

An Overview of Multivariate Regression Analysis of Biological Data

By
Chris DeHart

A THESIS

submitted to
Oregon State University
Honors College

in partial fulfillment of
the requirements for the
degree of

Honors Baccalaureate of Science in Mathematics and Economics
(Honors Scholar)

Presented June 5, 2019
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Abstract approved: _____

Duo Jiang

This study investigates methods of multivariate regression analysis and their applications to biological data. It provides an overview of methods of reduced rank regression and sparse multivariate regression, including their motivations, methods, and applications. It also implements a form of sparse regression known as Regularized Multivariate Regression for Identifying Master Predictors to identify top master predictors for miRNA regulation of mRNA where a master predictor is defined by a predictor variable that affects many response variables. The data used in this study is from The Cancer Genome Atlas Project and samples from breast cancer patients.

Key Words: Statistics, Biology, Multivariate Analysis

Corresponding e-mail address: dehartc@oregonstate.edu

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APPROVED:

Duo Jiang Mentor, representing Statistics

Sarah Emerson, Committee Member, representing Statistics

Yuan Jiang, Committee Member, representing Statistics

Toni Doolen, Dean, Oregon State University Honors College

I understand that my project will become part of the permanent collection of Oregon State University, Honors College. My signature below authorizes release of my project to any reader upon request.

Chris DeHart, Author

Introduction:

New technologies have increased the quantity and availability of biological data. However, these changes have brought new challenges. Using large data sets with many predictor and response variables can prevent simple statistical analysis from providing valid results. For example, overfitting can occur when too many predictor variables are included in a regression. This study aims to investigate the use of the multivariate regression analysis to alleviate the problems that occur when working with high dimensional biological data.

To do this, this study will first overview important multivariate regression techniques and their applications to biology. It will then implement one of these methods on a set of biological data to exemplify its utility.

Overview:

To conduct a multivariate regression of p predictor variables on q response variables, we consider the effect of $x = (x_1, x_2, \dots, x_p)$ on $y = (y_1, y_2, \dots, y_q)$. The weights of the regression are represented by $b_i = (b_{i_1}, b_{i_2}, \dots, b_{i_p})$. Therefore, the matrix B , composed of all b_i , provides a $p \times q$ matrix. The regression is then of the form $y^T = xB + \varepsilon$. Least square methods are used to calculate the regression weights.

With low dimensional data, this approach can be effective. However, standard multivariate regression can result in overfitting when dealing with data that is high dimensional or contains highly correlated variables (Peng, 2010). It also does not excel at finding the most important predictor variables. To mitigate these problems, the regression process is often modified. Two important types of multivariate regression are reduced rank regression and sparse regression.

Reduced Rank Regression:

In some cases when conducting multivariate regression, we seek to measure the composition of the effects of the response variables on a composition of the predictor variables. These compositions are called latent variables (Mitteroecker, 2016). Reduced rank multivariate regression provides a linear approximation of these latent variables.

Singular Value Decomposition (SVD) can be used to obtain a B matrix of a reduced rank (Mitteroecker, 2016). SVD provides a matrix of $p \times 1$ left singular vectors, U, a matrix of singular values, λ , and a matrix of $q \times 1$ right singular vectors, V. The rank one matrix that best approximates B is provided by $\lambda_1 u_1 v_1^T$. Similarly, the rank two matrix that best approximates B is provided by $\lambda_1 u_1 v_1^T + \lambda_2 u_2 v_2^T$. This pattern continues. This allows us to compute a reduced rank multivariate regression with the rank that accounts for the desired amount of variation.

A reduced rank coefficient matrix can be obtained using a penalized regression (Bunea, 2011). This is of the following form:

$$A = \operatorname{argmin}\{\|Y - XB\|_F^2 + \mu r(B)\}$$

Where $r(B)$ represents the rank of the coefficient matrix and μ is a tuning parameter. This is then optimized using OLS techniques. This penalty adds a quantity that increases with the rank of the coefficient matrix. Since this is a minimization problem, an additional rank must lower the least square estimate by at least μ . This results in a reduced rank coefficient matrix.

The tuning parameter may be selected through cross validation. This process uses a subset of the data as training data to fit the coefficients and then uses complement of this set to test the prediction error. This is done with a variety of values for the tuning parameter, and the

value with the lowest prediction error is chosen. It can also be selected using Bayesian Information Criterion (BIC).

Mitteroecker, 2016 suggests the use of reduced rank multivariate regression to identify latent variables when regressing phenotype data onto genomic data. These latent variables are considered to represent the additive or nonadditive effects of multiple alleles on a composition of phenotypic traits. It implements reduced rank regression on a mouse sample of 1581 specimen. The genotype data is comprised of 384 SNPs. 11 simple phenotype variables such as weight and length were included as response variables. Three latent variables were identified when testing for genetic variation and these were limb length, body/organ weight, and distal vs. proximal leg bone length.

Vounou, 2010 tests the effects of genetics on brain imaging phenotypes. It suggests using sparse reduced rank multivariate regression to account for multiple comparisons problems and joint effects when analyzing data on the entire brain and the entire genome. It used MRI scans from 189 subjects. These subjects had 111 phenotype variables called ROIs. Using this, they simulated genomic data with 10 causative SNPs on 6 phenotype variables with an additive genomic model.

Vounou, 2012 tests for genetic associations with voxel-wise longitudinal phenotypes in Alzheimer's disease using sparse reduced rank regression. Since this type of disease can involve numerous areas of the brain and be caused by many genetic factors, using multivariate regression analysis to account for these relationships is desirable. This analysis uses 437,577 SNPs and 1,650,857 voxels. 3 tests are conducted with sample sizes of 254, 260, and 221.

Miki, 2015 uses reduced rank regression to identify the relationships between dietary patterns and depressive symptoms. The study used 2006 participants from Japan between the ages of 19 and 69. Depression was measured using a Japanese version of the Center for Epidemiologic Studies Depression scale. This contained 20 items, each of which is measured on a scale from 0-3. This means a participant's score is measured from 0-60. A score greater than or equal to 16 was used to determine if the participant had depressive symptoms. Dietary variables included 46 food and beverage items, daily intake of rice and miso soup, frequency of alcohol consumption, amount of alcohol consumption each occasion, cooking methods, and general behavior. Intake of 58 food and beverage items, energy, and nutrients were estimated using a computer algorithm.

Sparse Regression:

Rather than using reduced rank regression, this study will implement a form of sparse regression. While reduced rank regression is useful for finding latent variables, we may wish to reduce the number of variables used to avoid overfitting. Overfitting describes a situation where the analysis describes the error in the model rather than the signal, and this occurs when too many variables are selected. Reducing the number of variables by inducing sparsity can combat this problem. This also isolates the variables that are most useful.

A sparse regression is a regression where the coefficients on some of the variables are set to zero. This is unlikely to occur using OLS regression on its own. One common method to induce sparsity is by using a penalty. Specifically, as in the LASSO (Least Absolute Shrinkage and Selection Operator) method, an l_1 penalty is often used (Fonti, 2017). Sparse regression is used to reduce dimensions, select significant variables, and prevent overfitting (Fonti, 2017).

Chun, 2009 proposes the use of multivariate sparse partial least square regression for expression quantitative trait loci mapping, a process of finding genomic variation to explain the variation of expression traits. This form of sparse regression is used for variable selection and dimensional reduction.

Frost, 2017 suggests the use of LASSO for gene set selection. Gene set selection can involve sets that overlap, and many forms of analysis will assume a gene is active if any set which contains it is active (Frost, 2017). Sparsity provided by LASSO will remove these genes if they are not found to be active. This study performed simulations to support this technique using two MSigDB gene set collections. One collection had a sample size of 674 sets, and the other had a sample size of 233 sets.

Regularized Regression for Identifying Master Predictors:

This paper will utilize regularized multivariate regression for identifying master predictors. Peng, 2010 introduced this method. It was developed for data sets with a higher number of explanatory and response variables than its number of samples.

This regularized multivariate regression was created to model the dependence of RNA levels on DNA copy number. It is thought that genetic regulatory relationships are sparse, meaning not all genes affect all other genes (Peng, 2010). It is also thought that there exist master regulators, which are genetic components that affect a large number of other components (Peng, 2010). This method aims to induce overall sparsity so that only significant genetic relationships are included, and it aims to induce group sparsity so that explanatory variables that affect a high number of response variables are prioritized. To do this, this technique includes an

l_1 penalty to induce overall sparsity and an l_2 penalty on row vectors to induce sparsity in row vectors. Here is the equation to be optimized:

$$L(B, \lambda_1, \lambda_2) = \frac{1}{2} \left\| Y - \sum_{p=1}^P X_p B_p \right\|_F^2 + \lambda_1 \sum_{p=1}^P \|C_p \cdot B_p\|_1 + \lambda_2 \sum_{p=1}^P \|C_p \cdot B_p\|_2$$

In this equation, Y represents the matrix of predictor variables, X represents the matrix of response variables, B represents the matrix of regression weights, C represents a matrix specifying to which variables sparsity should be applied, and λ_1 and λ_2 represent tuning parameters.

Peng, 2010 indicates that the tuning parameters can be selected using cross validation or Bayesian Information Criterion (BIC). It does, however, suggest using cross validation since BIC results in smaller models, and thus, it produces more false negatives.

Peng, 2010 proposes the use of Regularized Regression for Identifying Master Predictors to select the appropriate model and identify master predictors, which are predictor variables that affect a large number of response variables. This technique is applied to find the effects of genetics on breast cancer. The sample size was 172. The RNA transcript levels of 654 breast cancer genes were used as the response variables. Additionally, there were 3 sets of predictors: expression levels of other genes connected to the target gene, 5 subtype indicator variables, and 384 copy number alteration intervals.

Data:

The analysis tests the effect of miRNA expression on mRNA expression using TCGA data from breast cancer patients. Only tissue samples from primary solid tumors were used. The data was downloaded and processed using TCGA-Assembler 2.

To preselect the most significant mRNA variables, variables with few responses from patients were removed from the model. Then differential expression analysis was conducted using the EdgeR package, and the most relevant variables were selected using log fold change.

MiRNA variables were also filtered by removing variables with few responses. Both the miRNA and mRNA variables were then log transformed using the DeSeq2 package.

After filtering and selecting, the data set contained 75 miRNA variables, 55 mRNA variables with a sample size of 379.

Analysis:

This analysis implemented the Regularized Regression for Identifying Master Predictors (remMap) model using the remMap R package for this investigation. Although cross validation is recommended, this study used BIC to select tuning parameters. This is because of the increased computing power required for cross validation.

A variety of combinations of tuning parameters were tested. The BIC for each model is displayed in Figure 1.

Since the model with the lowest BIC is considered the best, $\lambda_1 = \lambda_2 = 1$ was the combination of tuning parameters selected for the final model. This model was then used to identify top master predictors in the set of miRNAs by selecting the variables that had the most nonzero coefficients.

Results:

The matrix of coefficients produced by the model with $\lambda_1 = \lambda_2 = 1$ is displayed in appendix 1. Additionally, a heatmap to visualize the relationships is displayed in Figure 2, with a

legend for the heatmap shown in Figure 3. Since the maximum coefficient was 15.53312 and many coefficients were close to zero, any value greater than 10 was replaced with 10 when creating the heatmap to better visualize the difference between the coefficients.

One interesting observation from this data is that every miRNA had at least one nonzero coefficient. This means the row-wise sparsity provided by the remMap model did not remove any of these variables, so each one either directly or indirectly affects some mRNA variables.

To determine which variables are top master predictors, the number of nonzero coefficients for each miRNA was recorded. This is displayed in a histogram in Figure 4. There are roughly three groups shown in this histogram: those with 10 – 25 nonzero coefficients, those with 25 – 40 nonzero coefficients, and those with 40 – 55 nonzero coefficients. MiRNA variables in the largest group were designated as top master predictors. Note that this is an arbitrary designation. There were 30 such miRNAs. The names of these variables are displayed in Figure 5. These variables are designated as the most relevant in regulating mRNA expression.

Discussion:

The results of this study require some reservations. The lack of row sparsity suggests each miRNA affects at least one mRNA. However, this result may be caused by indirect interaction instead of direct interaction. This could be the case if the mRNA variables are highly correlated. Figure 6 displays a correlation plot of the mRNA expression data with the variables in the same order as in the heatmap. Many variables have little to no correlation, but some have a high amount. This could give the false impression that a miRNA is regulating an mRNA that it only indirectly affects.

