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Research article

A methylomics-correlated nomogram predicts the recurrence free survival risk of kidney renal clear cell carcinoma

Xiuxian Zhu†, Xianxiong Ma† and Chuanqing Wu*

Department of Gastrointestinal Surgery, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

† The authors contributed equally to this work.

* **Correspondence**: Email: wucq2014@hust.edu.cn.

Supplementary

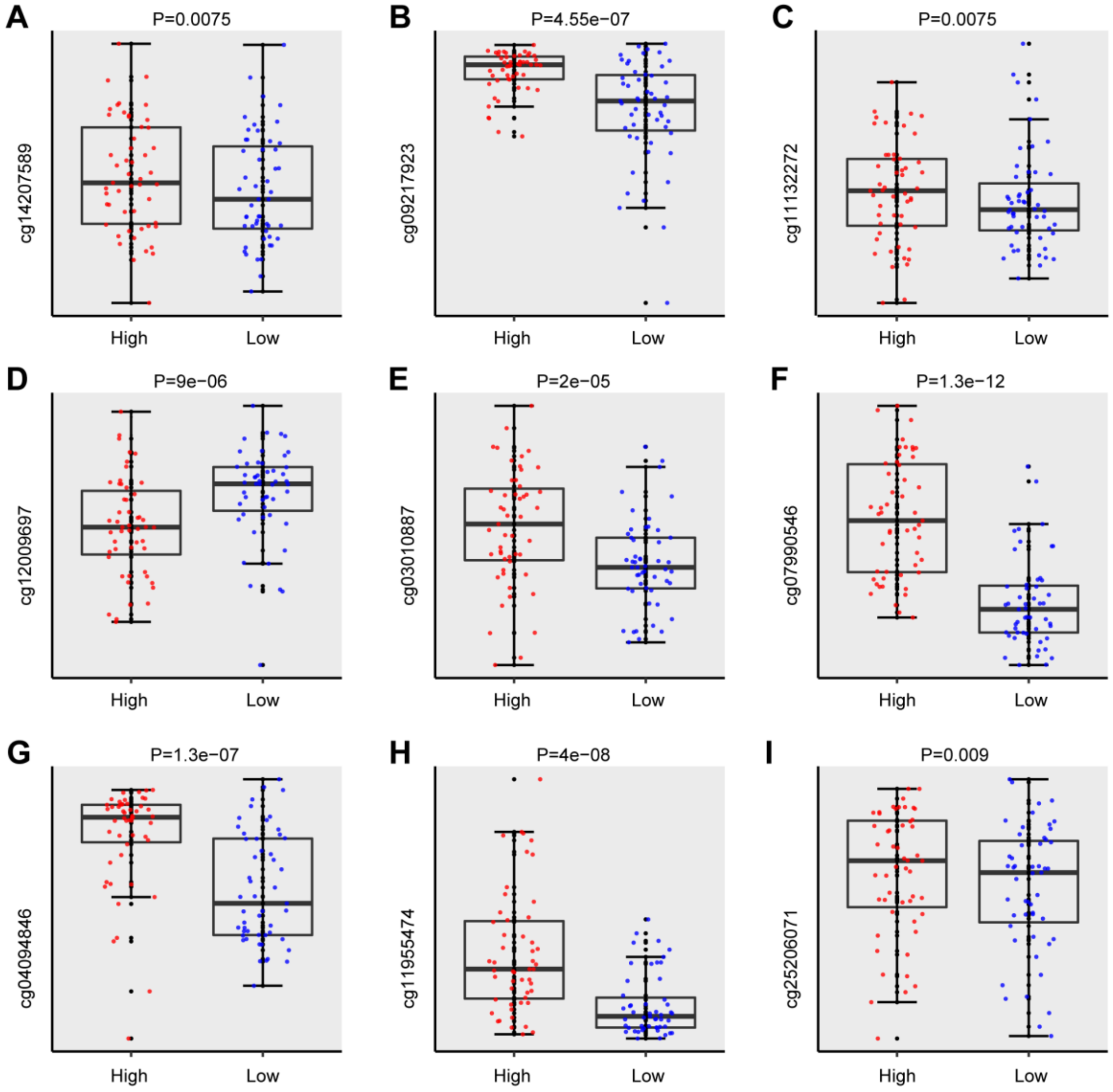

Figure S1. Boxplots of methylation β values against risk group in the entire E-MTAB-3274 dataset. Y-axis stood for the β-value of 9-DNA methylation sites respectively. The differences between the 2 groups were assessed by Mann-Whitney U test.

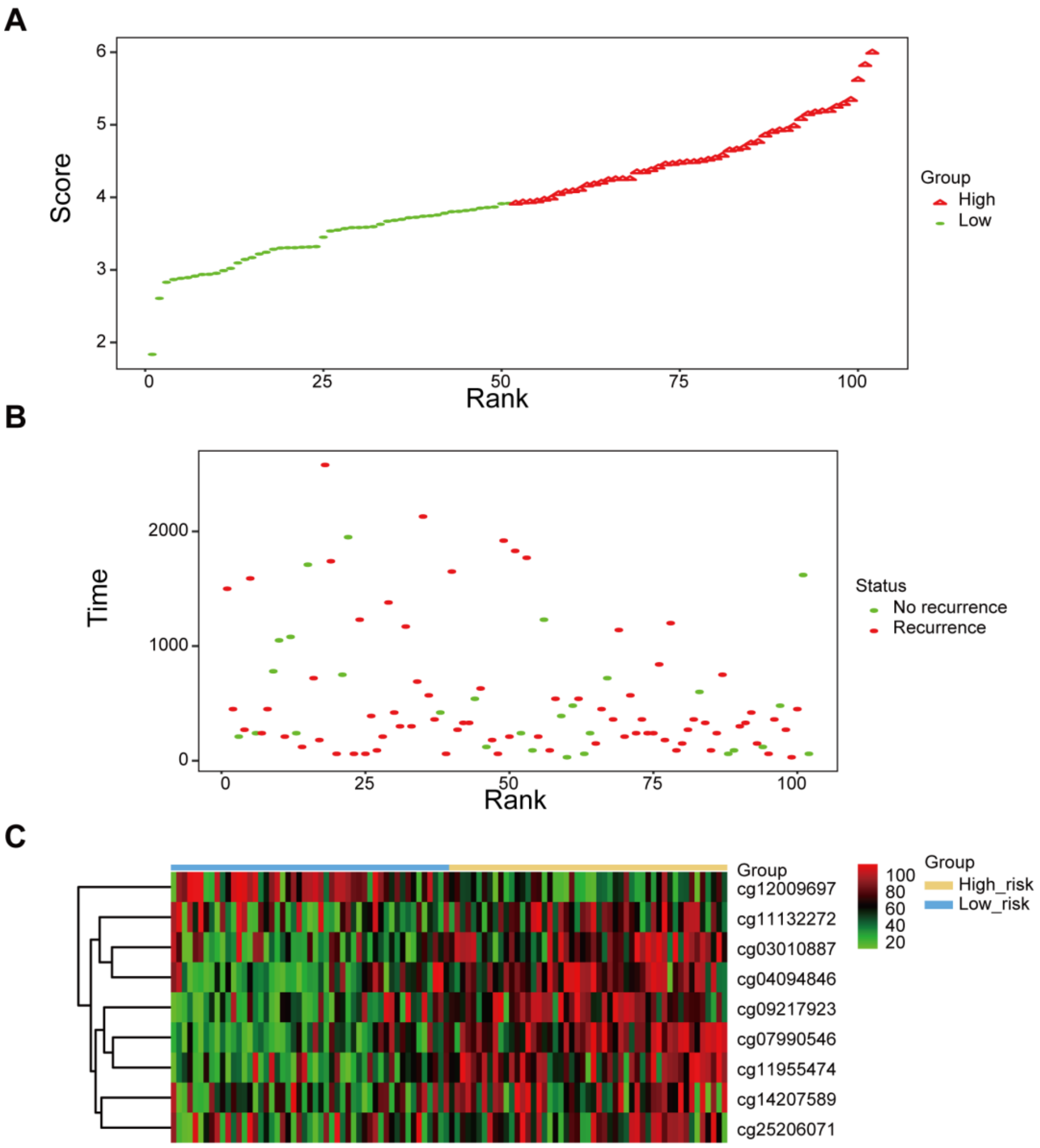

Figure S2. Methylation risk score analysis of the 102 KIRC patients from E-MTAB-3274. (A) Methylation risk score distribution against the rank of risk score. Median risk score was the cut-off point. (B) Recurrence status of KIRC patients. (C) Heatmap of 9 methylation sites expression profiles of KIRC patients.

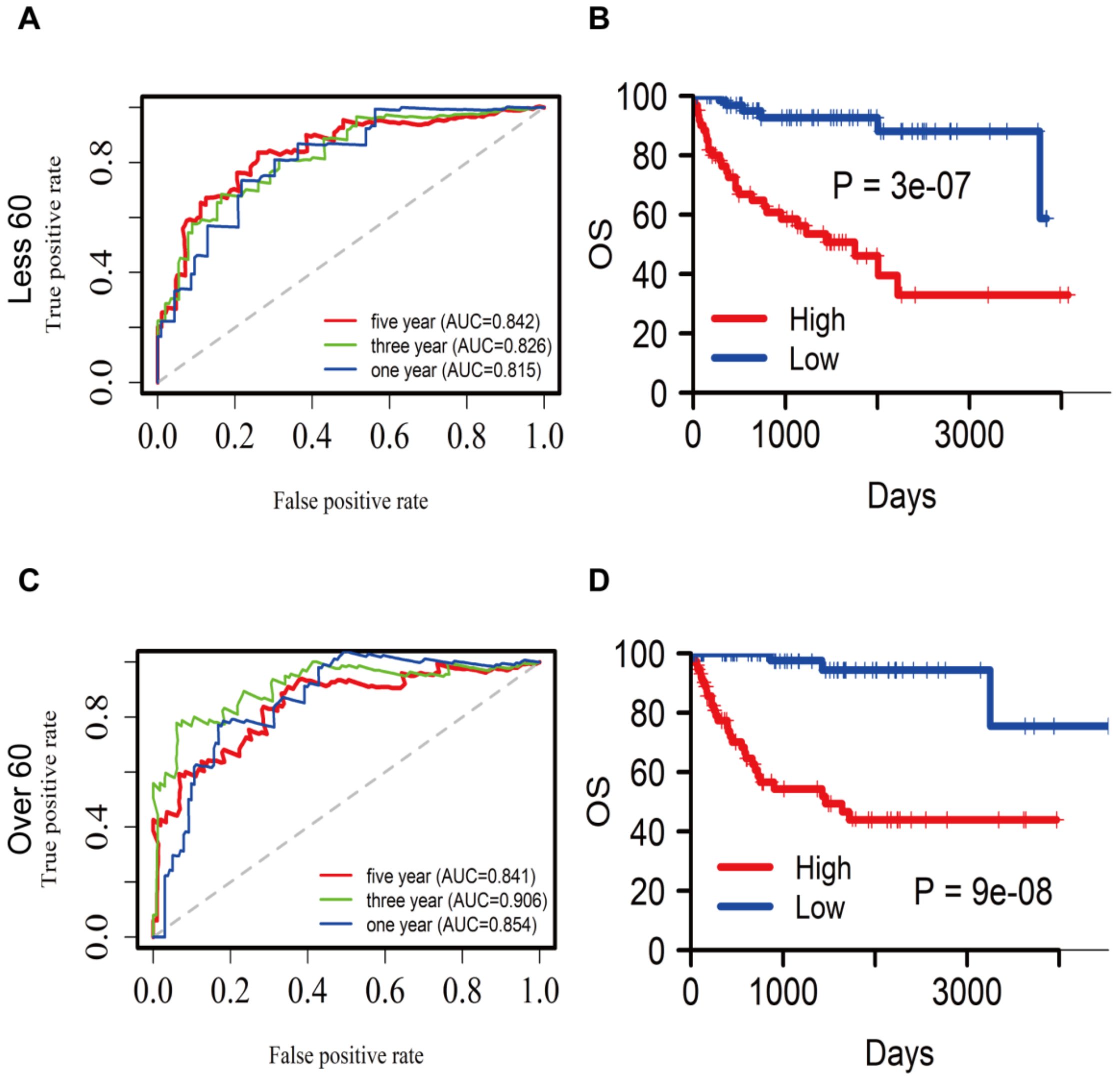

Figure S3. Kaplan-Meier and ROC analysis of patients with KIRC in sub-groups according to age, respectively. (A, B) Age less 60 years sub-group. (C, D) Age over 60 years sub-group. "High" and "Low" stood for the high risk score group and low risk score group, respectively. The median risk score was set as a cutoff.

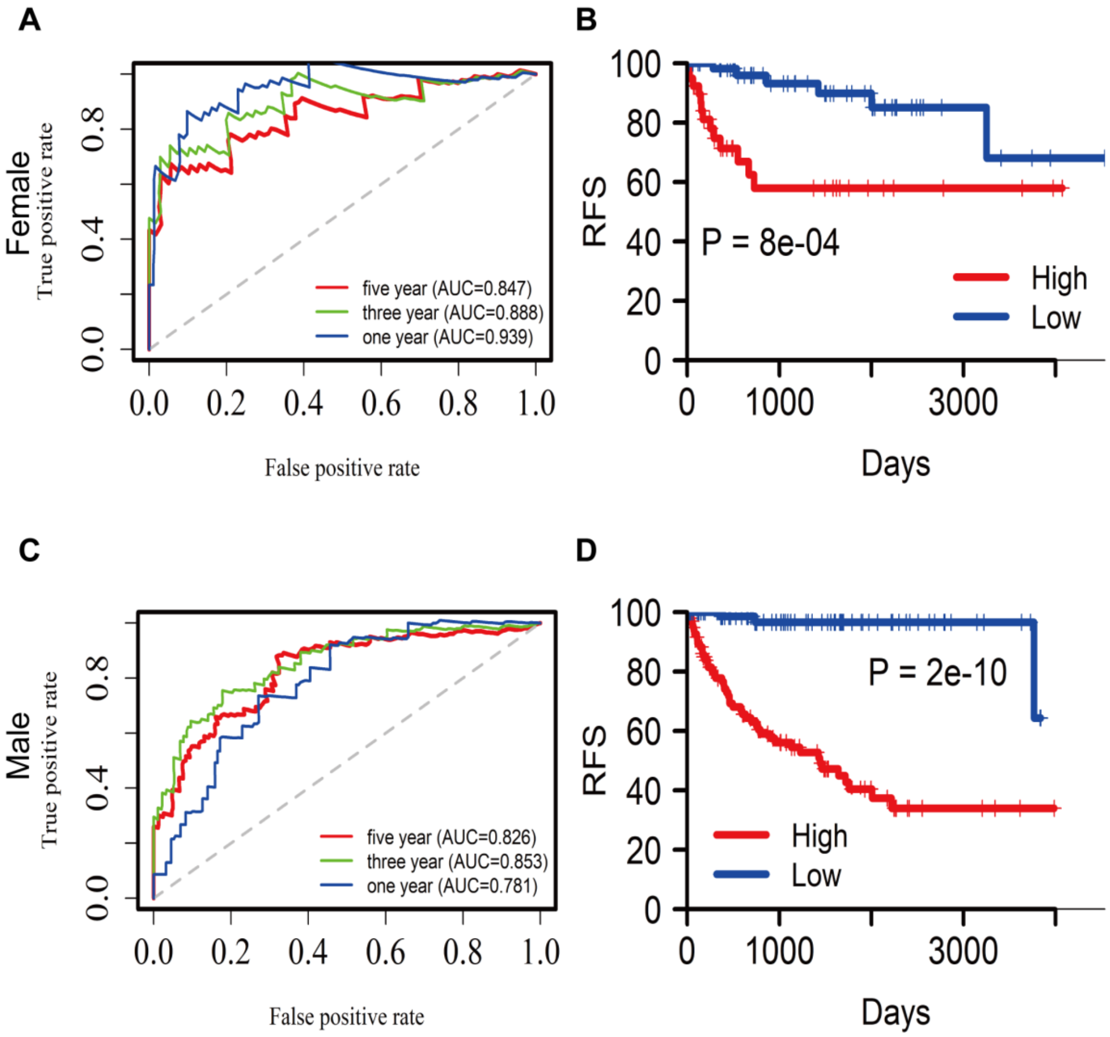

Figure S4. Kaplan-Meier and ROC analysis of patients with KIRC in sub-groups based on sex, respectively. (A, B) Female sub-group. (C, D) Male sub-group. “High” and “Low” represented the high risk score group and low risk score group, respectively. The median risk score was set as a cutoff.

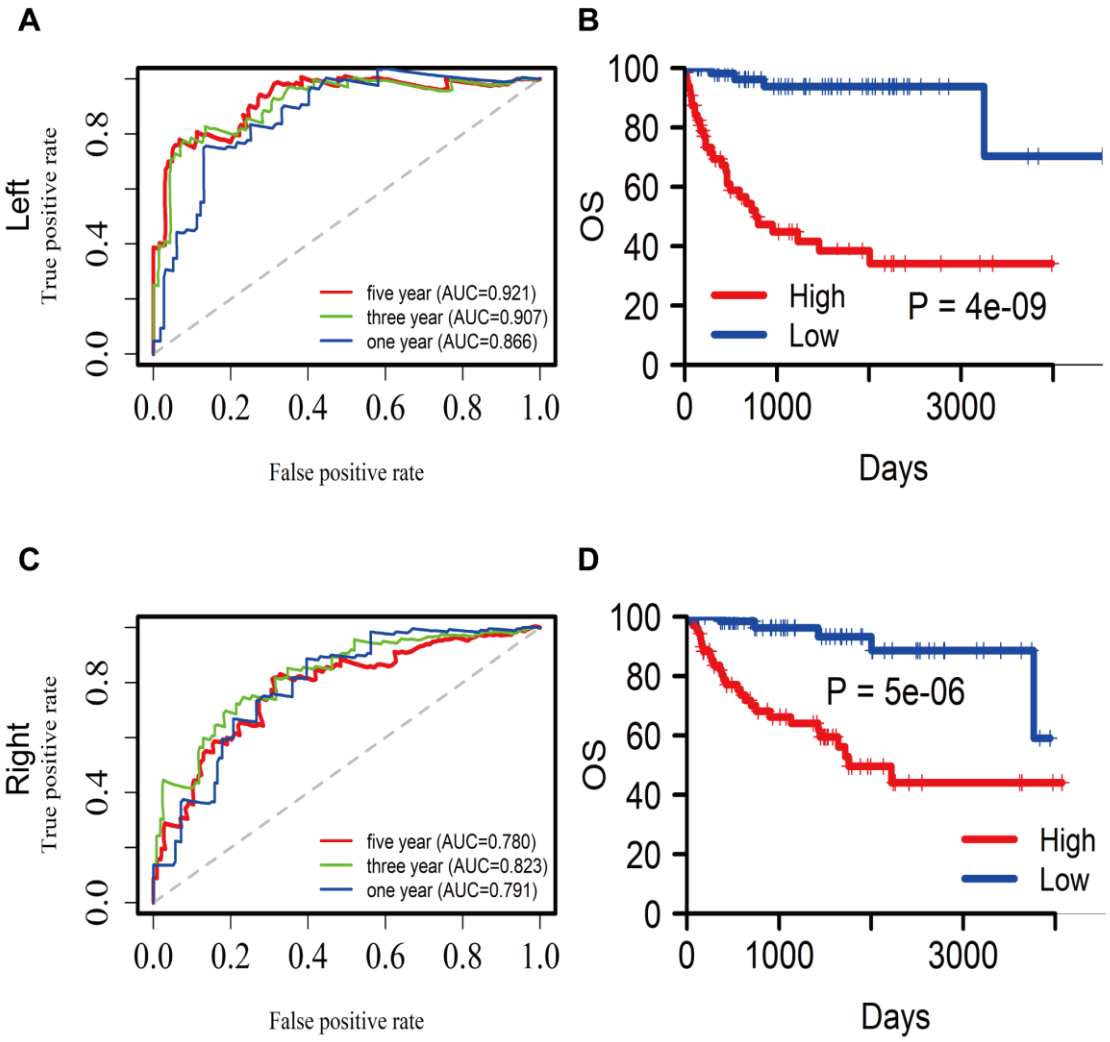

Figure S5. Kaplan-Meier and ROC analysis of patients with KIRC in sub-groups according to anatomic site, respectively. (A, B) Left side sub-group. (C, D) Right side sub-group. “High” and “Low” represented the high risk score group and low risk score group, respectively. The median risk score was set as a cutoff.

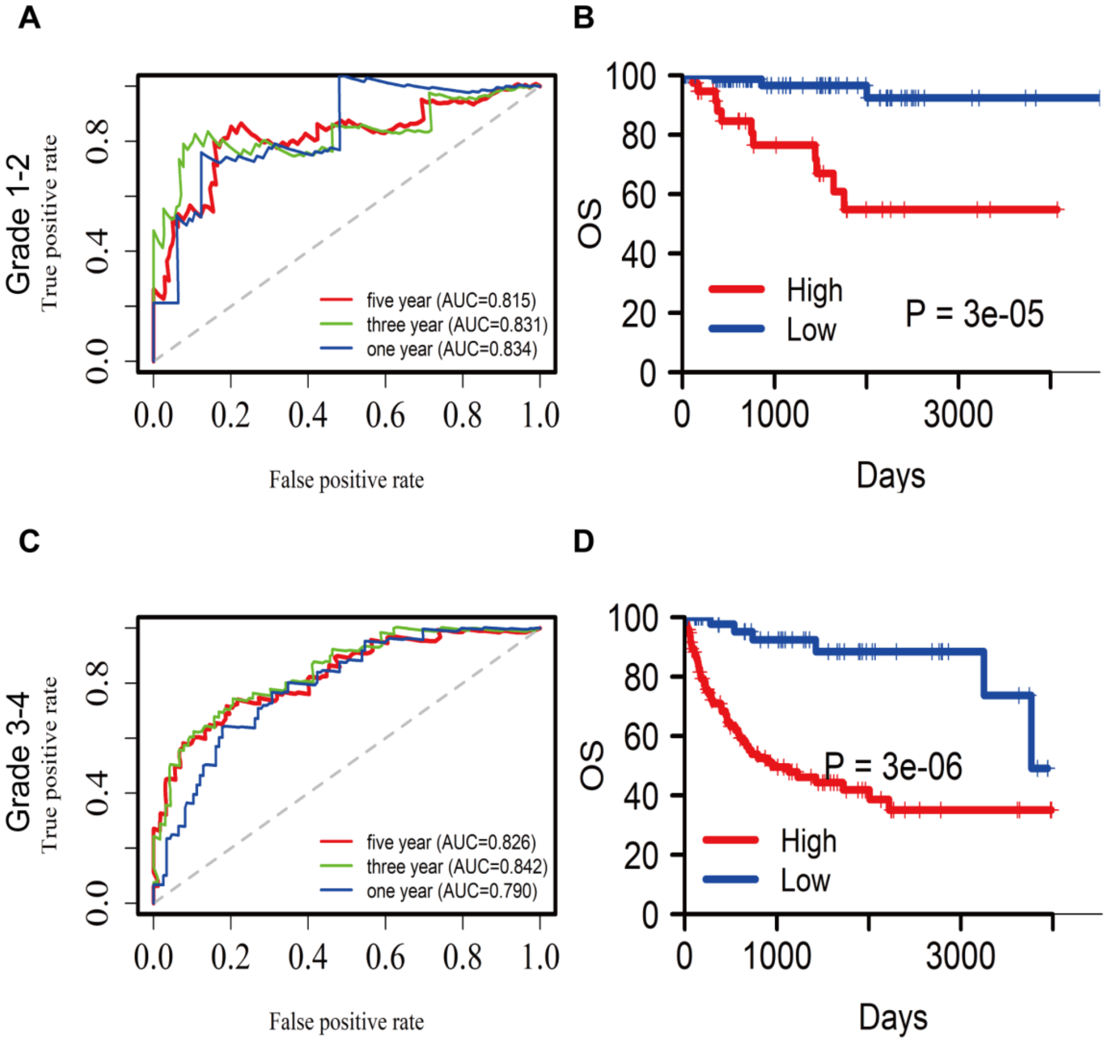

Figure S6. Kaplan-Meier and ROC analysis of patients with KIRC in sub-groups according to Grade, respectively. (A, B) Grade 1-2 sub-group. (C, D) Grade 3-4 sub-group. “High” and “Low” represented the high risk score group and low risk score group, respectively. The median risk score was set as a cutoff.

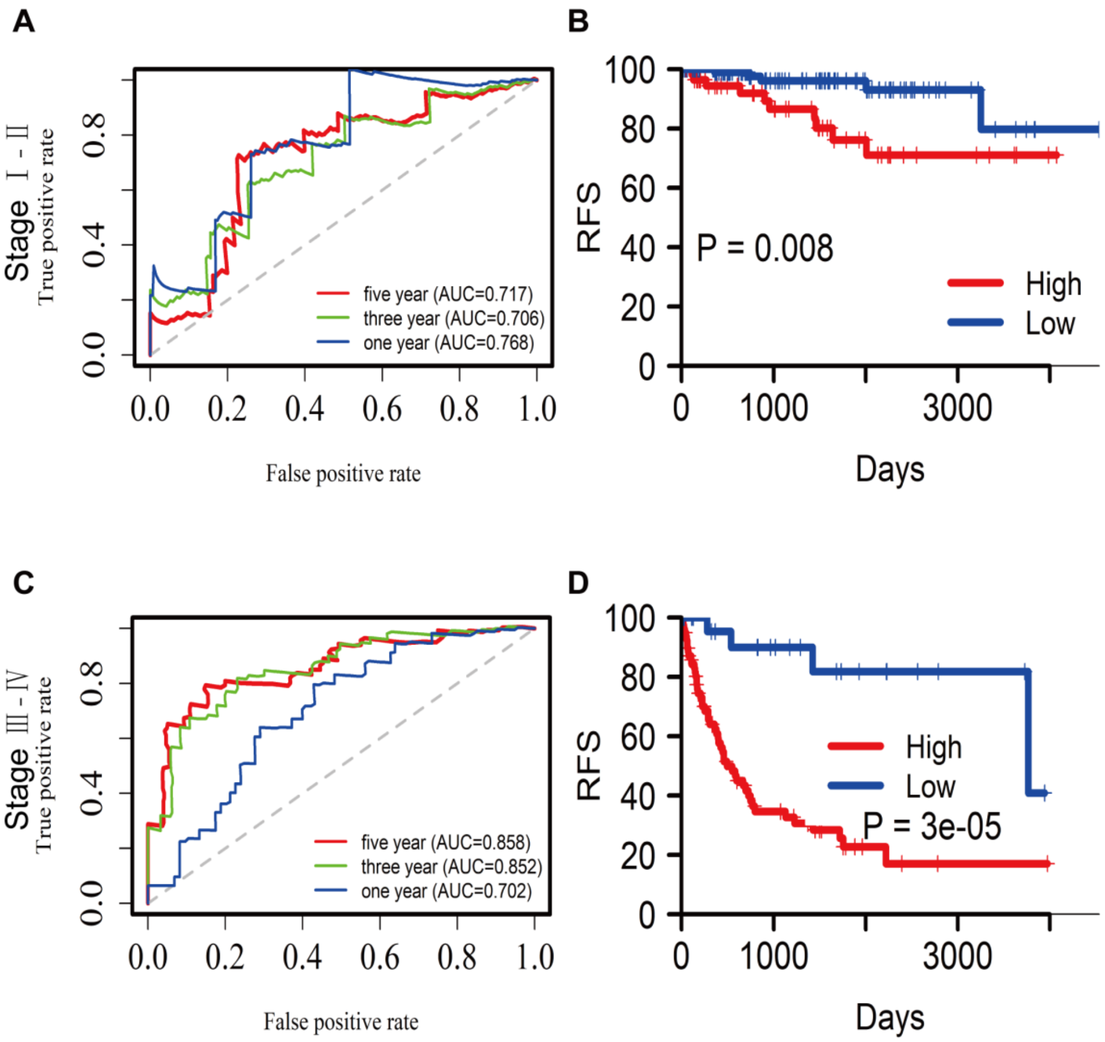

Figure S7. Kaplan-Meier and ROC analysis of patients with KIRC in sub-groups according to stage, respectively. (A, B) Stage I-II. (C, D) Stage III-IV. “High” and “Low” represented the high risk score group and low risk score group, respectively. The median risk score was set as a cutoff.

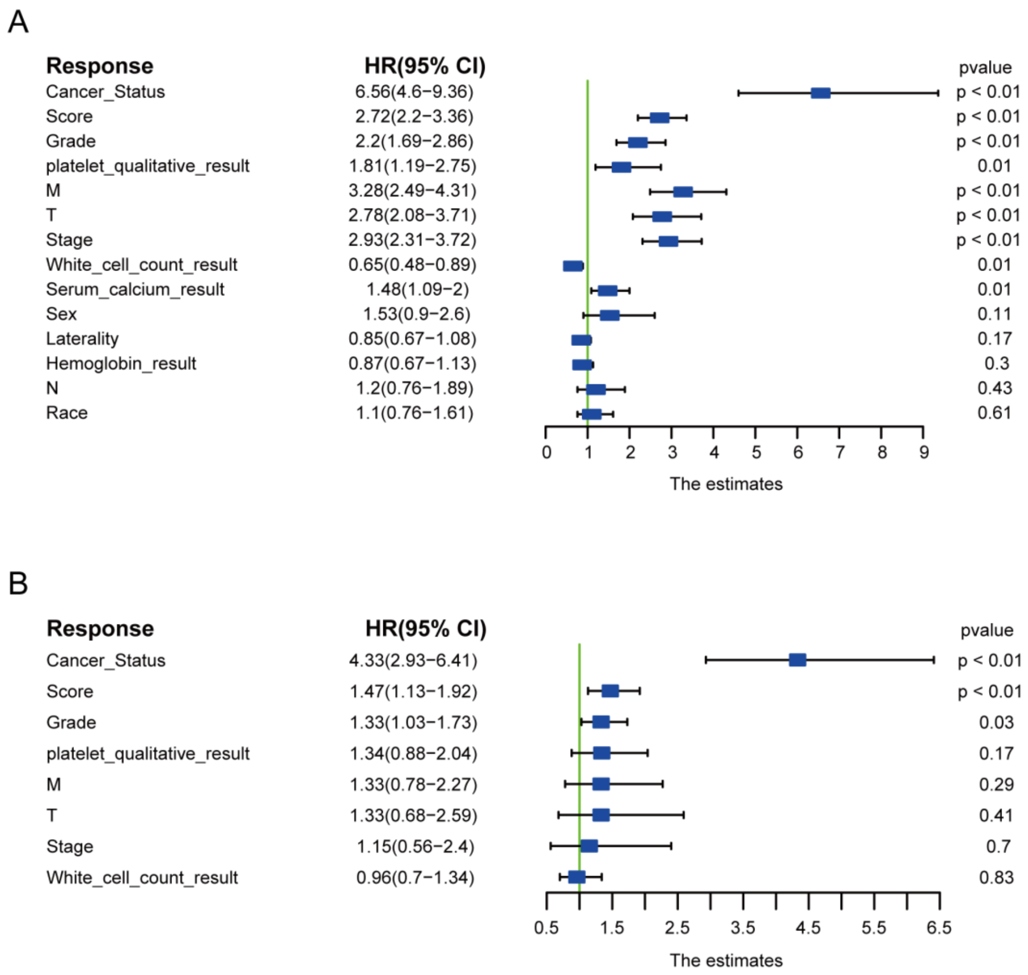

Figure S8. Forest plot summary of analysis of RFS. (A) Univariable Cox analysis of the risk score as well as other clinical variables. (B) Multivariable Cox analysis of the risk score and other clinical variables. The blue squares on the transverse lines stood for the hazard ratio (HR), and the black transverse lines stood for 95% CI. "Score" represents the risk scores computed based on the formula in Results section. "Response" means response variables, that is clinical variables with relatively complete clinical information.

Table S1. Hazard ratios and 95% CIs as well as P values of 942 methylation sites based on univariate Cox regression analysis.

