized LOC116410908, transcript variant X20
	5047	uncharacterized LOC116410908, transcript variant X20
	5048	uncharacterized LOC116410908, transcript variant X20
	5049	uncharacterized LOC116410908, transcript variant X20
	5050	uncharacterized LOC116410908, transcript variant X20
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##	5054	uncharacterized LOC116410908, transcript variant X20
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##	5058	uncharacterized LOC116410908, transcript variant X20
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##	5064	uncharacterized LOC116410908, transcript variant X20
##	5065	uncharacterized LOC116410908, transcript variant X20
##	5066	family with sequence similarity 120B
##	5067	uncharacterized LOC105947431
##	5068	uncharacterized LOC116410868
##	5069	SR-related and CTD-associated factor 8 isoform X2
##	5070	SR-related and CTD-associated factor 8 isoform X2
##	5071	SR-related and CTD-associated factor 8 isoform X2
##	5072	uncharacterized LOC116411073, transcript variant X2
##	5073	uncharacterized LOC116411073, transcript variant X2
##	5074	uncharacterized LOC108647668
##	5075	BCL2 associated transcription factor 1
##	5076	BCL2 associated transcription factor 1
##	5077	BCL2 associated transcription factor 1
##	5078	mitogen-activated protein kinase kinase kinase 5 isoform X1
##	5079	mitogen-activated protein kinase kinase kinase 5 isoform X1
##	5080	uncharacterized LOC116410851
	5081	uncharacterized LOC116410857
	5082	uncharacterized LOC108647671
	5083	uncharacterized LOC108647627
##	5084	uncharacterized LOC105945991
	5085	uncharacterized LOC105946457
	5086	uncharacterized LOC116410895
	5087	uncharacterized LOC116410841
	5088	uncharacterized LOC116411105
	5089	small integral membrane protein 28
	5090	uncharacterized LOC108647628

5091	uncharacterized gene
5092	kinesin-like protein KIF27 isoform X2
5093	kinesin-like protein KIF27 isoform X2
5094	kinesin-like protein KIF27 isoform X2
5095	uncharacterized gene
5096	hdc homolog, cell cycle regulator
5097	uncharacterized LOC105947420
5098	uncharacterized LOC101731496
5099	uncharacterized LOC105947419, transcript variant X3
5100	uncharacterized LOC105947419, transcript variant X3
5101	uncharacterized LOC105947419, transcript variant X3
5102	uncharacterized LOC116411059
5103	androgen-induced 1
5104	sodium/potassium-transporting ATPase subunit beta-1-interacting protein 2
5105	uncharacterized protein LOC105947410
5106	uncharacterized LOC116410848
5107	uncharacterized LOC101730475
5108	uncharacterized LOC116410904
5109	A-kinase anchoring protein 7 gene 2
 5110	uncharacterized LOC116410801
 5111	small nucleolar RNA SNORD101
5112	small nucleolar RNA SNORD100
5113	small nucleolar RNA SNORD100
5114	uncharacterized LOC116411121
5115	uncharacterized LOC101731978, transcript variant X2
5116	uncharacterized LOC101731978, transcript variant X2
5117	cardiac phospholamban
5118	uncharacterized LOC105947413, transcript variant X3
5119	uncharacterized LOC105947413, transcript variant X3
5120	uncharacterized LOC105947413, transcript variant X3
5121	uncharacterized gene
5122 5123	uncharacterized gene
5123	uncharacterized LOC100487057, transcript variant X2 uncharacterized LOC100487057, transcript variant X2
5124	uncharacterized Locioo487057, transcript variant x2
5126	uncharacterized LOC116410835
5127	uncharacterized LOC116410889
5128	uncharacterized LOC116410854
5129	uncharacterized gene
5130	uncharacterized gene
5131	uncharacterized LOC105947406
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5133	uncharacterized LOC101734322
5134	uncharacterized LOC105947405
5135	uncharacterized LOC101734212
5136	uncharacterized LOC100490489
5137	uncharacterized LOC116411060
5138	uncharacterized gene
5139	uncharacterized LOC105947401
5140	uncharacterized LOC116411085
5141	uncharacterized LOC108647678, transcript variant X4
5142	uncharacterized LOC108647678, transcript variant X4
5143	uncharacterized LOC108647678, transcript variant X4
5144	uncharacterized LOC108647678, transcript variant X4
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	5145	uncharacterized LOC116410853
	5146	sorting nexin 14
	5147	uncharacterized LOC105947396
	5148	tRNA-Ala
	5149	uncharacterized LOC116410884
	5150	uncharacterized LOC116410933
	5151	microRNA mir-30a
	5152	microRNA mir-30c-2
	5153	uncharacterized LOC101734007
	5154	uncharacterized LOC108647686
##	5155	uncharacterized LOC108647685
##	5156	uncharacterized LOC108647684, transcript variant X2
##	5157	uncharacterized LOC108647684, transcript variant X2
##	5158	uncharacterized LOC116411058
##	5159	KH domain containing, RNA binding, signal transduction associated 2
##	5160	uncharacterized LOC108647682, transcript variant X2
##	5161	uncharacterized LOC108647682, transcript variant X2
##	5162	uncharacterized gene
##	5163	uncharacterized LOC101733374
##	5164	3-hydroxymethyl-3-methylglutaryl-CoA lyase, cytoplasmic
##	5165	uncharacterized LOC116410912
##	5166	transmembrane protein 14A
##	5167	microcephalin 1
##	5168	uncharacterized LOC105947377
##	5169	dynein regulatory complex protein 9
##	5170	small nucleolar RNA SNORD20
##	5171	small nucleolar RNA SNORD82
##	5172	uncharacterized LOC116410916
##	5173	uncharacterized LOC105947374
##	5174	phosphodiesterase 6D, transcript variant X12
##	5175	phosphodiesterase 6D, transcript variant X12
##	5176	phosphodiesterase 6D, transcript variant X12
##	5177	phosphodiesterase 6D, transcript variant X12
##	5178	phosphodiesterase 6D, transcript variant X12
##	5179	phosphodiesterase 6D, transcript variant X12
##	5180	phosphodiesterase 6D, transcript variant X12
##	5181	phosphodiesterase 6D, transcript variant X12
##	5182	phosphodiesterase 6D, transcript variant X12
##	5183	phosphodiesterase 6D, transcript variant X12
##	5184	phosphodiesterase 6D, transcript variant X12
##	5185	phosphodiesterase 6D, transcript variant X12
##	5186	uncharacterized LOC116411122
##	5187	uncharacterized LOC105947375
##	5188	cholinergic receptor, nicotinic gamma
##	5189	uncharacterized LOC105947373
##	5190	uncharacterized LOC116410810
##	5191	tyrosine kinase, non-receptor, 2
	5192	uncharacterized LOC116411100
	5193	uncharacterized LOC116411120
	5194	uncharacterized LOC105947296
	5195	eukaryotic translation initiation factor 4A2
	5196	small nucleolar RNA SNORA63
	5197	small nucleolar RNA SNORA63
##	5197 5198	small nucleolar RNA SNORA63 small nucleolar RNA SNORA81

	5199	small nucleolar RNA SNORD2
	5200	small nucleolar RNA SNORD2
	5201	uncharacterized LOC105947370, transcript variant X1
	5202	uncharacterized LOC105947370, transcript variant X1
	5203	uncharacterized gene
	5204 5205	tetratricopeptide repeat protein 14 uncharacterized LOC108645401
	5206	uncharacterized LOC106045401 uncharacterized LOC116410869
	5207	uncharacterized LOC116411061
	5208	microRNA mir-551b
	5209	WD repeat domain 49
	5210	uncharacterized LOC116410886
	5211	small Cajal body-specific RNA 7
##	5212	microRNA mir-16b
##	5213	microRNA mir-15b
##	5214	uncharacterized LOC116410897
##	5215	uncharacterized LOC116411113, transcript variant X2
##	5216	uncharacterized LOC116411113, transcript variant X2
##	5217	uncharacterized LOC101734642
##	5218	uncharacterized gene
##	5219	uncharacterized gene
	5220	uncharacterized LOC116410936
	5221	uncharacterized LOC101732751
	5222	TSC22 domain family protein 2 isoform X2
	5223	uncharacterized gene
	5224	uncharacterized LOC101732111
	5225	uncharacterized LOC108647695
	5226 5227	uncharacterized LOC101732184
	522 <i>1</i> 5228	uncharacterized LOC105947340 uncharacterized LOC116410943
	5229	uncharacterized LOC116410943
	5230	zinc finger protein ZIC 4 isoform X1
	5231	uncharacterized LOC116410951
	5232	uncharacterized LOC101732988
	5233	helicase-like transcription factor isoform X2
##	5234	uncharacterized LOC105945392, transcript variant X1
##	5235	uncharacterized LOC105945392, transcript variant X1
	5236	uncharacterized LOC105945392, transcript variant X1
##	5237	uncharacterized LOC105948572
	5238	uncharacterized LOC101732582, transcript variant $\ensuremath{\mathtt{X2}}$
	5239	uncharacterized LOC101732582, transcript variant $X2$
	5240	uncharacterized LOC116410919
	5241	uncharacterized LOC116410920
	5242	serine/threonine kinase 25
	5243	small Cajal body-specific RNA 6
	5244	small Cajal body-specific RNA 6
	5245	uncharacterized LOC116411072
	5246	ankyrin repeat and MYND domain containing 1
	5247	tRNA-Gly
	5248 5249	tRNA-Gly
	5250	tRNA-Gly tRNA-Gly
	5251	tRNA-Gly
	5252	tRNA-Gly
π#	0202	GIN/A-GIY

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##	5280	tRNA-Gly
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	5300	tRNA-Gly
	5301	tRNA-Gly
	5302	tRNA-Gly
	5303	tRNA-Gly
	5304	tRNA-Gly
	5305	tRNA-Gly
##	5306	tRNA-Gly

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	5307	tRNA-Gly
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	5309	tRNA-Gly
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	5311	tRNA-Gly
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	5325	tRNA-Gly
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	5334	UBX domain-containing protein 7 isoform X1
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	5337	uncharacterized LOC105948528, transcript variant X2
	5338	uncharacterized LOC105946526, transcript variant x2
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πп	5355	uncharacterized LOC108647704
		uncharacterized LOC108647704 uncharacterized LOC116411071
##	5355	
## ##	5355 5356	uncharacterized LOC116411071
## ## ##	5355 5356 5357	uncharacterized LOC116411071 integrin subunit beta 1 binding protein 1
## ## ## ##	5355 5356 5357 5358	uncharacterized LOC116411071 integrin subunit beta 1 binding protein 1 uncharacterized LOC108647640

	5361	U2 spliceosomal RNA
	5362	uncharacterized gene
	5363	small Cajal body-specific RNA 3
	5364	small Cajal body-specific RNA 3
	5365	small Cajal body-specific RNA 3
	5366	small Cajal body-specific RNA 3
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	5369	uncharacterized LOC116411080
	5370	tRNA-Ser
	5371	uncharacterized gene
	5372	uncharacterized gene
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##	5374	uncharacterized LOC116411087
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##	5385	uncharacterized LOC116411104
##	5386	microRNA mir-206
##	5387	microRNA mir-133b
##	5388	uncharacterized LOC101730313
##	5389	tRNA-Leu
##	5390	uncharacterized protein LOC108644799
##	5391	uncharacterized LOC108644797
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##	5395	uncharacterized LOC101732065
##	5396	uncharacterized LOC100486765
##	5397	uncharacterized LOC116411118
##	5398	uncharacterized LOC116411117
##	5399	uncharacterized LOC116411116
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##	5402	uncharacterized LOC108644720, transcript variant X2
##	5403	uncharacterized LOC108644719
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##	5406	uncharacterized gene
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##	5410	vomeronasal type-2 receptor 26
##	5411	vomeronasal type-2 receptor 26-like
##	5412	vomeronasal type-2 receptor 26-like
##	5413	vomeronasal type-2 receptor 26-like
##	5414	vomeronasal type-2 receptor 26-like
		· ·

##	5415	uncharacterized LOC116410789
	5416	vomeronasal type-2 receptor 26
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	5419	uncharacterized LOC105945575
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	5458	vomeronasal type-2 receptor 26-like
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	5465	uncharacterized LOC108645175, transcript variant X3
	5466	tRNA-Glu tRNA-Ala
	5467	tRNA-A1a tRNA-Glu
##	5468	tkNA-G1u

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	5469	tRNA-Ala
	5470	tRNA-Glu
	5471	tRNA-Ala
	5472	tRNA-Tyr
	5473	tRNA-Glu
	5474	tRNA-Ala
	5475	tRNA-Tyr
	5476	tRNA-Tyr
	5477	tRNA-Glu
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	5484	uncharacterized LOC116410823
	5485	sterile alpha motif domain-containing protein 12
	5486	uncharacterized LOC116410830
	5487	uncharacterized protein qrich112 isoform X1
	5488	zinc finger protein 436-like
	5489	vomeronasal type-2 receptor 26-like
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##	5492	uncharacterized LOC116410832, transcript variant X4
##	5493	uncharacterized LOC116410832, transcript variant X4
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##	5502	uncharacterized gene
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	5506	uncharacterized LOC116411702
	5507	uncharacterized LOC116411462
	5508	uncharacterized LOC105945513
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	5510	uncharacterized LOC116411569
	5511	uncharacterized LOC101731387, transcript variant X1
	5512	uncharacterized LOC101731387, transcript variant X1
	5513	uncharacterized LOC116411733
	5514	uncharacterized gene
	5515	gastrula zinc finger protein XlCGF57.1-like
	5516	uncharacterized gene
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	5518	zinc finger protein 519
	5519	zinc finger protein 519
	5520	uncharacterized LOC116411640
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	5528	neurofilament heavy polypeptide-like
	5529	uncharacterized LOC116411641
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	5531	zinc finger protein 568
	5532	zinc finger protein 568
	5533	uncharacterized LOC101731194
	5534	small Cajal body-specific RNA 13
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	5542	uncharacterized gene uncharacterized gene
	5543	uncharacterized LOC108647838
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	5545	gastrula zinc finger protein XlCGF57.1-like
	5546	zinc finger protein 665-like
	5547	uncharacterized LOC101733376
	5548	uncharacterized LOC100498598
	5549	uncharacterized gene
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##	5551	small nucleolar RNA SNORA16B/SNORA16A family
##	5552	uncharacterized LOC108647839
##	5553	small nucleolar RNA SNORA9
##	5554	small nucleolar RNA SNORA16B/SNORA16A family
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##	5556	uncharacterized protein LOC105945605
##	5557	uncharacterized LOC116411654
##	5558	uncharacterized LOC100495777, transcript variant X3
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##	5560	uncharacterized LOC100495777, transcript variant X3
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	5562	small nucleolar RNA SNORA16B/SNORA16A family
	5563	small nucleolar RNA SNORA16B/SNORA16A family
	5564	small nucleolar RNA SNORA44
	5565	small nucleolar RNA SNORD99
	5566	small nucleolar RNA SNORD99
	5567	small nucleolar RNA SNORA16B/SNORA16A family
	5568	small nucleolar RNA SNORA16B/SNORA16A family
	5569	small nucleolar RNA SNORA44
	5570	small nucleolar RNA SNORD99
	5571	small nucleolar RNA SNORA9
	5572	corticotropin releasing hormone receptor 2, transcript variant X3
	5573	corticotropin releasing hormone receptor 2, transcript variant X3
	5574	corticotropin releasing hormone receptor 2, transcript variant X3
	5575	microRNA mir-460a
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##	5577	uncharacterized LOC116411563
##	5578	uncharacterized LOC101732500
##	5579	uncharacterized LOC101732461
##	5580	uncharacterized LOC116411564
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##	5582	uncharacterized LOC105947704
##	5583	uncharacterized LOC105947600
##	5584	uncharacterized LOC116411767
##	5585	uncharacterized LOC108647841
##	5586	uncharacterized LOC116411468
##	5587	uncharacterized LOC116411591
##	5588	histone-lysine N-methyltransferase SETD2 isoform X1
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##	5590	uncharacterized LOC116411502, transcript variant X2
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##	5592	small nucleolar RNA SNORA5
##	5593	small nucleolar RNA SNORA5
##	5594	small nucleolar RNA SNORA5
##	5595	small nucleolar RNA SNORA5
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##	5597	uncharacterized LOC101730607, transcript variant X2
##	5598	uncharacterized LOC116411473
##	5599	uncharacterized LOC116411505
##	5600	uncharacterized LOC116411497
##	5601	tRNA-Glu
##	5602	tRNA-Leu
##	5603	ubiquitin protein ligase E3C
##	5604	ubiquitin protein ligase E3C
##	5605	microRNA mir-153-2
##	5606	uncharacterized LOC108647846
##	5607	uncharacterized LOC105947699, transcript variant X1
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##	5609	uncharacterized LOC108647848
##	5610	uncharacterized LOC116411589
##	5611	uncharacterized LOC116411547
##	5612	uncharacterized LOC116411512
##	5613	uncharacterized LOC105947696
##	5614	uncharacterized LOC116411515
##	5615	uncharacterized LOC116411501
##	5616	sickle tail protein homolog isoform X2
##	5617	uncharacterized protein C10orf67 homolog, mitochondrial isoform X3
##	5618	tRNA-Asn
##	5619	uncharacterized LOC116411730
##	5620	uncharacterized gene
	5621	phosphotriesterase related
	5622	phosphotriesterase related
##	5623	phosphotriesterase related
	5624	phosphotriesterase related
	5625	uncharacterized gene
	5626	uncharacterized gene
	5627	uncharacterized LOC116411466
	5628	microRNA mir-489
	5629	uncharacterized LOC116411600
	5630	uncharacterized LOC116411696, transcript variant X3
		1