The primary limitation to this study though, is the lack of computing power. Tuning parameter selection requires significant computing time. Figure 7 displays the computing times for a few of the combinations tested in this analysis. With more time or more computing power, a wider variety of tuning parameters could be tested. The tuning parameters selected were the minimum values that were tested. This means that there could be a sharp decline in BIC if the parameters were decreased even further, so testing more parameters could increase the validity of the results. More computing power could also make using cross validation more practical.

Another limitation is a lack of control variables in the model. Phenotype variables would have been helpful to include but were left out due to difficulties with data processing. Including this type of information could greatly improve this study.

Besides making these improvements, this study presents other opportunities for further research. Similar studies could be conducted on other TCGA data sets. A particularly interesting follow up would be to perform this regression on data taken from noncancerous tissue samples and compare the results to this study. Additionally, the remMap model could be applied to samples from patients with other forms of cancer or to different genomic variables. These types of studies could provide fascinating insight into the link between miRNA regulation and cancer.

Conclusion:

Multivariate regression techniques are useful when working with large data sets. Reduced rank regression and sparse regression are two particularly important methods. This study's use of the remMap model to identify top master predictors provides an example of how these methods improve our understanding of biological data.

Figures:

Figure 1: BIC for each tuning parameter combination

BIC for remMap							
lambda 1	lambda 2						
		1	3	5	10	20	30
	1	102202.4	102223.8				
	3		104502.9	104517.4			
	5		106166.6	106201.2	106268.4		
	10			108644.9	108713.7	108782.3	108854.8
	20				111809.6	111829.5	111845.8
	30				113980.4	113973	113956.7

Figure 2: Heatmap of Coefficient Matrix

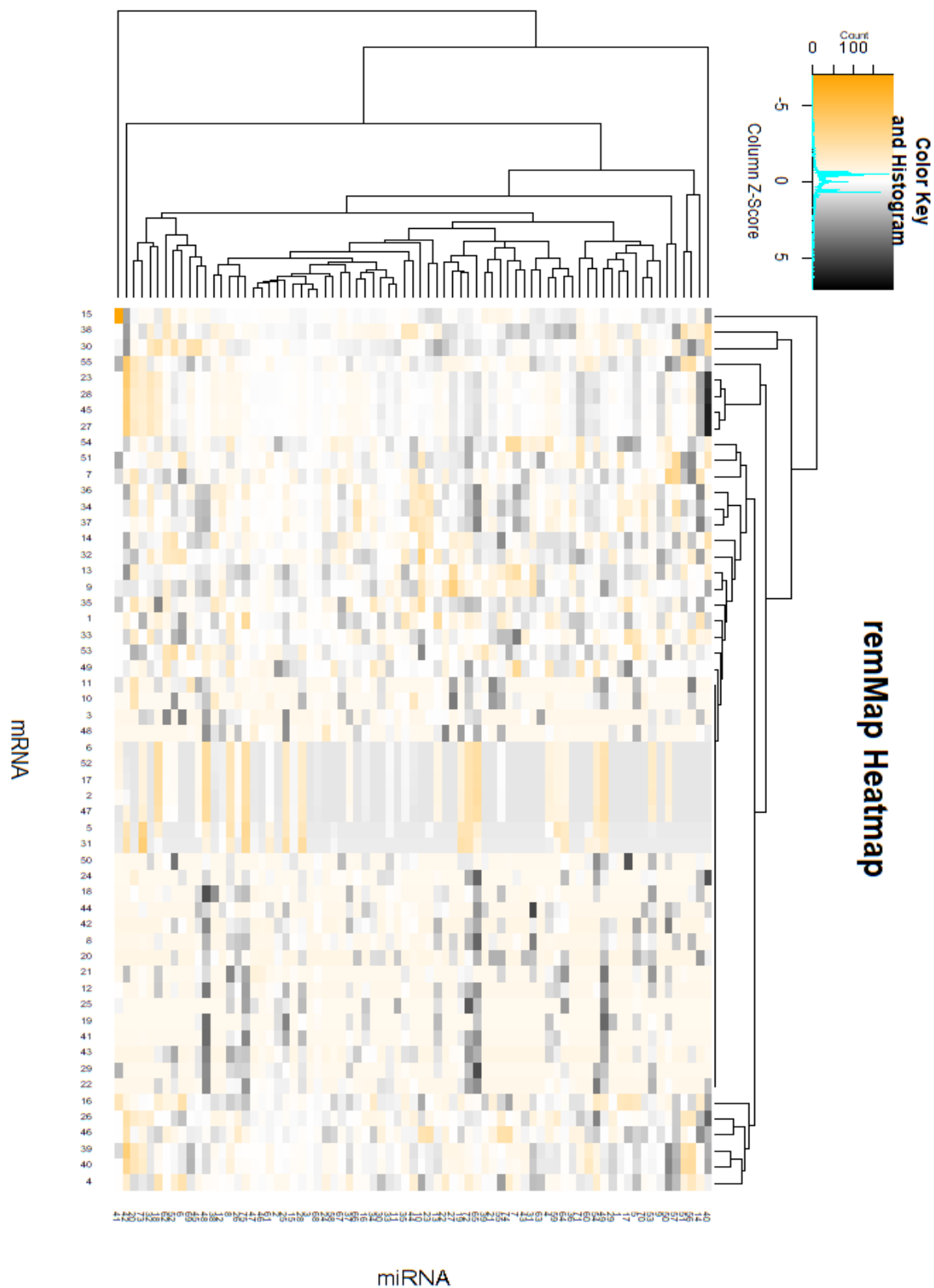


Figure 3: Legend for Heatmap

Legend for Heatmap					
Designation	miRNA	mRNA	Designation	miRNA	mRNA
1	hsa-let-7a-1	ACTL8 81569	39	hsa-mir-193a	MYH2 4620
2	hsa-let-7a-2	ASB11 140456	40	hsa-mir-199a-1	MYH7 4625
3	hsa-let-7a-3	ATP2A1 487	41	hsa-mir-199a-2	MYL1 4632
4	hsa-let-7b	BASE 317716	42	hsa-mir-199b	MYL2 4633
5	hsa-let-7c	C10orf71 118461	43	hsa-mir-200a	MYLPF 29895
6	hsa-let-7d	C20orf166 128826	44	hsa-mir-200b	NRAP 4892
7	hsa-let-7e	CGA 1081	45	hsa-mir-200c	PAGE1 8712
8	hsa-let-7f-2	CKM 1158	46	hsa-mir-203	PAGE2 203569
9	hsa-let-7g	COL10A1 1300	47	hsa-mir-205	PPP1R3A 5506
10	hsa-let-7i	CSAG1 158511	48	hsa-mir-21	PYGM 5837
11	hsa-mir-100	CSAG2 728461	49	hsa-mir-22	RTBDN 83546
12	hsa-mir-101-1	CSRP3 8048	50	hsa-mir-23a	SPANXB2 10013317 1
13	hsa-mir-103-1	CST1 1469	51	hsa-mir-23b	SPDYC 387778
14	hsa-mir-106b	CST4 1472	52	hsa-mir-24-2	TECRL 253017
15	hsa-mir-10a	CST5 1473	53	hsa-mir-25	TRPA1 8989
16	hsa-mir-10b	CT45A1 541466	54	hsa-mir-26a-2	UCN3 114131
17	hsa-mir-125a	DHRS7C 201140	55	hsa-mir-26b	XIRP2 129446
18	hsa-mir-125b-1	DKFZp686A1627 266695	56	hsa-mir-27a	
19	hsa-mir-126	FBXO40 51725	57	hsa-mir-27b	
20	hsa-mir-127	FTHL17 53940	58	hsa-mir-28	
21	hsa-mir-1307	GABRA1 2554	59	hsa-mir-29a	
22	hsa-mir-140	GAGE1 2543	60	hsa-mir-29c	
23	hsa-mir-141	GAGE12D 100132399	61	hsa-mir-30a	
24	hsa-mir-142	GAGE12J 729396	62	hsa-mir-30b	
25	hsa-mir-143	GAGE2A 729447	63	hsa-mir-30c-2	
26	hsa-mir-145	GAGE2B 645037	64	hsa-mir-30d	

27	hsa-mir-146b	GAGE2D 729408	65	hsa-mir-30e	
28	hsa-mir-148a	GAGE4 2576	66	hsa-mir-320a	
29	hsa-mir-150	IAPP 3375	67	hsa-mir-374a	
30	hsa-mir-151	IBSP 3381	68	hsa-mir-375	
31	hsa-mir-16-1	KBTBD5 131377	69	hsa-mir-379	
32	hsa-mir-17	KLHL1 57626	70	hsa-mir-532	
33	hsa-mir-181a-1	MAGEA1 4100	71	hsa-mir-92a-1	
34	hsa-mir-181a-2	MAGEA12 4111	72	hsa-mir-92a-2	
35	hsa-mir-182	MAGEA2 4101	73	hsa-mir-93	
36	hsa-mir-183	MAGEA3 4102	74	hsa-mir-99a	
37	hsa-mir-191	MAGEA6 4105	75	hsa-mir-99b	
38	hsa-mir-192	MUC2 4583			

Figure 4: A histogram of nonzero coefficients for each predictor variable

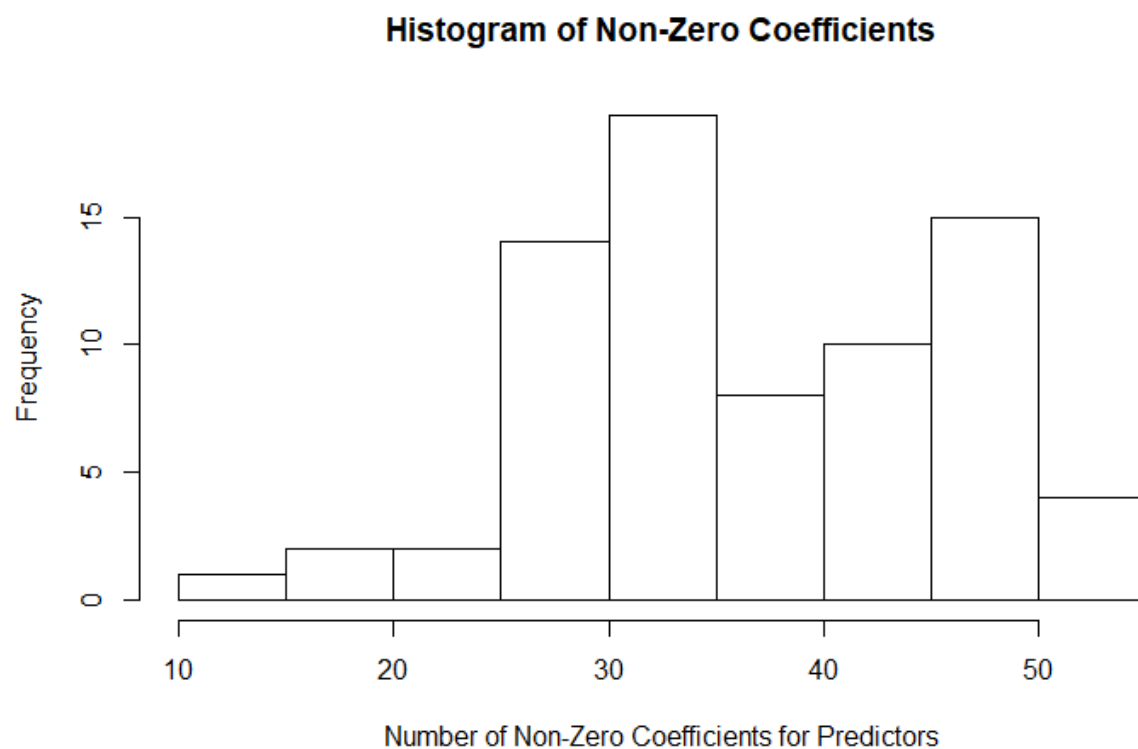


Figure 5: Names of the miRNAs found to be top master predictors

Top Master Predictors			
hsa-let-7b	hsa-mir-145	hsa-mir-22	hsa-mir-375
hsa-let-7c	hsa-mir-148a	hsa-mir-23a	hsa-mir-92a-2
hsa-let-7f-2	hsa-mir-181a-1	hsa-mir-24-2	hsa-mir-99b
hsa-mir-103-1	hsa-mir-182	hsa-mir-25	hsa-mir-143
hsa-mir-10a	hsa-mir-191	hsa-mir-26a-2	hsa-mir-21
hsa-mir-10b	hsa-mir-200b	hsa-mir-29a	hsa-mir-30e
hsa-mir-125b-1	hsa-mir-200c	hsa-mir-30a	hsa-mir-30d
hsa-mir-126	hsa-mir-205		