Characteristics	Hazard.Ratio	CI 95%	P.value
cg00459623	22.00614	5.26691-91.94577	2.00E-05
cg07274590	54.85264	12.61063-238.59332	0
cg01054478	31.1449	7.39992-131.08313	0
cg04787024	18.45674	4.82437-70.61052	2.00E-05
cg04092800	17.80438	4.98177-63.63122	1.00E-05
cg04492228	54.66038	10.97058-272.34274	0
cg24603408	13.74559	4.45012-42.45754	1.00E-05
cg02416510	148.9806	20.71294-1071.56307	0
cg13677149	32.42541	8.00346-131.36904	0

cg12331331	0.03445	0.00801-0.14811	1.00E-05
cg26599006	19.24062	5.32724-69.49209	1.00E-05
cg05223720	16.4908	4.39561-61.86771	3.00E-05
cg14207589	36.10405	5.9434-219.3195	1.00E-04
cg09217923	371.5232	25.08762-5501.89574	2.00E-05
cg14427009	105.7427	14.85705-752.60704	0
cg02604524	13.496	5.12148-35.56439	0
cg02317400	36.58661	7.98462-167.64489	0
cg08637618	37.91938	9.19296-156.41085	0
cg09537620	14.34023	4.52945-45.4011	1.00E-05
cg11132272	23.23547	5.80606-92.98675	1.00E-05
cg12715421	54.17541	8.01551-366.16211	4.00E-05
cg16557178	40.89521	8.54046-195.82304	0
cg26199241	17.18001	4.37447-67.47174	5.00E-05
cg23376501	0.01813	0.00189-0.17362	5.00E-04
cg04681810	55.78887	10.70439-290.759	0
cg07539443	0.0554	0.01741-0.17625	0
cg03774463	46.21651	9.24385-231.06885	0
cg07014673	9.74527	3.51329-27.03171	1.00E-05
cg04727521	0.04807	0.01239-0.18644	1.00E-05
cg21697851	14.61757	4.07795-52.39727	4.00E-05
cg26189983	36.44784	6.97913-190.34522	2.00E-05
cg03002848	33.63685	7.5448-149.96268	0
cg03072621	16.48997	4.57833-59.39265	2.00E-05
cg22595460	25.77124	7.14037-93.01431	0
cg14202477	42.07641	7.18188-246.51271	3.00E-05
cg13459498	20.44679	4.60318-90.82234	7.00E-05
cg03565189	17.63435	3.9119-79.49335	0.00019
cg09287190	24.25193	4.39393-133.85641	0.00025
cg02388453	53.39232	6.64464-429.02879	0.00018
cg26546373	31.3572	5.30881-185.21544	0.00014
cg23153745	0.04806	0.01091-0.21161	6.00E-05
cg12436377	13.8874	4.42761-43.55842	1.00E-05
cg13389502	24.17538	4.34722-134.44206	0.00027
cg01715172	0.03992	0.0088-0.18103	3.00E-05
cg12338552	11.33691	3.23405-39.74138	0.00015
cg07135614	15.20589	4.47004-51.72645	1.00E-05
cg03690956	17.67119	4.73223-65.98812	2.00E-05
cg27508620	15.56793	4.05603-59.75318	6.00E-05
cg13349472	65.4312	6.4758-661.11411	4.00E-04
cg06555959	19.3815	4.55911-82.39381	6.00E-05
cg12764034	32.25088	7.56818-137.43325	0
cg27443071	9.30893	2.79851-30.96516	0.00027
cg00182273	0.00359	0.00016-0.0807	0.00039
cg05692123	10.38928	2.3826-45.30218	0.00184
cg16084872	20.25622	4.4424-92.36327	1.00E-04
cg12009697	0.0231	0.00383-0.13926	4.00E-05
cg00095431	35.72753	6.85978-186.07823	2.00E-05
cg16670307	27.75588	4.43617-173.66076	0.00038
cg14866167	48.40595	8.04549-291.23611	2.00E-05

cg18401406	50.32165	8.77255-288.65815	1.00E-05
cg19908556	8.12548	2.76327-23.89322	0.00014
cg24509810	23.30988	5.19493-104.59249	4.00E-05
cg05591728	0.05385	0.01229-0.23589	0.00011
cg05870739	8.57805	2.31576-31.77486	0.0013
cg03780851	18.3173	4.02525-83.35468	0.00017
cg26271045	9.66838	2.44805-38.18449	0.00121
cg03011535	22.32329	5.19348-95.95287	3.00E-05
cg24843474	11.18556	2.90814-43.02292	0.00044
cg18126442	25.11077	3.73842-168.6677	0.00091
cg17610800	17.25457	4.28062-69.55065	6.00E-05
cg03010887	49.57829	8.32037-295.42028	2.00E-05
cg07990546	18.1134	4.87865-67.25118	2.00E-05
cg10067304	0.05413	0.01016-0.28843	0.00063
cg04094846	20.87577	5.16955-84.30096	2.00E-05
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cg23734418	9.53193	2.50571-36.26022	0.00094
cg16697438	32.95771	6.59011-164.82426	2.00E-05
cg24617171	29.68801	5.66545-155.57067	6.00E-05
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cg17603461	0.02348	0.00161-0.34144	0.00602
cg08261988	0.06505	0.00684-0.61835	0.01739
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cg00499707	31.40163	5.2177-188.98417	0.00017
cg11193681	0.05477	0.00638-0.46991	0.00808
cg03306374	6.58619	2.26786-19.12722	0.00053
cg13080282	9.58165	2.66259-34.48071	0.00054
cg15902390	4.35574	1.55708-12.18465	0.00505
cg11128216	9.2442	2.61306-32.70307	0.00056
cg17187163	9.47279	2.01789-44.46907	0.00437
cg10105884	6.90132	1.33403-35.70246	0.02124
cg14658067	6.8379	1.65183-28.3062	0.00799
cg06086887	15.47563	2.72279-87.95932	0.002
cg15037541	8.16422	2.43075-27.4214	0.00068
cg15601050	31.19722	5.53847-175.72845	1.00E-04
cg04481096	4.46739	1.11137-17.95758	0.03497
cg05771369	11.02127	1.95246-62.21289	0.00657
cg20445727	0.08925	0.01619-0.49206	0.00554
cg05782651	0.07727	0.00985-0.60593	0.01482
cg19030994	0.17409	0.04788-0.63294	0.00794
cg00706913	0.04069	0.0056-0.29551	0.00155
cg26597242	4.00879	1.25426-12.81268	0.01918

cg02205073	0.17651	0.03294-0.94574	0.04286
cg13567299	0.08862	0.01484-0.52904	0.00785
cg25353450	6.19048	2.03858-18.79839	0.0013
cg05105069	6.17532	1.96686-19.38853	0.00182
cg14156405	6.33149	2.29798-17.44483	0.00036
cg08251815	5.69793	1.18282-27.4482	0.03006
cg15363435	0.07244	0.00869-0.60363	0.01524
cg16001495	11.03395	2.87368-42.36654	0.00047
cg21230493	9.05191	1.85203-44.24187	0.0065
cg18316256	7.70142	1.79688-33.00827	0.00597
cg02469604	11.74028	2.32505-59.28226	0.00287
cg26872100	25.65534	2.77526-237.16562	0.00424
cg02193580	0.10748	0.01692-0.6826	0.01804
cg27296089	0.11857	0.0215-0.65405	0.01439
cg08336425	0.11013	0.02034-0.59629	0.01047
cg25764105	12.22847	1.75088-85.40576	0.01158
cg21234506	0.14354	0.04422-0.46598	0.00123
cg12347346	7.97889	1.21893-52.22833	0.03027
cg27373604	9.63344	2.10074-44.17636	0.00355
cg16049598	0.08901	0.01051-0.75398	0.02649
cg12861797	9.63682	1.90782-48.67772	0.00611
cg18005337	410.2067	7.01192-23997.66057	0.00375
cg20429172	7.68367	1.5993-36.91534	0.01089
cg20574490	12.53081	2.07268-75.75779	0.00589
cg11457640	9.88914	1.88787-51.80178	0.00669
cg27207493	13.34234	2.16898-82.07462	0.00519
cg00155310	4.24038	1.35414-13.27839	0.01312
cg18708013	11.09786	2.4501-50.26826	0.00179
cg01210880	0.04076	0.00356-0.46701	0.01011
cg26144458	9.32798	2.22286-39.14379	0.00228
cg02644510	4.37254	1.26674-15.09313	0.01959
cg27011060	8.69577	2.31585-32.65167	0.00136
cg15374686	7.28768	1.6042-33.10708	0.01011
cg10795666	4.36336	1.19486-15.93395	0.02579
cg09810818	12.13872	2.33938-62.98623	0.00296
cg20405017	17.44531	3.67973-82.7069	0.00032
cg22186831	8.38389	2.36611-29.70679	0.00099
cg05112555	13.86156	2.5381-75.70344	0.0024
cg12590600	27.73971	4.71547-163.18463	0.00024
cg12283119	15.07589	2.54846-89.18413	0.00278
cg27492725	8.53473	1.55901-46.72303	0.01344
cg21742836	0.05757	0.00697-0.47535	0.00804
cg09285795	15.56857	2.20501-109.92232	0.00591
cg10361547	3.8673	1.32785-11.26335	0.01314
cg02673850	0.15659	0.02721-0.90132	0.03787
cg19409687	0.10507	0.01847-0.59756	0.01107
cg12510923	0.08058	0.0112-0.57993	0.01238
cg24408656	9.03215	1.86927-43.64257	0.00618
cg04635364	5.31628	1.43588-19.68326	0.01236
cg11229543	5.41128	1.22343-23.93421	0.02603

cg00378228	26.78008	2.80434-255.73625	0.0043
cg07713026	0.05741	0.00568-0.58053	0.01549
cg21915313	16.67399	2.16788-128.24618	0.00687
cg27553162	13.95801	2.36749-82.29242	0.00359
cg27172175	16.50245	2.9852-91.22692	0.00131
cg16799087	13.35295	1.87067-95.31435	0.00975
cg20082641	12.39739	2.8143-54.61228	0.00088
cg26987597	11.11487	2.5551-48.35059	0.00132
cg18479593	14.27145	3.51803-57.89443	2.00E-04
cg23944920	8.46304	1.66131-43.11238	0.01014
cg09570348	10.71343	1.86636-61.49794	0.00782
cg17566118	4.09867	1.27397-13.18645	0.01798
cg00666105	9.48576	1.80338-49.89497	0.0079
cg17568707	11.84945	2.48941-56.40265	0.0019
cg14197071	8.31651	2.25099-30.72624	0.00149
cg04211829	11.93985	2.45328-58.11002	0.00213
cg15657888	0.03667	0.00469-0.28674	0.00163
cg05104639	6.70198	1.59861-28.09719	0.00928
cg14526718	6.66362	1.33673-33.21824	0.02066
cg20035980	0.1543	0.04516-0.52722	0.00287
cg03464416	0.14689	0.02208-0.97719	0.04727
cg08042273	12.24562	2.15929-69.44639	0.00466
cg10779454	11.78213	1.87343-74.09842	0.00856
cg08296831	4.96697	1.176-20.97849	0.02922
cg14712531	11.20794	2.64484-47.49548	0.00104
cg23524524	0.16337	0.03321-0.80354	0.02581
cg12377327	0.23552	0.06195-0.89531	0.03382
cg26704293	0.14523	0.03192-0.66066	0.01255
cg10430690	16.5605	2.00075-137.07394	0.00924
cg17802464	0.11931	0.01405-1.01328	0.05143
cg08707617	7.24747	1.65155-31.80402	0.00867
cg20319604	0.14694	0.02984-0.72365	0.01839
cg14773365	13.02818	2.98335-56.89367	0.00064
cg10961604	11.65258	3.04375-44.61034	0.00034
cg21129864	12.80666	2.24571-73.0329	0.00409
cg02639634	18.03874	3.47091-93.74938	0.00058
cg04311403	7.76067	1.43252-42.04349	0.01746
cg10576817	0.11442	0.01791-0.73078	0.02194
cg01084827	0.077	0.00601-0.98601	0.04875
cg21429394	17.53655	2.85168-107.84212	0.002
cg00178359	11.15862	1.75942-70.77022	0.01048
cg13800209	17.31831	4.14726-72.31861	9.00E-05
cg04392209	0.03895	0.00191-0.795	0.03494
cg19426955	27.78122	3.62276-213.04114	0.00138
cg19767622	6.24597	1.48011-26.3576	0.01264
cg26651775	0.24785	0.06444-0.95334	0.04241
cg24055703	15.49207	2.12293-113.05341	0.00689
cg02581727	0.09399	0.01411-0.62595	0.01452
cg09687738	4.11827	1.21397-13.97076	0.02314
cg23637494	6.72901	1.2975-34.89766	0.0232

cg17489908	8.61484	2.00833-36.95378	0.00375
cg19585433	0.13351	0.03348-0.53236	0.00433
cg00006815	0.11667	0.01943-0.70056	0.01882
cg03099771	9.64808	1.65213-56.34279	0.01182
cg13270055	7.08526	1.35915-36.93548	0.02011
cg09166536	7.88839	1.38426-44.9532	0.02001
cg02407342	11.87935	3.27635-43.07204	0.00017
cg17345373	0.18027	0.03965-0.81965	0.0266
cg07172885	0.1076	0.01687-0.68647	0.01838
cg22097249	8.14636	2.16233-30.69053	0.00194
cg07429087	0.14308	0.03707-0.55229	0.00478
cg26806511	0.09229	0.01102-0.77264	0.02796
cg25950278	11.23202	2.35286-53.61915	0.00242
cg21109542	0.1527	0.02485-0.93827	0.04248
cg14471364	5.97982	1.63134-21.91949	0.00697
cg14097304	9.30097	2.56109-33.77785	7.00E-04
cg17236781	0.10971	0.01462-0.82352	0.03165
cg07963234	5.45936	1.70194-17.51215	0.00432
cg05554151	31.8047	2.89255-349.70509	0.00468
cg22813950	8.19661	1.32617-50.66039	0.02359
cg05559023	6.61671	1.36842-31.99372	0.01877
cg06104859	0.13332	0.03442-0.51647	0.00354
cg08097882	6.625	1.61755-27.13402	0.00858
cg01047586	6.61876	1.60894-27.22781	0.00882
cg06282524	5.71059	1.36175-23.94776	0.01721
cg04136185	11.30009	1.89968-67.21774	0.00769
cg10095226	8.83342	2.12356-36.74449	0.00274
cg14209781	12.33656	2.23218-68.18037	0.00397
cg08663552	22.10624	2.06349-236.82443	0.01051
cg21944224	23.94837	3.47837-164.88284	0.00125
cg08369368	10.80687	2.50513-46.61974	0.00142
cg00857536	0.0778	0.01417-0.42719	0.00329
cg16735881	10.80928	2.03538-57.40487	0.0052
cg17996619	4.97358	1.25675-19.6828	0.02228
cg06027835	0.19101	0.0372-0.98074	0.04734
cg26130581	0.0873	0.01433-0.53192	0.00818
cg10592454	12.66282	2.11039-75.97994	0.00549
cg15268456	10.42711	2.18672-49.72051	0.00326
cg20909686	8.19668	2.18674-30.72411	0.00181
cg00718539	20.30828	1.76063-234.24936	0.01581
cg27644869	12.71998	1.82305-88.7512	0.01029
cg07896193	0.11414	0.01563-0.83323	0.03237
cg15503722	4.01316	1.12521-14.31329	0.03221
cg14725109	0.05589	0.00418-0.74704	0.02923
cg10109146	0.09085	0.01112-0.74206	0.0252
cg20606555	18.31814	2.57059-130.53598	0.0037
cg27312652	11.81836	1.56724-89.12095	0.01658
cg18045515	2.70616	0.90601-8.08302	0.07456
cg00445126	12.31038	2.04811-73.99276	0.00608
cg03068068	0.09673	0.02684-0.34864	0.00036

cg04547675	6.07588	1.66177-22.21499	0.00638
cg17964359	0.10243	0.01283-0.81754	0.03155
cg13914094	5.99622	1.28286-28.02694	0.02281
cg01403532	7.21608	1.63246-31.89768	0.00915
cg24995836	6.14026	1.48856-25.32847	0.01207
cg26144594	6.00975	1.36747-26.41171	0.01758
cg23677243	4.09684	1.23042-13.64099	0.02157
cg23752828	0.17257	0.05097-0.58432	0.00475
cg26581449	0.11795	0.02126-0.6543	0.01448
cg15868105	6.79182	1.39309-33.11257	0.01778
cg22272888	0.22759	0.06798-0.76199	0.01636
cg12011522	12.39773	2.08833-73.60142	0.0056
cg16336989	0.16587	0.03093-0.88961	0.03604
cg25144893	4.06387	1.34231-12.30349	0.01311
cg15388196	6.34338	1.72268-23.35807	0.00547
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cg24714905	9.35553	2.71302-32.2614	4.00E-04
cg02124059	0.10457	0.01258-0.86896	0.03662
cg14091713	0.15794	0.02871-0.86888	0.03388
cg06908232	0.18005	0.03516-0.92191	0.03963
cg03831206	0.0515	0.00396-0.67001	0.02346
cg11111740	4.04148	1.01221-16.13653	0.04802
cg14684434	8.4864	2.45575-29.3267	0.00072
cg09761040	5.50924	1.46911-20.66	0.0114
cg02763101	4.26026	1.07345-16.90799	0.03933
cg23074992	6.58539	1.43191-30.2865	0.01547
cg02904442	44.78666	3.92441-511.12025	0.00221
cg07499899	14.08307	2.14149-92.6142	0.00592
cg12157364	5.59988	1.42608-21.98931	0.01357
cg10983544	10.88554	2.0809-56.94412	0.00468
cg01615333	11.14765	1.53941-80.72586	0.01698
cg19580826	0.09252	0.01014-0.84404	0.03483
cg00605988	6.68541	1.16986-38.20535	0.03265
cg04159302	0.14213	0.03602-0.56077	0.00534
cg17044023	0.16653	0.02652-1.04558	0.05582
cg08499046	3.04904	0.89213-10.42068	0.07542
cg16199850	0.11049	0.02175-0.56121	0.00789
cg07210774	0.22711	0.05514-0.93541	0.04013
cg20743662	0.09313	0.01558-0.55682	0.00928
cg07398839	6.01121	1.08056-33.44069	0.04052
cg11756870	6.7902	1.36158-33.86282	0.01947
cg20340302	8.46266	2.16198-33.12552	0.00216
cg26105341	0.18149	0.032-1.02916	0.05392
cg00381755	15.15631	2.58812-88.757	0.00257
cg08425203	6.82734	1.46998-31.70959	0.01422
cg03679521	10.27603	1.64642-64.13731	0.01264
cg26795312	0.1884	0.04631-0.7664	0.01972
cg26429783	7.49901	1.10863-50.72497	0.03886
cg21872782	12.30742	2.20385-68.73093	0.00423

cg21019788	0.18412	0.035-0.96854	0.04575
cg23171231	11.5895	1.3634-98.51609	0.02484
cg24592892	11.84979	2.01694-69.61921	0.00621
cg20288000	8.86583	1.77925-44.1776	0.00774
cg15826897	7.21013	1.78014-29.20325	0.00564
cg27545611	3.93209	0.82001-18.85504	0.08692
cg18628255	0.12656	0.02915-0.54959	0.0058
cg01544903	9.5921	2.30697-39.88277	0.00187
cg14098847	10.25378	1.88429-55.79813	0.00708
cg22519102	0.17057	0.0362-0.80379	0.02534
cg24910675	0.18185	0.03004-1.10061	0.06351
cg17854454	3.56768	1.03047-12.35198	0.04471
cg14054928	10.45404	1.6076-67.98152	0.01401
cg17916960	10.37661	2.82246-38.14903	0.00043
cg13433278	6.78811	1.65021-27.92279	0.00795
cg18869840	19.90494	1.71158-231.48546	0.01688
cg22946648	0.14156	0.01679-1.19342	0.07227
cg08434396	0.12032	0.01858-0.77929	0.02631
cg03732411	0.22147	0.05095-0.96274	0.04437
cg24361079	0.13841	0.02388-0.80215	0.02739
cg18344930	6.36216	1.50513-26.89271	0.01187
cg12530021	0.08928	0.01353-0.58912	0.01209
cg24142775	0.17482	0.03115-0.98112	0.04752
cg01000615	6.88041	1.32179-35.81495	0.02194
cg21123686	12.1755	1.6319-90.84079	0.01479
cg10848980	0.18611	0.03525-0.98248	0.04761
cg02143487	6.62709	1.91665-22.91414	0.00281
cg09850561	0.16314	0.03214-0.82817	0.02871
cg04134528	8.48755	1.52664-47.18756	0.01455
cg06921685	0.10882	0.0112-1.05712	0.05587
cg08855449	10.40327	1.81919-59.49259	0.00847
cg18769303	0.29199	0.07515-1.1345	0.07545
cg03161309	0.15337	0.03629-0.64823	0.01079
cg14563954	7.21291	1.69376-30.71621	0.00752
cg21643178	0.10757	0.02448-0.47275	0.00316
cg26956007	0.22404	0.04464-1.12451	0.06916
cg02678482	0.08193	0.01163-0.57703	0.012
cg16316394	11.59519	1.64067-81.94704	0.01404
cg22824415	0.21748	0.04778-0.98997	0.0485
cg02410245	0.04024	0.00479-0.3378	0.00308
cg12999084	0.21067	0.05937-0.74749	0.01594
cg18135555	11.78585	1.38623-100.20433	0.02388
cg25027167	6.96268	1.07661-45.02914	0.0416
cg04929703	7.16579	1.37331-37.39042	0.01948
cg27274135	6.1882	1.69243-22.62655	0.00586
cg04345928	0.16436	0.03045-0.88714	0.0358
cg11521079	6.96562	1.82338-26.60992	0.00453
cg25205946	0.33372	0.11137-1.00002	0.05
cg04560225	3.89729	1.04879-14.48227	0.04225
cg16809762	0.10151	0.02683-0.38408	0.00075

cg26345105	9.17064	1.52034-55.31686	0.01565
cg23708288	0.21025	0.04026-1.0981	0.06446
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cg18781988	3.8667	1.07761-13.87464	0.03802
cg18206027	4.14403	1.21746-14.10567	0.02292
cg11101117	20.05567	3.51624-114.39205	0.00074
cg20074774	0.2035	0.04056-1.02104	0.05303
cg02330362	0.18162	0.03323-0.99274	0.04902
cg23619357	4.96425	1.24303-19.82552	0.02334
cg01057599	0.08814	0.01045-0.74305	0.02555
cg22018083	11.82374	1.91632-72.95282	0.0078
cg25927227	0.09891	0.01368-0.71491	0.02188
cg23545906	0.0753	0.00824-0.6878	0.02193
cg21320573	0.10787	0.02514-0.46292	0.00273
cg20981089	0.16295	0.02243-1.18357	0.07291
cg07532353	3.8122	1.30125-11.1684	0.01468
cg02372786	5.20064	1.31313-20.59709	0.01888
cg26292521	5.92673	1.45934-24.0699	0.01283
cg04388383	0.2431	0.06479-0.91212	0.03606
cg21229153	0.09842	0.01326-0.7307	0.02341
cg17058724	0.26439	0.06891-1.01442	0.05249
cg05050657	5.45715	1.27605-23.33813	0.02209
cg19586382	0.15876	0.03346-0.75331	0.02053
cg08598654	8.70182	1.56557-48.36693	0.01343
cg27258050	0.24471	0.08498-0.70466	0.00909
cg05419227	0.10154	0.01219-0.84597	0.03446
cg04029630	0.23036	0.057-0.93107	0.03938
cg11950860	0.13246	0.02941-0.59659	0.00847
cg08623691	0.15259	0.02317-1.00482	0.05059
cg25436127	0.13998	0.02166-0.90453	0.03889
cg15317927	0.22529	0.04892-1.03757	0.0558
cg03335173	0.26528	0.07617-0.92395	0.03714
cg26331172	8.38243	1.93163-36.37608	0.00452
cg16645983	7.57806	1.38771-41.3826	0.01937
cg09923769	10.03543	2.042-49.31926	0.00453
cg25529889	0.16928	0.02709-1.05779	0.05745
cg05237970	0.10025	0.01019-0.98651	0.04865
cg16792302	6.11552	0.72381-51.67042	0.09629
cg06174815	0.12564	0.0145-1.08874	0.05973
cg13928116	0.20065	0.03713-1.08437	0.06206
cg10375890	2.39123	0.59668-9.58295	0.21836
cg02306630	14.00105	2.89204-67.78244	0.00104
cg26720125	9.27314	2.3204-37.05875	0.00163
cg05059648	0.25127	0.06003-1.05167	0.05863
cg24142603	0.12163	0.03416-0.43307	0.00115
cg25156485	0.19505	0.03859-0.986	0.04804
cg01984798	18.84335	1.94839-182.23898	0.01121
cg03933846	0.30922	0.08119-1.17776	0.0854
cg06512128	0.17292	0.03134-0.95416	0.04403
cg01056373	0.31179	0.08258-1.17719	0.08556

cg19622623	5.86503	1.43855-23.91196	0.01362
cg05368341	5.97135	1.17697-30.29544	0.03104
cg18064631	5.08879	1.22685-21.10746	0.02498
cg00253811	0.23721	0.04856-1.15866	0.07541
cg06030846	7.35072	1.25984-42.88871	0.02665
cg18925560	0.08289	0.00617-1.11401	0.06031
cg01166827	0.1406	0.03402-0.58108	0.00673
cg16132139	0.17477	0.02994-1.02011	0.05264
cg18597991	0.22678	0.05019-1.02471	0.05382
cg10511972	0.14309	0.02003-1.0223	0.05263
cg00525383	6.37745	1.15168-35.31537	0.03386
cg03870816	0.2163	0.05588-0.83724	0.02661
cg03219705	0.18788	0.03679-0.9596	0.04448
cg27483342	4.62403	0.9704-22.03391	0.05458
cg03718079	0.17427	0.02648-1.14676	0.06914
cg09906922	6.42093	0.84197-48.96669	0.07281
cg09994035	11.4086	2.00803-64.81791	0.00602
cg25367647	0.11895	0.01464-0.9662	0.04636
cg19814934	3.41492	1.15103-10.13151	0.02687
cg08410996	6.1297	1.72807-21.74291	0.005
cg03315557	9.12485	1.7846-46.6564	0.00792
cg02589074	0.18656	0.02803-1.24153	0.08252
cg16566391	0.18322	0.03418-0.98204	0.04758
cg10068408	16.87758	2.62918-108.34284	0.00289
cg05387565	0.10375	0.01258-0.85578	0.03532
cg14304817	6.38595	1.27155-32.07126	0.02434
cg17404000	0.09445	0.01018-0.87668	0.03792
cg08784129	10.30949	2.19791-48.35752	0.00309
cg26811372	3.68125	1.0177-13.31586	0.04695
cg08310088	0.09452	0.01625-0.5497	0.00864
cg00085732	7.58021	1.11169-51.68682	0.03863
cg07136610	0.11244	0.01377-0.91792	0.04136
cg08029969	10.53953	2.18596-50.81612	0.00334
cg01555661	0.20113	0.03378-1.19751	0.07808
cg19436320	8.03753	1.76512-36.59907	0.00705
cg09996779	0.23557	0.05513-1.00668	0.05106
cg03517379	0.16694	0.0257-1.08424	0.06076
cg00364758	0.34958	0.07875-1.55172	0.16692
cg20664065	0.1384	0.02106-0.90956	0.03953
cg12980127	4.89969	1.51103-15.88783	0.0081
cg17297238	7.52931	1.16719-48.57005	0.0338
cg04866639	0.33303	0.07725-1.43578	0.14026
cg11859478	0.15775	0.02064-1.2056	0.07511
cg12115302	10.20254	1.23377-84.3688	0.03117
cg26386673	10.38551	1.99682-54.01521	0.0054
cg06506080	0.13629	0.01504-1.23487	0.07634
cg00098732	4.47189	0.88536-22.58723	0.06989
cg22608646	0.12877	0.02453-0.67605	0.01541
cg06769752	0.21711	0.04029-1.16991	0.07551
cg17651959	6.87793	1.68878-28.01199	0.00712

cg07327405	0.12077	0.01744-0.83613	0.03225
cg27599792	8.45139	1.02186-69.89796	0.0477
cg00150874	16.50594	1.59421-170.8968	0.01872
cg08575537	5.02497	1.49947-16.83955	0.00888
cg09192059	0.22184	0.02469-1.9932	0.17887
cg00769799	0.26822	0.07053-1.01998	0.05349
cg09992746	8.04707	1.76025-36.78749	0.00716
cg06833823	0.2387	0.03678-1.54921	0.1333
cg05940452	10.71428	1.79294-64.02664	0.00932
cg02615468	0.28659	0.06163-1.33256	0.11098
cg07750402	0.34627	0.10867-1.10337	0.07288
cg16632346	0.14034	0.02959-0.66576	0.01343
cg12078211	0.17025	0.0352-0.82336	0.02769
cg25852925	0.26566	0.06075-1.16172	0.07827
cg03310203	0.17943	0.03497-0.92072	0.0395
cg04653083	0.23688	0.05598-1.00237	0.05038
cg16809293	8.04743	1.87107-34.61183	0.00508
cg05575921	12.32891	1.95516-77.74413	0.0075
cg08778681	0.29048	0.06364-1.32585	0.11052
cg03564727	0.43917	0.14669-1.31481	0.14135
cg13931285	13.15355	2.19809-78.71192	0.00476
cg21364077	4.38214	0.90191-21.29175	0.06696
cg01479413	0.33314	0.08547-1.29843	0.11326
cg18552380	5.65289	1.08528-29.44431	0.03967
cg03287877	0.12948	0.02287-0.73306	0.02083
cg21625817	5.92744	1.41857-24.76763	0.01472
cg16462075	0.11982	0.01505-0.95399	0.04502
cg10168149	4.24527	1.30697-13.7894	0.01616
cg03079395	6.03139	1.72265-21.11727	0.00494
cg23431897	0.32104	0.09078-1.1354	0.07791
cg10873964	0.17396	0.02637-1.14746	0.06921
cg13988667	0.20762	0.03091-1.39474	0.10575
cg13077262	21.71108	2.854-165.16178	0.00295
cg16679837	0.28687	0.05094-1.61542	0.15675
cg18725867	3.1082	0.81169-11.9022	0.09784
cg06443644	6.75325	1.192-38.26039	0.03089
cg17125742	0.21636	0.02888-1.62112	0.13628
cg23860088	0.12397	0.01321-1.16322	0.06761
cg21945665	0.16836	0.02328-1.21755	0.07757
cg05559795	0.25737	0.05115-1.29507	0.0997
cg03659340	0.19759	0.03237-1.20619	0.07894
cg15323528	6.45239	1.32561-31.40689	0.02094
cg22495388	6.80736	1.31778-35.16539	0.02206
cg19585278	3.98995	1.24106-12.82746	0.02021
cg22647546	7.23476	0.8375-62.49756	0.07205
cg01443426	8.16974	1.33553-49.97634	0.02302
cg15042310	4.29534	1.28572-14.34989	0.01787
cg01665555	4.6751	1.11017-19.68759	0.03552
cg15035911	4.24913	1.03761-17.40073	0.0443
cg22491141	7.52683	1.67988-33.72452	0.00834

cg08213689	6.55783	1.0774-39.91589	0.04126
cg23269489	0.11063	0.01235-0.99114	0.04908
cg25809290	5.55995	0.993-31.13105	0.05094
cg05656180	3.31625	0.6671-16.48551	0.14287
cg24195365	0.22186	0.04445-1.10737	0.06641
cg26133164	10.94386	2.1179-56.55048	0.0043
cg26328954	0.12171	0.02307-0.6422	0.01307
cg19047340	5.42225	1.14484-25.68127	0.03314
cg09072865	0.37661	0.12316-1.1517	0.08684
cg27438889	4.94378	0.85983-28.42543	0.07334
cg09195491	0.20952	0.03484-1.25993	0.08772
cg08115220	0.1602	0.01835-1.39874	0.09763
cg13993218	0.10791	0.01862-0.62522	0.01299
cg04143870	5.98838	1.09918-32.62492	0.03852
cg10055097	0.36808	0.12231-1.10765	0.07539
cg27248583	0.09934	0.00882-1.11868	0.0616
cg01062020	0.30383	0.08575-1.07655	0.06494
cg07145783	0.16648	0.03353-0.82667	0.02832
cg04402486	0.26001	0.06629-1.01981	0.05338
cg26672952	16.64082	2.22618-124.39084	0.00615
cg13848989	6.99121	1.52746-31.99886	0.01222
cg21839338	6.42969	0.91479-45.19176	0.06142
cg20883831	5.22662	1.32855-20.56187	0.01796
cg00450319	5.86674	1.15099-29.90339	0.03324
cg16641060	0.42319	0.15285-1.17163	0.09791
cg13613450	5.94543	1.16831-30.25589	0.03177
cg08215169	0.25505	0.05564-1.16907	0.0786
cg05537653	23.58497	2.29922-241.93009	0.00779
cg11675165	0.2787	0.05795-1.34026	0.11083
cg01581018	3.48113	0.79936-15.15993	0.09658
cg26584545	16.67413	2.69235-103.26547	0.00249
cg17658468	0.21178	0.04124-1.08741	0.06295
cg04487857	7.91914	1.66209-37.73129	0.00938
cg05288927	0.19784	0.0283-1.38321	0.10247
cg03102729	0.33697	0.0986-1.15164	0.08278
cg11016745	0.27801	0.06617-1.16801	0.08048
cg00652772	5.04166	1.2521-20.30067	0.02283
cg20477160	0.27895	0.07164-1.08619	0.06566
cg19013611	7.00697	1.39958-35.0803	0.01784
cg20442640	0.2326	0.05291-1.02253	0.05355
cg25825506	5.36951	1.36821-21.07256	0.01598
cg20501518	7.2713	1.35054-39.14853	0.0209
cg08108619	0.30122	0.08153-1.11295	0.07194
cg23906060	6.99594	0.93934-52.10376	0.05758
cg00936342	0.16993	0.03278-0.88079	0.03476
cg19800913	0.28428	0.0646-1.25111	0.09618
cg05219493	8.6903	1.74552-43.26595	0.00829
cg19741073	0.27195	0.06092-1.21402	0.08803
cg06241901	9.3877	1.78183-49.4599	0.00826
cg09786233	0.18388	0.02751-1.22887	0.08058

cg10543450	5.68696	1.39778-23.13785	0.0152
cg02538330	0.18342	0.02314-1.45414	0.10838
cg09988116	15.30419	2.30673-101.53695	0.00472
cg26359958	0.21381	0.03449-1.3256	0.09748
cg02264182	0.36779	0.10199-1.32632	0.12641
cg21113886	0.36637	0.07954-1.68752	0.19757
cg15189015	0.25424	0.07609-0.84944	0.02608
cg06714180	3.7026	0.94152-14.56078	0.06097
cg00301396	6.68127	1.20537-37.03361	0.02972
cg19506937	0.08989	0.01043-0.77499	0.02839
cg09054333	0.29619	0.06042-1.452	0.13357
cg06957447	4.84816	1.08951-21.57353	0.03822
cg05017302	9.8443	1.07715-89.96909	0.04279
cg19364021	0.16108	0.02987-0.86864	0.03369
cg23221544	0.08432	0.00904-0.78611	0.02991
cg26342575	0.29074	0.08105-1.04297	0.05804
cg08479532	0.43491	0.15699-1.20481	0.10925
cg25952964	7.6701	0.91075-64.5959	0.06093
cg13308964	6.55885	1.44297-29.8125	0.01491
cg18828303	0.37903	0.10412-1.37979	0.14112
cg11839979	0.20718	0.03743-1.14689	0.07139
cg20761810	0.37406	0.11279-1.24054	0.10793
cg15729404	7.51086	1.69475-33.28686	0.00794
cg02468250	5.75616	1.06699-31.05324	0.04181
cg10869271	0.16176	0.01883-1.38975	0.09691
cg08805386	0.09354	0.01127-0.77621	0.02819
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cg00258480	0.37114	0.10064-1.36868	0.13659
cg06899582	0.15982	0.0155-1.64771	0.12345
cg14974711	4.29415	0.92818-19.86653	0.06224
cg16949923	0.33231	0.0667-1.65568	0.17876
cg18275647	0.31616	0.08325-1.2007	0.09078
cg03559942	0.18492	0.04644-0.73638	0.01666
cg14430524	0.28405	0.07089-1.13828	0.07555
cg05973455	5.47644	0.90781-33.03712	0.06367
cg15347342	10.33016	1.94279-54.92737	0.00616
cg23623404	0.35871	0.09012-1.42776	0.14575
cg05114959	0.14754	0.01695-1.28429	0.08304
cg16594779	0.37118	0.09798-1.40623	0.14475
cg01860944	0.2386	0.0588-0.96832	0.04496
cg11700800	5.71927	1.10832-29.51309	0.03727
cg02248763	0.30367	0.06396-1.44188	0.13374
cg05117693	0.0845	0.0093-0.76788	0.0282
cg21988739	0.28928	0.07062-1.18499	0.0847
cg27254482	7.7102	1.39067-42.74711	0.01942
cg18466173	0.20128	0.0371-1.09204	0.06318
cg25549619	0.29555	0.0714-1.22338	0.09261

cg16403901	0.3645	0.1002-1.32599	0.12559
cg03065447	7.65904	1.82238-32.18919	0.00545
cg07213684	0.22707	0.03938-1.3094	0.09724
cg07581732	5.77749	1.17681-28.36423	0.03073
cg16059374	0.3649	0.1036-1.28522	0.11657
cg25016544	0.22118	0.03821-1.28041	0.09217
cg22417589	0.33883	0.09617-1.19373	0.09211
cg18452672	0.16516	0.0206-1.32441	0.08999
cg26936230	0.38356	0.11609-1.26727	0.11606
cg05969378	7.77458	1.40571-42.99896	0.01876
cg04258219	3.65571	0.96717-13.81787	0.05604
cg08867933	0.22336	0.04907-1.01674	0.05256
cg11107468	0.34187	0.08292-1.40954	0.13754
cg01162494	10.64381	0.92603-122.34013	0.05766
cg24772920	0.17795	0.02284-1.3863	0.09933
cg06783548	0.38139	0.12311-1.1815	0.09475
cg21912448	3.94291	0.77591-20.03641	0.09811
cg19929967	0.31648	0.07556-1.32561	0.11543
cg18112782	0.28549	0.07074-1.1522	0.07825
cg22039909	8.31407	1.62699-42.48575	0.01093
cg08590987	0.27978	0.07158-1.09354	0.06704
cg21304892	0.25759	0.05508-1.20472	0.08483
cg09695261	4.41258	1.01914-19.1051	0.04711
cg22050539	0.11167	0.01208-1.03194	0.05333
cg06793796	0.21984	0.05238-0.92268	0.03846
cg03806192	0.44592	0.15524-1.28092	0.13359
cg12280901	0.2046	0.03853-1.0865	0.06252
cg09070095	0.34852	0.08859-1.37113	0.13148
cg05134041	4.37587	1.02641-18.65554	0.04602
cg17531456	0.15084	0.0199-1.14342	0.06721
cg23218559	4.23917	1.0252-17.52885	0.04612
cg26647197	2.91563	0.81207-10.46814	0.10084
cg03266453	3.51495	0.64467-19.16459	0.14633
cg19194595	0.28483	0.0624-1.30016	0.10499
cg27147258	0.24262	0.04186-1.40633	0.11419
cg18557185	3.65559	0.60783-21.98534	0.15675
cg12813325	0.3349	0.07151-1.56846	0.16495
cg10950413	0.23989	0.05388-1.06816	0.06101
cg07184316	0.25928	0.06699-1.00352	0.0506
cg12910797	7.10215	0.64287-78.46133	0.10971
cg19474888	0.19649	0.04735-0.81541	0.02503
cg16306900	5.33875	0.65811-43.30956	0.11683
cg23690264	0.35597	0.1034-1.22547	0.1015
cg07061728	0.23844	0.03297-1.72447	0.15556
cg10697737	11.62609	1.87566-72.06317	0.0084
cg24620761	7.35803	1.30549-41.47158	0.02369
cg24789180	4.08139	0.68804-24.21032	0.12154
cg21327581	0.3599	0.10764-1.20334	0.09704
cg02698615	0.2836	0.05979-1.34526	0.11261
cg20018767	0.21741	0.03767-1.25484	0.08798