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	5632	uncharacterized LOC116411696, transcript variant X3
	5633	N-acetylneuraminate 9-0-acetyltransferase isoform X1
	5634	uncharacterized LOC116411699
	5635	uncharacterized LOC116411678, transcript variant X2
	5636	uncharacterized LOC116411678, transcript variant X2
	5637	uncharacterized LOC116411694, transcript variant X2
	5638	uncharacterized LOC116411694, transcript variant X2
	5639	PHD finger protein 14
	5640	5S ribosomal RNA
	5641	uncharacterized LOC108647894
	5642	Sp8 transcription factor
	5643	uncharacterized LOC116411738, transcript variant X2
	5644	uncharacterized LOC116411738, transcript variant X2
	5645	nuclear pore complex protein Nup160-like
	5646	serine/threonine-protein kinase 3-like
	5647	uncharacterized LOC101732127, transcript variant X2
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	5649 5650	uncharacterized LOC116411575
	5651	uncharacterized LOC105947687, transcript variant X1
		uncharacterized LOC105947687, transcript variant X1
	5652	family with sequence similarity 126 member A
	5653	uncharacterized LOC116411506
	5654	uncharacterized LOC100498040
	5655	calcium-independent protein kinase C-like
	5656	uncharacterized LOC116411458
	5657	uncharacterized gene
	5658	microRNA mir-148a
	5659	uncharacterized LOC116411490
	5660	heterogeneous nuclear ribonucleoprotein A2/B1
	5661	uncharacterized LOC101734399
	5662	
	ECCO	uncharacterized LOC105947685
##	5663	uncharacterized LOC116411597
шш	5664	uncharacterized LOC116411597 homeobox protein Hox-A9
	5664 5665	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b
##	5664 5665 5666	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684
## ##	5664 5665 5666 5667	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717
## ## ##	5664 5665 5666 5667 5668	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene
## ## ## ##	5664 5665 5666 5667 5668 5669	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683
## ## ## ##	5664 5665 5666 5667 5668 5669 5670	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719
## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411464
## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411500
## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411783
## ## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411783 uncharacterized LOC116411783
## ## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674 5675	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411500 uncharacterized LOC116411783 uncharacterized LOC105947678 uncharacterized gene
## ## ## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674 5675 5676	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411783 uncharacterized LOC116411783 uncharacterized LOC105947678 uncharacterized gene uncharacterized LOC101731268
## ## ## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674 5675 5676 5677	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411783 uncharacterized LOC105947678 uncharacterized LOC105947678 uncharacterized LOC10731268 uncharacterized LOC101731268 uncharacterized LOC116411494
## ## ## ## ## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674 5675 5676 5677	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411783 uncharacterized LOC116411783 uncharacterized LOC105947678 uncharacterized LOC105947678 uncharacterized gene uncharacterized LOC101731268 uncharacterized LOC116411494 uncharacterized LOC116411540
######################################	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674 5675 5676 5677 5678	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411500 uncharacterized LOC116411783 uncharacterized LOC105947678 uncharacterized LOC105947678 uncharacterized LOC101731268 uncharacterized LOC116411494 uncharacterized LOC116411540 microRNA mir-138
## ## ## ## ## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674 5675 5676 5677 5678 5679 5680	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411464 uncharacterized LOC116411783 uncharacterized LOC116411783 uncharacterized LOC105947678 uncharacterized gene uncharacterized LOC101731268 uncharacterized LOC116411494 uncharacterized LOC116411540 microRNA mir-138 uncharacterized LOC116411771
## ## ## ## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674 5675 5676 5677 5678 5679 5680 5681	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411500 uncharacterized LOC116411783 uncharacterized LOC105947678 uncharacterized gene uncharacterized gene uncharacterized LOC116411494 uncharacterized LOC116411494 uncharacterized LOC116411540 microRNA mir-138 uncharacterized LOC116411771 anoctamin-10 isoform X1
## ## ## ## ## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674 5675 5676 5677 5678 5679 5680 5681 5682	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411783 uncharacterized LOC116411783 uncharacterized LOC105947678 uncharacterized gene uncharacterized LOC116411494 uncharacterized LOC116411494 uncharacterized LOC116411771 anoctamin-10 isoform X1 uncharacterized LOC108647908
## ## ## ## ## ## ## ## ##	5664 5665 5666 5667 5668 5669 5670 5671 5672 5673 5674 5675 5676 5677 5678 5679 5680 5681	uncharacterized LOC116411597 homeobox protein Hox-A9 microRNA mir-196b uncharacterized LOC105947684 uncharacterized LOC116411717 uncharacterized gene uncharacterized LOC105947683 uncharacterized LOC116411719 uncharacterized LOC116411719 uncharacterized LOC116411464 uncharacterized LOC116411500 uncharacterized LOC116411783 uncharacterized LOC105947678 uncharacterized gene uncharacterized gene uncharacterized LOC116411494 uncharacterized LOC116411494 uncharacterized LOC116411540 microRNA mir-138 uncharacterized LOC116411771 anoctamin-10 isoform X1

	5685	PYLa/PGLa A-like
	5686	xenopsin peptides-like isoform X1
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	5689	uncharacterized LOC116411672
	5690	uncharacterized LOC116411655
	5691	uncharacterized LOC116411677
	5692	uncharacterized LOC116411713
	5693	uncharacterized LOC116411775
	5694 5695	uncharacterized LOC116411496 uncharacterized LOC105947665
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	5697	uncharacterized gene uncharacterized LOC116411499
	5698	uncharacterized LOC101731772, transcript variant X1
	5699	uncharacterized LOC101731772, transcript variant X1
	5700	uncharacterized LOC101751772, transcript variant XI
	5701	uncharacterized LOC116411571
	5702	uncharacterized LOC105947581
	5703	golgin subfamily A member 4 isoform X1
	5704	uncharacterized LOC101732867, transcript variant X3
	5705	uncharacterized LOC101732867, transcript variant X3
	5706	uncharacterized LOC101732867, transcript variant X3
	5707	BMP binding endothelial regulator
	5708	uncharacterized LOC116411463
	5709	uncharacterized LOC116411607
	5710	uncharacterized LOC116411492
##	5711	uncharacterized LOC101731267, transcript variant X2
##	5712	uncharacterized LOC101731267, transcript variant X2
##	5713	uncharacterized LOC116411548
##	5714	mediator of RNA polymerase II transcription subunit 1 isoform X1
##	5715	uncharacterized LOC108647912, transcript variant X2
##	5716	uncharacterized LOC108647912, transcript variant X2
	5717	uncharacterized LOC108647912, transcript variant X2
	5718	microRNA mir-128-2
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	5729	uncharacterized LOC108647875
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	5732	the three transfer of the tran
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	5736	trio Rho guanine nucleotide exchange factor
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	5739	uncharacterized LOC105947654, transcript variant X1
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	5819	microRNA mir-1a-1		
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	5823	uncharacterized LOC116411707		
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	5837	small nucleolar RNA U54		
	5838	carbonic anhydrase VIII small nucleolar RNA U6-53/MBII-28		
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	5843 5844	microRNA mir-124		
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## 5865 uncharacterize	4411683 4490089 4411709 4411467 4d gene 4411662 4tein 1 9447623 733048 4411493 947621 1-like 1-like 4411578 4435
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## 5855 ## 5856 ## 5856 ## 5857 ## 5857 ## 5858 ## 5858 ## 5859 ## 5860 ## 5860 ## 5861 ## 5861 ## 5862 ## 5863 ## 5864 ## 5865	947623 .733048 .411493 .947621 1-like 1-like .411578 .tase 1 .td gene
## 5856 ## 5857 ## 5858 ## 5858 ## 5859 ## 5860 ## 5860 ## 5861 ## 5861 ## 5862 ## 5862 ## 5863 ## 5864 ## 5865 ## 5865 ## 5865 ## 5865 ## 5866	733048 4411493 947621 1-like 1-like 4411578 tase 1
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## ## ## ## ##	6091 6092 6093 6094 6095 6096	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene
## ## ## ## ##	6091 6092 6093 6094 6095 6096	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene
## ## ## ## ##	6091 6092 6093 6094 6095 6096 6097 6098	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA
## ## ## ## ## ##	6091 6092 6093 6094 6095 6096 6097 6098 6099	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA 5S ribosomal RNA
## ## ## ## ## ##	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA 5S ribosomal RNA
## ## ## ## ## ##	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA 5S ribosomal RNA 5S ribosomal RNA 5S ribosomal RNA
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## ###################################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA uncharacterized protein LOC116412084
## ## ## ## ## ## ## ##	6091 6092 6093 6094 6095 6096 6097 6098 6100 6101 6102 6103 6104	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA uncharacterized protein LOC116412084 uncharacterized gene
######################################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA uncharacterized protein LOC116412084 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene
######################################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105 6106	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA
######################################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105 6106 6107	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene so ribosomal RNA
######################################	6091 6092 6093 6094 6095 6096 6097 6098 6100 6101 6102 6103 6104 6105 6106 6107 6108	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA 5S ribosomal RNA 5S ribosomal RNA 5S ribosomal RNA uncharacterized protein LOC116412084 uncharacterized gene uncharacterized gene uncharacterized gene 5S ribosomal RNA 5S ribosomal RNA 5S ribosomal RNA
####################	6091 6092 6093 6094 6095 6096 6097 6098 6100 6101 6102 6103 6104 6105 6106 6107 6108 6109	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene sor ribosomal RNA 5S ribosomal RNA
#######################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105 6106 6107 6108 6109 6110	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene sor ribosomal RNA 5S ribosomal RNA
#########################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105 6106 6107 6108 6109 6110 6111	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene SS ribosomal RNA uncharacterized protein LOC116412084 uncharacterized gene uncharacterized gene uncharacterized gene sS ribosomal RNA
############################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105 6106 6107 6108 6110 6111 6111	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene SS ribosomal RNA Uncharacterized protein LOC116412084 uncharacterized gene uncharacterized gene uncharacterized gene SS ribosomal RNA
############################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105 6106 6107 6108 6109 6111 6112 6113	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene ES ribosomal RNA SS ribosomal RNA SS ribosomal RNA SS ribosomal RNA Uncharacterized protein LOC116412084 uncharacterized gene uncharacterized gene uncharacterized gene SS ribosomal RNA
##########################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105 6106 6107 6108 6109 6111 6112 6113 6114	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene Uncharacterized gene SS ribosomal RNA SS ribosomal RNA SS ribosomal RNA SS ribosomal RNA uncharacterized protein LOC116412084 uncharacterized gene uncharacterized gene uncharacterized gene SS ribosomal RNA
##############################	6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105 6106 6107 6108 6109 6111 6112 6113	uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized LOC116411586, transcript variant X3 uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene uncharacterized gene ES ribosomal RNA SS ribosomal RNA SS ribosomal RNA SS ribosomal RNA Uncharacterized protein LOC116412084 uncharacterized gene uncharacterized gene uncharacterized gene SS ribosomal RNA

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	6134	uncharacterized LOC100430437, transcript variant ko
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	6140	hyaluronan binding protein 2
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	6191	small nucleolar RNA U85
	6192	small nucleolar RNA U85
	6193	small Cajal body-specific RNA 11
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	6233			microRNA mir-202-1
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	6235			acterized LOC116412449
	6236			I, CST complex subunit
	6237			I, CST complex subunit
	6238		unchara	acterized LOC108645429
	6239		•	uncharacterized gene
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	6241			acterized LOC116412234
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	6247			
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	6250 6251			acterized LOC108648210 acterized LOC116412034
	6252			acterized LOC116412034
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	6254	un abono at ani gad		
	6255			transcript variant X2 transcript variant X2
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	6257	uncharactorized		transcript variant X2
	6258			transcript variant X2
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	6266			acterized LOC116412235
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##	6306	chromosome 10 open reading frame 105
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	6316	uncharacterized LOC108648137
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	6374	protein turtle homolog B isoform X3
	6375	uncharacterized LOC105947766
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	6401	uncharacterized gene
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	6405	5.8S ribosomal RNA
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	6438	28S ribosomal RNA
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##	6440	18S ribosomal RNA

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	6454	uncharacterized gene
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	6456 6457	small nucleolar RNA SNORA3/SNORA45 family 18S ribosomal RNA
		microRNA mir-125b-1
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	6461	uncharacterized LOC116412275
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	6466	microRNA mir-34b-3
	6467	microRNA mir-34b-2
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	6475	uncharacterized LOC116412037
	6476	microRNA mir-429
	6477	microRNA mir-200a
	6478	microRNA mir-200b
	6479	uncharacterized LOC116412072
	6480	sterile alpha motif domain containing 11
	6481	microRNA mir-320
	6482	uncharacterized LOC116412312
	6483	microRNA mir-34a
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	6491	speedy protein 1-B-like
##	6492	uncharacterized LOC116412311
##	6493	uncharacterized LOC105947805
	6494	tRNA-Arg

	6495	tRNA-Leu
	6496	tRNA-Phe
	6497	tRNA-Leu
	6498	tRNA-Phe
	6499	tRNA-Leu
	6500	tRNA-Arg
	6501	tRNA-Leu
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	6504	uncharacterized LOC100145450
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	6520	tRNA-Leu
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	6523	tRNA-Arg
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	6526	tRNA-Phe
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	6529	Uncharaterized LOC100489525
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	6531	vomeronasal type-2 receptor 26
	6532	vomeronasal type-2 receptor 26-like
	6533	vomeronasal type-2 receptor 26-like
	6534	vomeronasal type-2 receptor 26-like
	6535	uncharacterized gene
	6536	vomeronasal type-2 receptor 26
	6537	vomeronasal type-2 receptor 26-like
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	6539 6540	uncharacterized LOC116412292
		ubiquitin carboxyl-terminal hydrolase 40-like isoform X1
	6541	uncharacterized LOC116412323
	6542	uncharacterized gene
	6543	ubiquitin carboxyl-terminal hydrolase 40 isoform X1
	6544	ubiquitin carboxyl-terminal hydrolase 40 isoform X1
	6545 6546	uncharacterized LOC116412469, transcript variant X3
	6546	uncharacterized LOC116412469, transcript variant X3
	6547	uncharacterized LOC105045030, transcript variant X3
##	6548	uncharacterized LOC105945930, transcript variant X2