Figure 6: A correlation plot of mRNA expression data

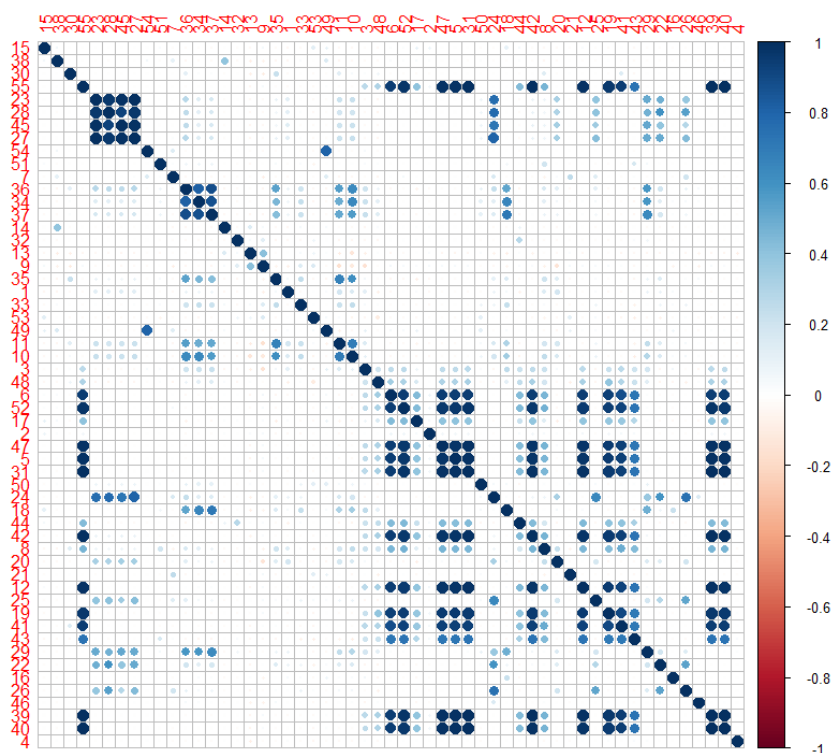


Figure 7: A table of computing time for different combinations of tuning parameters

lambda1 = lambda2	time (s)	time (min)
1	5042.31	84.04
3	3106.49	51.77
5	2968.39	49.47
10	2250.02	37.50
20	1424.3	23.74
30	934.35	15.57

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Appendices:

Appendix 1:

	ACTL8 81569	ASB11 1404 56	ATP2A1 487	BASE 317716	C10orf71 11846 1
hsa-let-7a-1	0.035987925	0	0	0	0
hsa-let-7a-2	0.112840491	-4.90E-05	0	-0.488769864	0
hsa-let-7a-3	0	0	0	-0.100700125	0
hsa-let-7b	-0.343887042	0.005201489	0	-0.386092807	-0.00127466
hsa-let-7c	0.10255679	0	0	1.977036074	0
hsa-let-7d	0.689653487	0	0.037575066	-2.368838483	0
hsa-let-7e	0.049364752	0	0	-0.477462371	0
hsa-let-7f-2	-0.409461345	0.008141902	0.009203824	-0.132110918	-0.005584191
hsa-let-7g	0.298290375	0	0	0.447600576	0
hsa-let-7i	0	0	0	2.623964593	0
hsa-mir-100	0.29195963	0	0	0.539392514	0
hsa-mir-101-1	0	0.001007299	0.019319216	-0.016327061	-0.001023291
hsa-mir-103-1	-0.691149219	0.004546411	0.005527697	-0.476920615	0
hsa-mir-106b	-0.529871408	0	0.02030059	-0.890824099	0
hsa-mir-10a	-0.049762605	0.001400735	0	-0.041869696	-0.000702164
hsa-mir-10b	0.062156172	0.001027731	0.012733213	-0.18876277	0
hsa-mir-125a	0.548198047	0	0	0.489836263	0
hsa-mir-125b-1	-0.267711568	0.009797703	0	-2.23133078	-0.003649789
hsa-mir-126	-0.064413731	0.005300926	0.002397059	-0.272298577	-0.005427784
hsa-mir-127	0	0	0	1.105267741	0
hsa-mir-1307	0.236545552	0	0	0.14108854	0

hsa-mir-140	-0.000212923	0	0.005941925	-1.530118925	0
hsa-mir-141	0	0	0.005672202	0.588452747	-0.000815981
hsa-mir-142	-0.042928797	0	0	-0.92255588	0
hsa-mir-143	0.344009361	0.007214983	0.034041194	-0.49192631	-0.00492904
hsa-mir-145	0.022674388	0.002919209	0.007865846	0.322396289	-0.000802317
hsa-mir-146b	-0.203535842	0	0	0.08816521	0
hsa-mir-148a	-0.110200093	0.006805548	0.000353233	0.227187775	-0.005096897
hsa-mir-150	0.166411085	0	0	1.117206351	0
hsa-mir-151	0.413330576	0	0.002607403	1.923648764	0
hsa-mir-16-1	0.074109047	0	0	1.998660688	0
hsa-mir-17	-0.136189362	0	0.0140935	1.100993243	0
hsa-mir-181a-1	-0.057440357	0.001497742	0.005845334	0.757306404	-0.000780997
hsa-mir-181a-2	0	0	0	0.604373025	0
hsa-mir-182	-0.51340671	0.001395802	0.003704199	0.018557608	0
hsa-mir-183	0.414673507	0	0	-0.189344642	0
hsa-mir-191	0.210416719	0.003815678	0.021436003	-1.175912902	0
hsa-mir-192	0.377599954	-4.41E-05	0	-0.144660426	0
hsa-mir-193a	0.070326283	0	0	0.106401074	0
hsa-mir-199a-1	0.356127699	0	0	0.471942872	0
hsa-mir-199a-2	0	0.003089521	0	0	0
hsa-mir-199b	-0.256113752	0.001585577	0	-1.435937344	-0.005366822
hsa-mir-200a	0.248753703	0	0.005153736	0.435805984	0
hsa-mir-200b	-0.199252209	0.000363629	0	-1.291777035	0

hsa-mir-200c	0.075621248	0.003675916	-	0	-0.578131712	-0.001087458
hsa-mir-203	0.056941436	0	-	0	0.157477369	0
hsa-mir-205	0.026447188	0.000317134	-	-0.001316746	-0.126510012	-0.000464356
hsa-mir-21	0	0.010597791	-	0.027681172	-0.195899679	-0.003585075
hsa-mir-22	0.075014684	0.009012261	-	0	-0.178253473	-0.004590229
hsa-mir-23a	-0.280391402	0.005620399	-	0.012460601	3.145862267	0
hsa-mir-23b	-0.081114426	0	-	0	-1.003309488	0
hsa-mir-24-2	0.186655816	0.002922925	-	0	-1.383142316	0
hsa-mir-25	-0.094988645	0.006803099	-	0.011231337	-0.11846344	-0.000286349
hsa-mir-26a-2	0	0.006302236	-	0	-1.465282606	-0.004007491
hsa-mir-26b	-0.363755916	0.001824945	-	0	2.964601631	0
hsa-mir-27a	0.227090865	0	-	0	-1.836529246	0
hsa-mir-27b	0	0	-	0.009468148	1.989219913	0
hsa-mir-28	0.003361309	0	-	0.003478792	0.254976746	-0.00041783
hsa-mir-29a	-0.232488608	-0.00447333	-	0	-0.426790846	-0.005114627
hsa-mir-29c	0.178121817	0	-	0	0.53683895	-0.000755885
hsa-mir-30a	0.058373326	0.001961367	-	0	-0.125135661	-0.002791641
hsa-mir-30b	-0.124663567	-0.00284198	-	0.035355957	-0.013857837	0
hsa-mir-30c-2	0	0	-	0.027703683	1.876396829	0
hsa-mir-30d	0.133697328	0.004194538	-	0	-0.129791813	-0.004429647
hsa-mir-30e	-0.192355087	-0.01022662	-	0.015247503	-0.598606543	-0.003890176
hsa-mir-320a	0.357751908	0	-	0	-0.15883973	0
hsa-mir-374a	0.496204635	0	-	0.000363391	-0.314653976	0

hsa-mir-375	0.00028149	- 0.000439171	0.002883755	0.297315162	0
hsa-mir-379	-0.110720588	0	0	0.718327865	0
hsa-mir-532	-0.002857608	0	0	-0.276507627	0
hsa-mir-92a-1	0.434483343	0	0	0.752341086	0
hsa-mir-92a-2	-0.294997333	- 0.008870561	0.012514036	-1.29144861	-0.0053857
hsa-mir-93	0.580989339	- 0.004914546	0.016779793	0.668635882	-0.008087363
hsa-mir-99a	-0.183004758	0	0	-1.464508504	0
hsa-mir-99b	-0.749727585	-0.00957627	0.004692048	-0.662731582	-0.007403109
	C20orf166 12 8826	CGA 1081	CKM 1158	COL10A1 130 0	CSAG1 158511
hsa-let-7a-1	0	1.208526615	0	0	0
hsa-let-7a-2	0	0	0.004464511	0.084843586	0
hsa-let-7a-3	0	0	0	0	0
hsa-let-7b	-0.005480305	0.503235353	0.000635416	0	-0.005126807
hsa-let-7c	0	0.004593302	0.009864891	-0.129942326	0.030985426
hsa-let-7d	0	3.05314781	0	0.464010237	0
hsa-let-7e	0	0.175419196	0.002491246	-0.376889409	0.009970954
hsa-let-7f-2	-0.009018277	- 0.573338074	0.010434876	0.244617919	0
hsa-let-7g	0	0	0	-0.031916305	0
hsa-let-7i	0	1.134098439	0	-0.688548418	0
hsa-mir-100	0	0.001927471	0	-0.160381797	0.002348547
hsa-mir-101-1	-0.001003714	- 0.276154515	0	-0.386237338	0
hsa-mir-103-1	-0.004648143	0.402508572	0.011533599	-0.090401138	0.003538274
hsa-mir-106b	0	- 2.158436529	0	-0.008454858	0
hsa-mir-10a	-0.001546201	- 0.912321526	0.003088471	0.186070932	-0.002581055

hsa-mir-10b	-0.001059182	0.542034786	0	0.216779599	0
hsa-mir-125a	0	0.05154635	0	0.069561305	0
hsa-mir-125b-1	-0.010886762	0.759293026	0.005522439	0.298958202	0
hsa-mir-126	-0.00562304	0.200289985	0	-0.50619228	0
hsa-mir-127	0	- 2.150805802	0	0.214778737	-0.020442499
hsa-mir-1307	0	0.080188933	0.005628953	-0.319531491	0.037422504
hsa-mir-140	0	- 1.112153033	0	-0.687536459	0
hsa-mir-141	0	- 0.185412956	0.001659592	-0.253994606	0
hsa-mir-142	0	-1.20550502	0.002178878	0.212754674	0
hsa-mir-143	-0.007713462	- 0.124531524	0.009458072	0.338260554	0
hsa-mir-145	-0.003177016	- 0.424384576	0.012432219	0	-0.005457195
hsa-mir-146b	0	0.629792656	0.010103102	-1.190206619	0.048943828
hsa-mir-148a	-0.00720448	0.613989663	0.004231152	-0.12451221	0.028183675
hsa-mir-150	-4.60E-05	0.25901263	0.003986845	0.310209045	0.00618551
hsa-mir-151	0	- 0.107832813	0	0.061850142	0.013989642
hsa-mir-16-1	0	- 0.656958624	0.02407412	-0.722841391	0
hsa-mir-17	0	0.135011391	0	0.129494055	0
hsa-mir-181a-1	-0.001794384	0.021598987	0.005989011	-0.302602235	-0.004228091
hsa-mir-181a-2	0	0.573217932	0.002081127	0.478353446	0
hsa-mir-182	-0.001568637	- 0.634754958	0.001906778	0.312065549	0.003316689
hsa-mir-183	0	0.831901836	0	-0.249604657	0
hsa-mir-191	-0.004063521	- 0.902694317	0.004300456	0	0
hsa-mir-192	-0.000810986	0.682539078	0	-0.110665628	-0.01446999