cg04029664	0.28701	0.06504-1.26647	0.09934
cg24536244	0.21714	0.03632-1.29804	0.09413
cg18216249	2.87886	0.64595-12.8305	0.16551
cg13300521	9.36708	1.31362-66.79441	0.02561
cg16152676	9.25134	1.02591-83.42596	0.04739
cg27109043	5.80629	1.34338-25.09561	0.01851
cg03222990	0.21056	0.04104-1.08031	0.06185
cg17851725	5.01323	0.91635-27.42673	0.063
cg14930065	7.53759	0.90823-62.55638	0.06137
cg06948492	2.90185	0.8454-9.96061	0.09044
cg07137581	0.2877	0.04912-1.68523	0.16718
cg06448603	7.18818	1.29856-39.79003	0.02387
cg23237972	3.11181	0.53716-18.02712	0.20531
cg12560320	6.23091	1.30266-29.80393	0.02196
cg21591452	6.81	1.19605-38.7744	0.03064
cg00297876	5.43439	1.30646-22.60505	0.01994
cg20801711	4.8699	0.8075-29.36972	0.08421
cg02856716	0.11205	0.01429-0.87873	0.03725
cg00624737	5.38479	0.86459-33.53738	0.07122
cg20081453	0.26706	0.068-1.04888	0.05855
cg00167275	0.14197	0.0174-1.15841	0.06835
cg01523763	4.34616	0.88321-21.38699	0.07073
cg21962901	4.51816	0.79849-25.5653	0.0881
cg18406472	0.40846	0.13414-1.24379	0.11503
cg02365303	0.17068	0.0325-0.89652	0.0367
cg14972002	0.15333	0.02363-0.99515	0.04941
cg06400167	0.29537	0.05328-1.63731	0.16281
cg20111321	7.35653	0.76438-70.80064	0.0841
cg08800033	0.29159	0.05913-1.43794	0.13007
cg01058070	5.65434	1.1745-27.22147	0.03073
cg00691830	3.8579	0.88301-16.85523	0.07272
cg27665489	0.29507	0.06664-1.30651	0.10788
cg23954206	0.34291	0.08809-1.33475	0.1227
cg25425140	4.25578	1.02814-17.61586	0.04569
cg26334166	17.62883	1.52058-204.3802	0.02172
cg19045344	4.36614	0.93663-20.35288	0.06057
cg05497345	5.74714	1.20228-27.47245	0.02847
cg09907936	2.60285	0.87376-7.75366	0.08586
cg08038219	0.10834	0.01708-0.68732	0.01839
cg13869648	0.49175	0.13054-1.85243	0.29422
cg26751631	0.16401	0.03138-0.85734	0.03216
cg02805922	0.23286	0.04666-1.16216	0.07561
cg03862854	5.47313	1.23298-24.29495	0.02539
cg27537972	5.87921	1.0983-31.47144	0.0385
cg12527112	0.3789	0.08796-1.63209	0.19274
cg10796749	0.21318	0.0488-0.93123	0.03991
cg10521480	6.99564	1.36265-35.9146	0.01977
cg04139223	2.66875	0.65715-10.83805	0.16981
cg21290313	6.68998	1.21968-36.69475	0.02862
cg09520414	0.16088	0.0171-1.51356	0.11014

cg14846442	6.0749	0.84268-43.79397	0.07343
cg07557423	2.82814	0.73806-10.8371	0.12931
cg07825508	0.35545	0.07892-1.60098	0.17796
cg01374431	0.27554	0.06296-1.206	0.08703
cg25892640	0.32322	0.0779-1.34104	0.11977
cg16676177	0.15314	0.02792-0.83988	0.0307
cg06431681	9.65316	1.21489-76.70094	0.03203
cg19658849	0.21352	0.04121-1.10622	0.06581
cg09418623	0.37189	0.07697-1.79681	0.2184
cg16161440	0.30219	0.04305-2.12112	0.22873
cg25746778	3.46427	0.87616-13.69746	0.07648
cg00346208	6.7818	1.90929-24.08905	0.00308
cg22913932	0.22025	0.03341-1.45212	0.11588
cg05532446	0.17903	0.02747-1.16699	0.0721
cg14318197	5.08411	1.4501-17.82516	0.01107
cg03432955	4.76919	0.96346-23.60766	0.05557
cg20407861	8.48639	1.81859-39.60154	0.00651
cg09496273	6.0359	0.79557-45.79355	0.08208
cg17010747	9.26885	1.60552-53.51023	0.0128
cg06965300	0.23788	0.04339-1.30419	0.09812
cg19043574	4.15133	0.9111-18.91504	0.06582
cg13504740	5.60307	0.92954-33.77425	0.06008
cg19062189	0.41854	0.14837-1.18066	0.09974
cg00361609	6.67	1.74649-25.47331	0.00551
cg22265142	0.27727	0.06985-1.10058	0.0682
cg26112661	0.13797	0.0191-0.99679	0.04963
cg22864689	0.13802	0.02694-0.70708	0.01751
cg09662907	0.21804	0.0329-1.44498	0.11446
cg03717424	6.14025	0.76686-49.16501	0.08729
cg00596763	7.87875	1.34323-46.2131	0.0222
cg13717446	3.03366	1.05571-8.71744	0.03934
cg13923018	0.37726	0.12588-1.13058	0.08172
cg05905814	0.25943	0.04544-1.48109	0.129
cg15692360	6.3653	1.13397-35.73012	0.03548
cg19867250	5.16169	1.02677-25.94848	0.04637
cg06158088	0.3494	0.09921-1.23055	0.10163
cg10446869	7.44242	1.34229-41.26514	0.02163
cg22575892	0.38184	0.12032-1.21175	0.10226
cg09742177	0.27783	0.06181-1.24889	0.09489
cg20047489	2.96417	0.82343-10.67039	0.09638
cg04101819	5.93437	0.84222-41.81399	0.07384
cg13840174	0.33809	0.07634-1.49724	0.15319
cg15673034	3.86708	1.13023-13.23119	0.03116
cg03332892	4.20788	0.86265-20.52535	0.07553
cg19965300	0.24179	0.055-1.063	0.06023
cg05062413	0.22224	0.0441-1.11988	0.06834
cg10105844	0.34948	0.08643-1.41308	0.14025
cg10800369	5.82992	0.99264-34.23997	0.05096
cg01794103	0.2561	0.08084-0.81127	0.02059
cg11717280	3.67744	0.86623-15.61201	0.07752

cg22455725	5.37652	0.99484-29.05696	0.05071
cg16456252	5.12116	1.25984-20.81714	0.02244
cg00877329	4.1614	0.74037-23.38997	0.10551
cg18771553	5.20239	0.63615-42.54514	0.12403
cg18891924	5.22507	1.47446-18.51615	0.01042
cg03575969	13.07471	1.5937-107.26525	0.01667
cg20686234	2.55056	0.65165-9.98286	0.17867
cg16088894	7.09469	1.18807-42.36657	0.03164
cg13375624	0.16963	0.0295-0.9754	0.04683
cg22975864	0.34409	0.07072-1.67428	0.18632
cg24533311	0.24779	0.03719-1.65106	0.14936
cg01074584	0.29186	0.07614-1.11874	0.07245
cg10632209	6.22681	1.03606-37.42369	0.04564
cg21056706	4.7673	1.24659-18.23149	0.02249
cg03392386	0.30128	0.10024-0.90551	0.03262
cg01353788	0.33084	0.07622-1.43604	0.13973
cg13486805	5.65474	0.99624-32.09663	0.0505
cg18755798	4.06967	0.56599-29.26215	0.16317
cg07516457	0.24319	0.04895-1.20832	0.08388
cg24260882	0.1459	0.0142-1.49929	0.10539
cg05637536	3.40787	0.64904-17.89351	0.14731
cg17678645	0.13133	0.01428-1.20816	0.07298
cg16857771	0.22631	0.02367-2.16381	0.19709
cg14804181	0.51125	0.20357-1.28394	0.15329
cg17418692	7.10591	1.4907-33.87269	0.01385
cg23687269	0.19934	0.03583-1.10908	0.06551
cg15037004	5.92049	0.38569-90.88235	0.20187
cg00426668	2.80448	0.87627-8.97573	0.08231
cg13535212	2.79744	0.67074-11.66725	0.158
cg22561883	0.40101	0.11997-1.34036	0.13776
cg09576209	6.53575	1.03853-41.13133	0.04547
cg04180086	2.44424	0.71042-8.40952	0.15629
cg26515460	4.3712	0.8193-23.3217	0.08423

Table S2. 9 DNA methylation signature-related biological pathways. 'Cor' represented the pearson correlations between the methylation risk score and GSVA score. 'P value' stood for significance of pearson correlations.

ID	corr	pvalue
RHODES_CANCER_META_SIGNATURE	0.439864	1.11E-14
REACTOME_TP53_REGULATES_TRANSCRIPTION_OF_GENES_INVOLVED_IN_CYTOCHROME_C_RELEASE	0.43857	1.38E-14
MORI_MATURE_B_LYMPHOCYTE_DN	0.437591	1.60E-14
BIOCARTA_RANMS_PATHWAY	0.4	5.5

	29262	5E-14
BURTON_ADIPOGENESIS_PEAK_AT_24HR	0.414592	4.67E-13
OHASHI_AURKA_TARGETS	0.412116	6.62E-13
NAKAYAMA_SOFT_TISSUE_TUMORS_PCA2_UP	0.411788	6.93E-13
BASSO_B_LYMPHOCYTE_NETWORK	0.411601	7.11E-13
SASAKI_ADULT_T_CELL_LEUKEMIA	0.40977	9.19E-13
BHATTACHARYA_EMBRYONIC_STEM_CELL	0.409368	9.72E-13
SCIAN_CELL_CYCLE_TARGETS_OF_TP53_AND_TP73_DN	0.409302	9.81E-13
XU_CREBBP_TARGETS_UP	0.407497	1.26E-12
ZHAN_MULTIPLE_MYELOMA_CD1_UP	0.401738	2.77E-12
KAPOSI_LIVER_CANCER_MET_UP	0.399923	3.54E-12
LY_AGING_MIDDLE_DN	0.395866	6.09E-12
WANG_CISPLATIN_RESPONSE_AND_XPC_UP	0.395599	6.31E-12
PEART_HDAC_PROLIFERATION_CLUSTER_DN	0.394834	6.99E-12
NADERI_BREAST_CANCER_PROGNOSIS_UP	0.394448	7.35E-12
CONCANNON_APOPTOSIS_BY_EPOXOMICIN_DN	0.393059	8.83E-12
LI_LUNG_CANCER	0.392545	9.45E-12

CAFFAREL_RESPONSE_TO_THC_24HR_3_DN	0.392193	9.90E-12
LIANG_HEMATOPOIESIS_STEM_CELL_NUMBER_LARGE_VS_TINY_DN	0.391577	1.07E-11
DARWICHE_PAPILLOMA_RISK_HIGH_UP	0.39147	1.09E-11
WEBER_METHYLATED_ICP_IN_SPERM_DN	0.391424	1.09E-11
JOHANSSON_GLIOMAGENESIS_BY_PDGFB_UP	0.389461	1.41E-11
LY_AGING_OLD_DN	0.389163	1.47E-11
LE_SKI_TARGETS_UP	0.388753	1.55E-11
SMID_BREAST_CANCER_RELAPSE_IN_LUNG_UP	0.388262	1.65E-11
SMID_BREAST_CANCER_LUMINAL_A_DN	0.388079	1.69E-11
LEI_HOXC8_TARGETS_UP	0.387785	1.76E-11
NOUSHMEHR_GBM_SILENCED_BY_METHYLATION	0.385193	2.45E-11
CHUANG_OXIDATIVE_STRESS_RESPONSE_DN	0.384634	2.64E-11
CHEMNITZ_RESPONSE_TO_PROSTAGLANDIN_E2_UP	0.38433	2.74E-11
RHODES_UNDIFFERENTIATED_CANCER	0.383869	2.91E-11
REACTOME_TFAP2A_ACTS_AS_A_TRANSCRIPTIONAL_REPRESSOR_DURING_RETINOIC_ACID_INDUCED_CELL_DIFFERENTIATION	0.381202	4.08E-11
BAKER_HEMATOPOIESIS_STAT3_TARGETS	0.381041	4.16E-11
CAIRO_HEPATOBLASTOMA_POOR_SURVIVAL	0.3798	4.82E-

	77	11
HASEGAWA_TUMORIGENESIS_BY_RET_C634R	0.378914	5.44E-11
KEGG_P53_SIGNALING_PATHWAY	0.377686	6.35E-11
KEGG_AMYOTROPHIC_LATERAL_SCLEROSIS_ALS	0.377623	6.40E-11
SWEET_KRAS_TARGETS_DN	0.37744	6.55E-11
BIOCARTA_RAN_PATHWAY	0.376542	7.32E-11
WEST_ADRENOCORTICAL_TUMOR_MARKERS_UP	0.376047	7.79E-11
CAFFAREL_RESPONSE_TO_THC_24HR_5_DN	0.37498	8.89E-11
MORI_PRE_BI_LYMPHOCYTE_UP	0.374318	9.65E-11
CHIANG_LIVER_CANCER_SUBCLASS_PROLIFERATION_UP	0.374274	9.70E-11
JECHLINGER_EPITHELIAL_TO_MESENCHYMAL_TRANSITION_UP	0.374139	9.87E-11
CUI_TCF21_TARGETS_2_UP	0.373446	1.07E-10
XU_HGF_TARGETS_INDUCED_BY_AKT1_48HR_UP	0.372889	1.15E-10
BASAKI_YBX1_TARGETS_UP	0.37263	1.19E-10
COLINA_TARGETS_OF_4EBP1_AND_4EBP2	0.372293	1.24E-10
MEINHOLD_OVARIAN_CANCER_LOW_GRADE_DN	0.370334	1.57E-10
AFFAR_YY1_TARGETS_DN	0.370118	1.62E-10
LY_AGING_PREMATURE_DN	0.3	1.8

	68844	9E-10
REACTOME_PHOSPHORYLATION_OF_EMI1	0.368183	2.04E-10
WANG_ESOPHAGUS_CANCER_PROGRESSION_UP	0.368041	2.08E-10
LE_EGR2_TARGETS_UP	0.367769	2.15E-10
KRIEG_HYPOXIA_VIA_KDM3A	0.367661	2.18E-10
STANELLE_E2F1_TARGETS	0.367625	2.19E-10
LY_AGING_OLD_UP	0.367103	2.33E-10
REACTOME_INTERLEUKIN_20_FAMILY_SIGNALING	0.365968	2.67E-10
HU_GENOTOXIC_DAMAGE_4HR	0.365564	2.80E-10
BRUECKNER_TARGETS_OF_MIRLET7A3_DN	0.365105	2.96E-10
MEISSNER_BRAIN_HCP_WITH_H3K4ME2_AND_H3K27ME3	0.364776	3.08E-10
ZHAN_VARIABLE_EARLY_DIFFERENTIATION_GENES_DN	0.364764	3.08E-10
CHAUHAN_RESPONSE_TO_METHOXYESTRADIOL_UP	0.362361	4.10E-10
DARWICHE_PAPILLOMA_RISK_LOW_UP	0.3619	4.33E-10
BENPORATH_ES_CORE_NINE	0.361371	4.61E-10
THILLAINADESAN_ZNF217_TARGETS_UP	0.360907	4.87E-10
SOTIRIOU_BREAST_CANCER_GRADE_1_VS_3_UP	0.360775	4.97E-10

BOGNI_TREATMENT_RELATED_MYELOID_LEUKEMIA_UP	0.359901	5.49E-10
CHICAS_RB1_TARGETS_LOW_SERUM	0.359634	5.66E-10
GRADE_COLON_AND_RECTAL_CANCER_UP	0.359633	5.66E-10
KONG_E2F1_TARGETS	0.359469	5.77E-10
GROSS_HYPOXIA_VIA_HIF1A_UP	0.359037	6.07E-10
MONTERO_THYROID_CANCER_POOR_SURVIVAL_UP	0.358888	6.18E-10
VETTER_TARGETS_OF_PRKCA_AND_ETS1_DN	0.358507	6.46E-10
HONMA_DOCETAXEL_RESISTANCE	0.358102	6.78E-10
LIAO_METASTASIS	0.357888	6.95E-10
SABATES_COLORECTAL_ADENOMA_UP	0.357202	7.53E-10
KANG_CISPLATIN_RESISTANCE_DN	0.357159	7.56E-10
FERRANDO_T_ALL_WITH_MLL_ENL_FUSION_DN	0.357126	7.59E-10
FULCHER_INFLAMMATORY_RESPONSE_LECTIN_VS_LPS_UP	0.356868	7.82E-10
VECCHI_GASTRIC_CANCER_EARLY_UP	0.356699	7.98E-10
PAL_PRMT5_TARGETS_UP	0.356335	8.32E-10
SHIPP_DLBCL_VS_FOLLICULAR_LYMPHOMA_UP	0.355893	8.76E-10
ROZANOV_MMP14_TARGETS_UP	0.3557	8.93E-

	25	10
TARTE_PLASMA_CELL_VS_PLASMABLAST_DN	0.355291	9.39E-10
HU_GENOTOXIC_DAMAGE_24HR	0.3551	9.60E-10
APPIERTO_RESPONSE_TO_FENRETINIDE_DN	0.353346	1.18E-09
VANTVEER_BREAST_CANCER_ESR1_DN	0.352063	1.36E-09
YAGI_AML_RELAPSE_PROGNOSIS	0.352057	1.36E-09
PID_SYNDECAN_4_PATHWAY	0.351476	1.46E-09
ZHOU_CELL_CYCLE_GENES_IN_IR_RESPONSE_24HR	0.351151	1.51E-09
ZHAN_MULTIPLE_MYELOMA_CD1_VS_CD2_UP	0.350023	1.72E-09
BOHN_PRIMARY_IMMUNODEFICIENCY_SYNDROM_UP	0.349561	1.81E-09
BIOCARTA_NPC_PATHWAY	0.34943	1.84E-09
CROONQUIST_NRAS_VS_STROMAL_STIMULATION_DN	0.348053	2.15E-09
PID_HIF1A_PATHWAY	0.347919	2.18E-09
REACTOME_UNFOLDED_PROTEIN_RESPONSE_UPR	0.347782	2.21E-09
MULLIGAN_NTF3_SIGNALING_VIA_INSR_AND_IGF1R_UP	0.347621	2.26E-09
NAGY_TFTC_COMPONENTS_HUMAN	0.347494	2.29E-09
RUIZ_TNC_TARGETS_DN	0.347351	2.32E-09
REACTOME_PLASMA_LIPOPROTEIN_ASSEMBLY	0.3	2.3

	4734	3E-09
WHITEFORD_PEDIATRIC_CANCER_MARKERS	0.346897	2.45E-09
LOPEZ_MESOTELIOMA_SURVIVAL_TIME_UP	0.346711	2.50E-09
HERNANDEZ_MITOTIC_ARREST_BY_DOCETAXEL_1_DN	0.346436	2.58E-09
OLSSON_E2F3_TARGETS_DN	0.346308	2.61E-09
ABRAHAM_ALPC_VS_MULTIPLE_MYELOMA_DN	0.345981	2.71E-09
VANLOO_SP3_TARGETS_UP	0.34588	2.74E-09
WONG_EMBRYONIC_STEM_CELL_CORE	0.345807	2.76E-09
TOOKER_GEMCITABINE_RESISTANCE_DN	0.345533	2.85E-09
XU_HGF_SIGNALING_NOT_VIA_AKT1_48HR_UP	0.345382	2.90E-09
POMEROY_MEDULLOBLASTOMA_PROGNOSIS_DN	0.344783	3.10E-09
FOURNIER_ACINAR_DEVELOPMENT_LATE_2	0.344357	3.25E-09
MODY_HIPPOCAMPUS_PRENATAL	0.344293	3.27E-09
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_14	0.344054	3.36E-09
TSENG_IRS1_TARGETS_UP	0.342201	4.13E-09
PID_FOXM1_PATHWAY	0.34208	4.18E-09
REACTOME_PCP_CE_PATHWAY	0.342022	4.21E-09

CROONQUIST_NRAS_SIGNALING_DN	0.340325	5.08E-09
REACTOME_TP53_REGULATES_TRANSCRIPTION_OF_CELL_DEATH_GENES	0.340195	5.15E-09
GOLDRATH_ANTIGEN_RESPONSE	0.339821	5.37E-09
FRASOR_RESPONSE_TO_SERM_OR_FULVESTRANT_DN	0.339519	5.55E-09
CHIARADONNA_NEOPLASTIC_TRANSFORMATION_KRAS_CDC25_UP	0.339127	5.79E-09
AIYAR_COBRA1_TARGETS_UP	0.338676	6.08E-09
REACTOME_BETA_CATENIN_INDEPENDENT_WNT_SIGNALING	0.338607	6.13E-09
SIMBULAN_PARP1_TARGETS_DN	0.3385	6.20E-09
DANG_MYC_TARGETS_UP	0.338063	6.50E-09
WEBER_METHYLATED_ICP_IN_FIBROBLAST	0.338062	6.50E-09
NAKAMURA_TUMOR_ZONE_PERIPHERAL_VS_CENTRAL_UP	0.337816	6.68E-09
NADLER_OBESITY_UP	0.337622	6.82E-09
DELPUECH_FOXO3_TARGETS_DN	0.337554	6.87E-09
FOURNIER_ACINAR_DEVELOPMENT_LATE_DN	0.337182	7.16E-09
LINDGREN_BLADDER_CANCER_CLUSTER_1_DN	0.33686	7.41E-09
BERENJENO_TRANSFORMED_BY_RHOA_UP	0.336659	7.57E-09
SMID_BREAST_CANCER_BASAL_UP	0.3361	8.04E-

	11	09
PYEON_CANCER_HEAD_AND_NECK_VS_CERVICAL_DN	0.334864	9.19E-09
REACTOME_INTERLEUKIN_10_SIGNALING	0.334757	9.30E-09
REACTOME_CLEC7A_INFLAMMASOME_PATHWAY	0.334706	9.35E-09
LIANG_HEMATOPOIESIS_STEM_CELL_NUMBER_QTL	0.333813	1.03E-08
BURTON_ADIPOGENESIS_PEAK_AT_16HR	0.333323	1.08E-08
NAKAMURA_LUNG_CANCER	0.332363	1.20E-08
GREENBAUM_E2A_TARGETS_UP	0.332297	1.21E-08
LEI_HOXC8_TARGETS_DN	0.331726	1.29E-08
URS_ADIPOCYTE_DIFFERENTIATION_DN	0.331643	1.30E-08
HATADA_METHYLATED_IN_LUNG_CANCER_DN	0.331337	1.34E-08
REN_ALVEOLAR_RHABDOMYOSARCOMA_DN	0.33132	1.34E-08
LOPEZ_MESOTHELIOMA_SURVIVAL_WORST_VS_BEST_DN	0.331184	1.36E-08
NABA_SECRETED_FACTORS	0.331104	1.37E-08
SARRIO_EPITHELIAL_MESENCHYMAL_TRANSITION_UP	0.330634	1.44E-08
PID_MYC_ACTIV_PATHWAY	0.330088	1.53E-08
REACTOME_RHO_GTPASE_EFFECTORS	0.329413	1.64E-08
ENK_UV_RESPONSE_EPIDERMIS_UP	0.3	1.6

	29334	6E-08
REACTOME_SYNTHESIS_OF_5_EICOSATETRAENOIC_ACIDS	0.328957	1.72E-08
JAZAG_TGFB1_SIGNALING_VIA_SMAD4_UP	0.328734	1.77E-08
LI_WILMS_TUMOR_VS_FETAL_KIDNEY_1_DN	0.328663	1.78E-08
MATTHEWS_SKIN_CARCINOGENESIS_VIA_JUN	0.328611	1.79E-08
ZHAN_MULTIPLE_MYELOMA_PR_UP	0.32859	1.79E-08
DIRMEIER_LMP1_RESPONSE_LATE_UP	0.328328	1.84E-08
SHIN_B_CELL_LYMPHOMA_CLUSTER_8	0.328004	1.91E-08
WATANABE_COLON_CANCER_MSI_VS_MSS_UP	0.327964	1.91E-08
BRACHAT_RESPONSE_TO_CAMPTOTHECIN_DN	0.327689	1.97E-08
REACTOME_LINOLEIC_ACID_LA_METABOLISM	0.327222	2.07E-08
HENDRICKS_SMARCA4_TARGETS_UP	0.327061	2.11E-08
PRAMOONJAGO_SOX4_TARGETS_DN	0.32666	2.20E-08
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_CHONDROITIN_SULFATE	0.326494	2.23E-08
CROMER_TUMORIGENESIS_UP	0.326489	2.23E-08
REACTOME_IRF3_MEDIATED_ACTIVATION_OF_TYPE_1_IFN	0.326357	2.27E-08
KAN_RESPONSE_TO_ARSENIC_TRIOXIDE	0.326162	2.31E-08

KEGG_ALPHA_LINOLENIC_ACID_METABOLISM	0.325671	2.43E-08
FLECHNER_PBL_KIDNEY_TRANSPLANT_REJECTED_VS_OK_UP	0.32565	2.44E-08
REACTOME_TRANSPORT_OF_CONNEXONS_TO_THE_PLASMA_MEMBRANE	0.325388	2.51E-08
HOFFMANN_LARGE_TO_SMALL_PRE_BII_LYMPHOCYTE_UP	0.3251	2.58E-08
PATIL_LIVER_CANCER	0.324957	2.62E-08
WANG_THOC1_TARGETS_UP	0.324951	2.62E-08
MARTORIATI_MDM4_TARGETS_NEUROEPITHELIUM_UP	0.324897	2.64E-08
GRUETZMANN_PANCREATIC_CANCER_UP	0.323866	2.94E-08
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_MONOCYTE_UP	0.323572	3.03E-08
KUMAR_AUTOPHAGY_NETWORK	0.323425	3.07E-08
SHEPARD_BMYB_MORPHOLINO_DN	0.323243	3.13E-08
ROZANOV_MMP14_TARGETS_SUBSET	0.323174	3.15E-08
LIEN_BREAST_CARCINOMA_METAPLASTIC_VS_DUCTAL_UP	0.323109	3.17E-08
LY_AGING_MIDDLE_UP	0.322627	3.34E-08
LEE_METASTASIS_AND_ALTERNATIVE_SPLICING_UP	0.322503	3.38E-08
VERRECCHIA_RESPONSE_TO_TGFB1_C5	0.322283	3.46E-08
REACTOME_TP53_REGULATES_TRANSCRIPTION_OF_GENES_INVOLVED_IN_G1_CELL_CYCLE_ARREST	0.3220	3.54E-

	54	08
ITO_PTTG1_TARGETS_DN	0.32175	3.65E-08
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_SUSTAINED_IN_GRANULOCYTE_DN	0.32175	3.65E-08
LEE_LIVER_CANCER_SURVIVAL_DN	0.32147	3.76E-08
BURTON_ADIPOGENESIS_8	0.321369	3.80E-08
NABA_ECM_REGULATORS	0.321334	3.81E-08
REACTOME_SYNTHESIS_OF_PROSTAGLANDINS_PG_AND_THROMBOXANES_TX	0.320813	4.02E-08
REACTOME_DEPOLYMERISATION_OF_THE_NUCLEAR_LAMINA	0.320627	4.10E-08
REACTOME_IRF3_MEDIATED_INDUCTION_OF_TYPE_I_IFN	0.320519	4.14E-08
KIM_WT1_TARGETS_8HR_DN	0.320467	4.16E-08
REACTOME_WNT5A_DEPENDENT_INTERNALIZATION_OF_FZD4	0.320147	4.30E-08
INAMURA_LUNG_CANCER_SCC_UP	0.320144	4.30E-08
MISHRA_CARCINOMA_ASSOCIATED_FIBROBLAST_DN	0.31982	4.45E-08
CROONQUIST_IL6_DEPRIVATION_DN	0.319749	4.48E-08
MOREIRA_RESPONSE_TO_TSA_UP	0.318747	4.96E-08
AMIT_SERUM_RESPONSE_480_MCF10A	0.318718	4.98E-08
ZAMORA_NOS2_TARGETS_UP	0.318629	5.02E-08
WORSCHECH_TUMOR_EVASION_AND_TOLEROGENICITY_DN	0.3	5.1

	18436	2E-08
BIOCARTA_IL4_PATHWAY	0.317976	5.36E-08
KATSANOU_ELAVL1_TARGETS_DN	0.317498	5.63E-08
ROSTY_CERVICAL_CANCER_PROLIFERATION_CLUSTER	0.316877	6.00E-08
TOMIDA_METASTASIS_UP	0.316666	6.12E-08
IIZUKA_LIVER_CANCER_PROGRESSION_L1_G1_DN	0.316452	6.26E-08
TURASHVILI_BREAST_LOBULAR_CARCINOMA_VS_LOBULAR_NORMAL_DN	0.315977	6.56E-08
REACTOME_ACTIVATION_OF_IRF3_IRF7_MEDIATED_BY_TBK1_IKK_EPSILON	0.315944	6.59E-08
HAN_JNK_SINGALING_DN	0.315688	6.76E-08
MORI_LARGE_PRE_BII_LYMPHOCYTE_UP	0.315557	6.85E-08
REACTOME_VLDL_ASSEMBLY	0.315178	7.11E-08
ISHIDA_E2F_TARGETS	0.314993	7.25E-08
SIMBULAN_UV_RESPONSE_NORMAL_UP	0.314964	7.27E-08
FRIDMAN_IMMORTALIZATION_DN	0.314045	7.97E-08
REACTOME_MITOTIC_G2_G2_M_PHASES	0.313768	8.19E-08
VANTVEER_BREAST_CANCER_BRCA1_UP	0.313714	8.23E-08
KONDO_COLON_CANCER_HCP_WITH_H3K27ME1	0.313476	8.43E-08

PURBEY_TARGETS_OF_CTBP1_NOT_SATB1_UP	0.313464	8.44E-08
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_RED_UP	0.313446	8.46E-08
LI_WILMS_TUMOR	0.313404	8.49E-08
LIANG_SILENCED_BY_METHYLATION_2	0.313235	8.64E-08
NABA_MATRISOME_ASSOCIATED	0.313091	8.76E-08
MINGUEZ_LIVER_CANCER_VASCULAR_INVASION_UP	0.313018	8.83E-08
POOLA_INVASIVE_BREAST_CANCER_UP	0.312726	9.08E-08
WINTER_HYPOXIA_UP	0.312581	9.22E-08
LIU_VAV3_PROSTATE_CARCINOGENESIS_DN	0.312563	9.23E-08
WANG_RESPONSE_TO_GSK3_INHIBITOR_SB216763_DN	0.311917	9.84E-08
REACTOME_KERATAN_SULFATE_KERATIN_METABOLISM	0.311783	9.98E-08
KOBAYASHI_EGFR_SIGNALING_24HR_DN	0.311683	1.01E-07
BIOCARTA_SRCRPTP_PATHWAY	0.311663	1.01E-07
KORKOLA_YOLK_SAC_TUMOR_UP	0.311228	1.05E-07
REACTOME_REGULATION_OF_MITOTIC_CELL_CYCLE	0.310733	1.11E-07
YIH_RESPONSE_TO_ARSENITE_C5	0.310391	1.14E-07
CAIRO_HEPATOBLASTOMA_CLASSES_UP	0.3100	1.18E-

	89	07
KANG_AR_TARGETS_UP	0.309809	1.21E-07
LENAOUR_DENDRITIC_CELL_MATURATION_DN	0.309756	1.22E-07
CUI_TCF21_TARGETS_UP	0.309149	1.29E-07
YOKOE_CANCER_TESTIS_ANTIGENS	0.309001	1.31E-07
KYNG_ENVIRONMENTAL_STRESS_RESPONSE_UP	0.309	1.31E-07
KIM_TIAL1_TARGETS	0.308746	1.35E-07
WU_HBX_TARGETS_1_UP	0.308533	1.37E-07
SHEDDEN_LUNG_CANCER_POOR_SURVIVAL_A6	0.308441	1.39E-07
SHEN_SMARCA2_TARGETS_DN	0.308234	1.41E-07
TANG_SENESCENCE_TP53_TARGETS_DN	0.308127	1.43E-07
HOFFMANN_PRE_BI_TO_LARGE_PRE_BII_LYMPHOCYTE_UP	0.307410	1.53E-07
REACTOME_TNFR1_MEDIATED_CERAMIDE_PRODUCTION	0.307406	1.53E-07
REACTOME_MITOTIC_METAPHASE_AND_ANAPHASE	0.307398	1.53E-07
DARWICHE_SQUAMOUS_CELL_CARCINOMA_UP	0.307370	1.54E-07
REACTOME_G1_S_DNA_DAMAGE_CHECKPOINTS	0.307360	1.54E-07
REACTOME_RUNX1_AND_FOXP3_CONTROL_THE_DEVELOPMENT_OF_REGULATORY_T_LYMPHOCYTES_TREGS	0.307098	1.58E-07
JOHANSSON_BRAIN_CANCER_EARLY_VS_LATE_UP	0.3	1.6

	06974	0E-07
FARMER_BREAST_CANCER_CLUSTER_2	0.306972	1.60E-07
REACTOME_ACTIVATION_OF_APC_C_AND_APC_C:CDC20_MEDIATED_DEGRADATION_OF_MITOTIC_PROTEINS	0.306799	1.63E-07
MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_1	0.306795	1.63E-07
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_TURQUOISE_DN	0.306768	1.63E-07
PUIFFE_INVASION_INHIBITED_BY_ASCITES_UP	0.306725	1.64E-07
GRAHAM_CML_QUIESCENT_VS_NORMAL_QUIESCENT_UP	0.306482	1.68E-07
REACTOME_REGULATION_OF_IFNA_SIGNALING	0.306405	1.69E-07
VERHAAK_GLIOBLASTOMA_MESENCHYMAL	0.306378	1.69E-07
MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_15	0.306156	1.73E-07
KYNG_DNA_DAMAGE_DN	0.305244	1.89E-07
WANG_METASTASIS_OF_BREAST_CANCER_ESR1_UP	0.305029	1.93E-07
REACTOME_RELEASE_OF_APOPTOTIC_FACTORS_FROM_THE_MITOCHONDRIA	0.304825	1.97E-07
OHASHI_AURKB_TARGETS	0.304802	1.97E-07
FERRANDO_HOX11_NEIGHBORS	0.30473	1.99E-07
NAKAMURA_METASTASIS	0.304213	2.09E-07
SHETH_LIVER_CANCER_VS_TXNIP_LOSS_PAM3	0.304207	2.09E-07