##	6549	uncharacterized LOC105945930, transcript variant X2
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##	6551	multiple epidermal growth factor-like domains protein 8
##	6552	uncharacterized LOC108648051
##	6553	uncharacterized LOC116412100
##	6554	uncharacterized LOC116412102
##	6555	V-set and immunoglobulin domain-containing protein 1
##	6556	carcinoembryonic antigen-related cell adhesion molecule 19 isoform X1
##	6557	carcinoembryonic antigen-related cell adhesion molecule 19 isoform X1
##	6558	uncharacterized LOC101730519
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##	6560	uncharacterized LOC116412455
##	6561	uncharacterized LOC116412259
##	6562	uncharacterized LOC116412240
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##	6564	uncharacterized LOC101732040
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##	6567	insulin-2-like
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	6573	small Cajal body-specific RNA 2
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πĦ	5010	Jimav aac	100010001	CIMIA

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##	3175	trnai-uau	108646646	tRNA	

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##	242	EvC ciliary complex subunit 1, trans
##	243	uncharacterized LOC101734699, trans
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	245	uncharacter
	246	uncharacter
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	248	uncharacterized LOC116408441, trans
	249	uncharacterized LOC116408441, trans
	250	uncharacter
	251	prominin 1, trans
	252	± ,
	253	prominin 1, trans
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	255	prominin 1, trans
	256	prominin 1, trans
	257 258	prominin 1, trans
	259	prominin 1, trans
	260	prominin 1, trans prominin 1, trans
	261	prominin 1, transc
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uncharacter

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			01	FAT atypical cadherin 1, trans
			02	uncharacter
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			06	uncharacter
			07	uncharacter
				15-hydroxyprostaglandin dehydrogenase, trans
			09	uncharacter
			10	uncharacterized LOC101731713, trans
			11	uncharacterized LOC101731713, trans
			12	uncharacterized LOC101731713, trans
			13	uncharacterized LOC105946249, trans
			14	uncharacterized LOC105946249, trans
			15	uncharacter
			16	uncharacter
			17	uncharacter
			18	uncharacterized LOC116408470, trans
			19	uncharacterized LOC116408470, trans
			20	transmembrane protein 192, trans
			21	uncharacteri
			22	uncharacter
				lutamate receptor, ionotropic, AMPA 2, trans
			24	glycine receptor beta, trans
			25	8 7
			26	
			27	transmembrane 131 like, trans
			28	uncharacter
			29	
			30	uncharacter
			31	uncharacter
			32	uncharacterized LOC108648197, trans
			33	uncharacterized LOC108648197, trans
			34	uncharacterized LOC108648197, trans
			35	uncharacterized LOC108648197, trans
			36	uncharacterized LOC108648197, trans
			37	uncharacterized LOC108648197, trans

uncharacter

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uncharacterized LOC108648193, tran

uncharacterized LOC108648193, tran

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## 343 uncharacterized LO	C108648193, trans
## 344 uncharacterized LO	
## 345 uncharacterized LO	C108648193, trans
## 346	uncharacter
## 347 SH3 domain cont	aining 19, trans
	aining 19, trans
	aining 19, trans
## 350 SH3 domain cont	aining 19, trans
	aining 19, trans
## 352	small nucle
## 353	small nucle
## 354	small nucle
## 355	uncharacter
## 356	uncharacter
## 357 doublecortin lik	e kinase 2, trans
## 358	uncharacter
## 359	uncharacter
## 360	uncharacter
## 361	uncharacter
## 362 mitochondria localized glutamic acid ri	ch protein, trans
## 363 solute carrier family 7	member 11, trans
## 364 protoc	adherin 10, trans
## 365	
## 366	uncharacter
## 367	uncharacter
## 368	uncharacter
## 369	uncharacter
## 370	
## 371	uncharacter
## 372 adenosine deaminase domain-containing prot	ein 1-like, trans
## 373 adenosine deaminase domain-containing prot	ein 1-like, trans
## 374 adenosine deaminase domain-containing prot	ein 1-like, trans
## 375 protein kinase C delta	type-like, trans
## 376 protein kinase C delta	type-like, trans
## 377 adenosine deam	inase domain-con
## 378 cytochrome P450 family 2 subfamily	U member 1, trans
## 379	uncharacter
## 380	uncharacter
## 381	uncharacter
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## 387	uncharacter
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uncharacterized LOC105945922, tran

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uncharacterized LOC101734867, tran

uncharacter

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##			uncharacter
##	5	506	uncharacterized LOC105945472, trans
##	5	507	uncharacterized LOC105945472, trans
##	5	508	uncharacter
##	5	509	hook microtubule-tethering protein 3, trans
##			
##			uncharacterized LOC101731124, trans
##	5	512	uncharacterized LOC101731124, trans
##			uncharacterized LOC101731124, trans
##			
##			CUGBP Elav-like family member 5, trans
##			CUGBP Elav-like family member 5, trans
##			Src homology 2 domain containing adaptor protein B, trans
##			uncharacter
##			uncharacter
##			uncharacter
##			muscle M-line assembly protein unc-89, trans
##			nipsnap homolog 3A, trans
##			T-cell acute lymph
##			
##			uncharacter
##			uncharacter
##			FRAS1 related extracellular matrix 1, trans
##			zinc finger DHHC-type containing 21, trans
##			
##			uncharacter
##			mi
##			regulatory factor X3, trans
##			
##			uncharacter
##			U5
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##			uncharacter
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##		540	uncharacter
			MAM domain containing 2, tran
## ##			m;
##			uncharacter
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##			ma+al-3 4 4
##			patched 1, trans
##			uncharacter
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##			uncharacter
##			uncharacterized LOC116406630, trans
##			uncharacterized LOC116406630, trans
##	5	550	uncharacter

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uncharacterized LOC101731310, tran uncharacterized LOC101731310, tran

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##	6	635	uncharacterized LOC100496939, trans
##	6	636	uncharacterized LOC100496939, trans
##			uncharacterized LOC100496939, trans
##			uncharacterized LOC100496939, trans
		639	small nucle
		640	uncharacter
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		642	uncharacter:
		643	MORC family CW-type zinc finger 2, trans
		644	MORC family CW-type zinc finger 2, trans
##			uncharacter
##			uncharacter:
		647 648	uncharacterized LOC108645063, transuncharacterized LOC108645063, trans
		648 649	uncharacterized LUCI08645063, trans
		649 650	uncharacterized LOC108645148, trans
		650 651	uncharacterized LUC108645148, transum uncharacterized LUC108645148, trans
		652	Ulcharacterized Lucivo645146, trans
		653	uncharacter:
		654	small G protein signaling modulator 1, trans
		655	uncharacter:
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		657	uncharacter:
		658	uncharacterized LOC100497306, trans
		659	uncharacterized LOC100497306, trans
		660	
		661	tetratricopeptide repeat domain 28, trans
		662	U6
		663	uncharacter
		664	BICD family like cargo adaptor 1, trans
##	6	665	
##	6	666	U4

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## 667
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## 668
                                                                            DEP domain containing 5, trans
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## 706
                                                                        uncharacterized LOC101733130, tran
## 707
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## 708
## 709
                                                                        uncharacterized LOC101733130, tran
## 710
                                                                        uncharacterized LOC101732760, tran
## 711
                                                                        uncharacterized LOC101732760, tran
## 712
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## 713
## 714
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## 715
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## 716
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## 717
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## 718
                                                                       uncharacterized LOC100488577, tran
## 719
                                                          glycosyltransferase 1 domain containing 1, tran
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##	725		
##	726	uncharac	cter
##	727	uncharac	cter
##	728	uncharac	
	729	uncharacterized LOC101733658, t	
	730	uncharacterized LOC101733658, t	ran
	731	uncharacterized LOC101733658, t	
	732	·	ran
##	733	uncharacterized LOC101733658, t	ran
	734		cter
	735		
##	736	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2, t	ran
	737	, 1 0, , , ,	
	738	TRAF-type zinc finger domain containing 1, t	ran
##	739	uncharac	cter
##	740		
##	741	uncharacterized LOC101733588, t	
##	742	· · · · · · · · · · · · · · · · · · ·	
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	744	uncharac	cter
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	747	uncharac	cter
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	749	uncharacterized LOC105948047, t	
	750	uncharacterized LOC105948047, t	
	751	uncharacterized LOC105948047, t	
	752	uncharac	cter
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	755	neuronal regeneration related protein, t	
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##	775	uncharacter
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##	780	small EDRK-rich factor 1 b, trans
##	781	uncharacter
##	782	hexosaminidase B (beta polypeptide), trans
##	783	uncharacter
##	784	uncharacter
	785	U6
	786	small nucle
	787	uncharacter
	788	uncharacter
	789	uncharacterized LOC116407907, trans
	790	uncharacterized LOC116407907, trans
	791	uncharacter
	792	uncharacter
	793	cyclin-dependent kinase 7, trans
	794	cyclin-dependent kinase 7, tran
	795	uncharacter
	796	transcriptional regulator ATRX homolog, trans
	797	uncharacter
	798	uncharacter
	799	uncharacter
	800	uncharacter
	801	uncharacter
	802	uncharacter:
	803	uncharacterized LOC116408341, trans
	804	uncharacterized LOC116408341, trans
	805	uncharacter
	806 807	serine/threonine-protein kinase N2-like, tran
	808	uncharacter: uncharacter:
	809	uncharacter
	810	glyoxalase domain-containing protein 5-like, tran
	811	glyoxalase domain-containing protein 5 like, trans
	812	glyoxalase domain-containing protein 5-like, trans
	813	glyoxalase domain-containing protein 5-like, trans-
	814	glyoxalase domain-containing protein 5-like, trans-
	815	glyoxalase domain-containing protein 5 like, trans-
	816	glyoxalase domain-containing protein 5 like, trans-
	817	uncharacter:
	818	uncharacter:
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	824	U1
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## 842
                                                                   protein kinase C theta type-like, tran
## 843
                                                                   protein kinase C theta type-like, tran
## 844
## 845
                                                                       uncharacterized LOC105948028, tran
## 846
                                                                       uncharacterized LOC105948028, tran
## 847
                                                                               ribosomal protein L37, tran
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## 855
                                                        ciliogenesis and planar polarity effector 1, tran
## 856
                                                        ciliogenesis and planar polarity effector 1, tran
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                                                        ciliogenesis and planar polarity effector 1, tran
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                                                        ciliogenesis and planar polarity effector 1, tran
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                                                                    zinc finger RNA binding protein, tran
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## 883
## 884
                                             solute carrier family 14 (urea transporter), member 2, tran
## 885
                                                                              SET binding protein 1, tran
## 886
                                                                              SET binding protein 1, tran
## 887
                                                                  CUGBP, Elav-like family member 4, tran
## 888
                                                                 CUGBP, Elav-like family member 4, trans
## 889
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## 893
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## 894
                                                                      uncharacterized LOC116408224, tran
## 895
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## 896
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## 897
                                           phosphatidylinositol glycan anchor biosynthesis class O, tran
## 898
                                           phosphatidylinositol glycan anchor biosynthesis class O, tran
## 899
                                                                                              uncharacter
## 900
                                                      von Willebrand factor A domain containing 5A, tran
## 901
                                                      von Willebrand factor A domain containing 5A, tran
## 902
                                                      von Willebrand factor A domain containing 5A, tran
## 903
                                                      mitochondrial amidoxime reducing component 1, tran
## 904
                                                      mitochondrial amidoxime reducing component 1, tran
## 905
                                                      mitochondrial amidoxime reducing component 1, tran
                                                      mitochondrial amidoxime reducing component 1, tran
## 906
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## 911
## 912
                                                                                   resistin, gene 1, tran
## 913
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## 914
## 915
                                                                      uncharacterized LOC108647448, tran
                                                                      uncharacterized LOC108647448, tran
## 916
## 917
                                                                      uncharacterized LOC116408252, tran
                                                                      uncharacterized LOC116408252, tran
## 918
## 919
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## 920
                                                         Rho guanine nucleotide exchange factor 39, tran
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                                                                      uncharacterized LOC108645376, tran
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934 ## 935 ## 936

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## 976
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## 977
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## 978
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## 979
                                                                   polymerase (DNA directed), theta, tran
## 980
                                                                                              U4atac minor
## 981
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## 982
## 983
                                                                         myelin protein zero-like 1, tran
## 984
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## 999
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## 1001
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## 1003
                                                                        uncharacterized LOC116408746, tran
## 1004
                                                                        uncharacterized LOC116408746, tran
## 1005
                                                     receptor interacting serine/threonine kinase 4, tran
## 1006
## 1007
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## 1008
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## 1018
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## 1019
                                                                                            small Cajal bo
## 1020 holocarboxylase synthetase (biotin-(proprionyl-CoA-carboxylase (ATP-hydrolysing)) ligase), tran
## 1021 holocarboxylase synthetase (biotin-(proprionyl-CoA-carboxylase (ATP-hydrolysing)) ligase), tran
## 1022
## 1023
                                                                 DOP1 leucine zipper like protein B, tran
## 1024
                                                                             SET domain containing 4, tran
## 1025
                               interferon gamma receptor 2 (interferon gamma transducer 1), gene 2, tran
## 1026
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## 1027
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                                                                    protein spinster homolog 1-like, tran
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## 1043
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## 1044
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##	1058	uncharacter:
##	1059	uncharacter:
##	1060	uncharacter:
##	1061	uncharacter:
##	1062	uncharacterized LOC116408773, trans
##	1063	uncharacterized LOC116408773, trans
##	1064	uncharacterized LOC116408774, trans
##	1065	uncharacterized LOC116408774, trans
##	1066	uncharacter
##	1067	uncharacterized LOC116408776, trans
##	1068	uncharacterized LOC116408776, trans
##	1069	anaphase-promoting complex subunit 4-like, trans
##	1070	uncharacter:
##	1071	uncharacter:
##	1072	uncharacter:
##	1073	uncharacter:
##	1074	uncharacter:
##	1075	uncharacter:
##	1076	uncharacter:
##	1077	uncharacter:
##	1078	uncharacterized LOC116408783, trans
##	1079	uncharacterized LOC116408783, trans
##	1080	uncharacter:
##	1081	uncharacter:
##	1082	zona pellucida sperm-bindi:
##	1083	uncharacter:
##	1084	anaphase-promoting complex subunit 4-like, trans
##	1085	anaphase-promoting complex subunit 4-like, trans
##	1086	anaphase-promoting complex subunit 4-like, trans
##	1087	anaphase-promoting complex subunit 4-like, trans
##	1088	uncharacter
##	1089	protein kinase C-like, trans
##	1090	uncharacter
##	1091	adaptor related protein complex 1 subunit sigma 2, trans
##	1092	adaptor related protein complex 1 subunit sigma 2, trans
##	1093	adaptor related protein complex 1 subunit sigma 2, trans
	1094	adaptor related protein complex 1 subunit sigma 2, trans
##	1095	adaptor related protein complex 1 subunit sigma 2, trans
##	1096	adaptor related protein complex 1 subunit sigma 2, trans
##	1097	adaptor related protein complex 1 subunit sigma 2, trans
##	1098	uncharacter
		395