hsa-mir-193a	0	- 0.739686934	0	-0.266354796	0.005645804
hsa-mir-199a-1	0	0	0.000197401	0.748757285	0
hsa-mir-199a-2	-0.005106868	1.107080189	0	0.143060515	0
hsa-mir-199b	0	- 0.759575959	0	0.224618101	0
hsa-mir-200a	0	1.782942759	0	-0.326820008	0
hsa-mir-200b	-0.000570916	- 1.589021386	0	0.434985523	-0.016670203
hsa-mir-200c	-0.003830582	- 0.425809724	0.00128709	0.397342416	0.01126762
hsa-mir-203	0	- 0.873345413	0	-0.066609716	0
hsa-mir-205	-0.000383431	- 0.483714894	5.03E-05	-0.017046135	-0.000220509
hsa-mir-21	-0.011188969	- 0.192435203	0.015301385	0.562164622	0.023368679
hsa-mir-22	-0.009645425	1.540578283	0.007859853	0.845706829	0.026549674
hsa-mir-23a	-0.006119972	- 3.760752036	0	0	0
hsa-mir-23b	0	1.740030179	0	0.160487164	0
hsa-mir-24-2	-0.003357279	0.115927323	0	0.293738164	0.039255501
hsa-mir-25	-0.007281362	- 0.318316534	0.00591348	0.053777388	0
hsa-mir-26a-2	-0.006953017	0	0	-0.052747473	0.010410542
hsa-mir-26b	-0.002102369	- 0.477477932	0	-0.061117773	0.030369322
hsa-mir-27a	0	3.597766817	0.014355791	-0.060661376	0.019062207
hsa-mir-27b	0	- 3.322569115	0.011871664	0.022824948	0
hsa-mir-28	0	- 0.339939471	0.004999306	0	0
hsa-mir-29a	-0.004692496	0.323451619	0	0	0
hsa-mir-29c	0	0.866934632	0	-0.035892849	0.00657067
hsa-mir-30a	-0.002165495	- 0.061100268	0	-0.159810253	-0.00570646

hsa-mir-30b	-0.003253719	1.647870359	0	-0.426184436	0
hsa-mir-30c-2	0	0.209656431	0	0.532021252	0
hsa-mir-30d	-0.0045838	0.227740062	0	0.080048301	0
hsa-mir-30e	-0.01075397	0.412907934	0.028097556	-0.051048828	0
hsa-mir-320a	0	0.184865796	0	-0.048492153	0
hsa-mir-374a	0	1.185834721	0.001042547	0	0.026235129
hsa-mir-375	-0.000504122	0.31843452	9.22E-05	0.024687247	0.00226677
hsa-mir-379	0	0.827846678	0	-0.189637292	0
hsa-mir-532	0	0.818473692	0.003063774	-0.40114197	-0.006345629
hsa-mir-92a-1	0	0.350342602	0	0.292559644	0
hsa-mir-92a-2	-0.009559293	0.791358479	0.015841076	-0.236473291	0.019829476
hsa-mir-93	-0.005379544	0.669358641	0.000541267	0	0
hsa-mir-99a	0	0.002636566	0	-0.431821084	0
hsa-mir-99b	-0.010269559	0.495031198	0.013504048	0.284144012	0
	CSAG2 72846 1	CSRP3 8048	CST1 1469	CST4 1472	CST5 1473
hsa-let-7a-1	0	0	0.013188225	0.129302242	-0.401160675
hsa-let-7a-2	0	0.001164712	0.350690445	0.177647808	-0.660170196
hsa-let-7a-3	0	0	0	0	0
hsa-let-7b	0	0.002609365	-0.166531033	0.791127417	0.57321213
hsa-let-7c	0.020214747	0.000416124	0.368541989	0.241025773	-0.063423449
hsa-let-7d	0.008293356	0	-0.091514286	0	-2.989962326
hsa-let-7e	0	0	-1.089073964	-0.227405793	-0.205070463
hsa-let-7f-2	0.008000506	0.002777263	0.369884819	-0.381437505	-0.228787967
hsa-let-7g	0	0	0.8069877	0.431784607	3.653290295

hsa-let-7i	0	0	-0.64952337	-2.106882055	2.122715365
hsa-mir-100	0	0	-0.424374033	-0.456359887	-0.50152692
hsa-mir-101-1	0	0	-0.247072479	0.025327036	0.476081408
hsa-mir-103-1	0.003510392	0.003490014	0	0.022451876	3.493314277
hsa-mir-106b	0	0	0	-0.249656035	-2.030835666
hsa-mir-10a	0	0.000283672	0.150186742	-0.03204011	0.700713128
hsa-mir-10b	0.003699219	0.001248246	0.043040942	0.198207042	0.083585464
hsa-mir-125a	0	0	0.503116547	1.877514917	-0.557384643
hsa-mir-125b-1	0.013002296	0.003557348	0.169442076	0.145337152	2.269570119
hsa-mir-126	0	0.002532363	-0.303078222	-0.838552664	1.353874899
hsa-mir-127	-0.014863307	0	-0.669159155	-0.606660585	0.776245461
hsa-mir-1307	0.033715735	0	-0.342183447	0.419530005	-2.426053328
hsa-mir-140	0	0	-0.099202435	0.008180388	-0.456329203
hsa-mir-141	0	0	-0.171997178	-1.514957804	4.058237757
hsa-mir-142	0	0	0.583245258	0.849496023	-0.806885084
hsa-mir-143	0	0.004282175	0.806650935	-0.13963074	-0.686170263
hsa-mir-145	0	0.001036812	0.526308866	0.292160318	0
hsa-mir-146b	0.026749005	0	-1.144038228	-1.087135288	-0.635944705
hsa-mir-148a	0.009474366	0.0037762	-0.127896993	0.281732403	0.840200652
hsa-mir-150	0.004530224	0	0.36559324	0.486699203	-0.161224061
hsa-mir-151	0.011912586	0	0	-0.049530679	0.372674335
hsa-mir-16-1	0	0	-0.873612581	-0.958633574	1.829946416
hsa-mir-17	0	0	0.08785488	0.255887843	-1.528236472
hsa-mir-181a-1	0	0	-0.054840534	-0.29188672	-0.464785742

hsa-mir-181a-2	0	0	0.277794143	-0.41683076	0.591622668
hsa-mir-182	0	0.000873648	0.77622079	-0.643720963	-1.101590892
hsa-mir-183	0	0	-0.607019942	1.164878014	2.139491898
hsa-mir-191	0	0.002143984	-0.340949099	-0.818093354	0.055351702
hsa-mir-192	0	0	-0.100221812	-1.66352301	0.717614011
hsa-mir-193a	0	0	-0.027641005	0.459992897	-3.235498265
hsa-mir-199a-1	0	0	-0.61092635	-2.128090609	15.53312104
hsa-mir-199a-2	0.011775693	0.000934157	0	0	-29.55727841
hsa-mir-199b	0	0	1.215626784	2.088406059	15.37148739
hsa-mir-200a	-0.000222056	0	0	0.484698176	-1.448896783
hsa-mir-200b	0	0	-0.098170729	0	0.140281986
hsa-mir-200c	0.023275127	0.001629767	0.327649649	1.375905059	-2.252772322
hsa-mir-203	0	0	-0.053107697	-0.061303989	-0.605336236
hsa-mir-205	0.001459249	0.000170162	0.091160858	-0.336213112	-0.200181042
hsa-mir-21	0.013442199	0.007151998	0.260094198	0.765299652	-2.188063313
hsa-mir-22	0.027500086	0.004811997	0.374423196	-1.232973908	1.507863727
hsa-mir-23a	0	0.002459505	-0.237251281	-0.156787184	0.379100617
hsa-mir-23b	0	0	-0.599436513	-0.888222642	0.109305481
hsa-mir-24-2	0.007637206	0.001443818	0	-1.988666073	-0.981211835
hsa-mir-25	0.002677662	0.003424432	-0.209299169	-0.306528485	2.063226467
hsa-mir-26a-2	0.019826522	0.000852159	-0.123637245	-0.292035461	-0.639559675
hsa-mir-26b	0.018475632	0	-0.505664015	2.970919796	-2.798545101
hsa-mir-27a	0.035644731	0	-0.02705277	1.405901972	1.952241843

hsa-mir-27b	0	0	0.30457919	1.769953791	1.645177309
hsa-mir-28	0.003525007	0	0.063915887	0.751267418	0.149567782
hsa-mir-29a	0	0.003011022	0.061285342	0.795588215	1.15139563
hsa-mir-29c	0	0	0.046646642	-0.818107335	-0.43691634
hsa-mir-30a	0.000967213	0.000667502	-0.175318993	-0.32994607	-0.776253868
hsa-mir-30b	0	0	-0.151076519	-1.489302245	-6.69530637
hsa-mir-30c-2	0	0	0.416943001	0.766555883	2.418105562
hsa-mir-30d	0.000581493	0.001606007	0.033264349	0.553939776	2.402586882
hsa-mir-30e	0.007288685	0.005826441	-0.342944662	0.631686073	-0.434470125
hsa-mir-320a	0	0	-0.161866112	-0.362745661	0.495286262
hsa-mir-374a	0.010899398	0	0.148809834	-1.193411714	-1.658936285
hsa-mir-375	0	0.000197313	0.06465272	0.035815146	0.034849738
hsa-mir-379	-0.012594493	0	0.085065153	0.999960516	-1.27404924
hsa-mir-532	0	0	0.178368326	1.419921346	3.360638987
hsa-mir-92a-1	0	0	0.070876173	-0.153090362	-2.377107393
hsa-mir-92a-2	0.016938989	0.004136918	0	-1.012659542	1.178876377
hsa-mir-93	0	0.00060467	0.082291956	0.5202704	-1.706105147
hsa-mir-99a	0	0	-0.837634802	0.089249111	-2.216409681
hsa-mir-99b	0	0.005373622	0.70995409	-0.601765529	0
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hsa-let-7a-1	-1.887229138	0	0	0	0
hsa-let-7a-2	0.490908022	0	0	0.000975748	0.003361924
hsa-let-7a-3	0	0	0	0	0

hsa-let-7b	0.427240517	- 0.005315727	0	0.001476433	0
hsa-let-7c	-1.761509971	0	0	0.001036498	0.011535985
hsa-let-7d	-2.424580598	0	0	0	0
hsa-let-7e	-0.665957901	0	0	0	0
hsa-let-7f-2	1.496571952	- 0.008650951	0.006651022	0	0.001979581
hsa-let-7g	-0.410594891	0	0	0	0
hsa-let-7i	2.553910325	0	0	0	0
hsa-mir-100	0.340874405	0	0.001971271	0	0.009027144
hsa-mir-101-1	0.611907351	- 0.000939792	0	0	0
hsa-mir-103-1	-0.448751959	- 0.004553872	0.007824641	0.001678513	0.001116194
hsa-mir-106b	-1.53749678	0	0.015736463	0	0.014451372
hsa-mir-10a	-0.146815862	- 0.001481078	0	0	0
hsa-mir-10b	-0.177422381	- 0.001004129	0.007298136	0.001164478	0
hsa-mir-125a	-1.99460464	0	0	0	0
hsa-mir-125b-1	-1.290200689	- 0.010426732	0.001720761	0	0
hsa-mir-126	-0.946041054	-0.00547294	0	0	0
hsa-mir-127	-0.41236701	0	0.0039133	0	0
hsa-mir-1307	-1.084401454	0	0	0	0.011737893
hsa-mir-140	-0.708147973	0	0.009840911	0	0
hsa-mir-141	0	0	0	0	0
hsa-mir-142	-0.07273413	0	0	0	0
hsa-mir-143	-0.294529764	- 0.007463113	0.002884627	0.00273371	0
hsa-mir-145	1.057294279	- 0.003013908	0.014834155	0	0.009296374
hsa-mir-146b	0.537509937	0	0	0	0.006159572