KARLSSON_TGFB1_TARGETS_UP	0.304198	2.09E-07
HOSHIDA_LIVER_CANCER_SUBCLASS_S1	0.303987	2.13E-07
REN_MIF_TARGETS_DN	0.303829	2.17E-07
REACTOME_THE_ROLE_OF_GTSE1_IN_G2_M_PROGRESSION_AFTER_G2_CHECKPOINT	0.303711	2.19E-07
ZHANG_ANTIVIRAL_RESPONSE_TO_RIBAVIRIN_UP	0.303643	2.21E-07
TERAMOTO_OPN_TARGETS_CLUSTER_6	0.303519	2.23E-07
MORI_IMMATURE_B_LYMPHOCYTE_DN	0.303162	2.31E-07
FUJIWARA_PARK2_IN_LIVER_CANCER_UP	0.303138	2.32E-07
MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_25	0.302855	2.38E-07
ZHAN_V1_LATE_DIFFERENTIATION_GENES_DN	0.302833	2.38E-07
LINDSTEDT_DENDRITIC_CELL_MATURATION_A	0.302821	2.39E-07
NABA_PROTEOGLYCANS	0.30278	2.40E-07
CHIANG_LIVER_CANCER_SUBCLASS_CTNNB1_DN	0.302618	2.43E-07
REACTOME_MICRORNA_MIRNA_BIOGENESIS	0.302306	2.51E-07
AMIT_EGF_RESPONSE_480_MCF10A	0.302296	2.51E-07
WU_HBX_TARGETS_3_DN	0.301992	2.58E-07
SANSOM_APC_TARGETS_REQUIRE_MYC	0.3017	2.64E-

	52	07
POS_HISTAMINE_RESPONSE_NETWORK	0.301279	2.77E-07
HINATA_NFKB_TARGETS_FIBROBLAST_UP	0.301237	2.78E-07
REACTOME_KERATAN_SULFATE_BIOSYNTHESIS	0.300607	2.95E-07
MUELLER_METHYLATED_IN_GLIOBLASTOMA	0.300521	2.97E-07
REACTOME_SYNTHESIS_OF_ACTIVE_UBIQUITIN:_ROLES_OF_E1_AND_E2_ENZYMES	0.300326	3.03E-07
FOSTER_TOLERANT_MACROPHAGE_UP	0.300234	3.06E-07
DASU_IL6_SIGNALING_UP	0.299996	3.12E-07
SASAI_TARGETS_OF_CXCR6_AND_PTCH1_UP	0.299907	3.15E-07
JAZAG_TGFB1_SIGNALING_UP	0.29984	3.17E-07
PID_IL27_PATHWAY	0.29984	3.17E-07
QI_PLASMACYTOMA_DN	0.299746	3.20E-07
CROSBY_E2F4_TARGETS	0.299561	3.26E-07
BENPORATH_PROLIFERATION	0.299336	3.33E-07
KARAKAS_TGFB1_SIGNALING	0.299136	3.39E-07
JAZAERI_BREAST_CANCER_BRCA1_VS_BRCA2_UP	0.298668	3.54E-07
GENTLES_LEUKEMIC_STEM_CELL_DN	0.298347	3.65E-07
MATTIOLI_MGUS_VS_PCL	0.2	3.8

	97852	3E-07
REACTOME_SYNTHESIS_OF_15_EICOSATETRAENOIC_ACID_DERIVATIVES	0.297472	3.96E-07
REICHERT_MITOSIS_LIN9_TARGETS	0.297453	3.97E-07
BENPORATH_ES_CORE_NINE_CORRELATED	0.296732	4.25E-07
REACTOME_APC_C:CDH1_MEDIATED_DEGRADATION_OF_CDC20_AND_OTHER_APC_C:CDH1_TARGETED_PROTEINS_IN_LATE_MITOSIS_EARLY_G1	0.296626	4.29E-07
MILICIC_FAMILIAL_ADENOMATOUS_POLYPOSIS_DN	0.296396	4.39E-07
GAL_LEUKEMIC_STEM_CELL_DN	0.296212	4.46E-07
REACTOME_INTERLEUKIN_1_SIGNALING	0.295674	4.69E-07
CAIRO_PML_TARGETS_BOUND_BY_MYC_UP	0.295548	4.75E-07
FLORIO_NEOCORTEX_BASAL_RADIAL_GLIA_DN	0.295546	4.75E-07
BARIS_THYROID_CANCER_UP	0.295409	4.81E-07
PID_ARF6_DOWNSTREAM_PATHWAY	0.295041	4.98E-07
REACTOME_ADVANCED_GLYCOSYLATION_ENDPRODUCT_RECEPTOR_SIGNALING	0.295012	4.99E-07
BYSTRYKH_HEMATOPOIESIS_STEM_CELL_QTL_TRANS	0.29497	5.01E-07
CHIARADONNA_NEOPLASTIC_TRANSFORMATION_KRAS_UP	0.29495	5.02E-07
HILLION_HMGA1B_TARGETS	0.294943	5.02E-07
REACTOME_SENESCENCE_ASSOCIATED_SECRETORY_PHENOTYPE_SASP	0.294923	5.03E-07

HESS_TARGETS_OF_HOXA9_AND_MEIS1_UP	0.294866	5.06E-07
BIOCARTA_EFP_PATHWAY	0.294553	5.21E-07
LANG_MYB_FAMILY_TARGETS	0.294449	5.26E-07
HAHTOLA_CTCL_CUTANEOUS	0.294284	5.34E-07
BRUINS_UVC_RESPONSE_LATE	0.294188	5.39E-07
REACTOME_G2_PHASE	0.294019	5.47E-07
CORRADETTI_MTOR_PATHWAY_REGULATORS_DN	0.29397	5.50E-07
PID_SYNDECAN_1_PATHWAY	0.29392	5.52E-07
PARK_TRETINOIN_RESPONSE_AND_RARA_PLZF_FUSION	0.293605	5.68E-07
REACTOME_INTERLEUKIN_12_FAMILY_SIGNALING	0.293395	5.80E-07
DOUGLAS_BMI1_TARGETS_UP	0.293238	5.88E-07
HASINA_NOL7_TARGETS_UP	0.293165	5.92E-07
ZEILSTRA_CD44_TARGETS_DN	0.293137	5.94E-07
LI_WILMS_TUMOR_ANAPLASTIC_UP	0.293076	5.97E-07
REACTOME_COLLAGEN_FORMATION	0.292935	6.05E-07
GERHOLD_ADIPOGENESIS_DN	0.292665	6.20E-07
RASHI_RESPONSE_TO_IONIZING_RADIATION_6	0.2921	6.50E-

	53	07
GRAHAM_CML_DIVIDING_VS_NORMAL_QUIESCENT_UP	0.292097	6.53E-07
WANG_TARGETS_OF_MLL_CBP_FUSION_UP	0.291645	6.81E-07
MISSIAGLIA_REGULATED_BY_METHYLATION_DN	0.291449	6.93E-07
DANG_REGULATED_BY_MYC_UP	0.291441	6.94E-07
WHITFIELD_CELL_CYCLE_LITERATURE	0.291106	7.15E-07
REACTOME_HOST_INTERACTIONS_OF_HIV_FACTORS	0.290923	7.28E-07
REACTOME_LONG_TERM_POTENTIATION	0.29082	7.34E-07
REACTOME_REGULATION_OF_RUNX3_EXPRESSION_AND_ACTIVITY	0.290647	7.46E-07
KANG_DOXORUBICIN_RESISTANCE_UP	0.29047	7.58E-07
JAEGER_METASTASIS_UP	0.290429	7.61E-07
ZHOU_CELL_CYCLE_GENES_IN_IR_RESPONSE_6HR	0.290175	7.79E-07
HONRADO_BREAST_CANCER_BRCA1_VS_BRCA2	0.290061	7.87E-07
STEARMAN_TUMOR_FIELD_EFFECT_UP	0.289877	8.01E-07
WELCSH_BRCA1_TARGETS_DN	0.289607	8.21E-07
REACTOME_KERATAN_SULFATE_DEGRADATION	0.289098	8.59E-07
TSUTSUMI_FBXW8_TARGETS	0.288997	8.67E-07
MALONEY_RESPONSE_TO_17AAG_DN	0.2	8.9

	88684	2E-07
MCLACHLAN_DENTAL_CARIES_UP	0.288444	9.12E-07
SESTO_RESPONSE_TO_UV_C4	0.28789	9.59E-07
LIU_SMARCA4_TARGETS	0.287789	9.68E-07
WOO_LIVER_CANCER_RECURRENCE_UP	0.287768	9.70E-07
KOKKINAKIS_METHIONINE_DEPRIVATION_96HR_DN	0.287742	9.72E-07
REACTOME_ACETYLCHOLINE_BINDING_AND_DOWNSTREAM_EVENTS	0.287607	9.84E-07
KONG_E2F3_TARGETS	0.287223	1.02E-06
WANG_SMARCE1_TARGETS_DN	0.287146	1.03E-06
SHEPARD_BMYB_TARGETS	0.287093	1.03E-06
BLUM_RESPONSE_TO_SALIRASIB_DN	0.287037	1.04E-06
NABA_MATRISOME	0.286898	1.05E-06
LEI_MYB_TARGETS	0.286666	1.07E-06
SHIN_B_CELL_LYMPHOMA_CLUSTER_5	0.286656	1.07E-06
MEISSNER_NPC_ICP_WITH_H3_UNMETHYLATED	0.286636	1.07E-06
BIOCARTA_INFLAM_PATHWAY	0.286609	1.08E-06
REACTOME_INTERLEUKIN_27_SIGNALING	0.286608	1.08E-06

EHRLICH_ICF_SYNDROM_UP	0.286578	1.08E-06
WILENSKY_RESPONSE_TO_DARAPLADIB	0.286312	1.11E-06
BRACHAT_RESPONSE_TO_METHOTREXATE_DN	0.286278	1.11E-06
KAAB_FAILED_HEART_VENTRICLE_DN	0.286241	1.11E-06
PARK_HSC_VS_MULTIPOTENT_PROGENITORS_DN	0.286212	1.12E-06
WHITFIELD_CELL_CYCLE_G2	0.286148	1.12E-06
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_16	0.2859	1.15E-06
COLLER_MYC_TARGETS_UP	0.285897	1.15E-06
LOPES_METHYLATED_IN_COLON_CANCER_UP	0.285768	1.16E-06
DER_IFN_GAMMA_RESPONSE_UP	0.285678	1.17E-06
REACTOME_RHO_GTPASES_ACTIVATE_FORMINS	0.285601	1.18E-06
PARK_APL_PATHOGENESIS_DN	0.28542	1.20E-06
FRIDMAN_SENESCENCE_UP	0.28538	1.20E-06
AZARE_NEOPLASTIC_TRANSFORMATION_BY_STAT3_UP	0.285128	1.23E-06
NAKAYAMA_SOFT_TISSUE_TUMORS_PCA1_UP	0.28503	1.24E-06
WEIGEL_OXIDATIVE_STRESS_BY_TBH_AND_H2O2	0.284964	1.25E-06
BOHN_PRIMARY_IMMUNODEFICIENCY_SYNDROM_DN	0.2846	1.29E-

	26	06
SPIELMAN_LYMPHOBLAST_EUROPEAN_VS_ASIAN_UP	0.28429	1.33E-06
REACTOME_PREFOLDIN_MEDIATED_TRANSFER_OF_SUBSTRATE_TO_CCT_TRIC	0.284265	1.33E-06
DARWICHE_SKIN_TUMOR_PROMOTER_UP	0.284117	1.35E-06
SA_PROGRAMMED_CELL_DEATH	0.283801	1.38E-06
LIANG_HEMATOPOIESIS_STEM_CELL_NUMBER_LARGE_VS_TINY_UP	0.283744	1.39E-06
REACTOME_PENTOSE_PHOSPHATE_PATHWAY	0.283629	1.41E-06
REACTOME_ASYMMETRIC_LOCALIZATION_OF_PCP_PROTEINS	0.283507	1.42E-06
HILLION_HMGA1_TARGETS	0.283432	1.43E-06
MUNSHI_MULTIPLE_MYELOMA_DN	0.283241	1.45E-06
IRITANI_MAD1_TARGETS_DN	0.282873	1.50E-06
SERVITJA_ISLET_HNF1A_TARGETS_UP	0.282798	1.51E-06
SHETH_LIVER_CANCER_VS_TXNIP_LOSS_PAM1	0.282791	1.51E-06
KRIGE_RESPONSE_TO_TOSEDOSTAT_6HR_DN	0.282616	1.54E-06
REACTOME_CONDENSATION_OF_PROMETAPHASE_CHROMOSOMES	0.282549	1.55E-06
AMIT_EGF_RESPONSE_480_HELA	0.282433	1.56E-06
GRAHAM_CML_QUIESCENT_VS_CML_DIVIDING_DN	0.282132	1.61E-06
BIOCARTA_CHEMICAL_PATHWAY	0.2	1.6

	82121	1E-06
WEST_ADRENOCORTICAL_TUMOR_UP	0.282026	1.62E-06
NAGY_PCAF_COMPONENTS_HUMAN	0.28192	1.64E-06
SASAI_TARGETS_OF_CXCR6_AND_PTCH1_DN	0.281748	1.66E-06
CHEN_HOXA5_TARGETS_9HR_DN	0.281583	1.69E-06
REACTOME_PEPTIDE_HORMONE_BIOSYNTHESIS	0.281203	1.74E-06
HORIUCHI_WTAP_TARGETS_DN	0.280905	1.79E-06
FARMER_BREAST_CANCER_CLUSTER_4	0.280653	1.83E-06
REACTOME_SWITCHING_OF_ORIGINS_TO_A_POST_REPLICATIVE_STATE	0.280649	1.83E-06
REACTOME_TICAM1_DEPENDENT_ACTIVATION_OF_IRF3_IRF7	0.280544	1.85E-06
REACTOME_APC_C:CDC20_MEDIATED_DEGRADATION_OF_CYCLIN_B	0.280527	1.85E-06
KUMAMOTO_RESPONSE_TO_NUTLIN_3A_DN	0.280067	1.93E-06
HASLINGER_B_CLL_WITH_CHROMOSOME_12_TRISOMY	0.279967	1.94E-06
MISHRA_CARCINOMA_ASSOCIATED_FIBROBLAST_UP	0.279883	1.96E-06
MODY_HIPPOCAMPUS_NEONATAL	0.279809	1.97E-06
REACTOME_INFECTIOUS_DISEASE	0.279574	2.01E-06
REACTOME_ABC_TRANSPORTER_DISORDERS	0.279516	2.02E-06

BURTON_ADIPOGENESIS_3	0.279485	2.03E-06
MCMURRAY_TP53_HRAS_COOPERATION_RESPONSE_UP	0.279164	2.08E-06
REACTOME_STABILIZATION_OF_P53	0.279028	2.11E-06
TOMIDA_LUNG_CANCER_POOR_SURVIVAL	0.278878	2.14E-06
CHEN_METABOLIC_SYNDROM_NETWORK	0.27876	2.16E-06
SCHLOSSER_MYC_AND_SERUM_RESPONSE_SYNERGY	0.278613	2.19E-06
HOLLMANN_APOPTOSIS_VIA_CD40_UP	0.27852	2.20E-06
REACTOME_PHOSPHORYLATION_OF_THE_APC_C	0.278421	2.22E-06
MALONEY_RESPONSE_TO_17AAG_UP	0.278349	2.24E-06
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_SUSTAINED_IN_MONOCYTE_DN	0.278334	2.24E-06
REACTOME_ASSEMBLY_OF_COLLAGEN_FIBRILS_AND_OTHER_MULTIMERIC_STRUCTURES	0.278297	2.25E-06
REACTOME_INTERCONVERSION_OF_NUCLEOTIDE_DI_AND_TRIPHOSPHATES	0.277988	2.31E-06
NAGY_STAGA_COMPONENTS_HUMAN	0.27786	2.34E-06
BUYTAERT_PHOTODYNAMIC_THERAPY_STRESS_DN	0.277773	2.35E-06
KIM_ALL_DISORDERS_CALB1_CORR_DN	0.277736	2.36E-06
KYNG_RESPONSE_TO_H2O2_VIA_ERCC6	0.277662	2.38E-06
REACTOME_APOPTOTIC_FACTOR_MEDIATED_RESPONSE	0.2775	2.40E-

	36	06
REACTOME_NUCLEOTIDE_SALVAGE	0.277432	2.42E-06
XU_HGF_SIGNALING_NOT_VIA_AKT1_48HR_DN	0.277338	2.44E-06
MIKKELSEN_MEF_LCP_WITH_H3K4ME3	0.277198	2.47E-06
ALTEMEIER_RESPONSE_TO_LPS_WITH_MECHANICAL_VENTILATION	0.277035	2.51E-06
REACTOME_POLO_LIKE_KINASE_MEDIATED_EVENTS	0.277014	2.51E-06
KIM_LIVER_CANCER_POOR_SURVIVAL_UP	0.276924	2.53E-06
REACTOME_GLYCOSAMINOGLYCAN_METABOLISM	0.276907	2.54E-06
PID_P38_ALPHA_BETA_DOWNSTREAM_PATHWAY	0.276799	2.56E-06
RIZKI_TUMOR_INVASIVENESS_3D_DN	0.276705	2.58E-06
VANTVEER_BREAST_CANCER_METASTASIS_DN	0.276678	2.59E-06
CHEMELLO_SOLEUS_VS_EDL_MYOFIBERS_UP	0.276297	2.67E-06
REACTOME_BASIGIN_INTERACTIONS	0.27608	2.73E-06
BROWNE_HCMV_INFECTION_2HR_DN	0.275928	2.76E-06
ZHANG_BREAST_CANCER_PROGENITORS_DN	0.275833	2.78E-06
BIOCARTA_CYTOKINE_PATHWAY	0.2757	2.82E-06
BORCZUK_MALIGNANT_MESOTHELIOMA_UP	0.275661	2.83E-06
NAKAMURA_CANCER_MICROENVIRONMENT_DN	0.2	2.8

	75588	4E-06
BLUM_RESPONSE_TO_SALIRASIB_UP	0.275571	2.85E-06
REACTOME_ACTIVATION_OF_MATRIX_METALLOPROTEINASES	0.275484	2.87E-06
LEE_EARLY_T_LYMPHOCYTE_UP	0.275473	2.87E-06
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_GRANULOCYTE_DN	0.275367	2.90E-06
SCHLINGEMANN_SKIN_CARCINOGENESIS_TPA_UP	0.275348	2.90E-06
REACTOME_COOPERATION_OF_PREFOLDIN_AND_TRIC_CCT_IN_ACTIN_AND_TUBULIN_FOLDING	0.2753	2.91E-06
DELYS_THYROID_CANCER_UP	0.275256	2.93E-06
REACTOME_TP53_REGULATES_TRANSCRIPTION_OF_GENES_INVOLVED_IN_G2_CELL_CYCLE_ARREST	0.275092	2.97E-06
REACTOME_IRE1ALPHA_ACTIVATES_CHAPERONES	0.275001	2.99E-06
SANSOM_WNT_PATHWAY_REQUIRE_MYC	0.274722	3.06E-06
VISALA_RESPONSE_TO_HEAT_SHOCK_AND_AGING_DN	0.274571	3.10E-06
REACTOME_TNF_RECEPTOR_SUPERFAMILY_TNFSF_MEMBERS_MEDIATING_NON_CANONICAL_NF_KB_PATHWAY	0.274547	3.11E-06
SMID_BREAST_CANCER_RELAPSE_IN_LIVER_UP	0.274525	3.12E-06
LI_AMPLIFIED_IN_LUNG_CANCER	0.274492	3.12E-06
YU_MYC_TARGETS_UP	0.274472	3.13E-06
KIM_GLIS2_TARGETS_UP	0.274326	3.17E-06

REACTOME_RECEPTOR_MEDIATED_MITOPHAGY	0.274306	3.17E-06
DACOSTA_UV_RESPONSE_VIA_ERCC3_TTD_UP	0.274223	3.20E-06
RAMJAUN_APOPTOSIS_BY_TGFB1_VIA_SMAD4_UP	0.274175	3.21E-06
REACTOME_M_PHASE	0.274157	3.22E-06
RAMASWAMY_METASTASIS_UP	0.27409	3.23E-06
PID_INTEGRIN2_PATHWAY	0.274078	3.24E-06
REACTOME_ORC1_REMOVAL_FROM_CHROMATIN	0.274001	3.26E-06
GLINSKY_CANCER_DEATH_UP	0.273885	3.29E-06
REACTOME_CARBOXYTERMINAL_POST_TRANSLATIONAL_MODIFICATIONS_OF_TUBULIN	0.27366	3.36E-06
REACTOME_TNFR2_NON_CANONICAL_NF_KB_PATHWAY	0.273555	3.39E-06
HAMAI_APOPTOSIS_VIA_TRAIL_DN	0.273555	3.39E-06
MURAKAMI_UV_RESPONSE_1HR_UP	0.27353	3.39E-06
RUTELLA_RESPONSE_TO_CSF2RB_AND_IL4_UP	0.273429	3.42E-06
GOLUB_ALL_VS_AML_UP	0.273428	3.42E-06
PID_FRA_PATHWAY	0.273102	3.52E-06
REACTOME_INTERLEUKIN_1_FAMILY_SIGNALING	0.273043	3.54E-06
REACTOME_ACYL_CHAIN_REMODELLING_OF_PG	0.2729	3.55E-

	98	06
REACTOME_SCAVENGING_BY_CLASS_B_RECEPTORS	0.272769	3.62E-06
STEGER_ADIPOGENESIS_DN	0.272594	3.68E-06
PARK_TRETINOIN_RESPONSE_AND_PML_RARA_FUSION	0.272557	3.69E-06
RODWELL_AGING_KIDNEY_UP	0.272521	3.70E-06
REACTOME_REGULATION_OF_CYTOSKELETAL_REMODELING_AND_CELL_SPREADING_BY_IPP_COMPLEX_COMPONENTS	0.272381	3.74E-06
GOBERT_OLIGODENDROCYTE_DIFFERENTIATION_UP	0.271811	3.93E-06
MUELLER_PLURINET	0.271689	3.97E-06
GAVIN_FOXP3_TARGETS_CLUSTER_P6	0.271521	4.03E-06
HOLLEMAN_DAUNORUBICIN_ALL_UP	0.271401	4.07E-06
REACTOME_CDK_MEDIATED_PHOSPHORYLATION_AND_REMOVAL_OF_CDC6	0.271077	4.18E-06
ZHENG_IL22_SIGNALING_UP	0.27098	4.22E-06
RODWELL_AGING_KIDNEY_NO_BLOOD_UP	0.270956	4.22E-06
FLECHNER_BIOPSY_KIDNEY_TRANSPLANT_OK_VS_DONOR_DN	0.270872	4.25E-06
ROVERSI_GLIOMA_COPY_NUMBER_UP	0.270802	4.28E-06
BOUDOUKHA_BOUND_BY_IGF2BP2	0.270766	4.29E-06
KESHELAVA_MULTIPLE_DRUG_RESISTANCE	0.270653	4.33E-06
JIANG_VHL_TARGETS	0.2	4.3

	70609	5E-06
REACTOME_DNA_REPLICATION	0.270391	4.43E-06
AUJLA_IL22_AND_IL17A_SIGNALING	0.27038	4.44E-06
HOWLIN_CITED1_TARGETS_2_UP	0.270173	4.51E-06
DIRMEIER_LMP1_RESPONSE_LATE_DN	0.269857	4.64E-06
OISHI_CHOLANGIOMA_STEM_CELL_LIKE_DN	0.26975	4.68E-06
IIZUKA_LIVER_CANCER_PROGRESSION_L0_L1_DN	0.269736	4.68E-06
PID_DELTA_NP63_PATHWAY	0.26967	4.71E-06
RAGHAVACHARI_PLATELET_SPECIFIC_GENES	0.269642	4.72E-06
SCHLOSSER_MYC_TARGETS_AND_SERUM_RESPONSE_UP	0.269638	4.72E-06
KEGG_SYSTEMIC_LUPUS_ERYTHEMATOSUS	0.269211	4.89E-06
VERRECCHIA_DELAYED_RESPONSE_TO_TGFB1	0.269173	4.91E-06
SOUCEK_MYC_TARGETS	0.26904	4.97E-06
REACTOME_ATTACHMENT_OF_GPI_ANCHOR_TO_UPAR	0.26902	4.97E-06
MARTENS_TRETINOIN_RESPONSE_DN	0.26896	5.00E-06
REICHERT_G1S_REGULATORS_AS_PI3K_TARGETS	0.268835	5.05E-06
AMIT_EGF_RESPONSE_120_MCF10A	0.268811	5.06E-06

ODONNELL_TARGETS_OF_MYC_AND_TFRC_DN	0.26873	5.10E-06
REACTOME_APOBEC3G_MEDIATED_RESISTANCE_TO_HIV_1_INFECTION	0.268491	5.20E-06
WINNEPENNINCKX_MELANOMA_METASTASIS_UP	0.26849	5.20E-06
SMID_BREAST_CANCER_RELAPSE_IN_BRAIN_UP	0.268425	5.23E-06
PID_AURORA_A_PATHWAY	0.268387	5.25E-06
REACTOME_VLDL_CLEARANCE	0.268373	5.25E-06
EGUCHI_CELL_CYCLE_RB1_TARGETS	0.268194	5.33E-06
BALLIF_DEVELOPMENTAL_DISABILITY_P16_P12_DELETION	0.267918	5.46E-06
REACTOME_CELL_CYCLE_MITOTIC	0.267908	5.46E-06
REACTOME_ALTERNATIVE_COMPLEMENT_ACTIVATION	0.267897	5.47E-06
MARTINEZ_RB1_TARGETS_DN	0.26763	5.59E-06
HOLLEMAN_VINCRISTINE_RESISTANCE_B_ALL_DN	0.267499	5.65E-06
HUANG_FOXA2_TARGETS_DN	0.267417	5.69E-06
REACTOME_APC_CDC20_MEDIATED_DEGRADATION_OF_NEK2A	0.267382	5.71E-06
SESTO_RESPONSE_TO_UV_C7	0.267074	5.85E-06
REACTOME_COPI_DEPENDENT_GOLGI_TO_ER_RETROGRADE_TRAFFIC	0.267047	5.87E-06
REACTOME_DEGRADATION_OF_DVL	0.2669	5.93E-

	17	06
REACTOME_RUNX1_REGULATES_TRANSCRIPTION_OF_GENES_INVOLVED_IN_DIFFERENTIATION_OF_MYELOID_CELLS	0.266838	5.97E-06
VERRECCHIA_RESPONSE_TO_TGFB1_C4	0.266788	6.00E-06
REACTOME_HDL_ASSEMBLY	0.266747	6.02E-06
KIM_MYCL1_AMPLIFICATION_TARGETS_UP	0.266714	6.03E-06
PUJANA_BREAST_CANCER_WITH_BRCA1_MUTATED_UP	0.266403	6.19E-06
CASTELLANO_NRAS_TARGETS_UP	0.265802	6.51E-06
FLECHNER_BIOPSY_KIDNEY_TRANSPLANT_REJECTED_VS_OK_UP	0.265686	6.57E-06
YAGI_AML_WITH_T_8_21_TRANSLOCATION	0.265538	6.65E-06
JOSEPH_RESPONSE_TO_SODIUM_BUTYRATE_UP	0.265329	6.77E-06
HINATA_NFKB_TARGETS_KERATINOCYTE_UP	0.265248	6.81E-06
BROWN_MYELOID_CELL_DEVELOPMENT_DN	0.265185	6.85E-06
SCHLINGEMANN_SKIN_CARCINOGENESIS_TPA_DN	0.26513	6.88E-06
TIAN_TNF_SIGNALING_VIA_NFKB	0.265022	6.94E-06
REACTOME_CYTOSOLIC_SENSORS_OF_PATHOGEN_ASSOCIATED_DNA	0.264885	7.02E-06
DAVIES_MULTIPLE_MYELOMA_VS_MGUS_DN	0.264546	7.22E-06
KORKOLA_EMBRYONAL_CARCINOMA_UP	0.264279	7.38E-06
REACTOME_INFLUENZA_INFECTION	0.2	7.4

	64178	4E-06
LIU_CDX2_TARGETS_DN	0.263775	7.69E-06
KIM_WT1_TARGETS_12HR_DN	0.263626	7.79E-06
PUJANA_BRCA1_PCC_NETWORK	0.263572	7.82E-06
REACTOME_FORMYL_PEPTIDE_RECEPTORS_BIND_FORMYL_PEPTIDES_AND_MANY_OTHER_LIGANDS	0.26336	7.96E-06
HOFFMANN_IMMATURE_TO_MATURE_B_LYMPHOCYTE_UP	0.263332	7.98E-06
PID_IL4_2PATHWAY	0.263202	8.07E-06
HOUSTIS_ROS	0.263155	8.10E-06
ZHONG_SECRETOME_OF_LUNG_CANCER_AND_FIBROBLAST	0.263023	8.18E-06
REACTOME_ASSEMBLY_OF_THE_PRE_REPLICATIVE_COMPLEX	0.263007	8.19E-06
ACOSTA_PROLIFERATION_INDEPENDENT_MYC_TARGETS_DN	0.262964	8.22E-06
PETROVA_ENDOTHELIUM_LYMPHATIC_VS_BLOOD_DN	0.262577	8.49E-06
OSADA_ASCL1_TARGETS_DN	0.262478	8.56E-06
SONG_TARGETS_OF_IE86_CMV_PROTEIN	0.262468	8.57E-06
NUNODA_RESPONSE_TO_DASATINIB_IMATINIB_UP	0.262455	8.57E-06
REACTOME_CROSS_PRESENTATION_OF_SOLUBLE_EXOGENOUS_ANTIGENS_ENDOSOMES	0.262447	8.58E-06
HAHTOLA_SEZARY_SYNDROM_UP	0.262278	8.70E-06

LIANG_SILENCED_BY_METHYLATION_DN	0.261884	8.98E-06
HUMMERICH_SKIN_CANCER_PROGRESSION_UP	0.261792	9.05E-06
FINETTI_BREAST_CANCER_KINOME_RED	0.261769	9.07E-06
REACTOME_STING_MEDIATED_INDUCTION_OF_HOST_IMMUNE_RESPONSES	0.261613	9.18E-06
COATES_MACROPHAGE_M1_VS_M2_DN	0.261519	9.25E-06
HU_GENOTOXIN_ACTION_DIRECT_VS_INDIRECT_24HR	0.26145	9.31E-06
IIZUKA_LIVER_CANCER_PROGRESSION_G2_G3_DN	0.26135	9.38E-06
REACTOME_CELLULAR_RESPONSE_TO_HYPOXIA	0.261257	9.45E-06
REACTOME_SIGNALING_BY_ROBO_RECEPTORS	0.261159	9.53E-06
BACOLOD_RESISTANCE_TO_ALKYLATING_AGENTS_UP	0.261026	9.63E-06
PETROVA_PROX1_TARGETS_UP	0.261002	9.65E-06
BOYAULT_LIVER_CANCER_SUBCLASS_G5_DN	0.260753	9.85E-06
YANG_BREAST_CANCER_ESR1_BULK_DN	0.260677	9.91E-06
WANG_TUMOR_INVASIVENESS_UP	0.260506	1.01E-05
REACTOME_CELL_CYCLE_CHECKPOINTS	0.260435	1.01E-05
JACKSON_DNMT1_TARGETS_UP	0.26028	1.02E-05
HADDAD_T_LYMPHOCYTE_AND_NK_PROGENITOR_DN	0.2601	1.03E-

	94	05
BIOCARTA_ACETAMINOPHEN_PATHWAY	0.259999	1.05E-05
REACTOME_HIV_INFECTION	0.259965	1.05E-05
BIOCARTA_G2_PATHWAY	0.259841	1.06E-05
CASTELLANO_NRAS_TARGETS_DN	0.259674	1.08E-05
HIRSCH_CELLULAR_TRANSFORMATION_SIGNATURE_UP	0.259464	1.09E-05
REACTOME_FBXL7_DOWN_REGULATES_AURKA_DURING_MITOTIC_ENTRY_AND_IN_EARLY_MITOSIS	0.25938	1.10E-05
REACTOME_POST_CHAPERONIN_TUBULIN_FOLDING_PATHWAY	0.259311	1.11E-05
DAIRKEE_CANCER_PRONE_RESPONSE_BPA_E2	0.259084	1.13E-05
REACTOME_BH3_ONLY_PROTEINS_ASSOCIATE_WITH_AND_INACTIVATE_ANTI_APOPTOTIC_BCL_2_MEMBERS	0.258785	1.16E-05
LANDIS_ERBB2_BREAST_PRENEOPLASTIC_UP	0.258771	1.16E-05
KEGG_PYRIMIDINE_METABOLISM	0.258753	1.16E-05
RICKMAN_TUMOR_DIFFERENTIATED_MODERATELY_VS_POORLY_UP	0.25872	1.16E-05
MACLACHLAN_BRCA1_TARGETS_UP	0.258706	1.16E-05
GRAHAM_CML_QUIESCENT_VS_CML_DIVIDING_UP	0.258679	1.17E-05
PID_MYC_PATHWAY	0.258547	1.18E-05
REACTOME_ACTIVATION_OF_NF_KAPPAB_IN_B_CELLS	0.258333	1.20E-05
WATANABE_RECTAL_CANCER_RADIOTHERAPY_RESPONSIVE_DN	0.2	1.2

	58315	0E-05
WOOD_EBV_EBNA1_TARGETS_UP	0.258168	1.21E-05
CHICAS_RB1_TARGETS_CONFLUENT	0.257934	1.24E-05
KEGG_PROTEASOME	0.257866	1.24E-05
REACTOME_DEFECTIVE_ST3GAL3_CAUSES_MCT12_AND_EIEE15	0.257687	1.26E-05
OUELLET_OVARIAN_CANCER_INVASIVE_VS_LMP_UP	0.257354	1.30E-05
CERIBELLI_GENES_INACTIVE_AND_BOUND_BY_NFY	0.257325	1.30E-05
GRAHAM_NORMAL_QUIESCENT_VS_NORMAL_DIVIDING_DN	0.257013	1.33E-05
REACTOME_RUNX2_REGULATES_CHONDROCYTE_MATURATION	0.257003	1.33E-05
BIOCARTA_CELLCYCLE_PATHWAY	0.256979	1.34E-05
REACTOME_INTERLEUKIN_4_AND_INTERLEUKIN_13_SIGNALING	0.256967	1.34E-05
REACTOME_MRNA_DECAY_BY_5_TO_3_EXORIBONUCLEASE	0.256925	1.34E-05
MARTIN_VIRAL_GPCR_SIGNALING_DN	0.256886	1.35E-05
REACTOME_CHEMOKINE_RECEPTORS_BIND_CHEMOKINES	0.256701	1.37E-05
ANDERSEN_CHOLANGIOCARCINOMA_CLASS2	0.256699	1.37E-05
PID_RB_1PATHWAY	0.256683	1.37E-05
MATTHEWS_AP1_TARGETS	0.256665	1.37E-05

REACTOME_REGULATION_OF_RUNX2_EXPRESSION_AND_ACTIVITY	0.256608	1.38E-05
POMEROY_MEDULLOBLASTOMA_DESMOPLASIC_VS_CLASSIC_UP	0.256429	1.40E-05
REACTOME_UCH_PROTEINASES	0.256402	1.40E-05
ONO_AML1_TARGETS_DN	0.256362	1.40E-05
ANASTASSIOU_MULTICANCER_INVASIVENESS_SIGNATURE	0.256316	1.41E-05
FERREIRA_EWINGS_SARCOMA_UNSTABLE_VS_STABLE_UP	0.256281	1.41E-05
LAMB_CCND1_TARGETS	0.256016	1.44E-05
ICHIBA_GRAFT_VERSUS_HOST_DISEASE_35D_UP	0.255878	1.46E-05
REACTOME_VIF_MEDIATED_DEGRADATION_OF_APOBEC3G	0.255865	1.46E-05
BROWN_MYELOID_CELL_DEVELOPMENT_UP	0.255763	1.47E-05
LINDVALL_IMMORTALIZED_BY_TERT_DN	0.255663	1.48E-05
REACTOME_PIWI_INTERACTING_RNA_PIRNA_BIOGENESIS	0.255551	1.50E-05
PID_CASPASE_PATHWAY	0.25537	1.52E-05
BIOCARTA_SM_PATHWAY	0.25523	1.54E-05
KONDO_HYPOXIA	0.255229	1.54E-05
LOPEZ_MESOTHELIOMA_SURVIVAL_DN	0.255207	1.54E-05
REACTOME_VOLTAGE_GATED_POTASSIUM_CHANNELS	0.2551	1.54E-