uncharacterized LOC116408765, tran

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##	1099	uncharacter:
##	1100	uncharacter:
##	1101	uncharacterized LOC108644469, trans
##	1102	uncharacterized LOC108644469, trans
##	1103	golgi SNAP receptor complex member 1, trans
##	1104	
##	1105	uncharacter
##	1106	uncharacter
##	1107	uncharacter
##	1108	
##	1109	flotillin 2, trans
##	1110	flotillin 2, trans
##	1111	uncharacter
##	1112	
##	1113	
##	1114	coronin-6-like, trans
##	1115	TSR1, ribosome maturation factor, trans
##	1116	TSR1, ribosome maturation factor, trans
##	1117	uncharacter
##	1118	
##	1119	
##	1120	i
##	1121	uncharacterized LOC105946500, trans
##	1122	uncharacterized LOC105946500, trans
##	1123	uncharacterized LOC105946500, trans
##	1124	uncharacterized LOC105946500, trans
##	1125	uncharacter
##	1126	small
##	1127	small
##	1128	small
##	1129	small
##	1130	small
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## 1153
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## 1181
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## 1182
                                                                                            syntaxin 1A, tran
## 1183
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## 1184
                                                         caspase recruitment domain family member 18, tran
## 1185
                                                          caspase recruitment domain family member 18, tran
## 1186
                                                          caspase recruitment domain family member 18, tran
## 1187
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	1218	U6
	1219	uncharacter
	1220	uncharacter
	1221	coiled-coil domain-containing protein 92-like, trans
	1222	uncharacteri
	1223	uncharacter
	1224	unonara ovor.
	1225	uncharacter:
	1226	uncharacter
	1227	uncharacterized LOC108645765, trans
	1228	uncharacterized LOC108645765, trans
	1229	uncharacter
	1230	uncharacter
	1231	uncharacterized LOC105948483, trans
	1232	uncharacterized LOC105948483, trans
##	1233	uncharacter
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## 1291
                                                                              zinc finger protein 35, tran
## 1292
                                                                                                uncharacter
## 1293
                                                                                              tripartite mo
## 1294
                                                                        myogenin (myogenic factor 4), tran
## 1295
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## 1296
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## 1297
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## 1299
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## 1300
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## 1301
## 1302
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## 1303
                                                                                 Wnt family member 2B, tran
## 1304
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## 1305
## 1306
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## 1307
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## 1308
                                                                           kinesin family member 21B, tran
## 1309
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## 1310
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## 1311
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## 1312
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## 1313
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##	1315	uncharacterized LOC105948383, trans
##	1316	uncharacterized LOC105948383, trans
##	1317	uncharacter:
##	1318	uncharacter:
##	1319	uncharacter:
##	1320	uncharacter:
##	1321	uncharacter:
##	1322	uncharacter:
##	1323	chitinase-like, acidic, trans
##	1324	uncharacter:
##	1325	cytochrome b561 family member D1, trans
##	1326	uncharacter
##	1327	uncharacter
##	1328	kelch domain containing 8A, trans
##	1329	
	1330	
	1331	uncharacter
	1332	m:
	1333	uncharacterized LOC116408838, trans
	1334	uncharacterized LOC116408838, trans
	1335	uncharacterized LOC116408838, trans
	1336	uncharacterized LOC116408838, trans
	1337	uncharacter
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	1341	Ras association domain family member 5, trans
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## 1446
                                                             serine/arginine-rich splicing factor 1, tran
## 1447
                                                                                               uncharacter
## 1448
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## 1452
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## 1453
                                                                        uncharacterized LOC105946735, tran
## 1454
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## 1455
                                                             AT-hook DNA binding motif containing 1, tran
## 1456
                                                             AT-hook DNA binding motif containing 1, tran
## 1457
                                                             AT-hook DNA binding motif containing 1, tran
## 1458
## 1459
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## 1460
                                                                                               uncharacter
## 1461
                                                       cAMP-dependent protein kinase inhibitor beta, tran
## 1462
                                                                                            small Cajal bo
## 1463
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## 1465
                                                                                               uncharacter
                                                                        uncharacterized LOC116408847, tran
## 1466
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                                                                        uncharacterized LOC116408847, tran
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## 1471
                                                         splicing factor proline and glutamine rich, tran
## 1472
                                                         splicing factor proline and glutamine rich, tran
## 1473
                                                                                               uncharacter
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## 1475
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## 1476
                                                                       uncharacterized LOC100495928, tran
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## 1483
                                                                                       small nucleolar RNA
## 1484
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                                                                        uncharacterized LOC116408851, tran
## 1490
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## 1492
                                                                             BSD domain containing 1, tran
## 1493
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## 1502
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## 1504
                                                                       tRNA isopentenyltransferase 1, tran
## 1505
                                                                                      poly(A) binding prot
## 1506
                                                              poly(A) binding protein cytoplasmic 4, tran
## 1507
                                                              poly(A) binding protein cytoplasmic 4, tran
## 1508
                                                                                                small nucl
## 1509
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## 1513
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## 1514
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## 1515
                                                                        uncharacterized LOC100490302, tran
## 1516
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## 1521
                                               spindle and kinetochore associated complex subunit 2, tran
                                              spindle and kinetochore associated complex subunit 2, tran
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                                               spindle and kinetochore associated complex subunit 2, tran
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uncharacterized LOC100495928, tran

uncharacterized LOC100495928, tran

uncharacterized LOC100495928, tran

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## 1715
                                               lamina-associated polypeptide 2, isoforms alpha/zeta, tran
## 1716
                                               lamina-associated polypeptide 2, isoforms alpha/zeta, tran
## 1717
                                               lamina-associated polypeptide 2, isoforms alpha/zeta, tran
## 1718
                                               lamina-associated polypeptide 2, isoforms alpha/zeta, tran
## 1719
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## 1720
                                                                                                  small nucl
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## 1721
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## 1724
                                                                        uncharacterized LOC100486074, tran
## 1725
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## 1739
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## 1740
                                                                                   spinster homolog 2, tran
## 1741
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## 1743
                                                                                                 uncharacter
## 1744
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## 1745
                                                 PEST proteolytic signal containing nuclear protein, tran
```

uncharacter

##	1747	uncharacter
	1748	uncharacter
	1749	uncharacter
	1750	uncharacterized LOC105946715, trans
	1751	uncharacterized LOC105946715, trans
	1752	uncharacter
	1753	uncharacter
	1754	uncharacter
	1755	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	1756	uncharacterized LOC101734081, trans
	1757	uncharacterized LOC101734081, trans
	1758 1759	uncharacter
	1760	tubulin gamma complex associated protein 5, trans
	1761	protein phosphatase 2 regulatory subunit B', beta, trans uncharacter
	1761	uncharacter
	1763	uncharacter
	1764	uncharacter:
	1765	uncharacter:
	1766	tripeptidyl peptidase 2, trans
	1767	uncharacter:
	1768	dedicator of cytokinesis 9, trans
	1769	uncharacter
	1770	uncharacter
	1771	m
	1772	m;
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##	1777	uncharacter
##	1778	uncharacter
	1779	uncharacter
	1780	uncharacterized LOC105946542, trans
	1781	uncharacterized LOC105946542, trans
	1782	uncharacterized LOC105946542, trans
	1783	uncharacterized LOC105946545, trans
	1784	uncharacterized LOC105946545, trans
	1785	uncharacter
	1786	uncharacter
	1787	uncharacter
	1788	uncharacter
	1789	uncharacter
	1790	uncharacter
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	1793	uncharacter uncharacterized LOC116408704, tran
	1794	uncharacterized LUC116408704, transucharacterized LUC116408704, trans
	1796	uncharacterized Luci16406704, trans uncharacter:
	1790	small nucl
	1798	Small nucl
	1799	uncharacter:
	1800	formin like 3, trans
ππ	1000	TOTIMIN TIKE 5, CIAM

##	1804	
	1805	uncharacter
	1806	uncharacter
	1807	small nucl
	1808	small nucl
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	1810	uncharacter
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	1812	unchar ac ber
	1813	uncharacterized LOC105946557, tran
	1814	uncharacterized LOC105946557, tran
	1815	uncharacterized Euclids40337, train
	1816	totragnanin 31 tran
	1817	tetraspanin 31, tran
	1818	uncharactor
	1819	uncharacter uncharacter
	1820	uncharacter
	1821	unchar ac ter
	1822	uncharacter
	1823	unchar ac ber
	1824	heterogeneous nuclear ribonucleoprotein A1, tran
	1825	heterogeneous nuclear ribonucleoprotein A1, tran
	1826	heterogeneous nuclear ribonucleoprotein A1, tran
	1827	heterogeneous nuclear ribonucleoprotein A1, tran
	1828	heterogeneous nuclear ribonucleoprotein A1, tran
	1829	heterogeneous nuclear ribonucleoprotein A1, tran
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	1831	uncharacter
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	1834	uncharacter
	1835	uncharacter
##	1836	extended synaptotagmin-1-like, tran
	1837	uncharacter
	1838	uncharacter
	1839	uncharacterized LOC100488892, tran
	1840	uncharacterized LOC100488892, tran
##	1841	uncharacterized LOC100488892, tran
	1842	uncharacter
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##	1848	uncharacter
	1849	serine-rich and transmembrane domain-containing 1, tran
	1850	uncharacter
	1851	uncharacter
	1852	uncharacter
	1853	
	1854	uncharacterized LOC105946588, tran

1801 ## 1802

1803

small nucleolar RNA SNOR

small nucleolar RNA SNOR

uncharacter

##	1855	uncharacterized LOC105946588, trans
##	1856	uncharacterized LOC105946588, trans
##	1857	
##	1858	
##	1859	
##	1860	small nucle
##	1861	uncharacter:
##	1862	uncharacter:
##	1863	uncharacter:
##	1864	uncharacter:
##	1865	uncharacter
##	1866	uncharacter:
##	1867	rho GTPase-activating protein 42, trans
##	1868	rho GTPase-activating protein 42, trans
##	1869	rho GTPase-activating protein 42, trans
##	1870	rho GTPase-activating protein 42, trans
##	1871	rho GTPase-activating protein 42, trans
##	1872	uncharacterized LOC101730439, trans
##	1873	large tumor suppressor kinase 2, trans
##	1874	uncharacterized LOC108645819, trans
##	1875	uncharacterized LOC108645819, trans
##	1876	uncharacterized LOC108645819, trans
##	1877	uncharacterized LOC108645819, trans
##	1878	poly(ADP-ribose) polymerase family member 4, trans
	1879	paraspeckle component 1, trans
	1880	paraspeckle component 1, trans
	1881	paraspeckle component 1, trans
	1882	uncharacter
	1883	
	1884	
	1885	uncharacter
	1886	uncharacter
	1887	
	1888	uncharacter
	1889	uncharacterized LOC108645827, trans
	1890	uncharacterized LOC108645827, trans
	1891	uncharacterized LOC108645827, trans
	1892 1893	uncharacterized LOC108645827, trans
	1894	uncharacterized LOC108645827, trans
	1895	uncharacterized LOC108645827, transum uncharacterized LOC108645827, trans
	1896	uncharacterized E00100043027, trans
	1897	uncharacter
	1898	uncharacter
	1899	uncharacter
	1900	uncharacter
	1900	uncharacter: uncharacter:
	1901	uncharacter: uncharacter:
	1902	small nu
	1903	CREB/ATF bZIP transcription factor, trans
	1905	small nucle
	1906	small nucle
	1907	small nucle
##		Silatt fluct

small nucl

##	1909		
	1910		
##	1911	l uncharac	ter
##	1912	2 uncharac	ter
##	1913	3 uncharac	ter
##	1914	uncharacterized LOC116408647, to	ran
##	1915	·	
##	1916	·	
##	1917	proteasomal ATPase-associated factor 1, to	ran
##	1918	· ·	
##	1919	-	
##	1920	uncharac uncharac	ter
##	1921	uncharacterized LOC116408640, to	ran
##	1922	uncharacterized LOC116408640, t	ran
##	1923	uncharacterized LOC116408640, t	ran
##	1924	uncharacterized LOC116408640, t	ran
##	1925	proteasomal ATPase-associated factor 1, t	ran
	1926	<u>.</u>	
	1927	<u>.</u>	
##	1928	uncharacterized LOC116408642, to	ran
##	1929	uncharacterized LOC116408642, t	ran
##	1930	·	
##	1931	·	
##	1932	·	
##	1933	3	
##	1934	uncharacterized LOC116408635, to	ran
	1935	•	
##	1936	·	
##	1937	·	
##	1938	·	
##	1939	·	
##	1940	·	
##	1941	l uncharac	ter
##	1942	2 uncharac	ter
##	1943	uncharacterized LOC116408649, to	ran
##	1944		
##	1945	uncharacterized LOC116408639, to	ran
	1946		
##	1947	uncharacterized LOC116408638, t	ran
	1948	·	ran
##	1949	uncharac uncharac	ter
##	1950		
	1951		
	1952	•	
	1953		
	1954		
	1955		
	1956		
	1957		
	1958		
	1959		
	1960		
	4004		

uncharacter

uncharacter

1961

##	1963	uncharac	cter
##	1964	uncharacterized LOC116408651, t	tran
##	1965	uncharacterized LOC116408651, t	tran
##	1966	autophagy related 16 like 2, t	tran
##	1967		
##	1968	uncharac	cter
##	1969	uncharac	cter
##	1970	uncharacterized LOC101734567, t	tran
##	1971	uncharacterized LOC101734567, t	tran
##	1972	uncharac	cter
##	1973	uncharacterized LOC116408920, t	tran
##	1974	uncharacterized LOC116408920, t	tran
##	1975	uncharacterized LOC116408920, t	tran
##	1976	uncharac	cter
##	1977	uncharac	cter
##	1978	uncharacterized LOC105945784, t	tran
##	1979	uncharacterized LOC105945784, t	tran
##	1980	uncharacterized LOC116408922, t	tran
##	1981	uncharacterized LOC116408922, t	tran
##	1982	uncharacterized LOC116408922, t	tran
##	1983	uncharacterized LOC116408922, t	tran
##	1984	uncharacterized LOC116408922, t	
##	1985	uncharacterized LOC116408922, t	tran
##	1986	uncharacterized LOC116408922, t	tran
##	1987	uncharac	
##	1988		
##	1989	uncharacterized LOC116408923, t	tran
##	1990	uncharacterized LOC116408923, t	
##	1991	uncharacterized LOC116408923, t	tran
##	1992	uncharacterized LOC101733363, t	tran
##	1993	uncharacterized LOC101733363, t	tran
##	1994	uncharac	cter
##	1995	uncharac	
##	1996	uncharac	cter
##	1997	uncharac	cter
##	1998	uncharac	cter
##	1999	uncharac	cter
	2000	vomeronasal typ	
##	2001	vomeronasal typ	
	2002	vomeronasal typ	
	2003	vomeronasal typ	
	2004	uncharac	-
	2005	vomeronasa	
	2006	vomeronasal typ	1
	2007	vomeronasal typ	
	2008	vomeronasal type-2 receptor 26, t	
	2009	vomeronasal type-2 receptor 26, t	
	2010	vomeronasa	_
	2011	vomeronasal typ	1
	2012	vomeronasal typ	
	2013		
	2014	vomeronasa	al t
	0045		. , . 1

vomeronasal t

vomeronasal type-2

2015

2017 ## 2018 ## 2019 ## 2020 ## 2021 ## 2022 ## 2023 ## 2024 ## 2025 ## 2026 ## 2027 ## 2028 ## 2029 ## 2030 ## 2031 ## 2032 ## 2033 ## 2034 ## 2035 ## 2036 ## 2037 ## 2038 ## 2039 ## 2040 ## 2041 ## 2042 ## 2043 ## 2044 ## 2045 ## 2046 ## 2047 ## 2048 ## 2049 ## 2050 ## 2051 ## 2052 ## 2053 ## 2054 ## 2055 ## 2056 ## 2057 ## 2058 ## 2059 ## 2060 ## 2061 ## 2062 ## 2063 ## 2064 ## 2065 ## 2066 ## 2067 ## 2068 ## 2069

2070

vomeronasal t vomeronasal t uncharacter