hsa-mir-148a	-0.349849618	-	0.007879443	0.00030107	0.006742977
hsa-mir-150	0.06398869	-2.39E-06	0	0.00155449	0
hsa-mir-151	0.549264131	0	0	0	0.006927684
hsa-mir-16-1	1.050144533	0	0	0	0.009638492
hsa-mir-17	0	0	0	0	0
hsa-mir-181a-1	0.451852023	-	0.003042034	0	0
hsa-mir-181a-2	-1.576340405	0	0	0	0.006651733
hsa-mir-182	-0.911299108	-	0	0.000594412	0
hsa-mir-183	0.877629932	0	0	0	0.000218703
hsa-mir-191	1.414926199	-	0.01877047	0.000888369	0
hsa-mir-192	0.934761944	-	0.026451833	0	0.002964805
hsa-mir-193a	1.525413681	0	0	0	0
hsa-mir-199a-1	2.722148469	0	0	0	0.004297506
hsa-mir-199a-2	-2.00813136	-	0	0	0
hsa-mir-199b	-0.798363115	-	0	0	0
hsa-mir-200a	-0.756586074	0	-0.000782676	0	0.010346263
hsa-mir-200b	0.368433585	-	0	0	0.00055964
hsa-mir-200c	0.049543305	-	0.011598975	0.000564432	0.002727074
hsa-mir-203	0.171850806	0	0	0	0
hsa-mir-205	-0.199988352	-	-0.000830267	0	0.000258619
hsa-mir-21	0.29190962	-	0.040081643	0.003188985	0.00840825
hsa-mir-22	-1.335640195	-	0	0.003295435	0.010096215
hsa-mir-23a	-0.715557372	-	0	0.001253527	0

hsa-mir-23b	0	0	0	0	0
hsa-mir-24-2	-0.749437685	0.003190974	0	0	0.006960407
hsa-mir-25	0.281981357	0.007000568	0.022647889	0.000291067	0.009365602
hsa-mir-26a-2	-1.736187712	0.006634462	0.010652307	0	0
hsa-mir-26b	1.212710502	0.002036306	0.016402089	0	0.011762817
hsa-mir-27a	1.138784768	0	0.005793223	0	0
hsa-mir-27b	1.539871907	0	0	0	0
hsa-mir-28	1.364704334	0	0	0	0
hsa-mir-29a	0.172265651	0.004619595	0.002809177	0.000129401	0.002314981
hsa-mir-29c	-0.361820489	0	0	0	0
hsa-mir-30a	-0.068691559	0.002069157	0.000471548	0	0
hsa-mir-30b	-0.785650527	0.002901184	0.005795665	0	0
hsa-mir-30c-2	0	0	0.002571837	0	0.000324722
hsa-mir-30d	-0.22393266	0.004476279	0	0	0.008813718
hsa-mir-30e	-0.2082278	0.010446907	0.018396561	0.001404385	0.011233555
hsa-mir-320a	0.462251013	0	0	0	0.009624731
hsa-mir-374a	0.465196505	0	0.000718105	0	0
hsa-mir-375	0.18539694	-0.00046773	0.001222905	8.40E-05	0
hsa-mir-379	0.312088351	0	0	0	0
hsa-mir-532	0.66482063	0	0	0	0.007098135
hsa-mir-92a-1	0.829216528	0	0	0	0
hsa-mir-92a-2	-0.309779271	0.009212877	0.004182632	0	0.003212063
hsa-mir-93	0.107658393	0.005150249	0	0	0

hsa-mir-99a	2.673307941	0	0	0	0
hsa-mir-99b	1.787631465	0.009992705	0.017218082	0.000970759	0.001538855
	GABRA1 2554	GAGE1 2543	GAGE12D 1001323 99	GAGE12J 729 396	GAGE2A 729447
hsa-let-7a-1	0	0	0	0	0
hsa-let-7a-2	0.000516719	0.002959837	0.08662289	0	0.001290396
hsa-let-7a-3	0	0	-0.021257449	0	0
hsa-let-7b	0.00248162	0.00137665	-0.942538648	0	0
hsa-let-7c	0.002777789	0	1.641976225	0.000278459	0.0001837
hsa-let-7d	0	0	0.330270482	0.009813268	0
hsa-let-7e	0	0	0.469488409	0.006641734	0
hsa-let-7f-2	0.013636189	0.002282829	-0.967324739	0.010010737	0.001497528
hsa-let-7g	0	0	2.059992752	0	0
hsa-let-7i	0	0	0.317805068	0	0
hsa-mir-100	0	0.000148655	0.637803871	0.002404507	0.002433471
hsa-mir-101-1	0	0	-0.6565987	0	0
hsa-mir-103-1	0	0	-0.684645871	0.001018996	0.001207046
hsa-mir-106b	0	0	4.589320169	0.017460549	0
hsa-mir-10a	0.000899597	0.000855802	-0.09476855	0	0
hsa-mir-10b	0	0	-0.557386491	0	0.00174815
hsa-mir-125a	0	0	0.301603145	0	0
hsa-mir-125b-1	0.006946927	0.005347227	-2.396170145	0	0
hsa-mir-126	0.002283289	0.003562985	0.196464955	5.04E-05	0.000641987
hsa-mir-127	0	0	-2.940957712	-0.005030045	0
hsa-mir-1307	0	0	0.75859115	0	0

hsa-mir-140	0	0	-0.596324604	0	0
hsa-mir-141	0.002242334	0	0.173107302	0	0
hsa-mir-142	0	0	-0.344758499	-0.001168905	0
hsa-mir-143	0	0.002963792	0.006877441	0.000406251	0.000882079
hsa-mir-145	0.003969401	0.002418352	-0.91379945	0	0.000118328
hsa-mir-146b	0	0	1.226673759	0	0
hsa-mir-148a	0.000122332	0.004319099	-0.40302694	0.00893158	0.002097885
hsa-mir-150	0	0	-0.069280243	0	0
hsa-mir-151	0	0.00432165	0.777825082	0.011301843	0
hsa-mir-16-1	0.005831748	0	-0.088045116	0	0
hsa-mir-17	0	0	-3.347265682	0	0
hsa-mir-181a-1	0	0.003791898	0.272744162	0.010551221	0
hsa-mir-181a-2	0	0	0.100690688	0	0
hsa-mir-182	0.003681627	0	-0.243159902	0	0
hsa-mir-183	0	0.000575277	0.439814407	0	0
hsa-mir-191	0	0.001208198	-0.802005437	0	0
hsa-mir-192	0	0	-0.999901016	0	0
hsa-mir-193a	0	0	-0.50151401	0	0
hsa-mir-199a-1	0	0.007090612	12.12981882	0.04438593	0
hsa-mir-199a-2	0	0	0	0	0.000666717
hsa-mir-199b	0.008112027	0	-7.046993334	0	0
hsa-mir-200a	0	0	-0.090455986	0	0
hsa-mir-200b	0	0.001554792	0.138229453	0	0

hsa-mir-200c	0.002226543	0.000582355	0	0	0
hsa-mir-203	-0.001319113	0.00112396	0.12879744	0	0
hsa-mir-205	-0.001735829	0.001545791	0.122247648	0.002365009	0.001096647
hsa-mir-21	0.00510601	0.011892117	-0.23769286	0.01248285	0
hsa-mir-22	0.015096498	0.005310179	0.278656638	0.00673802	0.003281329
hsa-mir-23a	0.006596066	0.001860173	-0.974150413	0	0
hsa-mir-23b	0.000738135	0	-0.047166972	0	0
hsa-mir-24-2	0	0.003442679	0.882461291	0	0
hsa-mir-25	0.012064179	0.008355583	-0.091085323	0.005022371	0
hsa-mir-26a-2	0	0.013309095	1.127534471	0.023267441	0
hsa-mir-26b	0.005701056	0	-0.226967295	0	0
hsa-mir-27a	0	0	-1.13035099	0	0
hsa-mir-27b	0	0	0.16190304	0	0
hsa-mir-28	0	0	0.084632192	0.001968423	0
hsa-mir-29a	0.006986478	0	-0.979863503	0	0
hsa-mir-29c	0	0	1.089047291	0	0
hsa-mir-30a	0	0.001440694	0.137974066	0.005323022	0.000128355
hsa-mir-30b	0.000404983	0	-0.49472771	0	0
hsa-mir-30c-2	0	0	-0.320197368	0	0
hsa-mir-30d	0.012000088	0.002089716	0.166869028	0.019260062	0.002923524
hsa-mir-30e	0	0.011553569	1.819885768	0.040489854	0.00199168
hsa-mir-320a	0	0.000272892	-0.809902753	0.003859213	0
hsa-mir-374a	0	0.002414453	-0.391819634	0.002199999	0

hsa-mir-375	0.001249371	0.002247056	0.177522533	0.005741795	0.000319134
hsa-mir-379	0	0	-0.871839273	0	0
hsa-mir-532	0	0	-0.014882243	0.005992788	0
hsa-mir-92a-1	0	0	2.46145618	0.004903594	0
hsa-mir-92a-2	0.002892638	0.009490588	1.117818084	0.022892724	0.004513042
hsa-mir-93	0.000889047	0	-2.26609812	0	0
hsa-mir-99a	0	0	-0.468270254	0	0
hsa-mir-99b	0.010273139	0.01081431	-0.36216409	0.010536564	0.002664068
	GAGE2B 6450 37	GAGE2D 729 408	GAGE4 2576	IAPP 3375	IBSP 3381
hsa-let-7a-1	0	0	0	0	-0.261927182
hsa-let-7a-2	0.089425399	0.042443379	0.069002395	0.002943445	0
hsa-let-7a-3	0	0	0	0	0
hsa-let-7b	-0.746232418	-	-1.004128587	0	0.819180875
hsa-let-7c	-0.225954122	1.106917207	1.448086414	0.000124544	2.22045211
hsa-let-7d	1.520118068	0.393552445	0.280099468	0	-1.993065491
hsa-let-7e	-0.220010376	0.377533745	0.048297413	0	-0.569418101
hsa-let-7f-2	-0.234018659	0.711515797	-0.866836509	0.003942258	1.032618608
hsa-let-7g	0.209421677	1.463735041	2.130588064	0	-0.500676816
hsa-let-7i	0.833230685	0.307653216	0.00746057	0	0
hsa-mir-100	0.558887632	0.47380863	0.715357623	5.45E-05	2.400063636
hsa-mir-101-1	-0.571605005	0.557655852	-0.672981772	0	-2.486870424
hsa-mir-103-1	-0.113995419	0.491186541	-0.690221838	0.00277718	5.451304641
hsa-mir-106b	1.568416795	3.433618803	4.26507887	0	3.190554829
hsa-mir-10a	0.130610547	0.081609501	0.04090457	0	0.303073784

hsa-mir-10b	-0.586731431	0.450816697	-0.561669937	0.000102904	0.350238693
hsa-mir-125a	-0.111482014	0.078046012	0.441638561	0	-1.610529143
hsa-mir-125b-1	0	1.692603458	-1.994420984	0	-5.697885051
hsa-mir-126	0.197490057	0.160288341	0.128060695	0.000823235	0.335487086
hsa-mir-127	-1.257087638	2.341268067	-2.366684448	0	-1.028512096
hsa-mir-1307	-0.127462839	0.510707382	0.47964542	0	0.428447321
hsa-mir-140	-0.162300192	0.491012317	-0.130234931	0	3.609013239
hsa-mir-141	-0.520059593	0.094204745	0.1053649	0	2.68585627
hsa-mir-142	0.391771712	0.298629693	-0.003250536	0	0
hsa-mir-143	-0.197119174	0	-0.096647385	0.001380692	-1.302924508
hsa-mir-145	-0.755391548	0.728007306	-0.911689391	0.004549708	1.482069065
hsa-mir-146b	-0.026708999	0.8481059	1.182299119	0	1.662376255
hsa-mir-148a	0.262403671	0.270162991	-0.337379926	0.003219753	0.402118367
hsa-mir-150	-0.847765599	0.042426647	-0.463006346	0	-1.448971053
hsa-mir-151	-0.532636634	0.52636034	0.540734881	0	1.065777611
hsa-mir-16-1	-0.806641995	0.109114062	-0.433277318	0	1.353773578
hsa-mir-17	-1.14919761	-2.52076004	-2.959816647	0	-4.111501749
hsa-mir-181a-1	0.067862536	0.212049567	0.235466477	0.002580519	1.42671277
hsa-mir-181a-2	-0.572328552	0.016936629	-0.089824388	0	0.962328915
hsa-mir-182	-0.408242832	0.221353153	-0.404615384	0.000717899	-0.494348354
hsa-mir-183	0.259749148	0.358209574	0.617538278	0	-0.222061526
hsa-mir-191	0.007026324	0.602109998	-0.608955323	0.004910427	0.850418964
hsa-mir-192	-0.601383361	0.762846683	-0.919251474	0	-0.46761442