	97	05
WONG_PROTEASOME_GENE_MODULE	0.25507	1.56E-05
BHAT_ESR1_TARGETS_NOT_VIA_AKT1_UP	0.254812	1.59E-05
HAHTOLA_CTCL_PATHOGENESIS	0.25458	1.62E-05
MARSHALL_VIRAL_INFECTION_RESPONSE_UP	0.254552	1.62E-05
KEGG_CYTOSOLIC_DNA_SENSING_PATHWAY	0.25454	1.62E-05
REACTOME_DEFECTIVE_B4GALT1_CAUSES_B4GALT1_CDG_CDG_2D	0.25442	1.64E-05
HANN_RESISTANCE_TO_BCL2_INHIBITOR_UP	0.254237	1.66E-05
BOYAULT_LIVER_CANCER_SUBCLASS_G3_UP	0.254228	1.66E-05
REACTOME_PYRIMIDINE_SALVAGE	0.254188	1.67E-05
CROONQUIST_IL6_DEPRIVATION_UP	0.253854	1.71E-05
REACTOME_INTERLEUKIN_21_SIGNALING	0.253236	1.80E-05
BILD_MYC_ONCOGENIC_SIGNATURE	0.253067	1.82E-05
REACTOME_CYCLIN_A_B1_B2_ASSOCIATED_EVENTS_DURING_G2_M_TRANSITION	0.253055	1.82E-05
REACTOME_GENE_AND_PROTEIN_EXPRESSION_BY_JAK_STAT_SIGNALING_AFTER_INTERLEUKIN_12_STIMULATION	0.252809	1.86E-05
FERRANDO_TAL1_NEIGHBORS	0.252753	1.87E-05
REACTOME_PURINE_SALVAGE	0.252644	1.88E-05
CASORELLI_ACUTE_PROMYELOCYTIC_LEUKEMIA_DN	0.2	1.8

	52613	9E-05
NOJIMA_SFRP2_TARGETS_UP	0.252503	1.90E-05
WANG_TNF_TARGETS	0.252236	1.95E-05
KEGG_SULFUR_METABOLISM	0.252157	1.96E-05
KAMIKUBO_MYELOID_CEBPA_NETWORK	0.252153	1.96E-05
SMID_BREAST_CANCER_RELAPSE_IN_BONE_DN	0.25177	2.02E-05
REACTOME_CELL_CYCLE	0.251656	2.04E-05
SMIRNOV_RESPONSE_TO_IR_6HR_DN	0.251432	2.07E-05
FUJIWARA_PARK2_HEPATOCYTE_PROLIFERATION_DN	0.251299	2.09E-05
MANALO_HYPOXIA_DN	0.251292	2.09E-05
KYNG_RESPONSE_TO_H2O2	0.251239	2.10E-05
REACTOME_RNA_POLYMERASE_III_CHAIN_ELONGATION	0.250938	2.15E-05
BOQUEST_STEM_CELL_UP	0.250926	2.16E-05
KRIGE_RESPONSE_TO_TOSEDOSTAT_24HR_DN	0.25045	2.24E-05
LEE_LIVER_CANCER_HEPATOBLAST	0.250311	2.26E-05
REACTOME_ASSEMBLY_AND_CELL_SURFACE_PRESENTATION_OF_NMDA_RECEPTORS	0.249996	2.32E-05
BURTON_ADIPOGENESIS_4	0.249631	2.38E-05

MARKEY_RB1_ACUTE_LOF_DN	0.249598	2.39E-05
REACTOME_SCF_SKP2_MEDIATED_DEGRADATION_OF_P27_P21	0.249288	2.45E-05
REACTOME_REGULATION_OF_EXPRESSION_OF_SLITS_AND_ROBOS	0.249202	2.46E-05
PELLICCIOTTA_HDAC_IN_ANTIGEN_PRESENTATION_UP	0.249184	2.47E-05
CHESLER_BRAIN_QTL_CIS	0.249117	2.48E-05
REACTOME_INHIBITION_OF_THE_PROTEOLYTIC_ACTIVITY_OF_APC_C_REQUIRED_FOR_THE_ONSET_OF_ANAPHASE_BY_MITOTIC_SPINDLE_CHECKPOINT_COMPONENTS	0.24886	2.53E-05
LOCKWOOD_AMPLIFIED_IN_LUNG_CANCER	0.248715	2.56E-05
REACTOME_GOLGI_CISTERNAE_PERICENTRIOLAR_STACK_REORGANIZATION	0.2486	2.58E-05
REACTOME_NEF_MEDIATES_DOWN_MODULATION_OF_CELL_SURFACE_RECEPTORS_BY_RECRUITING_THEM_TO_CLATHRIN_ADAPTERS	0.248238	2.66E-05
ZHAN_EARLY_DIFFERENTIATION_GENES_DN	0.248232	2.66E-05
CHICAS_RB1_TARGETS_GROWING	0.248162	2.67E-05
REACTOME_DEFECTIVE_CHST6_CAUSES_MCDC1	0.248063	2.69E-05
RICKMAN_HEAD_AND_NECK_CANCER_B	0.248037	2.70E-05
VANDESLUIS_COMMD1_TARGETS_GROUP_3_DN	0.247937	2.72E-05
FONTAINE_FOLLICULAR_THYROID_ADENOMA_DN	0.247879	2.73E-05
BENPORATH_MYC_TARGETS_WITH_EBOX	0.247864	2.73E-05
REACTOME_CELLULAR_RESPONSES_TO_EXTERNAL_STIMULI	0.2474	2.81E-

	95	05
FERRANDO_T_ALL_WITH_MLL_ENL_FUSION_UP	0.247156	2.89E-05
REACTOME_LEADING_STRAND_SYNTHESIS	0.247087	2.90E-05
MOLENAAR_TARGETS_OF_CCND1_AND_CDK4_DN	0.246998	2.92E-05
BIOCARTA_IL10_PATHWAY	0.24696	2.93E-05
REACTOME_DEFECTIVE_CFTR_CAUSES_CYSTIC_FIBROSIS	0.246877	2.95E-05
BERTUCCI_MEDULLARY_VS_DUCTAL_BREAST_CANCER_UP	0.246866	2.95E-05
BIOCARTA_STEM_PATHWAY	0.246811	2.96E-05
LOPEZ_MESOTELIOMA_SURVIVAL_TIME_DN	0.246774	2.97E-05
LIN_TUMOR_ESCAPE_FROM_IMMUNE_ATTACK	0.246711	2.99E-05
CONCANNON_APOPTOSIS_BY_EPOXOMICIN_UP	0.246555	3.02E-05
MELLMAN_TUT1_TARGETS_UP	0.246452	3.05E-05
GALINDO_IMMUNE_RESPONSE_TO_ENTEROTOXIN	0.246307	3.08E-05
REACTOME_CLEC7A_DECTIN_1_SIGNALING	0.246269	3.09E-05
REACTOME_TRANSCRIPTION_COUPLED_NUCLEOTIDE_EXCISION_REPAIR_TC_NER	0.246177	3.11E-05
REACTOME_NEF_MEDIATED_CD4_DOWN_REGULATION	0.245896	3.18E-05
WEST_ADRENOCORTICAL_CARCINOMA_VS_ADENOMA_UP	0.245728	3.22E-05
RIZKI_TUMOR_INVASIVENESS_2D_DN	0.2	3.2

	45599	5E-05
REACTOME_RESOLUTION_OF_SISTER_CHROMATID_COHESION	0.245534	3.27E-05
LIAO_HAVE_SOX4_BINDING_SITES	0.24523	3.34E-05
REACTOME_DEGRADATION_OF_AXIN	0.2451	3.38E-05
REACTOME_MITOTIC_G1_G1_S_PHASES	0.245072	3.38E-05
HOLLERN_EMT_BREAST_TUMOR_UP	0.244958	3.41E-05
REACTOME_NUCLEAR_ENVELOPE_REASSEMBLY	0.244802	3.46E-05
BAKER_HEMATOPOESIS_STAT1_TARGETS	0.24479	3.46E-05
GHANDHI_BYSTANDER_IRRADIATION_UP	0.244761	3.47E-05
DELASERNA_MYOD_TARGETS_DN	0.244593	3.51E-05
REACTOME_ATF4_ACTIVATES_GENES_IN_RESPONSE_TO_ENDOPLASMIC_RETICULUM_STRESS	0.244586	3.51E-05
SMIRNOV_CIRCULATING_ENDOTHELIOCYTES_IN_CANCER_UP	0.24453	3.53E-05
REACTOME_DISEASES_OF_GLYCOSYLATION	0.244378	3.57E-05
HOLLERN_ADENOMYOEPITHELIAL_BREAST_TUMOR	0.244315	3.59E-05
TURASHVILI_BREAST_DUCTAL_CARCINOMA_VS_DUCTAL_NORMAL_UP	0.244273	3.60E-05
REACTOME_DNA_REPLICATION_PRE_INITIATION	0.244213	3.61E-05
ONDER_CDH1_SIGNALING_VIA_CTNNB1	0.24417	3.63E-05

REACTOME_REGULATION_OF_APOPTOSIS	0.244126	3.64E-05
REACTOME_DISPLACEMENT_OF_DNA_GLYCOSYLASE_BY_APEX1	0.244103	3.64E-05
REACTOME_REGULATION_OF_MRNA_STABILITY_BY_PROTEINS_THAT_BIND_AU_RICH_ELEMENTS	0.244101	3.64E-05
MARTORIATI_MDM4_TARGETS_FETAL_LIVER_UP	0.244084	3.65E-05
REACTOME_CELLULAR_RESPONSES_TO_STRESS	0.244005	3.67E-05
NIKOLSKY_BREAST_CANCER_19Q13.4_AMPLICON	0.243963	3.68E-05
TSUNODA_CISPLATIN_RESISTANCE_UP	0.243903	3.70E-05
REACTOME_MITOPHAGY	0.243889	3.70E-05
REACTOME_WNT5A_DEPENDENT_INTERNALIZATION_OF_FZD2_FZD5_AND_ROR2	0.243788	3.73E-05
KRASNOSELSKAYA_ILF3_TARGETS_DN	0.243726	3.75E-05
MIKKELSEN_ES_LCP_WITH_H3K4ME3_AND_H3K27ME3	0.243645	3.77E-05
QI_HYPOXIA_TARGETS_OF_HIF1A_AND_FOXA2	0.243613	3.78E-05
REACTOME_NEGATIVE_REGULATION_OF_NOTCH4_SIGNALING	0.243529	3.81E-05
HELLER_SILENCED_BY_METHYLATION_UP	0.243498	3.81E-05
JI_CARCINOGENESIS_BY_KRAS_AND_STK11_DN	0.243358	3.86E-05
RAY_ALZHEIMERS_DISEASE	0.243338	3.86E-05
REACTOME_G2_M_CHECKPOINTS	0.2432	3.88E-

	57	05
RUTELLA_RESPONSE_TO_HGF_UP	0.243221	3.90E-05
REACTOME_MTORC1_MEDIATED_SIGNALLING	0.243099	3.93E-05
REACTOME_RUNX1_REGULATES_TRANSCRIPTION_OF_GENES_INVOLVED_IN_WNT_SIGNALING	0.243037	3.95E-05
BIOCARTA_FREE_PATHWAY	0.242936	3.98E-05
REN_BOUND_BY_E2F	0.242826	4.01E-05
REACTOME_FORMATION_OF_TUBULIN_FOLDING_INTERMEDIATES_BY_CCT_TRIC	0.242761	4.03E-05
JACKSON_DNMT1_TARGETS_DN	0.242692	4.05E-05
REACTOME_HEDGEHOG_LIGAND_BIOGENESIS	0.24269	4.05E-05
ROPERO_HDAC2_TARGETS	0.24266	4.06E-05
PID_PLK1_PATHWAY	0.242514	4.11E-05
JOHANSSON_GLIOMAGENESIS_BY_PDGFB_DN	0.242299	4.18E-05
REACTOME_GOLGI_TO_ER_RETROGRADE_TRANSPORT	0.242255	4.19E-05
POS_RESPONSE_TO_HISTAMINE_DN	0.242214	4.20E-05
MARTINEZ_TP53_TARGETS_DN	0.242113	4.23E-05
REACTOME_HIGHLY_CALCIUM_PERMEABLE_POSTSYNAPTIC_NICOTINIC_ACETYLCHOLINE_RECEPTORS	0.242096	4.24E-05
WU_HBX_TARGETS_3_UP	0.241721	4.36E-05
REACTOME_CROSSLINKING_OF_COLLAGEN_FIBRILS	0.2	4.4

	41607	0E-05
PACHER_TARGETS_OF_IGF1_AND_IGF2_UP	0.241422	4.46E-05
VECCHI_GASTRIC_CANCER_ADVANCED_VS_EARLY_UP	0.24133	4.49E-05
OZANNE_AP1_TARGETS_UP	0.241316	4.50E-05
REACTOME_PERK_REGULATES_GENE_EXPRESSION	0.241161	4.55E-05
HOLLEMAN_VINCRISTINE_RESISTANCE_ALL_DN	0.241068	4.58E-05
TURASHVILI_BREAST_LOBULAR_CARCINOMA_VS_DUCTAL_NORMAL_UP	0.241042	4.59E-05
REACTOME_TRANSCRIPTIONAL_REGULATION_BY_TP53	0.241032	4.59E-05
GROSS_HYPOXIA_VIA_ELK3_AND_HIF1A_DN	0.240981	4.61E-05
GHANDHI_DIRECT_IRRADIATION_UP	0.240909	4.64E-05
YU_BAP1_TARGETS	0.24083	4.66E-05
BURTON_ADIPOGENESIS_PEAK_AT_8HR	0.240811	4.67E-05
WANG_CISPLATIN_RESPONSE_AND_XPC_DN	0.240804	4.67E-05
SCHWAB_TARGETS_OF_BMYB_POLYMORPHIC_VARIANTS_UP	0.240767	4.68E-05
REACTOME_AUF1_HNRNP_D0_BINDS_AND_DESTABILIZES_MRNA	0.240728	4.70E-05
REACTOME_CHYLOMICRON_ASSEMBLY	0.240716	4.70E-05
MUNSHI_MULTIPLE_MYELOMA_UP	0.240624	4.73E-05

REACTOME_NUCLEOTIDE_EXCISION_REPAIR	0.240546	4.76E-05
HOFMANN_MYELODYSPLASTIC_SYNDROM_RISK_UP	0.240375	4.82E-05
REACTOME_INTERACTION_WITH_CUMULUS_CELLS_AND_THE_ZONA_PELLUCIDA	0.240323	4.84E-05
MURAKAMI_UV_RESPONSE_1HR_DN	0.240216	4.88E-05
BIOCARTA_PTC1_PATHWAY	0.23999	4.96E-05
AMIT_EGF_RESPONSE_240_MCF10A	0.239985	4.97E-05
REACTOME_C_TYPE_LECTIN_RECEPTORS_CLRS	0.239906	5.00E-05
REACTOME_DEGRADATION_OF_GLI1_BY_THE_PROTEASOME	0.239838	5.02E-05
REACTOME_ACTIVATION_OF_NIMA_KINASES_NEK9_NEK6_NEK7	0.239789	5.04E-05
DELASERNA_MYOD_TARGETS_UP	0.239691	5.08E-05
LE_NEURONAL_DIFFERENTIATION_DN	0.239653	5.09E-05
PID_UPA_UPAR_PATHWAY	0.239481	5.16E-05
MUELLER_COMMON_TARGETS_OF_AML_FUSIONS_UP	0.239465	5.16E-05
REACTOME_RESOLUTION_OF_ABASIC_SITES_AP_SITES	0.239326	5.22E-05
REACTOME_RUNX1_REGULATES_TRANSCRIPTION_OF_GENES_INVOLVED_IN_DIFFERENTIATION_OF_HSCS	0.239309	5.22E-05
BANDRES_RESPONSE_TO_CARMUSTIN_MGMT_24HR_DN	0.239269	5.24E-05
MATZUK_SPERMATOCYTE	0.2392	5.26E-

	21	05
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_KERATAN_SULFATE	0.239135	5.29E-05
PID_P73PATHWAY	0.239123	5.30E-05
FUNG_IL2_TARGETS_WITH_STAT5_BINDING_SITES	0.239087	5.31E-05
REACTOME_MAPK6_MAPK4_SIGNALING	0.239035	5.33E-05
LI_INDUCED_T_TO_NATURAL_KILLER_UP	0.239015	5.34E-05
REACTOME_SIGNAL_REGULATORY_PROTEIN_FAMILY_INTERACTIONS	0.239006	5.34E-05
CAFFAREL_RESPONSE_TO_THC_DN	0.238966	5.36E-05
RORIE_TARGETS_OF_EWSR1_FLI1_FUSION_UP	0.238874	5.39E-05
SA_REG_CASCADE_OF_CYCLIN_EXPR	0.238752	5.44E-05
ZHAN_MULTIPLE_MYELOMA_CD2_DN	0.238691	5.47E-05
REACTOME_DISEASES_ASSOCIATED_WITH_GLYCOSAMINOGLYCAN_METABOLISM	0.237992	5.76E-05
VERRECCHIA_RESPONSE_TO_TGFB1_C3	0.237991	5.76E-05
DUTERTRE_ESTRADIOL_RESPONSE_24HR_UP	0.237935	5.78E-05
PUJANA_CHEK2_PCC_NETWORK	0.237575	5.94E-05
QI_PLASMACYTOMA_UP	0.23751	5.97E-05
PID_ATR_PATHWAY	0.237463	5.99E-05
REACTOME_INTERLEUKIN_9_SIGNALING	0.2	6.1

	37194	1E-05
ZHENG_GLIOBLASTOMA_PLASTICITY_UP	0.237174	6.12E-05
CUI_GLUCOSE_DEPRIVATION	0.237125	6.14E-05
MAHAJAN_RESPONSE_TO_IL1A_UP	0.237014	6.19E-05
BURTON_ADIPOGENESIS_PEAK_AT_0HR	0.236833	6.27E-05
PID_SYNDECAN_2_PATHWAY	0.236429	6.46E-05
FLECHNER_PBL_KIDNEY_TRANSPLANT_OK_VS_DONOR_UP	0.236233	6.55E-05
BYSTRYKH_HEMATOPOIESIS_STEM_CELL_AND_BRAIN_QTL_TRANS	0.235935	6.70E-05
HWANG_PROSTATE_CANCER_MARKERS	0.235848	6.74E-05
REACTOME_RNA_POLYMERASE_II_TRANSCRIPTION_PRE_INITIATION_AND_PROMOTER_OPENING	0.235836	6.75E-05
JI_RESPONSE_TO_FSH_UP	0.235731	6.80E-05
LEE_INTRATHYMIC_T_PROGENITOR	0.23571	6.81E-05
KASLER_HDAC7_TARGETS_1_UP	0.235605	6.86E-05
RUTELLA_RESPONSE_TO_HGF_VS_CSF2RB_AND_IL4_DN	0.235398	6.97E-05
REACTOME_BASE_EXCISION_REPAIR	0.235202	7.07E-05
REACTOME_COMPLEMENT_CASCADE	0.234991	7.18E-05
KEGG_BASE_EXCISION_REPAIR	0.234974	7.19E-05

BIOCARTA_DNAFRAGMENT_PATHWAY	0.234829	7.26E-05
KRIGE_AMINO_ACID_DEPRIVATION	0.234817	7.27E-05
REACTOME_DEGRADATION_OF_THE_EXTRACELLULAR_MATRIX	0.234744	7.31E-05
AMUNDSON_RESPONSE_TO_ARSENITE	0.234574	7.40E-05
REACTOME_DECTIN_1_MEDIATED_NONCANONICAL_NF_KB_SIGNALING	0.234457	7.46E-05
JIANG_HYPOXIA_CANCER	0.234406	7.49E-05
MULLIGHAN_NPM1_MUTATED_SIGNATURE_2_DN	0.234326	7.53E-05
CHIANG_LIVER_CANCER_SUBCLASS_INTERFERON_UP	0.23423	7.59E-05
CHOW_RASSF1_TARGETS_UP	0.234182	7.61E-05
REACTOME_COLLAGEN_DEGRADATION	0.234079	7.67E-05
KOKKINAKIS_METHIONINE_DEPRIVATION_48HR_DN	0.233874	7.79E-05
REACTOME_COLLAGEN_BIOSYNTHESIS_AND_MODIFYING_ENZYMES	0.233626	7.93E-05
KEGG_CELL_CYCLE	0.233441	8.03E-05
BIOCARTA_CASPASE_PATHWAY	0.232982	8.31E-05
PID_AURORA_B_PATHWAY	0.232879	8.37E-05
DAZARD_UV_RESPONSE_CLUSTER_G1	0.23281	8.41E-05
REACTOME_EARLY_PHASE_OF_HIV_LIFE_CYCLE	0.2327	8.43E-

	77	05
DACOSTA_UV_RESPONSE_VIA_ERCC3_UP	0.23277	8.43E-05
DORMOY_ELAVL1_TARGETS	0.232737	8.46E-05
MARKS_HDAC_TARGETS_UP	0.232657	8.50E-05
XU_RESPONSE_TO_TRETINOIN_UP	0.232528	8.58E-05
DAVICIONI_MOLECULAR_ARMS_VS_ERMS_DN	0.232475	8.62E-05
RICKMAN_TUMOR_DIFFERENTIATED_WELL_VS_POORLY_DN	0.232417	8.65E-05
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_ERYTHROCYTE_UP	0.232364	8.69E-05
BONOME_OVARIAN_CANCER_POOR_SURVIVAL_DN	0.232267	8.75E-05
BIOCARTA_P35ALZHEIMERS_PATHWAY	0.232229	8.77E-05
MIKKELSEN_NPC_LCP_WITH_H3K4ME3	0.232094	8.86E-05
TARTE_PLASMA_CELL_VS_B_LYMPHOCYTE_UP	0.232073	8.87E-05
BIOCARTA_IL22BP_PATHWAY	0.23194	8.96E-05
BIOCARTA_TH1TH2_PATHWAY	0.231687	9.12E-05
CHIARADONNA_NEOPLASTIC_TRANSFORMATION_KRAS_CDC25_DN	0.231674	9.13E-05
HELLEBREKERS_SILENCED_DURING_TUMOR_ANGIOGENESIS	0.23166	9.14E-05
ODONNELL_TFRC_TARGETS_DN	0.231655	9.14E-05
REACTOME_CD22_MEDIATED_BCR_REGULATION	0.2	9.3

	3136	4E-05
WANG_TARGETS_OF_MLL_CBP_FUSION_DN	0.23133	9.36E-05
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_12	0.231086	9.52E-05
WHITFIELD_CELL_CYCLE_G2_M	0.231026	9.56E-05
ZERBINI_RESPONSE_TO_SULINDAC_DN	0.230928	9.63E-05
MANN_RESPONSE_TO_AMIFOSTINE_UP	0.230926	9.63E-05
LIAN_LIPA_TARGETS_3M	0.230859	9.68E-05
REACTOME_EXTRACELLULAR_MATRIX_ORGANIZATION	0.230858	9.68E-05
BHATI_G2M_ARREST_BY_2METHOXYESTRADIOL_DN	0.230659	9.82E-05
ZHANG_PROLIFERATING_VS_QUIESCENT	0.230482	9.94E-05
REACTOME_MITOTIC_SPINDLE_CHECKPOINT	0.230459	9.96E-05
PID_LIS1_PATHWAY	0.230428	9.98E-05
PID_ILK_PATHWAY	0.230425	9.98E-05
REACTOME_HEPARAN_SULFATE_HEPARIN_HS_GAG_METABOLISM	0.230376	0.0001
GROSS_HYPOXIA_VIA_ELK3_ONLY_DN	0.23027	0.000101
IGLESIAS_E2F_TARGETS_DN	0.230247	0.000101
YANG_BCL3_TARGETS_DN	0.230167	0.000102

BIOCARTA_ERAD_PATHWAY	0.230166	0.000102
MULLIGHAN_MLL_SIGNATURE_1_UP	0.230145	0.000102
REACTOME_PROCESSIVE_SYNTHESIS_ON_THE_C_STRAND_OF_THE_TELOMERE	0.230005	0.000103
KEGG_DNA_REPLICATION	0.229832	0.000104
FAELT_B_CLL_WITH_VH3_21_UP	0.2298	0.000104
REACTOME_DUAL_INCISION_IN_TC_NER	0.229758	0.000105
YAMASHITA_METHYLATED_IN_PROSTATE_CANCER	0.229705	0.000105
HUANG_GATA2_TARGETS_UP	0.229618	0.000106
HELLER_HDAC_TARGETS_SILENCED_BY_METHYLATION_DN	0.2296	0.000106
WHITESIDE_CISPLATIN_RESISTANCE_DN	0.229579	0.000106
SCIAN_INVERSED_TARGETS_OF_TP53_AND_TP73_UP	0.229565	0.000106
MASRI_RESISTANCE_TO_TAMOXIFEN_AND_AROMATASE_INHIBITORS_DN	0.229284	0.000108
REACTOME_CONVERSION_FROM_APC_C:CDC20_TO_APC_C:CDH1_IN_LATE_ANAPHASE	0.229197	0.000109
TSENG_ADIPOGENIC_POTENTIAL_UP	0.228924	0.000111
PURBEY_TARGETS_OF_CTBP1_AND_SATB1_UP	0.228884	0.000111
GENTILE_UV_RESPONSE_CLUSTER_D1	0.228859	0.000112
GARY_CD5_TARGETS_UP	0.2288	0.0001

	15	12
KEGG_BASAL_CELL_CARCINOMA	0.228732	0.000113
REACTOME_RECYCLING_OF_EIF2:GDP	0.228568	0.000114
SEMBA_FHIT_TARGETS_DN	0.22847	0.000115
BANDRES_RESPONSE_TO_CARMUSTIN_WITHOUT_MGMT_48HR_DN	0.228416	0.000115
WORSCHECH_TUMOR_EVASION_AND_TOLEROGENICITY_UP	0.228387	0.000115
MARKEY_RB1_CHRONIC_LOF_UP	0.228256	0.000117
BIOCARTA_CELL2CELL_PATHWAY	0.228042	0.000118
GAVIN_FOXP3_TARGETS_CLUSTER_T7	0.228032	0.000118
MARKEY_RB1_ACUTE_LOF_UP	0.227643	0.000122
WU_APOPTOSIS_BY_CDKN1A_VIA_TP53	0.227569	0.000122
LI_DCP2_BOUND_MRNA	0.227569	0.000122
BROWNE_HCMV_INFECTION_14HR_DN	0.227512	0.000123
SERVITJA_LIVER_HNF1A_TARGETS_UP	0.227475	0.000123
VANTVEER_BREAST_CANCER_POOR_PROGNOSIS	0.227447	0.000123
REACTOME_REGULATION_OF_INNATE_IMMUNE_RESPONSES_TO_CYTOSOLIC_DNA	0.227098	0.000126
REACTOME_SYNTHESIS_OF_UDP_N_ACETYL_GLUCOSAMINE	0.22699	0.000127
LEE_TARGETS_OF_PTCH1_AND_SUFU_UP	0.2	0.0

	26735	0013
NOJIMA_SFRP2_TARGETS_DN	0.226722	0.00013
NABA_CORE_MATRISOME	0.226616	0.000131
YANG_BREAST_CANCER_ESR1_DN	0.226273	0.000134
KUMAR_TARGETS_OF_MLL_AF9_FUSION	0.226256	0.000134
FURUKAWA_DUSP6_TARGETS_PCI35_DN	0.2262	0.000135
OZEN_MIR125B1_TARGETS	0.226053	0.000136
KAMMINGA_EZH2_TARGETS	0.226039	0.000136
REACTOME_INTERLEUKIN_12_SIGNALING	0.22582	0.000138
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	0.225806	0.000138
KORKOLA_CORRELATED_WITH_POU5F1	0.225678	0.00014
REACTOME_TRAF3_DEPENDENT_IRF_ACTIVATION_PATHWAY	0.225432	0.000142
BHAT_ESR1_TARGETS_VIA_AKT1_UP	0.225342	0.000143
RAMJAUN_APOPTOSIS_BY_TGFB1_VIA_MAPK1_DN	0.22504	0.000146
SMID_BREAST_CANCER_LUMINAL_B_DN	0.224865	0.000148
WILLIAMS_ESR1_TARGETS_UP	0.224834	0.000148
BIOCARTA_GRANULOCYTES_PATHWAY	0.22472	0.000149

REACTOME_HSF1_DEPENDENT_TRANSACTIVATION	0.224507	0.000152
HUMMERICH_MALIGNANT_SKIN_TUMOR_UP	0.224331	0.000153
BOYERINAS_ONCOFETAL_TARGETS_OF_LET7A1	0.224304	0.000154
REACTOME_METABOLISM_OF_POLYAMINES	0.224297	0.000154
GHO_ATF5_TARGETS_DN	0.22426	0.000154
REACTOME_INNATE_IMMUNE_SYSTEM	0.224186	0.000155
DODD_NASOPHARYNGEAL_CARCINOMA_DN	0.224164	0.000155
LINDGREN_BLADDER_CANCER_CLUSTER_3_UP	0.22404	0.000157
DACOSTA_ERCC3_ALLELE_XPCS_VS_TTD_UP	0.224013	0.000157
MARSON_BOUND_BY_E2F4_UNSTIMULATED	0.223922	0.000158
KANNAN_TP53_TARGETS_UP	0.223834	0.000159
REACTOME_DOWNSTREAM_SIGNALING_EVENTS_OF_B_CELL_RECEPTOR_BCR	0.223544	0.000162
REACTOME_TRANSCRIPTIONAL_REGULATION_BY_RUNX3	0.223286	0.000165
ZHAN_V2_LATE_DIFFERENTIATION_GENES	0.223278	0.000165
MULLIGHAN_NPM1_MUTATED_SIGNATURE_1_DN	0.223196	0.000166
HOFMANN_MYELODYSPLASTIC_SYNDROM_LOW_RISK_DN	0.223153	0.000167
HELLER_HDAC_TARGETS_DN	0.2230	0.0001

	1	68
REACTOME_RUNX1_REGULATES_TRANSCRIPTION_OF_GENES_INVOLVED_IN_DIFFERENTIATION_OF_KERATINOCYTES	0.22292	0.000169
HOLLEMAN_ASPARAGINASE_RESISTANCE_ALL_DN	0.222728	0.000172
HUMMERICH_SKIN_CANCER_PROGRESSION_DN	0.222726	0.000172
KEGG_COMPLEMENT_AND_COAGULATION_CASCADES	0.222676	0.000172
SANSOM_APC_MYC_TARGETS	0.222461	0.000175
REACTOME_DEX_H_BOX_HELICASES_ACTIVATE_TYPE_I_IFN_AND_INFLAMMATORY_CYTOKINES_PRODUCTION	0.222409	0.000175
REACTOME_RRNA_PROCESSING_IN_THE_NUCLEUS_AND_CYTOSOL	0.222406	0.000175
MURAKAMI_UV_RESPONSE_6HR_DN	0.222197	0.000178
REACTOME_REGULATION_OF_INSULIN_LIKE_GROWTH_FACTOR_IGF_TRANSPORT_AND_UPTAKE_BY_INSULIN_LIKE_GROWTH_FACTOR_BINDING_PROTEINS_IGFBPS	0.22219	0.000178
REACTOME_GLOBAL_GENOME_NUCLEOTIDE_EXCISION_REPAIR_GG_NER	0.222184	0.000178
GNATENKO_PLATELET_SIGNATURE	0.222058	0.00018
BIOCARTA_DC_PATHWAY	0.222004	0.00018
KEGG_RNA_POLYMERASE	0.221933	0.000181
VILIMAS_NOTCH1_TARGETS_UP	0.22181	0.000183
JEPSEN_SMRT_TARGETS	0.221628	0.000185
LAU_APOPTOSIS_CDKN2A_UP	0.221598	0.000185
REACTOME_HEDGEHOG_ON_STATE	0.2	0.0

	21553	00186
PUJANA_BRCA2_PCC_NETWORK	0.221337	0.000189
FISCHER_G2_M_CELL_CYCLE	0.22113	0.000192
WU_APOPTOSIS_BY_CDKN1A_NOT_VIA_TP53	0.221072	0.000192
REACTOME_THE_NLRP3_INFLAMMASOME	0.220994	0.000193
REACTOME_G2_M_DNA_REPLICATION_CHECKPOINT	0.220773	0.000196
MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_16	0.22064	0.000198
CHEOK_RESPONSE_TO_HD_MTX_UP	0.220591	0.000199
SCHUHMACHER_MYC_TARGETS_UP	0.220555	0.000199
REACTOME_EXTRINSIC_PATHWAY_OF_FIBRIN_CLOT_FORMATION	0.220319	0.000202
BIOCARTA_IL5_PATHWAY	0.220229	0.000204
REACTOME_ALPHA_LINOLENIC_OMEGA3_AND_LINOLEIC_OMEGA6_ACID_METABOLISM	0.219863	0.000209
GAURNIER_PSMD4_TARGETS	0.219821	0.000209
LOPEZ_MBD_TARGETS	0.219626	0.000212
REACTOME_TRANSCRIPTIONAL_REGULATION_BY_SMALL_RNAS	0.219604	0.000213
REACTOME_FCERI_MEDIATED_NF_KB_ACTIVATION	0.219505	0.000214
REACTOME_REGULATION_OF_PTEN_STABILITY_AND_ACTIVITY	0.219058	0.000221

REACTOME_NEUTROPHIL_DEGRANULATION	0.218988	0.000222
LU_TUMOR_VASCULATURE_UP	0.218979	0.000222
GOLUB_ALL_VS_AML_DN	0.218898	0.000223
COLDREN_GEFITINIB_RESISTANCE_UP	0.218857	0.000224
VANDESLUIS_COMMD1_TARGETS_GROUP_4_DN	0.218733	0.000226
BIOCARTA_REELIN_PATHWAY	0.218605	0.000228
SHIN_B_CELL_LYMPHOMA_CLUSTER_9	0.218566	0.000228
KYNG_DNA_DAMAGE_BY_4NQO_OR_UV	0.218487	0.000229
SESTO_RESPONSE_TO_UV_C6	0.21845	0.00023
TERAMOTO_OPN_TARGETS_CLUSTER_7	0.218374	0.000231
REACTOME_ATTENUATION_PHASE	0.218259	0.000233
REACTOME_HIV_ELONGATION_ARREST_AND_RECOVERY	0.218216	0.000234
BIOCARTA_SLRP_PATHWAY	0.218136	0.000235
NATSUME_RESPONSE_TO_INTERFERON_BETA_DN	0.218125	0.000235
REACTOME_EXTENSION_OF_TELOMERES	0.218058	0.000236
SCHRAETS_MLL_TARGETS_DN	0.218052	0.000236
HOFFMANN_SMALL_PRE_BII_TO_IMMATURE_B_LYMPHOCYTE_DN	0.2179	0.0002

