

# Statistical strategies for microRNAseq batch effect reduction

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**Abstract:** RNAseq technology is replacing microarray technology as the tool of choice for gene expression profiling. While providing much richer data than microarray, analysis of RNAseq data has been much more challenging. Among the many difficulties of RNAseq analysis, correctly adjusting for batch effect is a pivotal one for large-scale RNAseq based studies. The batch effect of RNAseq data is most obvious in microRNA (miRNA) sequencing studies. Using real miRNA sequencing (miRNAseq) data, we evaluated several batch removal techniques and discussed their effectiveness. We illustrate that by adjusting for batch effect, more reliable differentially expressed genes can be identified. Our study on batch effect in miRNAseq data can serve as a guideline for future miRNAseq studies that might contain batch effect.

**Keywords:** miRNA sequencing; batch effect removal; normalization

Submitted Mar 18, 2014. Accepted for publication Jun 06, 2014.

doi: [10.3978/j.issn.2218-676X.2014.06.05](https://doi.org/10.3978/j.issn.2218-676X.2014.06.05)

View this article at: <http://dx.doi.org/10.3978/j.issn.2218-676X.2014.06.05>

## Introduction

Gene expression refers to the process of synthesizing a functional gene product from the information encoded in a gene, and the study of gene expression is central to biomedical research. While the traditional method of gene expression analysis is microarray technology, next-generation sequencing technologies offer a competitive alternative in RNAseq. Indeed, due to several advantages of RNAseq technology over microarray, specifically its ability to identify genes not included in a predetermined probe, its expanded resolution allows for expression detection at the gene, exon, transcript, and coding DNA sequence (CDS) levels, and its ability to detect structural variants in addition to gene expression, RNAseq has begun to replace microarray altogether (1-3). With the price of RNAseq falling to levels comparable to microarray, this trend is expected to continue.

One of the interesting features of RNAseq technology is its ability to sequence microRNA (miRNA), which are small, non-coding species of RNA that play a variety of roles in the regulation of gene expression. Primarily responsible for translational repression (4-6), miRNA have vast scope with a single miRNA capable of regulating multiple mRNAs and

over 2,000 different species of miRNA currently identified in humans according to miRBase (v19) (7). The impact of dysfunction in this regulatory network is the long list of diseases linked to miRNA expression (8).

There is a common misconception regarding RNAseq data's quantitiveness. Both RNAseq data and microarray data are rather qualitative rather than quantitative. Like microarray, RNAseq experiment requires samples representing at least two conditions to produce meaningful relative differential expression results. RNAseq performed on samples from a single condition can only tell whether a gene is expressed relatively. On rare occasions, RNAseq can be quantitative when all reverse transcribed cDNA fragments are sequenced. Even in such a scenario, the quantitiveness can still be affected by effects from PCR. The challenge of RNAseq technology comes in the analysis of the data it generates. Non-expressed genes are assigned a read count of 0 and comprise as much as 50% of the data set, making the log transformation commonly used for microarray data impossible. The huge range of reads in an RNAseq dataset (between 0 and 10,000+) can introduce problems such as false high fold changes resulting from very small expression values, and errors are also introduced by the

sequencing process including de-multiplexing and alignment ambiguity. These characteristics complicate the analysis of RNAseq data, and while many methods of gene expression analysis have been developed, there is no clear consensus on which of these methods generates the most reliable results. One of the most popular is a normalization method known as reads per kilobase per million mapped reads (RPKM) (9) or the similar fragments per kilobase of transcript per million mapped reads (FPKM) (10). RPKM follows a simple formula,  $RPKM = 10^9 \times \frac{C}{N * L}$ , where  $C$  is the number of reads mapped to the gene,  $N$  is the total number of reads mapped to all genes, and  $L$  is the length of the gene.

Batch effects are technical sources of variation that have been added to samples during processing. They can confound the scenarios and prevent us from reaching the true conclusion. The common sources of batch effect include time, location, machine, and personnel. Additional sources of batch effect may exist but are harder to detect. Many batch effect removal techniques have been introduced for microarray data such as the Bayesian based method ComBat (11).

Batch effect in RNAseq data has been considered widespread and should be properly addressed (12-14). For RNAseq technology, other than the aforementioned sources, a new source of batch effect is the number of total read sequenced. For example, a sample for which 20 million reads are sequenced tends to detect fewer genes than the same sample with 40 million sequenced reads. In high-throughput sequencing, on an Illumina HiSeq 2000/2500, up to 200 million reads can be produced on one lane (15). Multiplexing, or labeling samples with unique barcodes before pooling them together on a single lane, is commonly used as a measure to save money. After the reads are generated, the unique barcode can be used to trace back each read's origin. The most important requirement for successful multiplexing is equal representation of genomic content for each sample within the pool. However, in our previous study we have shown that even if the genomic content for each sample within the pool is equal, other factors can skew the proportion of reads sequenced for each sample (16). These factors include sample quality and sequencing depth, library preparation, and fragmentation, among others. Under the same conditions, it is known that higher quality samples tend to yield more reads on the Illumina sequencer. Thus, it is common to observe samples with 2 to 3 times read count difference from the same RNAseq experiment.

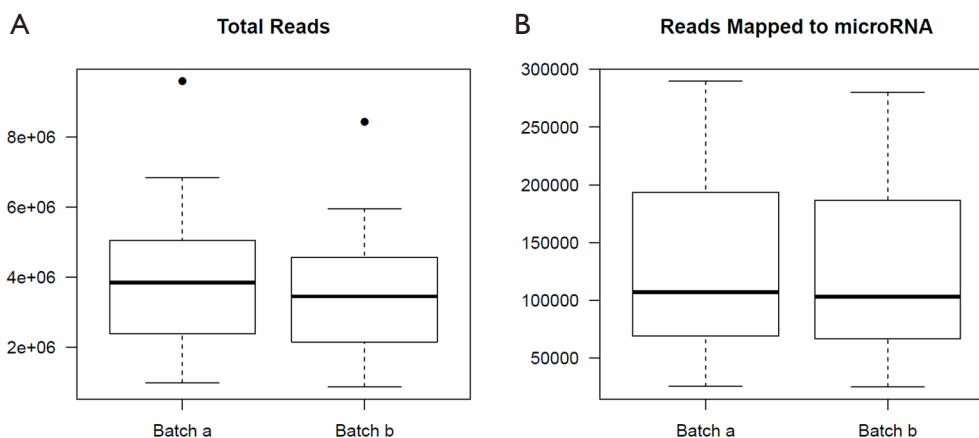
Read count differences can result in read count batch effects which should be addressed in RNAseq data. Read count differences are most commonly observed in

miRNA sequencing (miRNAseq) data, partially due to the low capture efficiency of miRNA library preparation compared to the poly-A tail-based messenger RNA library preparation. In regular messenger RNA sequencing, around 50% of reads will align to exome regions (3,17). However, for miRNAseq, usually less than 10% of reads align to miRNA references. Because the abundance of miRNA is much less compared to mRNA, read counts can easily skew the number of detectable miRNA. Using real miRNAseq data, we evaluated several strategies for the removal of batch effects, and we discuss their efficiency.

## Methods

Liver samples from 24 patients were extracted. The 24 samples can be divided into four subgroups: normal (N=6), steatosis (N=8), steatohepatitis (N=7) and cirrhosis (N=3). Library construction was performed on the total RNA. From the same library, miRNAseq was performed twice on the 24 samples using the same machine but 10 days apart. We call the first batch a and second batch b. The resulting miRNAseq FASTQ data were processed as follows. Due to the small size (22-25 base pairs) of miRNA and longer read length (50 base pairs), parts of the sequenced read did not represent miRNA but rather the adaptor. Those adaptor sequences were trimmed to obtain adaptor sequence-free FASTQ files. A majority of the sequenced reads from an miRNAseq experiment are the result of contamination from ribosomal RNA. We performed alignment against ribosomal RNA to identify and remove all these unwanted sequences. Even after decontamination, some remaining reads may be still sequenced from mRNA. Thus we aligned the rest of the reads against mRNA reference and eliminated likely mRNA sequences to obtain the most likely candidates for miRNA. A final alignment was performed against miRNA (1,733 entries) and precursor miRNA (1,424 entries) reference sequences downloaded from mirBASE (7). The miRNA processing pipeline is depicted in *Figure S1*. Read count and RPKM were generated for each miRNA and precursor miRNA for each sample. Fold changes were computed as a measurement for differential expression.

Differential expression analysis can only be conducted between two phenotypes such as tumor *vs.* normal or treated *vs.* untreated. The ideal assumption for conducting differential expression analysis is that gene expression patterns are similar for samples within the same phenotype group (i.e., relatively homogeneous). Sometimes, however, this assumption does not hold true. A sample from one phenotype group may be more



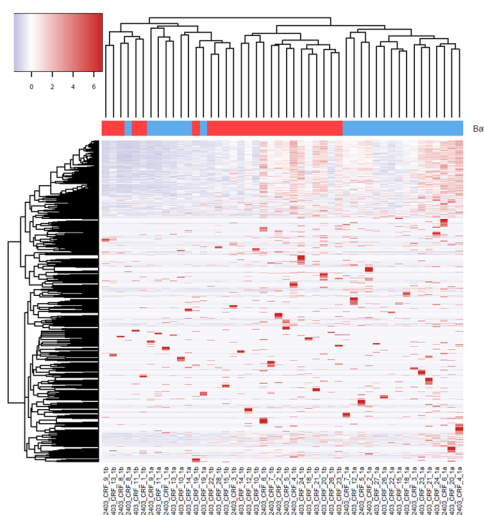
**Figure 1** (A) Total read distributions for batch a and b; (B) miRNA mapped read distributions for batch a and b. Batch a has more reads than batch b.

similar to the samples from the other phenotype groups based merely on expression profile. Clusters and heat maps were generated using a modified “heatmap” package from R v3.02.

## Results

For the example study we used, between batch a and batch b, there is significant read count difference for total reads sequenced ( $P=5.379e-08$ ) (Figure 1A) and reads aligned to miRNA reference ( $P=3.427e-07$ ) (Figure 1B). Ideally, we would expect the results from batch a and batch b to match perfectly, because they are produced from the same sequencing library and machine. To test if the two batches agree, we performed cluster analysis. Spearman’s correlation coefficient is used as the measuring distance between two samples over Pearson’s correlation coefficient due to its immunity to outliers. From the cluster, we can calculate sub-typing accuracy. Sub-typing accuracy is computed as the number of pair agreements (technical replicates clustered together) between batch a and b divided by the total number of pairs. The total number of pairs is 24 in this study. Our initial cluster using all miRNA detected shows that the sub-typing accuracy is 8.3% (Figure 2). Clearly, batch a and batch b lack the reasonable consistency we would expect.

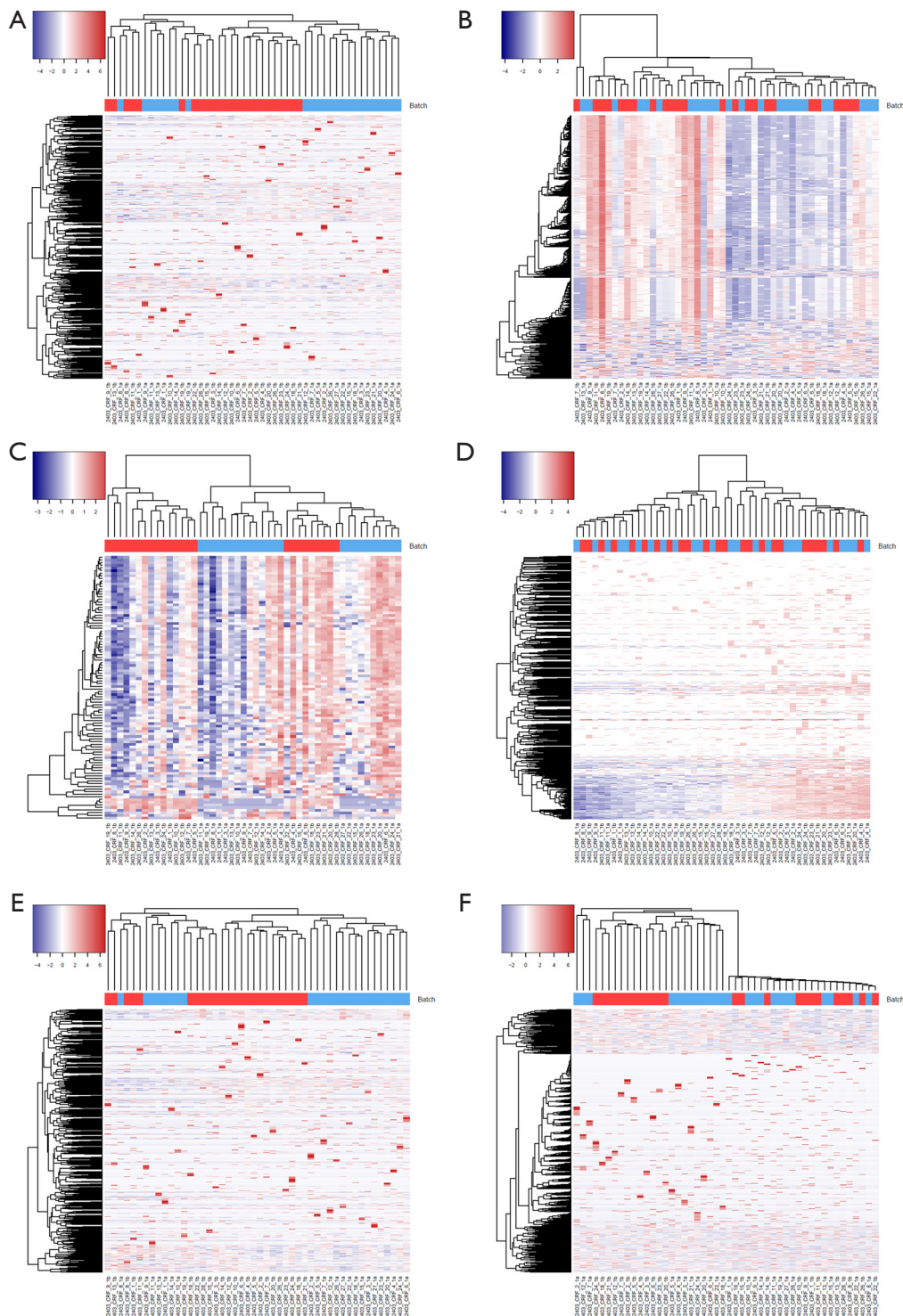
To minimize the effect of batch, we tested six different approaches. First, we performed quantile normalization which is a technique for making two distributions identical in statistical properties so they can be compared. Quantile normalization has been used frequently in microarray data to remove batch effects (18). After performing quantile normalization on miRNAseq data, the cluster showed no improvement (Figure 3). The sub-typing accuracy



**Figure 2** Cluster analysis shows poor sub-typing accuracy between batch a and batch b.

stayed at 8.3%. Then, we performed conditional quantile normalization (19). Conditional quantile normalization accounts for GC content and gene length during normalization. For miRNAseq data, the gene length is not an issue because all miRNAs have length between 22-25 base pairs. But GC content can still skew the read coverage for miRNA. The cluster result after conditional quantile normalization showed some improvement with sub-typing accuracy increased to 29%.

Next, we used a noise reduction technique. When the majority of the miRNA lack variation among samples, the cluster may be unrepresentative of the true phenotype group. To alleviate this, we also performed additional cluster analyses



**Figure 3** (A) Cluster result using data after quantile normalization; (B) cluster result using data after conditional quantile normalization; (C) cluster result using top 50 miRNA ranked by coefficient of variance; (D) cluster results using data after median centering; (E) cluster results using data after total read count normalization; (F) cluster results using data after trimmed mean of M-values normalization.



on miRNA with read counts filtered by the top coefficient of variation (COV) (top 10% of genes by COV). In theory, the clustering could improve as more stringent COV cutoffs are used. However, the new cluster shows a sub-typing accuracy of 0% (Figure 3A) which indicates that selecting miRNA with high variation did not improve sub-typing. Note that, selecting genes with top COV is a method frequently used for cluster analysis. Because the number of genes is significantly reduced, it is not suitable for differential expression analysis. But this method does inform us of the severity of the batch effect.

The fourth method we tried was median centering on genes. For each miRNA, we computed its median across all samples and centered this miRNA on the median. The sub-typing accuracy increased to 54.2% (Figure 3C) after median centering. The fifth method we tried is total read count normalization (20). The cluster result showed zero sub-typing accuracy. The last method we tried was trimmed mean of M-values (21) which is implemented in Bioconductor package edgeR. This method did not perform well and had a sub-typing accuracy at 4%.

From a different perspective, we examined the data's batch effect using differential expression analysis. Because there is lack of consensus among RNAseq differential expression analysis packages (22), instead of picking a single method, we used fold change as the measure of differential expression. Fold changes were computed between disease (steatosis, steatohepatitis and cirrhosis) and normal groups. The complete results can be found in Table S1. Using absolute fold change 2 as cutoff, we found that different normalization methods produced different results (Figure 4). Note that, this fold change analysis does not inform us which normalization method works better, but it can inform us that there are severe difference among the normalization methods.

## Conclusions

Batch effect has been documented for high throughput sequencing technology by previous studies (19,23). By examining real miRNAseq data, we showed that batch effect can greatly affect the outcome of gene expression analysis, and that the effect is much more severe for miRNAseq data. Through clustering, we tested six different approaches attempting to minimize the effect of batches. Among the batch effect reduction methods we tested, median center performed most effectively. Based on the results we have obtained, we recommend using median center by gene to minimize the impact of batch effects in miRNAseq data. Also, through differential expression analysis we showed



**Figure 4** Venn diagram shows the consistency of differentially expressed miRNA between disease and normal groups. Absolute fold change 2 is used as cutoff.

that differentially expressed miRNA are highly dependent on the normalization method used.

## Acknowledgments

We would also like to thank Margot Bjoring for editorial support.

**Funding:** This study was supported by CCSG (P30 CA068485). Core Services performed through Vanderbilt University Medical Center's Digestive Disease Research Center supported by NIH grant P30DK058404.

## Footnote

**Provenance and Peer Review:** This article was commissioned by the Guest Editors (Dung-Tsa Chen and Yian Ann Chen) for the series "Statistical and Bioinformatics Applications in Biomedical Omics Research" published in *Translational Cancer Research*. The article has undergone external peer review.

**Conflicts of Interest:** All authors have completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.3978/j.issn.2218-676X.2014.06.05>). The series "Statistical and Bioinformatics Applications in Biomedical Omics Research" was commissioned by the editorial office without any funding or sponsorship. The authors have no other conflicts of interest to declare.

**Ethical Statement:** The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). The study was approved by Institutional Review Board and informed consent was obtained.

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**Cite this article as:** Guo Y, Zhao S, Su PF, Li CI, Ye F, Flynn CR, Shyr Y. Statistical strategies for microRNAseq batch effect reduction. *Transl Cancer Res* 2014;3(3):260-265. doi: 10.3978/j.issn.2218-676X.2014.06.05

## Supplementary

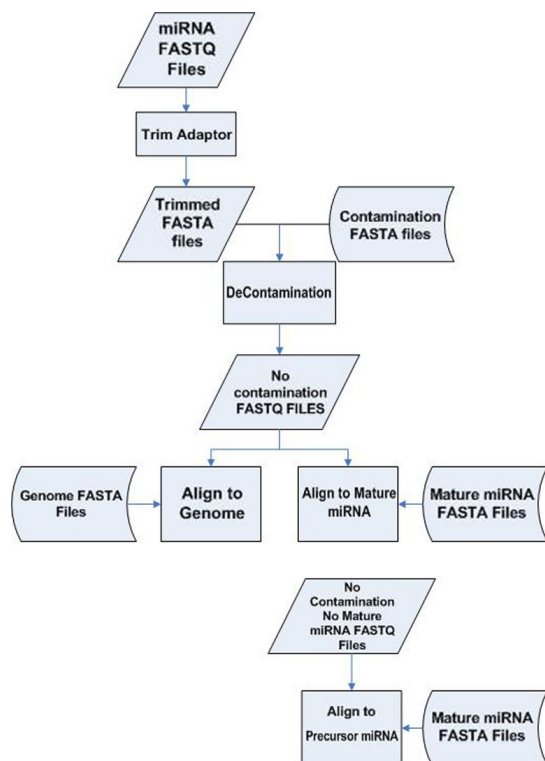


Figure S1 Workflow diagram of miRNA sequencing data processing.