hsa-mir-193a	0	-0.34146863	-0.469448583	0	0.138367457
hsa-mir-199a-1	3.777066115	9.168287368	10.60116443	0	-6.124207768
hsa-mir-199a-2	0	0	0	0.006919429	0.738835692
hsa-mir-199b	-2.106074934	5.280594587	-6.146650156	0	7.065741468
hsa-mir-200a	0.914837802	0	0.124540867	0	-0.532366265
hsa-mir-200b	-0.846235372	0.032958936	0	0	-0.339500438
hsa-mir-200c	0.112426473	0	-0.019454231	0.00303558	-5.686655036
hsa-mir-203	-0.180406913	0.072903031	0.114484713	0.000346658	-0.193833496
hsa-mir-205	0.22982452	0.106208352	0.193336781	0	-0.401403594
hsa-mir-21	0.047208505	0.140047486	-0.227780296	0.00961026	-1.421567254
hsa-mir-22	0.366964458	0.259447057	0.259007045	0.005533754	-2.12147032
hsa-mir-23a	-0.192688284	0.782856134	-0.588728982	0	-0.156384876
hsa-mir-23b	-1.499266046	0.019983988	-0.523906614	0	2.997457291
hsa-mir-24-2	0.909430452	0.640885878	1.146952627	0.004108739	-5.36625092
hsa-mir-25	0.422612878	0.075052497	0.202520015	0.006025046	-1.359209092
hsa-mir-26a-2	3.018597265	1.01054782	1.778295137	0.006716677	0.109027931
hsa-mir-26b	-1.113006893	0.207443107	-0.558093685	0	2.242803291
hsa-mir-27a	-1.573796239	0.847084083	-1.500877773	0	7.683398285
hsa-mir-27b	1.292856651	0.074948806	0.616646948	0	-2.563070151
hsa-mir-28	-0.199098863	0.045155562	0.130792232	0	0.203249402
hsa-mir-29a	-1.193629318	0.765550055	-1.297823882	0.000470029	-0.397121556
hsa-mir-29c	0.620335485	0.816379559	1.20354018	0	-1.041619205
hsa-mir-30a	0.214928273	0.108829827	0.135464456	0.001998468	-0.040239206

hsa-mir-30b	0	- 0.339858943	-0.342989051	0	-1.894721103
hsa-mir-30c-2	-0.265108953	- 0.232376802	-0.33270979	0	0.116580519
hsa-mir-30d	0.221417109	0.164665847	-0.006923228	0.002835416	0.022609571
hsa-mir-30e	0.454387586	1.448195044	1.314888269	0.014486074	1.655600096
hsa-mir-320a	-0.043708006	- 0.584647271	-0.629954769	0	1.07633177
hsa-mir-374a	0.406933856	- 0.255357577	-0.039253137	0	0.745785223
hsa-mir-375	0.098222191	0.135744689	0.200132617	0.000473353	-0.201393707
hsa-mir-379	0.032063022	- 0.573187614	-1.096896457	0	-5.311709742
hsa-mir-532	-0.109945202	- 0.023335062	-0.032120627	0	-1.646264202
hsa-mir-92a-1	1.313638584	1.901929655	2.220514958	0	-1.393672291
hsa-mir-92a-2	0.62338445	0.883803846	1.049563081	0.005830677	2.144796617
hsa-mir-93	-0.955296135	- 1.695287766	-2.202195098	0	-0.273434254
hsa-mir-99a	0	- 0.279206798	-0.479299343	0	0.537047026
hsa-mir-99b	0.591992245	- 0.193293385	-0.100549063	0.004351007	0.989485166
	KBTBD5 1313 77	KLHL1 57626	MAGEA1 4100	MAGEA12 41 11	MAGEA2 4101
hsa-let-7a-1	0	0	0	-0.675848239	-0.252708262
hsa-let-7a-2	0	0	0	0	0
hsa-let-7a-3	0	- 0.030063895	0	-0.04398772	-0.036584627
hsa-let-7b	-0.000120974	0.200211697	-0.028908907	-0.357712177	0.132528829
hsa-let-7c	0	- 0.205554317	-0.415794526	-0.298794018	0
hsa-let-7d	0	- 1.419700018	0.630368465	0.119006499	-0.093095946
hsa-let-7e	0	- 0.221005564	0.862354414	0.909324756	0.281108993
hsa-let-7f-2	-0.002882907	0.39410817	-0.34996396	-0.152598862	0
hsa-let-7g	0	1.717345461	-0.31991832	0.759579784	0.14777738

hsa-let-7i	0	- 2.523376328	0.469106541	-0.802202607	-0.784493979
hsa-mir-100	0	- 0.021695561	-0.055436447	0.123234044	-0.301091456
hsa-mir-101-1	-0.000783333	0.115734271	0.158324428	-0.716409538	-0.292301393
hsa-mir-103-1	0	- 1.166442814	0.089452829	0.479507728	0.24936411
hsa-mir-106b	0	1.860464675	-0.149351245	1.287444316	0.658349915
hsa-mir-10a	-0.000443704	- 0.287065296	0.023755744	-0.187043009	0.013333497
hsa-mir-10b	0	1.002321032	0.292459143	-0.216815201	-0.012242895
hsa-mir-125a	0	0.444847063	-0.535745178	-0.697672121	-0.614888427
hsa-mir-125b-1	-0.00053329	- 0.289226202	0.204416129	0	1.011776018
hsa-mir-126	-0.00418211	- 0.696118085	-0.015874207	0.144752719	0.361175443
hsa-mir-127	0	1.274298147	-0.356193342	-0.996276761	-0.615995814
hsa-mir-1307	0	0.285057236	0.225463385	0.160333798	0.155756534
hsa-mir-140	0	0.548869575	-0.151349535	-0.041419667	0.059804223
hsa-mir-141	0	0	0	-1.120470863	0
hsa-mir-142	0	0.489653813	0	-0.475879071	-0.19141454
hsa-mir-143	-0.004173538	- 0.390485028	0.248972091	-0.250917111	0.033986505
hsa-mir-145	0	0	-0.050408026	0.035173224	-0.119560388
hsa-mir-146b	0	-0.29201335	0.114765021	0.058661526	0.251024176
hsa-mir-148a	-0.004663519	- 0.285010973	0.022524361	0.101281982	0.192704252
hsa-mir-150	0	- 0.964452796	0	0.00148876	0.034887692
hsa-mir-151	0	0.019761979	-0.189738862	-0.190652283	-0.224286721
hsa-mir-16-1	0	0.235367127	0	-0.299934205	0.279075974
hsa-mir-17	0	- 1.142262183	-0.417905612	-0.812433897	-0.292980684

hsa-mir-181a-1	0	- 0.004371134	-0.053445525	0.000276027	0.036152095
hsa-mir-181a-2	0	0.576392084	-0.060665412	-0.287906474	-0.536582141
hsa-mir-182	0	- 1.155987464	-0.084106087	0.524288585	-0.049926913
hsa-mir-183	0	1.121377699	-0.103049431	-0.80356586	-0.002140444
hsa-mir-191	0	- 0.030818238	-0.13143582	0.121485248	-0.426324401
hsa-mir-192	0	0.016531657	0.036743874	-0.261907218	-0.506513929
hsa-mir-193a	0	0.2462652	0	-0.395241136	-0.032571254
hsa-mir-199a-1	0	- 0.545489251	-0.180581837	0	0
hsa-mir-199a-2	0	0	0	0	0.473814337
hsa-mir-199b	-0.004210164	0.644596909	0.282542777	0.40429845	0
hsa-mir-200a	0	- 0.456828042	-0.254706784	0.169061583	0.103002524
hsa-mir-200b	0	0.497206959	0.233304468	-0.932759295	-0.382478078
hsa-mir-200c	0	0.00778197	0.197031551	0.995424474	0.109867154
hsa-mir-203	0	0.172418944	0.005985263	-0.108474814	-0.066026805
hsa-mir-205	-0.000411795	0.106938966	-0.065014521	0.006593103	-0.028012976
hsa-mir-21	-0.001969842	0.215965624	0.00156783	1.072283836	0.118838634
hsa-mir-22	-0.002768827	0.45166106	-0.065834477	0.071693695	0
hsa-mir-23a	0	0.798240863	-0.059691274	0	0.234362991
hsa-mir-23b	0	- 0.205063572	-0.093220673	0.818665971	0.420025795
hsa-mir-24-2	0	- 1.286280251	0.469542868	0.647206247	0.111551439
hsa-mir-25	0	- 0.122228262	-0.023295345	-0.225022601	-0.110767513
hsa-mir-26a-2	-0.001945213	0	-0.211667278	0.375707195	0.055549868
hsa-mir-26b	0	0.72951026	0.420041801	1.018052177	0.303944415

hsa-mir-27a	0	- 0.984508447	-0.434378649	0.243318475	0
hsa-mir-27b	0	0.22839743	0.112339196	-1.373036117	-0.214568762
hsa-mir-28	-0.000421307	-0.47619282	-0.04695421	-0.064953645	-0.169557018
hsa-mir-29a	-0.001506719	0.707030595	-0.013434213	-0.531361987	-0.15681067
hsa-mir-29c	-0.002172801	0.461171652	0	0.554654012	0
hsa-mir-30a	-0.002687593	0.013544781	-0.056459365	-0.041410761	-0.138697024
hsa-mir-30b	0	- 1.133191124	-0.051079137	0	-0.367966447
hsa-mir-30c-2	0	0.438098894	0	0	0.062795476
hsa-mir-30d	-0.003119009	0.356971274	-0.140436088	-0.095935655	0.281427
hsa-mir-30e	-0.002034509	0.718615851	0	1.591412322	0.472135826
hsa-mir-320a	0	0.781638617	-0.229876672	-1.27853038	0.001539783
hsa-mir-374a	0	- 0.685144163	0	0.23103674	0.663628301
hsa-mir-375	0	- 0.365631885	0.057672268	0.091637737	0.006458072
hsa-mir-379	0	0.049378416	-0.052458182	0.382059458	-0.088366225
hsa-mir-532	0	- 0.299307543	-0.057689649	-1.006552552	-0.070069659
hsa-mir-92a-1	0	1.614563596	0.390480209	0.115988144	-0.302688313
hsa-mir-92a-2	-0.003973204	- 0.269316244	-0.049876132	0.868343516	0.552328492
hsa-mir-93	-0.006431042	0.148924422	0	0.161442887	-0.163167548
hsa-mir-99a	0	-0.6813784	0.422976041	0.410945078	-0.170157095
hsa-mir-99b	-0.004888238	- 0.494445771	0	-0.178988652	-0.161417314
	MAGEA3 4102	MAGEA6 4105	MUC2 4583	MYH2 4620	MYH7 4625
hsa-let-7a-1	-1.096912186	- 1.250317105	1.567015734	0.415806002	0.216498495
hsa-let-7a-2	0	0	0.233137583	0.06172959	0

hsa-let-7a-3	0	0	0	0.049735614	0.021401097
hsa-let-7b	-0.371848156	0.653513504	2.352222468	0.55770369	0.345305579
hsa-let-7c	-0.674938281	0.163229967	-2.688262115	1.534923801	0.570317284
hsa-let-7d	-0.203004385	0.294782828	2.174039363	0.841664922	0.369870313
hsa-let-7e	2.453446757	1.670343795	2.328133935	-0.739142173	-0.209810837
hsa-let-7f-2	-0.610830764	0.087121075	-1.596228333	-1.082609887	-0.599781985
hsa-let-7g	1.181091276	0.717639842	0.108395927	0	0
hsa-let-7i	-2.027736504	1.266354542	-1.044375565	0.203524228	0
hsa-mir-100	-0.210034327	0.040254204	-0.049203518	0.019414838	-0.041283006
hsa-mir-101-1	-1.124486099	0.643283904	-1.434980775	0.096602642	0.096892073
hsa-mir-103-1	-0.138262759	0.101747055	-1.929496924	0.934824454	0.503542061
hsa-mir-106b	3.340282482	2.503434037	-2.564073417	-0.291305848	-0.070779589
hsa-mir-10a	-0.17649188	0.170711829	0.417869085	-0.218750967	-0.120009978
hsa-mir-10b	-0.080498292	-0.11983995	-1.285659309	0.312745773	0.143093601
hsa-mir-125a	-0.06706287	0.053257993	1.192129804	0.016193391	0
hsa-mir-125b-1	0.401290705	0	0.879231443	-0.577663419	-0.206021689
hsa-mir-126	0.4333009	0.596684542	0.61092023	-0.80153847	-0.420778704
hsa-mir-127	-1.372692101	0.394540098	-0.596197773	-2.521240235	-1.221384323
hsa-mir-1307	-0.392347277	-0.52723989	-0.154337406	-0.341661997	-0.228736149
hsa-mir-140	0.967431153	0.407515736	2.294805914	-0.913851849	-0.306992589
hsa-mir-141	-1.581670181	-1.03834182	-0.375632115	0.593355152	0.267137296
hsa-mir-142	-0.734199142	0.664924601	0.682804494	-0.618920302	-0.258402301
hsa-mir-143	-0.8381325	0.815991978	0.333904479	0.019820491	0.056953629
hsa-mir-145	-0.028111701	0.057178007	-0.127856752	-0.182827766	-0.106465956