```
## 2071
```

- ## 2072
- ## 2073
- ## 2074
- ## 2075
- ## 2076
- "" Z010
- ## 2077
- ## 2078
- ## 2079
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- ## 2116
- ## 2117 ## 2118
- ## 2119
- ## 2120
- ## 2121
- ## 2122
- ## 2123
- ## 2124

##	2125	
	2126	
##	2127	uncharacter
##	2128	solute carrier organic anion transporter family member 1A2, trans
##	2129	
##	2130	
##	2131	nuclear receptor interacting protein 3, trans
##	2132	uncharacter
##	2133	uncharacter
##	2134	uncharacter
##	2135	uncharacter
##	2136	uncharacterized LOC105945878, trans
##	2137	uncharacterized LOC105945878, trans
##	2138	i i
##	2139	
##	2140	uncharacter
##	2141	U2
##	2142	hemagglutinin/amebocyte aggregation factor, trans
##	2143	small
##	2144	${\sf small}$
##	2145	uncharacter
##	2146	small
	2147	
	2148	
	2149	
	2150	
	2151	
	2152	
	2153	
	2154	
	2155	
	2156	
	2157	
	2158	
	2159	
	2160	
	2161	
	2162	
	2163 2164	
	2164	
	2166	
	2167	
	2168	
	2169	
	2170	
	2170	
	2171	
	2172	
	2173	
	2174	
	2176	
	2177	
	2111	

uncharacter

ELKS/RAB6-interacting/CAST family member 1,	tran
2180	
2181 unchard	acter
uncharacterized LOC116409458,	tran
uncharacterized LOC116409458,	tran
2184 unchar	acter
unchar	acter
unchar	acter
unchar	acter
glutamate receptor, ionotropic, AMPA 1,	tran
2189	
unchar	acter
2191	
uncharacterized LOC116409689,	tran
uncharacterized LOC116409689,	
2194 unchar	
2195 unchar	
2196 unchar	
uncharacterized LOC116409690,	
2198 uncharacterized LOC116409690,	
2199 uncharacterized LOC116409690,	
2200 uncharacterized Edelio-10-2000;	
intraflagellar transport protein 22 homolog,	
2202 unchar	
•	
·	
2206 unchar	
2207 unchar	
2208 unchar	
2209 unchar	icter
2210	
antioxidant 1 copper chaperone,	
2212 antioxidant 1 copper chaperone,	
2213 antioxidant 1 copper chaperone,	
solute carrier family 36 (proton/amino acid symporter), member 1,	
solute carrier family 36 (proton/amino acid symporter), member 1,	tran
2216	
2217 unchar	
hepatitis A virus cellular receptor 1,	
2219 unchar	ıcter
uncharacterized LOC100495624,	tran
2228 unchar	acter
2229 unchar	acter
2230 unchar	acter
1	

uncharacter

uncharacter

2231

```
## 2233
                                                                                                uncharacter
## 2234
                                                                                                uncharacter
## 2235
                                                                                                uncharacter
## 2236
## 2237
                                                                        uncharacterized LOC105946789, tran
## 2238
                                                                        uncharacterized LOC105946789, tran
## 2239
                                                                                                uncharacter
## 2240
                                                                                                uncharacter
## 2241
                                                                        uncharacterized LOC101734158, tran
## 2242
                                                                        uncharacterized LOC101734158, tran
## 2243
                                                                        uncharacterized LOC101734158, tran
## 2244
                                                                        uncharacterized LOC105946784, tran
## 2245
                                                                        uncharacterized LOC105946784, tran
## 2246
                                                                        uncharacterized LOC105946784, tran
## 2247
                                                                        uncharacterized LOC105946784, tran
## 2248
                                                                        uncharacterized LOC105946784, tran
## 2249
                                                                                                uncharacter
## 2250
## 2251
## 2252
## 2253
                                                         hyaluronan-mediated motility receptor-like, tran
## 2254
## 2255
## 2256
                                                                                                uncharacter
## 2257
                                                                                                uncharacter
## 2258
                                                                        uncharacterized LOC105946792, tran
## 2259
                                                                        uncharacterized LOC105946792, tran
## 2260
                                                                                                uncharacter
## 2261
                                                                                                uncharacter
## 2262
                                                                                                       prot
## 2263
## 2264
                                                                                                uncharacter
## 2265
                                                                                          RELT-like 2, tra
## 2266
## 2267
                                                                                                uncharacter
## 2268
                                                                                                uncharacter
## 2269
## 2270
## 2271
                                                        family with sequence similarity 13 member B, tran
## 2272
## 2273
## 2274
                                                                                                uncharacter
## 2275
                                                                                                uncharacter
## 2276
                                                                                                uncharacter
## 2277
                                                                                                uncharacter
## 2278
                                                                                                uncharacter
## 2279
                                                                                                uncharacter
## 2280
                                                                                                uncharacter
## 2281
                                                          prolyl 4-hydroxylase, alpha polypeptide 2, tran
## 2282
                                                                                                uncharacter
## 2283
                                                                                                uncharacter
## 2284
## 2285
## 2286
```

		## 2287	
rized LOC100495377, trans		## 2288	
rized LOC100495377, trans		## 2289	
small nucle		## 2290	
small nucle		## 2291	
small nucle		## 2292	
small nucle		## 2293	
small nucle		## 2294	
small nucle		## 2295	
small nucle		## 2296	
small nucle		## 2297	
uncharacter		## 2298	
		## 2299	
		## 2300	
uncharacter		## 2301	
		## 2302	
uncharacter		## 2303	
		## 2304	
uncharacter		## 2305	
uncharacter		## 2306	
vomeronasal type-2		## 2307	
		## 2308	
uncharacter		## 2309	
	310	## 2310	##
uncharacter	311	## 2311	##
uncharacter	312	## 2312	##
uncharacter		## 2313	
uncharacter		## 2314	
_		## 2315	
U5		## 2316	
uncharacter		## 2317	
uncharacter		## 2318	
uncharacter		## 2319	
_		## 2320	
uncharacter		## 2321	
uncharacter		## 2322	
uncharacter		## 2323	
uncharacter		## 2324	
		## 2325	
x targeting factor, tran		## 2326	
m:		## 2327	
small nucle		## 2328	
small nucle		## 2329	
uncharacter		## 2330	
		## 2331	
uncharacter		## 2332	
rized L0C101731354, trans		## 2333	
rized L0C101731354, trans		## 2334	
rized LOC101731354, trans		## 2335	
rized LOC101731354, trans		## 2336	
rized LOC101731354, trans		## 2337	
rized LOC101731354, trans		## 2338	
rized LOC101731354, trans		## 2339	
	340	## 2340	##

##	2341		unchara	acter
##	2342		unchara	acter
##	2343		unchara	acter
##	2344		unchara	acter
##	2345		small	nucle
##	2346		small	nucle
##	2347		unchara	acter
##	2348		unchara	acter
##	2349	uncharacterized	LOC101734767,	trans
##	2350	uncharacterized	LOC101734767,	trans
##	2351	uncharacterized	LOC101734767,	trans
##	2352	uncharacterized	LOC101734767,	trans
##	2353	uncharacterized	LOC101734767,	trans
##	2354	uncharacterized	LOC101734767,	trans
##	2355	uncharacterized	LOC101734767,	trans
##	2356	uncharacterized	LOC101734767,	trans
##	2357	uncharacterized	LOC101734767,	trans
##	2358	uncharacterized 1	LOC101734767, t	trans
##	2359		unchara	acter
##	2360		unchara	acter
##	2361		unchara	acter
##	2362		unchara	acter
##	2363		unchara	acter
##	2364		unchara	acter
##	2365	uncharacterized	LOC100488397,	tran
##	2366	uncharacterized	LOC100488397,	tran
##	2367	uncharacterized	LOC100488397,	trans
##	2368	uncharacterized	LOC100488397,	tran
	2369	uncharacterized		
	2370	uncharacterized	LOC100488397,	tran
	2371		unchara	
	2372		unchara	
	2373		unchara	
	2374		unchara	
	2375		unchara	
	2376		unchara	
	2377		unchara	
	2378	uncharacterized		
	2379	uncharacterized	•	
	2380	uncharacterized		
	2381	uncharacterized		
	2382		unchara	
	2383	uncharacterized	•	
	2384	uncharacterized		
	2385		unchara	
	2386		unchara	
	2387		unchara	
	2388		unchara	
	2389		unchara	
	2390		unchara	
	2391		unchara	
	2392		unchara	acter
##	2393			

uncharacter

##	2395	uncharacter
##	2396	inter-alpha-trypsin inhibitor heavy chain family member 5, trans
	2397	transmembrane protein 110, like, trans
	2398	uncharacterized LOC105946852, trans
	2399	uncharacterized LOC105946852, trans
	2400	uncharacter
	2401	
	2402	
	2403	uncharacterized LOC116409752, trans
	2404	uncharacterized LOC116409752, trans
	2405	uncharacter
	2406	small lysine rich protein 1, trans
	2407	small lysine rich protein 1, trans
	2408	
	2409 2410	
	2410	
	2411	m;
	2412	
	2414	
	2415	NME/NM23 nucleoside diphosphate kinase 6, trans
	2416	NME/NM23 nucleoside diphosphate kinase 6, trans
	2417	uncharacterized LOC100487908, trans
	2418	uncharacterized LOC100487908, trans
	2419	uncharacterized LOC100487908, trans
##	2420	uncharacterized LOC100487908, trans
##	2421	uncharacterized LOC100487908, trans
	2422	uncharacterized LOC100487908, trans
	2423	uncharacterized LOC100487908, trans
	2424	uncharacter
	2425	uncharacter
	2426	
	2427	
	2428	uncharacter
	2429	uncharacter
	2430 2431	uncharacter:
	2431	talin 2, transum uncharacter
	2432	uncharacter myosin 9a, tran:
	2433 2434	uncharacter:
	2435	uncharacter
	2436	uncharacter:
	2437	interactor of little elongation complex ELL subunit 2, trans
	2438	uncharacter:
	2439	small nucle
	2440	small nucle
	2441	small nucle
##	2442	RNA binding protein with multiple splicing 2, trans
##	2443	uncharacter
##	2444	uncharacterized LOC116409765, trans
	2445	uncharacterized LOC116409765, trans
	2446	phosphopantothenoylcysteine decarboxylase, trans
	2447	phosphopantothenoylcysteine decarboxylase, trans
##	2448	