Table S1 Fold changes computed between non-normal and normal samples using data from different normalization methods					
	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-let-7a	0.0042754	-0.552633	-0.015109	-0.120488	-0.054226
hsa-let-7a*	-0.18413	-0.548296	-0.006195	-0.203041	0.0656697
hsa-let-7a-2*	-0.158218	-0.217502	0.1804967	-2.619008	0.2711231
hsa-let-7b	0.0975594	-0.44166	0.0344891	-0.010573	0.0887056
hsa-let-7b*	-0.313777	-0.6457	-0.073251	-0.3929	-0.066944
hsa-let-7c	-0.113039	-0.592386	-0.042367	-0.161151	-0.222384
hsa-let-7d	-0.148097	-0.578109	-0.035374	-0.146155	-0.236482
hsa-let-7d*	-0.344158	-0.746767	-0.116632	-0.472896	-0.164616
hsa-let-7e	0.0354432	-0.419692	0.0479995	0.0123512	-0.074153
hsa-let-7e*	0.2407919	0.1545067	0.3774342	-0.557753	0.6431319
hsa-let-7f	-0.151042	-0.741798	-0.113138	-0.310237	-0.24062
hsa-let-7f-1*	-0.249712	-0.47145	0.1973019	-0.650713	-0.086965
hsa-let-7f-2*	-0.243696	-0.434909	0.0884345	-0.304026	-0.050423

Table S1 (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-let-7g	-0.18629	-0.72786	-0.106519	-0.297131	-0.301865
hsa-let-7g*	0.3024209	0.1323177	0.2670902	0.438865	0.3272325
hsa-let-7i	-0.150876	-0.646183	-0.057955	-0.217182	-0.249411
hsa-let-7i*	-0.392518	-0.61949	-0.019417	-0.670599	-0.300113
hsa-miR-1	0.077636	0.0440267	0.4009056	-1.434823	0.7414699
hsa-miR-100	-0.021232	-0.455459	0.0292959	-0.02215	0.0231356
hsa-miR-100*	0.1771578	0.0638577	0.0305435	-0.524743	0.517455
hsa-miR-101	0.0012021	-0.576757	-0.033227	-0.145183	-0.120285
hsa-miR-101*	0.2191501	0.0812448	0.261619	-0.285612	0.6038891
hsa-miR-103a	0.1523641	-0.270899	0.1220487	0.1592919	0.2511515
hsa-miR-103a-2*	0.0923589	-0.067084	0.5337087	-1.21875	0.4997937
hsa-miR-103b	0.2114169	-0.273994	0.1209576	0.1561336	0.2724068
hsa-miR-105	0.1065727	0.1111111	NA	0.4957244	0.6779892
hsa-miR-105*	-0.037195	-0.138889	0.8332013	-3.571142	0.3837554
hsa-miR-106a	0.6502755	0.2039072	0.2776772	0.7553998	0.6588102
hsa-miR-106b	0.1736293	-0.218978	0.1539305	0.2038544	0.2599344
hsa-miR-106b*	0.0365909	-0.38354	0.0951092	-0.066936	-0.292968
hsa-miR-107	-0.073772	-0.523761	-0.012123	-0.100873	0.0174642
hsa-miR-10a	0.4497615	-0.045872	0.2424499	0.3861475	0.5314111
hsa-miR-10a*	0.11054	-0.107067	0.1761645	0.1210727	0.34653
hsa-miR-10b	0.7624902	0.3875374	0.5038901	0.8209039	0.821074
hsa-miR-10b*	0.0849502	0.0995823	NA	0.1895837	0.4840674
hsa-miR-1178	0.0319384	0.0277778	NA	-0.325031	0.5926139
hsa-miR-1179	-0.039864	-0.111111	0.1789538	-2.561475	0.2924774
hsa-miR-1180	0.0442287	-0.06808	0.2275139	-0.700321	0.0448242
hsa-miR-1181	-0.150489	-0.24528	0.2357321	-2.937583	-0.132376
hsa-miR-1182	0.0315998	0.0277778	NA	-0.305393	0.2711022
hsa-miR-1183	0.0353009	0.0555556	NA	-0.081342	0.5131898
hsa-miR-1184	0.0411136	0.0277778	NA	-0.359298	0.2711022
hsa-miR-1185	-0.079325	-0.092774	0.0625024	-2.032532	0.3108149
hsa-miR-1193	0.0271807	0	0.5057688	-1.959422	0.1129043
hsa-miR-1197	0.0572065	0.0277778	0.506534	-1.578876	0.4608924
hsa-miR-1200	-0.021412	-0.055556	0.1555878	-2.665839	0.267004
hsa-miR-1202	-0.028935	-0.055556	-0.235113	-2.858058	0.0573487
hsa-miR-1203	0.0867985	0.0833333	NA	0.2397977	0.1962376
hsa-miR-1205	0.0645537	0.0555556	NA	0.0889307	0.6255592
hsa-miR-1206	-0.043403	-0.083333	NA	-3.506723	0.4789283
hsa-miR-1207-3p	-0.043403	-0.083333	NA	-3.520975	0.3743009
hsa-miR-1208	-0.067578	-0.083333	NA	-3.594299	0.3918373
hsa-miR-122	0.0536956	-0.433403	0.0428623	-0.001277	0.0958689

Table S1 (continued)



**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-122*	-0.394601	-0.867036	-0.177712	-0.443009	-0.24683
hsa-miR-1224-3p	0.0407311	0.0277778	NA	-0.359792	0.140682
hsa-miR-1225-3p	-0.026972	-0.055556	0.7632455	-2.895249	0.0573487
hsa-miR-1225-5p	-0.082163	-0.060276	-0.182395	-3.437933	0.0526286
hsa-miR-1226	-0.123339	0.016249	-0.805551	-5.5582	0.3388086
hsa-miR-1227	-0.013539	-0.055556	0.4595415	-2.749834	0.0573487
hsa-miR-1228	0.0518658	0.0555556	0.0465798	-1.258094	0.1684598
hsa-miR-1228*	0.0423059	0.0718045	NA	-0.129933	0.1847088
hsa-miR-1229	-0.011045	0	-0.328942	-2.025249	0.1129043
hsa-miR-1231	-0.021412	-0.055556	0.1555878	-2.665839	0.0573487
hsa-miR-1234	0.0339033	0.0555556	NA	-0.096797	0.1684598
hsa-miR-1237	0.0572917	0.1111111	NA	0.2879637	0.2240154
hsa-miR-124	0.0325171	0.0277778	NA	-0.291863	0.3105138
hsa-miR-124*	0.0469846	0.0555556	NA	-0.032378	0.5441807
hsa-miR-1245	0.0460674	0.0555556	NA	-0.022767	0.4591441
hsa-miR-1245b-3p	0.0298524	0.0555556	NA	-0.100872	0.5091529
hsa-miR-1246	-0.021439	-0.027778	0.1154323	-2.338352	0.3818727
hsa-miR-1247	-0.004115	-0.032498	0.0153119	-1.649718	0.0804063
hsa-miR-1248	0.1357098	-0.055556	0.713978	-1.249772	0.376367
hsa-miR-1249	-0.038452	-0.057644	0.0182348	-1.953399	0.0552602
hsa-miR-1250	0.0219907	0.0555556	NA	-0.123455	0.457093
hsa-miR-1251	0.0530227	-0.011529	1.1140709	-2.049622	0.3900086
hsa-miR-1252	-0.068593	-0.083333	NA	-3.61354	0.6141098
hsa-miR-1253	0.0167824	0.0277778	NA	-0.363828	0.5926139
hsa-miR-1254	-0.15908	-0.159858	-0.471026	-4.689108	0.0071752
hsa-miR-1255a	0.081478	0.0833333	NA	0.2855214	0.5936678
hsa-miR-1255b	0.0737147	0.0833333	NA	0.3298641	0.6059776
hsa-miR-1256	-0.082232	-0.027778	-0.831855	-3.929611	0.4948665
hsa-miR-1258	0.1087585	0.0718045	0.5928062	-1.223144	0.5049192
hsa-miR-125a-3p	-0.03152	-0.205973	0.7729463	-2.711333	0.1165863
hsa-miR-125a-5p	0.1341571	-0.365352	0.0804656	0.0683712	0.1083033
hsa-miR-125b	-0.147199	-0.568498	-0.024563	-0.135374	-0.079755
hsa-miR-125b-1*	-0.098735	-0.420303	0.2448835	0.0251653	-0.097743
hsa-miR-125b-2*	-0.331861	-0.742378	-0.132285	-0.336002	-0.218625
hsa-miR-126	-0.389975	-0.821643	-0.148951	-0.391392	-0.324391
hsa-miR-126*	-0.063021	-0.513257	-0.002458	-0.081553	-0.205824
hsa-miR-1260	-0.499207	-0.790783	-0.108406	-0.509543	-0.633407
hsa-miR-1260b	0.041004	-0.353678	0.0642163	-0.03776	0.028874
hsa-miR-1261	-0.44029	-0.518881	-0.188358	-2.682598	-0.10923
hsa-miR-1262	0.0608735	0.0833333	NA	0.2207111	0.5369306

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-1263	0.0268719	0.0440267	NA	-0.379674	0.6140303
hsa-miR-1264	-0.001386	-0.055556	1.0412926	-2.600249	0.3297738
hsa-miR-1265	0.0304755	0	0.2485745	-1.871528	0.5226443
hsa-miR-1266	-0.057019	-0.055556	-0.514906	-2.946334	0.1877689
hsa-miR-1267	-0.10777	-0.187636	0.5615708	-3.79268	0.3772003
hsa-miR-1268	-0.032495	0	-0.496636	-2.129263	0.1129043
hsa-miR-1268b	0.3758835	0.3578936	0.4944554	0.0879026	0.4707979
hsa-miR-1269	0.1415395	0.1226399	0.1070261	-0.805409	0.2355442
hsa-miR-1269b	-0.517975	-0.738666	-0.000321	-4.283057	-0.416107
hsa-miR-127-3p	0.0725727	-0.354673	0.073697	0.0758375	0.071418
hsa-miR-127-5p	-0.424905	-0.646881	0.0148511	-1.227958	-0.157354
hsa-miR-1270	0.0619483	0.0440267	0.3706062	-1.611415	0.6109048
hsa-miR-1271	0.1085911	0.1551378	NA	0.5059705	0.643763
hsa-miR-1272	0.0593776	0.0833333	NA	0.2210016	0.4792351
hsa-miR-1273	-0.115785	-0.222222	0.0058524	-2.9933	0.3461215
hsa-miR-1273c	0.0104167	0.0277778	NA	-0.385619	0.3503374
hsa-miR-1273d	-0.087832	-0.111111	-0.37867	-3.380514	0.331675
hsa-miR-1273e	-0.022116	-0.027778	0.1966821	-2.376378	0.5422258
hsa-miR-1273f	0.0194357	0.0277778	NA	-0.364046	0.4000048
hsa-miR-1273g	-0.116095	-0.083333	NA	-5.331477	0.4052918
hsa-miR-1275	0.0941764	-0.047299	0.3178966	-0.171344	0.0656057
hsa-miR-1276	0.0582202	0.0833333	NA	0.2217114	0.6533369
hsa-miR-1277	-0.078718	-0.13208	0.1082242	-3.047432	0.5653629
hsa-miR-1278	0.0431739	0.0555556	NA	-0.051171	0.6634847
hsa-miR-1279	-0.116095	-0.083333	NA	-5.331477	0.5776075
hsa-miR-128	-0.580343	-0.897095	-0.229944	-0.514061	-0.326887
hsa-miR-1280	-0.305756	-0.523601	0.0074338	-1.183799	-0.405195
hsa-miR-1281	-0.107367	-0.166667	-0.148364	-3.345824	-0.053762
hsa-miR-1282	-0.217975	-0.277778	-0.109024	-4.76404	0.1016423
hsa-miR-1283	0.0068058	-0.039307	1.0941124	-2.564258	0.3451785
hsa-miR-1284	0.0665765	0.0833333	NA	0.1536117	0.6059776
hsa-miR-1285	-0.082957	-0.167796	-0.028706	-1.085793	0.402208
hsa-miR-1286	-0.029442	-0.138889	0.4642066	-2.822676	0.2626486
hsa-miR-1287	-0.173507	-0.28513	0.0565032	-1.691689	0.2034956
hsa-miR-1288	-0.092079	-0.027778	-1.138093	-3.963674	0.3737597
hsa-miR-1289	0.0015072	-0.027778	0.3062307	-2.302106	0.4271252
hsa-miR-129*	-0.021401	-0.094862	0.7032703	-2.817068	0.289623
hsa-miR-129-3p	0.0452977	0.0555556	NA	0.003228	0.5781998
hsa-miR-129-5p	0.0144676	0.0277778	-0.024491	-1.700264	0.4293152
hsa-miR-1290	-0.059771	-0.055556	-0.471556	-2.96136	0.3540949

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-1291	-0.037182	-0.011529	-0.003568	-3.337353	0.3428904
hsa-miR-1292	-0.110019	-0.083333	-0.505105	-4.033334	0.0295709
hsa-miR-1294	-0.054053	-0.027778	-0.297223	-3.759619	0.4948665
hsa-miR-1295	0.0083225	-0.067084	0.6684768	-2.595958	0.3344531
hsa-miR-1296	-0.643212	-0.856654	-0.163871	-0.90896	-0.797853
hsa-miR-1297	0.0733904	0.0555556	NA	0.0373284	0.5470634
hsa-miR-1298	-0.113241	-0.083333	NA	-5.324624	0.4393109
hsa-miR-1299	0.0865154	0.1640351	-0.384283	-2.473805	0.6866793
hsa-miR-1301	0.197596	0.0221072	0.416199	0.0906744	0.3827196
hsa-miR-1302	0.0469846	0.0555556	NA	-0.032378	0.6178172
hsa-miR-1303	0.0593141	-0.032996	0.2130132	-0.672862	0.5370079
hsa-miR-1304	0.0698455	0	0.8325362	-1.831171	0.5226443
hsa-miR-1306	0.0935354	0.1111111	NA	0.3605023	0.3433012
hsa-miR-1307	-0.188815	-0.586365	-0.048574	-0.317728	-0.53255
hsa-miR-130a	0.1037295	-0.354652	0.0695294	0.0741325	0.0365976
hsa-miR-130a*	0.0283565	0.0555556	NA	-0.10299	0.5781998
hsa-miR-130b	-0.235221	-0.621344	-0.066183	-0.232446	-0.102791
hsa-miR-130b*	0.0978046	-0.201672	-0.136478	-0.349342	0.363164
hsa-miR-132	-0.581103	-0.93862	-0.255027	-0.650995	-0.368617
hsa-miR-132*	0.0877946	0.1111111	NA	0.5026381	0.6337554
hsa-miR-1322	0.0104167	0.0277778	NA	-0.385619	0.5632945
hsa-miR-1323	0.0411136	0.0277778	NA	-0.358876	0.4122629
hsa-miR-133a	0.5196034	0.406969	0.696053	0.4373704	0.9086981
hsa-miR-133b	0.0502751	-0.011529	1.1076915	-2.127454	0.5584748
hsa-miR-134	-0.136119	-0.467993	0.0598197	-0.265914	-0.142646
hsa-miR-1343	-0.010067	-0.055556	0.5541404	-2.716314	0.0573487
hsa-miR-135a	0.2482456	0.1991646	0.5596842	-0.13071	0.8398459
hsa-miR-135a*	0.0388185	0.0277778	NA	-0.358367	0.3503374
hsa-miR-135b	0.2001196	0.1683026	0.1262433	-0.672738	0.6786371
hsa-miR-136	-0.07256	-0.411139	-0.02079	-0.410118	0.0991955
hsa-miR-136*	-0.221405	-0.624554	-0.061554	-0.212158	-0.335801
hsa-miR-137	0.0283565	0.0555556	NA	-0.10299	0.56589
hsa-miR-138	-0.103574	-0.225992	0.059602	-1.123013	0.2018922
hsa-miR-138-1*	-0.032986	-0.055556	-0.087781	-2.834679	0.267004
hsa-miR-138-2*	-0.283486	-0.728854	-0.106086	-0.29732	-0.1807
hsa-miR-139-3p	-0.053241	-0.138889	0.2075394	-3.508728	-0.025985
hsa-miR-139-5p	-0.041997	-0.459824	0.0075614	-0.027	0.0766038
hsa-miR-140-3p	0.1524763	-0.321935	0.0934241	0.1063453	0.0070416
hsa-miR-140-5p	-0.032813	-0.474375	-0.006237	-0.127337	0.0482697
hsa-miR-141	0.2423134	0.0138451	0.4123535	1.011042	0.4202009

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-141*	0.0185677	0.0277778	-0.056086	-1.73702	0.550422
hsa-miR-142-3p	-0.009932	-0.441353	0.0558146	-0.034097	0.0475289
hsa-miR-142-5p	0.0012228	-0.460971	0.0337333	-0.031413	0.0570327
hsa-miR-143	0.3791933	-0.103863	0.2162381	0.3280598	0.3594632
hsa-miR-143*	0.2889778	0.1858213	0.1883919	-0.315494	0.5047851
hsa-miR-144	0.3140308	-0.095092	0.2932876	0.3360041	0.4995945
hsa-miR-144*	0.3868912	0.0397073	0.3598446	0.5026446	0.7035643
hsa-miR-145	0.5379415	0.0915905	0.3152353	0.5266744	0.5529406
hsa-miR-145*	-0.196041	-0.566773	-0.026459	-0.224041	-0.171772
hsa-miR-1468	-0.558874	-0.83574	-0.315986	-1.563524	-0.469655
hsa-miR-1469	-0.516595	-0.536268	-0.144093	-3.272286	-0.423363
hsa-miR-146a	-0.053824	-0.574206	-0.031036	-0.147435	-0.088099
hsa-miR-146a*	0.0310098	0.0555556	NA	-0.102173	0.4400407
hsa-miR-146b-3p	-0.081435	-0.446813	0.0625247	-0.168697	-0.122079
hsa-miR-146b-5p	0.1286258	-0.237483	0.1639223	0.1954114	0.1605033
hsa-miR-147	0.0115741	0.0277778	NA	-0.386914	0.5977814
hsa-miR-147b	-0.039511	-0.104302	0.1161631	-2.656784	0.4657012
hsa-miR-148a	-0.171728	-0.779067	-0.127887	-0.347159	-0.145141
hsa-miR-148a*	-0.298511	-0.737431	-0.119633	-0.311069	-0.259784
hsa-miR-148b	-0.231073	-0.714967	-0.099405	-0.285777	-0.243608
hsa-miR-148b*	-0.114353	-0.182916	0.0829736	-1.499503	0.2015695
hsa-miR-149	-0.050383	-0.280144	0.1385462	-0.228452	-0.032744
hsa-miR-149*	-0.029459	-0.055556	0.0293117	-2.490174	0.0573487
hsa-miR-150	-0.160704	-0.549183	0.0110061	-0.130579	-0.0284
hsa-miR-150*	-0.104297	-0.25	0.1566727	-3.420207	-0.137096
hsa-miR-151-3p	-0.211251	-0.624864	-0.056009	-0.195917	-0.048827
hsa-miR-151-5p	-0.29336	-0.783057	-0.133804	-0.35573	-0.298846
hsa-miR-151b	0.052236	-0.020019	-0.023721	-1.163279	0.4376156
hsa-miR-152	0.0195483	-0.407209	0.0527372	0.0129745	0.1604119
hsa-miR-153	0.1260272	-0.051333	0.2171154	-0.693867	0.4022641
hsa-miR-1537	0.0471161	0	0.7408901	-1.705788	0.4535973
hsa-miR-1538	0.0424969	0.0718045	NA	-0.106595	0.1847088
hsa-miR-154	-0.263072	-0.442356	0.1386989	-1.107581	0.1276477
hsa-miR-154*	0.0788956	0.0995823	NA	0.155329	0.5531796
hsa-miR-155	0.4624753	0.0602411	0.3031338	0.4950888	0.518955
hsa-miR-155*	0.3250098	0.1104389	0.3186392	-1.140271	0.7138035
hsa-miR-1587	0.0322769	0.0277778	NA	-0.266595	0.140682
hsa-miR-15a	-0.178485	-0.638128	-0.062647	-0.213476	-0.141559
hsa-miR-15a*	0.0024686	0.0670844	-0.643379	-1.482657	0.5557095
hsa-miR-15b	-0.012204	-0.424741	0.0370843	-0.03124	-0.020776