	28	38
BURTON_ADIPOGENESIS_7	0.217895	0.000239
NIKOLSKY_BREAST_CANCER_17Q11_Q21_AMPLICON	0.217862	0.000239
DAUER_STAT3_TARGETS_UP	0.217847	0.00024
RAMPON_ENRICHED_LEARNING_ENVIRONMENT_LATE_UP	0.217795	0.00024
NADERI_BREAST_CANCER_PROGNOSIS_DN	0.217755	0.000241
REACTOME_BINDING_AND_UPTAKE_OF_LIGANDS_BY_SCAVENGER_RECEPTORS	0.217655	0.000243
PLASARI_TGFB1_TARGETS_10HR_UP	0.217442	0.000246
REACTOME_CHONDROITIN_SULFATE_DERMATAN_SULFATE_METABOLISM	0.217175	0.000251
REACTOME_FORMATION_OF_HIV_ELONGATION_COMPLEX_IN_THE_ABSENCE_OF_HIV_TAT	0.217084	0.000252
REACTOME_VITAMINS	0.217024	0.000253
BASSO_CD40_SIGNALING_UP	0.216941	0.000255
REACTOME_SIGNALING_BY_THE_B_CELL_RECEPTOR_BCR	0.216869	0.000256
REACTOME_RRNA_PROCESSING	0.216759	0.000258
REACTOME_CHROMOSOME_MAINTENANCE	0.216665	0.000259
SIG_REGULATION_OF_THE_ACTIN_CYTOSKELETON_BY_RHO_GTPASES	0.216518	0.000262
REACTOME_MRNA_SPLICING_MINOR_PATHWAY	0.216481	0.000263
MOROSETTI_FACIOSCAPULOHUMERAL_MUSCULAR_DISTROPHY_UP	0.2	0.0

	16331	00265
REACTOME_MITOTIC_PROMETAPHASE	0.21625	0.000267
RUNNE_GENDER_EFFECT_UP	0.216215	0.000267
REACTOME_TELOMERE_MAINTENANCE	0.216198	0.000268
REACTOME_SIGNALING_BY_INTERLEUKINS	0.216186	0.000268
REACTOME_SLBP_DEPENDENT_PROCESSING_OF_REPLICATION_DEPENDENT_HISTONE_PRE_MRNAS	0.215903	0.000273
WANG_ESOPHAGUS_CANCER_VS_NORMAL_UP	0.21576	0.000276
REACTOME_ELASTIC_FIBRE_FORMATION	0.215621	0.000278
SCHEIDEREIT_IKK_INTERACTING_PROTEINS	0.215317	0.000284
KOHOUTEK_CCNT1_TARGETS	0.215074	0.000289
REACTOME_RUNX3_REGULATES_YAP1_MEDIATED_TRANSCRIPTION	0.215028	0.00029
REACTOME_SUMOYLATION_OF_DNA_REPLICATION_PROTEINS	0.214912	0.000292
GRADE_COLON_VS_RECTAL_CANCER_DN	0.214728	0.000295
REACTOME_MRNA_CAPPING	0.214675	0.000296
LIAN_LIPA_TARGETS_6M	0.214627	0.000297
BRUINS_UVC_RESPONSE_VIA_TP53_GROUP_B	0.214488	0.0003
SPIELMAN_LYMPHOBLAST_EUROPEAN_VS_ASIAN_2FC_UP	0.214374	0.000302

REACTOME_RNA_POLYMERASE_III_TRANSCRIPTION_TERMINATION	0.214354	0.000303
BROWNE_HCMV_INFECTION_8HR_DN	0.214207	0.000306
REACTOME_TCR_SIGNALING	0.214157	0.000307
REACTOME_VIRAL_MESSENGER_RNA_SYNTHESIS	0.213882	0.000312
REACTOME_DETOXIFICATION_OF_REACTIVE_OXYGEN_SPECIES	0.213797	0.000314
MUELLER_COMMON_TARGETS_OF_AML_FUSIONS_DN	0.213669	0.000317
BIOCARTA_NEUTROPHIL_PATHWAY	0.213594	0.000319
REACTOME_FORMATION_OF_TC_NER_PRE_INCISION_COMPLEX	0.213355	0.000324
CHANG_POU5F1_TARGETS_DN	0.213181	0.000327
REACTOME_ALPHA_DEFENSINS	0.213173	0.000328
REACTOME_SRP_DEPENDENT_COTRANSLATIONAL_PROTEIN_TARGETING_TO_MEMBRANE	0.213138	0.000328
SAGIV_CD24_TARGETS_DN	0.213054	0.00033
CROONQUIST_STROMAL_STIMULATION_UP	0.212761	0.000337
NUNODA_RESPONSE_TO_DASATINIB_IMATINIB_DN	0.212746	0.000337
KEGG_PURINE_METABOLISM	0.212625	0.00034
RAMJAUN_APOPTOSIS_BY_TGFB1_VIA_MAPK1_UP	0.212606	0.00034
REACTOME_PHASE_1_INACTIVATION_OF_FAST_NAPLUS_CHANNELS	0.2125	0.0003

	48	41
TAKAO_RESPONSE_TO_UVB_RADIATION_UP	0.212537	0.000342
BIOCARTA_PEPI_PATHWAY	0.212525	0.000342
BIOCARTA_P27_PATHWAY	0.212447	0.000344
KANG_FLUOROURACIL_RESISTANCE_UP	0.212436	0.000344
CARDOSO_RESPONSE_TO_GAMMA_RADIATION_AND_3AB	0.21226	0.000348
REACTOME_TRANSCRIPTIONAL_REGULATION_OF_GRANULOPOIESIS	0.212259	0.000348
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_GLOBO_SERIES	0.211939	0.000355
HAHTOLA_MYCOSIS_FUNGOIDES_UP	0.211796	0.000359
REACTOME_ANTIGEN_PROCESSING_CROSS_PRESENTATION	0.211406	0.000368
BURTON_ADIPOGENESIS_2	0.211397	0.000368
MOROSETTI_FACIOSCAPULOHUMERAL_MUSCULAR_DISTROPHY_DN	0.211285	0.000371
REACTOME_FGFR2_MUTANT_RECEPTOR_ACTIVATION	0.21122	0.000373
MCBRYAN_PUBERTAL_BREAST_6_7WK_DN	0.211165	0.000374
NABA_ECM_GLYCOPROTEINS	0.210998	0.000378
REACTOME_CONDENSATION_OF_PROPHASE_CHROMOSOMES	0.210837	0.000382
REACTOME_INTERLEUKIN_35_SIGNALLING	0.210792	0.000383
REACTOME_PROTON_COUPLED_MONOCARBOXYLATE_TRANSPORT	0.2	0.0

	10574	00389
PID_IL23_PATHWAY	0.210501	0.000391
LEIN_MIDBRAIN_MARKERS	0.210384	0.000394
SCHUETZ_BREAST_CANCER_DUCTAL_INVASIVE_UP	0.210359	0.000394
SHEDDEN_LUNG_CANCER_GOOD_SURVIVAL_A12	0.210248	0.000397
ELVIDGE_HIF1A_AND_HIF2A_TARGETS_UP	0.210032	0.000403
REACTOME_TRANSCRIPTION_OF_THE_HIV_GENOME	0.210004	0.000403
PHONG_TNF_RESPONSE_VIA_P38_PARTIAL	0.209963	0.000404
CHIARETTI_ACUTE_LYMPHOBLASTIC_LEUKEMIA_ZAP70	0.20984	0.000408
SASAKI_TARGETS_OF_TP73_AND_TP63	0.209754	0.00041
DELACROIX_RARG_BOUND_MEF	0.209597	0.000414
REACTOME_INTERLEUKIN_2_SIGNALING	0.209567	0.000415
CREIGHTON_ENDOCRINE_THERAPY_RESISTANCE_1	0.209559	0.000415
BIOCARTA_NKT_PATHWAY	0.209385	0.00042
PARENT_MTOR_SIGNALING_DN	0.209362	0.000421
PID_INTEGRIN5_PATHWAY	0.209332	0.000421
OSAWA_TNF_TARGETS	0.20928	0.000423

PID_E2F_PATHWAY	0.209243	0.000424
KORKOLA_SEMINOMA_UP	0.209006	0.00043
BIOCARTA_IL6_PATHWAY	0.2087	0.000439
LU_TUMOR_ENDOTHELIAL_MARKERS_UP	0.208666	0.00044
PID_P38_MK2_PATHWAY	0.208423	0.000447
REACTOME_ANTIMICROBIAL_PEPTIDES	0.208412	0.000447
REACTOME_RESOLUTION_OF_AP_SITES_VIA_THE_MULTIPLE_NUCLEOTIDE_PATCH_REPLACEMENT_PATHWAY	0.208316	0.00045
DOANE_BREAST_CANCER_ESR1_DN	0.208312	0.00045
REACTOME_TELOMERE_EXTENSION_BY_TELOMERASE	0.20825	0.000452
REACTOME_S_PHASE	0.207979	0.00046
REACTOME_REGULATION_OF_IFNG_SIGNALING	0.207953	0.000461
CHICAS_RB1_TARGETS_SENESCENT	0.207793	0.000466
SMITH_TERT_TARGETS_UP	0.207617	0.000471
UDAYAKUMAR_MED1_TARGETS_UP	0.20756	0.000473
SCHLOSSER_SERUM_RESPONSE_AUGMENTED_BY_MYC	0.207544	0.000473
MULLIGHAN_MLL_SIGNATURE_2_UP	0.207517	0.000474
REACTOME_RNA_POLYMERASE_I_TRANSCRIPTION	0.2074	0.0004

	95	75
WANG_METHYLATED_IN_BREAST_CANCER	0.207463	0.000476
ZHAN_MULTIPLE_MYELOMA_HP_DN	0.207271	0.000482
PID_AMB2_NEUTROPHILS_PATHWAY	0.206864	0.000494
REACTOME_DNA_STRAND_ELONGATION	0.206705	0.000499
ICHIBA_GRAFT_VERSUS_HOST_DISEASE_D7_UP	0.206579	0.000504
REACTOME_INTERLEUKIN_18_SIGNALING	0.206465	0.000507
PID_INTEGRIN_A4B1_PATHWAY	0.206457	0.000508
SAMOLS_TARGETS_OF_KHSV_MIRNAS_DN	0.206271	0.000514
BANDRES_RESPONSE_TO_CARMUSTIN_WITHOUT_MGMT_48HR_UP	0.206214	0.000515
BIOCARTA_HBX_PATHWAY	0.206207	0.000516
YIH_RESPONSE_TO_ARSENITE_C3	0.206193	0.000516
SA_MMP_CYTOKINE_CONNECTION	0.206131	0.000518
SHETH_LIVER_CANCER_VS_TXNIP_LOSS_PAM2	0.206059	0.000521
REACTOME_BINDING_OF_TCF_LEF:CTNNB1_TO_TARGET_GENE_PROMOTERS	0.206056	0.000521
MACLACHLAN_BRCA1_TARGETS_DN	0.206033	0.000521
FUJII_YBX1_TARGETS_DN	0.205975	0.000523
REACTOME_NEURODEGENERATIVE_DISEASES	0.2	0.0

	05959	00524
REACTOME_CELL_SURFACE_INTERACTIONS_AT_THE_VASCULAR_WALL	0.205849	0.000528
WANG_RESPONSE_TO_BEXAROTENE_UP	0.205843	0.000528
REACTOME_HIV_LIFE_CYCLE	0.205684	0.000533
LIANG_SILENCED_BY_METHYLATION_UP	0.205606	0.000536
BIOCARTA_SUMO_PATHWAY	0.205521	0.000539
DEURIG_T_CELL_PROLYMPHOCYTIC_LEUKEMIA_UP	0.205451	0.000541
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_13	0.205446	0.000541
LI_WILMS_TUMOR_VS_FETAL_KIDNEY_2_UP	0.205413	0.000543
KEGG_HEMATOPOIETIC_CELL_LINEAGE	0.205401	0.000543
REACTOME_RHO_GTPASES_ACTIVATE_IQGAPS	0.205354	0.000545
REACTOME_A_TETRASACCHARIDE_LINKER_SEQUENCE_IS_REQUIRED_FOR_GAG_SYNTHESIS	0.205327	0.000546
BROWNE_HCMV_INFECTION_16HR_DN	0.205323	0.000546
PUJANA_BREAST_CANCER_LIT_INT_NETWORK	0.20532	0.000546
MURAKAMI_UV_RESPONSE_24HR	0.205262	0.000548
BIOCARTA_PCAF_PATHWAY	0.204971	0.000558
MIKKELSEN_ES_ICP_WITH_H3K27ME3	0.204879	0.000561

REACTOME_NEGATIVE_REGULATION_OF_NMDA_RECEPTOR_MEDIATED_NEURONAL_TRANSMISSION	0.204835	0.000563
BIOCARTA_IFNA_PATHWAY	0.204832	0.000563
REACTOME_METABOLISM_OF_RNA	0.204759	0.000566
SANSOM_APC_TARGETS_UP	0.204625	0.000571
REACTOME_PCNA_DEPENDENT_LONG_PATCH_BASE_EXCISION_REPAIR	0.204592	0.000572
REACTOME_DDX58_IFIH1_MEDIATED_INDUCTION_OF_INTERFERON_ALPHA_BETA	0.204584	0.000572
ENGELMANN_CANCER_PROGENITORS_DN	0.204527	0.000574
REACTOME_GAP_FILLING_DNA_REPAIR_SYNTHESIS_AND_LIGATION_IN_GG_NER	0.204503	0.000575
MARCHINI_TRABECTEDIN_RESISTANCE_DN	0.204447	0.000577
BAKKER_FOXO3_TARGETS_DN	0.204351	0.000581
BOYAULT_LIVER_CANCER_SUBCLASS_G56_DN	0.204188	0.000587
KIM_BIPOLAR_DISORDER_OLIGODENDROCYTE_DENSITY_CORR_DN	0.2041	0.00059
DEMAGALHAES_AGING_UP	0.204075	0.000591
CASTELLANO_HRAS_TARGETS_DN	0.204043	0.000592
WORSCHECH_TUMOR_REJECTION_UP	0.203876	0.000598
ONO_FOXP3_TARGETS_UP	0.20377	0.000602
KEGG_PRIMARY_IMMUNODEFICIENCY	0.2036	0.0006

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MARZEC_IL2_SIGNALING_UP	0.203674	0.000606
ONKEN_UVEAL_MELANOMA_UP	0.203593	0.000609
REACTOME_CELL_EXTRACELLULAR_MATRIX_INTERACTIONS	0.203548	0.000611
APPEL_IMATINIB_RESPONSE	0.2035	0.000613
REACTOME_TNFS_BIND_THEIR_PHYSIOLOGICAL_RECEPTORS	0.203474	0.000614
REACTOME_RNA_POLYMERASE_I_TRANSCRIPTION_INITIATION	0.203397	0.000617
VALK_AML_CLUSTER_15	0.203229	0.000623
ZHAN_LATE_DIFFERENTIATION_GENES_DN	0.203188	0.000625
REACTOME_HS_GAG_DEGRADATION	0.203142	0.000627
PLASARI_TGFB1_SIGNALING_VIA_NFIC_10HR_DN	0.2029	0.000636
MCGARVEY_SILENCED_BY_METHYLATION_IN_COLON_CANCER	0.202725	0.000644
NGUYEN_NOTCH1_TARGETS_UP	0.202581	0.000649
AGARWAL_AKT_PATHWAY_TARGETS	0.202387	0.000657
REACTOME_EUKARYOTIC_TRANSLATION_INITIATION	0.202324	0.00066
STEARMAN_LUNG_CANCER_EARLY_VS_LATE_DN	0.202264	0.000663
REACTOME_POST_TRANSLATIONAL_MODIFICATION:_SYNTHESIS_OF_GPI_ANCHORED_PROTEINS	0.202212	0.000665
MORI_SMALL_PRE_BII_LYMPHOCYTE_UP	0.2	0.0

	02166	00667
SWEET_KRAS_ONCOGENIC_SIGNATURE	0.202138	0.000668
WEI_MYCN_TARGETS_WITH_E_BOX	0.201932	0.000677
BAE_BRCA1_TARGETS_UP	0.201917	0.000677
REACTOME_DEGRADATION_OF_BETA_CATENIN_BY_THE_DESTRUCTION_COMPLEX	0.201867	0.000679
REACTOME_DOWNSTREAM_TCR_SIGNALING	0.201832	0.000681
REACTOME_IMMUNOREGULATORY_INTERACTIONS_BETWEEN_A_LYMPHOID_AND_A_NON_LYMPHOID_CELL	0.20169	0.000687
VERNOCHET_ADIPOGENESIS	0.201683	0.000687
DURCHDEWALD_SKIN_CARCINOGENESIS_UP	0.201666	0.000688
PID_ARF_3PATHWAY	0.201583	0.000691
REACTOME_CHK1_CHK2_CDS1_MEDIATED_INACTIVATION_OF_CYCLIN_B:CDK1_COMPLEX	0.201544	0.000693
SUH_COEXPRESSED_WITH_ID1_AND_ID2_UP	0.20147	0.000696
SCHLOSSER_SERUM_RESPONSE_UP	0.201375	0.000701
ONDER_CDH1_TARGETS_3_DN	0.201278	0.000705
BIOCARTA_IL2_PATHWAY	0.200916	0.000721
CHO_NR4A1_TARGETS	0.200907	0.000721
MARTINEZ_RB1_AND_TP53_TARGETS_DN	0.200789	0.000727

REACTOME_TP53_REGULATES_TRANSCRIPTION_OF_CELL_CYCLE_GENES	0.200745	0.000729
SARTIPY_BLUNTED_BY_INSULIN_RESISTANCE_UP	0.200563	0.000737
KEGG_HOMOLOGOUS_RECOMBINATION	0.200539	0.000738
NIKOLSKY_BREAST_CANCER_20Q11_AMPLICON	0.200432	0.000743
RHEIN_ALL_GLUCOCORTICOID_THERAPY_UP	0.200407	0.000744
BIOCARTA_PLK3_PATHWAY	0.200326	0.000748
SENESE_HDAC1_AND_HDAC2_TARGETS_UP	0.200298	0.000749
NIKOLSKY_BREAST_CANCER_11Q12_Q14_AMPLICON	0.200224	0.000753
REACTOME_DNA_METHYLATION	0.200074	0.00076
REACTOME_POSITIVE_EPIGENETIC_REGULATION_OF_RRNA_EXPRESSION	0.200039	0.000762
WEBER_METHYLATED_IN_COLON_CANCER	0.199985	0.000764
REACTOME_LAGGING_STRAND_SYNTHESIS	0.199924	0.000767
KEGG_PRION_DISEASES	0.199885	0.000769
BENPORATH_CYCLING_GENES	0.199861	0.00077
CHIARETTI_T_ALL_REFRACTORY_TO_THERAPY	0.199768	0.000774
REACTOME_SIGNALING_BY_FGFR2_IIIA_TM	0.19962	0.000782
MCCABE_HOXC6_TARGETS_CANCER_UP	0.1995	0.0007

	48	85
VIETOR_IFRD1_TARGETS	0.199443	0.00079
PARK_TRETINOIN_RESPONSE	0.199417	0.00792
REACTOME_CHYLOMICRON_CLEARANCE	0.198996	0.00812
ROESSLER_LIVER_CANCER_METASTASIS_UP	0.198995	0.00813
DORN_ADENOVIRUS_INFECTION_12HR_DN	0.198991	0.00813
REACTOME_RRNA_MODIFICATION_IN_THE_NUCLEUS_AND_CYTOSOL	0.198859	0.00819
TSAI_DNAJB4_TARGETS_DN	0.198557	0.00835
VILIMAS_NOTCH1_TARGETS_DN	0.198532	0.00836
TARTE_PLASMA_CELL_VS_B_LYMPHOCYTE_DN	0.198467	0.0084
KENNY_CTNNB1_TARGETS_UP	0.198338	0.00846
HOLLMANN_APOPTOSIS_VIA_CD40_DN	0.198271	0.0085
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_HSC_DN	0.198256	0.00851
REACTOME_SUMO_IS_TRANSFERRED_FROM_E1_TO_E2_UBE2I_UBC9	0.198051	0.00861
PETRETTO_BLOOD_PRESSURE_UP	0.198042	0.00862
REACTOME_REGULATION_OF_TLR_BY_ENDOGENOUS_LIGAND	0.197961	0.00866
GUENTHER_GROWTH_SPHERICAL_VS_ADHERENT_DN	0.197928	0.00868
SHEPARD_CRUSH_AND_BURN_MUTANT_UP	0.1	0.0

	97885	0087
CLASPER_LYMPHATIC_VESSELS_DURING_METASTASIS_DN	0.197863	0.00871
PID_INTEGRIN3_PATHWAY	0.197863	0.00871
MILI_PSEUDOPODIA_HAPTOTAXIS_DN	0.197698	0.0088
MARTINELLI_IMMATURE_NEUTROPHIL_DN	0.197574	0.00887
MARKEY_RB1_CHRONIC_LOF_DN	0.197568	0.00887
JI_CARCINOGENESIS_BY_KRAS_AND_STK11_UP	0.197438	0.00895
SCIAN_INVERSED_TARGETS_OF_TP53_AND_TP73_DN	0.197415	0.00896
RIGGI_EWING_SARCOMA_PROGENITOR_DN	0.197374	0.00898
NIKOLSKY_BREAST_CANCER_8Q23_Q24_AMPLICON	0.197369	0.00898
REACTOME_DISSOLUTION_OF_FIBRIN_CLOT	0.197238	0.00906
MISSIAGLIA_REGULATED_BY_METHYLATION_UP	0.197126	0.00912
REACTOME_DUAL_INCISION_IN_GG_NER	0.197064	0.00915
KAUFFMANN_DNA_REPLICATION_GENES	0.196994	0.00919
BIOCARTA_ALTERNATIVE_PATHWAY	0.196833	0.00928
REACTOME_HIGHLY_CALCIUM_PERMEABLE_NICOTINIC_ACETYLCHOLINE_RECEPTORS	0.196804	0.0093
REACTOME_HSF1_ACTIVATION	0.196762	0.00932

REACTOME_ACTIVATION_OF_THE_MRNA_UPON_BINDING_OF_THE_CAP_BINDING_COMPLEX_AND_EIFS_AND_SUBSEQUENT_BINDING_TO_43S	0.196676	0.000937
REACTOME_CYTOKINE_SIGNALING_IN_IMMUNE_SYSTEM	0.196532	0.000946
REACTOME_DISINHIBITION_OF_SNARE_FORMATION	0.196355	0.000956
TURASHVILI_BREAST_DUCTAL_CARCINOMA_VS_LOBULAR_NORMAL_UP	0.19623	0.000963
WIERENGA_STAT5A_TARGETS_UP	0.19621	0.000965
SCHAEFFER_PROSTATE_DEVELOPMENT_12HR_DN	0.196052	0.000974
WAKABAYASHI_ADIPOGENESIS_PPARG_BOUND_8D	0.196033	0.000975
MATZUK_MATERNAL_EFFECT	0.195987	0.000978
ELLWOOD_MYC_TARGETS_UP	0.195941	0.000981
KUROZUMI_RESPONSE_TO_ONCOCYTIC_VIRUS	0.195786	0.00099
RUTELLA_RESPONSE_TO_HGF_VS_CSF2RB_AND_IL4_UP	0.195763	0.000991
REACTOME_P130CAS_LINKAGE_TO_MAPK_SIGNALING_FOR_INTEGRINS	0.195452	0.00101
LEIN_NEURON_MARKERS	0.195409	0.001013
SENESE_HDAC2_TARGETS_DN	0.195328	0.001018
VILLANUEVA_LIVER_CANCER_KRT19_UP	0.195261	0.001022
REACTOME_PURINE_RIBONUCLEOSIDE_MONOPHOSPHATE_BIOSYNTHESIS	0.195254	0.001022
REACTOME_THE_ROLE_OF_NEF_IN_HIV_1_REPLICATION_AND_DISEASE_PATHOGENESIS	0.1951	0.0010

	62	28
GRANDVAUX_IFN_RESPONSE_NOT_VIA_IRF3	0.1 950 57	0.0 010 35
BILANGES_RAPAMYCIN_SENSITIVE_VIA_TSC1_AND_TSC2	0.1 950 55	0.0 010 35
REACTOME_NUCLEOBASE_BIOSYNTHESIS	0.1 950 42	0.0 010 36
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_9	0.1 950 26	0.0 010 37
REACTOME_RNA_POLYMERASE_I_PROMOTER_ESCAPE	0.1 950 21	0.0 010 37
PEPPER_CHRONIC_LYMPHOCYTIC_LEUKEMIA_DN	0.1 949 99	0.0 010 38
RICKMAN_TUMOR_DIFFERENTIATED_MODERATELY_VS_POORLY_DN	0.1 949 19	0.0 010 43
LEE_CALORIE_RESTRICTION_MUSCLE_UP	0.1 949 18	0.0 010 44
GRAESSMANN_RESPONSE_TO_MC_AND_SERUM_DEPRIVATION_DN	0.1 949 05	0.0 010 44
NIKOLSKY_BREAST_CANCER_20Q12_Q13_AMPLICON	0.1 946 84	0.0 010 59
BIOCARTA_MITOCHONDRIA_PATHWAY	0.1 945 52	0.0 010 67
KOYAMA_SEMA3B_TARGETS_UP	0.1 945 29	0.0 010 69
REACTOME_FORMATION_OF_THE_EARLY_ELONGATION_COMPLEX	0.1 944 34	0.0 010 75
HOLLERN_MICROACINAR_BREAST_TUMOR_DN	0.1 943 47	0.0 010 8
AGUIRRE_PANCREATIC_CANCER_COPY_NUMBER_UP	0.1 943 32	0.0 010 81
SATO_SILENCED_BY_METHYLATION_IN_PANCREATIC_CANCER_1	0.1 943 26	0.0 010 82
BIOCARTA_CLASSIC_PATHWAY	0.1	0.0

	94195	0109
FU_INTERACT_WITH_ALKBH8	0.194138	0.001094
LINDVALL_IMMORTALIZED_BY_TERT_UP	0.194011	0.001103
HOFFMAN_CLOCK_TARGETS_DN	0.193893	0.00111
REACTOME_VITAMIN_B2_RIBOFLAVIN_METABOLISM	0.193863	0.001112
DANG_BOUND_BY_MYC	0.193826	0.001115
REACTOME_G0_AND_EARLY_G1	0.193801	0.001117
REACTOME_REGULATION_OF_RAS_BY_GAPS	0.193795	0.001117
PEPPER_CHRONIC_LYMPHOCYTIC_LEUKEMIA_UP	0.193611	0.00113
CAFFAREL_RESPONSE_TO_THC_8HR_5_DN	0.193607	0.00113
LU_EZH2_TARGETS_UP	0.193543	0.001134
REACTOME_PROCESSIVE_SYNTHESIS_ON_THE_LAGGING_STRAND	0.193358	0.001147
FERNANDEZ_BOUND_BY_MYC	0.193307	0.00115
REACTOME_NUCLEOSOME_ASSEMBLY	0.193082	0.001166
REACTOME_CYCLIN_A:CDK2_ASSOCIATED_EVENTS_AT_S_PHASE_ENTRY	0.192903	0.001179
THUM_MIR21_TARGETS_HEART_DISEASE_DN	0.192875	0.001181
CHIARADONNA_NEOPLASTIC_TRANSFORMATION_CDC25_DN	0.192805	0.001186

KIM_GASTRIC_CANCER_CHEMOSENSITIVITY	0.192719	0.001192
REACTOME_RECOGNITION_OF_DNA_DAMAGE_BY_PCNA_CONTAINING_REPLICATION_COMPLEX	0.1927	0.001193
REACTOME_ECM_PROTEOGLYCANS	0.192699	0.001193
REACTOME_METABOLISM_OF_NUCLEOTIDES	0.192595	0.001201
BIOCARTA_IL2RB_PATHWAY	0.192561	0.001203
REACTOME_RAB_GERANYLGERANYLATION	0.192519	0.001206
PICCALUGA_ANGIOIMMUNOBLASTIC_LYMPHOMA_UP	0.192103	0.001237
KEGG_ALZHEIMERS_DISEASE	0.192082	0.001238
SESTO_RESPONSE_TO_UV_C8	0.191841	0.001256
REACTOME_BIOSYNTHESIS_OF_EPA_DERIVED_SPMS	0.191811	0.001259
BIOCARTA_RB_PATHWAY	0.191741	0.001264
KEGG_AMINO_SUGAR_AND_NUCLEOTIDE_SUGAR_METABOLISM	0.191611	0.001274
MCBRYAN_TERMINAL_END_BUD_UP	0.191602	0.001274
WIELAND_UP_BY_HBV_INFECTION	0.191328	0.001296
ZHONG_SECRETOME_OF_LUNG_CANCER_AND_MACROPHAGE	0.191045	0.001318
FERRARI_RESPONSE_TO_FENRETINIDE_UP	0.190991	0.001322
GAJATE_RESPONSE_TO_TRABECTEDIN_UP	0.1909	0.0013

	32	26
WIERENGA_PML_INTERACTOME	0.190787	0.001338
REACTOME_PROTEIN_FOLDING	0.190746	0.001341
SENESE_HDAC1_AND_HDAC2_TARGETS_DN	0.190724	0.001343
BIOCARTA_P38MAPK_PATHWAY	0.190711	0.001344
REACTOME_UNWINDING_OF_DNA	0.190584	0.001354
KRIEG_HYPOXIA_NOT_VIA_KDM3A	0.190562	0.001356
REACTOME_KSRP_KHSRP_BINDS_AND_DESTABILIZES_MRNA	0.190435	0.001366
PYEON_HPV_POSITIVE_TUMORS_DN	0.190352	0.001373
BECKER_TAMOXIFEN_RESISTANCE_UP	0.19025	0.001381
KALMA_E2F1_TARGETS	0.190072	0.001396
YAN_ESCAPE_FROM_ANOIKIS	0.189904	0.00141
PETRETTO_CARDIAC_HYPERTROPHY	0.189895	0.001411
REACTOME_POST_TRANSLATIONAL_PROTEIN_MODIFICATION	0.189863	0.001413
SARTIPY_NORMAL_AT_INSULIN_RESISTANCE_UP	0.189838	0.001416
PID_TCR_RAS_PATHWAY	0.189735	0.001424
REACTOME_TRAF6_MEDIATED_IRF7_ACTIVATION	0.1896	0.001436
REACTOME_GDP_FUCOSE_BIOSYNTHESIS	0.1	0.0

	89497	01444
HERNANDEZ_MITOTIC_ARREST_BY_DOCETAXEL_2_UP	0.18936	0.001456
GAUSSMANN_MLL_AF4_FUSION_TARGETS_E_UP	0.189352	0.001457
BIOCARTA_AKAP95_PATHWAY	0.189326	0.001459
HSIAO_HOUSEKEEPING_GENES	0.189157	0.001474
PUJANA_BRCA_CENTERED_NETWORK	0.189151	0.001474
NUTT_GBM_VS_AO_GLIOMA_UP	0.189113	0.001478
KLEIN_TARGETS_OF_BCR_ABL1_FUSION	0.188801	0.001505
BROWNE_HCMV_INFECTION_18HR_DN	0.188351	0.001545
BREDEMEYER_RAG_SIGNALING_VIA_ATM_NOT_VIA_NFKB_UP	0.18814	0.001565
SHIRAISHI_PLZF_TARGETS_UP	0.188129	0.001566
REACTOME_SYNDECAN_INTERACTIONS	0.18793	0.001584
NGO_MALIGNANT_GLIOMA_1P_LOH	0.18782	0.001594
LIEN_BREAST_CARCINOMA_METAPLASTIC	0.187818	0.001595
UROSEVIC_RESPONSE_TO_IMIQUIMOD	0.187683	0.001607
PIONTEK_PKD1_TARGETS_DN	0.187488	0.001626
GU_PDEF_TARGETS_UP	0.187425	0.001632

LIN_MELANOMA_COPY_NUMBER_UP	0.187393	0.001635
GOTZMANN_EPITHELIAL_TO_MESENCHYMAL_TRANSITION_UP	0.187282	0.001646
PASQUALUCCI_LYMPHOMA_BY_GC_STAGE_UP	0.187142	0.001659
REACTOME_NEF_MEDIATED_CD8_DOWN_REGULATION	0.187111	0.001662
REACTOME_TRANSCRIPTIONAL_REGULATION_BY_RUNX1	0.186916	0.001681
SUNG_METASTASIS_STROMA_UP	0.186759	0.001697
BIOCARTA_COMP_PATHWAY	0.18663	0.001709
KEGG_RIBOSOME	0.186522	0.00172
REACTOME_ABORTIVE_ELONGATION_OF_HIV_1_TRANSCRIPT_IN_THE_ABSENCE_OF_TAT	0.18651	0.001721
BOSCO_TH1_CYTOTOXIC_MODULE	0.18639	0.001734
BIOCARTA_UCALPAIN_PATHWAY	0.186297	0.001743
JIANG_AGING_HYPOTHALAMUS_UP	0.186267	0.001746
BHATI_G2M_ARREST_BY_2METHOXYESTRADIOL_UP	0.186213	0.001751
JOHNSTONE_PARVB_TARGETS_2_UP	0.186036	0.00177
MAHADEVAN_GIST_MORPHOLOGICAL_SWITCH	0.186012	0.001772
BIOCARTA_BLYMPHOCYTE_PATHWAY	0.186006	0.001773
MIKKELSEN_DEDIFFERENTIATED_STATE_DN	0.1859	0.0017

	53	78
REACTOME_KINESINS	0.185942	0.001779
HUANG_FOXA2_TARGETS_UP	0.185937	0.00178
ALCALAY_AML_BY_NPM1_LOCALIZATION_DN	0.185933	0.00178
PASINI_SUZ12_TARGETS_DN	0.185842	0.00179
REACTOME_OPSINS	0.185571	0.001818
KANG_IMMORTALIZED_BY_TERT_DN	0.185533	0.001822
MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_29	0.185487	0.001827
REACTOME_METABOLISM_OF_CARBOHYDRATES	0.185122	0.001866
NIKOLSKY_BREAST_CANCER_7P22_AMPLICON	0.185029	0.001876
REACTOME_HIGHLY_SODIUM_PERMEABLE_ACETYLCHOLINE_NICOTINIC_RECEPTORS	0.184907	0.001889
REACTOME_BASE_EXCISION_REPAIR_AP_SITE_FORMATION	0.184895	0.001891
BIOCARTA_STATHMIN_PATHWAY	0.18444	0.001941
VERRECCHIA_EARLY_RESPONSE_TO_TGFB1	0.184292	0.001958
MOREAUX_B_LYMPHOCYTE_MATURATION_BY_TACI_DN	0.184233	0.001964
REACTOME_PRC2_METHYLATES_HISTONES_AND_DNA	0.18417	0.001972
TESAR_ALK_TARGETS_HUMAN_ES_4D_DN	0.184149	0.001974
POMEROY_MEDULLOBLASTOMA_DESMOPLASIC_VS_CLASSIC_DN	0.1	0.0

	84122	01977
SASAI_RESISTANCE_TO_NEOPLASTIC_TRANSFROMATION	0.183782	0.002016
CHUNG_BLISTER_CYTOTOXICITY_UP	0.183725	0.002023
REACTOME_TRANSCRIPTIONAL_REGULATION_BY_RUNX2	0.183526	0.002046
KEGG_PATHOGENIC_ESCHERICHIA_COLI_INFECTION	0.183518	0.002047
KIM_MYCL1_AMPLIFICATION_TARGETS_DN	0.183359	0.002066
NADELLA_PRKAR1A_TARGETS_DN	0.183285	0.002075
REACTOME_TP53_REGULATES_TRANSCRIPTION_OF_CASPASE_ACTIVATORS_AND_CASPASES	0.183181	0.002087
WESTON_VEGFA_TARGETS_12HR	0.183101	0.002097
STREICHER_LSM1_TARGETS_DN	0.182986	0.00211
REACTOME_TELOMERE_C_STRAND_LAGGING_STRAND_SYNTHESIS	0.182885	0.002123
REACTOME_GENERATION_OF_SECOND_MESSENGER_MOLECULES	0.182813	0.002131
REACTOME_FERTILIZATION	0.18277	0.002137
WILSON_PROTEASES_AT_TUMOR_BONE_INTERFACE_DN	0.182687	0.002147
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_15	0.18263	0.002154
BENNETT_SYSTEMIC_LUPUS_ERYTHEMATOSUS	0.182568	0.002161
REACTOME_NEF_MEDIATED_DOWNREGULATION_OF_MHC_CLASS_I_COMPLEX_CELL_SURFACE_EXPRESSION	0.182139	0.002215

SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX4_UP	0.182066	0.002224
RICKMAN_HEAD_AND_NECK_CANCER_F	0.181943	0.00224
REACTOME_GRB2:SOS_PROVIDES_LINKAGE_TO_MAPK_SIGNALING_FOR_INTEGRINS	0.18185	0.002252
HOLLERN_PAPILLARY_BREAST_TUMOR	0.181821	0.002256
REACTOME_RNA_POLYMERASE_III_TRANSCRIPTION_INITIATION_FROM_TYPE_1_PROMOTER	0.181804	0.002258
SU_THYMUS	0.18172	0.002269
REACTOME_WNT_MEDIATED_ACTIVATION_OF_DVL	0.181685	0.002273
REACTOME_COPI_INDEPENDENT_GOLGI_TO_ER_RETROGRADE_TRAFFIC	0.181496	0.002298
LUI_THYROID_CANCER_PAX8_PPARG_DN	0.181209	0.002335
LUDWICZEK_TREATING_IRON_OVERLOAD	0.181206	0.002336
PID_IL2_STAT5_PATHWAY	0.181088	0.002352
KRASNOSELSKAYA_ILF3_TARGETS_UP	0.180948	0.00237
WALLACE_PROSTATE_CANCER_RACE_UP	0.180877	0.00238
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_SUSTAINED_IN_MONOCYTE_UP	0.180824	0.002387
KEGG_BLADDER_CANCER	0.180799	0.00239
DORN_ADENOVIRUS_INFECTION_32HR_UP	0.180732	0.0024
JAIN_NFKB_SIGNALING	0.1805	0.0024

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SINGH_NFE2L2_TARGETS	0.180142	0.002481
ZHU_CMV_ALL_UP	0.180087	0.002489
REACTOME_INTERLEUKIN_15_SIGNALING	0.180064	0.002492
YAMANAKA_GLIOBLASTOMA_SURVIVAL_UP	0.179981	0.002504
CHEN_HOXA5_TARGETS_6HR_DN	0.179964	0.002506
SANSOM_APC_TARGETS	0.179934	0.00251
REACTOME_UNBLOCKING_OF_NMDA_RECEPTORS_GLUTAMATE_BINDING_AND_ACTIVATION	0.179618	0.002555
BIDUS_METASTASIS_DN	0.179606	0.002557
MIKKELSEN_IPS_ICP_WITH_H3K27ME3	0.179454	0.002579
IGLESIAS_E2F_TARGETS_UP	0.17931	0.0026
REACTOME_RNA_POLYMERASE_II_PRE_TRANSCRIPTION_EVENTS	0.179194	0.002617
PUJANA_XPRSS_INT_NETWORK	0.179192	0.002617
REACTOME_MOLECULES_ASSOCIATED_WITH_ELASTIC_FIBRES	0.179128	0.002627
REACTOME_NONSENSE_MEDIATED_DECAY_NMD_INDEPENDENT_OF_THE_EXON_JUNCTION_COMPLEX_EJC	0.17907	0.002635
BROCKE_APOPTOSIS_REVERSED_BY_IL6	0.179044	0.002639
REACTOME_GAMMA_CARBOXYLATION_TRANSPORT_AND_AMINO_TERMINAL_CLEAVAGE_OF_PROTEINS	0.178976	0.002649
REACTOME_OTHER_INTERLEUKIN_SIGNALING	0.1	0.0

	78935	02655
REACTOME_ABC_FAMILY_PROTEINS_MEDIATED_TRANSPORT	0.178858	0.002667
KEGG_NOD_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.178842	0.002669
PID_PRL_SIGNALING_EVENTS_PATHWAY	0.178682	0.002693
BIOCARTA_MSP_PATHWAY	0.178365	0.002741
GROSS_HYPOXIA_VIA_ELK3_UP	0.178278	0.002755
NAISHIRO_CTNNB1_TARGETS_WITH_LEF1_MOTIF	0.17827	0.002756
REACTOME_SMAC_XIAP_REGULATED_APOPTOTIC_RESPONSE	0.178259	0.002758
STARK_PREFRONTAL_CORTEX_22Q11_DELETION_DN	0.177924	0.00281
WEINMANN_ADAPTATION_TO_HYPOXIA_DN	0.177908	0.002813
SPIELMAN_LYMPHOBLAST_EUROPEAN_VS_ASIAN_2FC_DN	0.177896	0.002814
REACTOME_DNA_REPAIR	0.177862	0.00282
CHIARADONNA_NEOPLASTIC_TRANSFORMATION_CDC25_UP	0.177728	0.002841
WANG_NEOPLASTIC_TRANSFORMATION_BY_CCND1_MYC	0.177577	0.002865
WEIGEL_OXIDATIVE_STRESS_RESPONSE	0.177572	0.002866
FINETTI_BREAST_CANCER_KINOME_GREEN	0.177534	0.002872
REACTOME_EPH_EPHRIN_MEDIATED_REPULSION_OF_CELLS	0.177451	0.002885

DITTMER_PTHLH_TARGETS_UP	0.177449	0.002885
REACTOME_RECRUITMENT_OF_NUMA_TO_MITOTIC_CENTROSOMES	0.177146	0.002935
HUMMERICH_BENIGN_SKIN_TUMOR_UP	0.177117	0.002939
REACTOME_TRANSLATION	0.177104	0.002941
VISALA_AGING_LYMPHOCYTE_UP	0.177059	0.002949
ZHU_CMV_ALL_DN	0.177046	0.002951
XU_RESPONSE_TO_TRETINOIN_AND_NSC682994_DN	0.17687	0.00298
HUMMEL_BURKITTS_LYMPHOMA_DN	0.176864	0.002981
FISCHER_DREAM_TARGETS	0.176667	0.003014
REACTOME_RUNX3_REGULATES_P14_ARF	0.176595	0.003026
REACTOME_GP1B_IX_V_ACTIVATION_SIGNALLING	0.176573	0.003029
PUJANA_ATM_PCC_NETWORK	0.1764	0.003058
RAMPON_ENRICHED_LEARNING_ENVIRONMENT_EARLY_DN	0.176382	0.003062
REACTOME_DNA_DAMAGE_RECOGNITION_IN_GG_NER	0.176296	0.003076
REACTOME_G_ALPHA_I_SIGNALLING_EVENTS	0.176247	0.003085
REACTOME_RNA_POLYMERASE_II_TRANSCRIPTION_ELONGATION	0.176234	0.003087
TSUNODA_CISPLATIN_RESISTANCE_DN	0.1761	0.0030

	71	98
GRAHAM_CML_QUIESCENT_VS_NORMAL_DIVIDING_UP	0.176127	0.003105
RUAN_RESPONSE_TO_TNF_UP	0.176126	0.003105
HALMOS_CEBPA_TARGETS_UP	0.175956	0.003135
SWEET_KRAS_TARGETS_UP	0.17582	0.003158
GRAESSMANN_RESPONSE_TO_MC_AND_DOXORUBICIN_DN	0.175779	0.003166
PID_IL12_2PATHWAY	0.175778	0.003166
PANGAS_TUMOR_SUPPRESSION_BY_SMAD1_AND_SMAD5_UP	0.175666	0.003185
REACTOME_AMYLOID_FIBER_FORMATION	0.175664	0.003186
VALK_AML_CLUSTER_5	0.175629	0.003192
RODRIGUES_THYROID_CARCINOMA_POORLY_DIFFERENTIATED_UP	0.175621	0.003193
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_17	0.175558	0.003204
PHONG_TNF_RESPONSE_NOT_VIA_P38	0.175518	0.003211
MARSON_FOXP3_TARGETS_UP	0.17546	0.003222
TONG_INTERACT_WITH_PTTG1	0.175429	0.003227
LUI_THYROID_CANCER_CLUSTER_4	0.175396	0.003233
REACTOME_ERCC6_CSB_AND_EHMT2_G9A_POSITIVELY_REGULATE_RRNA_EXPRESSION	0.175335	0.003244
BIOCARTA_THELPER_PATHWAY	0.1	0.0

	75217	03265
KAYO_AGING_MUSCLE_UP	0.175213	0.003266
DAVICIONI_RHABDOMYOSARCOMA_PAX_FOXO1_FUSION_DN	0.175146	0.003278
ZHU_SKIL_TARGETS_UP	0.174859	0.00333
BIOCARTA_LAIR_PATHWAY	0.174797	0.003341
CHESLER_BRAIN_HIGHEST_GENETIC_VARIANCE	0.174649	0.003369
BRUINS_UVC_RESPONSE_VIA_TP53_GROUP_C	0.174636	0.003371
MARTENS_BOUND_BY_PML_RARA_FUSION	0.174505	0.003395
REACTOME_NONSENSE_MEDIATED_DECAY_NMD	0.174397	0.003416
REACTOME_METALLOTHIONEINS_BIND_METALS	0.174344	0.003426
VERHAAK_AML_WITH_NPM1_MUTATED_UP	0.174163	0.00346
HOFFMANN_SMALL_PRE_BII_TO_IMMATURE_B_LYMPHOCYTE_UP	0.174147	0.003463
ELVIDGE_HYPOXIA_DN	0.173808	0.003527
PID_CMYB_PATHWAY	0.173584	0.003571
ONDER_CDH1_TARGETS_1_UP	0.173561	0.003575
THUM_MIR21_TARGETS_HEART_DISEASE_UP	0.173554	0.003577
LINDGREN_BLADDER_CANCER_CLUSTER_2B	0.173407	0.003606

CHAUHAN_RESPONSE_TO_METHOXYESTRADIOL_DN	0.173319	0.003623
SANCHEZ_MDM2_TARGETS	0.173229	0.003641
ZAMORA_NOS2_TARGETS_DN	0.173168	0.003653
JU_AGING_TERC_TARGETS_UP	0.172806	0.003726
ZHANG_INTERFERON_RESPONSE	0.172758	0.003735
GROSS_HYPOXIA_VIA_ELK3_ONLY_UP	0.172604	0.003767
NEMETH_INFLAMMATORY_RESPONSE_LPS_UP	0.172595	0.003769
REACTOME_SUMOYLATION_OF_IMMUNE_RESPONSE_PROTEINS	0.172329	0.003823
RAMALHO_STEMNESS_DN	0.17225	0.00384
LEE_AGING_CEREBELLUM_UP	0.172122	0.003866
MULLIGHAN_NPM1_SIGNATURE_3_DN	0.172006	0.003891
REACTOME_NUCLEAR_ENVELOPE_BREAKDOWN	0.171975	0.003897
GARCIA_TARGETS_OF_FLI1_AND_DAX1_DN	0.171952	0.003902
ABBUD_LIF_SIGNALING_1_UP	0.171903	0.003913
ALFANO_MYC_TARGETS	0.171901	0.003913
REACTOME_SIGNALING_BY_NOTCH4	0.171889	0.003916
SASSON_RESPONSE_TO_GONADOTROPHINS_UP	0.1718	0.0039

	15	31
REACTOME_HDL_REMODELING	0.171605	0.003976
BIOCARTA_SODD_PATHWAY	0.17135	0.004031
BIOCARTA_NDKDYNAMIN_PATHWAY	0.171048	0.004097
PLASARI_NFIC_TARGETS_BASAL_DN	0.170768	0.00416
PECE_MAMMARY_STEM_CELL_UP	0.170765	0.00416
SENESE_HDAC2_TARGETS_UP	0.17069	0.004177
REACTOME_DEPURINATION	0.170622	0.004192
RUTELLA_RESPONSE_TO_CSF2RB_AND_IL4_DN	0.170553	0.004208
DARWICHE_SKIN_TUMOR_PROMOTER_DN	0.170511	0.004217
VERRECCHIA_RESPONSE_TO_TGFB1_C1	0.170484	0.004224
GEISS_RESPONSE_TO_DSRNA_DN	0.170483	0.004224
LEIN_MEDULLA_MARKERS	0.170171	0.004295
BANDRES_RESPONSE_TO_CARMUSTIN_MGMT_48HR_DN	0.170144	0.004302
REACTOME_GENE_SILENCING_BY_RNA	0.170099	0.004312
ZHU_CMV_24_HR_UP	0.170073	0.004318
REACTOME_PTEN_REGULATION	0.170028	0.004328
MURAKAMI_UV_RESPONSE_6HR_UP	0.1	0.0

	69879	04363
NAKAMURA_METASTASIS_MODEL_DN	0.169764	0.00439
KORKOLA_TERATOMA	0.169632	0.004421
REACTOME_SERINE_BIOSYNTHESIS	0.169579	0.004434
ZHU_CMV_24_HR_DN	0.16955	0.00444
PEDERSEN_TARGETS_OF_611CTF_ISOFORM_OF_ERBB2	0.169547	0.004441
PID_WNT_SIGNALING_PATHWAY	0.169489	0.004455
REACTOME_EPIGENETIC_REGULATION_OF_GENE_EXPRESSION	0.169296	0.004501
REACTOME_SCAVENGING_BY_CLASS_F_RECEPTORS	0.169199	0.004524
CHEN_ETV5_TARGETS_TESTIS	0.169111	0.004546
REACTOME_GALACTOSE_CATABOLISM	0.16881	0.004619
REACTOME_GLYCOGEN_BREAKDOWN_GLYCOGENOLYSIS	0.168665	0.004655
REACTOME_SELENOAMINO_ACID_METABOLISM	0.168664	0.004655
TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_SUSTAINDED_IN_ERYTHROCYTE_UP	0.168643	0.00466
MARSON_FOXP3_TARGETS_DN	0.168588	0.004674
CHARAFE_BREAST_CANCER_LUMINAL_VS_BASAL_DN	0.168391	0.004723
CHOW_RASSF1_TARGETS_DN	0.168322	0.004741

SCIBETTA_KDM5B_TARGETS_DN	0.168258	0.004757
NAKAMURA_BRONCHIAL_AND_BRONCHIOLAR_EPITHELIA	0.168038	0.004813
KAUFFMANN_MELANOMA_RELAPSE_UP	0.168019	0.004818
FIGUEROA_AML_METHYLATION_CLUSTER_2_DN	0.168015	0.004819
PID_INTEGRIN_A9B1_PATHWAY	0.167978	0.004828
KUMAMOTO_RESPONSE_TO_NUTLIN_3A_UP	0.167908	0.004846
REACTOME_RNA_POLYMERASE_III_TRANSCRIPTION_INITIATION_FROM_TYPE_3_PROMOTER	0.167882	0.004853
VANASSE_BCL2_TARGETS_DN	0.167681	0.004905
SA_G1_AND_S_PHASES	0.167672	0.004907
SYED_ESTRADIOL_RESPONSE	0.167583	0.00493
REACTOME_LYSOSOME_VESICLE_BIOGENESIS	0.167583	0.00493
REACTOME_INFLAMMASOMES	0.167548	0.004939
ABE_INNER_EAR	0.167427	0.004971
DORN_ADENOVIRUS_INFECTION_24HR_DN	0.167377	0.004984
REACTOME_AXON_GUIDANCE	0.167318	0.005
KOINUMA_COLON_CANCER_MSI_DN	0.167112	0.005054
SAKAI_CHRONIC_HEPATITIS_VS_LIVER_CANCER_DN	0.1671	0.0050

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BORLAK_LIVER_CANCER_EGF_UP	0.167025	0.005078
DORN_ADENOVIRUS_INFECTION_48HR_DN	0.166971	0.005092
SCHLESINGER_METHYLATED_IN_COLON_CANCER	0.166905	0.00511
CHIN_BREAST_CANCER_COPY_NUMBER_UP	0.166792	0.005114
REACTOME_DEADENYLATION_DEPENDENT_MRNA_DECAY	0.166678	0.005171
REACTOME_CD28_DEPENDENT_VAV1_PATHWAY	0.166523	0.005214
REACTOME_SIGNALING_BY_WNT	0.166473	0.005227
DAZARD_UV_RESPONSE_CLUSTER_G28	0.166444	0.005235
MIKKELSEN_MEF_HCP_WITH_H3_UNMETHYLATED	0.166425	0.005241
REACTOME_REMOVAL_OF_AMINOTERMINAL_PROPEPTIDES_FROM_GAMMA_CARBOXYLATED_PROTEINS	0.16624	0.005292
MARSON_FOXP3_CORE_DIRECT_TARGETS	0.16618	0.005308
REACTOME_RESPONSE_TO_METAL_IONS	0.16617	0.005311
ENK_UV_RESPONSE_KERATINOCYTE_UP	0.166149	0.005317
KYNG_DNA_DAMAGE_BY_UV	0.165758	0.005427
TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_3D_DN	0.16563	0.005464
BOYLAN_MULTIPLE_MYELOMA_PCA1_UP	0.165528	0.005493
FUNG_IL2_SIGNALING_1	0.1	0.0

	65516	05496
HAHTOLA_MYCOSIS_FUNGOIDES_CD4_UP	0.165514	0.005497
MORI_EMU_MYC_LYMPHOMA_BY_ONSET_TIME_DN	0.165498	0.005502
YIH_RESPONSE_TO_ARSENITE_C4	0.165491	0.005504
KORKOLA_SEMINOMA_DN	0.165409	0.005527
SANA_TNF_SIGNALING_UP	0.165407	0.005528
ZHAN_MULTIPLE_MYELOMA_DN	0.165096	0.005619
SASSON_FSH_RESPONSE	0.165023	0.00564
REACTOME_CLASS_A_1_RHODOPSIN_LIKE_RECEPTORS	0.164961	0.005658
KEGG_CARDIAC_MUSCLE_CONTRACTION	0.164932	0.005667
PELLICCIOTTA_HDAC_IN_ANTIGEN_PRESENTATION_DN	0.164928	0.005668
MARTIN_NFKB_TARGETS_DN	0.16488	0.005682
JEON_SMAD6_TARGETS_UP	0.164721	0.005729
HEIDENBLAD_AMPLIFIED_IN_PANCREATIC_CANCER	0.164592	0.005768
TAVOR_CEBPA_TARGETS_UP	0.164535	0.005785
SARTIPY_BLUNTED_BY_INSULIN_RESISTANCE_DN	0.164408	0.005824
REACTOME_SYNTHESIS_OF_SUBSTRATES_IN_N_GLYCAN_BIOSYTHESIS	0.164404	0.005825

REACTOME_MAP2K_AND_MAPK_ACTIVATION	0.164388	0.00583
WAESCH_ANAPHASE_PROMOTING_COMPLEX	0.164264	0.005867
REACTOME_FORMATION_OF_FIBRIN_CLOT_CLOTTING_CASCADE	0.164179	0.005893
REACTOME_TAK1_ACTIVATES_NFKB_BY_PHOSPHORYLATION_AND_ACTIVATION_OF_IKKS_COMPLEX	0.164128	0.005909
SENGUPTA_NASOPHARYNGEAL_CARCINOMA_UP	0.164109	0.005915
REACTOME_PROCESSING_AND_ACTIVATION_OF_SUMO	0.163953	0.005963
REACTOME_INITIAL_TRIGGERING_OF_COMPLEMENT	0.163917	0.005974
SEITZ_NEOPLASTIC_TRANSFORMATION_BY_8P_DELETION_DN	0.163784	0.006015
REACTOME_SIGNALING_BY_ACTIVIN	0.16373	0.006032
REACTOME_TNF_SIGNALING	0.163728	0.006033
WIERENGA_STAT5A_TARGETS_GROUP2	0.163561	0.006085
CHARAFE_BREAST_CANCER_LUMINAL_VS_MESENCHYMAL_DN	0.163522	0.006098
BIOCARTA_TERT_PATHWAY	0.163457	0.006118
REACTOME_HEDGEHOG_OFF_STATE	0.163413	0.006132
KLEIN_PRIMARY_EFFUSION_LYMPHOMA_DN	0.163337	0.006156
GRAESSMANN_APOPTOSIS_BY_SERUM_DEPRIVATION_DN	0.163299	0.006168
LEE_LIVER_CANCER_E2F1_UP	0.1631	0.0062

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REACTOME_MHC_CLASS_II_ANTIGEN_PRESENTATION	0.163106	0.00623
ZHOU_TNF_SIGNALING_4HR	0.162932	0.006286
REACTOME_SEMA3A_PAK_DEPENDENT_AXON_REPULSION	0.162896	0.006298
JISON_SICKLE_CELL_DISEASE_UP	0.162796	0.006331
ALCALA_APOPTOSIS	0.162684	0.006367
POMEROY_MEDULLOBLASTOMA_PROGNOSIS_UP	0.162678	0.006369
PID_INTEGRIN1_PATHWAY	0.162585	0.0064
QI_HYPOXIA	0.162538	0.006415
WONG_ENDMETRIUM_CANCER_UP	0.162525	0.00642
BIOCARTA_D4GDI_PATHWAY	0.162336	0.006483
HERNANDEZ_ABERRANT_MITOSIS_BY_DOCETACEL_4NM_DN	0.162307	0.006492
MIKKELSEN_MCV6_LCP_WITH_H3K4ME3	0.162182	0.006534
BIOCARTA_MONOCYTE_PATHWAY	0.162162	0.006541
REACTOME_ELEVATION_OF_CYTOSOLIC_CA2PLUS_LEVELS	0.162038	0.006582
REACTOME_REGULATION_OF_TNFR1_SIGNALING	0.161869	0.00664
VALK_AML_WITH_11Q23_REARRANGED	0.161757	0.006678
REACTOME_PEPTIDE_LIGAND_BINDING_RECEPTORS	0.1	0.0

	61655	06713
KAAB_FAILED_HEART_ATRIUM_UP	0.161631	0.006721
WALLACE_PROSTATE_CANCER_UP	0.161568	0.006743
REACTOME_O_GLYCOSYLATION_OF_TSR_DOMAIN_CONTAINING_PROTEINS	0.161454	0.006782
HAN_JNK_SINGALING_UP	0.161369	0.006812
KEGG_GLYCEROPHOSPHOLIPID_METABOLISM	0.161331	0.006825
KANNAN_TP53_TARGETS_DN	0.161288	0.00684
MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_21	0.161227	0.006862
GALE_APL_WITH_FLT3_MUTATED_DN	0.161211	0.006867
KEGG_NUCLEOTIDE_EXCISION_REPAIR	0.161156	0.006887
KUROZUMI_RESPONSE_TO_ONCOCYTIC_VIRUS_AND_CYCLIC_RGD	0.161043	0.006927
WHITESIDE_CISPLATIN_RESISTANCE_UP	0.161021	0.006934
COURTOIS_SENESCENCE_TRIGGERS	0.161015	0.006936
NIKOLSKY_BREAST_CANCER_19P13_AMPLICON	0.160985	0.006947
REACTOME_CHONDROITIN_SULFATE_BIOSYNTHESIS	0.16097	0.006952
MOHANKUMAR_HOXA1_TARGETS_UP	0.160781	0.00702
BIOCARTA_SKP2E2F_PATHWAY	0.160656	0.007065

BIOCARTA_TCYTOTOXIC_PATHWAY	0.160611	0.007081
GAUSSMANN_MLL_AF4_FUSION_TARGETS_G_DN	0.160596	0.007086
REACTOME_TCF_DEPENDENT_SIGNALING_IN_RESPONSE_TO_WNT	0.160583	0.007091
OUELLET_CULTURED_OVARIAN_CANCER_INVASIVE_VS_LMP_UP	0.160422	0.007149
KIM_ALL_DISORDERS_DURATION_CORR_DN	0.1604	0.007157
KERLEY_RESPONSE_TO_CISPLATIN_UP	0.160354	0.007174
DASU_IL6_SIGNALING_SCAR_UP	0.160304	0.007193
BEGUM_TARGETS_OF_PAX3_FOXO1_FUSION_DN	0.160207	0.007228
REACTOME_FORMATION_OF_THE_BETA_CATENIN:TCF_TRANSACTIVATING_COMPLEX	0.160046	0.007287
REACTOME_RHO_GTPASES_ACTIVATE_NADPH_OXIDASES	0.15983	0.007368
REACTOME_SIGNALING_BY_NOTCH	0.159763	0.007393
SHAFFER_IRF4_TARGETS_IN_ACTIVATED_DENDRITIC_CELL	0.159745	0.007399
REACTOME_TRANSCRIPTIONAL_REGULATION_BY_THE_AP_2_TFAP2_FAMILY_OF_TRANSCRIPTION_FACTORS	0.159736	0.007403
MOREAUX_B_LYMPHOCYTE_MATURATION_BY_TACI_UP	0.159724	0.007408
REACTOME_INTEGRATION_OF_PROVIRUS	0.159565	0.007467
REACTOME_METABOLISM_OF_INGESTED_SEMET_SEC_MESEC_INTO_H2SE	0.159534	0.007479
REACTOME_SUMO_IS_CONJUGATED_TO_E1_UBA2:SAE1	0.1595	0.0074

	23	83
VALK_AML_WITH_CEBPA	0.159397	0.007531
CHIARETTI_T_ALL_RELAPSE_PROGNOSIS	0.159294	0.00757
REACTOME_INTRINSIC_PATHWAY_FOR_APOPTOSIS	0.159285	0.007574
REACTOME_TERMINATION_OF_TRANSLESION_DNA_SYNTHESIS	0.159279	0.007576
ISHIDA_TARGETS_OF_SYT_SSX_FUSIONS	0.159243	0.00759
NAKAJIMA_MAST_CELL	0.159243	0.00759
RIZ_ERYTHROID_DIFFERENTIATION	0.1592	0.007607
RODRIGUES_THYROID_CARCINOMA_ANAPLASTIC_UP	0.159143	0.007628
NIKOLSKY_BREAST_CANCER_12Q24_AMPLICON	0.159127	0.007635
REACTOME_TRAF6_MEDIATED_IRF7_ACTIVATION_IN_TLR7_8_OR_9_SIGNALING	0.159091	0.007648
KIM_WT1_TARGETS_DN	0.159053	0.007663
REACTOME_HYALURONAN_METABOLISM	0.15897	0.007695
YANAGISAWA_LUNG_CANCER_RECURRENCE	0.158938	0.007708
REACTOME_RUNX3_REGULATES_WNT_SIGNALING	0.158817	0.007755
CEBALLOS_TARGETS_OF_TP53_AND_MYC_DN	0.158601	0.00784
KEGG_SPLICEOSOME	0.158566	0.007854
DER_IFN_ALPHA_RESPONSE_UP	0.1	0.0

	58549	07861
NIKOLSKY_BREAST_CANCER_1Q21_AMPLICON	0.158422	0.007911
MARTINEZ_RESPONSE_TO_TRABECTEDIN_UP	0.158414	0.007914
OUELLET_CULTURED_OVARIAN_CANCER_INVASIVE_VS_LMP_DN	0.158315	0.007954
SHEPARD_CRUSH_AND_BURN_MUTANT_DN	0.158276	0.007969
GRAESSMANN_APOPTOSIS_BY_DOXORUBICIN_UP	0.15824	0.007984
SASSON_RESPONSE_TO_FORSKOLIN_DN	0.158143	0.008023
DUTERTRE_ESTRADIOL_RESPONSE_6HR_UP	0.157934	0.008108
TIMOFEEVA_GROWTH_STRESS_VIA_STAT1_DN	0.157849	0.008142
BIOCARTA_FIBRINOLYSIS_PATHWAY	0.1577	0.008203
NABA_COLLAGENS	0.157639	0.008229
REACTOME_COLLAGEN_CHAIN_TRIMERIZATION	0.157639	0.008229
GENTILE_UV_HIGH_DOSE_UP	0.157308	0.008366
SHIN_B_CELL_LYMPHOMA_CLUSTER_3	0.157276	0.008379
REACTOME_RNA_POLYMERASE_II_TRANSCRIBES_SNRNA_GENES	0.157167	0.008425
BERENJENO_ROCK_SIGNALING_NOT_VIA_RHOA_UP	0.156871	0.008551
MARKS_HDAC_TARGETS_DN	0.156863	0.008554

BIOCARTA_FBW7_PATHWAY	0.156809	0.008577
WEBER_METHYLATED_LCP_IN_FIBROBLAST_UP	0.156725	0.008613
RODRIGUES_DCC_TARGETS_UP	0.156708	0.00862
FOURNIER_ACINAR_DEVELOPMENT_EARLY_DN	0.156639	0.00865
REACTOME_PINK_PARKIN_MEDIATED_MITOPHAGY	0.156634	0.008652
LEE_BMP2_TARGETS_DN	0.156592	0.008671
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_10	0.156522	0.008701
KIM_LRRC3B_TARGETS	0.156507	0.008707
BIOCARTA_IL17_PATHWAY	0.156457	0.008729
PID_ANTHRAX_PATHWAY	0.156444	0.008735
REACTOME_SCAVENGING_BY_CLASS_A_RECEPTORS	0.156379	0.008763
BENPORATH_ES_2	0.15629	0.008802
REACTOME_EPH_EPHRIN_SIGNALING	0.156063	0.008902
FINAK_BREAST_CANCER_SDPP_SIGNATURE	0.156036	0.008914
VISALA_AGING_LYMPHOCYTE_DN	0.156007	0.008927
HAN_SATB1_TARGETS_UP	0.155974	0.008941
GAVIN_FOXP3_TARGETS_CLUSTER_P3	0.1559	0.0089

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HELLER_HDAC_TARGETS_UP	0.155861	0.008991
KEGG_VIRAL_MYOCARDITIS	0.155743	0.009044
PID_P53_DOWNSTREAM_PATHWAY	0.155717	0.009056
BASSO_HAIRY_CELL_LEUKEMIA_DN	0.1557	0.009064
REACTOME_INTEGRIN_CELL_SURFACE_INTERACTIONS	0.155632	0.009094
SESTO_RESPONSE_TO_UV_C3	0.155491	0.009158
KANG_IMMORTALIZED_BY_TERT_UP	0.155391	0.009204
KYNG_RESPONSE_TO_H2O2_VIA_ERCC6_DN	0.155336	0.009229
REACTOME_RNA_POLYMERASE_I_TRANSCRIPTION_TERMINATION	0.155227	0.009279
WIEDERSCHAIN_TARGETS_OF_BMI1_AND_PCGF2	0.155118	0.009329
REACTOME_BIOSYNTHESIS_OF_THE_N_GLYCAN_PRECURSOR_DOLICHOL_LIPID_LINKED_OLIGOSACCHARIDE_LLO_AND_TRANSFER_TO_A_NASCENT_PROTEIN	0.154817	0.009469
REACTOME_TP53_REGULATES_TRANSCRIPTION_OF_DNA_REPAIR_GENES	0.15481	0.009472
MILI_PSEUDOPODIA_CHEMOTAXIS_DN	0.154725	0.009511
KUWANO_RNA_STABILIZED_BY_NO	0.154724	0.009512
HELLER_SILENCED_BY_METHYLATION_DN	0.154706	0.009521
BIOCARTA_TRKA_PATHWAY	0.154685	0.00953
BIOCARTA_NOS1_PATHWAY	0.1	0.0

	5465	09547
BIOCARTA_EXTRINSIC_PATHWAY	0.154484	0.009625
MATTIOLI_MGUS_VS_MULTIPLE_MYELOMA	0.154451	0.009641
REACTOME_INTERLEUKIN_1_PROCESSING	0.154372	0.009678
REACTOME_ACTIVATION_OF_ATR_IN_RESPONSE_TO_REPLICATION_STRESS	0.154276	0.009724
REACTOME_ACTIVATION_OF_CASPASES_THROUGH_APOPTOSOME_MEDIATED_CLEAVAGE	0.154061	0.009828
SANA_RESPONSE_TO_IFNG_DN	0.153881	0.009915
KEGG_RIG_I_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.153871	0.00992
RICKMAN_METASTASIS_DN	0.153696	0.010005
TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_10D_DN	0.153677	0.010015
NIKOLSKY_BREAST_CANCER_17Q21_Q25_AMPLICON	0.153676	0.010015
REACTOME_HYALURONAN_BIOSYNTHESIS_AND_EXPORT	0.153385	0.010159
REACTOME_HOST_INTERACTIONS_WITH_INFLUENZA_FACTORS	0.153311	0.010196
KIM_WT1_TARGETS_UP	0.153184	0.010259
REACTOME_CYP2E1_REACTIONS	0.153057	0.010324
KEGG_N_GLYCAN_BIOSYNTHESIS	0.153018	0.010343
REACTOME_GLYCEROPHOSPHOLIPID_CATABOLISM	0.152899	0.010403

LEE_LIVER_CANCER_MYC_DN	0.152805	0.010451
REACTOME_COMMON_PATHWAY_OF_FIBRIN_CLOT_FORMATION	0.152758	0.010475
TAVOR_CEBPA_TARGETS_DN	0.152739	0.010485
HEIDENBLAD_AMPLIFIED_IN_SOFT_TISSUE_CANCER	0.152328	0.010697
KUNINGER_IGF1_VS_PDGFB_TARGETS_DN	0.152305	0.010709
LUI_THYROID_CANCER_CLUSTER_3	0.152298	0.010712
HOFFMANN_IMMATURE_TO_MATURE_B_LYMPHOCYTE_DN	0.152252	0.010736
ZHANG_ANTIVIRAL_RESPONSE_TO_RIBAVIRIN_DN	0.152137	0.010797
OUELLET_OVARIAN_CANCER_INVASIVE_VS_LMP_DN	0.15201	0.010864
REACTOME_TRAFFICKING_AND_PROCESSING_OF_ENDOSOMAL_TLR	0.151963	0.010888
MATZUK_POSTIMPLANTATION_AND_POSTPARTUM	0.151853	0.010947
KEGG_HUNTINGTONS_DISEASE	0.151807	0.010972
KYNG_ENVIRONMENTAL_STRESS_RESPONSE_NOT_BY_4NQO_IN_WS	0.151718	0.011019
ONO_FOXP3_TARGETS_DN	0.151592	0.011086
ADDYA_ERYTHROID_DIFFERENTIATION_BY_HEMIN	0.151577	0.011094
HUANG_DASATINIB_RESISTANCE_UP	0.151503	0.011134
BIOCARTA_LYMPHOCYTE_PATHWAY	0.1512	0.0112

	62	65
BRUINS_UVC_RESPONSE_MIDDLE	0.151242	0.011276
ANDERSEN_LIVER_CANCER_KRT19_UP	0.151183	0.011308
DAIRKEE_CANCER_PRONE_RESPONSE_BPA	0.151009	0.011403
MATSUDA_NATURAL_KILLER_DIFFERENTIATION	0.15084	0.011497
KEGG_ETHER_LIPID_METABOLISM	0.15079	0.011525
MA_MYELOID_DIFFERENTIATION_UP	0.150775	0.011533
REACTOME_SCAVENGING_OF_HEME_FROM_PLASMA	0.150711	0.011569
GAVIN_IL2_RESPONSIVE_FOXP3_TARGETS_UP	0.150652	0.011602
LIAN_NEUTROPHIL_GRANULE_CONSTITUENTS	0.150646	0.011605
REACTOME_REGULATION_OF_TP53_ACTIVITY_THROUGH_PHOSPHORYLATION	0.150636	0.011611
PROVENZANI_METASTASIS_DN	0.150589	0.011637
CAFFAREL_RESPONSE_TO_THC_8HR_3_DN	0.15041	0.011737
GUENTHER_GROWTH_SPHERICAL_VS_ADHERENT_UP	0.150361	0.011765
CHENG_RESPONSE_TO_NICKEL_ACETATE	0.150247	0.01183
WEBER_METHYLATED_LCP_IN_SPERM_UP	0.150163	0.011878
LASTOWSKA_NEUROBLASTOMA_COPY_NUMBER_UP	0.150153	0.011884
LIM_MAMMARY_LUMINAL_PROGENITOR_UP	0.1	0.0