hsa-mir-146b	-0.017219279	0.119894407	2.082088102	-0.930642651	-0.353154334
hsa-mir-148a	0	0.196538272	0.94448214	-0.28740595	-0.162442105
hsa-mir-150	0.142528334	0.048455852	-1.341062431	1.539793842	0.744464003
hsa-mir-151	0.137890072	0.190090928	-1.439633325	-0.293077183	-0.238992694
hsa-mir-16-1	-0.481412315	0.465941438	0.987061254	2.145702305	0.897357764
hsa-mir-17	-1.469086655	0.635242017	-2.903130012	0.828286723	0.408269931
hsa-mir-181a-1	-0.006437719	0.101825729	-0.751186868	0.403707214	0.158776996
hsa-mir-181a-2	-0.706649011	0.669048701	-1.466317478	0.377679302	0.181057831
hsa-mir-182	0.117047492	0	-4.053547037	-0.790509885	-0.360769651
hsa-mir-183	-0.695356228	0.544337969	4.475112228	0.830441866	0.403008997
hsa-mir-191	0.040399565	0.109123882	-0.63718393	1.25151909	0.704837534
hsa-mir-192	-1.060699735	0.062463809	-2.36389168	-0.578085243	-0.149886639
hsa-mir-193a	-0.514278904	0.231026078	0	-0.84076691	-0.433628469
hsa-mir-199a-1	-0.542257142	0.687468078	-6.530725534	3.026453369	1.531921097
hsa-mir-199a-2	0	0	0	1.37919859	0
hsa-mir-199b	2.203425187	0.006494193	6.117126914	-4.988877316	-1.83380395
hsa-mir-200a	1.156818623	1.06342794	3.740204021	-0.845822597	-0.342591717
hsa-mir-200b	-1.569005967	1.606504162	-4.007167649	1.041155007	0.405687333
hsa-mir-200c	1.459105004	1.323302606	0.493283661	0.128728421	0.120177796
hsa-mir-203	-0.094847387	0.026422803	0.196676634	-0.059786689	-0.035149189
hsa-mir-205	-0.09022873	0.012487219	-0.877061585	-0.099446489	-0.060278679
hsa-mir-21	1.586780778	1.48101751	1.296014915	1.282706865	0.599921785
hsa-mir-22	0.041768288	0.150265184	-2.012083773	0.555000975	0.347210363

hsa-mir-23a	0.059329902	0.337269718	0.499543904	4.317046307	2.086459386
hsa-mir-23b	0	0.207950653	-4.985811877	-2.995156384	-1.54874523
hsa-mir-24-2	1.121141999	0.296755252	-1.656688418	0.204204933	0.115326969
hsa-mir-25	-0.799180223	0.295511637	0.621970785	0.257895893	0.154906068
hsa-mir-26a-2	0.857545121	0.687325737	-1.203320988	-0.992821508	-0.462308164
hsa-mir-26b	0.879285904	0.455686075	0.935528483	0.011013604	0.08477712
hsa-mir-27a	0	0	-2.265538066	-3.372719651	-1.609735987
hsa-mir-27b	-0.630998591	0.737766198	5.891049764	2.622953167	1.311408857
hsa-mir-28	0	0.018146497	-0.439327967	-0.538726761	-0.251432866
hsa-mir-29a	-0.525445556	0.476116675	4.365833085	0.841849205	0.370120436
hsa-mir-29c	0.462525605	0.558410853	-0.55903048	-1.873419693	-1.024293258
hsa-mir-30a	-0.216850117	0.067098958	0.509565771	-0.745767803	-0.346085539
hsa-mir-30b	-0.932895668	0.376819159	-4.147820453	0	0
hsa-mir-30c-2	-0.085073922	0	0.988773237	0.900664002	0.345639655
hsa-mir-30d	0.159468462	0.110196831	3.252518243	-0.156728646	-0.035231856
hsa-mir-30e	3.285327115	2.463305151	0.340145442	0.079331724	0.053131376
hsa-mir-320a	-1.269928061	1.306854357	-1.102949168	-0.325827789	-0.086353983
hsa-mir-374a	1.206318897	0.58873415	-1.017733472	-0.001785984	0
hsa-mir-375	0.059926325	0.089524769	0.631217382	0.370135189	0.163699452
hsa-mir-379	-0.855251541	0.248335949	0	2.689004165	1.281472026
hsa-mir-532	-0.900125357	1.061312788	0.044251808	0.053609228	0.05742365
hsa-mir-92a-1	0.270401857	0	-1.845684247	-0.928896124	-0.396397715
hsa-mir-92a-2	1.330050261	0.869557496	0.99399716	-0.485229631	-0.2530365

hsa-mir-93	0	0.132584076	2.065880465	-1.738041699	-0.90354274
hsa-mir-99a	0.311139541	0	3.289807316	-0.80873387	-0.258422262
hsa-mir-99b	-1.284967507	0.758639428	-0.820192316	-0.075154837	-0.122502655
	MYL1 4632	MYL2 4633	MYLPF 29895	NRAP 4892	PAGE1 8712
hsa-let-7a-1	0	0	0	0	0
hsa-let-7a-2	0.001210092	0.007728014	0.001825285	0	0
hsa-let-7a-3	0	0	0	0	-0.076585912
hsa-let-7b	0.001298063	0.007208587	0.006376063	0.00882847	-0.574585855
hsa-let-7c	4.50E-05	0.015164598	0.004990973	0	1.202316852
hsa-let-7d	0	0.003296085	0	0	0.108364327
hsa-let-7e	0	0	0	0	0.351602141
hsa-let-7f-2	0.000972754	0.005107881	0.010316671	0.002717159	-0.527361774
hsa-let-7g	0	0	0	0	1.241554876
hsa-let-7i	0	0	0	0	0.187837906
hsa-mir-100	0	0	0	0	0.396538096
hsa-mir-101-1	0	0	0	0.007950508	-0.287654667
hsa-mir-103-1	0.001827373	0.012854046	0.004952532	0.004554569	-0.484051752
hsa-mir-106b	0	0	0	0	3.056355391
hsa-mir-10a	0	0.001746509	0	0.000109809	-0.112968795
hsa-mir-10b	0.001044301	0.003673418	0.00223722	0.010916511	-0.343814657
hsa-mir-125a	0	0	0	0	0.258368242
hsa-mir-125b-1	0	8.17E-05	0.003603556	0	-1.700572287
hsa-mir-126	0.001019792	0	0.00184821	0	0.175573021
hsa-mir-127	0	0	0	0	-1.85607178
hsa-mir-1307	0	0	0	0	0.597350841

hsa-mir-140	0	0	0	0.003460827	-0.450157298
hsa-mir-141	0	0	0	0	0.161665414
hsa-mir-142	0	0	0	0	-0.311601686
hsa-mir-143	0.002815685	0.004952019	0.005045689	0.012760025	-0.005190662
hsa-mir-145	0.000559936	0.006449323	0.007152204	0	-0.57377194
hsa-mir-146b	0	0	0.001630313	0	0.849316979
hsa-mir-148a	0.002346832	0.004167687	0.004060684	0	-0.309868094
hsa-mir-150	0	0.006474369	0.000888992	0	0.038040935
hsa-mir-151	0	0	0	0	0.735091061
hsa-mir-16-1	0	0.005361445	0	0.031424337	0
hsa-mir-17	0	0	0	0	-2.196013774
hsa-mir-181a-1	0	0.002198224	0.003916298	0.001720708	0.164680655
hsa-mir-181a-2	0	0.00546607	0.002532043	0.006612364	0.134358766
hsa-mir-182	0.000395177	0.002288212	0.005053936	0.002403032	-0.078689205
hsa-mir-183	0	0	0	0	0.296044696
hsa-mir-191	0.000365365	0.012620952	0.003558085	0.006258161	-0.568955248
hsa-mir-192	0	0	0	0	-0.643317794
hsa-mir-193a	0	0	0	0.009937806	-0.32678991
hsa-mir-199a-1	0	0.003575247	0.001091976	0.010048784	8.347812785
hsa-mir-199a-2	0	0	0	0	0
hsa-mir-199b	0	0	0	0	-4.908936095
hsa-mir-200a	0	0	0	0	0
hsa-mir-200b	0	0.003157239	0.005702281	0.001441149	0.069293524

hsa-mir-200c	6.12E-05	0.006590881	0.004748052	0.012684773	0
hsa-mir-203	0	0.00032348	0.001129163	0.002067149	0.088721849
hsa-mir-205	0.000104633	0	0	0.001832104	0.040579361
hsa-mir-21	0.00456349	0.019047934	0.014138585	0.009285725	-0.166588172
hsa-mir-22	0.00316192	0.008412846	0.010548461	0	0.216018039
hsa-mir-23a	0.000558246	0.020837883	0.001538926	0.013872578	-0.71410504
hsa-mir-23b	0	0	0	0	0
hsa-mir-24-2	0	0.010009654	0.010466383	0	0.36475115
hsa-mir-25	0.000986435	0.011510365	0.003340302	0.006319145	-0.105242578
hsa-mir-26a-2	0	0	0	0	0.508019824
hsa-mir-26b	0	0.008171569	0	0	0
hsa-mir-27a	0	0	0.004417638	0	-0.565610781
hsa-mir-27b	0	0.000921128	0	0.008671332	0.050260615
hsa-mir-28	0	0	0.000812296	0	0.055046845
hsa-mir-29a	0.001742931	0.002873601	0.003710997	0.005039562	-0.486416007
hsa-mir-29c	0	0	0	0	0.574141276
hsa-mir-30a	0.000316036	0	0.000352312	0.008059373	0.023496826
hsa-mir-30b	0	0.00228844	0.005938743	0	-0.390140854
hsa-mir-30c-2	0	0	0	0	-0.101723124
hsa-mir-30d	0.000198746	0.003217063	0	0.003713569	0.132014627
hsa-mir-30e	0.003515954	0.014624538	0.009796546	0.019459601	1.234408291
hsa-mir-320a	0	0.0046872	0.007145031	0	-0.524660982
hsa-mir-374a	0	0.000906418	0	0	-0.45346282

hsa-mir-375	0	0.003054734	0.001212242	0.003384311	0.094164564
hsa-mir-379	0	0	0.000393085	0	-0.654994989
hsa-mir-532	0	0	0.000672394	0.013759909	-0.013083231
hsa-mir-92a-1	0	0	0	0	1.621988268
hsa-mir-92a-2	0.00266166	0.009686679	0.012052044	0	0.729428028
hsa-mir-93	6.22E-05	0	0	0.004163095	-1.592015861
hsa-mir-99a	0	0	0	0	-0.351157369
hsa-mir-99b	0.003786497	0.007645869	0.007670894	0	-0.358776851
	PAGE2 20356 9	PPP1R3A 55 06	PYGM 5837	RTBDN 8354 6	SPANXB2 10013 3171
hsa-let-7a-1	-0.258086254	0	0	0.160576369	0
hsa-let-7a-2	0	0.000153861	0	0.318356765	0
hsa-let-7a-3	0	0	0	0.001618438	0
hsa-let-7b	-0.658906486	0.004603324	0.006366411	-0.209928323	0
hsa-let-7c	0.953523967	0	0.028608445	0.009723016	0
hsa-let-7d	-0.169855016	0	0	-0.030593611	0
hsa-let-7e	-0.332472681	0	0	-0.339484545	0
hsa-let-7f-2	-0.275422671	0.007512547	0	-0.190316902	0.009658756
hsa-let-7g	0.647621442	0	0	0	0
hsa-let-7i	-1.662269044	0	0	0	0
hsa-mir-100	-0.371810339	0	0	0	0.002497915
hsa-mir-101-1	0.425094785	-0.00083224	0.024236747	0.052540454	0
hsa-mir-103-1	0.266972319	0.003787386	0.010615227	0.090507316	0
hsa-mir-106b	2.520705103	0	0.004738471	0	0.00603215
hsa-mir-10a	0.086388165	0.001296598	0.002168986	0.083754471	0.009566386