Table S1 (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-15b*	-0.273517	-0.553646	0.0782593	-0.390025	-0.100048
hsa-miR-16	-0.076451	-0.593226	-0.036045	-0.162024	-0.039682
hsa-miR-16-1*	0.0335874	0.016249	0.2934523	-1.840001	0.5388932
hsa-miR-16-2*	-0.100211	-0.067084	0.007067	-2.84033	0.3865129
hsa-miR-17	0.1113434	-0.342158	0.0897728	0.0968735	0.2558099
hsa-miR-17*	-0.061412	-0.356088	-0.002138	-0.475747	0.2139153
hsa-miR-181a	-0.22612	-0.739307	-0.102418	-0.308323	-0.103099
hsa-miR-181a*	-0.190516	-0.500261	-0.036714	-0.15012	0.072693
hsa-miR-181a-2*	-0.059715	-0.444403	0.0282665	-0.039345	-0.003238
hsa-miR-181b	0.2112433	-0.263527	0.1232823	0.1596305	0.3355841
hsa-miR-181c	0.0339036	-0.402054	0.0521178	0.0187829	0.1477917
hsa-miR-181c*	-0.289804	-0.435593	0.0902837	-1.029833	0.0539344
hsa-miR-181d	0.0762195	-0.243244	0.1975956	0.0549813	0.2116591
hsa-miR-182	0.2199314	-0.191659	0.1612816	0.2566338	0.1992501
hsa-miR-1825	-0.026972	-0.055556	0.7632455	-2.895249	0.0573487
hsa-miR-1827	-0.115981	-0.25	0.0342748	-3.522228	0.138594
hsa-miR-183	0.2261332	0.0530734	0.3030421	0.1371065	0.4375585
hsa-miR-183*	0.1185293	0.1666667	NA	0.688453	0.6893109
hsa-miR-184	0.1372415	0.1829156	NA	0.780952	0.7529192
hsa-miR-185	-0.046941	-0.322732	0.1450103	-0.105584	0.247272
hsa-miR-185*	0.1006253	0.1111111	0.1245372	-1.268743	0.2240154
hsa-miR-186	-0.007642	-0.468019	0.0200335	-0.037074	-0.13106
hsa-miR-186*	0.1516155	0.0555556	0.6633586	-0.867383	0.5781998
hsa-miR-187	-0.087453	-0.127041	0.0809065	-2.1594	0.1983388
hsa-miR-187*	-0.071759	-0.138889	-0.362105	-3.772769	-0.025985
hsa-miR-188-3p	0.0061369	-0.011529	0.2100619	-2.208001	0.3900086
hsa-miR-188-5p	0.0113888	-0.00944	-0.108678	-1.382287	0.1857158
hsa-miR-18a	-0.439407	-0.795598	-0.166359	-0.413682	-0.351724
hsa-miR-18a*	0.1398963	0.0298663	0.3893596	-0.88249	0.4543474
hsa-miR-18b	0.1409988	0.0529692	0.3251841	-1.017665	0.5078722
hsa-miR-190	0.4428759	0.1691037	0.2809062	0.6606386	0.8665468
hsa-miR-1908	0.0952194	0.1388889	NA	0.5847198	0.2517932
hsa-miR-1909*	-0.043403	-0.083333	NA	-3.506723	0.0295709
hsa-miR-190b	0.1537613	0.0833333	0.3188519	-0.940262	0.7592273
hsa-miR-191	0.0107983	-0.433538	0.0419493	-0.001554	0.1277245
hsa-miR-191*	-0.007162	-0.067084	0.3613818	-2.565931	0.0458199
hsa-miR-1911	-0.067578	-0.083333	NA	-3.594299	0.3411477
hsa-miR-1911*	0.09296	0	1.1366553	-1.846	0.2912447
hsa-miR-1914	0.0115741	0.0277778	NA	-0.386914	0.140682
hsa-miR-1915	-0.045491	-0.111111	0.5856881	-3.19192	0.0017932

Table S1 (continued)



**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-1915*	0.0104167	0.0277778	NA	-0.385619	0.140682
hsa-miR-192	0.0184764	-0.614496	-0.048348	-0.182583	0.0920101
hsa-miR-192*	-0.474283	-0.760765	-0.09186	-0.539263	-0.16892
hsa-miR-193a-3p	0.0152475	-0.362155	0.0322576	0.0447356	0.2166007
hsa-miR-193a-5p	0.3434591	0.1125809	0.3758553	0.7078839	0.4291683
hsa-miR-193b	-0.08989	-0.531751	-0.008919	-0.102973	-0.171989
hsa-miR-193b*	0.1027476	0.05928	0.0496746	-0.766058	0.3818396
hsa-miR-194	-0.560089	-1.004701	-0.247261	-0.575149	-0.540156
hsa-miR-194*	-0.139939	-0.533346	-0.146396	-0.132585	-0.340494
hsa-miR-195	0.0582907	-0.381464	0.0663355	0.0484333	0.1087048
hsa-miR-195*	-0.427662	-0.593372	-0.047067	-0.438809	-0.104746
hsa-miR-196a	0.15476	0.0995823	0.6288021	-0.7309	0.4840674
hsa-miR-196a*	0.0144676	0.0277778	NA	-0.383929	0.5164029
hsa-miR-196b	-0.231648	-0.222222	-0.027713	-3.15117	0.300422
hsa-miR-196b*	0.0115741	0.0277778	NA	-0.386797	0.3503374
hsa-miR-197	-0.133713	-0.50456	-0.02347	-0.11438	-0.170018
hsa-miR-1972	-0.068884	-0.194444	0.3785192	-2.88178	-0.08154
hsa-miR-1973	0.0144676	0.0277778	NA	-0.383929	0.5897014
hsa-miR-1976	0.0503585	0.0555556	0.2666304	-1.355845	0.1684598
hsa-miR-198	0.0194357	0.0277778	NA	-0.364046	0.3503374
hsa-miR-199a-3p	0.1896886	-0.265879	0.1315183	0.1658258	0.1386466
hsa-miR-199a-5p	0.1053504	-0.311044	0.1101942	0.1207526	0.2049887
hsa-miR-199b-3p	0.1347386	-0.263114	0.1322399	0.1681834	0.126944
hsa-miR-199b-5p	0.3618198	-0.032748	0.3060777	0.5674318	0.4221548
hsa-miR-19a	0.4885558	0.0051864	0.2494654	0.4404738	0.5643334
hsa-miR-19a*	0.0460674	0.0555556	NA	-0.03126	0.5091529
hsa-miR-19b	0.4686891	0.0105893	0.2595822	0.4432919	0.3876225
hsa-miR-19b-1*	-0.128432	-0.00472	-0.902961	-3.423161	0.5621579
hsa-miR-19b-2*	-0.104521	-0.055556	-0.986684	-4.501345	0.3980418
hsa-miR-200a	0.13336	-0.234628	0.1392569	0.1889267	0.1713723
hsa-miR-200a*	0.1040826	0.0602757	0.0843052	-1.011103	0.5489008
hsa-miR-200b	0.0369533	-0.358687	0.0843385	0.08464	0.062403
hsa-miR-200b*	-0.158439	-0.097494	-0.392122	-3.214301	0.4725099
hsa-miR-200c	0.149394	0.1356714	0.2154812	-0.921997	0.5905744
hsa-miR-200c*	0.0194357	0.0277778	NA	-0.364046	0.5164029
hsa-miR-202*	0.0517126	0.0555556	NA	-0.024224	0.6634847
hsa-miR-203	-0.628916	-1.013662	-0.289512	-0.644605	-0.691096
hsa-miR-204	0.0579806	-0.297958	0.1048881	0.1440284	0.2407413
hsa-miR-205	-0.289496	-0.354302	-0.573722	-5.397147	0.1343227
hsa-miR-2052	0.0736306	0.0555556	NA	0.024092	0.7529987

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-2054	0.0194357	0.0277778	NA	-0.364046	0.7252209
hsa-miR-206	0.0699039	0.0555556	NA	0.0110972	0.5781998
hsa-miR-208a	-0.040957	-0.027778	-0.270984	-2.455536	0.4258195
hsa-miR-208b	-0.213963	-0.38585	-0.051677	-1.283258	0.2220792
hsa-miR-20a	0.1030578	-0.309225	0.1002825	0.1224968	0.1308074
hsa-miR-20a*	0.029273	-0.046613	0.1627984	-1.235608	0.4069842
hsa-miR-20b	0.0110653	-0.067715	0.0181387	-1.600724	0.4991626
hsa-miR-20b*	0.0115741	0.0277778	NA	-0.387198	0.5977814
hsa-miR-21	-0.041624	-0.438935	0.0375734	-0.007092	-0.012909
hsa-miR-21*	0.1005343	-0.35503	0.0677272	0.0743897	0.0056573
hsa-miR-210	0.3154221	-0.100854	0.2157964	0.3352193	-0.047191
hsa-miR-211	-0.174985	-0.233751	0.1459796	-2.639799	0.3362526
hsa-miR-2110	-0.005803	-0.076525	0.0310453	-1.678999	0.0363796
hsa-miR-2113	-0.068593	-0.083333	NA	-3.61354	0.4815028
hsa-miR-2114	0.070373	0.1111111	NA	0.3969448	0.5997363
hsa-miR-2114*	-0.076389	-0.166667	NA	-4.263226	0.2348708
hsa-miR-2115	0.0523051	0.0555556	NA	-0.086573	0.6255592
hsa-miR-2115*	0.1320703	0.1111111	NA	0.4089541	0.6337554
hsa-miR-2116	0.0649575	0.0277778	0.7023165	-1.417722	0.5926139
hsa-miR-2116*	0.0625882	0.0922758	NA	-0.138003	0.2874319
hsa-miR-2117	-0.028356	-0.055556	-0.299906	-2.817713	0.5092805
hsa-miR-212	0.0878374	-0.106586	0.2789093	-0.629812	0.2949513
hsa-miR-214	-0.319194	-0.585778	-0.012983	-0.226773	-0.105478
hsa-miR-214*	-0.400859	-0.618034	-0.010222	-0.600949	-0.128506
hsa-miR-215	-0.083666	-0.590951	-0.037192	-0.159708	-0.192401
hsa-miR-216a	0.5455105	0.4370047	0.714621	0.7316571	0.9596489
hsa-miR-216b	0.164838	0.0529692	0.3058362	-0.885108	0.4374543
hsa-miR-217	0.1237637	0.159858	0.2074708	-1.256425	0.614761
hsa-miR-218	-0.27379	-0.412109	0.1765858	-0.30998	-0.008521
hsa-miR-218-1*	0.0467445	0.0555556	NA	-0.00568	0.5441807
hsa-miR-219-1-3p	0.1407251	0.143609	0.4091641	-0.865468	0.4661686
hsa-miR-219-2-3p	-0.043403	-0.083333	NA	-3.531009	0.4393109
hsa-miR-219-5p	-0.332995	-0.3868	-0.09123	-3.278597	0.0167882
hsa-miR-22	-0.228015	-0.741114	-0.1146	-0.309263	-0.390995
hsa-miR-22*	-0.21521	-0.565104	0.0371655	-0.337809	-0.177296
hsa-miR-221	0.060675	-0.334198	0.0865893	0.0939958	0.3093589
hsa-miR-221*	0.0138144	0.0225598	0.1557354	-1.354482	0.4761571
hsa-miR-222	0.5623898	0.1455521	0.3525114	0.614417	0.802092
hsa-miR-222*	-0.028935	-0.055556	-0.108497	-2.830236	0.514448
hsa-miR-223	0.1987886	-0.214329	0.1841934	0.2127103	0.2228579

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-223*	0.0544251	-0.09064	0.6060391	-1.829176	0.2938453
hsa-miR-224	0.2630815	-0.159193	0.2089744	0.2149296	0.410077
hsa-miR-224*	-0.067702	-0.150418	0.0159599	-2.492567	0.3044853
hsa-miR-2276	-0.016204	-0.055556	0.628637	-2.639823	0.267004
hsa-miR-2277-3p	-0.053161	-0.055556	0.0296215	-3.74185	0.0573487
hsa-miR-2277-5p	0.1578011	0.1153334	0.2969031	-1.144929	0.2316103
hsa-miR-2278	0.0390246	0.0718045	NA	-0.125847	0.3943641
hsa-miR-2355-3p	0.0185185	0.0277778	NA	-0.366171	0.4122629
hsa-miR-2355-5p	0.2976274	0.2547201	0.5307822	-0.088236	0.6878348
hsa-miR-2392	-0.174323	-0.42745	0.180767	-0.2953	-0.173786
hsa-miR-23a	-0.06173	-0.546702	-0.011319	-0.116401	0.059415
hsa-miR-23a*	0.030138	0.0277778	0.1987696	-1.712742	0.3503374
hsa-miR-23b	-0.210607	-0.643642	-0.065451	-0.211867	-0.073213
hsa-miR-23b*	0.0963584	0.0440267	0.6878631	-1.324592	0.6140303
hsa-miR-23c	-0.344235	-0.447076	-0.175598	-3.018917	0.0755682
hsa-miR-24	0.0712166	-0.399514	0.0641662	0.034974	0.0371248
hsa-miR-24-1*	0.1620052	0.0230576	0.4416709	-0.973399	0.5457019
hsa-miR-24-2*	-0.108638	-0.171387	0.1145204	-2.502705	0.3986168
hsa-miR-2467-3p	-0.037714	-0.055556	0.2168515	-2.825622	0.0573487
hsa-miR-2467-5p	-0.432582	-0.608977	0.0944639	-2.397194	-0.184496
hsa-miR-25	-0.125094	-0.554776	-0.017204	-0.125276	-0.008207
hsa-miR-25*	-0.147021	-0.303467	0.3189037	-1.846351	0.0980704
hsa-miR-2681	0.0499661	0.0555556	NA	-0.070257	0.4400407
hsa-miR-2681*	-0.035978	-0.055556	0.3786506	-2.844691	0.514448
hsa-miR-2682	-0.043403	-0.083333	NA	-3.506723	0.3411477
hsa-miR-2682*	0.0315998	0.0277778	NA	-0.305393	0.140682
hsa-miR-26a	-0.262192	-0.736444	-0.10494	-0.304574	-0.485283
hsa-miR-26a-1*	0.1473443	0.0776628	0.3876201	-1.136661	0.600307
hsa-miR-26a-2*	-0.093122	-0.282631	0.2138114	-0.545709	0.3252979
hsa-miR-26b	-0.291079	-0.792669	-0.139499	-0.361187	-0.30812
hsa-miR-26b*	0.082372	-0.352505	-0.006981	-0.014993	0.2224137
hsa-miR-27a	0.1482273	-0.318345	0.0788371	0.1172373	0.1694664
hsa-miR-27a*	0.0705584	0.0597779	0.230918	-1.538588	0.548403
hsa-miR-27b	-0.087287	-0.516012	-0.005111	-0.084059	0.0726132
hsa-miR-27b*	0.0386635	-0.36554	0.1348621	-0.126911	0.157104
hsa-miR-28-3p	-0.082263	-0.571196	-0.030772	-0.140503	0.0787839
hsa-miR-28-5p	-0.309156	-0.75817	-0.127751	-0.34438	-0.33943
hsa-miR-2861	-0.008358	-0.027778	0.3015652	-2.262857	0.0851265
hsa-miR-2909	0.0488087	0.0555556	NA	-0.068602	0.5959443
hsa-miR-296-3p	0.0519784	0	0.9103509	-1.667177	0.1129043

**Table S1** (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-296-5p	0.201557	0.1991646	0.4867933	-0.181304	0.3120688
hsa-miR-2964a-3p	-0.074092	-0.048747	-0.401546	-2.273433	0.3365825
hsa-miR-2964a-5p	0.0513741	0.0555556	NA	-0.029433	0.6255592
hsa-miR-297	0.0115741	0.0277778	NA	-0.386797	0.4608924
hsa-miR-299-3p	0.3728514	0.1396893	0.4160604	0.010849	0.6623336
hsa-miR-299-5p	-0.107125	-0.155138	-0.118198	-2.479779	0.3675064
hsa-miR-29a	-0.089098	-0.493988	0.0119342	-0.06471	-0.157459
hsa-miR-29a*	0.2311255	0.0417597	0.1982707	-0.388547	0.495357
hsa-miR-29b	0.093091	-0.34325	0.0877881	0.0731571	0.1368209
hsa-miR-29b-1*	0.0224389	0	0.5303248	-1.775314	0.3983192
hsa-miR-29b-2*	-0.025717	-0.092774	0.1302831	-1.683558	0.47723
hsa-miR-29c	-0.020034	-0.458436	0.0286976	-0.033066	0.0434127
hsa-miR-29c*	-0.140823	-0.397507	0.138768	-0.282063	0.1724967
hsa-miR-300	-0.063172	-0.027778	-0.532942	-3.902781	0.4948665
hsa-miR-301a	0.2788109	-0.09101	0.2116075	0.3434899	0.3255189
hsa-miR-301b	-0.300763	-0.586572	-0.036806	-0.834782	-0.201242
hsa-miR-302b	0.0335648	0.0555556	NA	-0.084378	0.56589
hsa-miR-302b*	0.0115741	0.0277778	NA	-0.387198	0.4813751
hsa-miR-302c	-0.066467	-0.290302	0.4258636	-0.915192	0.1646008
hsa-miR-302d	-0.038924	-0.094862	0.5083563	-3.068874	0.2904672
hsa-miR-302d*	0.0124421	0.0277778	NA	-0.390153	0.550422
hsa-miR-302e	0.0144676	0.0277778	NA	-0.383929	0.4162018
hsa-miR-302f	-0.034722	-0.083333	NA	-3.359804	0.5776075
hsa-miR-3064-3p	0.0376271	0.0277778	NA	-0.344587	0.5946559
hsa-miR-3064-5p	-0.043403	-0.083333	NA	-3.506723	0.4570554
hsa-miR-3065-3p	0.1375961	0.0021338	0.1206407	-0.926653	0.5690119
hsa-miR-3065-5p	-0.179429	-0.52253	-0.097094	-0.298876	-0.1372
hsa-miR-3074-3p	0.0955749	0.0718045	0.7130749	-1.022627	0.5604297
hsa-miR-3074-5p	-0.082361	-0.434257	0.0163116	0.0059185	-0.048624
hsa-miR-30a	-0.013174	-0.47983	0.0196464	-0.047861	0.0478137
hsa-miR-30a*	-0.328562	-0.771302	-0.136174	-0.35281	-0.298613
hsa-miR-30b	-0.129944	-0.532846	0.0020207	-0.099523	-0.257664
hsa-miR-30b*	-0.038745	-0.120551	0.1228089	-1.750298	0.4494522
hsa-miR-30c	0.1348063	-0.331406	0.0897582	0.1002532	0.1372518
hsa-miR-30c-1*	-0.196743	-0.413582	-0.069198	-0.724592	0.0750427
hsa-miR-30c-2*	0.1653507	-0.277344	0.1273571	0.049537	0.2960713
hsa-miR-30d	-0.003228	-0.450494	0.0313704	-0.018996	0.1018553
hsa-miR-30d*	-0.66366	-0.989977	-0.243217	-0.848754	-0.467333
hsa-miR-30e	0.1686723	-0.345566	0.0874299	0.0859614	0.0122699
hsa-miR-30e*	-0.246371	-0.699597	-0.096233	-0.27878	-0.103035