	50069	11932
KUUSELO_PANCREATIC_CANCER_19Q13_AMPLIFICATION	0.149978	0.011984
REACTOME_HOMOLOGY_DIRECTED_REPAIR	0.149887	0.012037
ROETH_TERT_TARGETS_DN	0.149852	0.012057
MAEKAWA_ATF2_TARGETS	0.149701	0.012145
REACTOME_INTERACTIONS_OF_REV_WITH_HOST_CELLULAR_PROTEINS	0.1494	0.012321
MCBRYAN_PUBERTAL_BREAST_3_4WK_DN	0.149376	0.012335
LEE_CALORIE_RESTRICTION_NEOCORTEX_UP	0.149375	0.012336
HOLLEMAN_VINCRISTINE_RESISTANCE_ALL_UP	0.149347	0.012352
LEE_LIVER_CANCER_DENA_UP	0.149325	0.012365
ZIRN_TRETINOIN_RESPONSE_WT1_UP	0.149234	0.012419
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_11	0.149194	0.012443
REACTOME_CRMPS_IN_SEMA3A_SIGNALING	0.149165	0.01246
ABBUD_LIF_SIGNALING_2_UP	0.149076	0.012513
SCHAEFFER_SOX9_TARGETS_IN_PROSTATE_DEVELOPMENT_DN	0.149069	0.012517
REACTOME_NONCANONICAL_ACTIVATION_OF_NOTCH3	0.148984	0.012569
BROWNE_HCMV_INFECTION_1HR_DN	0.148925	0.012604

GRAHAM_NORMAL_QUIESCENT_VS_NORMAL_DIVIDING_UP	0.148919	0.012607
WANG_RECURRENT_LIVER_CANCER_UP	0.148873	0.012635
LUCAS_HNF4A_TARGETS_DN	0.148723	0.012726
REACTOME_ATF6_ATF6_ALPHA_ACTIVATES_CHAPERONE_GENES	0.148573	0.012817
TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_8D_DN	0.14836	0.012948
REACTOME_NCAM1_INTERACTIONS	0.148333	0.012964
GINESTIER_BREAST_CANCER_ZNF217_AMPLIFIED_DN	0.1483	0.012985
TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_16D_DN	0.148287	0.012993
MORI_IMMATURE_B_LYMPHOCYTE_UP	0.148215	0.013038
BOYLAN_MULTIPLE_MYELOMA_D_CLUSTER_DN	0.148113	0.013101
REACTOME_DEFENSINS	0.148018	0.01316
BIOCARTA_CSK_PATHWAY	0.147969	0.013191
JAATINEN_HEMATOPOIETIC_STEM_CELL_DN	0.147963	0.013194
REACTOME_PLATELET_SENSITIZATION_BY_LDL	0.147958	0.013198
BIOCARTA_CTLA4_PATHWAY	0.14787	0.013253
TAKAO_RESPONSE_TO_UVB_RADIATION_DN	0.147781	0.013309
REACTOME_INTERLEUKIN_7_SIGNALING	0.1477	0.0133

	51	28
GRAHAM_CML_DIVIDING_VS_NORMAL_DIVIDING_DN	0.147729	0.013342
BAUS_TFF2_TARGETS_UP	0.147672	0.013378
SMIRNOV_RESPONSE_TO_IR_6HR_UP	0.147565	0.013446
LIN_APC_TARGETS	0.147507	0.013483
MAGRANGEAS_MULTIPLE_MYELOMA_IGLL_VS_IGLK_UP	0.147506	0.013484
NADLER_HYPERGLYCEMIA_AT_OBESITY	0.147435	0.013529
BIOCARTA_BIOPEPTIDES_PATHWAY	0.14743	0.013532
BIOCARTA_P53HYPOXIA_PATHWAY	0.147418	0.01354
SHARMA_PILOCYTIC_ASTROCYTOMA_LOCATION_DN	0.14737	0.013571
SAKAI_TUMOR_INFILTRATING_MONOCYTES_DN	0.147318	0.013604
XU_HGF_SIGNALING_NOT_VIA_AKT1_6HR	0.147293	0.01362
LIU_LIVER_CANCER	0.147181	0.013692
AMIT_SERUM_RESPONSE_20_MCF10A	0.147083	0.013756
THEILGAARD_NEUTROPHIL_AT_SKIN_WOUND_UP	0.146952	0.013841
MARIADASON_RESPONSE_TO_CURCUMIN_SULINDAC_7	0.146946	0.013845
BERENJENO_TRANSFORMED_BY_RHOA_DN	0.146755	0.013971
KORKOLA_TERATOMA_UP	0.1	0.0

	46642	14045
REACTOME_SUMOYLATION_OF_DNA_METHYLATION_PROTEINS	0.146632	0.014052
XU_HGF_TARGETS_INDUCED_BY_AKT1_6HR	0.146627	0.014055
APPIERTO_RESPONSE_TO_FENRETINIDE_UP	0.146542	0.014111
PID_NFAT_TFPATHWAY	0.146506	0.014136
RIZKI_TUMOR_INVASIVENESS_3D_UP	0.146423	0.01419
HAHTOLA_SEZARY_SYNDROM_DN	0.146349	0.01424
PID_GLYPICAN_1PATHWAY	0.146339	0.014247
BIOCARTA_SHH_PATHWAY	0.146339	0.014247
REACTOME_TRNA_PROCESSING_IN_THE_NUCLEUS	0.146312	0.014265
REACTOME_MITOTIC_PROPHASE	0.146297	0.014276
WINTER_HYPOXIA_METAGENE	0.146136	0.014384
INGRAM_SHH_TARGETS_DN	0.145894	0.014548
WU_ALZHEIMER_DISEASE_DN	0.145824	0.014596
DIRMEIER_LMP1_RESPONSE_EARLY	0.145777	0.014628
REACTOME_DEFECTIVE_B4GALT7_CAUSES_EDS_PROGEROID_TYPE	0.145717	0.014669
MIKKELSEN_PLURIPOTENT_STATE_DN	0.145447	0.014856

SHI_SPARC_TARGETS_UP	0.145417	0.014877
IZADPANAH_STEM_CELL_ADIPOSE_VS_BONE_UP	0.145343	0.014928
MIYAGAWA_TARGETS_OF_EWSR1_ETS_FUSIONS_DN	0.145272	0.014978
HUTTMANN_B_CLL_POOR_SURVIVAL_UP	0.145228	0.015009
REACTOME_INTERLEUKIN_RECEPTOR_SHC_SIGNALING	0.144969	0.015191
MORI_LARGE_PRE_BII_LYMPHOCYTE_DN	0.14496	0.015198
GAUSSMANN_MLL_AF4_FUSION_TARGETS_D_DN	0.144953	0.015203
MCDOWELL_ACUTE_LUNG_INJURY_UP	0.144921	0.015225
GALIE_TUMOR_ANGIOGENESIS	0.144825	0.015294
REACTOME_G1_PHASE	0.144792	0.015317
YEMELYANOV_GR_TARGETS_DN	0.144693	0.015388
REACTOME_PHOSPHATE_BOND_HYDROLYSIS_BY_NUDT_PROTEINS	0.144597	0.015458
REACTOME_FGFR2_ALTERNATIVE_SPLICING	0.144578	0.015471
REACTOME_TOLL_LIKE_RECEPTOR_CASCADES	0.144498	0.015529
REACTOME_FCGR_ACTIVATION	0.144495	0.015531
ZHOU_INFLAMMATORY_RESPONSE_FIMA_UP	0.144487	0.015536
SHIN_B_CELL_LYMPHOMA_CLUSTER_1	0.1444	0.0155

	23	83
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_YELLOW_DN	0.144376	0.015617
RAY_TARGETS_OF_P210_BCR_ABL_FUSION_DN	0.144307	0.015667
BLALOCK_ALZHEIMERS_DISEASE_INCIPIENT_DN	0.144252	0.015707
REACTOME_RUNX2_REGULATES_GENES_INVOLVED_IN_CELL_MIGRATION	0.144212	0.015736
REACTOME_PROCESSING_OF_CAPPED_INTRON_CONTAINING_PRE_MRNA	0.144113	0.015809
BIOCARTA_EOSINOPHILS_PATHWAY	0.144104	0.015816
REACTOME_MINERALOCORTICOID_BIOSYNTHESIS	0.144098	0.01582
REACTOME_GPCR_LIGAND_BINDING	0.144028	0.015871
PID_IL6_7_PATHWAY	0.143988	0.015901
REACTOME_SIGNALING_BY_NTRK3_TRKC	0.143976	0.01591
LIU_PROSTATE_CANCER_UP	0.143862	0.015994
WU_CELL_MIGRATION	0.143852	0.016002
GAVIN_PDE3B_TARGETS	0.143845	0.016007
NAKAJIMA_EOSINOPHIL	0.143802	0.016039
KEGG_OTHER_GLYCAN_DEGRADATION	0.143631	0.016166
ZHENG_RESPONSE_TO_ARSENITE_UP	0.143622	0.016173
WIERENGA_STAT5A_TARGETS_GROUP1	0.1	0.0

	435 04	162 62
ONO_AML1_TARGETS_UP	0.1 434 29	0.0 163 18
SWEET_LUNG_CANCER_KRAS_UP	0.1 431 86	0.0 165 02
REACTOME_CYTOCHROME_C_MEDIATED_APOPTOTIC_RESPONSE	0.1 431 56	0.0 165 25
PARK_APL_PATHOGENESIS_UP	0.1 431 5	0.0 165 3
BIOCARTA_CDC25_PATHWAY	0.1 430 04	0.0 166 42
BIOCARTA_CTL_PATHWAY	0.1 429 74	0.0 166 64
REACTOME_SOS_MEDIATED_SIGNALLING	0.1 429 2	0.0 167 07
YAGUE_PRETUMOR_DRUG_RESISTANCE_DN	0.1 428 57	0.0 167 55
WANG_TUMOR_INVASIVENESS_DN	0.1 426 1	0.0 169 47
FARMER_BREAST_CANCER_CLUSTER_1	0.1 425 61	0.0 169 85
REACTOME_ASPARAGINE_N_LINKED_GLYCOSYLATION	0.1 425 52	0.0 169 92
MIKHAYLOVA_OXIDATIVE_STRESS_RESPONSE_VIA_VHL_UP	0.1 423 98	0.0 171 12
PODAR_RESPONSE_TO_ADAPHOSTIN_UP	0.1 423 91	0.0 171 18
REACTOME_NEGATIVE_REGULATION_OF_TCF_DEPENDENT_SIGNALING_BY_WNT_LIGAND_ANTAGONISTS	0.1 423 43	0.0 171 56
CHEN_ETV5_TARGETS_SERTOLI	0.1 422 71	0.0 172 13
REACTOME_INTERFERON_ALPHA_BETA_SIGNALING	0.1 422 37	0.0 172 4

BIOCARTA_TCRA_PATHWAY	0.142215	0.017257
NAKAMURA_METASTASIS_MODEL_UP	0.142176	0.017288
REACTOME_ACYL_CHAIN_REMODELLING_OF_PI	0.141956	0.017464
REACTOME_POLB_DEPENDENT_LONG_PATCH_BASE_EXCISION_REPAIR	0.141914	0.017498
KEGG_LEISHMANIA_INFECTION	0.141844	0.017554
GILMORE_CORE_NFKB_PATHWAY	0.141538	0.017801
EHLERS_ANEUPLOIDY_DN	0.141488	0.017842
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_HEPARAN_SULFATE	0.141225	0.018058
REACTOME_DISEASES_ASSOCIATED_WITH_N_GLYCOSYLATION_OF_PROTEINS	0.141209	0.018071
GRATIAS_RETINOBLASTOMA_16Q24	0.141201	0.018078
REACTOME_TRIGLYCERIDE_CATABOLISM	0.141197	0.01808
JIANG_TIP30_TARGETS_DN	0.141118	0.018146
HUPER_BREAST_BASAL_VS_LUMINAL_DN	0.14099	0.018252
KYNG_ENVIRONMENTAL_STRESS_RESPONSE_NOT_BY_GAMMA_IN_OLD	0.140981	0.018259
LINDGREN_BLADDER_CANCER_HIGH_RECURRENCE	0.14083	0.018385
NUYTTEN_EZH2_TARGETS_DN	0.140739	0.018462
REACTOME_INTERLEUKIN_2_FAMILY_SIGNALING	0.1406	0.0185

	63	26
DASU_IL6_SIGNALING_SCAR_DN	0.140631	0.018553
BIOCARTA_TCAPOPTOSIS_PATHWAY	0.140619	0.018563
DORN_ADENOVIRUS_INFECTION_32HR_DN	0.140469	0.018691
VALK_AML_CLUSTER_13	0.140418	0.018734
GENTILE_UV_RESPONSE_CLUSTER_D7	0.140402	0.018748
REACTOME_DERMATAN_SULFATE_BIOSYNTHESIS	0.140317	0.01882
NIKOLSKY_BREAST_CANCER_7P15_AMPLICON	0.140293	0.01884
WAGSCHAL_EHMT2_TARGETS_UP	0.14017	0.018945
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_4	0.140122	0.018987
REACTOME_MEIOTIC_RECOMBINATION	0.140073	0.019029
KEGG_GLYCOSAMINOGLYCAN_DEGRADATION	0.140031	0.019066
CHOI_ATL_STAGE_PREDICTOR	0.139968	0.01912
REACTOME_REGULATION_OF_RUNX1_EXPRESSION_AND_ACTIVITY	0.139764	0.019298
REACTOME_ADAPTIVE_IMMUNE_SYSTEM	0.139332	0.019678
REACTOME_HEME_DEGRADATION	0.13932	0.019689
REACTOME_2_LTR_CIRCLE_FORMATION	0.139286	0.019719
WOOD_EBV_EBNA1_TARGETS_DN	0.1	0.0

	39097	19888
REACTOME_COPI_MEDIATED_ANTEROGRADE_TRANSPORT	0.139076	0.019907
BIOCARTA_FXR_PATHWAY	0.139031	0.019947
REACTOME_SEMAPHORIN_INTERACTIONS	0.138923	0.020044
PURBEY_TARGETS_OF_CTBP1_NOT_SATB1_DN	0.138916	0.020051
BENPORATH_ES_1	0.138901	0.020065
GAUSSMANN_MLL_AF4_FUSION_TARGETS_B_UP	0.138802	0.020154
AMIT_EGF_RESPONSE_240_HELA	0.138799	0.020157
REACTOME_SYNAPTIC_ADHESION_LIKE_MOLECULES	0.138761	0.020191
PETROVA_PROX1_TARGETS_DN	0.138718	0.020231
REACTOME_TRANSLESION_SYNTHESIS_BY_Y_FAMILY_DNA_POLYMERASES_BYPASSES_LESIONS_ON_DNA_TEMPLATE	0.138694	0.020252
PID_TCR_PATHWAY	0.138364	0.020555
LINDSTEDT_DENDRITIC_CELL_MATURATION_C	0.138363	0.020556
KEGG_CYSTEINE_AND_METHIONINE_METABOLISM	0.138085	0.020813
REACTOME_GAP_JUNCTION_ASSEMBLY	0.137961	0.02093
LEE_AGING_NEOCORTEX_UP	0.137942	0.020947
JIANG_HYPOXIA_VIA_VHL	0.137799	0.021082

GRASEMANN_RETINOBLASTOMA_WITH_6P_AMPLIFICATION	0.137707	0.021168
RUTELLA_RESPONSE_TO_HGF_DN	0.13769	0.021185
MIKKELSEN_IPS_LCP_WITH_H3K4ME3	0.137623	0.021249
KEGG_MISMATCH_REPAIR	0.137613	0.021258
MIKKELSEN_NPC_ICP_WITH_H3K27ME3	0.137444	0.021418
BILANGES_SERUM_SENSITIVE_VIA_TSC1	0.137442	0.02142
REACTOME_BIOSYNTHESIS_OF_E_SERIES_18_S_RESOLVINS	0.137428	0.021434
ROY_WOUND_BLOOD_VESSEL_UP	0.13734	0.021518
TENEDINI_MEGAKARYOCYTE_MARKERS	0.137196	0.021657
XU_HGF_TARGETS_INDUCED_BY_AKT1_48HR_DN	0.137182	0.02167
FUNG_IL2_TARGETS_WITH_STAT5_BINDING_SITES_T1	0.137116	0.021735
CAMPS_COLON_CANCER_COPY_NUMBER_UP	0.137052	0.021796
ONGUSAHA_BRCA1_TARGETS_UP	0.137029	0.021819
PIEPOLI_LGI1_TARGETS_DN	0.136885	0.021959
AZARE_NEOPLASTIC_TRANSFORMATION_BY_STAT3_DN	0.136775	0.022067
TSAI_RESPONSE_TO_IONIZING_RADIATION	0.136711	0.022129
VALK_AML_CLUSTER_6	0.1366	0.0221

	53	87
MANN_RESPONSE_TO_AMIFOSTINE_DN	0.136292	0.022546
PURBEY_TARGETS_OF_CTBP1_AND_SATB1_DN	0.136065	0.022773
LOPEZ_MESOTHELIOMA_SURVIVAL_WORST_VS_BEST_UP	0.136042	0.022796
REACTOME_NEGATIVE_EPIGENETIC_REGULATION_OF_RRNA_EXPRESSION	0.135822	0.02302
BOYAULT_LIVER_CANCER_SUBCLASS_G23_UP	0.135682	0.023162
BENPORATH_MYC_MAX_TARGETS	0.135659	0.023186
GHO_ATF5_TARGETS_UP	0.135641	0.023204
KRIEG_KDM3A_TARGETS_NOT_HYPOXIA	0.135604	0.023243
YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_7	0.135587	0.02326
KOHOUTEK_CCNT2_TARGETS	0.135428	0.023424
REACTOME_ESTROGEN_BIOSYNTHESIS	0.135422	0.02343
SASSON_RESPONSE_TO_FORSKOLIN_UP	0.135306	0.02355
HUPER_BREAST_BASAL_VS_LUMINAL_UP	0.135296	0.02356
HESS_TARGETS_OF_HOXA9_AND_MEIS1_DN	0.135284	0.023572
BORCZUK_MALIGNANT_MESOTHELIOMA_DN	0.135272	0.023585
LEIN_PONS_MARKERS	0.135159	0.023702
KYNG_ENVIRONMENTAL_STRESS_RESPONSE_NOT_BY_UV_IN_WS	0.1	0.0

	35128	23735
RAMPON_ENRICHED_LEARNING_ENVIRONMENT_EARLY_UP	0.135105	0.023759
REACTOME_DNA_DAMAGE_TELOMERE_STRESS_INDUCED_SENESCENCE	0.135078	0.023787
REACTOME_MET_ACTIVATES_PTK2_SIGNALING	0.135067	0.023799
BIOCARTA_RECK_PATHWAY	0.135031	0.023836
MEISSNER_NPC_HCP_WITH_H3K4ME2	0.134935	0.023938
REACTOME_CREATION_OF_C4_AND_C2_ACTIVATORS	0.134879	0.023997
BIOCARTA_PML_PATHWAY	0.134824	0.024054
PID_IL8_CXCR2_PATHWAY	0.134679	0.024208
KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.134633	0.024258
WILCOX_RESPONSE_TO_PROGESTERONE_DN	0.134517	0.024381
REACTOME_SIGNALING_BY_LEPTIN	0.134351	0.024559
REACTOME_TYROSINE_CATABOLISM	0.134277	0.024639
MIKKELSEN_ES_LCP_WITH_H3K4ME3	0.134217	0.024704
MCBRYAN_TERMINAL_END_BUD_DN	0.134184	0.024739
SMID_BREAST_CANCER_RELAPSE_IN_PLEURA_UP	0.134056	0.024878
REACTOME_TYPE_I_HEMIDESMOSOME_ASSEMBLY	0.133876	0.025075

REACTOME_PLATELET_AGGREGATION_PLUG_FORMATION	0.133849	0.025105
BAFNA_MUC4_TARGETS_UP	0.133823	0.025134
NAKAMURA_ADIPOGENESIS_LATE_DN	0.133651	0.025322
ODONNELL_TARGETS_OF_MYC_AND_TFRC_UP	0.133634	0.025341
RADAEVA_RESPONSE_TO_IFNA1_UP	0.133572	0.02541
WUNDER_INFLAMMATORY_RESPONSE_AND_CHOLESTEROL_UP	0.1335	0.02549
TOMLINS_METASTASIS_UP	0.133443	0.025553
REACTOME_DEFECTIVE_CHST14_CAUSES_EDS_MUSCULOCONTRACTURAL_TYPE	0.133415	0.025584
ZHAN_MULTIPLE_MYELOMA_SUBGROUPS	0.133294	0.02572
REACTOME_BIOSYNTHESIS_OF_SPECIALIZED_PRORESOLVING_MEDIATORS_SPMS	0.133157	0.025874
REACTOME_MRNA_SPLICING	0.133151	0.02588
ROSS_AML_WITH_MLL_FUSIONS	0.133073	0.025968
GOUYER_TUMOR_INVASIVENESS	0.133045	0.026
PID_INTEGRIN4_PATHWAY	0.133043	0.026002
REACTOME_ERYTHROPOIETIN_ACTIVATES_RAS	0.132723	0.026366
LE_NEURONAL_DIFFERENTIATION_UP	0.132675	0.02642
REACTOME_ACYL_CHAIN_REMODELLING_OF_PS	0.1325	0.0266

	09	11
REACTOME_N_GLYCAN_TRIMMING_IN_THE_ER_AND_CALNEXIN_CALRETICULIN_CYCLE	0.132454	0.026675
VERNELL_RETINOBLASTOMA_PATHWAY_UP	0.132377	0.026765
REACTOME_PECAM1_INTERACTIONS	0.132339	0.026808
SASSON_RESPONSE_TO_GONADOTROPHINS_DN	0.132235	0.026929
ZHANG_RESPONSE_TO_CANTHARIDIN_DN	0.132089	0.0271
CAFFAREL_RESPONSE_TO_THC_24HR_5_UP	0.13196	0.027251
RAY_TUMORIGENESIS_BY_ERBB2_CDC25A_UP	0.131952	0.02726
PID_P38_ALPHA_BETA_PATHWAY	0.13195	0.027263
ONGUSAHA_TP53_TARGETS	0.131908	0.027312
REACTOME_SYNTHESIS_OF_LIPOXINS_LX	0.131846	0.027386
KEGG_SNARE_INTERACTIONS_IN_VESICULAR_TRANSPORT	0.131655	0.027612
MEISSNER_ES_ICP_WITH_H3K4ME3_AND_H3K27ME3	0.131632	0.02764
XU_CREBBP_TARGETS_DN	0.131535	0.027756
REACTOME_TRIGLYCERIDE_METABOLISM	0.13153	0.027762
AMIT_EGF_RESPONSE_120_HELA	0.131423	0.027889
JEON_SMAD6_TARGETS_DN	0.131297	0.028041
GROSS_ELK3_TARGETS_DN	0.1	0.0

	31289	28051
REACTOME_DISEASES_ASSOCIATED_WITH_GLYCOSYLATION_PRECURSOR_BIOSYNTHESIS	0.1311	0.02828
KEGG_ECM_RECEPTOR_INTERACTION	0.130908	0.028514
KIM_WT1_TARGETS_8HR_UP	0.130757	0.028699
SU_TESTIS	0.130735	0.028726
PODAR_RESPONSE_TO_ADAPHOSTIN_DN	0.130546	0.02896
BROWNE_HCMV_INFECTION_24HR_UP	0.130251	0.029327
REACTOME_RHO_GTPASES_ACTIVATE_RHOTEKIN_AND_RHOPHILINS	0.130216	0.029371
PETRETTO_LEFT_VENTRICLE_MASS_QTL_CIS_UP	0.130164	0.029437
REACTOME_PLASMA_LIPOPROTEIN_ASSEMBLY_REMODELING_AND_CLEARANCE	0.130129	0.029481
SABATES_COLORECTAL_ADENOMA_SIZE_UP	0.130037	0.029597
REACTOME_TRNA_PROCESSING_IN_THE_MITOCHONDRION	0.130035	0.029599
KANG_FLUOROURACIL_RESISTANCE_DN	0.130006	0.029636
KAAB_HEART_ATRIUM_VS_VENTRICLE_UP	0.129955	0.0297
DANG_REGULATED_BY_MYC_DN	0.129885	0.029789
YAGI_AML_FAB_MARKERS	0.129364	0.030457
SMID_BREAST_CANCER_RELAPSE_IN_PLEURA_DN	0.1292	0.03067

REACTOME_TRANSLOCATION_OF_ZAP_70_TO_IMMUNOLOGICAL_SYNAPSE	0.129072	0.030837
PASTURAL_RIZ1_TARGETS_UP	0.129028	0.030895
RICKMAN_TUMOR_DIFFERENTIATED_WELL_VS_MODERATELY_DN	0.12902	0.030906
DIAZ_CHRONIC_MEYLOGENOUS_LEUKEMIA_DN	0.128994	0.03094
VALK_AML_CLUSTER_9	0.128985	0.030951
BIOCARTA_NO2IL12_PATHWAY	0.128969	0.030972
GRAHAM_CML_QUIESCENT_VS_NORMAL_DIVIDING_DN	0.12875	0.031261
BIOCARTA_PARKIN_PATHWAY	0.128744	0.031268
JIANG_HYPOXIA_NORMAL	0.128645	0.0314
WEIGEL_OXIDATIVE_STRESS_BY_HNE_AND_TBH	0.128384	0.031749
ABRAMSON_INTERACT_WITH_AIRE	0.128	0.032267
REACTOME_RAS_ACTIVATION_UPON_CA2PLUS_INFLUX_THROUGH_NMDA_RECEPTOR	0.127943	0.032345
ZHONG_RESPONSE_TO_AZACITIDINE_AND_TSA_UP	0.12768	0.032706
GILDEA_METASTASIS	0.127667	0.032723
ZERBINI_RESPONSE_TO_SULINDAC_UP	0.127625	0.03278
LI_WILMS_TUMOR_ANAPLASTIC_DN	0.127614	0.032795
REACTOME_PROCESSING_OF_DNA_DOUBLE_STRAND_BREAK_ENDS	0.1275	0.0329

	31	1
HUANG_GATA2_TARGETS_DN	0.1 274 3	0.0 330 51
PID_IL12_STAT4_PATHWAY	0.1 273 73	0.0 331 29
STARK_HYPPOCAMPUS_22Q11_DELETION_DN	0.1 271 67	0.0 334 17
REACTOME_TRNA_PROCESSING	0.1 271 23	0.0 334 79
SEKI_INFLAMMATORY_RESPONSE_LPS_UP	0.1 270 73	0.0 335 5
REACTOME_PD_1_SIGNALING	0.1 269 59	0.0 337 09
YANG_BCL3_TARGETS_UP	0.1 268 77	0.0 338 25
REACTOME_MITOCHONDRIAL_TRANSLATION	0.1 267 93	0.0 339 44
REACTOME_SIGNALING_BY_MODERATE_KINASE_ACTIVITY_BRAF_MUTANTS	0.1 266 36	0.0 341 68
GAUSSMANN_MLL_AF4_FUSION_TARGETS_E_DN	0.1 265 88	0.0 342 36
REACTOME_SIRT1_NEGATIVELY_REGULATES_RRNA_EXPRESSION	0.1 264 36	0.0 344 55
LIU_TARGETS_OF_VMYB_VS_CMYB_DN	0.1 264 26	0.0 344 7
BOYAULT_LIVER_CANCER_SUBCLASS_G12_UP	0.1 263 84	0.0 345 29
PEART_HDAC_PROLIFERATION_CLUSTER_UP	0.1 260 92	0.0 349 52
CHARAFE_BREAST_CANCER_BASAL_VS_MESENCHYMAL_DN	0.1 260 24	0.0 350 51
GERHOLD_RESPONSE_TO_TZD_DN	0.1 257 74	0.0 354 18
TARTE_PLASMA_CELL_VS_PLASMABLAST_UP	0.1	0.0

	25761	35438
PID_CD8_TCR_DOWNSTREAM_PATHWAY	0.125728	0.035485
REACTOME_ACTIVATION_OF_C3_AND_C5	0.125726	0.035489
DACOSTA_UV_RESPONSE_VIA_ERCC3_COMMON_UP	0.125723	0.035493
REACTOME_NEGATIVE_REGULATION_OF_ACTIVITY_OF_TFAP2_AP_2_FAMILY_TRANSCRIPTION_FACTORS	0.125655	0.035593
BIOCARTA_CPSF_PATHWAY	0.125647	0.035605
BIOCARTA_ASBCELL_PATHWAY	0.125495	0.035831
LOPEZ_MESOTHELIOMA_SURVIVAL_OVERALL_DN	0.125486	0.035844
REACTOME_HEMOSTASIS	0.125364	0.036026
EBAUER_TARGETS_OF_PAX3_FOXO1_FUSION_UP	0.125171	0.036315
DUNNE_TARGETS_OF_AML1_MTG8_FUSION_UP	0.125162	0.036329
NAKAMURA_ADIPOGENESIS_LATE_UP	0.124996	0.036579
REACTOME_ZBP1_DAI_MEDIATED_INDUCTION_OF_TYPE_I_IFNS	0.124934	0.036674
GOUYER_TATI_TARGETS_DN	0.124456	0.037403
BLALOCK_ALZHEIMERS_DISEASE_UP	0.124447	0.037418
KORKOLA_EMBRYONAL_CARCINOMA_DN	0.12441	0.037475
NIKOLSKY_BREAST_CANCER_16P13_AMPLICON	0.124291	0.037658

STEIN_ESRRA_TARGETS_RESPONSIVE_TO_ESTROGEN_DN	0.124277	0.03768
BOWIE_RESPONSE_TO_TAMOXIFEN	0.124212	0.037782
DAZARD_UV_RESPONSE_CLUSTER_G5	0.124202	0.037797
REACTOME_G1_S_SPECIFIC_TRANSCRIPTION	0.124179	0.037833
MAYBURD_RESPONSE_TO_L663536_UP	0.124041	0.038048
REACTOME_TANDEM_PORE_DOMAIN_POTASSIUM_CHANNELS	0.124012	0.038093
TSENG_ADIPOGENIC_POTENTIAL_DN	0.123901	0.038268
REACTOME_EPHB_MEDIATED_FORWARD_SIGNALING	0.123856	0.038338
ZHONG_SECRETOME_OF_LUNG_CANCER_AND_ENDOTHELIUM	0.123757	0.038494
BIOCARTA_ION_PATHWAY	0.123615	0.038719
NAKAMURA_ADIPOGENESIS_EARLY_DN	0.123541	0.038836
REACTOME_YAP1_AND_WWTR1_TAZ_STIMULATED_GENE_EXPRESSION	0.123535	0.038847
REACTOME_CD28_CO_STIMULATION	0.123328	0.039177
GALI_TP53_TARGETS_APOPTOTIC_UP	0.122965	0.039763
TURJANSKI_MAPK8_AND_MAPK9_TARGETS	0.122846	0.039957
BIOCARTA_IL3_PATHWAY	0.122781	0.040063
REACTOME_NUCLEOTIDE_BINDING_DOMAIN_LEUCINE_RICH_REPEAT_CONTAINING_RECEPTOR_NLR_SIGNALING_PATHWAYS	0.1226	0.0403

	29	12
REACTOME_ANTIGEN_ACTIVATES_B_CELL_RECEPTOR_BCR_LEADING_TO_GENERATION_OF_SECOND_MESSENGERS	0.122477	0.040562
WANG_BARRETTS_ESOPHAGUS_AND_ESOPHAGUS_CANCER_DN	0.122475	0.040565
SMITH_TERT_TARGETS_DN	0.122387	0.040711
BIOCARTA_CBL_PATHWAY	0.122111	0.041171
REACTOME_DNA_DOUBLE_STRAND_BREAK_REPAIR	0.122051	0.041271
DAZARD_UV_RESPONSE_CLUSTER_G3	0.122011	0.041337
KIM_RESPONSE_TO_TSA_AND_DECITABINE_UP	0.12186	0.041592
RICKMAN_HEAD_AND_NECK_CANCER_C	0.121838	0.041628
REACTOME_DNA_DAMAGE_BYPASS	0.121807	0.041681
LEE_METASTASIS_AND_RNA_PROCESSING_UP	0.121668	0.041916
BASSO_CD40_SIGNALING_DN	0.121545	0.042125
COLIN_PILOCYTIC_ASTROCYTOMA_VS_GLIOBLASTOMA_UP	0.121509	0.042187
REACTOME_CROSS_PRESENTATION_OF_PARTICULATE_EXOGENOUS_ANTIGENS_PHAGOSOMES	0.121484	0.04223
DARWICHE_SQUAMOUS_CELL_CARCINOMA_DN	0.121369	0.042426
WESTON_VEGFA_TARGETS_6HR	0.121283	0.042573
TURJANSKI_MAPK14_TARGETS	0.121202	0.042713
SMID_BREAST_CANCER_NORMAL_LIKE_UP	0.1	0.0

	20891	43253
PRAMOONJAGO_SOX4_TARGETS_UP	0.120874	0.043282
LIU_VAV3_PROSTATE_CARCINOGENESIS_UP	0.120859	0.043309
HOLLEMAN_PREDNISOLONE_RESISTANCE_B_ALL_UP	0.120669	0.04364
REACTOME_SYNTHESIS_OF_GDP_MANNOSE	0.120459	0.044011
YAMAZAKI_TCEB3_TARGETS_DN	0.12026	0.044364
BIOCARTA_BBCELL_PATHWAY	0.120143	0.044572
PID_HIV_NEF_PATHWAY	0.120077	0.044692
PLASARI_NFIC_TARGETS_BASAL_UP	0.120076	0.044693
REACTOME_SEROTONIN_RECEPTORS	0.120073	0.044698
REACTOME_NECTIN_NECL_TRANS_HETERODIMERIZATION	0.119928	0.044959
REACTOME_DEFECTIVE_EXT2_CAUSES_EXOSTOSES_2	0.119725	0.045325
REACTOME_REPRODUCTION	0.119613	0.045528
REACTOME_SIGNALING_BY_FGFR2_IN_DISEASE	0.119573	0.045602
SANSOM_APC_TARGETS_DN	0.119512	0.045712
TURASHVILI_BREAST_CARCINOMA_DUCTAL_VS_LOBULAR_DN	0.119439	0.045847
KEGG_RNA_DEGRADATION	0.119425	0.045871

REACTOME_ERYTHROPOIETIN_ACTIVATES_STAT5	0.119403	0.045911
LEE_NAIVE_T_LYMPHOCYTE	0.119301	0.046098
COLLIS_PRKDC_REGULATORS	0.119205	0.046277
LEE_CALORIE_RESTRICTION_MUSCLE_DN	0.11919	0.046304
TESAR_ALK_TARGETS_HUMAN_ES_5D_DN	0.119077	0.046512
REACTOME_MUCOPOLYSACCHARIDOSES	0.119073	0.046519
CHESLER_BRAIN_D6MIT150_QTL_TRANS	0.119023	0.046613
CHANG_POU5F1_TARGETS_UP	0.118756	0.047111
NAKAYAMA_FRA2_TARGETS	0.118598	0.047407
REACTOME_SYNTHESIS_OF_12_EICOSATETRAENOIC_ACID_DERIVATIVES	0.118549	0.047499
PLASARI_TGFB1_SIGNALING_VIA_NFIC_1HR_UP	0.118282	0.048004
REACTOME_RMTS_METHYLATE_HISTONE_ARGININES	0.118176	0.048206
REACTOME_CREB1_PHOSPHORYLATION_THROUGH_THE_ACTIVATION_OF_CAMKII_CAMKK_CAMKIV_CASCASDE	0.118161	0.048235
MOOTHA_VOXPHOS	0.118034	0.048479
GERY_CEBP_TARGETS	0.118022	0.048501
LEIN_LOCALIZED_TO_PROXIMAL_DENDRITES	0.11784	0.04885
REACTOME_FANCONI_ANEMIA_PATHWAY	0.1176	0.0491

	81	58
TAKADA_GASTRIC_CANCER_COPY_NUMBER_UP	0.117666	0.049188
ENGELMANN_CANCER_PROGENITORS_UP	0.117609	0.049299
REACTOME_METABOLISM_OF_NON_CODING_RNA	0.11726	0.049982