hsa-mir-10b	-0.016379935	0.000731711	0.006542418	0	0.009633119
hsa-mir-125a	1.514820114	0	0.003201855	0.378624827	0.043730443
hsa-mir-125b-1	1.026821766	0.008419265	0	0.016699287	0
hsa-mir-126	0.972044331	0.005135316	0.034973113	0.03436047	0.00895737
hsa-mir-127	0.138676973	0	0	-0.041250987	0
hsa-mir-1307	-0.697904353	0	0	-0.008286567	0
hsa-mir-140	-0.788636794	0	0.041895957	-0.104649776	0
hsa-mir-141	-1.821413626	0	0	0	0
hsa-mir-142	1.154395546	0	-0.012017828	0	0
hsa-mir-143	0.316375127	0.006559722	0.039553301	0.18201503	0.006090656
hsa-mir-145	-1.195241888	0.002818852	0.023769644	0	0
hsa-mir-146b	0.024271225	0	0	0	8.97E-05
hsa-mir-148a	-0.119995972	0.006525875	0	0.063084561	0
hsa-mir-150	-0.578731027	0	0.012930358	-0.052439695	0.005442559
hsa-mir-151	-0.755419998	0	0	-0.104677407	0
hsa-mir-16-1	-0.098618613	0	0	0	0
hsa-mir-17	0.635307746	0	0	0.087550644	0.013274026
hsa-mir-181a-1	-0.157615457	0.001298953	0.008886867	0.134336729	0.013598411
hsa-mir-181a-2	1.143866812	0	0	-0.190724907	0
hsa-mir-182	0.234641056	0.001226059	0.00678816	0	0.006933116
hsa-mir-183	-0.620699575	0	0	0.05036532	0
hsa-mir-191	0.399952955	0.002940972	0.001375453	-0.021763239	0.000965825
hsa-mir-192	0.745490552	0	0.013571428	-0.020221942	0

hsa-mir-193a	-0.170321509	0	0.004520138	0.105303587	0.006421868
hsa-mir-199a-1	1.582321252	0	0.011539258	0	0
hsa-mir-199a-2	0	0	0	0	0.000513342
hsa-mir-199b	-1.811278492	0.004459281	0	0.057836045	0
hsa-mir-200a	0.248614344	0	0	0.071505237	0
hsa-mir-200b	0.242704667	-5.59E-05	0.001155684	0.019467576	0.005089322
hsa-mir-200c	0.32610991	0.003203859	0	0	0
hsa-mir-203	0.082147363	0	0.005112363	-0.071277008	0.002070962
hsa-mir-205	-0.112510501	-0.00031682	-0.005848148	-0.053704229	0
hsa-mir-21	-0.186202659	-0.00942989	0.038368465	-0.109927392	0.005188426
hsa-mir-22	0.010699991	0.008292283	0	0	0.015837581
hsa-mir-23a	-0.004196857	0.004531481	0	0	0.012340518
hsa-mir-23b	-0.488917922	0	0	-0.009186278	0
hsa-mir-24-2	-0.460245349	0.002061349	0	0.067175772	0.036253226
hsa-mir-25	0	0.005483419	0.011641743	0.127536414	0.019998931
hsa-mir-26a-2	1.168815163	0.006384468	0	-0.187640373	0.029844692
hsa-mir-26b	-1.858911575	0.001606038	0.028194682	0.02665177	0
hsa-mir-27a	0	0	0	0.050434688	0
hsa-mir-27b	1.213842738	0	0	0	0
hsa-mir-28	0.918593269	0	0.004225962	-0.163840867	0
hsa-mir-29a	-0.23672582	0.004319639	0	0.095230897	0
hsa-mir-29c	0.820384246	0	0	0.011445055	0.006949368
hsa-mir-30a	0.197195857	0.002118972	0.004015018	-0.05684285	0

hsa-mir-30b	-0.798239332	0.002172798	0	-0.213010652	0.004235618
hsa-mir-30c-2	0.200198767	0	0	0	0
hsa-mir-30d	0.101329828	0.004260992	0.001196804	0.089213698	0.004389633
hsa-mir-30e	0.171563913	0.008783071	0.029142798	0	0
hsa-mir-320a	-0.285539478	0	0.01838148	0.055522646	0
hsa-mir-374a	-0.269543714	0	0	0.050089634	0.019244563
hsa-mir-375	-0.188615076	0.000267068	0.003112256	0.006445813	0.004880528
hsa-mir-379	0.398279868	0	0.002327769	0	0
hsa-mir-532	1.164052123	0	0	-0.019646689	0
hsa-mir-92a-1	-0.621302442	0	0	-0.226470884	0
hsa-mir-92a-2	-0.233518777	0.008097455	0.005504437	0.293134379	0.008780725
hsa-mir-93	-0.539715832	0.005379563	0	-0.075952437	0
hsa-mir-99a	-1.900385356	0	0	-0.090642066	0.000645801
hsa-mir-99b	-0.431707715	0.009170858	0.003779315	-0.019930822	0
	SPDYC 387778	TECRL 253017	TRPA1 8989	UCN3 114131	XIRP2 129446
hsa-let-7a-1	-1.298364643	0	0	1.737142944	0.540787656
hsa-let-7a-2	0	0	-0.170103402	1.463170188	0.103424226
hsa-let-7a-3	-0.024318444	0	0	0.031922644	0.076235716
hsa-let-7b	-0.01109862	0.005401074	0.160548683	-1.51656876	0.788164013
hsa-let-7c	0.615021788	0	-0.545172318	1.447431375	2.291680256
hsa-let-7d	-1.600061267	0	0	0.349106319	1.352915456
hsa-let-7e	1.076635225	0	0.133634383	-2.032363152	-1.119299984
hsa-let-7f-2	0.610170805	0.008887217	0.178879995	-1.172970605	-1.616352146
hsa-let-7g	-0.357731916	0	-0.091118129	-0.561485527	-0.048686616

hsa-let-7i	-1.419774631	0	0.818790706	-0.329170054	0.361341879
hsa-mir-100	-0.279641425	0	-0.007500375	0.067437458	0.110486525
hsa-mir-101-1	-0.288429733	0.001004843	-0.230185177	0.26098395	0.169115125
hsa-mir-103-1	0.285432287	-0.00458804	0	0.22526643	1.320856154
hsa-mir-106b	-0.155711255	0	0.148770418	0.305326842	-0.432376032
hsa-mir-10a	0.253467717	0.001525033	0.127963764	0.237439585	-0.318741985
hsa-mir-10b	0.583478093	0.001025297	0.051598109	0.122795383	0.458087833
hsa-mir-125a	0	0	0.016818773	1.98848976	0.254517879
hsa-mir-125b-1	-0.690715596	0.010693663	0.082596429	0.523436521	-0.894815116
hsa-mir-126	0.563975914	0.005606507	-0.164705451	0.298797993	-1.172492753
hsa-mir-127	-0.117670421	0	0.526767817	-0.198885877	-3.694840423
hsa-mir-1307	-0.008547773	0	-0.170598996	0.688636635	-0.548614518
hsa-mir-140	0.311478599	0	-0.165222427	-0.522836358	-1.349366833
hsa-mir-141	0.793029428	0	0	0.048301817	0.864355713
hsa-mir-142	0.115572615	0	0.194257793	-0.295565065	-0.890397569
hsa-mir-143	-0.33980016	0.007635163	0.131703448	0.341354569	0.068020398
hsa-mir-145	-0.242970562	0.003142538	-0.162316141	0.127139229	-0.377499734
hsa-mir-146b	0.41405457	0	0	0.525311208	-1.355875165
hsa-mir-148a	-0.004322702	0.007155693	-0.280551273	0.352698476	-0.417491421
hsa-mir-150	-0.070062817	0	-0.197646034	0.048513291	2.264853247
hsa-mir-151	-0.021283866	0	0.204534478	-0.101173007	-0.375099306
hsa-mir-16-1	0.323093809	0	0.188918292	-0.827439102	3.161570963
hsa-mir-17	-0.766461827	0	0	0.091832243	1.299077226
hsa-mir-181a-1	0.150541056	0.001730231	-0.258299387	0.657232903	0.573561525

hsa-mir-181a-2	-0.428092462	0	0.067623804	-0.51626669	0.567204869
hsa-mir-182	0.126885401	-0.00154773	0.031743375	0.047276249	-1.157615849
hsa-mir-183	-0.349804842	0	0.104744297	0.110554161	1.212748644
hsa-mir-191	-0.564225277	0.003986521	0.014212533	-0.637238428	1.902363249
hsa-mir-192	0.021205259	0.000714191	-0.176672913	0.355978165	-0.877741038
hsa-mir-193a	0.712783044	0	-0.45271193	0.234014378	-1.219377614
hsa-mir-199a-1	-1.586064831	0	0.046984475	-0.84777391	3.1689598
hsa-mir-199a-2	1.936232761	0.004625003	0	0	4.267172336
hsa-mir-199b	0	0.000420846	0	1.0027288	-8.421234909
hsa-mir-200a	-0.043114855	0	0	-0.617025754	-1.260552208
hsa-mir-200b	1.121753324	0.000556449	-0.069442614	1.237167535	1.54394263
hsa-mir-200c	-0.155226492	0.003753001	0.081708523	-0.067430949	0.185428069
hsa-mir-203	-0.042802432	0	-0.010807173	-0.33012808	-0.089447422
hsa-mir-205	-0.146909775	0.000383292	0.060439532	-0.20544177	-0.148376004
hsa-mir-21	-0.195288529	0.011044533	-0.289435919	-0.293715052	1.872221149
hsa-mir-22	-0.57644668	0.009577179	0.238384939	0.247015747	0.825548732
hsa-mir-23a	-0.856620611	0.005978886	0.689029883	-1.09145152	6.427520841
hsa-mir-23b	1.970684274	0	0.189286332	0.0207098	-4.549875316
hsa-mir-24-2	-0.238923523	0.003230633	-0.596903409	0.758031858	0.29542997
hsa-mir-25	0	0.007146477	0.034419493	0	0.405021854
hsa-mir-26a-2	0.915176415	0.006911349	0.075957854	-0.800054532	-1.607710519
hsa-mir-26b	-0.597377533	0.002025662	0.058103768	0	0.100854743
hsa-mir-27a	2.48945629	0	-0.088619815	1.228497386	-5.145365929

hsa-mir-27b	-2.335980604	0	-0.103885356	0	4.044328753
hsa-mir-28	0.297002234	0	0.034775891	-0.871357599	-0.780431722
hsa-mir-29a	-0.502993594	-0.00465727	0.112491689	-0.023448214	1.205682481
hsa-mir-29c	-0.087095831	0	0.399852324	0.225257515	-2.674378556
hsa-mir-30a	-0.691804395	0.002149539	-0.14777194	0.10353612	-1.10283057
hsa-mir-30b	0.116993048	-0.00313735	-0.495937681	-0.663925219	0
hsa-mir-30c-2	1.890645216	0	-0.044504262	-0.670222236	1.396834667
hsa-mir-30d	-0.373843233	0.004560347	0.289184253	-0.220706563	-0.245392589
hsa-mir-30e	0.040944803	0.010597089	-0.226532875	0.432652709	0.090898196
hsa-mir-320a	0.186216093	0	0.072137621	0.058257389	-0.523910265
hsa-mir-374a	-0.196642714	0	-0.018130358	-0.597028795	-0.069857103
hsa-mir-375	-0.063688403	0.000475015	-0.074808539	-0.01797877	0.539754535
hsa-mir-379	0.300196492	0	-0.457549551	-0.339870071	3.98772596
hsa-mir-532	0.024034475	0	-0.199339199	-0.029619977	0.093365422
hsa-mir-92a-1	-1.570988993	0	0	-1.415446443	-1.448706509
hsa-mir-92a-2	1.807906777	0.009450617	-0.070500908	1.672198107	-0.71060508
hsa-mir-93	0.125290855	0.005370065	0.388128401	-0.677013181	-2.54636716
hsa-mir-99a	-0.254171418	0	0.508266602	-2.031704984	-1.228616507
hsa-mir-99b	-0.028559979	0.010183059	-0.00165517	-0.113626597	-0.215764981