**Table S1** (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-31	-0.138039	-0.243191	0.3061334	-2.015777	0.2971974
hsa-miR-31*	0.0805176	0.0555556	NA	0.0440144	0.4400407
hsa-miR-3115	0.0322769	0.0277778	NA	-0.278608	0.530095
hsa-miR-3116	0.0418481	-0.027778	0.4604748	-1.90301	0.5422258
hsa-miR-3117-3p	-0.090093	-0.027778	-1.053737	-3.95289	0.4053369
hsa-miR-3118	0.0425952	0.0555556	NA	-0.043395	0.6962369
hsa-miR-3119	-0.52701	-0.905681	-0.200935	-0.518553	-0.518053
hsa-miR-3120-3p	0.2108675	0.2756892	0.0101586	-0.561865	0.8160779
hsa-miR-3120-5p	-0.05766	-0.199165	0.3290503	-2.361458	0.2023729
hsa-miR-3121-3p	0.0644554	0.0555556	NA	0.0582505	0.5091529
hsa-miR-3122	0.0477431	0.0833333	NA	0.1242683	0.5719585
hsa-miR-3123	0.0298637	0.0277778	NA	-0.286232	0.6887186
hsa-miR-3124-3p	-0.043403	-0.083333	NA	-3.520975	0.4866703
hsa-miR-3124-5p	0.0492011	0.0555556	NA	-0.071658	0.2507116
hsa-miR-3125	-0.116095	-0.083333	NA	-5.331477	0.4866703
hsa-miR-3126-3p	-0.034722	-0.083333	NA	-3.359804	0.4052918
hsa-miR-3126-5p	-0.032986	-0.083333	NA	-3.344104	0.4052918
hsa-miR-3127-3p	0.0194357	0.0277778	NA	-0.364046	0.140682
hsa-miR-3127-5p	-0.032986	-0.083333	NA	-3.344104	0.4608426
hsa-miR-3129-3p	0.0300926	0.0555556	NA	-0.104261	0.4400407
hsa-miR-3130-3p	0.0776068	0.1111111	NA	0.4154783	0.3062672
hsa-miR-3130-5p	0.0299734	-0.027778	1.0592408	-2.041512	0.0851265
hsa-miR-3131	-0.023148	-0.055556	0.2956404	-2.792536	0.1877689
hsa-miR-3132	0.0709773	0.0555556	NA	0.0301359	0.5547475
hsa-miR-3133	-0.17506	-0.138889	-0.393606	-4.152915	0.5585542
hsa-miR-3135	-0.026129	-0.055556	0.087578	-2.511901	0.267004
hsa-miR-3135b	0.0614312	-0.36273	0.356857	0.1907963	-0.233247
hsa-miR-3136-3p	0.0115741	0.0277778	NA	-0.38794	0.550422
hsa-miR-3136-5p	-0.048551	-0.138889	0.2882347	-2.651821	0.3160141
hsa-miR-3138	-0.094723	-0.055556	-0.617985	-4.473289	0.4436364
hsa-miR-3139	0.0032434	-0.027778	0.3903113	-2.295378	0.5391003
hsa-miR-3140-5p	0.0231481	0.0555556	NA	-0.123522	0.6178172
hsa-miR-3141	0.0839376	0.1111111	NA	0.3375674	0.2240154
hsa-miR-3143	-0.039931	-0.083333	NA	-3.488777	0.3827928
hsa-miR-3144-3p	0.0081019	0	0.3808781	-1.816653	0.4535973
hsa-miR-3144-5p	-0.068593	-0.083333	NA	-3.61354	0.3011518
hsa-miR-3145-3p	-0.023036	-0.055556	0.0444275	-2.877115	0.6098737
hsa-miR-3145-5p	-0.080796	-0.076525	-0.275728	-2.383744	0.3770727
hsa-miR-3146	0.0853767	0.0833333	NA	0.2689546	0.4678185
hsa-miR-3147	-0.12953	-0.111111	-0.078622	-4.736028	0.0559221

**Table S1** (continued)



**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-3148	0.0115741	0.0277778	NA	-0.386914	0.4122629
hsa-miR-3150b-3p	0.0271991	0.0555556	NA	-0.100658	0.457093
hsa-miR-3150b-5p	0.0994175	0.0440267	0.4207718	-1.478149	0.156931
hsa-miR-3151	-0.068593	-0.083333	NA	-3.61354	0.1118227
hsa-miR-3152-3p	-0.188473	-0.222222	-0.516684	-5.38998	0.2313751
hsa-miR-3152-5p	0.0315998	0.0277778	NA	-0.305393	0.4122629
hsa-miR-3153	-0.051056	-0.138889	0.6747544	-3.684216	0.405287
hsa-miR-3154	0.0130208	0.0277778	NA	-0.386383	0.3503374
hsa-miR-3155b	0.0832397	0.0277778	0.7745881	-1.446374	0.140682
hsa-miR-3156-5p	0.0482407	0.0277778	NA	-0.364627	0.550422
hsa-miR-3157-3p	-0.001245	0.0555556	-0.368179	-1.587038	0.5441807
hsa-miR-3157-5p	0.0367782	-0.083333	0.6828455	-2.168144	0.4061941
hsa-miR-3158-3p	0.0207463	0.0277778	0.112502	-1.630002	0.3503374
hsa-miR-3159	0.0101878	-0.027778	0.2012498	-2.275621	0.5422258
hsa-miR-3160-3p	-0.012434	-0.027778	0.5349033	-2.433585	0.5422258
hsa-miR-3160-5p	-0.044515	-0.138889	1.1618901	-3.72228	0.3497363
hsa-miR-3161	-0.012382	-0.055556	0.6148379	-2.788825	0.5113225
hsa-miR-3162-3p	-0.150792	-0.243191	0.1011324	-3.796595	-0.130287
hsa-miR-3163	-0.018519	-0.055556	0.254245	-2.65884	0.3980418
hsa-miR-3167	-0.002289	-0.055556	0.9838867	-2.822265	0.3980418
hsa-miR-3168	-0.018884	-0.027778	0.0858096	-2.419637	0.5298667
hsa-miR-3169	0.0315998	0.0277778	NA	-0.305393	0.5977814
hsa-miR-3170	-0.115451	-0.25	0.0258606	-3.436324	0.2386252
hsa-miR-3173-3p	-0.043403	-0.083333	NA	-3.520975	0.4866703
hsa-miR-3173-5p	0.018857	0.0277778	0.0664146	-1.697154	0.5977814
hsa-miR-3174	-0.244332	-0.652948	0.5286884	-0.692956	-0.08607
hsa-miR-3176	0.0759311	0.0833333	NA	0.2918653	0.1962376
hsa-miR-3177-3p	-0.015914	-0.027778	-0.315048	-2.366728	0.0851265
hsa-miR-3178	0.0260417	0.0555556	NA	-0.121878	0.1684598
hsa-miR-3180-3p	0.0479427	-0.206807	0.2414182	-0.505301	-0.129662
hsa-miR-3182	0.1611062	0.0230576	0.291363	-0.625426	0.5807022
hsa-miR-3183	0.0231481	0.0555556	NA	-0.125787	0.1684598
hsa-miR-3184	0.2417335	0.0235178	0.1492859	-0.129142	0.377937
hsa-miR-3185	-0.039931	-0.083333	NA	-3.488777	0.0295709
hsa-miR-3186-5p	-0.043403	-0.083333	NA	-3.506723	0.2392263
hsa-miR-3187-5p	0.0315998	0.0277778	NA	-0.323107	0.140682
hsa-miR-3188	-0.039931	-0.083333	NA	-3.488777	0.1599911
hsa-miR-3189-3p	0.0115741	0.0277778	NA	-0.386797	0.2229339
hsa-miR-3189-5p	0.0438509	0.0555556	NA	0.002373	0.1684598
hsa-miR-3190	0.0709773	0.0555556	NA	0.0301359	0.4800366

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-3191	-0.124089	-0.138889	-0.469335	-3.905	-0.025985
hsa-miR-3192	-0.183519	-0.25	0.2201587	-4.375543	0.2941759
hsa-miR-3193	0.0274506	0.0277778	NA	-0.32362	0.5164029
hsa-miR-3194-3p	-0.065274	-0.104302	-0.273487	-2.913018	0.2182572
hsa-miR-3194-5p	-0.179207	-0.347494	0.2175646	-2.197253	-0.234589
hsa-miR-3195	0.0456339	-0.039307	0.8246377	-1.980554	0.0735977
hsa-miR-3196	0.0283565	0.0555556	NA	-0.10299	0.1684598
hsa-miR-3197	-0.043403	-0.083333	NA	-3.506723	0.0295709
hsa-miR-3199	0.0895563	0.0555556	0.5029636	-1.203964	0.6224336
hsa-miR-32	0.0829985	-0.313295	0.0808757	0.0929646	0.2946208
hsa-miR-32*	-0.128501	-0.171387	0.1502217	-2.263536	0.5260563
hsa-miR-3200-3p	-0.094831	-0.25472	0.3188078	-2.280658	0.0678395
hsa-miR-3200-5p	0.0131873	0	0.0131069	-2.929725	0.5700036
hsa-miR-3201	-0.005011	-0.055556	0.815774	-2.791066	0.6053853
hsa-miR-320a	0.0891734	-0.37736	0.0747496	0.0472256	0.0216126
hsa-miR-320b	0.0746135	-0.170112	0.0671582	-0.133818	0.3998914
hsa-miR-320c	0.3486026	0.2893066	0.3781218	-0.111665	0.8593102
hsa-miR-320d	0.0799348	0.0277778	0.3686607	-1.404014	0.5897014
hsa-miR-323-3p	-0.065429	-0.205973	0.421769	-2.446969	0.3364307
hsa-miR-323-5p	0.0231481	0.0555556	NA	-0.125787	0.1684598
hsa-miR-323b-3p	-0.133681	-0.215414	0.3011108	-3.316678	0.2732116
hsa-miR-323b-5p	0.0406302	0	0.6624746	-1.606368	0.424481
hsa-miR-324-3p	-0.055435	-0.215911	0.2470562	-0.792591	-0.106628
hsa-miR-324-5p	-0.292673	-0.752152	-0.166834	-0.481918	-0.569673
hsa-miR-326	-0.024481	-0.247414	0.233806	-0.16721	-0.13813
hsa-miR-328	0.8076171	0.3886497	0.5174449	0.9998683	0.5264839
hsa-miR-329	0.0279344	-0.00472	0.0211296	-1.859875	0.379765
hsa-miR-330-3p	0.0859937	0.1456976	-0.292396	-0.972897	0.389022
hsa-miR-330-5p	-0.105957	-0.256854	0.1942692	-1.110803	0.0657057
hsa-miR-331-3p	-0.256942	-0.551677	0.0038007	-0.174487	-0.378525
hsa-miR-331-5p	-0.463683	-0.597494	-0.678583	-3.99254	-0.274934
hsa-miR-335	0.0875507	-0.2855	0.1133228	0.1333665	0.5124857
hsa-miR-335*	-0.170916	-0.525808	-0.029945	-0.135746	-0.07028
hsa-miR-337-3p	-0.270094	-0.478578	-0.015892	-1.129268	-0.094093
hsa-miR-337-5p	0.1061183	0.1273601	0.1176746	-1.117606	0.6921962
hsa-miR-338-3p	-0.380566	-0.684074	0.0072335	-0.750151	-0.299589
hsa-miR-338-5p	0.3253548	0.2385958	0.1076226	-0.703856	0.76124
hsa-miR-339-3p	0.0669526	-0.329742	0.0193005	0.0208443	-0.219195
hsa-miR-339-5p	0.654138	0.2957154	0.2970358	0.732625	0.4102867
hsa-miR-33a	-0.090686	-0.309661	0.1053136	-0.933551	0.1234534

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-33a*	0.1481507	0.0393518	0.323054	-0.328062	0.5619961
hsa-miR-33b	-0.076565	-0.409863	0.1054652	-0.040227	0.1691024
hsa-miR-33b*	0.2262509	0.1530493	0.4927226	-1.001357	0.2659536
hsa-miR-340	-0.184001	-0.59757	-0.042202	-0.167492	-0.00256
hsa-miR-340*	-0.457096	-0.702237	-0.090686	-0.713261	-0.317752
hsa-miR-342-3p	0.5170791	0.0277815	0.2707206	0.4571854	0.5844624
hsa-miR-342-5p	0.1278284	0.1158313	-0.092045	-0.732359	0.6806673
hsa-miR-345	0.0119382	-0.413763	0.0379124	-0.021658	-0.385431
hsa-miR-346	0.0044008	-0.027778	0.1152174	-2.158249	0.0851265
hsa-miR-34a	0.6217391	0.3089684	0.4278732	0.8225401	0.9609876
hsa-miR-34a*	0.1282474	0.143609	0.1201641	-0.988071	0.6662533
hsa-miR-34b*	-0.034722	-0.083333	NA	-3.359804	0.3715697
hsa-miR-34c-3p	0.1500115	0.1158313	0.735556	-0.964503	0.6085184
hsa-miR-34c-5p	0.0321812	-0.055556	0.425932	-2.195506	0.5113225
hsa-miR-3529	0.0576415	0.0833333	NA	0.1695514	0.4678185
hsa-miR-3545-3p	-0.067578	-0.083333	NA	-3.594299	0.301996
hsa-miR-3545-5p	-0.102741	-0.255351	0.2226497	-0.420205	0.1982461
hsa-miR-3591-3p	-0.22895	-0.673902	-0.095125	-0.241929	-0.180206
hsa-miR-3591-5p	-0.145281	-0.582924	-0.033462	-0.147336	-0.007535
hsa-miR-3605-3p	-0.000529	-0.094862	0.3967133	-2.456906	0.3296189
hsa-miR-3605-5p	-0.031273	-0.020969	-0.187651	-1.944654	0.5232068
hsa-miR-3606	0.039098	0.0440267	NA	-0.363096	0.7414699
hsa-miR-3607-3p	-0.201293	-0.40314	0.0595785	-0.399943	-0.02372
hsa-miR-3607-5p	-0.04919	-0.138889	0.6275362	-3.488559	0.2455962
hsa-miR-3609	-0.000423	0	0.0488187	-2.079894	0.3983192
hsa-miR-361-3p	-0.188524	-0.56764	-0.054636	-0.194819	0.0092603
hsa-miR-361-5p	-0.280482	-0.664378	-0.08879	-0.250141	-0.123609
hsa-miR-3611	0.1020544	0.143609	NA	0.3814338	0.8410521
hsa-miR-3613-3p	-0.173555	-0.30864	0.22444	-1.251036	0.1098851
hsa-miR-3613-5p	-0.320412	-0.674757	-0.193769	-0.353872	0.0226862
hsa-miR-3614-3p	-0.004409	0	-0.053836	-2.082814	0.3853293
hsa-miR-3614-5p	-0.037619	-0.191405	0.1816563	-1.600676	0.051919
hsa-miR-3615	0.0360937	-0.179698	0.1195614	-0.738925	-0.066794
hsa-miR-3616-3p	0.0310211	0.0277778	NA	-0.286016	0.4522588
hsa-miR-3616-5p	-0.102808	-0.166667	NA	-4.322403	0.2869306
hsa-miR-3617	0.0435124	0.0555556	NA	-0.053006	0.4400407
hsa-miR-3619-3p	-0.04836	-0.111111	0.3748791	-3.184443	0.0017932
hsa-miR-3619-5p	0.0684789	0.0555556	NA	0.0614872	0.1684598
hsa-miR-362-3p	-0.013953	-0.099582	0.0543048	-1.037393	0.354015
hsa-miR-362-5p	0.475806	0.1184788	0.2271094	0.7237278	0.651408

**Table S1** (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-3620	0.05346	0.0555556	0.069378	-1.266808	0.1684598
hsa-miR-3622a-3p	0.0570628	0.0833333	NA	0.201832	0.4058929
hsa-miR-3622a-5p	-0.09221	-0.13208	-0.096281	-2.982566	-0.019176
hsa-miR-3622b-3p	-0.01494	-0.094862	0.7985829	-3.07533	0.0180421
hsa-miR-3622b-5p	0.0822969	0.0833333	NA	0.3168086	0.3660694
hsa-miR-363	-0.256595	-0.649593	-0.133633	-0.403028	-0.265108
hsa-miR-363*	0.0040963	-0.055556	1.485595	-2.651851	0.514448
hsa-miR-3647-3p	-0.056634	-0.106391	-0.224659	-1.234861	0.5342904
hsa-miR-3648	0.0150463	0.0277778	NA	-0.366916	0.140682
hsa-miR-365	-0.031951	-0.44904	0.0270424	-0.026181	0.2383326
hsa-miR-365*	-0.007365	-0.178195	0.3926691	-2.077097	0.1443641
hsa-miR-3650	0.0144676	0.0277778	NA	-0.383929	0.5632945
hsa-miR-3651	-0.026851	-0.150418	0.5693231	-2.914273	0.2040015
hsa-miR-3652	-0.055201	-0.055556	-0.069326	-2.578164	0.0573487
hsa-miR-3653	-0.034722	-0.083333	NA	-3.359804	0.3052607
hsa-miR-3654	0.0104167	0.0277778	NA	-0.385619	0.5632945
hsa-miR-3655	-0.039931	-0.083333	NA	-3.488777	0.1118227
hsa-miR-3656	0.0310211	0.0277778	NA	-0.314959	0.140682
hsa-miR-3657	0.0757893	0.0833333	NA	0.2531714	0.4869218
hsa-miR-3658	0.0115741	0.0277778	NA	-0.386914	0.6357069
hsa-miR-3659	0.0115741	0.0277778	NA	-0.386797	0.5681665
hsa-miR-3660	0.0115741	0.0277778	NA	-0.38794	0.4608924
hsa-miR-3661	0.0526876	0.0555556	NA	-0.086102	0.1684598
hsa-miR-3662	-0.039931	-0.083333	NA	-3.488777	0.3351915
hsa-miR-3663-5p	0.0115741	0.0277778	NA	-0.386797	0.140682
hsa-miR-3664-3p	0.038283	0.0277778	0.1782218	-1.886696	0.4122629
hsa-miR-3664-5p	-0.138665	-0.138889	-0.472554	-5.005177	0.2455962
hsa-miR-3666	0.0115741	0.0277778	NA	-0.386797	0.5681665
hsa-miR-3667-3p	0.0561613	0.016249	0.7591462	-1.803339	0.5862526
hsa-miR-3669	0.0274506	0.0277778	NA	-0.32362	0.6684591
hsa-miR-367	0.0115741	0.0277778	NA	-0.385569	0.4813751
hsa-miR-3670	0.0594268	0.0833333	NA	0.1665698	0.6533369
hsa-miR-3671	-0.039931	-0.083333	NA	-3.488777	0.370264
hsa-miR-3672	0.0790213	0.0833333	NA	0.3150397	0.7240147
hsa-miR-3674	-0.039931	-0.083333	NA	-3.488777	0.3011518
hsa-miR-3675-5p	0.0115741	0.0277778	NA	-0.387198	0.4826808
hsa-miR-3676	-0.003472	0	-0.049704	-2.02365	0.282736
hsa-miR-3677-3p	0.0376157	0.0833333	NA	0.0895408	0.1962376
hsa-miR-3677-5p	0.0089024	-0.011529	0.254853	-2.224752	0.1013754
hsa-miR-3678-3p	-0.048709	-0.111111	0.7037043	-3.346715	0.2142684