```
## 2449
## 2450
## 2451
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## 2476
## 2477
## 2478
## 2479
## 2480
## 2481
## 2482
                                                                                                uncharacter
## 2483
                                                                                                uncharacter
## 2484
## 2485
                                                                        uncharacterized LOC116409768, tran
## 2486
                                                                        uncharacterized LOC116409768, tran
## 2487
                                                                        uncharacterized LOC116409768, tran
## 2488
                                                                        uncharacterized LOC101734496, tran
## 2489
                                                                        uncharacterized LOC101734496, tran
## 2490
                                                                                                uncharacter
## 2491
                                                                 myocardial zonula adherens protein, tran
## 2492
                                                                                                uncharacter
## 2493
                                                                                                uncharacter
## 2494
                                                                                                uncharacter
## 2495
                                                                                                uncharacter
## 2496
                                                                                                uncharacter
## 2497
                                                                                                uncharacter
## 2498
                                                                        uncharacterized LOC105946762, tran
## 2499
                                                                        uncharacterized LOC105946762, tran
## 2500
                                                                spermatogenesis associated 5-like 1, tran
## 2501
                                  transient receptor potential cation channel subfamily M member 7, tran
## 2502
                                                                                                uncharacter
```

## 2	2503	GA bin	ding	protei	in	transcri	ption	factor	subu	nit beta 1	, trans
## 2	2504	GA bin	ding	protei	in	transcri	ption	factor	subu	nit beta 1	, trans
## 2	2505									unchai	cacter
## 2	2506					u	nchara	cterize	d L00	C108646180	, trans
## 2	2507					u	nchara	cterize	d L00	C108646180	, trans
## 2	2508									unchai	cacter
## 2	2509									unchai	cacter
## 2	2510			elong	gat	ion fact	or RNA	polyme	rase	II-like 3	, trans
## 2	2511				_					unchai	cacter
## 2	2512									unchai	cacter
## 2	2513					u	nchara	cterize	d L00	C116409775	, trans
## 2	2514					u	nchara	cterize	d L00	C116409775	, trans
## 2	2515									unchai	cacter
## 2	2516										
## 2	2517										
## 2	2518										
## 2	2519										
## 2	2520						ki	nesin f	amil	y member 7	, trans
## 2	2521						ki	nesin f	amil	y member 7	, trans
## 2	2522										
## 2	2523										
## 2	2524										
## 2	2525										
## 2	2526										
## 2	2527										
## 2	2528									unchai	cacter
## 2	2529										
## 2	2530					u	nchara	cterize	d L00	C116409778	, trans
## 2	2531					u	nchara	cterize	d L00	C116409778	, trans
## 2	2532									unchai	cacter
## 2	2533					u	nchara	cterize	d L00	C101733479	, trans
## 2	2534					u	nchara	cterize	d L00	C101733479	, trans
## 2	2535					u	nchara	cterize	d L00	C101733479	, trans
## 2	2536										
## 2	2537										
## 2	2538									unchai	cacter
## 2	2539										
## 2	2540									unchai	cacter
## 2	2541					u	nchara	cterize	d L00	C105946774	, trans
## 2	2542									C105946774	
## 2	2543					u	nchara	cterize	d L00	C105946774	, trans
	2544									C105946774	
	2545									C105946774	
	2546									C105946774	
	2547									C105946774	
	2548									C105946774	
	2549									C105946774	
	2550										cacter
	2551										
	2552									unchai	cacter
	2550			,				aaaa 1			

2553

2554

2555 ## 2556 ankyrin repeat and SOCS box containing 7, tran

multiple EGF-like-domains 11, tran

uncharacter

small Cajal bod		2557	##
small nucl		2558	##
small nucl		2559	##
small nucl		2560	##
small nucl		2561	##
small nucl		2562	##
small nucl		2563	##
motif containing H, tran	IQ motif	2564	##
uncharacter		2565	##
		2566	
		2567	##
factor 3 subunit J, tra	eukaryotic translation initiation facto	2568	##
•	·	2569	##
uncharacter		2570	##
		2571	
U2		2572	
uncharacter		2573	##
		2574	
uncharacter		2575	
		2576	##
uncharacter		2577	
idase (M12 family), tran	astacin-like metallo-endopeptidase	2578	
uncharacter		2579	
uncharacter		2580	
uncharacter		2581	
uncharacter		2582	
rized LOC116409787, tran	uncharacterized	2583	
rized LOC116409787, tran		2584	
•		2585	
		2586	
uncharacter		2587	
uncharacter		2588	
		2589	
small		2590	
small		2591	
small		2592	
		2593	
rized LOC100487547, tran	uncharacterized	2594	
rized LOC100487547, tran		2595	
uncharacter		2596	
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2606 ## 2607 ## 2608

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3149 ## 3150

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                                                              beta-1,3-galactosyltransferase 2-like, tran
## 3218
                                                              beta-1,3-galactosyltransferase 2-like, tran
## 3219
                                                              beta-1,3-galactosyltransferase 2-like, tran
## 3220
                                    potassium channel, sodium activated subfamily T, member 2 like, tran
## 3221
                                    potassium channel, sodium activated subfamily T, member 2 like, tran
## 3222
                                                                  queuine tRNA-ribosyltransferase 1, tran
## 3223
                                                                        uncharacterized LOC105946166, tran
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                                                    ELAV like neuron-specific RNA binding protein 3, tran
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3307 ## 3308 ## 3309 ## 3310 ## 3311 ## 3312

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                                      centrobin, centriole duplication and spindle assembly protein, tran
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3527 ## 3528 uncharacter

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3688 ## 3689 ## 3690 uncharacter

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## 3793
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uncharacterized LOC116409844, tran uncharacterized LOC116409844, tran

uncharacter

3851 ## 3852

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## 3871
                                                           coiled-coil domain-containing protein 77, tran
## 3872
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## 3876
                                                                        uncharacterized LOC100498645, tran
                                                                        uncharacterized LOC100498645, tran
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## 3880
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## 3881
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## 3884
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## 3885
                                                             signal peptide, CUB domain, EGF-like 2, tran
## 3886
                                                                      DENN/MADD domain containing 5A, tran
## 3887
                                                                                                 small nucl
## 3888
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## 3889
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## 3890
                       microtubule associated monooxygenase, calponin and LIM domain containing 2, tran
## 3891
                                                                                        parvin alpha, tran
## 3892
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##	3915	synaptotagmin-13-like, trans
##	3916	uncharacter:
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	3925	synaptotagmin-13-like, trans
	3926	synaptotagmin-13-like, trans
	3927	uncharacteri
	3928	uncharacterized LOC116410272, trans
	3929	uncharacterized LOC116410272, trans
	3930	uncharacter
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	3933	small nucle
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	3939	protein kinase C delta type-like, trans
	3940	uncharacter:
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	3953	uncharacterized LOC116410297, trans
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                                                           sn1-specific diacylglycerol lipase alpha, tran
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                                                                        uncharacterized LOC108647378, tran
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                                                      sn1-specific diacylglycerol lipase alpha-like, tran
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## 4000
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## 4006
                                                       protein phosphatase 1 regulatory subunit 12A, tran
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## 4008
                                                                 dispanin subfamily A member 2b-like, tran
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                                                                 dispanin subfamily A member 2b-like, tran
## 4010
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	402	chitinase domain containing 1, trans
	402	uncharacter
	402	cell cycle exit and neuronal of
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	403	double PHD fingers 2, trans
	403	uncharacter
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	404	basic leucine zipper ATF-like transcription factor 2, trans
	404	protein kinase C-like, trans
	404	protein kinase C-like, tran
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	406	uncharacterized LOC116410346, trans
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	406	uncharacterized LOC10470346, transum uncharacterized LOC101732269, trans
##	400	uncharacterized LUCIUI/32269, trans

uncharacterized LOC101732269, tran

uncharacter

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	4115	uncharacterized LOC1164		
##	4116	uncharacterized LOC1164	10354,	tran
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uncharacter uncharacter

transmembrane protein 272, tran uncharacterized LOC101733257, tran uncharacterized LOC101733257, tran

uncharacter

uncharacterized LOC116410367, tran uncharacterized LOC116410367, tran uncharacterized LOC116410366, tran uncharacterized LOC116410366, tran XenBa

uncharacter

uncharacterized LOC105947227, tran uncharacterized LOC105947227, tran

uncharacter uncharacter

uncharacter

dipeptidase 2, tran

uncharacter

uncharacterized LOC101731526, tran uncharacterized LOC101731526, tran uncharacter

zinc finger protein 423, tran

uncharacter

uncharacterized LOC108647434, tran uncharacterized LOC108647434, tran

uncharacter

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acyl-CoA synthetase family member 3, tran acyl-CoA synthetase family member 3, tran uncharacterized LOC100489253, tran

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FA complementation group A, tran

uncharacter uncharacter uncharacter

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##	4339	uncharacter
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	4342	uncharacterized LOC105947250, trans
	4343	uncharacterized LOC105947250, trans
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	4345	uncharacter
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	4350	uncharacterized LOC100495799, trans
	4351	uncharacterized LOC100495799, trans
	4352	uncharacterized LOC100495799, trans
	4353	uncharacter
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	4355	uncharacter
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	4357	zinc finger CCHC-type containing 14, trans
	4358	U4
	4359	uncharacter
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	4361	chromosome 19 open reading frame 12, trans
	4362	uncharacter
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	4375	uncharacter
	4376	U6 snRNA biogenesis phosphodiesterase 1, trans
	4377	uncharacter
	4378	collagen, type XXIV, alpha 1, trans
	4379	uncharacter
	4380	uncharacter
	4381	uncharacterized LOC101731929, trans
	4382	uncharacter
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	4386	Tctex1 domain containing 1, trans
	4387	uncharacterized LOC116410418, trans
	4388	uncharacterized LOC116410418, trans
	4389	mi
	4390	uncharacter
	4391	TM2 domain containing 1, trans
пп	1001	inz domain containing i, train

##	43	93	uncharacter
	43		LOC108647362, trans
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	450		small nucle
	450		040 ortholog, trans
	450		uncharacter
	450		LOC105947005, trans
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	451		LOC105947007, trans
	451		uncharacter
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	453		containing 3, trans
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	454		uncharacter:
	454		LOC116410445, trans
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##	458	uncharacterized LOC105947715, trans
##	458	cadherin related family member 4, trans
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	4621	uncharacterized LOC105947016, trans
	4622	uncharacterized LOC105947016, trans
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	4624	transcriptional adaptor 3, trans
	4625	LHFPL tetraspan subfamily member 4, trans
	4626	uncharacter
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	4628	uncharacter
	4629	glucoside xylosyltransferase 2, trans
	4630	uncharacter
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	4632	ADAM metallopeptidase with thrombospond
	4633	ADAM metallopeptidase with thrombospondin type 1 motif 9, trans
	4634	uncharacter
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	4639	uncharacterized LOC100497741, trans
	4640	uncharacterized LOC100497741, trans
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	4650	inter-alpha-trypsin inhibitor heavy chain 3, tran
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uncharacter

uncharacter serum response factor, tran

##	4825	uncharacter
##	4826	exportin-5, trans
##	4827	ATP binding cassette subfamily C member 10, trans
##	4828	alpha-1,6-mannosyl-glycoprotein 2-beta-N-acetylglucosaminyltransferase-like, trans
##	4829	uncharacter
	4830	uncharacterized LOC116411114, trans
	4831	uncharacterized LOC116411114, trans
##	4832	uncharacter
##	4833	uncharacterized protein MGC86483, trans
##	4834	small nucleolar RN.
##	4835	small nucleolar RN.
##	4836	small nucleolar RN.
##	4837	small nucleolar RN.
##	4838	small nucleolar RN.
##	4839	small nucleolar RN.
##	4840	uncharacter
##	4841	uncharacter
##	4842	
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## 4888
                                                                                                uncharacter
## 4889
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## 4890
## 4891
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## 4892
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## 4893
                                                                        uncharacterized LOC105947462, tran
                                                                        uncharacterized LOC105947462, tran
## 4894
## 4895
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## 4896
## 4897
## 4898
## 4899
                                                 protein tyrosine phosphatase, non-receptor type 14, tran
## 4900
                                                                                                uncharacter
## 4901
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## 4902
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## 4903
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## 4904
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## 4905
                                                                        uncharacterized LOC105947013, tran
## 4906
                                                                        uncharacterized LOC105947013, tran
## 4907
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## 4908
## 4909
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## 4910
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## 4911
                                                                           prolyl endopeptidase-like, tran
## 4912
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## 4961
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## 4963
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## 4964
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## 4965
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## 4966
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## 4967
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## 4968
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## 4969
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## 4970
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## 4979
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## 4980
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## 4981
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## 4982
                                                                        uncharacterized LOC116411096, tran
## 4983
                                                                        uncharacterized LOC116411096, tran
## 4984
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## 4985
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## 4986
                                                                                                uncharacter
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##	498	27	unchara	acter
	498		unchara	
##	498	9	unchara	acter
##	499	0	unchara	acter
##	499	1	unchara	acter
	499		unchara	acter
##	499	3	unchara	acter
##	499	4	unchara	acter
##	499	5		
##	499	96		
##	499	7		
##	499	98	unchara	acter
##	499	9 uncharacterized	LOC116411077,	trans
##	500	uncharacterized	LOC116411077,	trans
##	500	uncharacterized	LOC116411076,	trans
##	500	uncharacterized	LOC116411076,	trans
##	500	3		
##	500	4	unchara	acter
##	500	5	unchara	acter
##	500	uncharacterized	LOC105945673,	trans
##	500	7 uncharacterized	LOC105945673,	trans
##	500	8 uncharacterized	LOC105947441,	trans
##	500	9 uncharacterized	LOC105947441,	trans
##	501	0	transcrip	tion :
##	501	1	unchara	acter
##	501			
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	501		LOC101731568,	trans
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	501		unchara	acter
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	503		unchar: unchar:	
	503		unchara	
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##	504	···	unchara	acter.

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## 5041
                                                                       uncharacterized LOC101732544, tran
## 5042
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## 5043
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## 5046
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## 5051
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## 5054
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## 5055
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## 5058
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## 5064
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## 5065
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## 5066
                                                              family with sequence similarity 120B, tran
## 5067
                                                                                              uncharacter
## 5068
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## 5069
                                                                 SR-related CTD associated factor 8, tran
## 5070
                                                                 SR-related CTD associated factor 8, tran
## 5071
                                                                 SR-related CTD associated factor 8, tran
## 5072
                                                                       uncharacterized LOC116411073, tran
## 5073
                                                                       uncharacterized LOC116411073, tran
## 5074
                                                                                              uncharacter
## 5075
                                                           BCL2 associated transcription factor 1, trans
## 5076
                                                            BCL2 associated transcription factor 1, tran
## 5077
                                                           BCL2 associated transcription factor 1, trans
## 5078
                                                  mitogen-activated protein kinase kinase kinase 5, tran
## 5079
                                                  mitogen-activated protein kinase kinase kinase 5, tran
## 5080
                                                                                              uncharacter
## 5081
## 5082
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uncharacter uncharacter uncharacter

uncharacter uncharacter uncharacter

uncharacter uncharacter

small integral membrane protein 28, tran uncharacter

> kinesin-like protein KIF27, tran kinesin-like protein KIF27, tran kinesin-like protein KIF27, tran

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5089 ## 5090

5091 ## 5092

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	5095	
	5096	hdc homolog, cell cycle regulator, trans
	5097	uncharacter
	5098	uncharacter
	5099	uncharacterized LOC105947419, trans
	5100	uncharacterized LOC105947419, trans
	5101	uncharacterized LOC105947419, trans
##	5102	uncharacter:
	5103	androgen-induced 1, trans
	5104	Sodium/potassium transporting ATPase interacting 2, trans
##	5105	LINE-1 reverse transcriptase homolog, trans
##	5106	uncharacter
##	5107	uncharacter
##	5108	uncharacter
##	5109	A-kinase anchoring protein 7 gene 2, trans
##	5110	uncharacter
##	5111	small nucle
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##	5113	small nucle
##	5114	uncharacter:
##	5115	uncharacterized LOC101731978, trans
##	5116	uncharacterized LOC101731978, trans
##	5117	phospholamban, trans
##	5118	uncharacterized LOC105947413, trans
##	5119	uncharacterized LOC105947413, trans
##	5120	uncharacterized LOC105947413, trans
##	5121	
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##	5123	uncharacterized LOC100487057, trans
##	5124	uncharacterized LOC100487057, trans
##	5125	uncharacter:
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	5139	uncharacter
	5140	uncharacter
	5141	uncharacterized LOC108647678, trans
	5142	uncharacterized LOC108647678, trans
	5143	uncharacterized LOC108647678, trans
	5144	uncharacterized LOC108647678, trans
	5145	uncharacter:
	5146	sorting nexin 14, trans
	5147	uncharacter:
	5148	uncharacter.
##	3140	

0100 uncharacterized Ed0100047002, 0.
5161 uncharacterized LOC108647682, ts
5162
5163 uncharac
5164 3-hydroxymethyl-3-methylglutaryl-CoA lyase-like 1, t:
5165 uncharac
5166 transmembrane protein 14A, t
5167 microcephalin 1, t:
5168 uncharac
5169 IQ motif containing G, t:
5170 small n
5171 small n
5172 uncharac
5173 uncharac
5174 phosphodiesterase 6D, to
5175 phosphodiesterase 6D, to
5176 phosphodiesterase 6D, tra
5177 phosphodiesterase 6D, to
5178 phosphodiesterase 6D, to
5179 phosphodiesterase 6D, to
5180 phosphodiesterase 6D, to
5181 phosphodiesterase 6D, to
5182 phosphodiesterase 6D, to
5183 phosphodiesterase 6D, to
5184 phosphodiesterase 6D, tra
5185 phosphodiesterase 6D, tra
5186 uncharac
5187 uncharac
5188 cholinergic receptor, nicotinic gamma, to
5189 uncharac
5190 uncharac
5191 tyrosine kinase, non-receptor, 2, tra
5192 uncharac
5193 uncharac
5194 uncharac
5195 eukaryotic translation initiation factor 4A2, t
5196 small n
5197 small n
5198 small n
5199 small 1
5200 small 1
5201 uncharacterized LOC105947370, to
5202 uncharacterized LOC105947370, to
471

uncharacter

uncharacter

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uncharacterized LOC108647684, tran

uncharacterized LOC108647684, tran

uncharacterized LOC108647682, tran

 ${\tt KH}$ domain containing, ${\tt RNA}$ binding, signal transduction associated 2, tran

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5151 ## 5152

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##	52	03	
	52		totratricopontido ropoat domain 1/ trans
	52		tetratricopeptide repeat domain 14, trans uncharacter:
	52		uncharacter
	52		uncharacter
	52		uncharacter.
	52		UD report demain 40 trans
	52		WD repeat domain 49, trans uncharacter:
	52		
	52		small Cajal boo
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	52		uncharactors
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	52 52		uncharacterized LOC116411113, trans
	52		uncharacterized LOC116411113, trans uncharacteri
			uncharacter.
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			uncharacter
	52 52		uncharacter:
			TSC22 domain family member 2, trans
	52		
	52		uncharacter
	52		uncharacter:
	52		Zic family member 4, trans
	52		uncharacter
	52		uncharacter:
	52		helicase-like transcription factor, trans
	52		uncharacterized LOC105945392, transuncharacterized LOC105945392, trans
	52		
	52		uncharacterized LOC105945392, trans
	52 52		uncharacter:
	52		uncharacterized LOC101732582, transuncharacterized LOC101732582, trans
	52 52		uncharacterized LUC101732582, trans uncharacteri
	52 52		uncharacter: serine/threonine kinase 25, trans
	52		
	52		small Cajal boo small Cajal boo
	52		uncharacter:
	52 52		ankyrin repeat and MYND domain containing 1, trans
	52 52		
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5254 ## 5255 ## 5256

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## 5357
                                                            integrin subunit beta 1 binding protein 1, tran
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uncharacterized LOC105948528, tran uncharacter uncharacter uncharacter uncharacter uncharacter uncharacter uncharacter small nucleolar R small nucleolar R

UBX domain protein 7, tran

uncharacterized LOC105948528, tran

uncharacter

uncharacter

uncharacter

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uncharacter

uncharacter

uncharacter

small Cajal bo

small Cajal bo

U2

small Cajal bo	# 536 <u></u>	##
small Cajal bo	# 5366	
and the same of th	# 5367	
uncharacter	# 5368	
uncharacter	# 5369	
	# 5370	
	# 537:	
	# 5372	
major facilitator superfamily domain-containing protein 2b, tran	# 5373	
uncharacter	# 5374	
SH3 domain binding kinase 1 like, tran	# 5375	
SH3 domain binding kinase 1 like, tran	# 5376	
uncharacter	# 537	
	# 5378	
	# 5379	
uncharacter	# 5380	
uncharacter	# 538:	
uncharacter	# 5382	
uncharacter	# 5383	
uncharacter	# 5384	##
uncharacter	# 538	##
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	# 5387	##
uncharacter	# 5388	##
	# 5389	##
uncharacterized LOC108644799, tran	# 5390	##
uncharacter	# 539:	##
uncharacter	# 5392	##
uncharacter	# 5393	##
EFR3 homolog B, tran	# 5394	##
uncharacter	# 539	##
uncharacter	# 5396	##
uncharacter	# 5397	##
uncharacter	# 5398	##
uncharacter	# 5399	##
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uncharacterized LOC108644720, tran	# 540:	
uncharacterized LOC108644720, tran	# 5402	
uncharacter	# 5403	
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	# 5407	
uncharacter	# 5408	
uncharacterized LOC105947221, tran	# 5409	
vomeronasal t	# 5410	
vomeronasal type-2	# 541	
vomeronasal type-2	# 5412	
vomeronasal type-2	# 5413	
vomeronasal type-2	# 5414	
uncharacter	# 5419	##
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vomeronasal t

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5417 ## 5418

##	54	19	uncha	aracter
##	54	20	vomeror	nasal t
##	54:	21	${\tt vomeronasal}$	type-2
##	54:	22	vomeronasal	type-2
##	54	23	${\tt vomeronasal}$	type-2
##	54:	24	${\tt vomeronasal}$	type-2
##	54	25	${\tt vomeronasal}$	type-2
##	54:	26	${\tt vomeronasal}$	type-2
##	54:	27	${\tt vomeronasal}$	type-2
##	54:	28	${\tt vomeronasal}$	type-2
##	54:	29	${\tt vomeronasal}$	type-2
##	543	30	vomeronasal	type-2
##	543	31	vomeronasal	type-2
##	543	32		
##	543	33	vomeronasal	type-2
##	543	34	vomeronasal	type-2
##	543	35		
##	543	36	uncha	aracter
##	543	37	vomeronasal	type-2
##	543	38	vomeror	nasal t
##	543	39	vomeronasal	type-2
##	54	40	vomeronasal	type-2
##	54	41	vomeronasal	
##	54	42	uncha	aracter
##	54	43	vomeronasal	type-2
##	54	44	vomeror	
	54		vomeronasal	1
##	54	46	vomeror	
##	54	47	vomeronasal	type-2
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##	5479		uncharacter
##	5480		uncharacter
##	5481		uncharacter
##	5482		vomeronasal t
##	5483		uncharacter
##	5484		uncharacter
##	5485	sterile alpha motif	domain-containing protein 12, trans
##	5486		uncharacter
##	5487	glutamine rich 1 like 2 Kruppel-associated	box containing [provisional], trans
##	5488		zinc finger protein 436-like, trans
##	5489		vomeronasal type-2
##	5490		uncharacterized LOC116410832, trans
##	5491		uncharacterized LOC116410832, trans
##	5492		uncharacterized LOC116410832, trans
##	5493		uncharacterized LOC116410832, trans
##	5494		
##	5495		
##	5496		
##	5497		
##	5498		
##	5499		
##	5500		
##	5501		uncharacter
##	5502		
##	5503		uncharacterized LOC116411488, trans
##	5504		uncharacterized LOC116411488, trans
##	5505		uncharacter
##	5506		uncharacter
##	5507		uncharacter
##	5508		uncharacter
##	5509		uncharacter
	5510		uncharacter
	5511		uncharacterized LOC101731387, trans
	5512		uncharacterized LOC101731387, trans
	5513		uncharacter
	5514		
	5515		gastrula zinc finger prote
	5516		
	5517		
	5518		zinc finger protein 519, trans
	5519		zinc finger protein 519, trans
	5520		uncharacter
	5521		uncharacter
	5522		
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	5524		
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##	5526		

	# 5527	##
neurofilament heavy	[‡] 5528	##
uncharacter	[‡] 5529	##
	[‡] 5530	##
zinc finger protein 568, trans	[‡] 5531	##
zinc finger protein 568, trans	[‡] 5532	##
uncharacter	[‡] 5533	##
small Cajal body	[‡] 5534	##
small Cajal body	[‡] 5535	##
uncharacter	[‡] 5536	##
	[‡] 5537	##
	[‡] 5538	##
oocyte zinc finger protein X1COF6-like, trans	[‡] 5539	##
uncharacter	[‡] 5540	##
	[‡] 5541	##
	[‡] 5542	##
uncharacter	[‡] 5543	##
	[‡] 5544	##
gastrula zinc finger prote	[‡] 5545	##
zinc finger protein 665-like, trans	[‡] 5546	##
uncharacter:	[‡] 5547	
uncharacter	[‡] 5548	
	[‡] 5549	
small nucleolar RNA SNORA161	‡ 5550	
small nucleolar RNA SNORA161	[‡] 5551	
uncharacter	[‡] 5552	
small nucl	‡ 5553	
small nucleolar RNA SNORA161	# 5554	
uncharacter:	‡ 5555 + 5556	
uncharacterized LOC105945605, trans	# 5556 # 5557	
uncharacter:	‡ 5557 ‡ 5558	
uncharacterized LOC100495777, transuncharacterized LOC100495777, trans	‡ 5559	
uncharacterized LOC100495777, trans	# 5560	
small nucl	# 5561	
small nucleolar RNA SNORA161	\$ 5562	
small nucleolar RNA SNORA161	\$ 5563	
small nucle	\$ 5564	
small nucle	# 5565	
small nucle	± 5566	
small nucleolar RNA SNORA16	± 5567	
small nucleolar RNA SNORA16	‡ 5568	
small nucle	± 5569	
small nucle	± 5570	
small nucl	[‡] 5571	
corticotropin releasing hormone receptor 2, trans	[‡] 5572	
corticotropin releasing hormone receptor 2, trans	± 5573	
corticotropin releasing hormone receptor 2, trans	± 5574	
1	± 5575	
uncharacter	[‡] 5576	
uncharacter:	# 5577	
uncharacter:	# 5578	
uncharacter:	# 5579	
uncharactor	± 5580	

5580

> uncharacter

## 5581	uncharacter
## 5582	uncharacter
## 5583	uncharacter
## 5584	uncharacter:
## 5585	uncharacter
## 5586	uncharacter:
## 5587	uncharacter
## 5588	SET domain containing 2, trans
## 5589	uncharacterized LOC116411502, trans
## 5590	uncharacterized LOC116411502, trans
## 5591	small nucl
## 5592	small nucl
## 5593	small nucl
## 5594	small nucl
## 5595	small nucl
## 5596 	uncharacterized LOC101730607, trans
## 5597	uncharacterized LOC101730607, trans
## 5598	uncharacter
## 5599 ## 5333	uncharacter
## 5600 ## 5001	uncharacter
## 5601 ## 5000	
## 5602 ## 5203	1
## 5603	ubiquitin protein ligase E3C, trans
## 5604	ubiquitin protein ligase E3C, tran
## 5605	m:
## 5606 ## 5607	uncharacter:
## 5607 ## 5608	uncharacterized LOC105947699, transuncharacterized LOC105947699, trans
## 5609	·
## 560 <i>9</i> ## 5610	uncharacter: uncharacter:
## 5610 ## 5611	uncharacter
## 5612	uncharacter
## 5613	uncharacter
## 5614	uncharacter
## 5615	uncharacter
## 5616	KIAA1217, trans
## 5617	chromosome 10 open reading frame 67, trans
## 5618	omromobomo io opon rodding riamo of, trans
## 5619	uncharacter
## 5620	
## 5621	phosphotriesterase related, trans
## 5622	phosphotriesterase related, trans
## 5623	phosphotriesterase related, trans
## 5624	phosphotriesterase related, trans
## 5625	
## 5626	
## 5627	uncharacter:
## 5628	
## 5629	uncharacter
## 5630	uncharacterized LOC116411696, trans
## 5631	uncharacterized LOC116411696, trans
## 5632	uncharacterized LOC116411696, trans
## 5633	CAS1 domain containing 1, trans
## E63/	uncharacter:

##	5635	uncharacterized LOC116411678, trans
##	5636	uncharacterized LOC116411678, trans
##	5637	uncharacterized LOC116411694, trans
##	5638	uncharacterized LOC116411694, trans
##	5639	PHD finger protein 14, trans
##	5640	
##	5641	uncharacter
##	5642	Sp8 transcription factor, trans
##	5643	uncharacterized LOC116411738, trans
##	5644	uncharacterized LOC116411738, trans
##	5645	nuclear pore complex protein Nup160-like, trans
##	5646	serine/threonine-protein kinase 3-like, trans
##	5647	uncharacterized LOC101732127, trans
##	5648	uncharacterized LOC101732127, trans
##	5649	uncharacter
##	5650	uncharacterized LOC105947687, trans
##	5651	uncharacterized LOC105947687, trans
##	5652	family with sequence similarity 126 member A, trans
##	5653	uncharacter
##	5654	uncharacter
##	5655	calcium-independent protein kinase C-like, trans
##	5656	uncharacter
##	5657	
##	5658	1
##	5659	uncharacter
##	5660	heterogeneous nuclear ribonucleoprotein A2/B1, trans
##	5661	uncharacter
	5662	uncharacter
	5663	uncharacter
	5664	homeobox A9, trans
	5665	1
	5666	uncharacter
	5667	uncharacter
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	5678	uncharacter
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	5680	uncharacter
	5681	anoctamin 10, trans
	5682	uncharacter
	5683	DnaJ heat shock protein family (Hsp40) member C13, trans
	5684	PYLa/PGLa A-like, trans
	5685	PYLa/PGLa A-like, trans
	5686	xenopsin peptides-like, trans
	5687	uncharacter
##	5688	uncharacter

##	5689	uncharacter uncharacter
##	5690	uncharacter uncharacter
##	5691	uncharacter
##	5692	2 uncharacter
##	5693	3 uncharacter
##	5694	uncharacter uncharacter
##	5695	5 uncharacter
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##	5697	uncharacter uncharacter
##	5698	uncharacterized LOC101731772, trans
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##	5700	uncharacter uncharacter
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##	5733	3 uncharacter
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##	5736	trio Rho guanine nucleotide exchange factor, trans
##	5737	
##	5738	uncharacterized LOC105947654, trans
##	5739	uncharacterized LOC105947654, trans
##	5740	uncharacter uncharacter
##	5741	uncharacter
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##	5743	uncharacter
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##	5749	uncharacter
##	5750	uncharacterized LOC101734168, tran
##	5751	uncharacter
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##	5756	uncharacter
##	5757	uncharacterized LOC116411550, tran
##	5758	uncharacterized LOC116411550, tran
##	5759	uncharacter
##	5760	uncharacter
##	5761	uncharacter
##	5762	pre-mRNA processing factor 4B, tran
##	5763	pre-mRNA processing factor 4B, tran
##	5764	pre-mRNA processing factor 4B, tran
##	5765	pre-mRNA processing factor 4B, tran
##	5766	pre-mRNA processing factor 4B, tran
##	5767	pre-mRNA processing factor 4B, tran
##	5768	pre-mRNA processing factor 4B, tran
##	5769	biphenyl hydrolase-like (serine hydrolase), tran
##	5770	uncharacter
##	5771	uncharacter
##	5772	desmoplakin, tran
##	5773	desmoplakin, tran
##	5774	desmoplakin, tran
##	5775	uncharacter
##	5776	uncharacter
	5777	uncharacterized LOC116411712, tran
##	5778	uncharacterized LOC116411712, tran
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	5780	uncharacter
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	5783	uncharacter
	5784	DEK proto-oncogene, tran
	5785	uncharacter
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	5787	uncharacter
	5788	uncharacterized LOC116411781, tran
	5789	uncharacterized LOC116411781, tran
	5790	uncharacterized LOC116411781, tran
	5791	uncharacter
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	5793	uncharacter
	5794	uncharacterized LOC101732499, tran
	5795	uncharacterized LOC101732499, tran
##	5706	uncharacterized INC101732400 tran

uncharacterized LOC101732499, tran

	5797	uncharacterized LOC101732499, trans
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	5799	uncharacter
	5800	uncharacterized LOC105947636, trans
	5801	uncharacterized LOC105947636, trans
	5802	uncharacter
	5803	uncharacterized LOC108644708, trans
	5804	uncharacterized LOC108644708, trans
	5805	uncharacterized LOC108644708, trans
	5806	uncharacterized LOC108644708, trans
	5807	uncharacter:
	5808	centrosomal protein 76kDa, trans
	5809	metallophosphoesterase 1, trans
	5810	uncharacter
	5811 5812	uncharacter: uncharacter:
	5813	A-kinase anchor inhibitor 1, tran
	5814	A-kinase anchor inhibitor i, transum uncharacter:
	5815	methyltransferase like 4, trans
	5816	methyltransferase like 4, transmethyltransferase like 4, trans
	5817	uncharacter:
	5818	unonar as sort
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	5820	uncharacterized LOC101732092, trans
	5821	uncharacter:
##	5822	uncharacter:
##	5823	uncharacter:
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##	5825	uncharacter
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	5832	uncharacter
	5833	uncharacter:
	5834	uncharacterized LOC105947628, trans
	5835	uncharacterized LOC105947628, trans
	5836	uncharacter:
	5837 5838	small i
	5839	carbonic anhydrase VIII, tran small nucleolar I
	5840	uncharacter:
	5841	uncharacter
	5842	uncharacter
	5843	unchar acter.
	5844	uncharacterized LOC116411680, trans
	5845	uncharacterized LOC116411680, trans
	5846	uncharacter:
	5847	uncharacter
	5848	uncharacter:
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uncharacter

uncharacter

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##	58	R51	uncha	racter
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##			uncha	racter
##			zinc finger AN1-type containing 1	
##				racter
##			leucine-rich repeat and coiled-coil domain-containing protein 1-like	
##			leucine-rich repeat and coiled-coil domain-containing protein 1-like	
##	58	361	•	racter:
##	58	362	2,4-dienoyl-CoA reductase 1	, trans
##	58	363	,	
##	58	364		
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##	58	366	epithelial splicing regulatory protein 1	, trans
##	58	367	smal:	l nucle
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##	58	369	uncha	racter
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##	58	373	uncha	racter
##	58	374	uncharacterized LOC116411551	, tran:
##	58	375	uncharacterized LOC116411551	, tran:
##			uncha	racter
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##			uncharacterized LOC100487686	
##			uncharacterized LOC100487686	-
##			uncharacterized LOC100487686	, trans
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6064 ## 6065 ## 6066 uncharacter uncharacter small nucl small nucl uncharacter

uncharacter

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## 6089
                                                                                                uncharacter
## 6090
                                                                  TBC1 domain family member 20-like, tran
## 6091
                                                                        uncharacterized LOC116411586, tran
## 6092
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## 6093
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## 6094
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                                                                        uncharacterized LOC116412084, tran
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	6127	uncharacterized LOC116412108, trans
	6128	uncharacterized LOC116412108, trans
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	6130	uncharacter
	6131	uncharacterized LOC100495497, trans
	6132	uncharacterized LOC100495497, trans
	6133 6134	uncharacterized LOC100495497, trans
	6135	uncharacter: uncharacter:
	6136	uncharacter.
	6137	BBSome inter
	6138	uncharacter:
	6139	Rho guanine nucleotide
	6140	hyaluronan 1
	6141	uncharacter
##	6142	transcription factor 7 like 2, trans
##	6143	actin filament associated protein 1 like 2, trans
##	6144	small nucle
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	6149	small nucl
	6150	uncharacter
	6151	uncharacter
	6152 6153	uncharacter
	6154	alpha-2-macroglobulin-like protein 1, tran
	6155	alpha-2-macroglobul:
	6156	stress response protein NST1-like, trans
	6157	stress response protein NST1-like, trans
	6158	stress response protein NST1-like, trans
	6159	stress response protein NST1-like, trans
	6160	stress response protein NST1-like, trans
##	6161	uncharacter:
##	6162	uncharacter:
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##	6164	uncharacterized LOC116412058, trans
##	6165	uncharacterized LOC116412058, trans
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##	6167	uncharacter
	6168	uncharacter
	6169	uncharacter
	6170	uncharacterized LOC105946649, trans
	6171	uncharacterized LOC105946649, trans
	6172	uncharacter
	6173	uncharacter:
##	6174	uncharacterized LOC101733476, trans

	6175	uncharacterized LOC101733476, trans
	6176	uncharacter
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	6179	uncharacterized LOC105945820, trans
	6180	uncharacterized LOC105945820, trans
	6181	uncharacterized LOC105945820, trans
	6182	alpha-1-macroglobulin-like, trans
	6183	alpha-1-macroglobulin-like, trans
	6184	alpha-1-macroglobulin-like, trans
	6185	uncharacter
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	6188	serine/threonine-protein kinase N2-like, tran
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	6210	uncharacter
	6211	deoxynucleotidyltransferase, terminal, inte
	6212	uncharacter
	6213	uncharacterized LOC108648145, trans
	6214	uncharacterized LOC108648145, trans
	6215	uncharacter
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	6220	acrosin-bindin uncharacter
	6222	uncharacter
	6223	uncharacterized LOC116412460, trans
	6224	uncharacterized LOC116412460, trans
	6225	uncharacter:
	6226	uncharacter
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##	6230	uncharacters
##	6231	uncharacter
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##	6236	STN1, CST complex subunit, trans
##	6237	STN1, CST complex subunit, trans
##	6238	uncharacter
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##	6240	uncharacter
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	6245	uncharacterized LOC101735144, trans
	6246	uncharacterized LOC101735144, trans
	6247	uncharacter
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	6254	uncharacterized LOC116412242, trans
	6255	uncharacterized LOC116412242, trans
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	6257	uncharacterized LOC116412243, trans
	6258	uncharacterized LOC116412243, trans
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	6262	uncharacterized LOC116412414, trans
	6263	uncharacterized LOC116412414, trans
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	6267	uncharacterized LOC105948023, trans
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	6269	uncharacterized LOC116412200, trans
	6270	uncharacterized LOC116412200, trans
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	6273	uncharacterized LOC101732480, trans
	6274	uncharacterized LOC101732480, trans
	6275	uncharacterized Euclidiozeto, trans
	6276	uncharacters
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	6278	uncharacter:
	6279	cyclin and CBS domain divalent metal cation transport mediator 1, trans
	6280	uncharacter
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##	6285	uncharacterized LOC116412075, trans
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##	6289	uncharacterized LOC101735151, trans
##	6290	uncharacterized LOC101735151, trans
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	6294	uncharacterized LOC100493999, trans
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	6296	uncharacter
	6297	beta-microseminoprotein, trans
	6298	beta-microseminoprotein, trans
	6299	beta-microseminoprotein, trans
	6300	beta-microseminoprotein, trans
	6301	activating signal cointegrator 1 complex subunit 1, trans
	6302	uncharacter
	6303	uncharacterized LOC100497842, trans
	6304	uncharacterized LOC100497842, trans
	6305	uncharacter
	6306	chromosome 10 open :
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	6316	uncharacter: uncharacter:
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	6318	potential lncRNA loc100496 uncharacter
	6319	uncharacter
	6320	small nucle
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	6324	peptidylprolyl isomerase F, tra
	6325	uncharacter
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	6335	uncharacterized LOC100486241, trans
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uncharacterized LOC100486241, tran

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uncharacterized LOC116412219, tran	## 63	##
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Rho GTPase activating protein 22, tran	## 63	
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mitotic arrest deficient 2 like 2, tra	## 63	
chloride channel, voltage-sensitive 6, tran	## 63	
uncharacter	## 63	
small nucl	## 63	
small nucl	## 63	
small nucl	## 63	
uncharacter	## 63	##
immunoglobulin superfamily member 9B, tran	## 63	##
uncharacter	## 63	##
sorting nexin 19, tran	## 63	##
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sorting nexin 19, tran	## 63	##
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ADAM metallopeptidase with thrombospondin type 1 motif 8, tran	## 63	##
uncharacter	## 63	##
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uncharacterized LOC116412091, tran	## 63	##
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uncharacter	6446	##
uncharacter:	6447	##
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uncharacter	6449	
uncharacter	6450	
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family with sequence similarity 118 member B, trans	6452	
family with sequence similarity 118 member B, trans	6453	
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small nucleolar RNA SNOR.	6455	
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uncharacter	6469	
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uncharacter: uncharacter:	6471	
uncharacter	6472	
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l	6478	
uncharacter	6479	
sterile alpha motif domain containing 11, trans	6480	
	6481	
uncharacter	6482	
	6483	
uncharacter	6484	
uncharacter	6485	
uncharacter	6486	
	6487	
uncharacter	6488	
uncharacter	6489	
uncharacter	6490	
speedy protein 1-B-like, trans	6491	
uncharacter	6492	
uncharacter	6493	
	6494	
	6495	
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	6497	##
	C400	щи

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uncharacterized LOC108648190, tran
## 6506
## 6507
                                                                        uncharacterized LOC108648190, tran
## 6508
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## 6509
## 6510
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## 6514
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## 6515
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## 6516
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## 6527
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## 6528
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## 6529
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## 6530
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## 6531
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## 6532
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## 6533
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## 6534
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## 6535
## 6536
                                                                                              vomeronasal t
## 6537
                                                                                         vomeronasal type-2
## 6538
                                                                                                uncharacter
## 6539
                                                                                                uncharacter
## 6540
                                                      ubiquitin carboxyl-terminal hydrolase 40-like, tran
## 6541
                                                                                                uncharacter
## 6542
## 6543
                                                           ubiquitin carboxyl-terminal hydrolase 40, tran
## 6544
                                                           ubiquitin carboxyl-terminal hydrolase 40, tran
## 6545
                                                                        uncharacterized LOC116412469, tran
## 6546
                                                                        uncharacterized LOC116412469, tran
## 6547
                                                                        uncharacterized LOC116412469, tran
## 6548
                                                                        uncharacterized LOC105945930, tran
## 6549
                                                                        uncharacterized LOC105945930, tran
## 6550
                                                                        multiple EGF-like-domains 8, tran
## 6551
                                                                        multiple EGF-like-domains 8, tran
## 6552
                                                                                                uncharacter
                                             496
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uncharacterized LOC100145450, tran

uncharacterized LOC100145450, tran

uncharacterized LOC100145450, tran

uncharacterized LOC100145450, tran

6499 ## 6500 ## 6501 ## 6502

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##	6	553	uncharacter
		3554	uncharacter
		5555	V-set and immunoglobulin domain-containing protein 1, tran
		556	carcinoembryonic antigen-related cell adhesion molecule 19, tran
		557	carcinoembryonic antigen-related cell adhesion molecule 19, tran
##	6	558	uncharacter
##	6	559	uncharacter
##	6	5560	uncharacter
##	6	5561	uncharacter
		5562	uncharacter
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		5569	uncharacter
		5570 5571	uncharacter
		571 572	uncharacter
		572 573	small Cajal bo
		5574	uncharacterized LOC108648161, tran
		5575	uncharacterized LOC108648161, tran
		5576	uncharacter
		5577	uncharacter
		5578	uncharacter
##	6	579	uncharacter
##	6	580	uncharacter
##	6	581	uncharacter
##	6	5582	neuronal pentraxin-1, tran
##	6	5583	
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		592 593	
		5594	
		595	uncharacter
		5596	small nucl
		5597	small nucl
ππ	0		Small Huch

small nucl

small nucl

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uncharacter

uncharacter

uncharacterized LOC116412294, tran

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6601 ## 6602

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6605 ## 6606

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## 6607
## 6608
                                                                                                 uncharacter
## 6609
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## 6610
## 6611
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## 6612
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## 6613
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## 6627
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## 6628
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## 6629
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## 6630
                                                         zinc finger BED domain-containing protein 6, tran
## 6631
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## 6632
                                                                    Rho GTPase activating protein 33, tran
## 6633
## 6634
## 6635
## 6636
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## 6641
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## 6659
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## 6662
## 6663
## 6664
## 6665
## 6666
##
        Protein.accession
                                                   Protein.name Protein.length
## 1
## 2
                                                                              NA
## 3
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## 4
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## 5
                                                                              ΝA
## 6
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## 7
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## 8
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## 9
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## 10
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## 11
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## 12
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## 13
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## 14
                                                                              NΔ
## 15
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## 16
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## 17
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## 18
                                                                              NΑ
## 19
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## 20
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## 21
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## 22
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## 23
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## 24
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## 25
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## 26
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## 27
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## 28
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## 29
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## 30
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## 31
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## 32
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## 33
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## 34
           XP_031750970.1 vomeronasal type-2 receptor 26-like
                                                                             860
## 35
           XP 031750972.1
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                                                                             864
## 36
           XP_031750973.1 vomeronasal type-2 receptor 26-like
                                                                             221
## 37
           XP_031750975.1 vomeronasal type-2 receptor 26-like
                                                                             257
## 38
           XP_031750981.1 vomeronasal type-2 receptor 26-like
                                                                             177
## 39
           XP_031751000.1 vomeronasal type-2 receptor 26-like
                                                                             331
## 40
           XP_031751001.1 vomeronasal type-2 receptor 26-like
                                                                             181
## 41
           XP_012811524.1 vomeronasal type-2 receptor 26-like
                                                                             863
## 42
           XP_017945145.1
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                                                                             863
## 43
           XP_017945144.2
                                vomeronasal type-2 receptor 26
                                                                             340
## 44
           XP_031751002.1
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                                                                             868
## 45
           XP_031751003.1 vomeronasal type-2 receptor 26-like
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## 46
           XP_031751004.1 vomeronasal type-2 receptor 26-like
                                                                             437
## 47
           XP_031751005.1 vomeronasal type-2 receptor 26-like
                                                                             337
```