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-3678-5p	-0.049059	-0.055556	-0.030578	-2.904319	0.514448
hsa-miR-3679-3p	-0.021412	-0.055556	0.1031852	-2.664582	0.514448
hsa-miR-3679-5p	-0.073032	-0.104302	0.0505416	-2.972908	0.3201786
hsa-miR-3680	0.0425952	0.0555556	NA	-0.01744	0.6255592
hsa-miR-3680*	0.0428846	0.0555556	NA	-0.015531	0.5997315
hsa-miR-3681	-0.077071	-0.027778	-0.60124	-3.885891	0.5422258
hsa-miR-3681*	0.0298637	0.0277778	NA	-0.286232	0.550422
hsa-miR-3682-3p	-0.018519	-0.055556	0.254245	-2.65884	0.5092805
hsa-miR-3682-5p	0.1287507	0.1111111	NA	0.4458879	0.5647084
hsa-miR-3683	0.0274506	0.0277778	NA	-0.32362	0.4122629
hsa-miR-3684	0.0411136	0.0277778	NA	-0.358876	0.4608924
hsa-miR-3686	0.0058324	-0.055556	1.5098361	-2.635093	0.6418876
hsa-miR-3687	0.0576415	0.0833333	NA	0.2193026	0.1962376
hsa-miR-3688-3p	-0.071345	-0.083333	NA	-3.628066	0.3011518
hsa-miR-3688-5p	0.1751429	0.1944444	NA	1.1113544	0.5980329
hsa-miR-3689a-5p	0.0134544	-0.055556	1.426206	-2.794457	0.4670887
hsa-miR-3689b*	-0.034722	-0.083333	NA	-3.359804	0.4866703
hsa-miR-3689d	0.0245274	-0.027778	1.0842843	-2.137119	0.2947818
hsa-miR-3689f	0.0130208	0.0277778	NA	-0.386383	0.5977814
hsa-miR-369-3p	-0.364461	-0.463815	0.0159632	-0.883535	0.2336278
hsa-miR-369-5p	-0.208899	-0.222222	-0.037822	-2.648829	0.300422
hsa-miR-3690	-0.039931	-0.083333	NA	-3.488777	0.3411477
hsa-miR-3691-3p	0.0185185	0.0277778	NA	-0.366171	0.5164029
hsa-miR-3691-5p	0.0949641	0.0833333	NA	0.2202788	0.6275092
hsa-miR-3692	0.0167824	0.0277778	NA	-0.363828	0.5977814
hsa-miR-3692*	-0.121125	-0.138889	-0.036692	-3.899537	0.2155304
hsa-miR-370	0.2716037	0.1368003	0.5179558	-0.611219	0.2497046
hsa-miR-371-3p	0.0310211	0.0277778	NA	-0.286016	0.5946559
hsa-miR-371-5p	-0.001447	0	0.0198886	-1.990265	0.4751706
hsa-miR-3713	-0.043403	-0.083333	NA	-3.520975	0.3918373
hsa-miR-371b-3p	0.0728356	0.0995823	NA	0.1852216	0.5240633
hsa-miR-371b-5p	0.0575256	0	0.8971914	-1.939694	0.5226443
hsa-miR-372	-0.05674	-0.094862	0.1864304	-3.043136	0.4720159
hsa-miR-373	-0.051935	-0.115831	0.204961	-2.047915	0.4510468
hsa-miR-374a	0.0197719	-0.338874	0.0825304	0.0943014	0.4041067
hsa-miR-374a*	-0.189686	-0.605166	-0.051652	-0.187034	0.0985581
hsa-miR-374b	-0.124395	-0.510148	-0.003993	-0.136608	0.1070278
hsa-miR-374b*	-0.116976	-0.259121	0.1509838	-1.060308	0.3488082
hsa-miR-374c	0.0104167	0.0277778	NA	-0.385619	0.4813751
hsa-miR-375	-0.634872	-1.055209	-0.216659	-0.650701	-0.604586

Table S1 (continued)



Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-376a	0.0645182	-0.207804	0.3889089	-0.599261	0.1957841
hsa-miR-376a*	0.0984545	0.0440267	0.2731452	-1.422165	0.497624
hsa-miR-376b	-0.022346	-0.134169	0.2931372	-1.664922	0.4737604
hsa-miR-376c	0.2065945	-0.133448	0.151351	0.4708708	0.2727884
hsa-miR-377	-0.177951	-0.299199	0.1649022	-0.998507	0.1543978
hsa-miR-377*	-0.070298	-0.161947	0.3389519	-2.313755	0.4080571
hsa-miR-378	-0.168995	-0.607097	-0.044446	-0.176047	-0.045807
hsa-miR-378*	-0.113228	-0.497815	-0.002355	-0.259673	-0.244341
hsa-miR-378b	-0.089353	-0.222222	1.4016232	-4.111096	0.3216503
hsa-miR-378c	-0.004033	-0.411919	0.0520343	-0.033218	0.1490774
hsa-miR-378d	-0.261644	-0.520184	-0.02342	-0.307702	-0.011522
hsa-miR-378e	-0.020848	-0.104302	0.3724116	-2.199204	0.4285601
hsa-miR-378f	-0.115403	-0.134169	0.0153596	-2.347098	0.3472816
hsa-miR-378g	-0.184081	-0.386755	0.2292869	-1.600467	0.0884155
hsa-miR-378h	-0.510728	-0.582383	-0.347661	-3.051486	-0.041994
hsa-miR-378i	0.2255454	0.2038847	0.5879127	-0.672135	0.7442734
hsa-miR-379	-0.148917	-0.256037	0.0740754	-1.04774	0.3087993
hsa-miR-379*	0.1425596	0.1388889	0.6240104	-0.395631	0.5924862
hsa-miR-380	-0.000922	-0.055556	0.1642977	-2.131873	0.5523736
hsa-miR-381	-0.134374	-0.532211	-0.026858	-0.111635	0.0086463
hsa-miR-382	-0.048384	-0.241058	0.2496061	-1.270409	0.3289461
hsa-miR-383	-0.109873	-0.178195	0.1277023	-1.737334	0.3444488
hsa-miR-384	0.0411136	0.0277778	NA	-0.359298	0.7252209
hsa-miR-3907	0.0829809	0.0718045	NA	0.0249053	0.1847088
hsa-miR-3908	-0.002289	-0.055556	1.092941	-2.832267	0.3289296
hsa-miR-3909	-0.106274	-0.21137	0.1289187	-0.725378	0.1111899
hsa-miR-3911	0.1233635	0.0995823	NA	0.3377472	0.4221419
hsa-miR-3912	-0.227944	-0.461379	0.1202488	-1.32377	0.1008827
hsa-miR-3913-3p	0.0802039	0.0277778	0.9170777	-1.293745	0.4122629
hsa-miR-3913-5p	-0.400678	-0.38208	-0.412699	-5.661812	0.0024049
hsa-miR-3914	-0.031829	-0.055556	-0.259557	-2.835971	0.3980418
hsa-miR-3916	-0.028356	-0.055556	-0.082242	-2.815926	0.4850772
hsa-miR-3917	0.0115741	0.0277778	NA	-0.385569	0.140682
hsa-miR-3918	0.0310211	0.0277778	NA	-0.287335	0.2229339
hsa-miR-3919	0.0115741	0.0277778	NA	-0.387198	0.5926139
hsa-miR-3920	0.044042	0.0555556	NA	-0.03779	0.6634847
hsa-miR-3921	-0.056512	-0.055556	-0.492649	-2.925012	0.3993475
hsa-miR-3922-3p	-0.242831	-0.333333	NA	-5.909467	0.1893109
hsa-miR-3922-5p	0.0115741	0.0277778	NA	-0.38794	0.2711022
hsa-miR-3923	-0.028356	-0.055556	0.1529086	-2.83974	0.3980418

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-3924	0.0526876	0.0555556	NA	-0.085279	0.6634847
hsa-miR-3925-3p	0.03125	0.0555556	NA	-0.098963	0.4591441
hsa-miR-3925-5p	0.0067156	-0.0277778	0.4981681	-2.111424	0.4948665
hsa-miR-3927	0.0411136	0.0277778	NA	-0.359298	0.4813751
hsa-miR-3928	0.0007179	-0.060276	0.2858405	-2.235131	0.0526286
hsa-miR-3929	0.0104167	0.0277778	NA	-0.385619	0.5719537
hsa-miR-3934	0.0438509	0.0718045	NA	-0.126713	0.5604297
hsa-miR-3935	0.0322769	0.0277778	NA	-0.278608	0.5164029
hsa-miR-3936	0.0310211	0.0277778	NA	-0.286016	0.5977814
hsa-miR-3938	0.0435124	0.0555556	NA	-0.053427	0.5781998
hsa-miR-3939	0.0974993	0.1111111	NA	0.4099068	0.4336707
hsa-miR-3940-3p	0.0295744	0.0440267	NA	-0.379636	0.156931
hsa-miR-3941	0.0245949	0.0555556	NA	-0.12537	0.5091529
hsa-miR-3942-3p	0.0115741	0.0277778	NA	-0.386797	0.7252209
hsa-miR-3942-5p	-0.082919	-0.159858	-0.152019	-3.214769	0.4480711
hsa-miR-3943	0.0231481	0.0555556	NA	-0.124756	0.1684598
hsa-miR-3944-3p	0.0283193	0.0623642	-0.517538	-1.216424	0.1752685
hsa-miR-3944-5p	-0.450866	-0.81607	-0.051656	-0.414518	-0.654145
hsa-miR-3945	-0.032986	-0.055556	-0.179863	-2.859908	0.5113225
hsa-miR-3960	0.1983097	-0.091778	0.2375173	-0.357694	0.028711
hsa-miR-3972	-0.039931	-0.083333	NA	-3.488777	0.0295709
hsa-miR-3977	0.0612615	0.0555556	NA	-0.090329	0.56589
hsa-miR-409-3p	-0.285971	-0.669122	-0.116568	-0.327496	-0.195223
hsa-miR-409-5p	-0.124864	-0.055556	-0.581302	-3.95692	0.5113225
hsa-miR-410	0.0731522	-0.2415	0.1725214	0.0656901	0.1620881
hsa-miR-411	-0.451876	-0.731591	-0.097541	-0.347166	-0.157012
hsa-miR-411*	0.061527	0.0277778	0.263699	-1.7222	0.550422
hsa-miR-412	0.063298	0.0555556	NA	0.0695342	0.4800366
hsa-miR-421	-0.430235	-0.726378	-0.160405	-0.505709	-0.271475
hsa-miR-422a	-0.13565	-0.265299	0.0781188	-1.732004	0.2233266
hsa-miR-423-3p	-0.312534	-0.723863	-0.140146	-0.314153	-0.585386
hsa-miR-423-5p	-0.146563	-0.539214	-0.029438	-0.118653	-0.037644
hsa-miR-424	-0.658787	-1.102889	-0.281523	-0.688848	-0.583255
hsa-miR-424*	-0.14259	-0.398403	0.0852004	-0.834504	0.1440005
hsa-miR-425	-0.034642	-0.388425	0.0470795	0.0346684	0.2541792
hsa-miR-425*	-0.380338	-0.372685	-0.082751	-2.707179	-0.259781
hsa-miR-4252	0.0383921	0.0277778	NA	-0.342676	0.1635128
hsa-miR-4253	0.0460674	0.0555556	NA	-0.03126	0.1684598
hsa-miR-4254	0.0310211	0.0277778	NA	-0.287335	0.2711022
hsa-miR-4255	-0.043403	-0.083333	NA	-3.531009	0.4743112

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-4259	0.1155084	0.1551378	NA	0.3669108	0.4776974
hsa-miR-4260	0.0568935	0.0555556	NA	-0.031922	0.1912905
hsa-miR-4261	-0.043403	-0.083333	NA	-3.506723	0.3507961
hsa-miR-4262	0.044042	0.0555556	NA	-0.054698	0.6132001
hsa-miR-4264	0.0266204	0.0555556	NA	-0.103643	0.4439796
hsa-miR-4266	0.0576415	0.0833333	NA	0.170332	0.1962376
hsa-miR-4268	-0.013828	-0.039307	0.3880121	-2.612335	0.1558495
hsa-miR-4271	0.0700836	0.1111111	NA	0.3794942	0.2468461
hsa-miR-4272	0.0763188	0.0833333	NA	0.2686177	0.645595
hsa-miR-4274	0.0009285	-0.027778	0.1640851	-2.285304	0.0851265
hsa-miR-4275	-0.064182	-0.027778	-0.418611	-3.849353	0.4637301
hsa-miR-4278	0.0167824	0.0277778	NA	-0.363828	0.2599679
hsa-miR-4281	0.0248843	0.0555556	NA	-0.120578	0.1684598
hsa-miR-4283	0.0310211	0.0277778	NA	-0.287335	0.3617317
hsa-miR-4284	-0.128025	-0.222222	0.5012669	-3.994583	0.004083
hsa-miR-4286	0.3611247	0.1658611	0.4072428	0.3182243	0.2879142
hsa-miR-4287	0.0407311	0.0277778	NA	-0.359792	0.5632945
hsa-miR-4289	-0.024306	-0.055556	0.2507198	-2.68004	0.4799612
hsa-miR-429	-0.342026	-0.642124	-0.025087	-0.308723	-0.200828
hsa-miR-4290	-0.066412	-0.104302	0.4838867	-3.013494	0.2679246
hsa-miR-4291	-0.034722	-0.083333	NA	-3.359804	0.4866703
hsa-miR-4292	0.0061369	-0.027778	0.3730037	-2.231364	0.0851265
hsa-miR-4294	-0.056953	-0.023058	-0.201913	-3.059429	0.0898466
hsa-miR-4295	-0.017361	-0.027778	-0.205131	-2.391781	0.3608162
hsa-miR-4298	0.0499661	0.0555556	NA	-0.068549	0.1684598
hsa-miR-4299	0.0185185	0.0277778	NA	-0.366171	0.2599679
hsa-miR-4302	0.0638792	0.0833333	NA	0.1298383	0.1962376
hsa-miR-4304	-0.039931	-0.083333	NA	-3.488777	0.0295709
hsa-miR-4305	0.0167824	0.0277778	NA	-0.363828	0.485412
hsa-miR-4307	0.0590504	0.0555556	NA	0.0461516	0.6696859
hsa-miR-4308	0.0114401	-0.094862	1.041991	-2.781088	0.3949074
hsa-miR-4309	0.0104167	0.0277778	NA	-0.385619	0.5977814
hsa-miR-431	0.1277355	0.0765247	0.7099058	-1.19824	0.4780621
hsa-miR-431*	-0.032986	-0.083333	NA	-3.344104	0.2392263
hsa-miR-4312	0.0115741	0.0277778	NA	-0.386797	0.1635128
hsa-miR-4313	-0.01645	0	-0.149877	-2.116924	0.1129043
hsa-miR-4315	0.044042	0.0718045	NA	-0.126151	0.3039946
hsa-miR-4317	-0.01794	-0.055556	0.6077323	-2.643099	0.502089
hsa-miR-4319	0.0300926	0.0555556	NA	-0.10291	0.3895095
hsa-miR-432	-0.166216	-0.436615	0.1635572	-0.656919	0.1075608

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-432*	-0.025991	0	-0.15875	-2.926529	0.4015375
hsa-miR-4321	0.0310211	0.0277778	NA	-0.286016	0.140682
hsa-miR-4322	-0.071345	-0.083333	NA	-3.628066	0.0295709
hsa-miR-4323	-0.032986	-0.083333	NA	-3.344104	0.0295709
hsa-miR-4324	-0.010995	-0.027778	0.1358342	-2.339214	0.5422258
hsa-miR-4325	0.0107161	0.0047201	0.5001312	-2.179503	0.4944897
hsa-miR-4326	0.0534827	-0.011529	0.4883533	-1.727517	0.4636418
hsa-miR-4328	0.0817414	0.0833333	NA	0.1501497	0.6409779
hsa-miR-4329	0.0130208	0.0277778	NA	-0.386383	0.4000048
hsa-miR-433	0.0165611	-0.039307	0.2025109	-1.352389	0.4493186
hsa-miR-4420	0.0240162	0.0555556	NA	-0.126783	0.6255592
hsa-miR-4421	0.0500692	0.0555556	NA	-0.075185	0.6255592
hsa-miR-4422	-0.146228	-0.166667	NA	-5.70782	0.266448
hsa-miR-4423-3p	-0.048306	-0.027778	-0.209202	-3.170342	0.3758107
hsa-miR-4423-5p	0.0344934	0.0277778	NA	-0.318088	0.550422
hsa-miR-4424	0.0162655	0.016249	0.0477663	-2.729416	0.6241781
hsa-miR-4425	0.0115741	0.0277778	NA	-0.386797	0.5977814
hsa-miR-4426	0.0832629	0.0718045	NA	-0.073766	0.4602286
hsa-miR-4427	-0.001178	-0.027778	0.6404182	-2.451341	0.3758107
hsa-miR-4428	0.0298524	0.0555556	NA	-0.100872	0.3781152
hsa-miR-4430	-0.020255	-0.055556	0.1954698	-2.678189	0.0573487
hsa-miR-4431	0.0115741	0.0277778	NA	-0.387198	0.550422
hsa-miR-4432	0.0315998	0.0277778	NA	-0.323107	0.5364398
hsa-miR-4433	-0.039931	-0.083333	NA	-3.488777	0.1118227
hsa-miR-4434	0.0150463	0.0277778	NA	-0.366916	0.5900394
hsa-miR-4435	0.0684434	-0.011529	0.2668358	-1.411389	0.3110308
hsa-miR-4436a	0.0344934	0.0277778	NA	-0.318088	0.4293152
hsa-miR-4436b-3p	0.0150463	0.0277778	NA	-0.366916	0.5164029
hsa-miR-4436b-5p	0.0490593	0.0555556	NA	0.0151125	0.1684598
hsa-miR-4437	-0.006366	0	-0.328536	-2.053714	0.5403887
hsa-miR-4438	-0.023148	-0.055556	0.0789442	-2.681334	0.3775591
hsa-miR-4440	-0.044112	-0.138889	0.7931187	-3.575897	-0.025985
hsa-miR-4443	-0.020679	-0.023058	0.1757935	-2.155591	0.5060154
hsa-miR-4444	0.0130208	0.0277778	NA	-0.386383	0.2599679
hsa-miR-4445	0.0298637	0.0277778	NA	-0.286232	0.4122629
hsa-miR-4445*	-0.113241	-0.083333	NA	-5.324624	0.3497813
hsa-miR-4446-5p	-0.034722	-0.083333	NA	-3.359804	0.4052918
hsa-miR-4447	0.0089024	-0.027778	0.5664498	-2.344074	0.3061761
hsa-miR-4448	-0.397088	-0.716759	-0.072575	-0.475198	-0.523331
hsa-miR-4449	0.0590504	0.0555556	NA	0.0284766	0.1684598

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-4450	-0.072917	-0.166667	NA	-4.230455	0.4033369
hsa-miR-4451	0.0365623	0.0555556	0.0005537	-1.427164	0.5846286
hsa-miR-4453	-0.071345	-0.083333	NA	-3.628066	0.3918373
hsa-miR-4454	0.5299787	0.3657071	0.6072522	0.3116171	0.4903995
hsa-miR-4455	0.0204805	0.0718045	-0.222079	-2.453953	0.4602286
hsa-miR-4456	0.0319384	0.0277778	NA	-0.325031	0.5568509
hsa-miR-4457	0.0319384	0.0277778	NA	-0.325031	0.550422
hsa-miR-4458	-0.034722	-0.083333	NA	-3.359804	0.4785903
hsa-miR-4459	0.1854844	0.143609	0.351906	-0.906231	0.2567121
hsa-miR-4460	-0.023148	-0.055556	0.2265132	-2.679985	0.5523736
hsa-miR-4461	-0.135292	-0.236383	0.1107995	-2.496846	0.3077933
hsa-miR-4462	0.0298637	0.0277778	NA	-0.286232	0.2711022
hsa-miR-4463	-0.056512	-0.055556	-0.458269	-2.923885	0.0573487
hsa-miR-4465	-0.043894	-0.055556	0.3630179	-2.89747	0.4330696
hsa-miR-4466	0.0775198	0.0833333	NA	0.227464	0.1962376
hsa-miR-4467	0.0104167	0.0277778	NA	-0.385619	0.3503374
hsa-miR-4469	-0.217063	-0.421885	0.1702581	-1.101464	-0.30898
hsa-miR-4470	0.0684789	0.0555556	NA	0.0325967	0.457093
hsa-miR-4471	0.0319384	0.0277778	NA	-0.325031	0.4813751
hsa-miR-4472	-0.406228	-0.506401	-0.10198	-2.225682	-0.048767
hsa-miR-4474-3p	-0.053039	-0.055556	-0.040504	-2.902302	0.514448
hsa-miR-4474-5p	0.0437639	0	0.5008936	-1.860726	0.4035885
hsa-miR-4475	-0.043403	-0.083333	NA	-3.506723	0.3011518
hsa-miR-4476	0.0736306	0.0555556	NA	0.024092	0.5441807
hsa-miR-4477a	0.0274506	0.0277778	NA	-0.32362	0.6357069
hsa-miR-4477b	0.0315998	0.0277778	NA	-0.323107	0.7252209
hsa-miR-4478	-0.18963	-0.25	NA	-5.847233	-0.137096
hsa-miR-4479	-0.080965	-0.055556	-0.386715	-4.37487	0.0573487
hsa-miR-448	-0.067578	-0.083333	NA	-3.594299	0.3011518
hsa-miR-4480	0.0115741	0.0277778	NA	-0.38794	0.4313663
hsa-miR-4481	0.0315998	0.0277778	NA	-0.305393	0.140682
hsa-miR-4482	0.0115741	0.0277778	NA	-0.386797	0.5977814
hsa-miR-4483	0.0424969	0.0555556	NA	-0.031032	0.3895095
hsa-miR-4484	0.0616773	0.0833333	NA	0.130456	0.3660694
hsa-miR-4485	0.0326939	-0.078613	0.3255464	-1.169353	0.2083693
hsa-miR-4486	-0.116095	-0.083333	NA	-5.331477	0.0295709
hsa-miR-4487	0.0460674	0.0555556	NA	-0.022767	0.1912905
hsa-miR-4488	-0.084038	-0.12264	0.1008189	-3.614176	-0.009736
hsa-miR-4489	0.0310211	0.0277778	NA	-0.286016	0.2229339
hsa-miR-4491	-0.027364	-0.048747	0.0166327	-2.146855	0.4738974

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-4492	0.0607752	0.0833333	NA	0.1436824	0.1962376
hsa-miR-4494	-0.025463	-0.055556	-0.078752	-2.811537	0.0573487
hsa-miR-4495	-0.023148	-0.055556	0.2956404	-2.792536	0.5067061
hsa-miR-4496	-0.032986	-0.055556	-0.179863	-2.859908	0.4330696
hsa-miR-4497	0.0454774	0.0833333	NA	0.1122373	0.1962376
hsa-miR-4498	0.0362295	0.0440267	0.3096749	-1.46759	0.156931
hsa-miR-449a	0.0349198	0.0277778	0.1454832	-1.686871	0.550422
hsa-miR-449b	0.0104167	0.0277778	NA	-0.385619	0.5977814
hsa-miR-449b*	-0.0872	-0.027778	-1.095068	-3.949785	0.2947818
hsa-miR-449c	-0.117941	-0.222222	0.2799937	-3.18797	0.3249659
hsa-miR-4500	-0.039931	-0.083333	NA	-3.488777	0.4081746
hsa-miR-4502	0.0104167	0.0277778	NA	-0.385619	0.5977814
hsa-miR-4504	-0.15673	-0.138889	0.0518323	-5.210797	0.3147084
hsa-miR-4506	0.0319384	0.0277778	NA	-0.325031	0.5977814
hsa-miR-4507	0.0234375	0.0555556	NA	-0.123039	0.1684598
hsa-miR-4508	-0.039407	-0.039307	0.0581865	-2.739939	0.0735977
hsa-miR-4509	-0.038222	-0.055556	0.2389003	-2.822814	0.6418876
hsa-miR-450a	-0.178292	-0.517225	0.0109862	-0.367023	0.1001411
hsa-miR-450b-5p	-0.522318	-0.848669	-0.193395	-0.645156	-0.144101
hsa-miR-451	0.5868775	0.0734659	0.3319998	0.5072019	0.4804585
hsa-miR-4510	0.0182254	0.0110762	0.2275829	-1.307784	0.5337205
hsa-miR-4511	0.074195	0.0833333	NA	0.3056362	0.6059776
hsa-miR-4512	-0.020495	-0.055556	0.3203645	-2.792767	0.0573487
hsa-miR-4515	0.0274506	0.0277778	NA	-0.32362	0.140682
hsa-miR-4516	-0.090054	-0.027778	-1.089538	-3.954389	0.0851265
hsa-miR-4517	-0.064367	-0.178195	0.3005067	-3.332027	0.2879307
hsa-miR-4518	0.0067651	-0.027778	0.2900251	-2.278006	0.5422258
hsa-miR-451b	0.1786183	0.1551378	NA	0.930609	0.6087352
hsa-miR-452	0.0636459	-0.117699	-0.0447	-0.208554	0.2667862
hsa-miR-452*	0.0104167	0.0277778	NA	-0.385619	0.4122629
hsa-miR-4520a-3p	0.0144676	0.0277778	NA	-0.383929	0.550422
hsa-miR-4520a-5p	0.0150463	0.0277778	NA	-0.366916	0.5977814
hsa-miR-4521	0.1732645	0.159858	0.4642998	-1.088099	0.6484831
hsa-miR-4522	0.0814137	0.0833333	NA	0.2539003	0.2784894
hsa-miR-4523	0.0198952	-0.027778	0.4886345	-2.148108	0.0851265
hsa-miR-4524	0.1050534	-0.086049	0.1602281	0.190366	0.4516113
hsa-miR-4524*	-0.074333	-0.262903	0.1984862	-1.526457	0.2566181
hsa-miR-4525	0.1088211	-0.023555	0.7893166	-1.694814	0.1716006
hsa-miR-4527	0.0144676	0.0277778	NA	-0.383929	0.550422
hsa-miR-4528	-0.043403	-0.083333	NA	-3.506723	0.5245958

**Table S1** (continued)



**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-4529-3p	0.0411136	0.0277778	NA	-0.359298	0.4293152
hsa-miR-4529-5p	0.0322769	0.0277778	NA	-0.319572	0.5977814
hsa-miR-4531	0.0827886	0.0718045	0.237855	-1.190757	0.629449
hsa-miR-4532	-0.016487	-0.104302	0.3449649	-2.403745	0.0086018
hsa-miR-4534	0.0344934	0.0277778	NA	-0.318088	0.140682
hsa-miR-4535	-0.043403	-0.083333	NA	-3.506723	0.0295709
hsa-miR-4536	0.0054059	-0.055556	1.1785162	-2.61963	0.3480329
hsa-miR-4537	-0.028356	-0.055556	-0.082242	-2.815926	0.267004
hsa-miR-4538	0.0511477	0.0555556	NA	-0.084917	0.3781152
hsa-miR-4539	0.111026	0.1388889	NA	0.5825485	0.2517932
hsa-miR-454	0.1511154	-0.194649	0.1599103	0.2404923	0.3026872
hsa-miR-454*	-0.095785	-0.166667	0.3107382	-2.779801	0.2178185
hsa-miR-4540	0.0310211	0.0440267	NA	-0.383091	0.4771414
hsa-miR-455-3p	0.3312001	-0.043172	0.2327884	0.3933114	0.5489562
hsa-miR-455-5p	0.0576105	-0.41982	0.0454911	0.009707	0.1373673
hsa-miR-4632	-0.076389	-0.166667	NA	-4.244403	-0.053762
hsa-miR-4633-5p	0.0115741	0.0277778	NA	-0.386914	0.5029484
hsa-miR-4634	-0.059682	-0.299378	0.1762643	-1.005283	-0.174272
hsa-miR-4635	-0.14507	-0.138889	-0.660648	-5.205678	0.4259472
hsa-miR-4636	0.0592414	0.0718045	0.3292885	-1.277901	0.4562897
hsa-miR-4638-3p	-0.078748	-0.067084	-0.090732	-2.931304	0.0458199
hsa-miR-4638-5p	0.0104167	0.0277778	NA	-0.385619	0.2229339
hsa-miR-4639-3p	-0.043403	-0.083333	NA	-3.531009	0.4866703
hsa-miR-4640-3p	0.0167824	0.0277778	NA	-0.363828	0.140682
hsa-miR-4640-5p	0.0482407	0.0440267	NA	-0.287719	0.156931
hsa-miR-4641	-0.034722	-0.083333	NA	-3.359804	0.4866703
hsa-miR-4642	0.0435124	0.0555556	NA	-0.053006	0.1684598
hsa-miR-4643	-0.031829	-0.055556	-0.32441	-2.850786	0.3980418
hsa-miR-4644	-0.083378	-0.055556	-0.370555	-4.394419	0.3993475
hsa-miR-4645-3p	0.0915145	0.0995823	0.2111451	-1.061598	0.6222266
hsa-miR-4645-5p	0.0115741	0.0277778	NA	-0.386914	0.4657355
hsa-miR-4646-3p	0.0322769	0.0277778	NA	-0.278608	0.4293152
hsa-miR-4646-5p	0.0505597	-0.017387	0.1755793	-1.76262	0.3015767
hsa-miR-4647	-0.043403	-0.083333	NA	-3.506723	0.4608426
hsa-miR-4649-3p	-0.116095	-0.083333	NA	-5.331477	0.0295709
hsa-miR-4649-5p	-0.108524	-0.166667	NA	-4.440626	-0.053762
hsa-miR-4650-5p	0.0245949	0.0555556	NA	-0.124624	0.6174792
hsa-miR-4651	-0.032986	-0.083333	NA	-3.344104	0.0295709
hsa-miR-4652-3p	-0.093853	-0.083333	0.0801329	-4.202335	0.4866703
hsa-miR-4653-3p	0.062621	0.0555556	NA	0.0660074	0.6224336

**Table S1** (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-4653-5p	-0.1282	-0.222222	0.2797584	-4.123969	0.3477814
hsa-miR-4654	0.0115741	0.0277778	NA	-0.386914	0.3503374
hsa-miR-4655-3p	0.0260417	0.0555556	NA	-0.121878	0.1684598
hsa-miR-4655-5p	0.0115741	0.0277778	NA	-0.38794	0.140682
hsa-miR-4656	-0.058903	-0.055556	-0.658878	-2.964926	0.0573487
hsa-miR-4657	0.0185185	0.0277778	NA	-0.366171	0.5946559
hsa-miR-4658	-0.011464	-0.055556	0.6211488	-2.788408	0.4886204
hsa-miR-4659a-5p	0.0483709	0.0833333	NA	0.1286423	0.4678185
hsa-miR-4659b-3p	0.0513741	0.0555556	NA	-0.029433	0.4400407
hsa-miR-4659b-5p	0.0322769	0.0277778	NA	-0.266595	0.4657355
hsa-miR-466	-0.031829	-0.055556	-0.264856	-2.861328	0.3297738
hsa-miR-4660	-0.031829	-0.055556	-0.394505	-2.851226	0.4886204
hsa-miR-4661-3p	-0.043403	-0.083333	NA	-3.531009	0.4052918
hsa-miR-4661-5p	0.0661424	0.0833333	0.0408787	-1.124633	0.6533369
hsa-miR-4662a-3p	0.0315394	0.0555556	NA	-0.103727	0.7529987
hsa-miR-4662a-5p	-0.355722	-0.517387	0.1074692	-1.093599	-0.06379
hsa-miR-4662b	0.0845121	0.0995823	0.1478678	-1.140356	0.7075114
hsa-miR-4663	0.0411136	0.0277778	NA	-0.358876	0.382197
hsa-miR-4664-3p	0.0150463	0.0277778	NA	-0.366916	0.140682
hsa-miR-4664-5p	0.0104167	0.0277778	NA	-0.385619	0.140682
hsa-miR-4665-3p	-0.281437	-0.380444	-0.061776	-2.192534	-0.26754
hsa-miR-4665-5p	-0.028356	-0.055556	-0.299906	-2.817713	0.0573487
hsa-miR-4666-3p	0.0784597	0.1111111	NA	0.3311827	0.7870051
hsa-miR-4667-3p	-0.116095	-0.083333	NA	-5.331477	0.1118227
hsa-miR-4667-5p	-0.187911	-0.194444	-0.600189	-4.824511	0.1281152
hsa-miR-4668-3p	0.0435124	0.0555556	NA	-0.053006	0.6962369
hsa-miR-4668-5p	0.0753341	0.0277778	0.6010855	-1.453515	0.6684591
hsa-miR-4669	0.0390246	0.0555556	NA	-0.051783	0.1684598
hsa-miR-4670-3p	0.0185185	0.0277778	NA	-0.366171	0.4122629
hsa-miR-4670-5p	-0.054126	-0.055556	-0.363846	-2.940601	0.3289296
hsa-miR-4671-3p	0.0283565	0.0555556	NA	-0.100608	0.4591441
hsa-miR-4671-5p	-0.071345	-0.083333	NA	-3.628066	0.4866703
hsa-miR-4672	-0.103653	-0.055556	-1.234792	-4.506484	0.4848332
hsa-miR-4673	0.0130208	0.0277778	NA	-0.386383	0.140682
hsa-miR-4674	0.0411136	0.0277778	NA	-0.359298	0.140682
hsa-miR-4676-3p	0.0089024	-0.027778	0.4864659	-2.358133	0.5422258
hsa-miR-4676-5p	0.1219447	0.1273601	NA	0.4412563	0.5288975
hsa-miR-4677-3p	-0.295758	-0.44072	0.0229842	-1.349873	-0.056235
hsa-miR-4677-5p	-0.037714	-0.055556	0.2168515	-2.825622	0.3289296
hsa-miR-4679	0.0409045	0	0.484018	-1.887063	0.4535973

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-4680-3p	-0.239887	-0.243191	-0.140372	-4.930906	0.4327027
hsa-miR-4680-5p	-0.123067	-0.461295	-0.40849	-0.736108	-0.071896
hsa-miR-4681	-0.149081	-0.166667	NA	-5.712373	0.4033369
hsa-miR-4682	-0.072053	-0.027778	-0.692765	-3.851027	0.3967033
hsa-miR-4683	0.0026042	0	0.1183375	-1.850011	0.2433244
hsa-miR-4684-3p	0.0614636	0.0555556	NA	0.0834675	0.5441807
hsa-miR-4685-3p	-0.070313	-0.138889	-0.260958	-3.771813	-0.025985
hsa-miR-4685-5p	0.0124421	0.0277778	NA	-0.390153	0.140682
hsa-miR-4686	-0.512813	-0.584517	-0.176604	-2.545577	-0.017639
hsa-miR-4687-3p	-0.073246	-0.076525	-0.391208	-2.602086	0.0363796
hsa-miR-4687-5p	-0.027569	-0.067084	0.3489854	-3.096615	0.0458199
hsa-miR-4688	0.0130208	0.0277778	NA	-0.386383	0.140682
hsa-miR-4689	0.0240162	0.0555556	NA	-0.128016	0.1684598
hsa-miR-4690-3p	0.0397273	-0.027778	1.3198033	-2.065349	0.0851265
hsa-miR-4692	0.0706245	0.0833333	NA	0.2529339	0.6533369
hsa-miR-4693-3p	0.0260417	0.0555556	NA	-0.120527	0.56589
hsa-miR-4693-5p	0.0310211	0.0277778	NA	-0.314959	0.5381122
hsa-miR-4694-3p	-0.043403	-0.083333	NA	-3.531009	0.3497813
hsa-miR-4694-5p	0.0638767	0.0555556	NA	0.0734056	0.4400407
hsa-miR-4695-3p	-0.043562	-0.027778	-0.652337	-2.479704	0.2947818
hsa-miR-4695-5p	0.0886626	0.1111111	NA	0.4448321	0.2240154
hsa-miR-4697-3p	0.0115741	0.0277778	NA	-0.386914	0.382197
hsa-miR-4697-5p	-0.139431	-0.166667	NA	-4.531253	-0.053762
hsa-miR-4699-3p	0.0332489	0.0277778	0.2195666	-1.565731	0.4813751
hsa-miR-4700-3p	0.1653979	0.2154135	NA	0.7671475	0.4277397
hsa-miR-4700-5p	0.0315998	0.0277778	NA	-0.323107	0.5164029
hsa-miR-4701-5p	-0.04865	-0.055556	0.0051244	-2.899261	0.267004
hsa-miR-4703-3p	-0.101072	-0.138889	-0.279808	-3.853139	0.3147084
hsa-miR-4705	-0.164009	-0.159858	-0.79504	-3.574582	0.2937393
hsa-miR-4707-3p	-0.024609	-0.020969	-0.093005	-1.981027	0.0919352
hsa-miR-4707-5p	0.0849502	0.1273601	NA	0.3692811	0.2402643
hsa-miR-4709-3p	0.0488087	0.0555556	NA	-0.068602	0.5997315
hsa-miR-4709-5p	0.079305	0.1273601	NA	0.3684751	0.6500043
hsa-miR-4711-3p	0.0194357	0.0277778	NA	-0.364046	0.5977814
hsa-miR-4711-5p	-0.043403	-0.083333	NA	-3.506723	0.4608426
hsa-miR-4712-3p	0.0269097	0.0555556	NA	-0.122759	0.4591441
hsa-miR-4712-5p	-0.043403	-0.083333	NA	-3.531009	0.4393109
hsa-miR-4713-5p	0.0167824	0.0277778	NA	-0.363828	0.3503374
hsa-miR-4714-5p	0.0780985	0.0833333	NA	0.2316138	0.6059776
hsa-miR-4715-3p	0.1425047	0.1991646	NA	0.7639835	0.7433405