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```
## 48
           XP_031751006.1 vomeronasal type-2 receptor 26-like
                                                                            407
## 49
           XP_031751007.1 vomeronasal type-2 receptor 26-like
                                                                            290
                                vomeronasal type-2 receptor 26
## 50
           XP 031751008.1
                                                                            858
## 51
           XP_031751009.1 vomeronasal type-2 receptor 26-like
                                                                            179
## 52
           XP_031751011.1 vomeronasal type-2 receptor 26-like
                                                                            248
           {\tt XP\_031751012.1} vomeronasal type-2 receptor 26-like
## 53
                                                                            795
## 54
           XP_031751013.1 vomeronasal type-2 receptor 26-like
                                                                            865
## 55
           XP_031751014.1 vomeronasal type-2 receptor 26-like
                                                                            243
## 56
           XP 017946374.2
                                vomeronasal type-2 receptor 26
                                                                            191
## 57
           XP_031751035.1
                                vomeronasal type-2 receptor 26
                                                                            166
## 58
                                                                             NA
## 59
           XP_031751015.1 vomeronasal type-2 receptor 26-like
                                                                            209
## 60
           XP 031751016.1
                                vomeronasal type-2 receptor 26
                                                                            197
           XP_031751017.1 vomeronasal type-2 receptor 26-like
## 61
                                                                            866
## 62
           XP_012811561.1
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                                                                            867
## 63
           XP_031751018.1 vomeronasal type-2 receptor 26-like
                                                                            865
## 64
           XP_031751019.1 vomeronasal type-2 receptor 26-like
                                                                            868
## 65
           XP 012811564.1
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                                                                            892
## 66
           XP_017946379.2
                                vomeronasal type-2 receptor 26
                                                                            180
## 67
           XP_031751020.1 vomeronasal type-2 receptor 26-like
                                                                            866
## 68
           XP_012811543.1
                                vomeronasal type-2 receptor 26
                                                                            878
## 69
           XP 031751021.1
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                                                                            177
## 70
           XP_031751022.1 vomeronasal type-2 receptor 26-like
                                                                            179
## 71
           XP_004911570.2 vomeronasal type-2 receptor 26-like
                                                                            883
## 72
           XP 031751023.1
                                vomeronasal type-2 receptor 26
                                                                            909
## 73
           XP_031751025.1 vomeronasal type-2 receptor 26-like
                                                                            802
## 74
           XP_031751026.1 vomeronasal type-2 receptor 26-like
                                                                            211
## 75
                                                                             NA
## 76
           XP_031751027.1
                                vomeronasal type-2 receptor 26
                                                                            211
## 77
           XP_012811586.2
                                vomeronasal type-2 receptor 26
                                                                            217
## 78
                                                                             NA
## 79
                                                                             NΑ
## 80
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## 81
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## 82
           XP_031751034.1
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## 83
                                                                             NA
## 84
           XP 017945076.2
                                vomeronasal type-2 receptor 26
                                                                            235
## 85
           XP_031750928.1 vomeronasal type-2 receptor 26-like
                                                                            171
## 86
                                                                             NA
## 87
           XP_031750929.1
                                vomeronasal type-2 receptor 26
                                                                            166
## 88
           XP 031751036.1
                                vomeronasal type-2 receptor 26
                                                                            211
## 89
           XP_031751037.1 vomeronasal type-2 receptor 26-like
                                                                            296
## 90
                                                                             NA
## 91
           XP_031751038.1 vomeronasal type-2 receptor 26-like
                                                                            235
## 92
           XP_031750930.1
                                vomeronasal type-2 receptor 26
                                                                            301
## 93
           XP_012811639.2
                                vomeronasal type-2 receptor 26
                                                                            235
## 94
           XP_031750931.1
                                vomeronasal type-2 receptor 26
                                                                            166
## 95
           XP_017945074.2
                                vomeronasal type-2 receptor 26
                                                                            171
## 96
           XP_031750932.1
                                vomeronasal type-2 receptor 26
                                                                            171
## 97
                                                                             NA
## 98
                                                                             NΑ
## 99
                                                                             NA
## 100
                                                                             NΑ
## 101
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```