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-4716-5p	-0.002672	-0.055556	1.0672985	-2.807931	0.514448
hsa-miR-4717-3p	0.0185185	0.0277778	NA	-0.366171	0.2229339
hsa-miR-4718	0.0482407	0.0277778	NA	-0.364627	0.5926139
hsa-miR-4719	-0.015046	-0.027778	-0.002791	-2.382313	0.5801513
hsa-miR-4720-5p	-0.052827	-0.055556	-0.021817	-2.938989	0.3980418
hsa-miR-4721	-0.043403	-0.083333	NA	-3.506723	0.0295709
hsa-miR-4722-3p	0.0310211	0.0277778	NA	-0.314959	0.140682
hsa-miR-4722-5p	-0.071351	-0.13208	-0.156976	-2.869031	-0.019176
hsa-miR-4724-3p	0.0240162	0.0555556	NA	-0.126783	0.6203917
hsa-miR-4724-5p	0.1811591	0.2222222	NA	0.9658522	0.7726786
hsa-miR-4725-3p	0.0115741	0.0277778	NA	-0.387198	0.140682
hsa-miR-4725-5p	-0.044451	-0.138889	0.8034827	-3.589336	-0.025985
hsa-miR-4726-3p	0.0322769	0.0277778	NA	-0.319572	0.140682
hsa-miR-4726-5p	-0.000906	-0.027778	0.3763142	-2.312656	0.0851265
hsa-miR-4727-3p	-0.005945	-0.055556	0.6573219	-2.776177	0.514448
hsa-miR-4727-5p	0.0104167	0.0277778	NA	-0.385619	0.4293152
hsa-miR-4728-3p	-0.002025	-0.027778	0.3560589	-2.183653	0.0851265
hsa-miR-4728-5p	0.0115741	0.0277778	NA	-0.386797	0.140682
hsa-miR-4729	0.0745336	0.0833333	NA	0.2593489	0.5369306
hsa-miR-4730	0.0115741	0.0277778	NA	-0.38794	0.140682
hsa-miR-4732-3p	-0.055784	-0.138889	0.3567256	-3.696491	0.0562672
hsa-miR-4733-3p	0.0905406	0.1273601	NA	0.3237734	0.6159852
hsa-miR-4733-5p	0.0115741	0.0277778	NA	-0.387198	0.5164029
hsa-miR-4734	0.0124421	0.0277778	NA	-0.390153	0.140682
hsa-miR-4735-3p	-0.032986	-0.083333	NA	-3.344104	0.4789283
hsa-miR-4735-5p	-0.056004	-0.055556	-0.637195	-2.927004	0.3289296
hsa-miR-4736	-0.159498	-0.166667	NA	-5.907907	0.2055604
hsa-miR-4737	-0.018519	-0.055556	0.254245	-2.65884	0.4196151
hsa-miR-4738-3p	-0.116046	-0.083333	-0.567303	-4.226998	0.2392263
hsa-miR-4738-5p	0.0130208	0.0277778	NA	-0.386383	0.550422
hsa-miR-4739	0.0480002	0.0718045	0.062876	-1.41128	0.1847088
hsa-miR-4740-3p	-0.043403	-0.083333	NA	-3.520975	0.0295709
hsa-miR-4740-5p	-0.116095	-0.083333	NA	-5.331477	0.0295709
hsa-miR-4741	-0.076695	-0.111111	0.0624108	-3.248081	0.0017932
hsa-miR-4742-3p	0.0866328	0.0555556	NA	-0.031914	0.6224336
hsa-miR-4742-5p	-0.058177	-0.055556	-0.343131	-2.945042	0.3297738
hsa-miR-4743	-0.039931	-0.083333	NA	-3.488777	0.0295709
hsa-miR-4745-3p	0.0438509	0.0555556	NA	0.0027933	0.1684598
hsa-miR-4745-5p	0.060535	0.0833333	NA	0.2210188	0.1962376
hsa-miR-4746-3p	-0.039931	-0.083333	NA	-3.488777	0.0295709

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-4746-5p	0.0831947	0.0995823	NA	0.1920683	0.2124866
hsa-miR-4747-5p	0.0124421	0.0277778	NA	-0.390153	0.5164029
hsa-miR-4748	-0.031829	-0.055556	-0.204069	-2.859853	0.4848332
hsa-miR-4749-3p	0.0958037	0.1111111	NA	0.4915607	0.2240154
hsa-miR-4749-5p	-0.043403	-0.083333	NA	-3.531009	0.0295709
hsa-miR-4750	-0.053819	-0.111111	0.0607168	-3.27773	0.0017932
hsa-miR-4751	0.0094569	-0.027778	0.3343421	-2.346879	0.3266415
hsa-miR-4753-5p	0.0124421	0.0277778	NA	-0.390153	0.5977814
hsa-miR-4754	-0.068086	-0.083333	NA	-3.591571	0.1599911
hsa-miR-4755-3p	0.0144676	0.0277778	NA	-0.381549	0.5164029
hsa-miR-4755-5p	-0.043403	-0.083333	NA	-3.520975	0.4866703
hsa-miR-4756-5p	0.0194357	0.0277778	NA	-0.364046	0.140682
hsa-miR-4757-3p	0.0167824	0.0277778	NA	-0.363828	0.3503374
hsa-miR-4757-5p	0.0144676	0.0277778	NA	-0.381549	0.2711022
hsa-miR-4758-3p	0.0026042	0	0.0775967	-1.849191	0.1129043
hsa-miR-4758-5p	0.3672248	0.1670404	0.2789799	-0.45453	0.2802974
hsa-miR-4760-3p	-0.067578	-0.083333	NA	-3.594299	0.6141098
hsa-miR-4760-5p	0.0144676	0.0277778	NA	-0.383929	0.7252209
hsa-miR-4762-3p	0.0322769	0.0277778	NA	-0.278608	0.4122629
hsa-miR-4762-5p	-0.086806	-0.166667	NA	-4.383236	0.266448
hsa-miR-4763-3p	0.0115741	0.0277778	NA	-0.386914	0.140682
hsa-miR-4763-5p	-0.023946	0	-0.166606	-3.371949	0.1129043
hsa-miR-4764-3p	0.0534384	0.0555556	NA	-0.049208	0.5781998
hsa-miR-4766-3p	0.039098	0.0440267	NA	-0.363096	0.6062884
hsa-miR-4767	-0.118972	-0.261529	0.4873626	-3.733576	-0.148625
hsa-miR-4768-3p	0.1142693	0.1111111	NA	0.5057865	0.6811147
hsa-miR-4768-5p	-0.039931	-0.083333	NA	-3.488777	0.4393109
hsa-miR-4769-5p	0.0274506	0.0277778	NA	-0.32362	0.5269698
hsa-miR-4770	0.0696026	-0.011529	0.1290602	-1.334139	0.4782407
hsa-miR-4771	0.1219491	0.0833333	NA	0.2693732	0.4869218
hsa-miR-4772-3p	0.0130208	0.0277778	NA	-0.386383	0.5977814
hsa-miR-4772-5p	-0.071716	-0.12264	0.3480714	-3.470208	0.2618452
hsa-miR-4773	0.0414378	0.0555556	NA	-0.014526	0.6255592
hsa-miR-4774-3p	0.0115741	0.0277778	NA	-0.385569	0.4608924
hsa-miR-4775	0.1110061	0.0602757	0.1138599	-0.880259	0.7577188
hsa-miR-4776-3p	0.0629595	0.0555556	NA	0.0351982	0.4800366
hsa-miR-4777-3p	0.001825	-0.027778	0.6796226	-2.35886	0.4258195
hsa-miR-4778-5p	0.0130208	0.0277778	NA	-0.386383	0.4813751
hsa-miR-4781-3p	-0.023148	-0.055556	0.0088493	-2.681775	0.4670887
hsa-miR-4782-3p	-0.043403	-0.083333	NA	-3.531009	0.5245958

Table S1 (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-4782-5p	-0.116095	-0.083333	NA	-5.331477	0.5245958
hsa-miR-4783-3p	0.0696421	0.0833333	NA	0.1761045	0.1962376
hsa-miR-4783-5p	0.0124421	0.0277778	NA	-0.390153	0.140682
hsa-miR-4784	0.0115741	0.0277778	NA	-0.386797	0.5029484
hsa-miR-4785	0.0874206	-0.027778	0.8675965	-1.81364	0.0851265
hsa-miR-4786-3p	-0.067578	-0.083333	NA	-3.594299	0.0295709
hsa-miR-4786-5p	0.0220021	0.0277778	-0.005186	-1.668748	0.3503374
hsa-miR-4787-3p	0.0185185	0.0277778	NA	-0.366171	0.140682
hsa-miR-4787-5p	0.0340301	-0.094862	0.5532208	-2.089086	0.0180421
hsa-miR-4788	-0.068086	-0.083333	NA	-3.591571	0.2392263
hsa-miR-4789-3p	-0.056473	-0.111111	0.3531887	-3.248991	0.2924774
hsa-miR-4790-5p	0.0228588	0.0555556	NA	-0.126833	0.5578728
hsa-miR-4791	0.0315998	0.0277778	NA	-0.305393	0.5900394
hsa-miR-4792	-0.311649	-0.55888	-0.241871	-1.587209	-0.47006
hsa-miR-4793-3p	0.1547297	0.1829156	NA	0.8556909	0.6073967
hsa-miR-4793-5p	0.0468863	0.0555556	NA	-0.028087	0.2225887
hsa-miR-4796-3p	-0.029404	-0.094862	0.3029339	-2.958417	0.289623
hsa-miR-4796-5p	-0.013574	-0.083333	0.5466183	-2.779655	0.370264
hsa-miR-4797-3p	0.0404714	0.0555556	NA	-0.051226	0.6203917
hsa-miR-4797-5p	0.0115741	0.0277778	NA	-0.386914	0.5926139
hsa-miR-4798-3p	0.0524219	0.0833333	NA	0.1303402	0.4678185
hsa-miR-4798-5p	0.0605493	0.0555556	NA	-0.062107	0.5091529
hsa-miR-4800-3p	-0.185633	-0.333333	NA	-4.856617	-0.197598
hsa-miR-4800-5p	0.0144676	0.0277778	NA	-0.381549	0.4293152
hsa-miR-4801	0.0318779	0.0555556	NA	-0.105435	0.4400407
hsa-miR-4802-3p	0.0763075	0.1111111	NA	0.4049278	0.5660141
hsa-miR-4802-5p	0.0693365	0.0555556	0.3301979	-1.141665	0.4400407
hsa-miR-4803	0.0144676	0.0277778	NA	-0.383929	0.7036718
hsa-miR-4804-3p	0.1121174	0.0833333	NA	0.3094717	0.6481694
hsa-miR-483-3p	-0.428781	-0.775439	-0.136092	-0.612405	-0.406413
hsa-miR-483-5p	0.237497	-0.196277	0.2010019	0.1049478	0.3180541
hsa-miR-484	-0.118867	-0.5057	-0.021258	-0.097396	-0.295472
hsa-miR-485-3p	0.0441247	-0.176107	0.4203006	-1.155332	0.3134204
hsa-miR-485-5p	-0.109378	-0.220134	0.1522206	-2.554777	0.2684915
hsa-miR-486-3p	0.5496282	0.1986037	0.2846182	0.4149049	0.4301644
hsa-miR-486-5p	0.4103474	-0.06194	0.2458513	0.3714402	0.0304434
hsa-miR-487a	-0.126458	-0.282498	0.2734155	-2.168643	0.1019872
hsa-miR-487b	0.1402649	-0.19936	0.159647	0.218952	0.3232845
hsa-miR-488	0.169578	0.0602757	0.5495225	-0.8774	0.4638642
hsa-miR-488*	-0.007654	-0.055556	0.5379802	-2.696747	0.5092805

Table S1 (continued)



Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-489	-0.086316	-0.217502	0.4085636	-2.524403	0.3525015
hsa-miR-490-3p	0.15246	-0.105307	0.190766	-0.106808	0.2173968
hsa-miR-490-5p	-0.062211	-0.111111	-0.233161	-3.320963	0.1716249
hsa-miR-491-3p	-0.024884	-0.055556	0.2747358	-2.79581	0.3289296
hsa-miR-491-5p	-0.046941	-0.150418	0.5238712	-2.594306	0.1721419
hsa-miR-493	0.1701681	-0.019973	0.4055328	0.1221143	0.4686517
hsa-miR-493*	-0.268276	-0.498099	0.0538837	-0.764855	-0.044502
hsa-miR-494	0.3763589	0.2987469	0.2536635	-0.880536	0.8213911
hsa-miR-495	0.347212	0.2237747	0.1058111	-0.256204	0.677372
hsa-miR-496	-0.031829	-0.055556	-0.172774	-2.8361	0.3289296
hsa-miR-497	-0.021257	-0.415722	0.0631056	-0.009349	0.1654603
hsa-miR-497*	-0.073645	-0.155138	0.2676485	-2.011445	0.3675064
hsa-miR-498	-0.02549	-0.027778	0.0176487	-2.391172	0.5163981
hsa-miR-499-3p	-0.071345	-0.083333	NA	-3.628066	0.4393109
hsa-miR-499-5p	-0.372477	-0.561317	0.1544204	-1.542083	0.000945
hsa-miR-499a-3p	-0.128069	-0.187636	0.0764092	-3.713896	0.2659615
hsa-miR-499a-5p	-0.067578	-0.083333	NA	-3.594299	0.3497813
hsa-miR-500a	0.0073795	-0.140525	0.2287445	-0.820081	0.4263533
hsa-miR-500a*	-0.161325	-0.524268	-0.036066	-0.13406	-0.064148
hsa-miR-500b	0.0638792	0.0833333	NA	0.1313386	0.6533369
hsa-miR-501-3p	0.2668695	-0.108837	0.1725877	0.5232124	0.3797886
hsa-miR-501-5p	0.0080166	-0.023058	0.1590557	-2.134731	0.546946
hsa-miR-502-3p	-0.345038	-0.461254	0.0871194	-0.793006	0.1087493
hsa-miR-502-5p	0.0115741	0.0277778	NA	-0.38794	0.5926139
hsa-miR-503	0.108343	-0.074843	0.4871869	-0.686113	0.3466249
hsa-miR-504	-0.121395	-0.088053	-0.263234	-3.335228	0.4005717
hsa-miR-5047	0.0150463	0.0277778	NA	-0.366916	0.5681665
hsa-miR-505	-0.184227	-0.587645	-0.051813	-0.199742	-0.038427
hsa-miR-505*	-0.118247	-0.171387	-0.09268	-2.134136	0.3986168
hsa-miR-506	0.0411136	0.0277778	NA	-0.358876	0.5926139
hsa-miR-507	0.0274506	0.0277778	NA	-0.32362	0.4313663
hsa-miR-508-3p	0.1298249	0.1551378	NA	0.5238108	0.5404672
hsa-miR-508-5p	0.0920917	0.0833333	NA	0.2155315	0.5112175
hsa-miR-509-3-5p	0.0699039	0.0555556	NA	0.0639863	0.6255592
hsa-miR-509-3p	0.048604	0.016249	0.7510356	-1.694271	0.5862526
hsa-miR-509-5p	0.0322769	0.0277778	NA	-0.319572	0.5926139
hsa-miR-5095	-0.032876	-0.111111	0.5114915	-3.094952	0.084045
hsa-miR-5096	0.1838388	0.1944444	0.4266697	-0.30531	0.7368484
hsa-miR-510	0.0721347	0.0555556	NA	0.0014605	0.6255592
hsa-miR-511	0.1388896	0.0487469	0.3225793	-0.834566	0.613583

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-512-3p	0.0150463	0.0277778	NA	-0.366916	0.5977814
hsa-miR-513a-3p	0.0124421	0.0277778	NA	-0.390153	0.5381122
hsa-miR-513a-5p	0.0268719	0.0440267	NA	-0.379674	0.6140303
hsa-miR-513b	-0.071345	-0.083333	NA	-3.628066	0.370264
hsa-miR-514	-0.071345	-0.083333	NA	-3.628066	0.3202552
hsa-miR-515-3p	-0.008102	-0.027778	0.4160154	-2.197152	0.5422258
hsa-miR-516a-3p	0.0115741	0.0277778	NA	-0.386914	0.5977814
hsa-miR-516a-5p	-0.068593	-0.083333	NA	-3.61354	0.3715697
hsa-miR-516b	0.0315998	0.0277778	NA	-0.323107	0.4122629
hsa-miR-516b*	0.0704184	0.0555556	NA	0.0115141	0.6255592
hsa-miR-517a	-0.039931	-0.083333	NA	-3.488777	0.4393109
hsa-miR-517b	-0.032986	-0.083333	NA	-3.344104	0.4393109
hsa-miR-518a-3p	0.0124421	0.0277778	NA	-0.390153	0.5164029
hsa-miR-518c	0.0115741	0.0277778	NA	-0.385569	0.4826808
hsa-miR-518d-3p	0.0004482	-0.027778	0.2107768	-2.331151	0.3737597
hsa-miR-518f*	-0.032986	-0.083333	NA	-3.344104	0.4866703
hsa-miR-519a	0.0510356	0.0555556	NA	-0.010691	0.5091529
hsa-miR-519b-5p	0.0315998	0.0277778	NA	-0.323107	0.5164029
hsa-miR-519c-3p	0.2326874	0.1043024	1.0079149	-1.28423	0.7101397
hsa-miR-520a-3p	0.0115741	0.0277778	NA	-0.38794	0.550422
hsa-miR-520a-5p	-0.034722	-0.083333	NA	-3.359804	0.4815028
hsa-miR-520b	0.0167824	0.0277778	NA	-0.363828	0.4608924
hsa-miR-520c-3p	-0.043403	-0.083333	NA	-3.520975	0.3011518
hsa-miR-520c-5p	0.0185185	0.0277778	NA	-0.366171	0.5977814
hsa-miR-520d-3p	-0.059771	-0.055556	-0.41077	-2.959885	0.4670887
hsa-miR-520d-5p	0.0473232	0.0555556	NA	-0.027169	0.6255592
hsa-miR-522	0.0115741	0.0277778	NA	-0.386914	0.4813751
hsa-miR-522*	-0.116095	-0.083333	NA	-5.331477	0.4052918
hsa-miR-523	0.0104167	0.0277778	NA	-0.385619	0.4522588
hsa-miR-523*	0.0460674	0.0555556	NA	-0.022767	0.5441807
hsa-miR-524-3p	0.0150463	0.0277778	NA	-0.366916	0.4293152
hsa-miR-524-5p	0.0460674	0.0555556	NA	0.0036082	0.5781998
hsa-miR-525-3p	-0.039931	-0.083333	NA	-3.488777	0.2392263
hsa-miR-526b	-0.039931	-0.083333	NA	-3.488777	0.4835448
hsa-miR-532-3p	-0.143004	-0.330897	0.1485676	-0.382009	-0.217993
hsa-miR-532-5p	-0.013915	-0.452953	0.0267984	-0.039106	0.0750858
hsa-miR-539	-0.069418	-0.076525	-0.167854	-2.438458	0.3079605
hsa-miR-541	-0.069729	-0.027778	-0.629185	-3.880904	0.4608474
hsa-miR-541*	0.0144676	0.0277778	NA	-0.381549	0.5749659
hsa-miR-542-3p	-0.183816	-0.534343	-0.045226	-0.231198	0.0802273

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-542-5p	0.0657411	-0.10008	0.1522451	-0.5997	0.4440958
hsa-miR-543	-0.048555	-0.143609	0.320613	-2.284821	0.3790352
hsa-miR-544	0.0595582	0.0277778	0.416003	-1.529446	0.6357069
hsa-miR-545	0.0672157	0.0277778	0.8113335	-1.386198	0.4813751
hsa-miR-545*	-0.068036	-0.138889	-0.006278	-3.039344	0.5585542
hsa-miR-548a-3p	-0.002672	-0.055556	0.9752169	-2.833165	0.3980418
hsa-miR-548a-5p	0.0115741	0.0277778	NA	-0.386914	0.6357069
hsa-miR-548aa	0.1184972	0.0602757	0.3951596	-1.094859	0.663322
hsa-miR-548ab	0.0491415	0.0718045	-0.086893	-1.28455	0.7692476
hsa-miR-548ac	-0.197228	-0.13208	NA	-5.286549	0.3215171
hsa-miR-548ae	-0.022561	-0.048747	0.1068986	-2.20722	0.6271471
hsa-miR-548ag	-0.096442	-0.138889	-0.309242	-3.820618	0.2646996
hsa-miR-548ah	0.0125556	-0.067582	0.2641979	-1.68091	0.434735
hsa-miR-548ai	0.0245949	0.0555556	NA	-0.124339	0.5091529
hsa-miR-548aj	0.0438509	0.0555556	NA	-0.04651	0.7529987
hsa-miR-548ak	-0.032986	-0.083333	NA	-3.344104	0.4789283
hsa-miR-548al	0.0194977	-0.027778	0.7749356	-2.402778	0.3567074
hsa-miR-548am	-0.217442	-0.429831	-0.028501	-0.922607	0.1780977
hsa-miR-548an	-0.012375	-0.099582	0.335876	-1.969678	0.402735
hsa-miR-548b-3p	0.1054323	0.0508354	0.2849752	-1.291054	0.4353206
hsa-miR-548b-5p	-0.089448	-0.159858	-0.006087	-2.393573	0.2937393
hsa-miR-548c-3p	-0.034973	-0.104302	0.4056465	-2.658221	0.5931407
hsa-miR-548c-5p	0.1637847	0.1388889	0.0307547	-1.172653	0.5924862
hsa-miR-548d-3p	0.0104621	-0.027778	0.6197017	-2.322449	0.4258195
hsa-miR-548d-5p	0.2115674	0.0576893	0.6401217	-0.775988	0.6656184
hsa-miR-548e	-0.184996	-0.357067	0.0189835	-1.272956	0.2508618
hsa-miR-548f	0.0671552	0.0833333	NA	0.1337136	0.7807765
hsa-miR-548g	-0.191242	-0.155636	-0.166308	-2.765477	0.5418074
hsa-miR-548h	0.0277612	-0.055556	0.2382767	-1.319206	0.3980418
hsa-miR-548i	-0.005208	0	-0.120408	-2.029342	0.4535973
hsa-miR-548j	0.0122038	-0.027778	0.1665081	-2.007953	0.4258195
hsa-miR-548k	0.1836966	-0.000507	0.0892118	-0.214483	0.4530903
hsa-miR-548l	0.0918802	0.0277778	0.8215901	-1.538992	0.4813751
hsa-miR-548m	-0.066191	-0.111111	-0.013015	-3.27446	0.4511505
hsa-miR-548n	-0.08037	-0.143609	0.2245445	-2.92283	0.5538341
hsa-miR-548o	-0.255177	-0.511931	-0.04697	-0.398904	-0.127446
hsa-miR-548p	0.0523051	0.0555556	NA	-0.086152	0.6634847
hsa-miR-548q	-0.193301	-0.318766	0.0452572	-1.502967	0.1698596
hsa-miR-548s	0.0332546	0.016249	0.109884	-1.823905	0.5265834
hsa-miR-548t	-0.063483	-0.150418	0.1909745	-1.951826	0.2531708