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## 102
                                                                             NA
## 103
                                                                             NΑ
## 104
                                                                             NA
## 105
                                                                             NA
## 106
           XP_031751040.1 vomeronasal type-2 receptor 26-like
                                                                            872
## 107
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## 108
           XP 031751041.1
                                vomeronasal type-2 receptor 26
                                                                           1164
                                vomeronasal type-2 receptor 26
## 109
           XP 031751042.1
                                                                            902
## 110
           XP 031751043.1
                                vomeronasal type-2 receptor 26
                                                                            859
## 111
           XP_017945372.2
                                vomeronasal type-2 receptor 26
                                                                            166
## 112
           XP_031751045.1 vomeronasal type-2 receptor 26-like
                                                                            368
## 113
           XP 012811269.2
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                                                                            301
## 114
           XP_012811268.2
                                vomeronasal type-2 receptor 26
                                                                            301
## 115
           XP_031751046.1
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## 116
           XP_031751047.1 vomeronasal type-2 receptor 26-like
                                                                            308
## 117
           XP_031751048.1 vomeronasal type-2 receptor 26-like
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## 118
                                                                             NA
## 119
           XP 031751049.1
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## 120
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                                                                            180
## 121
           XP 031751050.1
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## 122
           XP_031751051.1
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## 123
           XP 012811596.1
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## 124
           XP_031751052.1
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## 125
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## 126
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## 127
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           XP_031759892.1 vomeronasal type-2 receptor 26-like
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## 129
                                vomeronasal type-2 receptor 26
           XP_017945199.2
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## 130
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## 131
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## 132
           XP_017945198.2 vomeronasal type-2 receptor 26-like
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## 133
           XP_031759911.1
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                                                                            277
## 134
                                                                             NA
## 135
           XP_031759925.1 vomeronasal type-2 receptor 26-like
                                                                            178
## 136
           XP 031759931.1
                                vomeronasal type-2 receptor 26
                                                                            178
## 137
           XP_031759941.1 vomeronasal type-2 receptor 26-like
                                                                            178
## 138
           XP 031759953.1
                                vomeronasal type-2 receptor 26
                                                                            865
## 139
           XP_012811503.2
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                                                                            873
## 140
                                                                             NA
## 141
           XP_031760067.1 vomeronasal type-2 receptor 26-like
                                                                            866
## 142
                                                                             NA
## 143
                                                                             NA
## 144
                                                                             NA
## 145
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## 146
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## 147
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## 148
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## 149
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## 150
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## 151
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## 152
                                                                             NΑ
## 153
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## 154
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## 155
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```

##	# 156	NA
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##	# 209	NA

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## 210
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## 211
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## 214
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## 218
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## 219
           XP_031760319.1
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## 220
           XP_017946394.1
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                                                                               293
           XP_031760324.1 vomeronasal type-2 receptor 26-like
## 222
           XP_012811458.1
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           XP_012811457.2
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## 224
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## 225
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## 226
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## 227
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## 228
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## 229
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## 253
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## 256
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## 259
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## 263
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##	: 37	9 NA
##	: 38	O
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##	: 38	2 NA
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##	: 38	7 NA
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##	: 38	9 NA
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##	39	1 NA
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##	39	3 NA
##	39	4 NA
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##	39	6 NA
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	: 39	
##	39	9 NA
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##	40	2 NA
##	40	3 NA
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	40	
##	40	7 NA
##	40	NA NA
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##	41	2 NA
##	41	3 NA
##	41	4 NA
##	41	5 NA
##	41	6 NA
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##	42	5 NA

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#
#
    labs(title = "Top 10 Proteínas Más Frecuentes",
#
          x = "Nombre de Proteína",
#
          y = "Frecuencia") +
# theme(axis.text.x = element_text(angle = 45, hjust = 1))
```