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-548u	-0.119968	-0.236383	0.0116027	-1.305061	0.1489467
hsa-miR-548v	0.0473232	0.0555556	NA	0.0119441	0.4400407
hsa-miR-548w	-0.185828	-0.238471	-0.127739	-3.205785	0.1468582
hsa-miR-548x	0.0167824	0.0277778	NA	-0.363828	0.7252209
hsa-miR-548y	0.0477922	0.0833333	NA	0.1285661	0.6912624
hsa-miR-548z	0.2923703	0.0896894	0.2582476	-0.242549	0.6000239
hsa-miR-549	0.0757291	0.0833333	NA	0.143979	0.516448
hsa-miR-550a	0.1649566	0.2106934	-0.00254	-0.39311	0.4540178
hsa-miR-550a*	0.1527999	0.1226399	0.1872071	-0.610815	0.6926435
hsa-miR-551a	0.0460674	0.0555556	NA	0.0036082	0.457093
hsa-miR-551b	0.2187736	0.2709691	0.2402307	-0.412369	0.8113578
hsa-miR-551b*	-0.043403	-0.083333	NA	-3.520975	0.4052918
hsa-miR-552	-0.118379	-0.083333	-0.348071	-4.233134	0.3497813
hsa-miR-553	0.0404916	-0.081245	0.0366631	-1.228471	0.5946492
hsa-miR-554	0.0322041	-0.027778	0.9176753	-2.235918	0.3737597
hsa-miR-555	0.034482	0.0555556	NA	-0.082289	0.6203917
hsa-miR-556-3p	-0.20643	-0.270969	-0.060447	-3.376634	0.426474
hsa-miR-556-5p	0.0420165	0.0555556	NA	-0.049936	0.5091529
hsa-miR-557	0.0325171	0.0277778	NA	-0.291863	0.2711022
hsa-miR-558	0.0115741	0.0277778	NA	-0.385569	0.4374283
hsa-miR-561	-0.008681	-0.027778	0.1982233	-2.214215	0.5801513
hsa-miR-562	-0.113241	-0.083333	NA	-5.324624	0.2960867
hsa-miR-563	0.0115741	0.0277778	NA	-0.386914	0.5897014
hsa-miR-564	-0.068593	-0.083333	NA	-3.61354	0.0295709
hsa-miR-566	0.0388185	0.0277778	NA	-0.358367	0.140682
hsa-miR-567	-0.032986	-0.083333	NA	-3.344104	0.3715697
hsa-miR-571	-0.032986	-0.083333	NA	-3.344104	0.4570554
hsa-miR-572	-0.039931	-0.083333	NA	-3.488777	0.0295709
hsa-miR-574-3p	0.1348706	-0.284907	0.1196514	0.1442405	-0.015228
hsa-miR-574-5p	0.2976522	-0.141617	0.1896141	0.2647072	0.4352828
hsa-miR-575	0.0115741	0.0277778	NA	-0.38794	0.1635128
hsa-miR-576-3p	-0.224535	-0.37641	0.1705224	-1.239621	0.2315195
hsa-miR-576-5p	-0.582621	-0.799647	-0.167918	-1.062704	-0.191718
hsa-miR-577	0.0150463	0.0277778	NA	-0.366916	0.7036718
hsa-miR-578	-0.002304	-0.055556	0.8707644	-2.774252	0.3775591
hsa-miR-579	-0.067534	-0.083333	0.0781477	-3.018324	0.4270011
hsa-miR-580	0.0593709	-0.150418	0.8506593	-1.970564	0.4575114
hsa-miR-581	-0.052827	-0.055556	-0.021817	-2.938989	0.3480329
hsa-miR-582-3p	0.0314077	-0.349692	0.1319544	0.0020622	0.0347929
hsa-miR-582-5p	-0.137366	-0.379406	0.055338	-0.048296	0.1309281

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-583	0.0115741	0.0277778	NA	-0.386914	0.5926139
hsa-miR-584	0.0276938	-0.166712	0.1306486	-0.778451	0.4032917
hsa-miR-586	0.0106682	0	0.1425695	-1.934881	0.6079291
hsa-miR-587	0.0124421	0.0277778	NA	-0.390153	0.4608924
hsa-miR-588	-0.043403	-0.083333	NA	-3.520975	0.4815028
hsa-miR-589	-0.319041	-0.522411	0.055852	-0.689058	-0.027521
hsa-miR-589*	-0.06488	-0.150418	-0.017197	-1.877409	0.4195859
hsa-miR-590-3p	-0.325229	-0.619958	-0.084427	-0.528876	0.0774846
hsa-miR-590-5p	-0.108683	-0.282498	0.520744	-2.700384	0.1710994
hsa-miR-591	0.0682558	0.0555556	NA	0.0462793	0.5642176
hsa-miR-592	-0.086174	-0.282	0.1935072	-1.166693	0.1715972
hsa-miR-593	-0.032986	-0.083333	NA	-3.344104	0.4521834
hsa-miR-593*	0.0482407	0.0277778	NA	-0.364627	0.1460037
hsa-miR-596	-0.056151	-0.055556	-0.615445	-2.950028	0.0573487
hsa-miR-597	-0.043403	-0.083333	NA	-3.520975	0.4866703
hsa-miR-598	-0.414224	-0.552696	-0.044157	-1.104691	-0.030051
hsa-miR-600	0.0419077	-0.094862	0.381932	-1.333304	0.4720159
hsa-miR-601	-0.011126	-0.055556	0.595105	-2.78299	0.514448
hsa-miR-602	-0.015538	0	-0.007347	-2.061053	0.1129043
hsa-miR-603	0.0398927	0.0555556	NA	-0.055187	0.4400407
hsa-miR-604	0.0526876	0.0555556	NA	-0.086881	0.4277826
hsa-miR-605	-0.059771	-0.055556	-0.471556	-2.96136	0.5113225
hsa-miR-606	0.0624904	0.0440267	0.390674	-1.412525	0.7414699
hsa-miR-607	0.0115741	0.0277778	NA	-0.386914	0.5900394
hsa-miR-611	-0.043403	-0.083333	NA	-3.506723	0.0295709
hsa-miR-612	0.034204	0.0440267	0.0416846	-1.617657	0.156931
hsa-miR-613	-0.035809	-0.055556	0.2227401	-2.803246	0.4531065
hsa-miR-614	0.0310211	0.0277778	NA	-0.314959	0.2711022
hsa-miR-615-3p	0.0772361	0.0833333	NA	0.3205605	0.1962376
hsa-miR-615-5p	-0.293627	-0.388889	-0.452769	-5.303983	-0.275985
hsa-miR-616	-0.068086	-0.083333	NA	-3.591571	0.4866703
hsa-miR-616*	-0.090946	-0.310276	0.3065722	-2.009174	0.0742094
hsa-miR-617	0.0124421	0.0277778	NA	-0.390153	0.5977814
hsa-miR-618	-0.54139	-0.707335	-0.04685	-1.401708	-0.322006
hsa-miR-621	-0.059771	-0.055556	-0.41077	-2.959885	0.3459819
hsa-miR-623	0.044042	0.0555556	NA	-0.03779	0.29888
hsa-miR-624	0.0541344	0.0555556	NA	-0.085247	0.4591441
hsa-miR-624*	0.0727871	0.0995823	0.1124669	-1.171057	0.4840674
hsa-miR-625	0.0825252	-0.109023	0.2643743	-0.744947	0.4558135
hsa-miR-625*	0.060726	-0.002586	0.7035088	-1.83386	0.5200579

Table S1 (continued)

**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-626	0.0315998	0.0277778	NA	-0.323107	0.4657355
hsa-miR-627	0.1833388	0.2269424	NA	1.0011682	0.6114275
hsa-miR-628-3p	-0.179842	-0.215414	-0.238048	-2.904881	0.3494226
hsa-miR-628-5p	0.3376749	0.2196358	0.3670214	0.2401347	0.6732332
hsa-miR-629	0.0146674	-0.027778	0.1099096	-0.630425	0.5370583
hsa-miR-629*	0.0245252	-0.039307	0.7014656	-2.23423	0.2860729
hsa-miR-631	-0.032986	-0.083333	NA	-3.344104	0.0295709
hsa-miR-634	0.0115741	0.0277778	NA	-0.386797	0.5164029
hsa-miR-635	0.1134509	0.0555556	0.9734372	-1.07655	0.6224336
hsa-miR-636	0.0499661	0.0555556	NA	-0.068549	0.1684598
hsa-miR-637	-0.003712	-0.027778	0.3080554	-2.313777	0.0851265
hsa-miR-638	-0.092451	-0.166667	0.1261622	-3.239049	-0.053762
hsa-miR-641	-0.283819	-0.415716	-0.026406	-1.849242	-0.017397
hsa-miR-642a	-0.002315	0	-0.084402	-2.034744	0.5700036
hsa-miR-642b	-0.043403	-0.083333	NA	-3.520975	0.4052918
hsa-miR-644	0.0400354	-0.027778	0.526126	-1.889762	0.5341459
hsa-miR-646	0.0388185	0.0277778	NA	-0.358367	0.1635128
hsa-miR-648	0.0194357	0.0277778	NA	-0.364046	0.4000048
hsa-miR-649	0.0219907	0.0555556	NA	-0.124604	0.4400407
hsa-miR-650	-0.021412	-0.055556	0.3067111	-2.795019	0.0573487
hsa-miR-651	-0.364341	-0.57968	-0.128744	-1.100069	0.0282492
hsa-miR-652	-0.02398	-0.350355	0.061016	-0.025426	0.1255965
hsa-miR-653	0.0130208	0.0277778	NA	-0.386383	0.4313663
hsa-miR-654-3p	-0.283301	-0.661371	-0.096955	-0.279302	-0.138726
hsa-miR-654-5p	-0.088267	-0.115831	0.1038686	-3.516164	-0.005662
hsa-miR-655	-0.062286	0.0277778	-0.306254	-4.016529	0.7252209
hsa-miR-656	-0.356862	-0.474401	-0.188325	-1.845898	0.2014928
hsa-miR-657	0.0435124	0.0555556	NA	-0.054205	0.29888
hsa-miR-660	-0.025728	-0.47509	0.0079848	-0.050589	0.0035417
hsa-miR-661	0.0425952	0.0555556	NA	-0.01702	0.1684598
hsa-miR-662	-0.054126	-0.055556	-0.39838	-2.943193	0.0573487
hsa-miR-663	-0.17553	-0.492208	-0.034778	0.1915612	-0.375801
hsa-miR-663b	-0.010307	-0.083333	0.5025527	-2.638646	0.0295709
hsa-miR-664	0.4098761	0.0492063	0.26405	0.5302988	0.427849
hsa-miR-664*	-0.180873	-0.125226	-0.230678	-2.620702	0.2730929
hsa-miR-665	0.0018253	-0.032498	0.017333	-2.016808	0.0804063
hsa-miR-670	0.0008005	-0.055556	1.0970441	-2.789229	0.4196151
hsa-miR-671-3p	-0.21744	-0.403697	-0.1716	-1.026782	-0.290793
hsa-miR-671-5p	0.4198907	0.2872181	0.3760933	0.0108969	0.4021025
hsa-miR-675	0.2816185	0.2259919	0.4002141	-0.216551	0.3424931

**Table S1** (continued)



**Table S1** (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-675*	-0.291409	-0.483946	0.0658281	-0.69232	-0.187056
hsa-miR-676	-0.034596	-0.060276	0.0471544	-2.355825	0.372839
hsa-miR-676*	0.0310211	0.0277778	NA	-0.314959	0.5926139
hsa-miR-7	-0.003716	-0.093271	0.1003392	-0.749405	0.417063
hsa-miR-7-1*	-0.166581	-0.405681	0.2119617	-1.039395	-0.021196
hsa-miR-7-2*	0.0402199	0.0833333	NA	0.1089082	0.4678185
hsa-miR-708	-0.072997	-0.187636	0.1868554	-0.997949	0.3792423
hsa-miR-708*	0.2026736	0.0718045	0.6492742	-1.094181	0.5944488
hsa-miR-711	0.0115741	0.0277778	NA	-0.38794	0.140682
hsa-miR-718	0.2216605	0.25	NA	1.3732966	0.3629043
hsa-miR-720	-0.132173	-0.339282	0.0286895	-0.813243	-0.212243
hsa-miR-744	-0.137915	-0.491479	-0.012626	-0.164282	-0.364798
hsa-miR-744*	0.0672282	-0.034586	0.3735314	-1.269479	0.5354171
hsa-miR-758	-0.243058	-0.433111	0.1944309	-1.218216	0.1368928
hsa-miR-759	-0.080461	-0.076525	-0.248834	-2.608065	0.3079605
hsa-miR-760	0.0115741	0.0277778	NA	-0.386914	0.140682
hsa-miR-761	0.0298637	0.0277778	NA	-0.286232	0.5164029
hsa-miR-762	0.070976	0.0230576	0.2986419	-1.351423	0.1359619
hsa-miR-764	0.0150463	0.0277778	NA	-0.366916	0.3503374
hsa-miR-765	0.0240162	0.0555556	NA	-0.129165	0.5959443
hsa-miR-766	0.2794154	0.257992	0.2863858	-0.091314	0.3708963
hsa-miR-767-5p	0.0266204	0.0555556	NA	-0.106026	0.5997315
hsa-miR-769-3p	0.004537	0	0.0841322	-1.895607	0.2433244
hsa-miR-769-5p	0.3738542	-0.073144	0.2112903	0.3492022	0.48624
hsa-miR-770-5p	0.0231481	0.0555556	NA	-0.123522	0.29888
hsa-miR-802	0.0460674	0.0555556	NA	0.0048675	0.56589
hsa-miR-873	-0.085579	-0.222222	0.5374037	-3.112609	0.3181665
hsa-miR-874	0.431739	0.0984255	0.2775618	0.6452583	0.2928168
hsa-miR-875-3p	0.0144676	0.0277778	NA	-0.383929	0.5681665
hsa-miR-875-5p	0.0500159	0	0.6977196	-1.948302	0.4535973
hsa-miR-876-3p	-0.067708	-0.166667	NA	-4.129146	0.4412624
hsa-miR-876-5p	0.0167824	0.0277778	NA	-0.363828	0.4813751
hsa-miR-877	-0.075915	0	-1.087213	-3.542744	0.1129043
hsa-miR-877*	0.0593284	0.0995823	NA	0.0984158	0.2947384
hsa-miR-885-3p	-0.081079	-0.293574	0.1811854	-0.664497	0.0289855
hsa-miR-885-5p	-0.199129	-0.662232	-0.087758	-0.24284	-0.125991
hsa-miR-887	-0.223852	-0.408231	-0.055679	-0.738261	-0.295128
hsa-miR-888	0.0683333	0.0277778	0.9745079	-1.41963	0.4313663
hsa-miR-889	-0.257703	-0.523327	-0.112651	-0.457766	0.038935
hsa-miR-890	-0.119519	-0.222222	0.3850541	-4.023241	0.2108924

**Table S1** (continued)

Table S1 (continued)

	Quantile	Median counts normalization	Total counts normalization	Trimmed mean of M-values	Conditional quantile
hsa-miR-891a	-0.032986	-0.083333	NA	-3.344104	0.4052918
hsa-miR-891b	0.0104167	0.0277778	NA	-0.385619	0.4122629
hsa-miR-892b	0.0231481	0.0555556	NA	-0.124554	0.5441807
hsa-miR-9	-0.41645	-0.609209	-0.071124	-0.875401	-0.098874
hsa-miR-9*	-0.009838	-0.027778	0.1460234	-2.201132	0.5801513
hsa-miR-920	0.0783581	0.0555556	NA	-0.028999	0.3382916
hsa-miR-921	-0.043403	-0.083333	NA	-3.520975	0.4638548
hsa-miR-924	0.0615537	0.0440267	0.1498445	-1.982271	0.5526888
hsa-miR-92a	-0.184828	-0.537864	-0.022177	-0.105892	-0.066354
hsa-miR-92a-1*	0.0566507	-0.170436	0.3496192	-0.588114	0.3737395
hsa-miR-92a-2*	-0.043403	-0.083333	NA	-3.531009	0.4866703
hsa-miR-92b	-0.280122	-0.568496	0.0248705	-0.225081	-0.54621
hsa-miR-92b*	0.0606059	0.0833333	NA	0.1591284	0.1962376
hsa-miR-93	0.0809245	-0.39061	0.0562661	0.0402088	0.1924603
hsa-miR-93*	-0.125683	-0.169298	-0.005744	-1.598872	0.1532613
hsa-miR-934	0.0643571	0.0555556	NA	0.0708	0.6255592
hsa-miR-935	0.0388185	0.0277778	NA	-0.358367	0.140682
hsa-miR-937	0.0636312	0.0718045	0.2376216	-1.373659	0.1849076
hsa-miR-938	0.0115741	0.0277778	NA	-0.386914	0.5977814
hsa-miR-939	-0.005536	0.0277778	-0.255492	-1.801485	0.140682
hsa-miR-940	0.1009969	0.0880535	0.1109636	-1.673374	0.2009577
hsa-miR-941	0.0324036	-0.320228	0.0647541	0.13078	-0.198663
hsa-miR-942	-0.059771	-0.104302	-0.344412	-2.903268	0.4183418
hsa-miR-943	-0.043403	-0.083333	NA	-3.531009	0.1118227
hsa-miR-944	0.06604	0.1551378	-0.64379	-1.685191	0.763067
hsa-miR-95	-0.213394	-0.532996	0.1132646	-0.488708	-0.079398
hsa-miR-96	0.0421941	-0.055556	0.4146525	-1.654409	0.3297738
hsa-miR-96*	-0.083818	-0.055556	-0.398628	-4.393652	0.3289296
hsa-miR-98	-0.155738	-0.588736	-0.044016	-0.159344	-0.037827
hsa-miR-99a	-0.095577	-0.56281	-0.027385	-0.133445	-0.019483
hsa-miR-99a*	0.0710616	-0.328164	0.1219119	0.0562505	0.1999456
hsa-miR-99b	0.1402771	-0.274007	0.123819	0.1576469	-0.245308
hsa-miR-99b*	0.1484039	-0.06889	0.4321855	-0.235431	0.0440146